Wallkill Channel Daylighting Project
Wallkill, Orange County, NY

Environmental Review Record

Prepared by Tetra Tech Inc.
1999 Harrison Street, Suite 500
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New York State Homes and Community Renewal
Governor's Office of Storm Recovery
38-40 State Street
Albany, NY 12207

May 29, 2019

Environmental Assessment

May 29, 2019

Project Name:	Wallkill Channel Daylighting Project
Project Location:	Wallkill, Orange County, NY
Federal Agency:	US Department of Housing and Urban Development
Responsible Entity:	New York State Homes and Community Renewal
Responsible Agency's Certifying Officer:	Lori A. Shirley, Governor's Office of Storm Recovery, Certifying Officer
Project Sponsor:	Daniel Depew, Town Supervisor
Primary Contact:	Town of Wallkill Town Supervisor (845) 692-7832 supervisor@townofwallkill.com
Project NEPA Classification:	24 CFR 58.35(a) (Categorical Exclusion Subject To 58.5)

Environmental Finding:

- ☒ Finding of No Significant Impact - The project will not result in a significant impact on the quality of the human environment.
- ☐ Finding of Significant Impact - The project may significantly affect the quality of the human environment.

Certification	The undersigned hereby certifies that New York State Homes and Community Renewal has conducted an environmental review of the project identified above and prepared the attached environmental review record in compliance with all applicable provisions of the National Environmental Policy Act of 1969, as amended (42 USC Sec. 4321 et seq.) and its implementing regulations at 24 CFR Part 58.
Signature	Lori A. Shirley Lori A. Shirley – Certifying Officer

Environmental Review Prepared By:	Tetra Tech, Inc. 1999 Harrison Street, Suite 500 Oakland, CA 94612

CERTIFICATION OF NEPA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2019 NYS CDBG-DR project, the Wallkill Channel Daylighting and Riparian Improvements Project, is:

Check the applicable classification.

☐ Exempt as defined in 24 CFR 58.34 (a).

☐ Categorically Excluded as defined in 24 CFR 58.35(b).

☐ Categorically Excluded as defined in 24 CFR 58.35(a) and no activities are affected by federal environmental statues and executive orders [i.e., exempt under 58.34(a)(12)].

☐ Categorically Excluded as defined in 24 CFR 58.35(a) and some activities are affected by federal environmental statues and executive orders.

☒ "Other" neither exempt (24 CFR 58.34(a)) nor categorically excluded (24 CFR 58.35).

☒ Part or all of the project is located in an area identified as a floodplain or wetland. For projects located in a floodplain or wetland, evidence of compliance with Executive Orders 11988 and/or 11990 is required.

For activities excluding those classified as "Other," attached is the appropriate Classification Checklist (Exhibit 2-4) that identifies each activity and the corresponding citation.

Lori A Shirley

Lori A. Shirley
GOSR Certifying Officer

May 29, 2019

Date

CERTIFICATION OF SEQRA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2019 NYS CDBG-DR project, the Wallkill Channel Daylighting and Riparian Improvements Project are:

Check the applicable classification:

- ☐ Type I Action (6NYCRR Section 617.4)
- ☐ Type II Action (6NYCRR Section 617.5)
- ☒ Unlisted Action (not Type I or Type II Action)

Check if applicable:

- ☐ Environmental Impact Statement (EIS) Prepared
  - ☐ Draft EIS
  - ☐ Final EIS

_____ May 29, 2019

Signature of Certifying Officer **Date**
Lori A. Shirley
GOSR Certifying Officer

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:**
The Town of Wallkill is proposing to improve the drainage system between commercial properties along SR 211 (Wickham Avenue) near the intersection of Lloyds Drive and directly adjacent to Middletown High School, as well as in the area along Fitzgerald Drive across from the Crestwood Apartments (See **Appendix A**, Figures). The drainage way is part of the system that conveys stormwater to Silver Lake. Hurricane Irene and Tropical Storm Lee overwhelmed the drainage system in this area and caused flooding to the community.

An unnamed creek that flows through this area is the primary contributory inflow of the Silver Lake. During the urbanization of this area from 1970 to 2010, part of this unnamed creek, just northwest of the Middletown High School football field, was buried in a system of storm sewers. These storm sewers are generally in poor condition, with partial collapses, obstructions, and sags causing water to stagnate, reducing the capacity of the system.

The proposed project involves improvements in two separate areas. The southern area includes the existing storm sewer between the Shoprite Plaza and Middletown High School (See **Appendix A,** Figures). In the area, the project would remove approximately 185 feet of the existing collapsed culvert and replace it with a new open channel (See **Appendix B**, Site Plans). The adjacent 160 feet of concrete curb, and a portion of the wing wall (retaining wall at the end of the reinforced concrete pipe at the southeasternmost end of the project) at the at the east side of the stadium would also be removed. The new channel will be approximately 185 feet long, 45 feet wide, and 7 feet deep. A riparian buffer would be established along the newly constructed channel to include native and appropriate grasses, shrubs, and trees. In addition, approximately 540 feet of existing open channel downstream of the removed storm sewer would be dredged to a depth of 2 feet to improve flow. The dredged sediment will be disposed of offsite.

The northern area would be constructed on the south side of Fitzgerald Drive behind the businesses on the north side of SR 211 (See **Appendix A**, Figures). In this area, the proposed project would remove the existing headwall along Fitzgerald Drive, approximately 436 linear feet of chain link fence, 8,540 square feet of parking lot, and the existing catch basin on the northern portion of the project area (See **Appendix B**, Site Plans). Two detention/infiltration basins will be constructed (one approximately 0.84 acres [9 feet deep] and a second approximately 0.63 acres [6 feet deep]). A new storm sewer would be installed between the existing drainage system and the retention basins.

An estimated 2.3 acres of trees will be removed by the project. (See **Appendix B**, Site Plans). The trees are in isolated semi-forested areas (each of less than three acres) that are located in a highly developed area. The nearest significant forested area is located over 2500 feet away, and the nearest protected forest land is located over three miles away.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:
Hurricane Irene and Tropical Storm Lee caused flooding to the community. Due to the natural slope and watershed, Fitzgerald Drive (parallel and to the north of SR 211) sustained severe flooding where water

reached four to five feet in depth isolating the Crestwood Apartment complex. In addition, the floodwaters flowed downstream to the commercial areas in the Shoprite Plaza and SR 211 where inundation occurred as well. SR 211 was inundated and damaged; this main arterial road serving the City of Middletown and Town of Wallkill was made impassible. Egress and ingress to this vitally important commercial area of the Town of Wallkill was non-existent as well.

SR 211 is the major arterial connecting the Town of Wallkill with the City of Middletown and both communities depend on the businesses located in this area. Resilience in this project would also include an economic facet in that long-term closure of businesses due to flooding have a serious negative impact on the community's tax base and being able to offer local services to its residents.

The project will ensure public safety to the Crestwood Apartment community, mitigate flooding which causes main arterial road closures, damage to public infrastructure, and flooding of commercial establishments. The improved drainage way will require less maintenance than the current drainage system.

Acquisition is required for construction of the detention/infiltration basins and temporary/permanent easement from adjoining commercial plazas to the drainage way where it will be daylighted and the slope pitch will be corrected.

Funding Information
Estimated Total HUD Funded Amount:
$615,434

Estimated Total Project Cost
(HUD and non-HUD funds) [24 CFR 58.32(d)]**:**
$615,434

Compliance with 24 CFR 58.5 and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes ☐ No ☒	Based on HUD guidance in Fact Sheet #D1, the National Plan of Integrated Airport Systems (NPIAS) was reviewed for civilian, commercial service airports near the Project Areas, as projects within 2,500 feet of a civil airport require consultation with the appropriate civil airport operator. There are no civilian airports within 2,500 feet of the Project site, and no military airports are within 15,000 feet of the Project site. No runway clear zones would be affected by the Project. (See **Appendix A**, Figures) **Source: 3, 4**
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes ☐ No ☒	According to the Coastal Barrier Resources System (CBRS) Mapper, the Project Areas are not in a Coastal Barrier Resources Area as defined by the state's Coastal Zone Management Program. (See **Appendix A**, Figures) **Source: 5**
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes ☐ No ☒	The Project Areas are not located within any flood zones, as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panel Number 36071C0259E, dated August 3, 2009. (See **Appendix A**, Figures).

		The Town of Wallkill and the City of Middletown are participating communities in the National Flood Insurance Program (NFIP) that requires that it adopt and enforce floodplain management regulations that meet or exceed the minimum NFIP standards and requirements. The Project would not involve financial assistance for construction, rehabilitation, or acquisition of a mobile home, building, or insurable personal property or the purchase of machinery, equipment, fixtures, or furnishings insurable under the National Flood Insurance Program (NFIP). **Source: 6**

STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes ☐ No ☒	The Project Areas are not located within a nonattainment or maintenance area for the 2015 and 2008 8-hour ozone standards, as defined by the US Environmental Protection Agency (EPA) Green Book Nonattainment Areas for Criteria Pollutants. The Project would not require an NYS Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit. The Project activities would not substantively affect air quality since no sources are proposed. Implementation of standard best management practices (BMPs) would control dust and other emissions during construction. Air quality impacts would be short term and localized during construction; there would not be impact from operations as there are no sources on the boardwalk. Therefore, there would be no significant adverse impacts to air quality. (See **Appendix A**, Figures). **Source: 7**

Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes ☐ No ☒	The Project Areas are not in a coastal zone as defined by the state's Coastal Zone Management. (See **Appendix A**, Figures) **Source: 8**
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes ☐ No ☒	The Project Areas were not identified in NYSDEC Remedial or Bulk Storage Site Databases. A search of the NYSDEC Remedial Site Database, containing records of the sites being addressed under one of NYSDEC's remediation programs (State Superfund, Brownfield Cleanup, Environmental Restoration and Voluntary Cleanup, the Registry of Inactive Hazardous Waste Disposal Sites, and Institutional and Engineering Controls), identified two State Superfund Program sites (Highland Ave-Wallkill (General Switch) and Lubricant Packaging Co.), one Environmental Restoration Program site (302 1/2 & 324 1/2 East Main St. (Rear)) and two Voluntary Cleanup sites (Orange Plaza Shopping Center and American Cleaners Inc.) within a one-mile radius of the Project Site. Remediation at the Orange Plaza Shopping Center site is complete. Prior to remediation, the primary contaminants of concern were tetratchloroethylene (PCE) in soil, and PCE, trichloroethylene (TCE), DCE and vinyl chloride in groundwater. Groundwater monitoring is being performed under a site management plan. At the Highland Ave-Wallkill (General Switch) site, the primary contaminants of concern are and PCE and TCE. Previous investigations indicated soil contamination at several hot spots throughout the site and exceedances of soil guidance values. The soil removal portion of the record of decision (ROD) was completed in 1999 and detailed in a certification report dated September 23, 1999. Groundwater has also been shown to be impacted by PCE and TCE, and remediation efforts are ongoing. This facility is approximately 5,000 feet northwest of the northern project site.

		Groundwater flow at the five-acre facility is reported to be to the south. Coordination with NYSDEC indicates that the hazardous material at this site has been contained and that based on location, would not have generate groundwater contamination concerns for the Project. The primary contaminant of concern at the one-acre Lubricant Packaging Co. site is 1,1,1-trichloroethane in soil and groundwater. This facility is approximately 4,400 feet northwest of the northern project site. Groundwater flow at the facility is to the southeast. Surface water from the site and surrounding area within the Industrial Park drains into Draper Run which empties into Monhagen Brook, a tributary to the Wallkill River. This site is being managed under the State Superfund Program, and the state, through its contractor is implementing the remediation program. Based on on-going remediation and distance, this facility would not affect the Project. The 49-acre 302 1/2 & 324 1/2 East Main St. (Rear) site is classified as “no further action at this time” and is approximately one mile southwest of the southern project site. The primary contaminant of concern at the American Cleaners Inc. site is PCE, a dry-cleaning solvent, which was found in the on-site and off-site groundwater above groundwater standards and in sub-slab soil vapor in the on-site building The maximum off-site PCE concentration in the down-gradient direction (to the north) approximately 50 feet from the northern site boundary was 340 ppb during the most recent sampling event, which is significantly higher than the ground water standard. In ground water samples collected in 2017 from the six (6) wells located down gradient of the on-site building, TCE and DCE concentrations ranged from no detection to 32 ppb for both compounds. American Cleaners Inc. site is approximately

		1,900 feet east of the southern project site. Site storm water runs north into a storm water culvert and appears to flow east eventually into Silver Lake. Storm water and sediment sampling performed in the drainage system located north of the site has not revealed any site-related impacts. The distance and cross gradient location of this site make it unlikely to impact the project area. A search of the NYSDEC Bulk Storage Program Database identified 59 petroleum bulk storage facilities (PBS) within one mile of the Project Areas. The PBS program applies to facilities that store more than 1,100 gallons of petroleum in aboveground and underground storage tanks (AST and UST). Facilities with one or more underground storage tanks larger than 110 gallons must also be registered. These bulk storage sites are not considered a hazard that could affect the health and safety pertaining to drainage improvements because the bulk storage sites are permitted and regulated by the NYSDEC petroleum bulk storage program ensuring the proper containment, handling and storage of petroleum, hazardous substances/chemicals, or liquefied natural gas (LNG). One hundred seventy EPA facilities are within one mile of the Project Area. The Project sites are not listed in the EPA database. None of these 170 facilities are EPA Superfund sites. The listings include: one brownfields listing (Mill Building Number 2, Church Street, Village of New York Mills, approximately 3,700 feet northwest of the northern Project Site), 29 air program listings, 72 Resource Conservation and Recovery Act (RCRA)-regulated listings, 33 state master list records (including the General Switch site at 20 Industrial Place, Middletown, and Lubricant Packaging Co. at 17 Industrial Place, Middletown), 10 National Pollutant Discharge Elimination System (NPDES)

		permit listings, 15 listings Integrated Compliance Information System database, six National Compliance Database listings, two oil Spill Prevention, Control, and Countermeasure (SPCC) listings, and two Toxics Release Inventory (TRI) Program sites (one of which is the General Switch site). The reporting listings are unlikely to adversely affect the Project Area, since they are regulated and permitted. The brownfields site listing is more than 3,000 feet away and is unlikely to affect the Project area. The dredged sediment will be disposed of in accordance with applicable state and federal transportation and disposal requirements. The Project will not result in the exposure of people or sensitive environmental resources to the locations identified in these databases. (See **Appendix A**, Figures) **Source: 9, 10, 11**
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes ☒ No ☐	Section 7 of the Endangered Species Act requires the action agency (GOSR) to make a determination of effect on any federally listed species or designated critical habitat that may occur from an action that is funded, authorized, or carried out by the action agency. GOSR is acting as HUD's designated representative for this program. Consultation with the New York Natural Heritage Program (NYNHP) regarding potential rare or state-listed animals or plants near the Project area was initiated on April 19, 2018. In a response on May 9, 2018, NYNHP indicated that it has no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity. The U.S. Fish and Wildlife Service (USFWS) online review process, completed on February 11, 2019, identified a total of four threatened, endangered, or candidate species that are potentially associated with the project site: the endangered

		Indiana bat (IB, *Myotis sodalis*) and dwarf wedgemussel (*Alasmidonta heterodon*) and the threatened northern long-eared bat (NLEB, *Myotis septentrionalis*) and small whorled pogonia (*Isotria medeoloides*). No critical habit for these species was identified. The online review also identified several migratory birds of concern that could be affected by the proposed Project. The main impact of concern for bats is the cutting or removal of potential hibernacula or roost trees. The sites are not within 0.25 mile of known or assumed hibernacula for the IB or NLEB, nor are there documented maternity roosts for either bat within 150 feet of the Project sites. The sites are not within 5 miles of IB or NLEB hibernacula. An estimated 2.3 acres of trees will be removed by the project (see the attached Areas of Tree Removal). The trees are in isolated semi-forested areas (each of less than three acres) that are located in a highly developed area. The nearest significant forested area is located over 2,500 feet away, and the nearest protected forest land is located over three miles away. All activities associated with the proposed project will not: • disturb hibernating IBs or NLEBs in a known hibernaculum; • alter the entrance or interior environment of a known hibernaculum; • remove any trees within 0.25 miles of a known hibernaculum at any time of year, or • cut or destroy occupied maternity roost trees, or any other trees within a 150-foot radius from a maternity roost tree, during the pup season (June 1 through July 31). Based on these conditions and bat habitat, GOSR has determined that the proposed project would have no effect on the IB because of a lack of suitable habitat. The project may affect the NLEB, but any resulting incidental take of the NLEB is not prohibited by the final 4(d) Rule.

		GOSR also determined that the Project would have no effect on the dwarf wedgemussel, small whorled pogonia populations or migratory birds. In a response letter on February 21, 2019, USFWS acknowledged receipt of GOSR's no effect and/or no impact determination for the IB, dwarf wedgemussel, and small whorled pogonia. The letter stated that no further ESA coordination or consultation is required for these species. (See **Appendix C** USFWS, NYNHP, and NYSDEC Correspondence) **Source: 12**

Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes ☐ No ☒	The Project would not introduce housing or sensitive public uses at the site that could be exposed to explosive or flammable hazards. The Project does not constitute a HUD-funded hazardous facility, so 24 CFR part 51 Subpart C does not apply. HUD-assisted projects must be at an Acceptable Separation Distance (ASD) from stationary hazardous operations that store, handle, or process chemicals or petrochemicals of an explosive or flammable nature. These tanks include: • Aboveground storage tanks (AST) that store flammable or explosive gasses (such as propane) within a 1,000-foot radius of the Project site; • ASTs exceeding 100 gallons that store flammable or explosive liquids within a 1,000-foot radius of the Project site; or • ASTs that exceed 20,000 gallons and are within 1 mile of the site. The Project would not disturb any of ASTs and would not involve storage of flammable or explosive materials. No structures for human habitation are proposed. The Project would not

		involve a change in land use or expose new populations to explosive hazards. **Source: 9**
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes ☐ No ☒	Approximately 2.3 acres of the Project Area are situated on Soils of Statewide Importance, but neither of the two Project sites is within a New York State agricultural district. The areas affected by the Project are not in agricultural use and would not convert existing farmland to non-agricultural uses. There would be no change in land use. The Project would not disturb three acres or more of these protected soils, falling under the NRCS small acreage exemption of three acres or less. According to Part 523.11 E of the Farmland Protection Policy Act (FPPA) Manual, an AD 1006 is not required. (See **Appendix A**, Figures). **Source: 13**
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes ☐ No ☒	The Project Areas are not located within any flood zones, as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panel Number 36071C0259E, dated August 3, 2009. (See **Appendix A**, Figures). The goal of the Project is to improve drainage to prevent future flooding from natural disasters or heavy rainstorms. The project is intended to mitigate flooding which causes main arterial road closures, damage to public infrastructure, and flooding of commercial establishments. The Project would have a beneficial effect on the natural and beneficial values of the floodplain and would benefit lives and property. **Source: 6**
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800; Tribal	Yes ☐ No ☒	Consultation with the New York State Historic Preservation Office (SHPO) and the Division for Historic Preservation (DHP) in the Office of Parks, Recreation and Historic Preservation (OPRHP) in accordance with Section 106 of the National

notification for new ground disturbance.		Historic Preservation Act of 1966 was initiated on February 19, 2019. On February 21, 2019, the SHPO provided its finding that no historic properties would be affected by the Project. (See **Appendix D**, SHPO Correspondence) No disturbance of previously undisturbed areas would occur as a result of the Project. This area has been disturbed by commercial development and by construction of Wickham Avenue, Fitzgerald Drive, and Certified Drive. It is the site of existing drainage structures. Therefore, Tribal coordination was not undertaken.
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes ☐ No ☒	The Project is not a noise sensitive use and the policies of 24 CFR 51.101(a)(3) do not apply to any action or emergency assistance under disaster assistance provisions or appropriations that are provided to save lives and protect public health and safety. The Project would not introduce any new or rehabilitate any existing noise-sensitive uses. Construction activities would abide by all local noise ordnances.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes ☐ No ☒	The Project area is not in the bounds of a Sole Source Aquifer Designated Area. (See **Appendix A**, Figures.) **Source: 14**
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes ☒ No ☐	A Freshwater Forested/Shrub National Wetlands Inventory (NWI) wetland area is within the northern portion of the Project area, surrounding the proposed detention/infiltration basins. Although this wetland area currently is vacant, it already has been disturbed by development along Fitzgerald Drive and in the surrounding area. The Project would disturb less than one acre of this wetland (it is approximately 0.5 acres). A wetland field delineation on July 18, 2018, identified a much smaller wetland area in the northern portion of the project (approximately 0.05 acres). An additional wetland area was

		delineated in the southern project site. Approximately 0.69 acres of this wetland extend throughout the southern project site. The open channel that would be created by the project also will perform many of the same functions as the wetland (filtering and slowing the flow of water). These delineated areas also have been disturbed by development along Fitzgerald Drive, Wickham Avenue, Certified Drive, and Stratton Avenue, including residential and commercial development and Middletown High School. (See **Appendix E**, Wetlands) An Early Notice of a Proposed Activity in a Wetland was published on March 11, 2019. An 8-Step Analysis has been performed in compliance with Executive Order 11988 in accordance with HUD regulations at 24 CFR 55.20. The analysis examined the direct and indirect impacts associated with the development within delineated wetlands. (See **Appendix E**, Wetlands) The analysis concluded that these effects would be minimal because the open channel and detention ponds that would be created by the project also will perform many of the same functions as the wetland (filtering and slowing the flow of water). These delineated areas also have been disturbed by development. Temporary erosion and sediment controls would be installed over the length of the Project. These measures would be installed prior to disturbance and would remain in place until all slopes are stabilized and revegetated as necessary. All stockpiled soils would be protected with sediment and erosion control measures in compliance with Section 207-02 of the NYS Department of Transportation Standard Specifications. All necessary precautions would be undertaken to prevent contamination of any streams, channels or waterways by silt, sediment, fuel, solvents, lubricants, epoxy coatings, debris, concrete leachate, or any other pollutant associated with Project construction. Construction impacts would be avoided through

		proper equipment maintenance and washout basins, platforms, nets, and screens for equipment cleaning. Debris or excess construction material would be immediately removed off-site. (See **Appendix E**, Wetlands.). Prior to construction, the appropriate permits would be obtained in accordance with 6NYCRR Part 608, Protection of Waters Program; 6NYCRR Part 661, NYSDEC stormwater discharge from construction activities regulations (State Pollutant Discharge Elimination System [SPDES] Permit), and Section 401 of the Clean Water Act. An SWPPP would be prepared for the Project. A permit under Section 404 of the Clean Water Act will be obtained prior to construction. **Source: 15, 16, 17**
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes ☐ No ☒	There are no state or federally designated wild and scenic rivers at or near the Project Area. There are two wild and scenic rivers that are depicted more than ten miles west and southwest of the Project Area. (See **Appendix A**, Figures) **Source: 18, 19, 20**
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes ☐ No ☒	An environmental justice area as defined by NYSDEC based on data from the 2000 U.S. Census is located within the Project Areas. Because this Project has no potential adverse impacts, there are no disproportionate adverse impacts anticipated. No adverse impacts are anticipated on the surrounding community because the Project would follow local ordinances. (See **Appendix A**, Figures) **Source: 21**

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

- **(1)** Minor beneficial impact
- **(2)** No impact anticipated
- **(3)** Minor Adverse Impact – May require mitigation
- **(4)** Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	**1**	The purpose of the Project is to enhance the drainage system near Fitzgerald Drive and SR 211, as well as repairing the existing storm sewer between the Shoprite Plaza and Middletown High School. The Project is intended to mitigate flooding which causes main arterial road closures, damage to public infrastructure, and flooding of commercial establishments. The Project would not change the existing land use or zoning. The Project would be consistent with the goals of the 2005 Town of Wallkill Comprehensive Plan to balance a healthy economic environment with quality residential and commercial character while protecting the integrity of its natural resources and infrastructure. The character of the Project Area is identified as business corridor, and current land use and zoning is commercial. The Project is identified in the Town of Wallkill NYRCR Plan as a featured project that would improve water conveyance through the existing system, increase flood flow capacity, and provide additional floodplain storage without negatively without resulting in worse flooding downstream. **Source: 2, 22**

Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	**1**	The Project would not increase impervious surfaces. The topographic map of the project site indicates that the elevation on both project sites is relatively flat. The elevation on the northern project site ranges from approximately 552 feet at the southeast portion of the project site to about 544 feet along the western and northern portions and is somewhat hummocky due to previous grading of the site. The elevation on the southern project site also is relatively flat and ranges from 542 feet at its northern boundary with low points of 538 feet in the ditch area, then falls off steeply at the southern site boundary. (See **Appendix F**, Topography and Soils). According to the soil survey, most of the existing soils on both project sites are somewhat limited for surface water management systems due to ponding and slope. They are mostly unrated for stormwater management using infiltration and ponds. (See **Appendix F**, Topography and Soils). However, the project would be replacing an existing stormwater culvert and dredging the existing open channel on the southern site and replacing the existing drainage system on the northern project site. The two detention/infiltration basins that would be created on the northern project site would be excavated and lined, and topsoil and seeding would be added. Prior to construction, the appropriate permits would be obtained in accordance with NYSDEC stormwater discharge from construction activities regulations. A stormwater pollution prevention plan (SWPPP) would be prepared for the Project, describing the use of BMPs to control runoff during construction that would mitigate Project-related temporary effects. The goal of the Project is to construct a more effective drainage system for the specified area. Drainage and storm water runoff would be positively impacted. **Source: 13**
Hazards and Nuisances including Site Safety and Noise	**2**	The project site is not within a 100-year flood hazard area, SSA. Coastal barrier resource area, or coastal zone as defined by the state's Coastal Zone Management Program. The Project would generate noise during construction. Noise effects on the surrounding residential community would be short term and limited in scope. A noise mitigation plan would be developed prior to construction to minimize construction noise effects. Project construction would follow the provisions of the Town of Wallkill Noise Ordinance. The noise ordinance prohibits erection, excavation, demolition, alteration or repair of any building other than between 7:00 a.m. and 9:00 p.m.,

		except in case of a public safety and emergency, and operation of power equipment outdoors between the hours of 10:00 p.m. and 7:00 a.m. the following day, and on weekends between 10:00 p.m. and 8:00 a.m. Mitigation measures could include but would not be limited to restricting the time and duration of construction activities during the day and week, phasing of construction, perimeter barriers, quieter models of equipment, and use of mufflers or other sound-dissipative devices on construction equipment. **Source: 6, 8, 10, 11, 14**
Energy Consumption	**2**	The Project would not result in additional energy consumption or changes in energy infrastructure. No impacts would occur to existing nearby suppliers.
SOCIOECONOMIC		
Employment and Income Patterns	**2**	There would be a temporary, minor increase in employment during construction. No changes in long-term employment are anticipated as a result of the Project.
Demographic Character Changes, Displacement	**2**	No direct or indirect population changes would result from the Project, and there would be no demographic, character, or displacement impacts.

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	**2**	Because the Project involves no changes in population, there would be no impact on demand for educational or cultural facilities.
Commercial Facilities	**1**	Enhancing the drainage systems in the Project area would benefit nearby commercial facilities because the new drainage systems would prevent inundation and damage to these facilities during heavy rain events.
Health Care and Social Services	**2**	Because the Project involves no changes in population, there would be no impact on demand for health care and social services.
Solid Waste Disposal / Recycling	**2**	Construction may result in a temporary increase in solid waste. Construction debris would be collected on-site and disposed of or recycled as appropriate. There would be no increase in solid waste disposal or recycling from operation of the Project because it would not result in any changes in population.
Waste Water / Sanitary Sewers	**2**	The proposed Project would not generate wastewater and sewage.
Water Supply	**2**	This Project would not change the area residents' use of water. No changes to the water supply system are anticipated.
Public Safety - Police, Fire and Emergency Medical	**2**	The Project would not involve an increase in resident population; therefore, no major increase in police and fire protection or emergency medical services would occur. Construction for the project would be conducted to minimize effects on traffic and transportation in the area to minimize any temporary increase in emergency response time.
Parks, Open Space and Recreation	**1**	The Project would not involve an increase in resident population and would not change the availability or demand for parks, open space, and recreation. No impact on parks and recreation is anticipated.
Transportation and Accessibility	**2**	Temporary effects on transportation within the neighborhood could occur during construction, with an increase in construction traffic. This would be handled through the use of BMPs, such as signage, time of day restrictions, and public notification. No long-term impact on transportation and accessibility is anticipated.
NATURAL FEATURES		
Unique Natural Features, Water Resources	**2**	The Project site is on developed, urban land in an existing disturbed area. Water resources are not anticipated to be impacted. Appropriate BMPs would be implemented during construction to control erosion and the movement of sediment.

		A wetland field delineation on July 18, 2018, identified an approximately 0.05-acre wetland area in the northern portion of the project. An additional wetland area was delineated in the southern project site. Approximately 0.69 acres of this wetland extend throughout the southern project site. (See **Appendix E**, Wetlands). The open channel that would be created by the project also will perform many of the same functions as the wetland (filtering and slowing the flow of water). These delineated areas also have been disturbed by development along Fitzgerald Drive, Wickham Avenue, Certified Drive, and Stratton Avenue, including residential and commercial development and Middletown High School. All necessary precautions would be undertaken to prevent contamination of any streams, channels or waterways by silt, sediment, fuel, solvents, lubricants, epoxy coatings, debris, concrete leachate, or any other pollutant associated with Project construction. Prior to construction, the appropriate permits would be obtained in accordance with 6NYCRR Part 608, Protection of Waters Program; 6NYCRR Part 661, NYSDEC stormwater discharge from construction activities regulations, and Section 401 of the Clean Water Act. An SWPPP would be prepared for the Project. A permit under Section 404 of the Clean Water Act will be obtained prior to construction. No other impact to unique natural features or water resources is anticipated.
Vegetation, Wildlife	**3**	An estimated 2.3 acres of trees will be removed by the Project. The trees are in isolated semi-forested areas (each of less than three acres) that are located in a highly developed area. This vegetated area is unlikely to provide high quality habitat for wildlife. The Project would disturb an area that has been disturbed and graded previously. All areas disturbed during construction would be revegetated. Consultation with the USFWS found four threatened species and one endangered species with the potential to occur in the proposed Project area. Several migratory birds of concern that could be affected by the proposed Project were identified in the online review process. The main impact of concern for bats is the cutting or removal of potential hibernacula or roost trees. The sites are not within 0.25 mile of known or assumed hibernacula for the IB or NLEB, nor are there documented maternity roosts for either bat within 150 feet of the Project sites. The sites are not within 5 miles of IB or NLEB hibernacula. An estimated 2.3 acres of trees will be removed by the project (see the attached Areas of Tree Removal). The trees are in isolated semi-forested areas (each of

		less than three acres) that are located in a highly developed area. The nearest significant forested area is located over 2,500 feet away, and the nearest protected forest land is located over three miles away. All activities associated with the proposed project will not: • disturb hibernating IBs or NLEBs in a known hibernaculum; • alter the entrance or interior environment of a known hibernaculum; • remove any trees within 0.25 miles of a known hibernaculum at any time of year, or • cut or destroy occupied maternity roost trees, or any other trees within a 150-foot radius from a maternity roost tree, during the pup season (June 1 through July 31). Based on these conditions and bat habitat, GOSR has determined that the proposed project would have no effect on the IB because of a lack of suitable habitat. The project may affect the NLEB, but any resulting incidental take of the NLEB is not prohibited by the final 4(d) Rule. GOSR also determined that the Project would have no effect on the dwarf wedgemussel, small whorled pogonia populations or migratory birds. (See **Appendix C**, USFWS, NYNHP, and NYSDEC Correspondence, and **Appendix A**, Figures.) **Source: 12**
Other Factors	**2**	No additional factors would be impacted by the project, and no additional impacts would occur.

Additional Studies Performed:
None

Field Inspection (Date and completed by)**:**
C.T. Male Associates. CCTV Inspection, Ulster County, NY – Wallkill Stream Channel Day Lighting. December 20, 2016.

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]:
1. New York State. 2013. State of New York Action Plan for Community Development Block Grant Program Disaster Recovery (Action Plan, issued April 25, 2013, amended July 3, 2012) New York State. 2013.

2. New York State. 2014. Town of Wallkill NY Rising Community Reconstruction Plan. December 2014.

3. Federal Aviation Administration. Report to Congress – National Plan of Integrated Airport Systems. Internet Website: http://www.faa.gov/airports/planning_capacity/npias/reports/media/ npias-2015-2019-report-appendix-b-part-4.pdf.

4. Federal Aviation Administration. Report to Congress – National Plan of Integrated Airport Systems. Internet Website: http://www.faa.gov/airports/planning_capacity/npias/reports/media/npias-2015-2019-report-narrative.pdf.

5. US Fish and Wildlife Service. 2015. Coastal Barrier Resources Mapper – Beta. Internet Website: http://www.fws.gov/cbra/Maps/Mapper.html.

6. United States Federal Emergency Management Agency. Current FEMA issued Flood Maps. Internet Website: https://msc.fema.gov/portal/advanceSearch.

7. United States Environmental Protection Agency. Green Book Nonattainment Areas. Internet Website: http://www.epa.gov/oaqps001/greenbk/ancl.html.

8. New York State Department of State, Office of Communities and Waterfronts – Coastal Boundary Map. Internet Website: http://appext20.dos.ny.gov/coastal_map_public/map.aspx.

9. New York State Department of Environmental Conservation Bulk Storage Database Search. Internet Website: http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=4.

10. New York State Department of Environmental Conservation Environmental Site Remediation Database Search. Internet Website: http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=3.

11. United States Environmental Protection Agency. 2015. NEPAssist Internet Mapping Tool. http://nepassisttool.epa.gov/nepassist/nepamap.aspx?wherestr=195+east+merrick+road%2C+freeport%2C+ny.

12. U.S. Fish and Wildlife Service. 2019. Official Species List. February 12, 2019.

13. United States Department of Agriculture. Natural Resources Conservation Service. Internet Website: http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

14. U.S. Environmental Protection Agency Region 2. 2007. Sole Source Aquifers for NY and NJ. September 2007. Internet Website: http://www.epa.gov/region02/gis/data/downloads/r2sole_source_aquifer.zip.

15. U.S. Fish and Wildlife Service. 2014. National Wetlands Inventory, New York. Internet Website: http://www.fws.gov/wetlands/Data/State-Downloads.html.

16. New York State Department of Environmental Conservation. Regulatory Freshwater Wetlands – New York State – 2002 GIS data. Internet Website: http://cugir.mannlib.cornell.edu/datatheme.jsp?id=111.

17. New York State Department of Environmental Conservation. Tidal Wetlands – NYC and Long Island – 1974. Internet Website: https://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1139

18. National Wild and Scenic Rivers System. Internet Website: http://www.rivers.gov/new-york.php.

19. New York State Department of Environmental Conservation. Wild Scenic and Recreational Rivers. Internet Website: http://www.dec.ny.gov/permits/32739.html.

20. USDA Forest Service – Automated Lands Program. 2015. Wild and Scenic Rivers GIS data. November 30, 2015.

21. New York State Department of Environmental Conservation. Potential Environmental Justice Areas. Internet Website: https://www.dec.ny.gov/docs/permits_ej_operations_pdf/orangeej.pdf.

22. Town of Wallkill. 2005. Town of Wallkill 2005 Comprehensive Plan. Adopted July 28, 2005.

List of Appendices

Appendix A Figures

Appendix B Site Plans

Appendix C USFWS, NYNHP, and NYSDEC Correspondence

Appendix D SHPO Correspondence

Appendix E Wetlands

Appendix F Topography and Soils

List of Permits Obtained or Required:
Section 404 of the Clean Water Act Wetland Permit
6NYCRR Part 608, Protection of Waters Permit
6NYCRR Part 661 State Pollutant Discharge Elimination System (SPDES) Permit
Section 401 of the Clean Water Act Permit

List of Other Approvals Obtained or Required:
Stormwater Pollution Prevention Plan
CDBG-DR funding
Dredged Sediment Disposal Documentation

Public Outreach [24 CFR 50.23 & 58.43]:
On May 29, 2019, a combined Notice of Finding of No Significant Impact and Intent to Request Release of Funds will be published in the Middletown Times Herald Record. Any individual, group, or agency may submit written comments on the Environmental Review Record to:

Lori A. Shirley, GOSR, HCR
38-40 State Street
Albany, NY 12207
(518) 474-0755
NYSCDBG_DR_ER@nyshcr.org

Cumulative Impact Analysis [24 CFR 58.32]:
The Project is not expected to trigger cumulative impacts, including the degradation of important natural resources, socioeconomic resources, human health, recreation, quality of life issues, and cultural and historic resources. The Project would ensure public safety to the Crestwood Apartment community, mitigate flooding which causes main arterial road closures, damage to public infrastructure, and flooding of commercial establishments. The improved drainage way will require less maintenance than the current drainage system.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]:
Proposed Project. As fully described in this Environmental Assessment, the Wallkill Channel Daylighting Project involves improvements in two separate areas: the southern area, which includes the existing storm sewer between the Shoprite Plaza and Middletown High School, and the northern area, which is located on the south side of Fitzgerald Drive behind the businesses on the north side of SR 211. In the southern area, the Project would replace the existing collapsed culvert with a new channel, approximately 185 feet long, 45 feet wide, and 7 feet deep and would dredge the downstream channel to improve flow. In the northern area two detention/infiltration basins will be constructed, and new storm sewer would be installed between the existing drainage system and the retention basins.

No Action Alternative [24 CFR 58.40(e)]:
Not undertaking the Project would not be consistent with the goals and objectives of the Town of Wallkill New York Rising Community Reconstruction Plan to improve water conveyance through the existing system, increase flood flow capacity, and provide additional floodplain storage without negatively without resulting in worse flooding downstream. Under the No Action Alternative, the project area would continue to be subject to future severe flooding, which will cost the Town of Wallkill, Orange County, New York significantly more money in damages over time. The Town would continue to experience main arterial road closures, damage to public infrastructure, and flooding of commercial establishments during storm events.

Summary of Findings and Conclusions:
The proposed Project will not result in a significant impact on the quality of the human environment or result in other direct, indirect, or cumulative impacts. The project will ensure public safety to the Crestwood Apartment community, mitigate flooding which causes main arterial road closures, damage to public infrastructure, and flooding of commercial establishments. The improved drainage way will require less maintenance than the current drainage system.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measure
Clean Air Act	All Project activities would comply with applicable federal, state, and local laws and regulations regarding construction emissions, including but not limited to NYCRR, NYSDEC Air Quality Management Plan, and the New York SIP. All necessary measures would be used to minimize fugitive dust emissions during construction. The preferred method for dust suppression is water application.
Contamination and Toxic Substances	The dredged sediment will be disposed of offsite in accordance with state and federal transportation and disposal requirements.
Wetlands Protection	The Project will comply with the U.S. Army Corps of Engineers 404 Wetland Permit. The Project will comply with the appropriate permits would be obtained in accordance with 6NYCRR Part 608, Protection of Waters Program; 6NYCRR Part 661, NYSDEC stormwater discharge from construction activities regulations (State Pollutant Discharge Elimination System [SPDES] Permit), and Section 401 of the Clean Water Act. An SWPPP would be prepared for the Project. All stockpiled soils would be protected with sediment and erosion control measures in compliance with Section 207-02 of the NYS Department of Transportation Standard Specifications. All necessary precautions would be undertaken to prevent contamination of any streams, channels or waterways by silt, sediment, fuel, solvents, lubricants, epoxy coatings, debris, concrete leachate, or any other pollutant associated with Project construction would be avoided through proper equipment maintenance and washout basins, platforms, nets, and screens for equipment cleaning. Debris or excess construction material would be immediately removed off-site.
Noise	A noise mitigation plan would be developed prior to construction to minimize construction noise effects. Project construction would follow the provisions of the Town of

	Wallkill Noise Ordinance. Mitigation measures could include but would not be limited to restricting the time and duration of construction activities during the day and week, phasing of construction, perimeter barriers, quieter models of equipment, and use of mufflers or other sound-dissipative devices on construction equipment.
Endangered Species	No tree cutting will take place during pup season, June 1 through July 31.

Standard Conditions for All Projects

Any change to the approved scope of work will require re-evaluation by the Certifying Officer for compliance with NEPA and other laws and Executive Orders.

This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize federal funding.

Determination:

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: Genevieve Kaiser Date: May 29, 2019

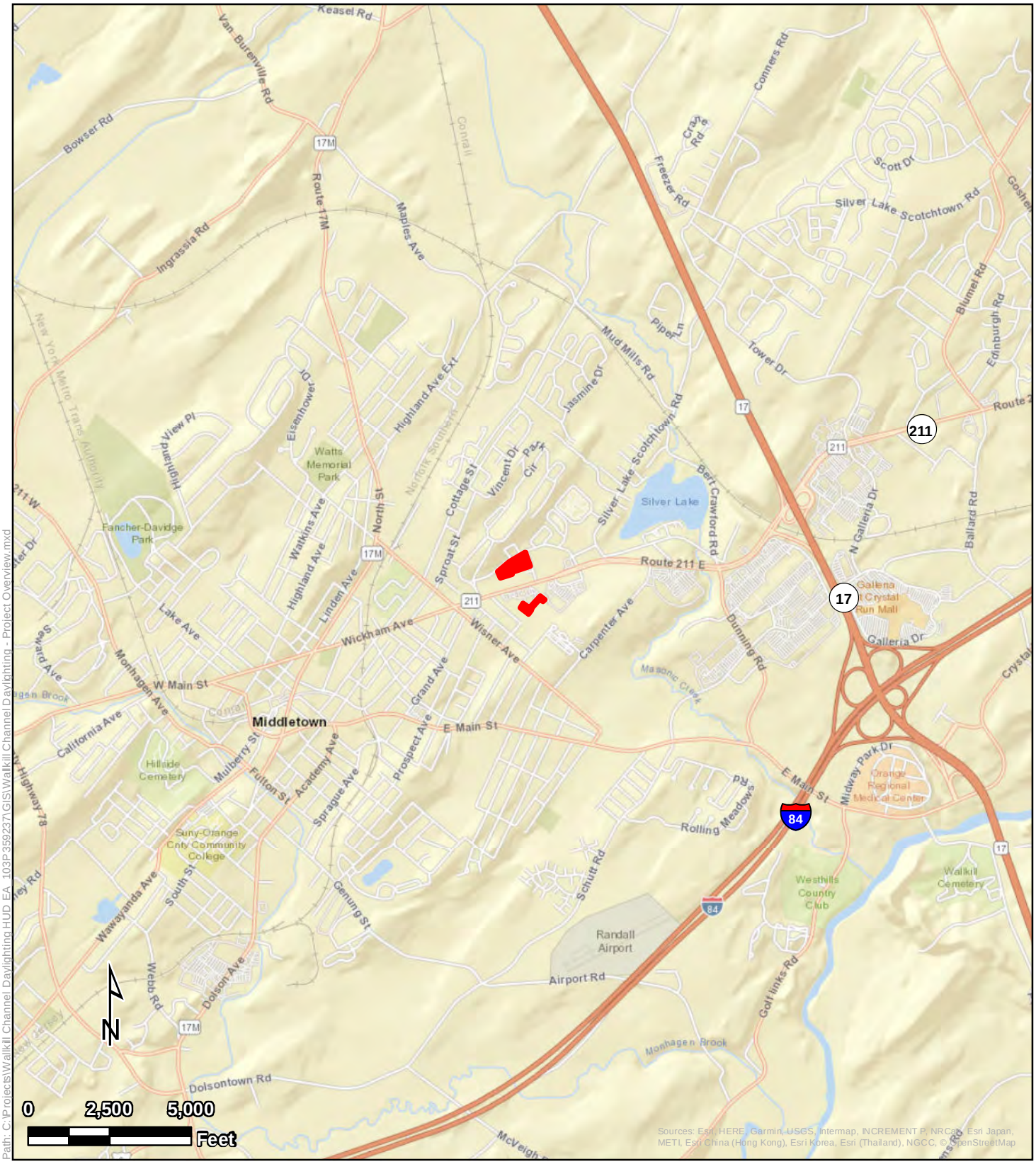
Name/Title/Organization: Genevieve Kaiser, Senior Environmental Planner, Tetra Tech, Inc.

Certifying Officer Signature: Lori A Shirley Date: May 29, 2019

Name/Title: Lori A. Shirley, Certifying Officer, Governor's Office of Storm Recovery

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

Appendix A
Figures



Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P-35923\GIS\Wallkill Channel Daylighting - Project Overview.mxd

Project Overview

Legend

Project Location

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P35923\GIS\Wallkill Channel Daylighting - Project Area.mxd

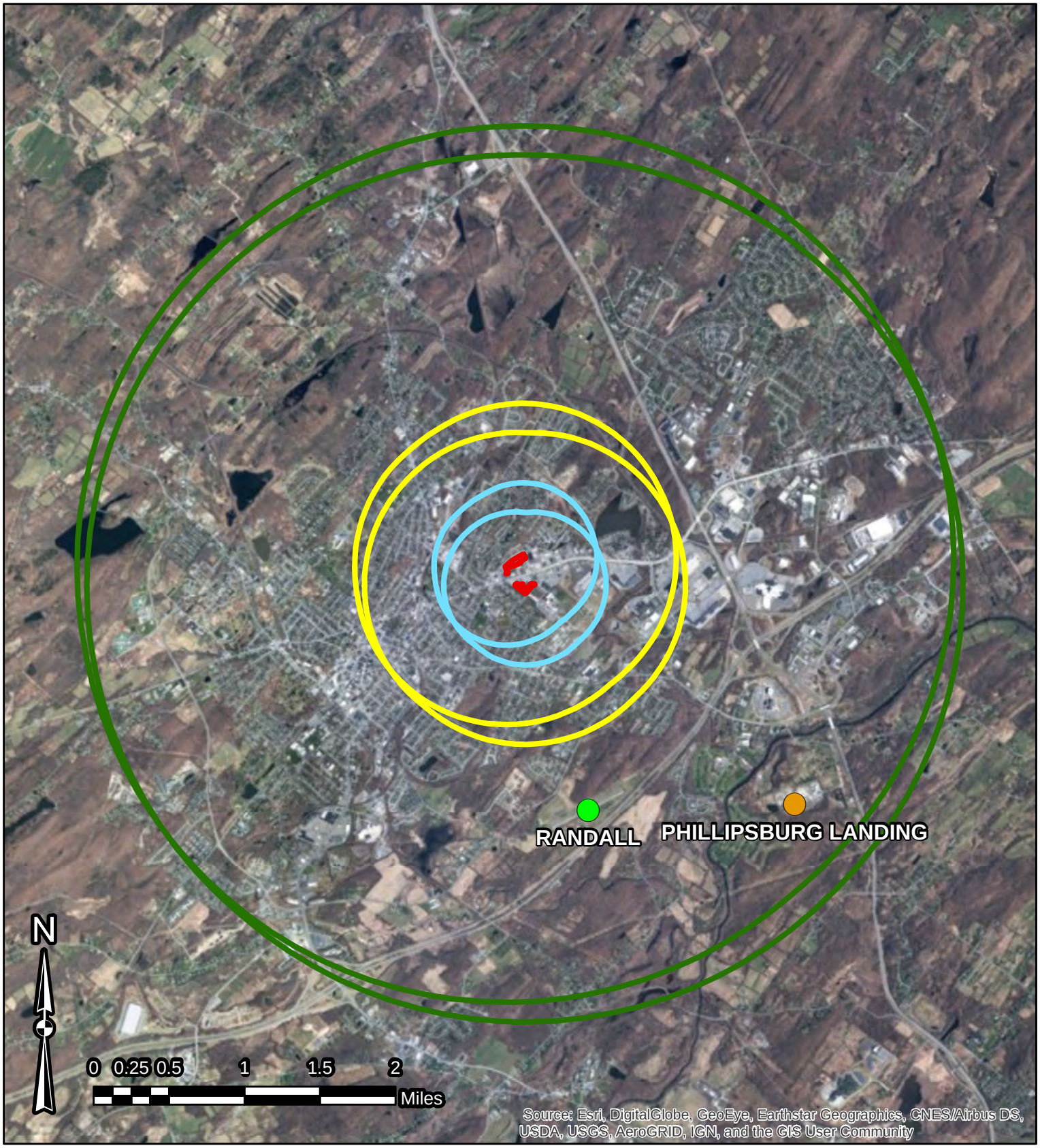
Project Area

Legend

Project Area

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc



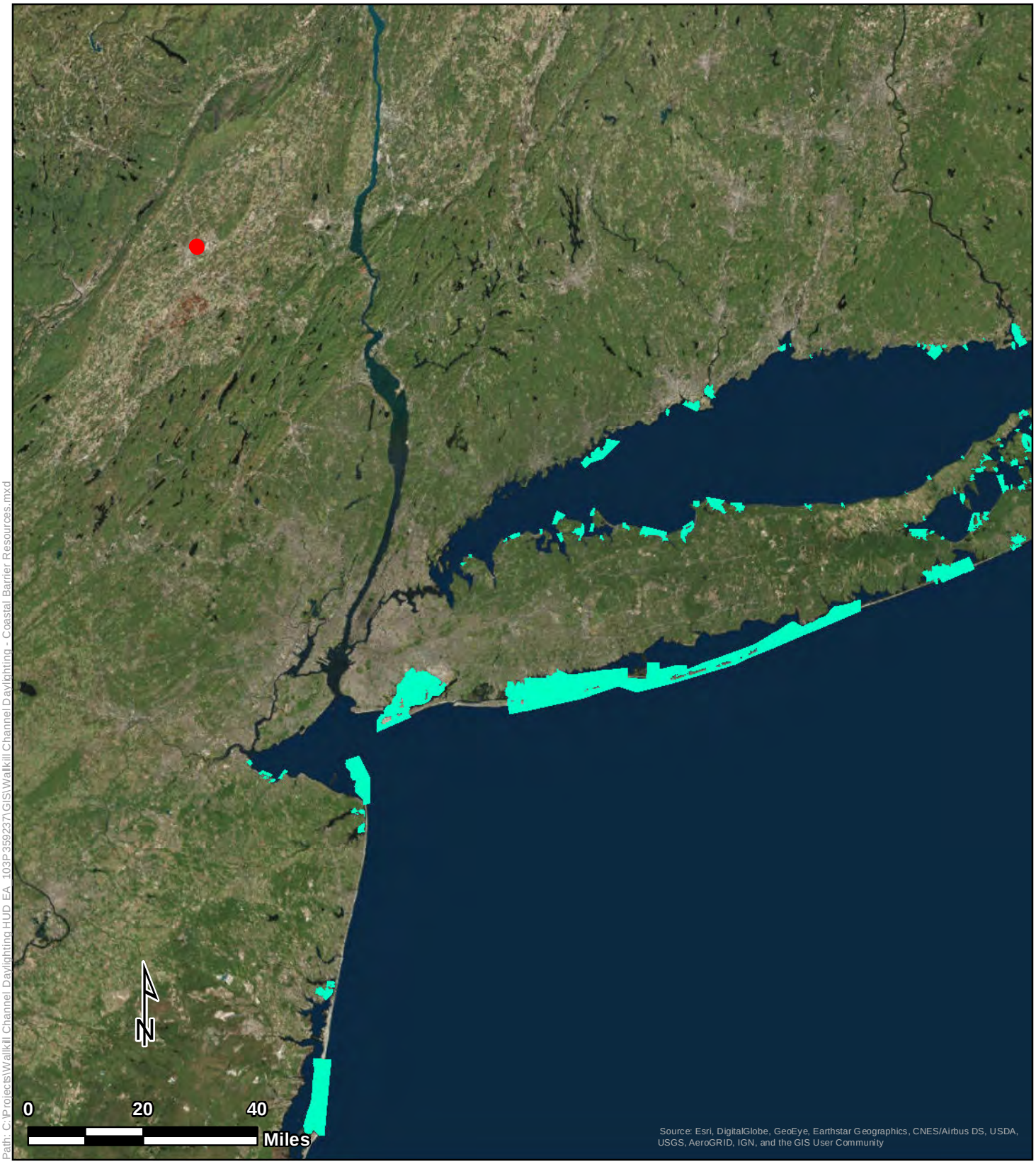
Legend

- Project Area
- One Mile Project Area Buffer
- 2,500 Feet Project Area Buffer
- 15,000 Feet Project Area Buffer
- Private Use
- Public Use

Airports

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

PARS ENVIRONMENTAL, INC.
500 HORIZON DRIVE SUITE 540 ROBBINSVILLE, NEW JERSEY



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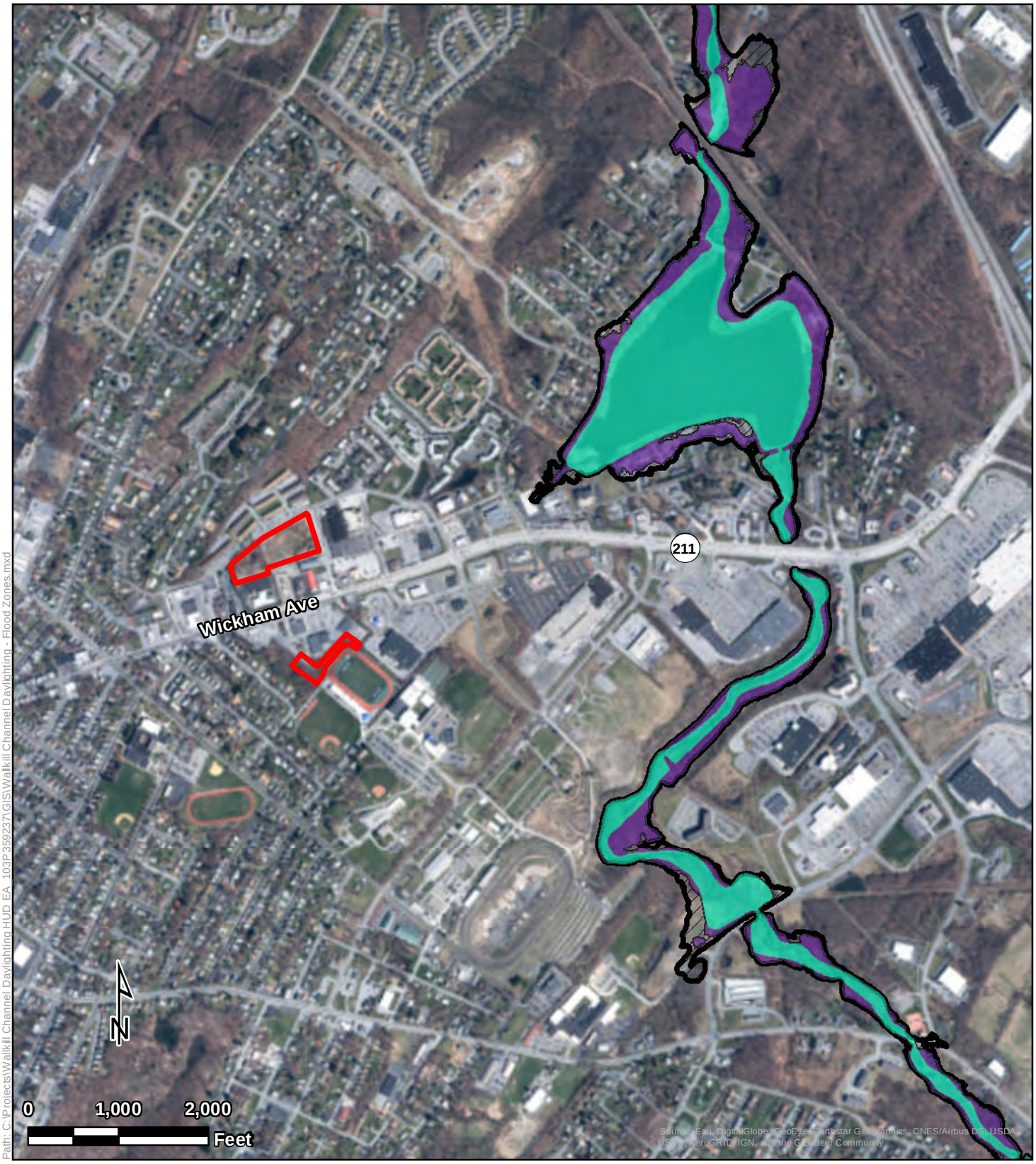
Coastal Barrier Resources

Legend

- Project Area
- CBRS Polygons

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc



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Flood Zones

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Legend

Project Area

Flood Zones

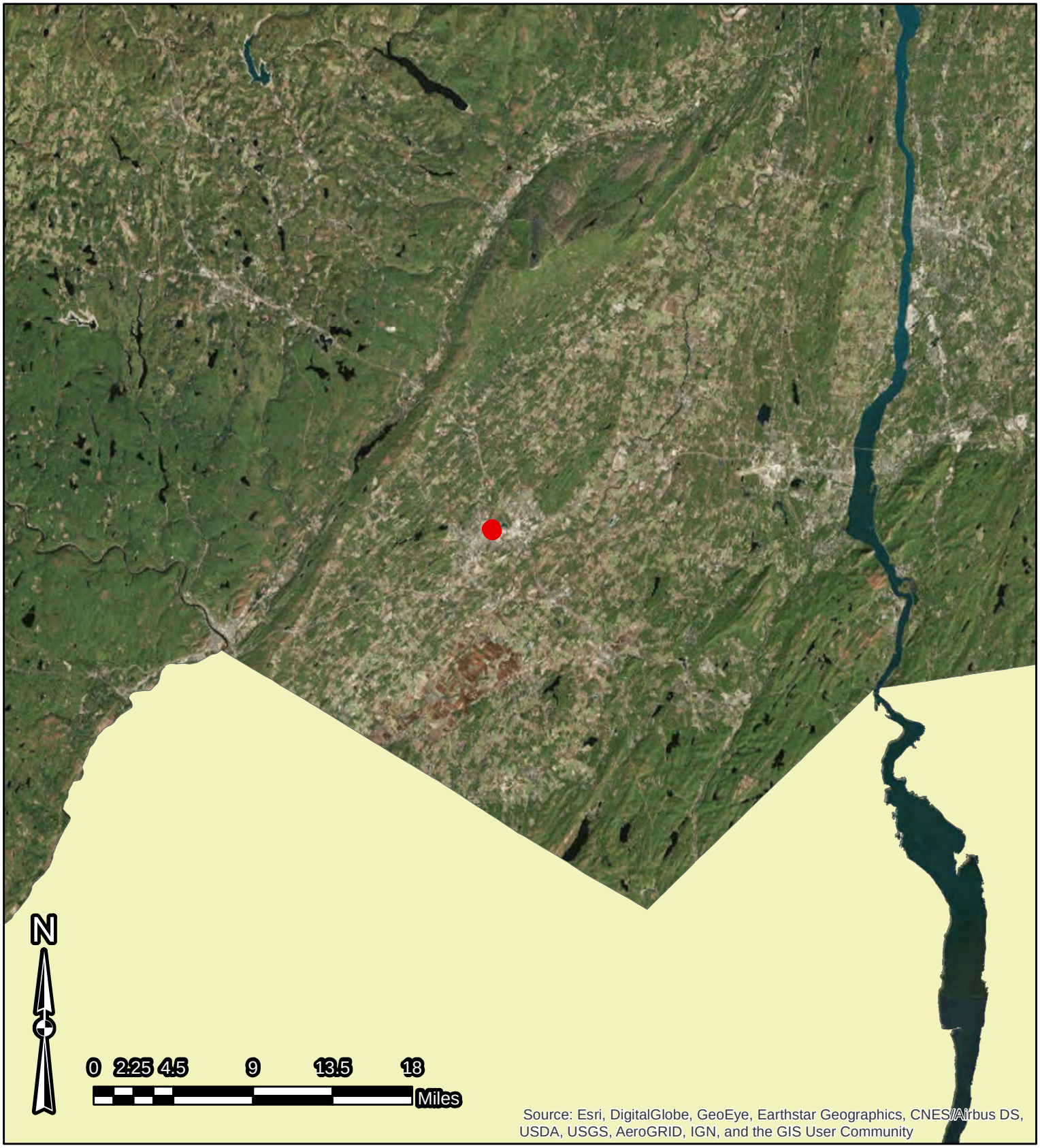
Zone AE- within the 1% annual chance flood

Zone AE- Floodway within the 1% annual chance flood

Zone X-within the 0.2% annual chance of flood

Zone X- area of minimal flood hazard

Tetra Tech, Inc



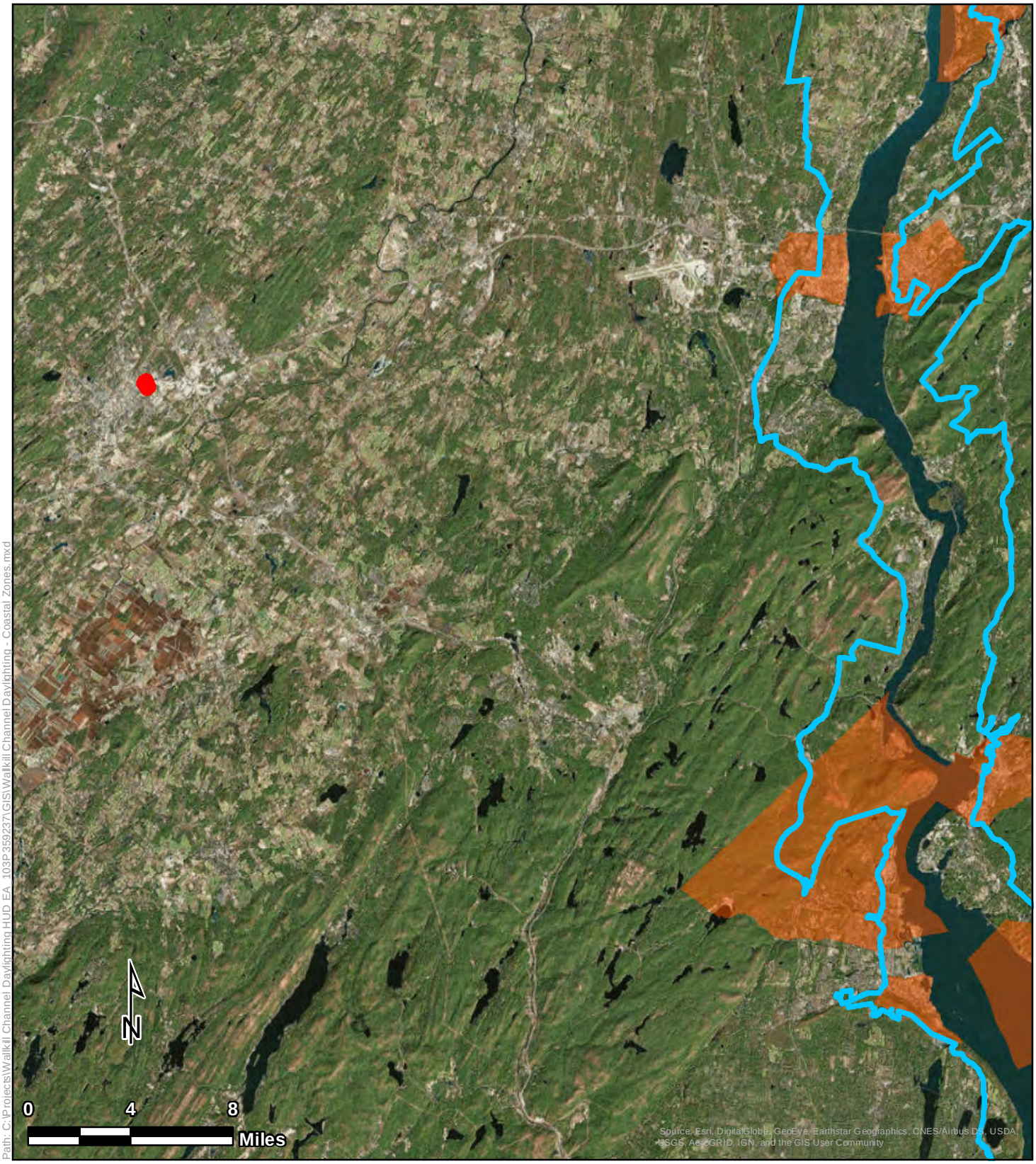
Non Attainment Zones

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Legend

- Project Area
- Ozone 8 hr

PARS ENVIRONMENTAL, INC.
500 HORIZON DRIVE SUITE 540 ROBBINSVILLE, NEW JERSEY



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Coastal Zones

Legend

- Landward Coastal Extent
- Project Area
- LWRP Communities

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

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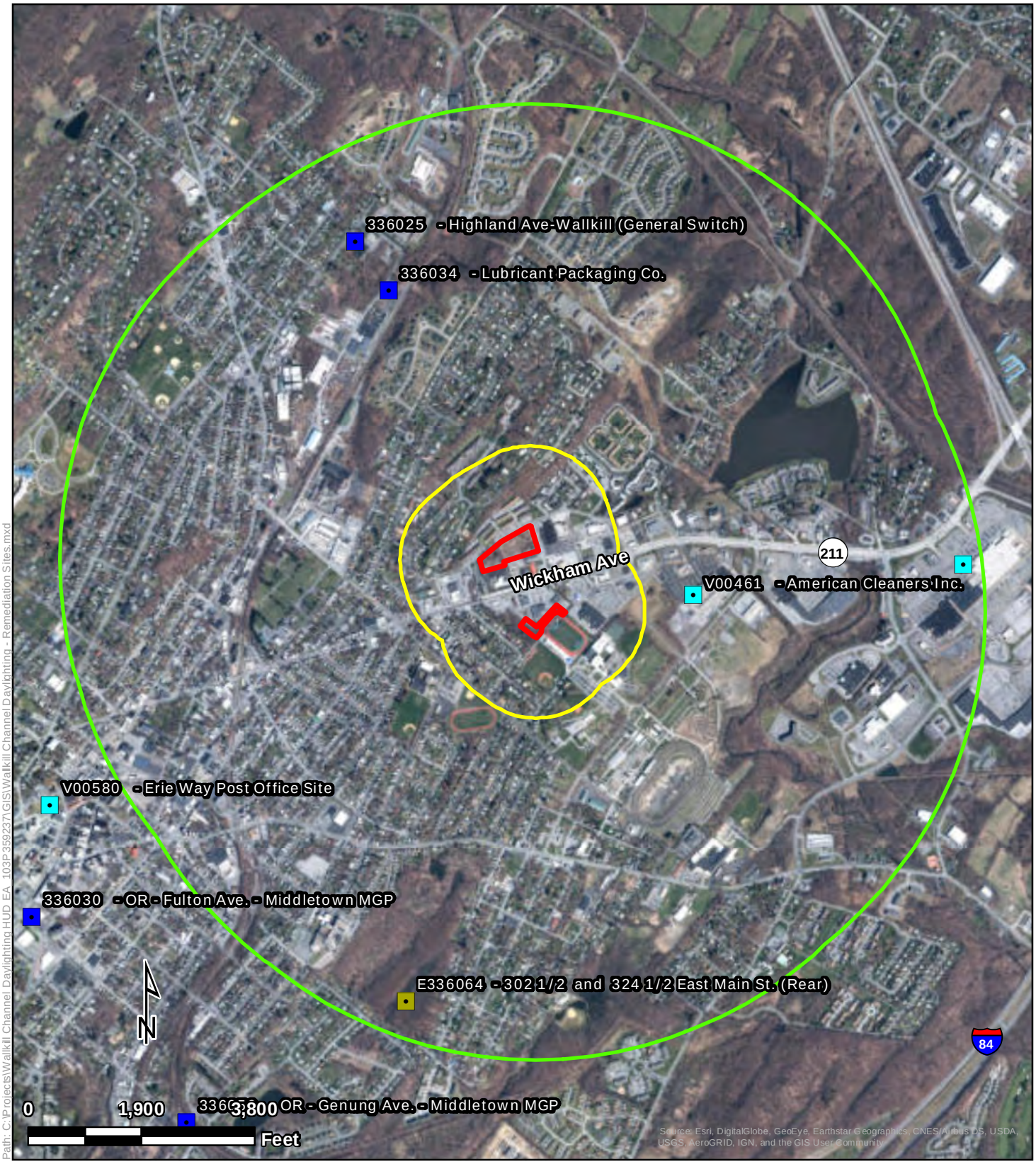

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Legend

- Environmental Restoration Program
- State Superfund Program
- Voluntary Cleanup Program
- Project Area
- 1,000-Foot Project Site Buffer
- One Mile Project Site Buffer

Remediation Sites

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

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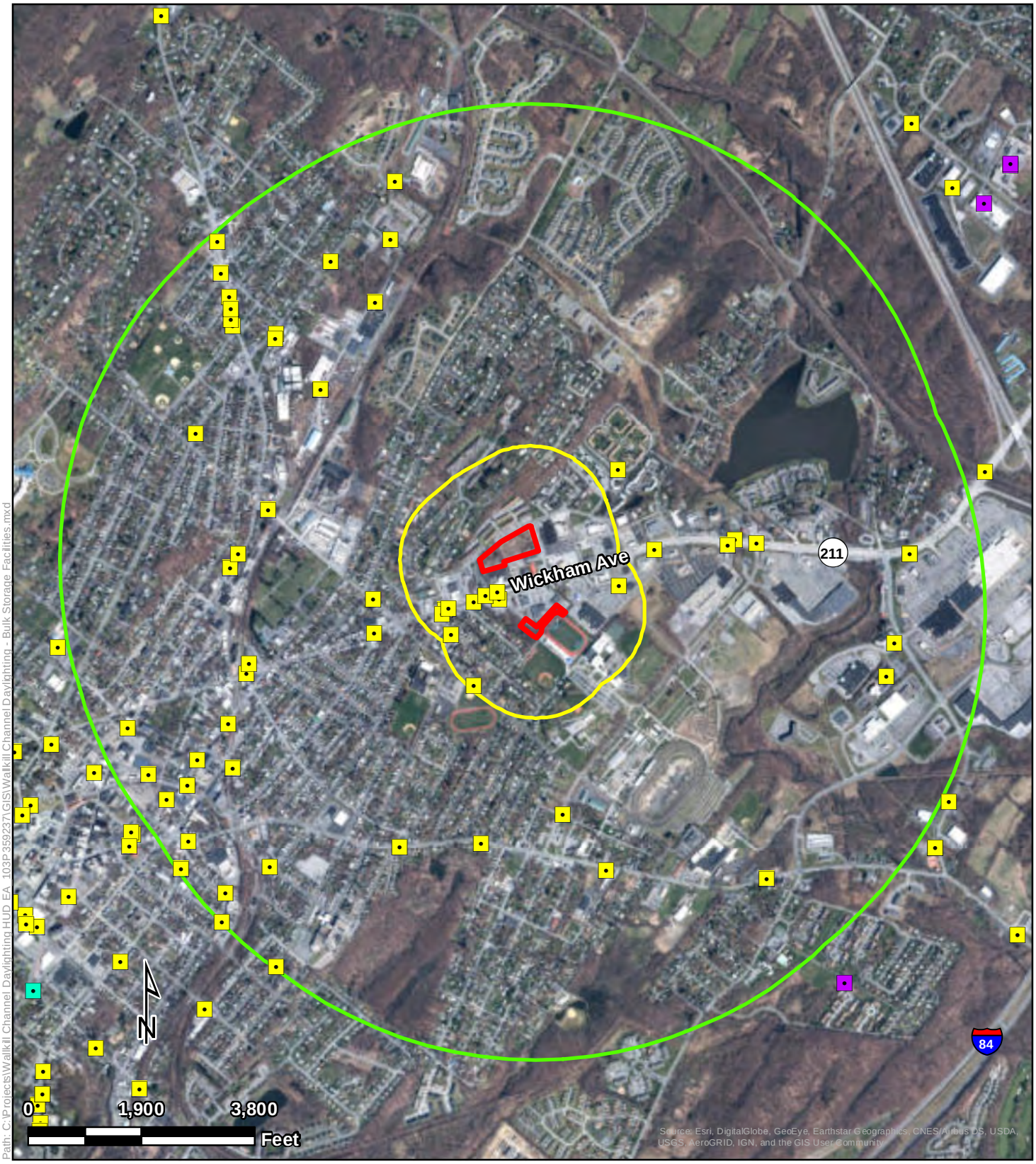

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Legend

- Chemical Bulk Storage
- Petroleum Bulk Storage
- Major Oil Storage Facility
- Project Area
- 1,000-Foot Project Site Buffer
- One Mile Project Site Buffer

Bulk Storage Facilities

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

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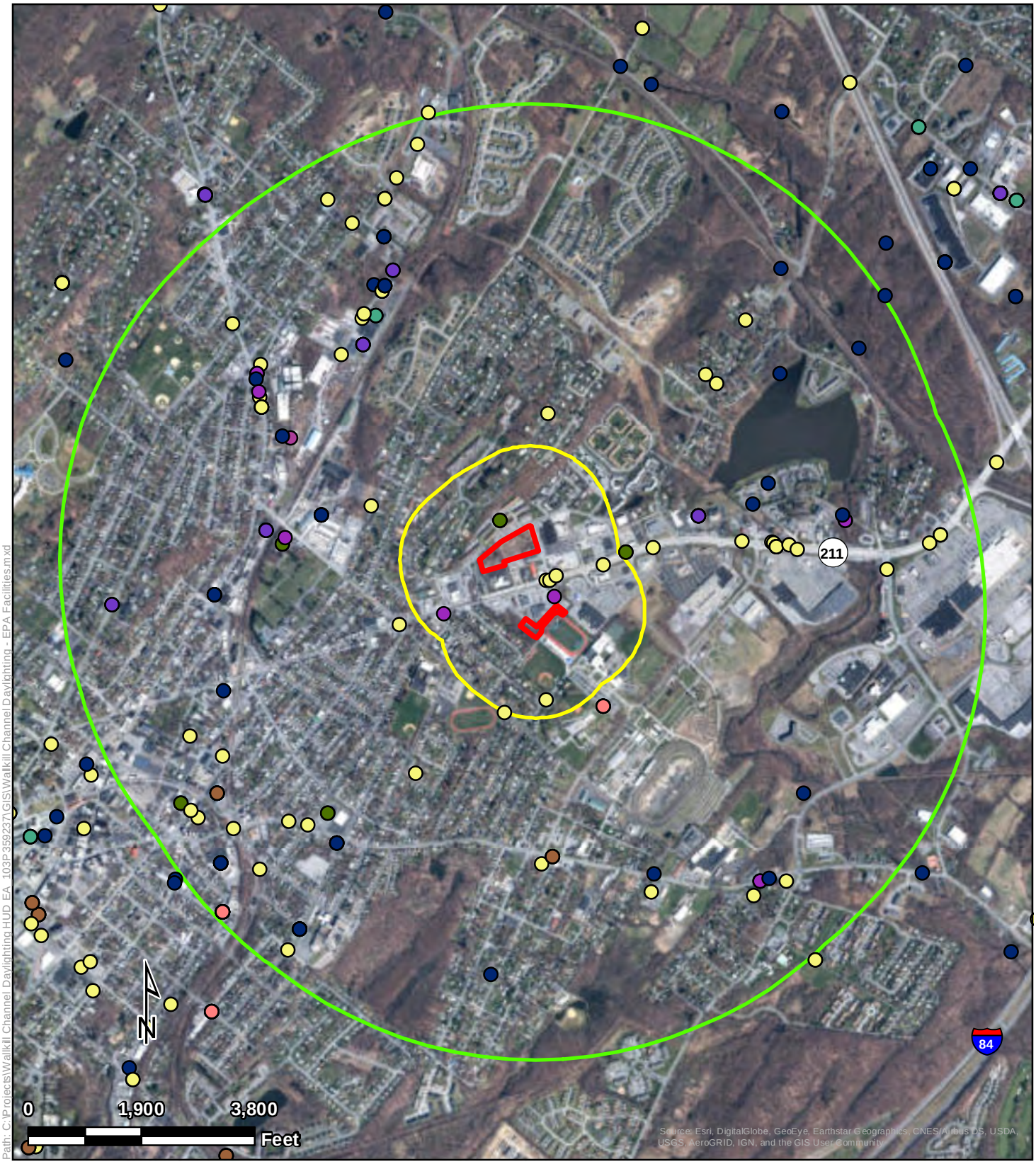

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EPA Facilities

Legend

EPA Facilities

- ACRES
- AIR
- AIRS/AFS
- BR
- FIS
- ICIS
- NCDB
- NPDES
- OIL
- RCRAINFO
- TRIS

- Project Area
- 1,000-Foot Project Site Buffer
- One Mile Project Site Buffer

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

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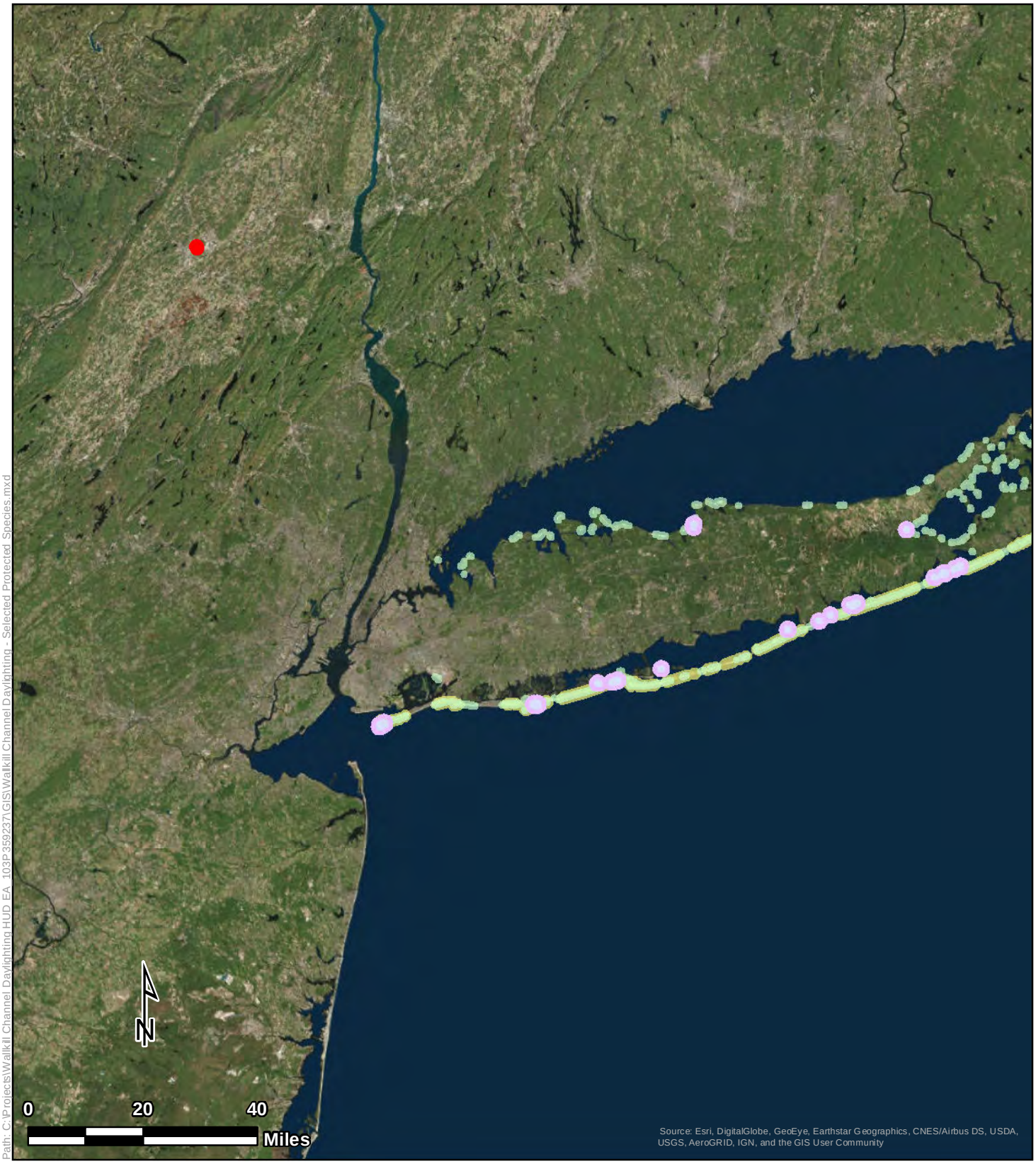

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Legend

- Project Area
- Seabeach Amaranth
- Roseate Tern
- Roseate Tern 1000M Buffer
- Piping Plover

Selected Protected Species

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

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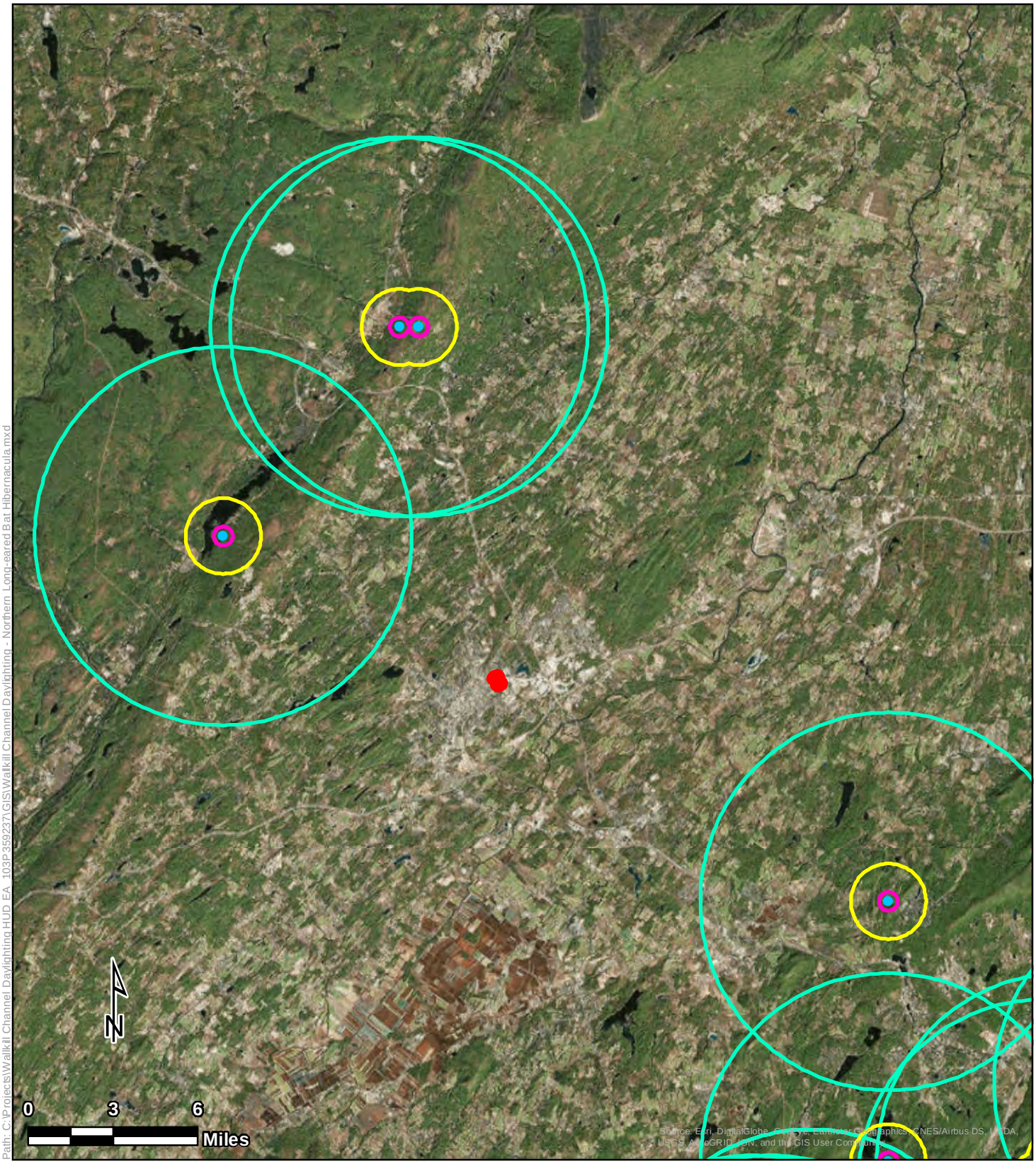

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Legend

- NLEB Hibernacula
- Project Area
- NLEB Hibernacula 0.25 Mile Buffer
- NLEB Hibernacula 1 Mile Buffer
- NLEB Hibernacula 5 Mile Buffer

Northern Long-eared Bat Hibernacula

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P35923\GIS\Wallkill Channel Daylighting - Protected Soils.mxd

Protected Soils

Legend

- Project Area
- All areas are prime farmland
- Farmland of statewide importance
- Prime farmland if drained

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

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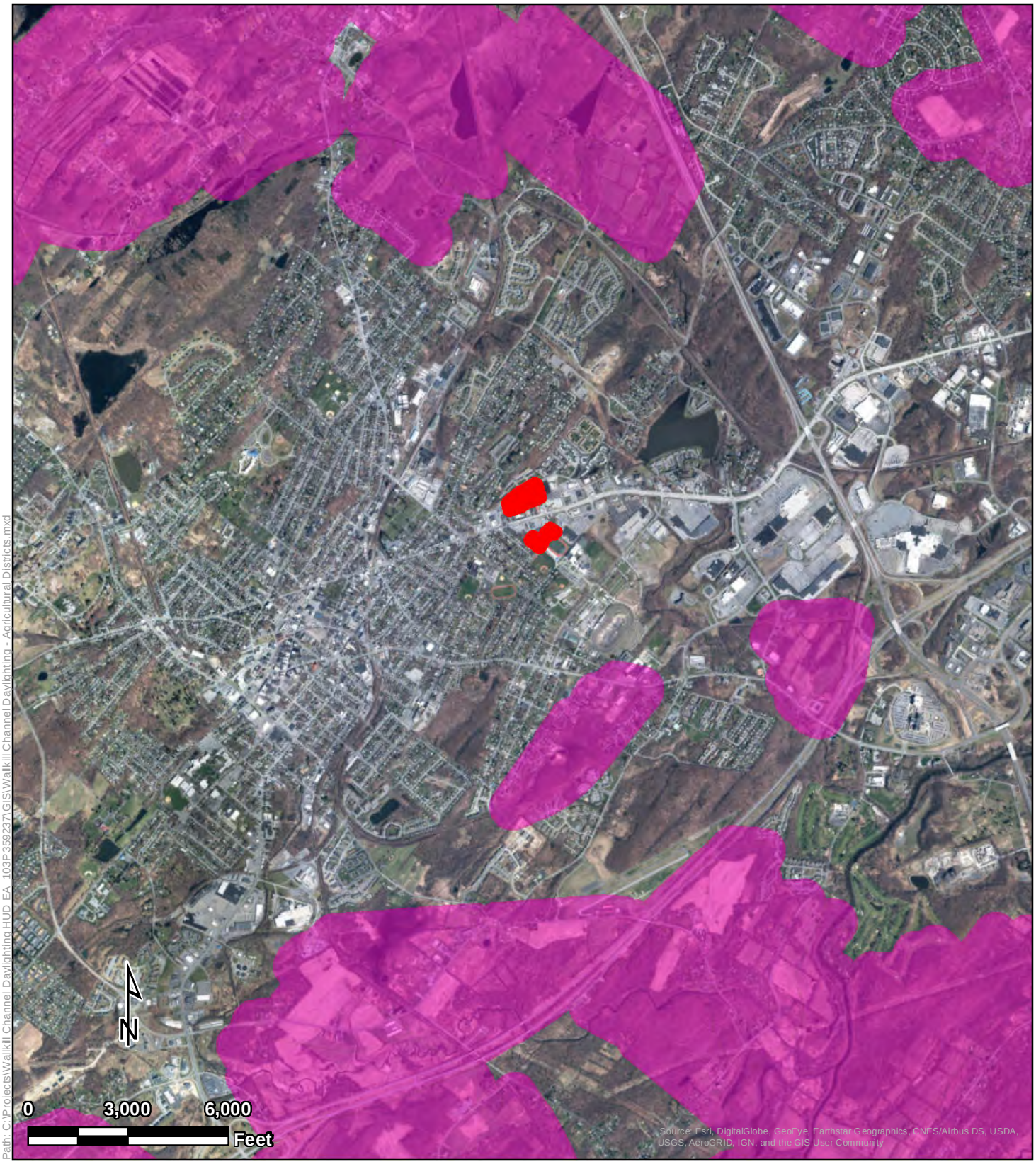

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Agricultural Districts

Legend

- Project Area
- NYS Agricultural Districts 500ft Buffer

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

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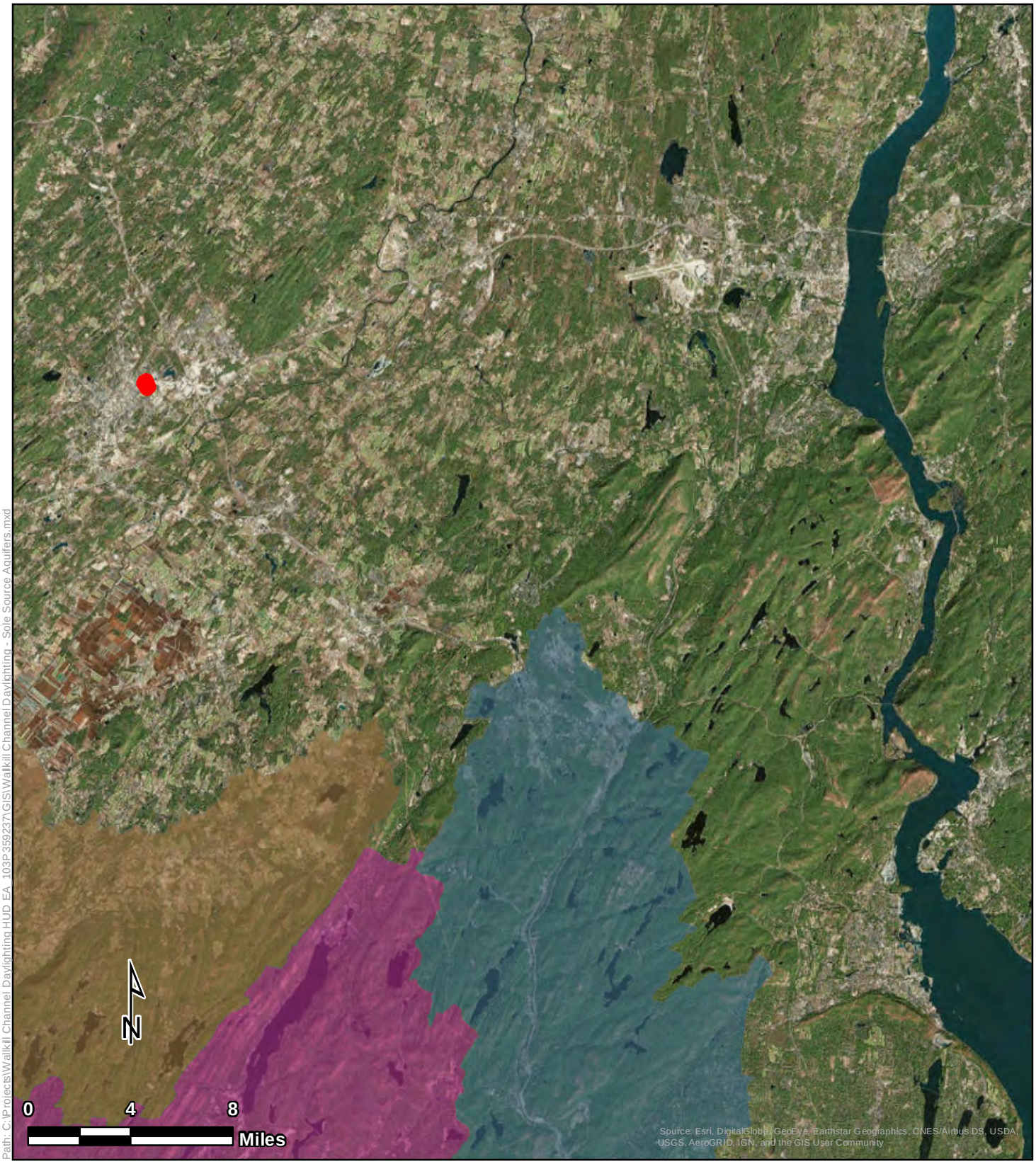

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Sole Source Aquifers

Legend

- Project Area
- Highlands SSA
- Northwest NJ 15 Basin SSA
- Ramapo SSA

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P359237\GIS\Wallkill Channel Daylighting - Freshwater Wetlands.mxd

Legend

- Project Area
- NYS Freshwater Wetlands
- NYS Freshwater Wetlands Buffer

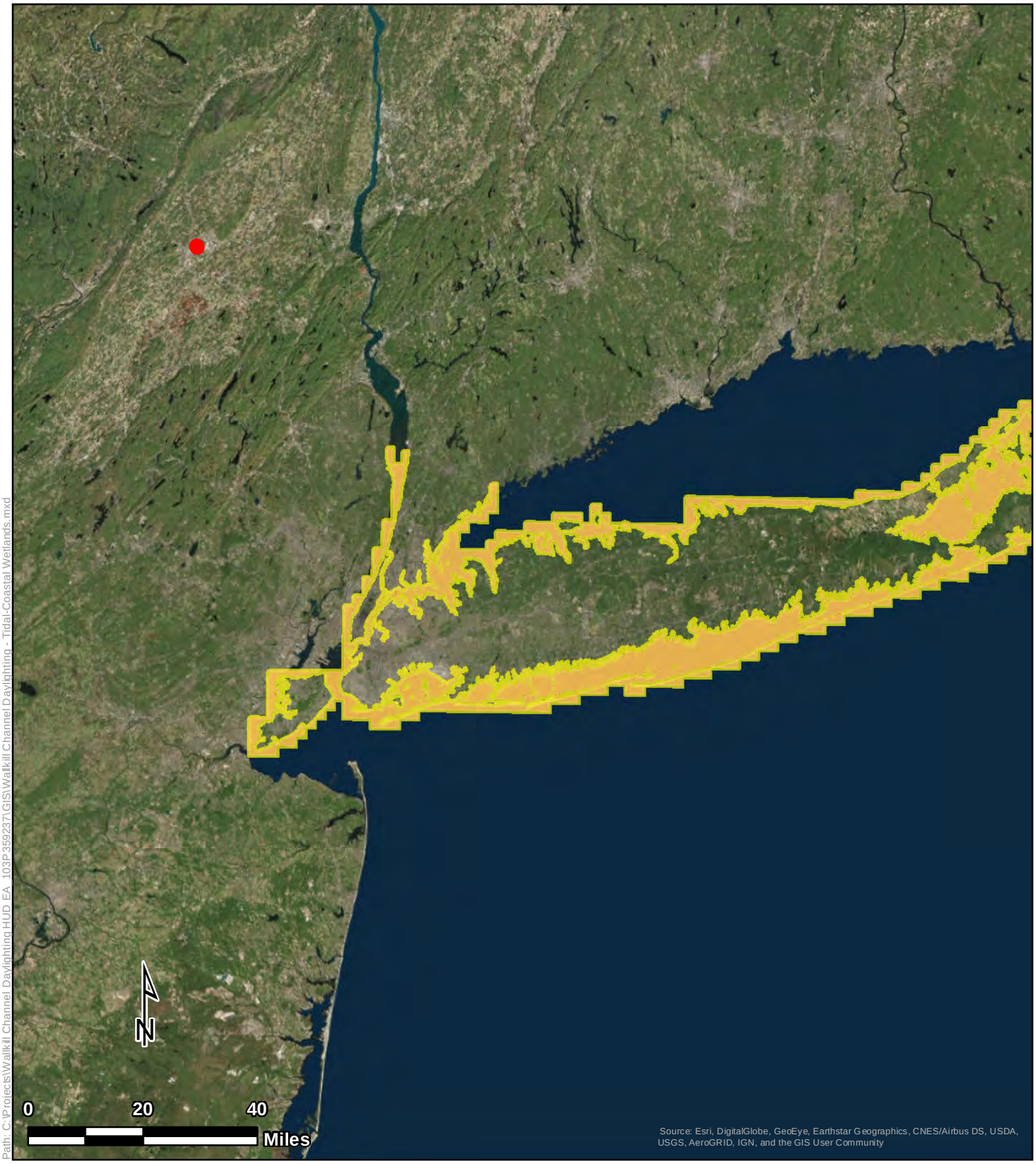
NWI Wetlands

- Freshwater Forested/Shrub Wetland

Freshwater Wetlands

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc



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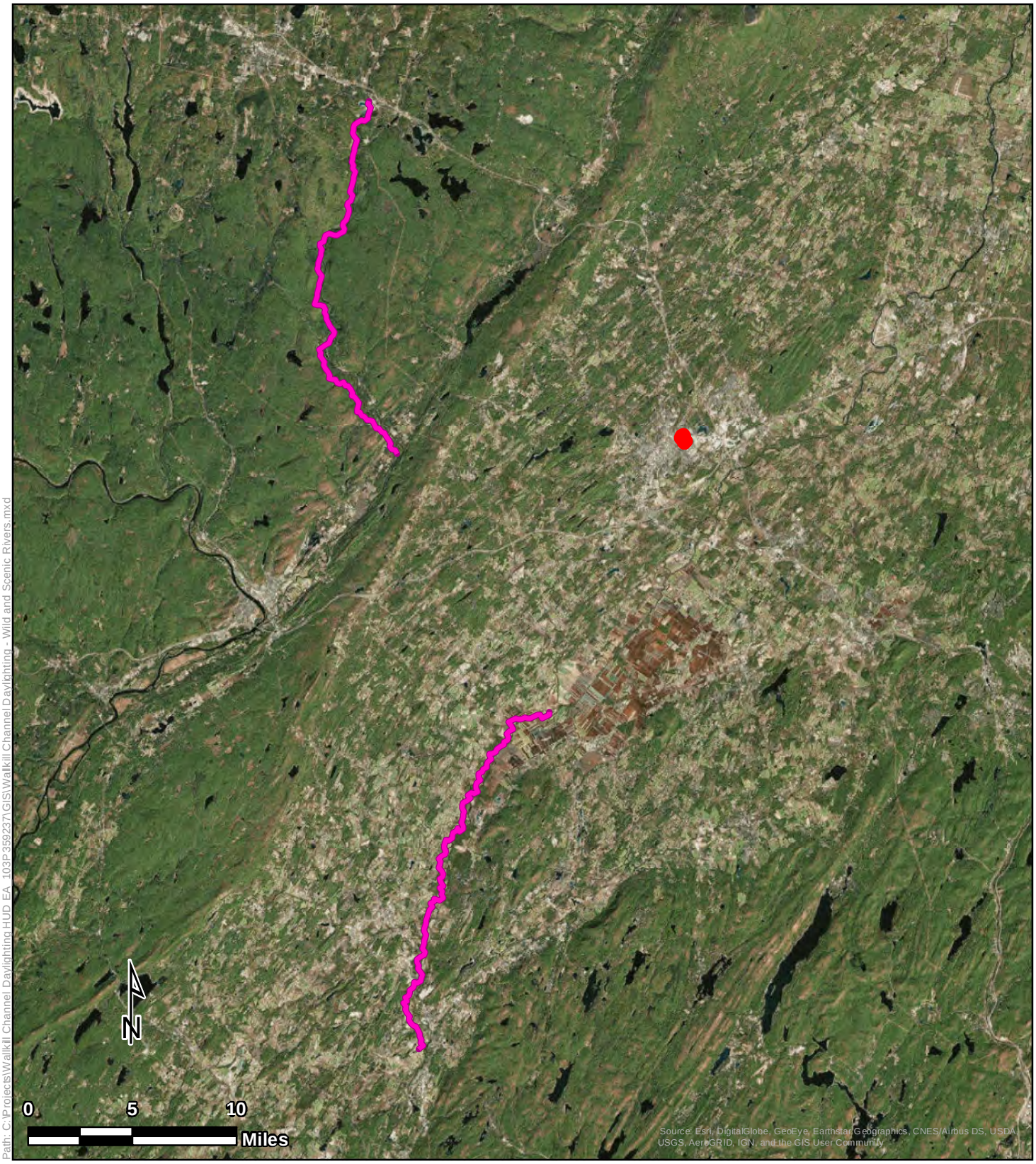
Tidal-Coastal Wetlands

Legend

- Project Area
- Tidal - Coastal Wetlands
- Tidal - Coastal Wetlands 300ft Buffer

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc



Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P359237\GIS\Wallkill Channel Daylighting - Wild and Scenic Rivers.mxd

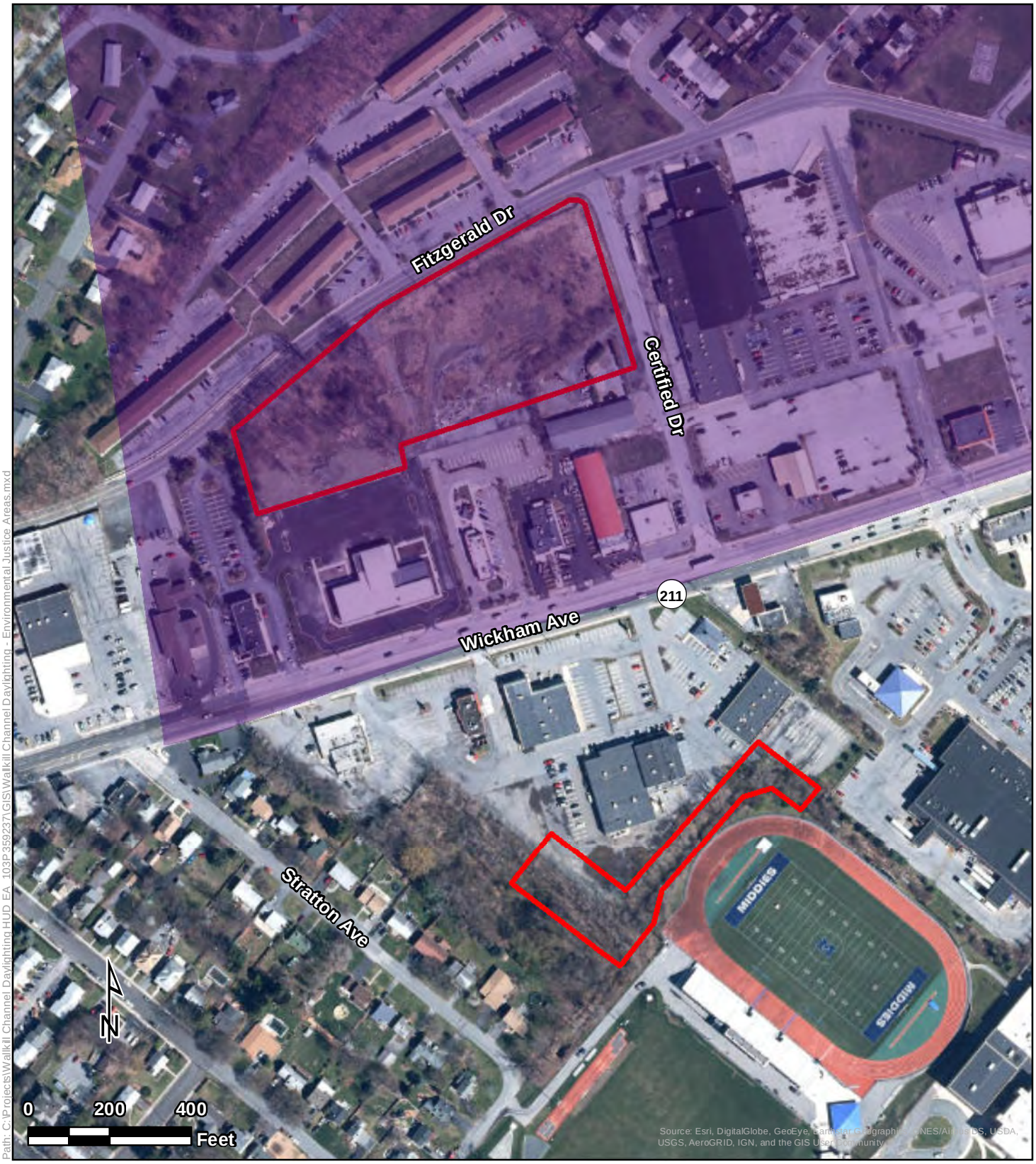
Wild and Scenic Rivers

Legend

- Wild and Scenic Rivers
- Project Area

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc



Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P-35923\GIS\Wallkill Channel Daylighting - Environmental Justice Areas.mxd

Environmental Justice Areas

Legend

- Project Area
- Environmental Justice Areas

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

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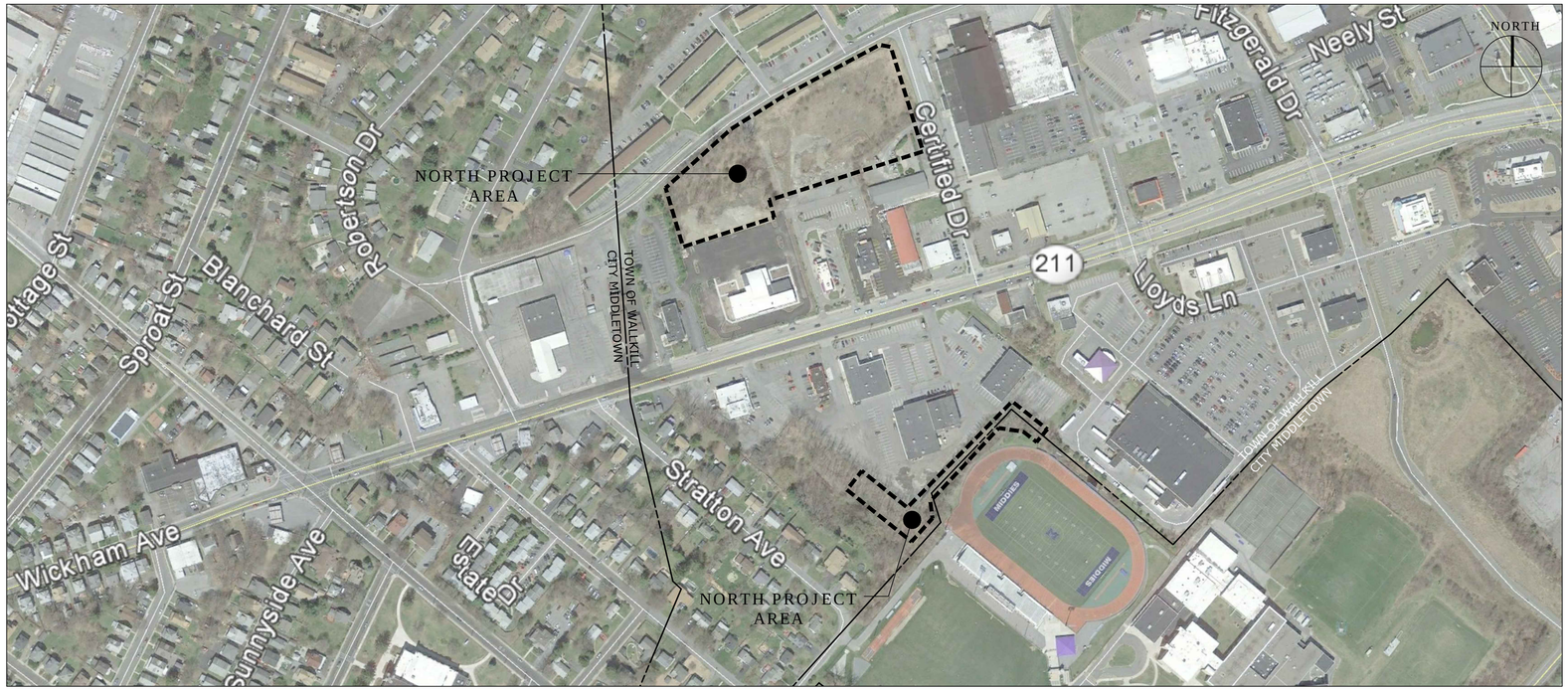
Appendix B
Site Plans

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

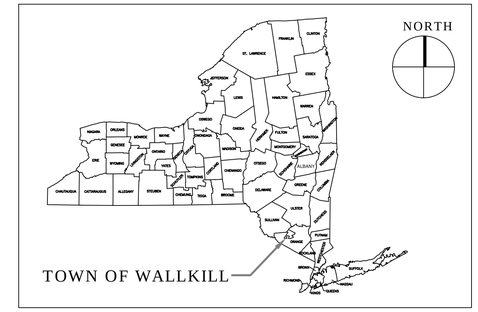
TOWN OF WALLKILL

ORANGE COUNTY, NEW YORK



SITE MAP

SCALE : 1" = 200'



SITE VICINITY MAP

LOCATION PLAN

DRAWING LIST

SHEET#	DWG#	TITLE
01	G-001	COVER SHEET
02	G-002	GENERAL NOTES AND LEGEND
03	C-101	EXISTING CONDITION AND REMOVALS PLAN (NORTH)
04	C-102	EXISTING CONDITION AND REMOVALS PLAN (SOUTH)
05	C-103	PROPOSED CONDITION PLAN (NORTH)
06	C-104	PROPOSED CONDITION PLAN (SOUTH)
07	C-105	EROSION AND SEDIMENT CONTROL PLAN (NORTH)
08	C-106	EROSION AND SEDIMENT CONTROL PLAN (SOUTH)
09	C-301	PROFILES (NORTH)
10	C-302	PROFILES (SOUTH)
11	C-501	DETAILS I
12	C-502	DETAILS II

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WARNING: IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT IS ALTERED, THE ALTERING ARCHITECT SHALL AFFIX TO HIS ITEM THE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. ARCHITECTURE
- COMMISSIONER'S REGULATIONS PART 69.5.

WARNING: IT IS A VIOLATION OF THIS LAW FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. PROFESSIONAL ENGINEERING AND LAND SURVEYING - ART. 145, SECTION. 7209

C.T. MALE ASSOCIATES

Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.

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COBLESKILL, NY · GLENS FALLS, NY · HIGHLAND, NY · JOHNSTOWN, NY
LITTLE FALLS, NY · RED HOOK, NY · SYRACUSE, NY

PROJECT NO. 16-6428
DRAWING NO. 18-0200

G-001

FEATURE	SYMBOL	
	PROPOSED	EXISTING
ROADS	ASPHALT MILLINGS ASPHALT CONC	TYPE
SIDEWALKS		TYPE
CURB / GUTTER		TYPE
GRAVEL ROAD/DRIVEWAY		TYPE
BLACK TOP / CONC. DRIVEWAY		TYPE
BOX BEAM / CORRUGATED GUIDE RAIL	TYPE	TYPE
FENCE	SIZE AND TYPE	SIZE AND TYPE
STONE WALL		
RAILROAD		
DITCH		
STREAM / RIVER		
POND/LAKE BOUNDARY		
RIPRAP		
ROCK OUTCROP		
CONTOURS	100	100
BASE LINE / TRAV. PT.		BL
BUILDING		
EASEMENT LINE		
COUNTY / CITY BOUNDARY	TYPE	TYPE
ROAD CENTERLINE		
PROPERTY LINE		
R.O.W. / ST / HWY BDY		
CAPPED IRON ROD FOUND		CIRF
CAPPED IRON ROD SET		CIRS
IRON PIPE/ROD FOUND		IPF IRF
SQUARE/TRIANGULAR MONUMENT	SMON TMON	SMON TMON
TRAVERSE/BASE LINE POINT		BL
BENCH MARK		BENCHMARK FOUND "X" CUT HYD. BOLT ELEVATION=742.40'
SPOT ELEVATION	+ELEV	+ELEV
SOIL BORING/GEOPROBE/PAVE CORE	SB GP PC	SB GP PC
TEST PIT	TP	TP
EDGE OF WOODS		
DECIDUOUS/CONIFEROUS TREE		
DECIDUOUS/CONIFEROUS SHRUB		SHRUB SHRUB
STUMP		STUMP
HEDGE		
MAIL BOX RESIDENCE		MB
U.S. MAIL BOX		USMB
NEWSPAPER BOX		NB
SIGN / BILLBOARD		
N.Y.S. MILE MARKER		MILE MARKER 7 1410 2307
SILT FENCE		
WETLANDS DELINEATION FLAG	WLF	WLF C-14
WETLANDS		WLF-C-14 WLF C-13

FEATURE	SYMBOL	
	PROPOSED	EXISTING
UTILITY POLE		NUMBER
UTILITY POLE w/LIGHT		NUMBER
UTILITY POLE w/GUY		NUMBER
STREET LIGHT		
YARD LIGHT		YL
LAMP POST	LP	LP
ELECTRIC MANHOLE	EMH	EMH
ELECTRIC METER		EMTR
TRANSFORMER	TRANS	TRANS
HAND HOLE	HH	HH
TRAFFIC SIGNAL SUPPORT POLE	SSP	SSP
TRAFFIC SIGNAL POLE	TSP	TSP
TRAFFIC SIGNAL BOX	TSB	TSB
TRAFFIC SIGNAL HEAD		
POLICE / FIRE CALL BOX	PCB FCB	PCB FCB
SANITARY SEWER	SIZE AND TYPE SS	SIZE AND TYPE SS
FORCE MAIN	SIZE AND TYPE FM	SIZE AND TYPE FM
SANITARY MANHOLE	SMH	SMH
CLEAN OUT	CO	CO
STORM SEWER	SIZE AND TYPE ST	SIZE AND TYPE ST
CULVERT w/ END SECTION & PLAIN END	ES SIZE AND TYPE ST	ES SIZE AND TYPE ST
STORM MANHOLE	STMH	STMH
CATCH BASINS	CB CBCI CBR	CB CBCI CBR CB
WATER LINE	SIZE AND TYPE W	SIZE AND TYPE W
WATER VALVE	WV	WV
FIRE HYDRANT	HYD	HYD
CURB STOP	WSO	WSO
WATER MANHOLE	WMH	WMH
WELL	WELL	WELL
GAS LINE	SIZE AND TYPE G	SIZE AND TYPE G
GAS VALVE	GV	GV
GAS DRIP	GD	GD
GAS TEST	GT	GT
ELECTRIC MANHOLE	EMH	EMH
UNDERGROUND ELECTRIC	UE	UE
OVERHEAD ELECTRIC	E	E
OVERHEAD WIRES		OHW
UNDERGROUND TELEPHONE	UT	UT
TELEPHONE MANHOLE	TMH	TMH
TELEPHONE PEDESTAL		TPED
UNDERGROUND CABLE T.V.	UCATV	UCATV
CABLE T.V. PEDESTAL		CPED

SITE PLAN NOTES:

1. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY BOUNDARY MONUMENTATION. ANY MONUMENTATION THAT HAS BEEN DISTURBED OR DESTROYED, AS JUDGED BY THE SURVEYOR, ENGINEER OR OWNER, SHALL BE REPLACED BY A NYS LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
2. THE OWNER AND CONTRACTOR(S) SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: NYS FIRE CODE, NYS BUILDING CODE, NATIONAL ELECTRIC CODE, AND WORKER HEALTH AND SAFETY LAWS AND REGULATIONS. CONTRACTOR SHALL COMPLY WITH THE CONDITIONS OF ALL APPLICABLE PERMITS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY AND SAFELY MAINTAINING CONSTRUCTION ACTIVITY WITHIN THE LIMITS OF THE CONSTRUCTION SITE.
4. NO WORK, STORAGE, OR TRESPASS IS ALLOWED BEYOND THE SITE PROPERTY LINES OR PUBLIC RIGHTS-OF-WAY.
5. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE CONTRACT DRAWINGS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE CONTRACT DRAWINGS WITHOUT PRIOR REVIEW AND ACCEPTANCE BY THE ENGINEER.
6. PAVEMENT DIMENSIONS ARE TO FACE OF CURB, UNLESS OTHERWISE NOTED.
7. NOTIFY THE ENGINEER OF ANY CONDITIONS THAT DEVIATE FROM THOSE SHOWN ON THE CONTRACT DRAWINGS.
8. THE CONTRACTOR SHALL RESTORE EXISTING FEATURES (I.E., LAWNS, DRIVEWAYS, CULVERTS, SIGNS, ETC.) THAT HAVE BEEN DISTURBED DURING CONSTRUCTION TO A CONDITION AT LEAST AS GOOD AS THEY WERE PRIOR TO SAID DISTURBANCE. FEATURES SHALL EITHER BE PROTECTED OR REMOVED AND REPLACED IN-KIND AS THEY WERE PRIOR TO THEIR REMOVAL, AS DETERMINED BY THE ENGINEER. ANY DAMAGED FEATURES SHALL BE REPLACED IN-KIND AT THE CONTRACTOR'S EXPENSE.

GENERAL NOTES:

1. CONTRACTOR MUST ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER AND OWNER PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL HIRE A PROFESSIONAL LICENSED LAND SURVEYOR TO LOCATE ALL EXISTING PROPERTY CORNERS AND HIGHWAY MONUMENTATION THAT WILL BE DISTURBED BY CONTRACTOR AND REPLACE THEM UPON COMPLETION OF THE PROJECT.
3. RIGHT-OF-WAY AND BOUNDARY LINES SHOWN ARE APPROXIMATE AND ARE INTENDED FOR REFERENCE ONLY.
4. NO WORK, STORAGE OR TRESPASS SHALL BE PERMITTED BEYOND THE BOUNDARIES OF ANY RIGHT-OF-WAYS WITHOUT WRITTEN PERMISSION OF THE PROPERTY OWNER.
5. ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATION ONLY. THEIR EXACT LOCATION SHALL BE VERIFIED AT THE SITE BEFORE CONSTRUCTION BEGINS. CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK AT 1-800-968-7962 PRIOR TO EXCAVATION. CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF NYS CODE RULE 753 (16 NYCRR PART 753)
6. ANY AND ALL EXISTING PIPE IF DAMAGED BY THE CONTRACTOR SHALL BE REPLACED IN KIND WITH NEW PIPE AT THE CONTRACTORS EXPENSE.
7. THE CONTRACTOR'S WORK SHALL ACCOMMODATE THE CONTINUED OPERATION OF THE COMMERCIAL PROPERTY BUSINESSES DURING ITS NORMAL BUSINESS HOURS.
8. CONTRACTOR SHALL SAW CUT ALL PAVEMENT, ROADS AND DRIVEWAYS TO BE DISTURBED DURING CONSTRUCTION. ALL ROADS, DRIVEWAYS AND PARKING LOTS SHALL RECEIVE TEMPORARY PAVEMENT UNTIL FINAL ROAD/DRIVE/PARKING LOT RESTORATION.
9. CONTRACTOR SHALL RESTRAIN ALL UTILITY POLES TO UTILITY OWNER'S REQUIREMENTS AS REQUIRED DURING CONSTRUCTION.
10. SEWER MAINS (BOTH STORM AND SANITARY) IN RELATION TO WATER MAINS: WHERE POSSIBLE, WATER MAINS SHALL BE LAID AT LEAST 10(TEN) FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER MAIN. VERTICAL SEPARATION SHALL BE MAINTAINED TO PROVIDE 18(EIGHTEEN) INCHES BETWEEN TOP OF SEWER AND THE INVERT OF THE WATER MAIN AT UTILITY CROSSING. WHEN IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION, PRESSURE RATED SEWER PIPE SHALL BE USED 10(TEN) FEET ON EACH SIDE OF THE WATER MAIN BEING CROSSED.
11. CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, PARKING LOTS, WALKS, CURBS, WALLS, FENCES ETC. TO A CONDITION AT LEAST AS GOOD AS THEY WERE BEFORE BEING DISTURBED. MAILBOXES, POSTS, ETC., SHALL BE PROTECTED OR REMOVED AND REPLACED AS THEY WERE BEFORE BEING DISTURBED OR AS DIRECTED BY ENGINEER. DAMAGED ITEMS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
12. BOX ALL TREES AND HOUSE ALL SHRUBS & HEDGES BEFORE PLACING EARTH AGAINST OR NEAR THEM. SHRUBS & HEDGES WHICH MUST BE REMOVED DURING CONSTRUCTION SHALL BE HEALED IN AND REPLANTED IN AS GOOD A CONDITION AS THEY WERE BEFORE THEIR REMOVAL, ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
13. SILTATION PREVENTION/EROSION CONTROL MEASURES SHOWN ARE A MINIMUM. CONTRACTOR HAS THE RESPONSIBILITY TO PREVENT SILTATION OF WETLANDS, STREAMS, WATERWAYS, DRAINAGE STRUCTURES AND DRAINAGE PIPES FROM THE WORK SITE.
14. TRENCH DEWATERING SHALL BE CONDUCTED USING A PORTABLE PUMP AND HOSE, AS NECESSARY. EXCESS WATER SHALL BE PUMPED TO A DEWATERING STRUCTURE OR GEOTEXTILE FILTER BAG LOCATED IN A WELL VEGETATED UPLAND AREA. WHEN COMPLETED, ALL DEPOSITED SEDIMENTS SHALL BE DISPOSED OF OFF-SITE.
15. EROSION CONTROL FABRIC SHALL BE USED ON ALL SLOPES STEEPER THAN 1V:3H AND MORE THAN 5 FEET HIGH.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL REQUIREMENTS ON STATE AND LOCAL ROADS.
17. CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER OR DESIGNATED REPRESENTATIVE 8 HOURS IN ADVANCE OF PERFORMING ANY WORK ON THEIR PROPERTY.
18. SITE REMOVALS: CONTRACTOR SHALL LEGALLY DISPOSE OF REMOVED ITEMS.
19. MAINTAIN EMERGENCY ACCESS ON ALL ROADS AT ALL TIMES.
20. AT THE END OF EACH WORK DAY, THE JOBSITE SHALL BE LEFT IN A CLEAN AND SAFE CONDITION. ALL ROADS SHALL BE SWEPT CLEAN. WATER SHALL BE USED DURING SWEEPING TO MINIMIZE AIRBORNE DUST.
21. PROVIDE FOR AN INDEPENDENT UTILITY LOCATOR TO LOCATE AND MARK ALL UTILITIES ON THE SITE PRIOR TO THE START OF WORK. CONTRACTOR SHALL MAINTAIN THE MARKOUTS.
22. RESTRAIN ALL UTILITY POLES IN ACCORDANCE WITH FACILITY/UTILITY OWNER REQUIREMENTS. COORDINATE AND PAY FOR UTILITY OWNER TO RESTRAIN POLES, IF NECESSARY.
23. USE NATIVE SOIL OR OTHER MATERIAL SUCH AS PLYWOOD UNDER TRACKS OF EQUIPMENT TO PROTECT PAVEMENT, REMOVE AND SWEEP AT END OF EACH WORK DAY.
24. ALL PAVEMENT SHALL BE SAWCUT FULL DEPTH PRIOR TO EXCAVATING. AT THE END OF THE PROJECT ALL DISTURBED PAVEMENT SHALL BE REPLACED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ADDITIONAL SAW CUTTING MAY BE REQUIRED IF TRENCH WALLS COLLAPSE OR IF EXISTING PAVEMENT EDGES ARE DAMAGED
25. ADEQUATE RECORDS SHALL BE MAINTAINED, INCLUDING THE LOCATION AND DISTANCE FROM TWO PERMANENT POINTS AND DEPTH FOR ALL NEW AND EXISTING UTILITIES FOUND.
26. CLEAR AND GRUB EXISTING VEGETATION, REGARDLESS OF SIZE, NECESSARY TO INSTALL THE WORK OF THE CONTRACT. REMOVE ALL ABOVE GROUND PORTIONS OF PLANTS. GRUB ALL BELOW GROUND PORTIONS OF PLANTS TO A MINIMUM OF 6" BELOW FINISH GRADE IN LAWN AREAS. COMPLETELY REMOVE ALL BELOW GROUND PORTIONS OF PLANTS IN AREAS TO BE COVERED WITH BUILDINGS AND OTHER STRUCTURES, PAVEMENTS AND PLANTING BEDS. ALL INDIVIDUAL TREES INDICATED FOR REMOVAL ARE TO BE REMOVED IN THEIR ENTIRETY, INCLUDING ALL ABOVE AND BELOW GROUND PORTIONS. PRESERVE AND PROTECT ALL EXISTING VEGETATION NOT INDICATED TO BE REMOVED AND OTHER VEGETATION OUTSIDE THE CLL/GLL NOT REQUIRED TO BE DISTURBED BY THE WORK OF THIS CONTRACT, AND RELATED CONTRACTS. PROVIDE FENCES, BARRICADES AND OTHER SUITABLE DEVICES TO PREVENT DAMAGE BY VEHICLES. RESTRICT VEHICULAR TRAFFIC TO AREAS OUTSIDE THE DRIP LINE OF TREES. PREVENT COMPACTION OF SOIL WITHIN THE DRIP LINE OF TREES AND SHRUBS. DO NOT DRIVE OR PARK VEHICLES ON LAWNS.
27. STRIP ALL EXISTING ORGANIC SOILS FROM ALL AREAS WITHIN THE GRADING LIMIT LINE WHERE EXCAVATION OR FILL IS REQUIRED. UNCONTAMINATED ORGANIC SOILS FROM LAWN AND LANDSCAPED AREAS WILL BE ACCEPTABLE FOR RE-USE AS TOPSOIL. STOCKPILE ALL STRIPPED ORGANIC SOIL AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE. DO NOT STOCKPILE NON-ORGANIC MINERAL SOIL OR OTHER CONTAMINATED MATERIALS WITH TOPSOIL. PROTECT FROM DAMAGE ALL EXISTING PHYSICAL FEATURES ON THE SITE NOT INDICATED OR REQUIRED TO BE REMOVED FOR THE WORK. RESTORE TO THEIR ORIGINAL CONDITION ALL EXISTING PHYSICAL FEATURES DAMAGED BY THE UNAUTHORIZED ACT OR OMISSION OF THE CONTRACTOR. ORIGINAL CONDITION SHALL MEAN THE CONDITION IN WHICH THE FEATURE WAS FOUND AT THE START OF THE WORK.
28. FINE GRADE, TOPSOIL, SEED AND MULCH ALL AREAS DISTURBED BY THE WORK OF THIS CONTRACT AND NOT SPECIFIED TO BE COVERED BY BUILDINGS, PAVEMENTS, OR OTHER FINISHED SURFACE. RESTORE ALL EXISTING CONSTRUCTION TO ORIGINAL CONDITION, UNLESS SHOWN OR DIRECTED OTHERWISE.
29. ALL TRENCH EXCAVATION AND ANY SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE N.Y.S. INDUSTRIAL CODE RULE 23 AND OSHA REGULATIONS FOR CONSTRUCTION.
30. TEST PITS NECESSARY FOR EXISTING CONDITION VERIFICATION SHALL BE BACKFILLED BEFORE THE END OF THE WORK DAY WITH WELL COMPACTED SELECTED FILL PLACED IN SIX (6") LIFTS. NO TEST PIT SHALL BE LEFT OPEN DURING NIGHT PERIODS.
31. THE CONTRACT LIMIT LINE (CLL) AND GRADING LIMIT LINE (GLL) SHALL BE ONE AND THE SAME. ALL REFERENCES TO THE GRADING LIMIT LINE SHALL BE CONSIDERED THE CONTRACT LIMIT LINE.
32. UNDERGROUND UTILITIES, INCLUDING EXISTING WATER MAINS, ARE SHOWN FROM FIELD LOCATIONS WHERE POSSIBLE AND FROM RECORD DATA WHERE FOUND. EXACT LOCATION OF UTILITIES MAY DIFFER FROM THE LOCATION SHOWN, AND ADDITIONAL UTILITIES MAY EXIST. VERIFY THE PRESENCE OF AND EXACT LOCATION OF ALL UTILITIES WITHIN THE AREAS OF WORK PRIOR TO COMMENCING ANY EXCAVATION WORK PURSUANT TO THE CONTRACT DOCUMENTS.
33. PROVIDE EMERGENCY PHONE NUMBERS FOR NIGHT AND WEEKEND EMERGENCY CONTACT. HAVE A CREW AVAILABLE TO PERFORM EMERGENCY MAINTENANCE AND REPAIR WORK AS NECESSARY TO MAINTAIN ALL UTILITY SERVICES TO THE FACILITY DURING THE DURATION OF THE CONSTRUCTION PROJECT.
34. ALL TOPSOIL TO BE USED FOR CONSTRUCTION SHALL BE IMPORTED FROM OFFSITE SOURCES AND SHALL BE COMPLIANT WITH NYSDOT TOPSOIL SPECIFICATIONS FOR LAWNS.

DEMOLITION NOTES:

1. REFER TO DRAWING C-101 FOR DEMOLITION/REMOVAL NOTES.

GRADING PLAN NOTES:

1. THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS HAVING UNDERGROUND UTILITIES ON-SITE OR IN THE RIGHT-OF-WAY THAT MAY BE AFFECTED BY THE WORK, PRIOR TO EXCAVATING AND SITE GRADING.
2. SITE GRADING SHALL NOT PROCEED UNTIL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE PATTERNS DURING THE COURSE OF THE WORK.
4. EARTHWORK SHALL BE SMOOTHLY AND EVENLY BLENDED INTO EXISTING CONDITIONS. IN THE EVENT THAT WORK OUTSIDE OF DESIGNATED LIMITS OF CONSTRUCTION IS NECESSARY, THE PERMISSION OF THE PROPERTY OWNER MUST FIRST BE OBTAINED BEFORE COMMENCING SUCH WORK.
5. BOX TREES, SHRUBS, AND HEDGES TO REMAIN BEFORE PLACING EARTH AGAINST OR NEAR THEM. SHRUBS AND HEDGES, WHICH MUST BE REMOVED TO PERFORM THE WORK, SHALL BE HEALED IN AND REPLANTED IN AS GOOD A CONDITION AS THEY WERE BEFORE THEIR REMOVAL. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES INTENDED TO REMAIN SHALL BE REPLACED IN SIMILAR SIZE AND SPECIES AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING, BARRICADES, OR OTHER SUITABLE PROTECTION LOCATED OUTSIDE THE DRIP LINE (OUTER PERIMETER OF BRANCHES) TO PROTECT TREES AND OTHER PLANTS INTENDED TO REMAIN FROM DAMAGE.

GEOTECHNICAL NOTES:

1. SOIL BORINGS WERE PREPARED TO DESIGN FLOOD CONTROL BASIN & DETENTION BASIN. INFORMATION GATHERED CAN BE FOUND IN THE APPENDIX OF THE SWPPP.
2. INFILTRATION TESTING WAS PERFORMED TO DESIGN THE STORMWATER INFILTRATION BASINS. THE TESTING RESULTS ARE INCLUDED IN THE APPENDIX OF THE SWPPP.

SAFETY NOTES:

1. SAFETY PRECAUTIONS THROUGHOUT THE DURATION OF THE WORK SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT AND THOSE OF RELEVANT REGULATORY AGENCIES. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ON-SITE SUFFICIENT PROPER AND EFFICIENT LIFE SAVING APPLIANCES IN ACCORDANCE WITH OSHA REGULATIONS PART 1926, SUBPART E, WORKING OVER OR NEAR WATER. THESE LIFE SAVING APPLIANCES SHALL BE READILY AVAILABLE FOR USE AT ALL TIMES AND SITE PERSONNEL SHALL BE FULLY TRAINED AND CONVERSANT WITH THEIR USE.
2. MAINTAIN SIDES AND SLOPES OF EXCAVATIONS IN A SAFE CONDITION UNTIL COMPLETION OF BACKFILLING. COMPLY WITH THE REQUIREMENTS OF REGULATORY AGENCIES RELATING TO EXCAVATION, SHEETING, AND SHORING REQUIREMENTS, INCLUDING:
   a. SUBPART 23-4, "EXCAVATION OPERATIONS", OF THE NEW YORK STATE DEPARTMENT OF LABOR INDUSTRIAL CODE RULE 23.
   b. SUBPART P, "EXCAVATIONS", OF THE UNITED STATES DEPARTMENT OF LABOR OSHA REGULATIONS FOR CONSTRUCTION.
3. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL WORKER HEALTH AND SAFETY LAWS AND REGULATIONS.
4. ALL MUNICIPAL, COUNTY, STATE, OR FEDERAL ORDINANCES, REGULATIONS, OR LAWS AND ALL REQUIREMENTS OF NECESSARY PERMITS AND APPROVALS OBTAINED BY THE CONTRACTOR SHALL BE OBSERVED.

EROSION CONTROL NOTES:

1. REFER TO DRAWINGS C-104 AND C-105 FOR EROSION CONTROL DETAILS AND NOTES.

MAP REFERENCES:

1. "WALLKILL STREAM DAYLIGHT PROJECT FOR TOWN OF WALLKILL BOUNDARY & TOPOGRAPHIC SURVEY, O&B REALTY CORP. SEC. 50, BLK.2, LOT 32.12" TOWN OF WALLKILL, ORANGE COUNTY, DATED NOVEMBER 8, 2017, AND LAST REVISED MAY 14, 2018, SHEET NO. 1 OF 2.
2. "WALLKILL STREAM DAYLIGHT PROJECT FOR TOWN OF WALLKILL BOUNDARY & TOPOGRAPHIC SURVEY, O&B REALTY CORP. SEC. 50, BLK.2, LOT 32.12" TOWN OF WALLKILL, ORANGE COUNTY, DATED NOVEMBER 8, 2017, AND LAST REVISED MAY 14, 2018, SHEET NO. 2 OF 2.

PRELIMINARY

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1				
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	9				

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DESIGNED: TJH
DRAFTED : SMW
CHECKED : TJH
PROJ. NO : 16.6428
SCALE : AS NOTED
DATE : APRIL, 2018

GENERAL NOTES AND LEGEND

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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LITTLE FALLS, NY • RED HOOK, NY • SYRACUSE, NY
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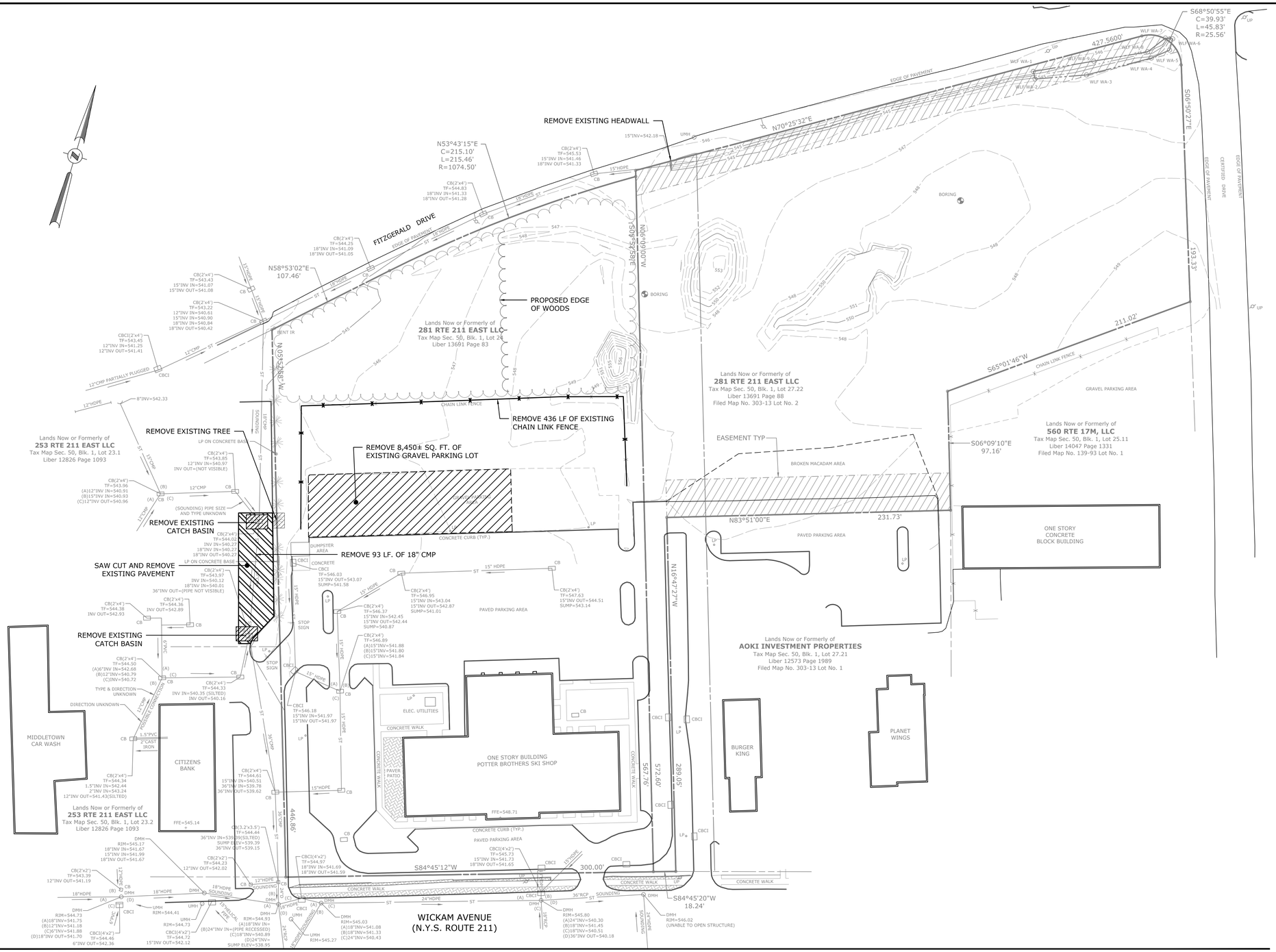
G-002
SHEET 02 OF 12
DWG. NO: 18-200

"ONLY COPIES OF THIS MAP SIGNED IN RED INK AND EMBOSSED WITH THE SEAL OF AN OFFICER OF C.T. MALE ASSOCIATES OR A DESIGNATED REPRESENTATIVE SHALL BE CONSIDERED TO BE A VALID TRUE COPY".



KEY MAP
SCALE: NONE

DEMOLITION/REMOVAL NOTES:

1. PRIOR TO DEMOLISHING ANY STRUCTURES, THE CONTRACTOR SHALL PERFORM A PRE-DEMOLITION SURVEY IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS GOVERNING THE DISPOSAL OF SOLID WASTE. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE AUTHORITY HAVING JURISDICTION (AHJ).
2. DEMOLITION DEBRIS, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL MATERIAL, AND CONSTRUCTION REFUSE SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF OFF THE PROPERTY, IN ACCORDANCE WITH APPLICABLE REGULATIONS. WHEN REMOVING AND TRANSPORTING SAID ITEMS, DO SO IN A MANNER THAT PREVENTS SPILLAGE ON ADJACENT SURFACES AND AREAS, IN ACCORDANCE WITH APPLICABLE REGULATIONS. BURNING IS PROHIBITED.
3. CONFORM TO APPLICABLE CODES FOR DEMOLITION OF STRUCTURES, PRESERVATION OF ADJACENT STRUCTURES, DUST CONTROL, RUNOFF CONTROL, AND HAULING/DISPOSAL/STORAGE OF DEBRIS.
4. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES AS NECESSARY.
5. LIMIT THE REMOVAL OF VEGETATION, TREES, STUMPS, GRASSES, ORGANIC SOILS, DEBRIS, AND DELETERIOUS MATERIALS WITHIN THE LIMITS OF CONSTRUCTION, TO THE MINIMUM NECESSARY TO PERFORM THE WORK.
6. STRIP ALL TOPSOIL WITHIN THE WORK AREA, PRIOR TO COMMENCING EARTHWORK OPERATIONS. TOPSOIL MAYBE STORED/REUSED IN LAWN AND PLANTING AREAS IF DEEMED ACCEPTABLE FOR REUSE BY THE ENGINEER AND/OR LANDSCAPE ARCHITECT.
7. THE CONTRACTOR SHALL VERIFY THE LOCATION AND STATUS OF ALL UTILITY SERVICES ENCOUNTERED PRIOR TO SCHEDULING A PLANNED INTERRUPTION. MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING OPERATIONAL FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY THE OWNER AND THE AUTHORITIES HAVING JURISDICTION.
8. NOTIFY ADJACENT OWNERS OF ANY ACTIVITIES THAT MAY AFFECT THEIR PROPERTY OR NORMAL OPERATIONS INCLUDING, POTENTIAL NOISE, UTILITY OUTAGE, OR DISRUPTION. COORDINATE PLANNED DISRUPTIONS WITH OWNER, AS NECESSARY.
9. PREVENT MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES THAT MAY BE IMPACTED BY THE PROPOSED WORK. PROVIDE BRACING AND SHORING, AS NECESSARY. CEASE OPERATIONS IMMEDIATELY IF ADJACENT STRUCTURES APPEAR TO BE IN DANGER. NOTIFY AUTHORITY HAVING JURISDICTION.
10. UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATIONAL PURPOSES ONLY. THEIR EXACT LOCATION SHALL BE FIELD VERIFIED BEFORE CONSTRUCTION BEGINS. DISCONNECT AND SEAL, OR CAP-OFF, UTILITY SERVICES THAT WILL BE AFFECTED BY THIS PROJECT. NOTIFY AFFECTED UTILITY OWNERS BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE PROGRESSING WITH THE WORK.
11. PROTECT EXISTING FEATURES THAT ARE NOT INTENDED TO BE DEMOLISHED.
12. CONDUCT DEMOLITION OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC AND PRIVATE ACCESS.
13. MAINTAIN INGRESS AND EGRESS TO THE SITE AT ALL TIMES. DO NOT CLOSE OR OBSTRUCT PUBLIC ROADWAYS, OR SIDEWALKS WITHOUT OBTAINING NECESSARY PERMITS/APPROVALS.
14. ROUGH GRADE AREAS AFFECTED BY DEMOLITION AND PLACE COMPACTED FILL TO MAINTAIN SITE GRADES.
15. CONDUCT DEMOLITION/REMOVAL OPERATIONS IN A MANNER THAT PREVENTS INJURY TO PERSONS AND DAMAGE TO ADJACENT BUILDINGS/STRUCTURES AND FACILITIES THAT ARE TO REMAIN. ENSURE SAFE PASSAGE OF PERSONS AND VEHICLES AROUND THE SELECTIVE DEMOLITION OPERATIONS.
16. USE WATER MIST, TEMPORARY ENCLOSURES AND/OR OTHER SUITABLE METHODS TO LIMIT THE SPREAD OF DUST AND DIRT DURING SELECTIVE DEMOLITION OPERATIONS. COMPLY WITH APPLICABLE ENVIRONMENTAL PROTECTION REGULATIONS DURING SELECTIVE DEMOLITION OPERATIONS. DO NOT USE WATER WHEN IT HAS THE POTENTIAL TO CAUSE DAMAGE TO EXISTING CONSTRUCTION, SUCH AS ICING, FLOODING, AND POLLUTION.

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

PRELIMINARY

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PROJ. NO : 16.6428
SCALE : 1" = 40'
DATE : APRIL, 2018

EXISTING CONDITIONS AND REMOVALS PLAN (NORTH)

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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C-101
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DWG. NO: 18-200

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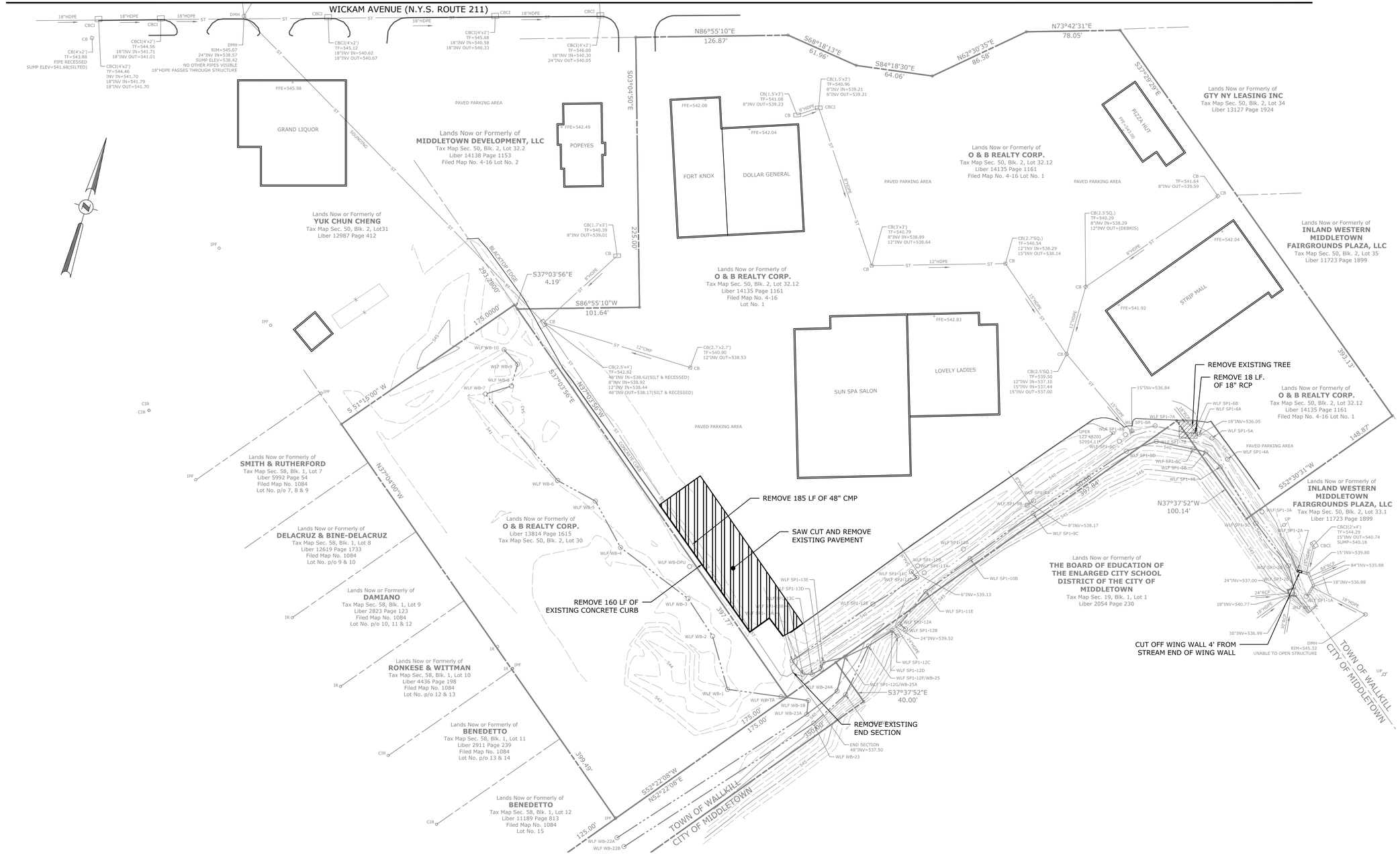

KEY MAP
SCALE: NONE

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DATE : APRIL, 2018

EXISTING CONDITIONS AND REMOVALS PLAN (SOUTH)

CHANNEL DAYLIGHTING AND
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C-102
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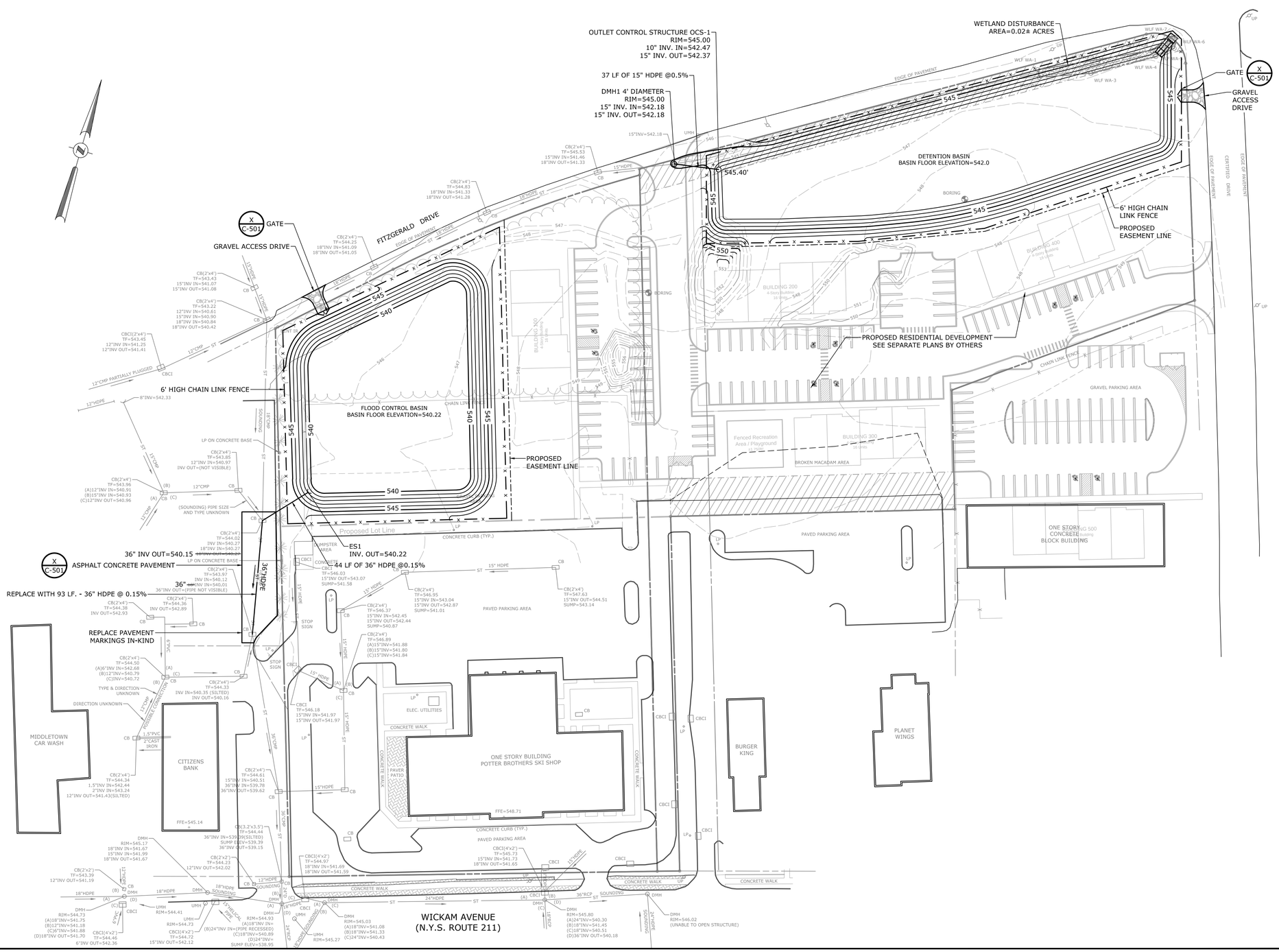

1 C-103 WEST/ EAST BASIN PLAN
SCALE: 1" = 40'
CROSS REFERENCE: NONE

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

KEY MAP
SCALE: NONE

PAVING NOTES:

1. REMOVE LOOSE AND FOREIGN MATERIAL FROM THE SURFACE OF THE SUBBASE BEFORE PAVING.
2. NO VEHICULAR TRAFFIC SHALL BE PERMITTED ON THE GRADED AND COMPACTED SURFACE OF THE SUBBASE MATERIAL ONCE IT HAS BEEN PREPARED FOR PAVING. IF, IN THE OPINION OF THE ENGINEER, PREPARED AREAS HAVE BEEN DAMAGED, THEY SHALL BE RE-GRADED AND RE-COMPACTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. A TACK COAT SHALL BE APPLIED TO CONTACT SURFACES OF EXISTING ASPHALT AND CONCRETE. BRUSH APPLY TACK COAT TO SURFACES OF CURBS, GUTTERS, MANHOLES, AND OTHER STRUCTURES PROJECTING INTO OR ABUTTING PAVEMENT. DRY TO A "TACKY" CONSISTENCY BEFORE PAVING. TACK COAT ENTIRE VERTICAL SURFACE OF ABUTTING EXISTING PAVEMENT.
4. PLACE HOT-MIX ASPHALT CONCRETE MIXTURE ON PREPARED SURFACE, SPREAD AND STRIKE-OFF USING A SELF-PROPELLED PAVING MACHINE, WITH VIBRATING SCREED. PLACEMENT IN LIMITED ACCESS AREAS MAY BE DONE BY HAND.
5. PROVIDE CONSTRUCTION JOINTS BETWEEN OLD AND NEW PAVEMENTS AND BETWEEN SUCCESSIVE DAYS WORK.
6. AFTER COMPLETION OF PAVING OPERATIONS, BROOM CLEAN OR POWER WASH SURFACES OF LOOSE AND FOREIGN DEBRIS.
7. ALL PAVEMENT RESTORATION SHALL MATCH EXISTING GRADES UNLESS OTHERWISE DIRECTED.
8. ALL SAWCUT LINES SHALL BE PARALLEL AND CURVILINEAR TO EXISTING OR PROPOSED CURBING AND SHALL BE A CONSTANT DISTANCE OF AT LEAST 12 INCHES AWAY, OR AS ORDERED BY THE ENGINEER.

PRELIMINARY

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SCALE : 1" = 40'
DATE : APRIL, 2018

PROPOSED CONDITIONS PLAN
(NORTH)

CHANNEL DAYLIGHTING AND
RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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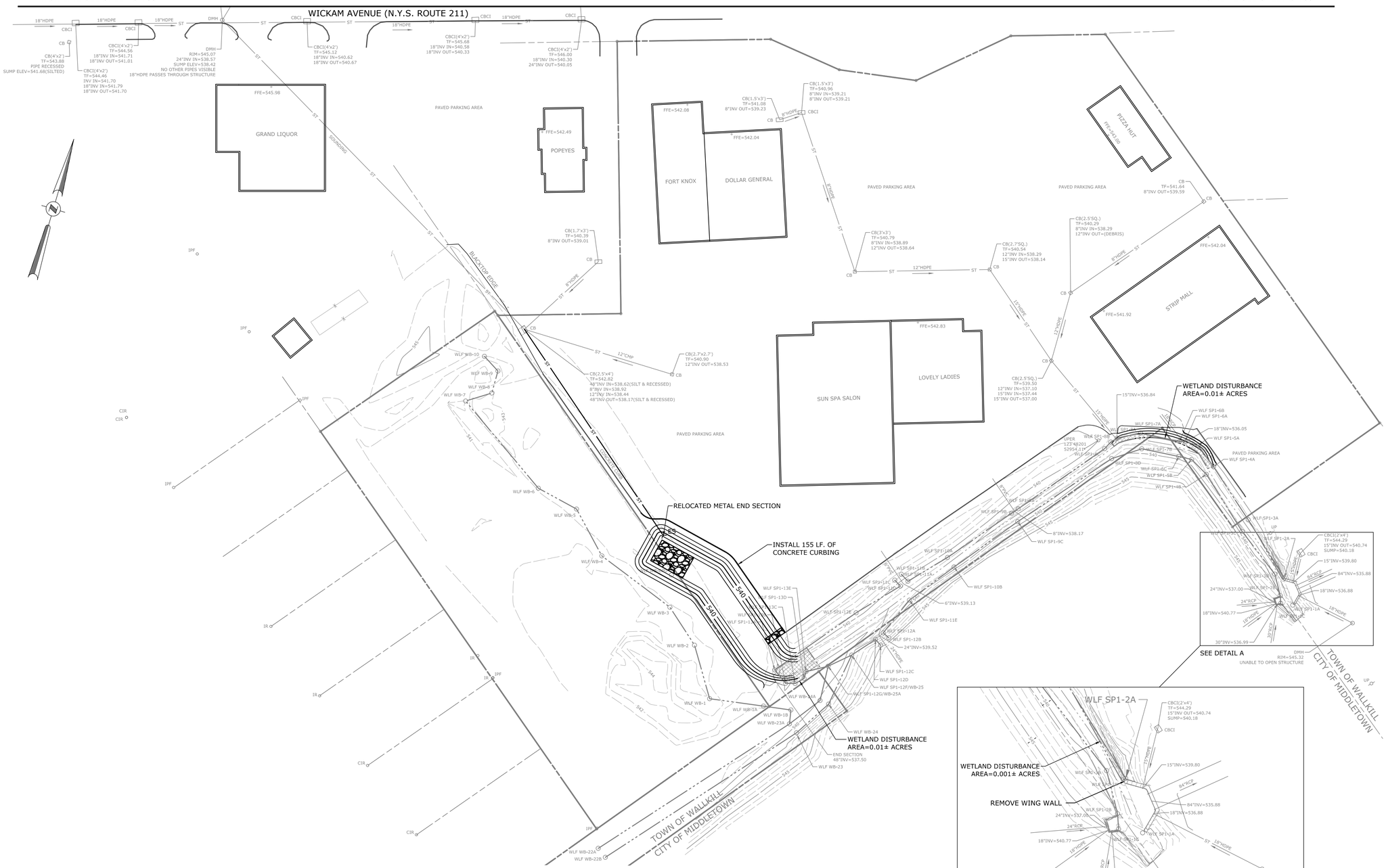

1 C-104 SOUTH CHANNEL PLAN
SCALE: 1" = 40'
CROSS REFERENCE: NONE

KEY MAP
SCALE: NONE

DETAIL A
SCALE: 1"=20'

PRELIMINARY

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

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PROPOSED CONDITIONS PLAN
(SOUTH)

CHANNEL DAYLIGHTING AND
RIPARIAN IMPROVEMENTS PROJECT

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C-104
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DWG. NO: 18-200

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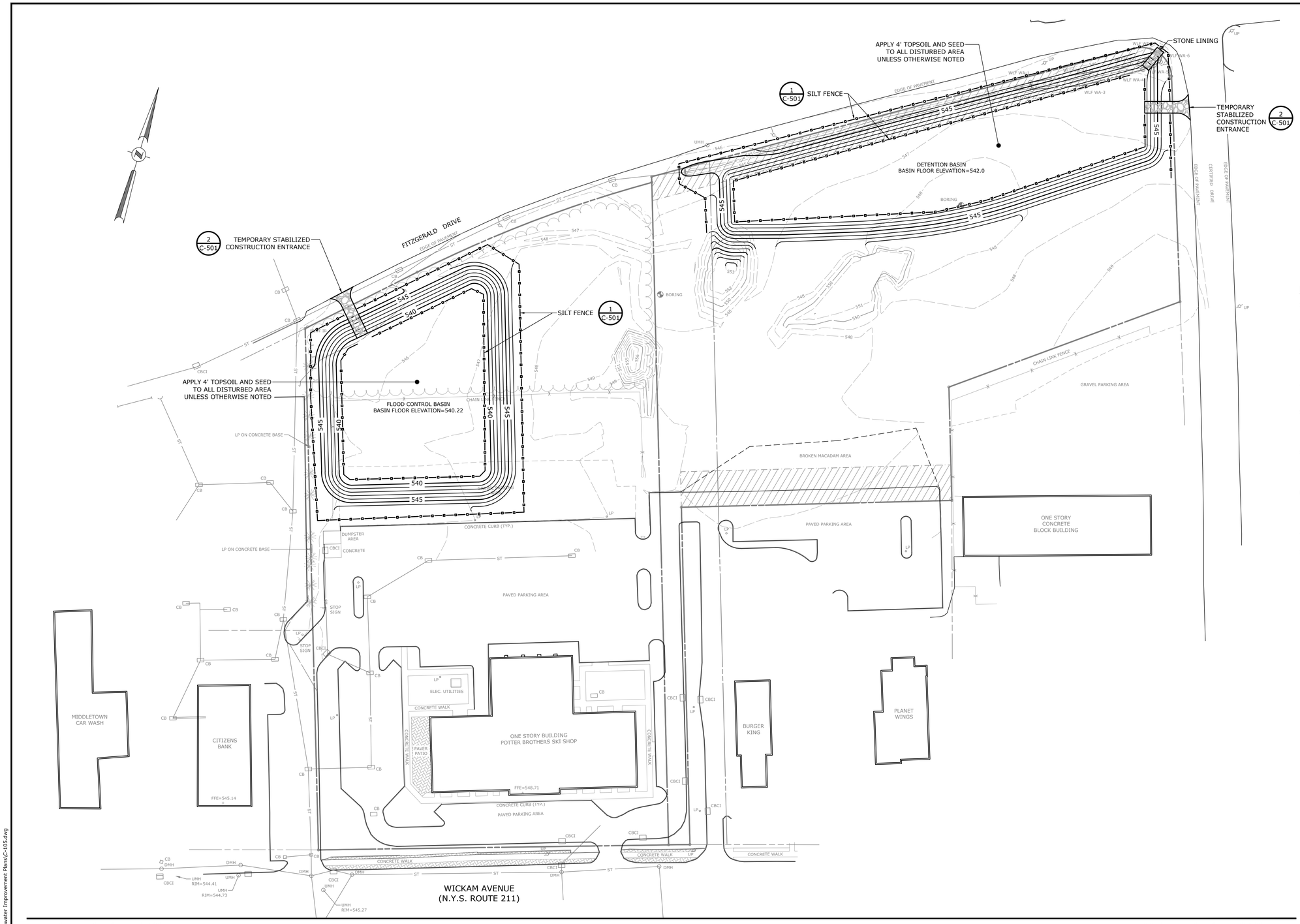

MATCH LINE SEE SHEET C-106

MATCH LINE SEE SHEET C-106

1 C-105 WEST/ EAST BASIN PLAN
SCALE: 1" = 40'
CROSS REFERENCE: NONE

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

KEY MAP
SCALE: NONE

EROSION AND SEDIMENT CONTROL NOTES:

1. CONSTRUCTION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE AREA AND DURATION OF SOIL DISTURBANCE. EXISTING VEGETATION SHALL BE PRESERVED AND PROTECTED TO THE MAXIMUM EXTENT PRACTICABLE.
2. CORRIDORS FOR THE ROUTING OF CONSTRUCTION TRAFFIC THROUGH THE SITE SHALL BE PLANNED TO MINIMIZE LAND DISTURBANCE. ROUTES OF CONVENIENCE SHALL BE AVOIDED.
3. TRENCH DE-WATERING SHALL BE CONDUCTED USING A PORTABLE PUMP AND HOSE, AS NECESSARY. WATER SHALL BE DISCHARGED TO A SEDIMENTATION STRUCTURE OR GEOTEXTILE FILTER BAG LOCATED IN A WELL VEGETATED UPLAND AREA, AWAY FROM ANY SURFACE WATER BODIES OR WETLANDS. ACCUMULATED SEDIMENT SHALL BE DISPOSED OF OFF SITE.
4. SOIL STOCKPILES SHALL BE LOCATED IN LEVEL UPLAND AREAS. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FEET OF ANY CATCH BASIN, DITCH, STREAM, WETLAND, OR OTHER SURFACE WATER BODY.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION THROUGHOUT THE DURATION OF SOIL DISTURBANCE ACTIVITIES, AND THEN REMOVED FROM THE SITE ONCE ALL TRIBUTARY AREAS HAVE BEEN FINALLY STABILIZED. GRASSED AREAS SHALL NOT BE CONSIDERED FINALLY STABILIZED UNTIL THEY HAVE ACHIEVED 80 PERCENT MATURE GRASS COVERAGE.
6. SEDIMENT COLLECTED DURING THE MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DISPOSED OF OFF SITE.
7. DISTURBED AREAS WHICH ARE TO REMAIN UNWORKED FOR 14 DAYS OR LONGER SHALL RECEIVE TEMPORARY SEEDING AND MULCHING WITHIN 24 HOURS OF THE END OF GRADING ACTIVITIES.
8. AREAS THAT HAVE ACHIEVED FINAL GRADE SHALL BE STABILIZED WITH A COMPACTED BASE COURSE FOR AREAS WHICH ARE TO BE PAVED; OR WITH PERMANENT SEEDING AND MULCHING FOR AREAS WHICH ARE TO BE GRASSED OR LANDSCAPED. STABILIZATION SHALL BE COMPLETED WITHIN 24 HOURS OF THE END OF GRADING ACTIVITIES.

TEMPORARY CONSTRUCTION FENCING NOTES:

1. CONTRACTOR TO PROVIDE AND MAINTAIN TEMPORARY CONSTRUCTION FENCING IN COORDINATION WITH THE TOWN OF WALLKILL AND AFFECTED PRIVATE PROPERTY OWNERS.

PRELIMINARY

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CHECKED : TJH
PROJ. NO : 16.6428
SCALE : 1" = 40'
DATE : APRIL, 2018

EROSION AND SEDIMENT CONTROL PLAN (NORTH)

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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C-105
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CAD DWG. FILE NAME: C-105.dwg

1 C-106 SOUTH CHANNEL PLAN
SCALE: 1" = 40'
CROSS REFERENCE: NONE

KEY MAP
SCALE: NONE

TEMPORARY CONSTRUCTION FENCING NOTES:

1. CONTRACTOR TO PROVIDE AND MAINTAIN TEMPORARY CONSTRUCTION FENCING IN COORDINATION WITH THE TOWN OF WALLKILL AND AFFECTED PRIVATE PROPERTY OWNERS.

PRELIMINARY

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

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EROSION AND SEDIMENT CONTROL PLAN (SOUTH)

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C-106
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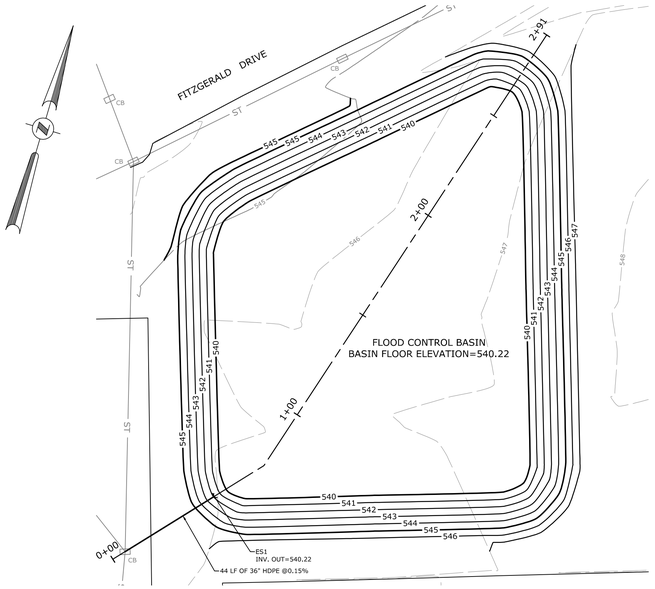
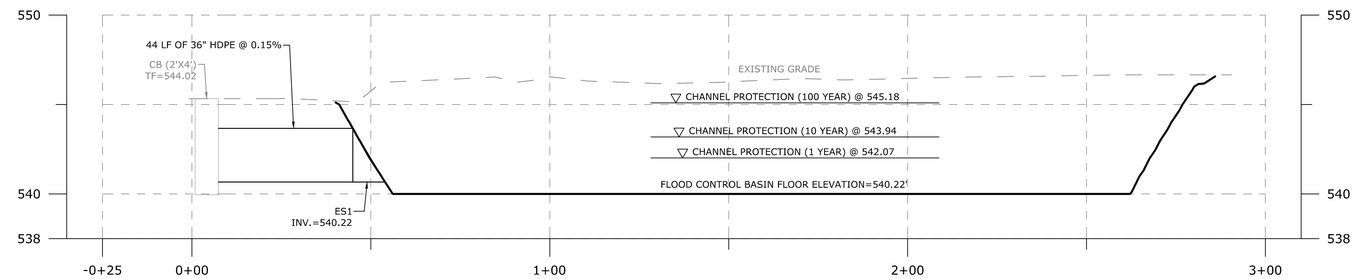


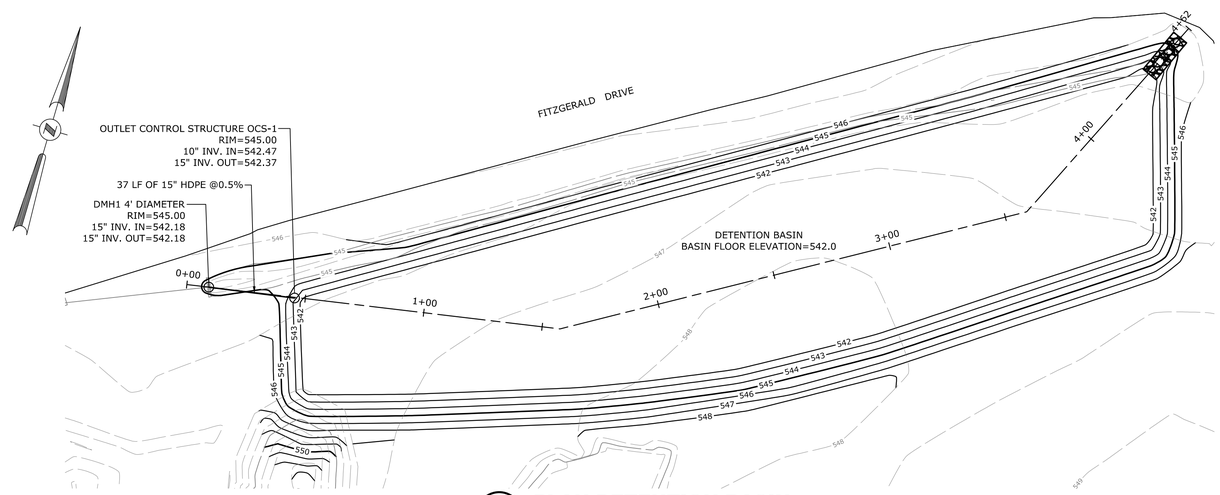
1 C-301 PLAN FLOOD CONTROL BASIN

SCALE: 1" = 30'
CROSS REFERENCE: NONE



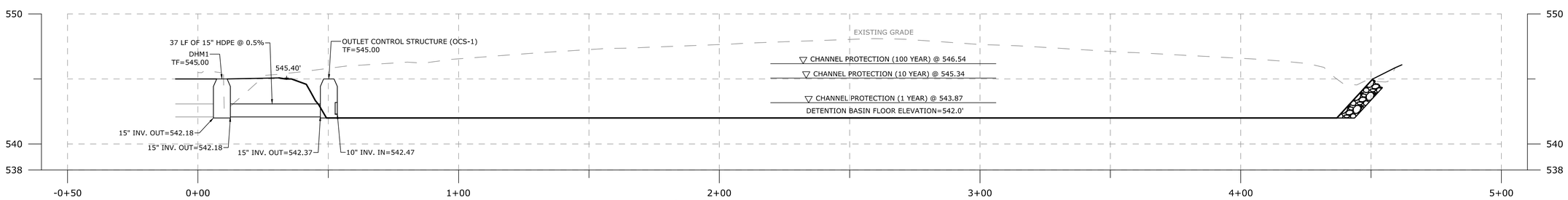
1 C-301 PROFILE FLOOD CONTROL BASIN

SCALE: HORZ. 1" = 20'
VERT. 1" = 4'
CROSS REFERENCE: NONE



2 C-301 PLAN DETENTION BASIN

SCALE: 1" = 30'
CROSS REFERENCE: NONE



2 C-301 PROFILE DETENTION BASIN

SCALE: HORZ. 1" = 20'
VERT. 1" = 4'
CROSS REFERENCE: NONE

PRELIMINARY

BAR SCALE
20 0 10 20
1 inch = 20 ft.
4 2 0
1 inch = 4 ft.

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PROFILE
NORTH BASINS

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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C-301
SHEET 09 OF 12
DWG. NO: 18-200

XREFS: NONE

PROJECT NUMBER: 16.6428

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PROFILE
SOUTH BASIN

CHANNEL DAYLIGHTING AND
RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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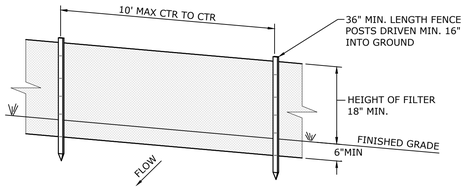
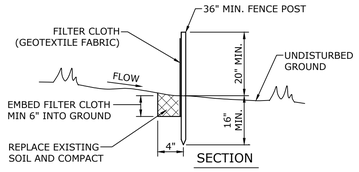


PERSPECTIVE VIEW



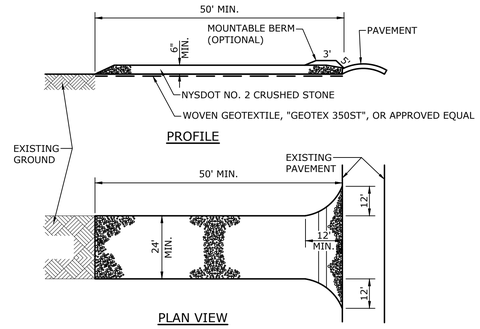
SECTION

NOTES:

1. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH SHALL BE FASTENED SECURELY TO POSTS.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
4. FILTER CLOTH SHALL BE MIRAFI 100X OR APPROVED EQUAL.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. WHEN THE ACCUMULATED SEDIMENT REACHES 30% OF THE SILT FENCE HEIGHT, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROPRIATE UPLAND AREA.
6. PREFABRICATED UNITS SHALL BE MIRAFI SILT FENCE, MIRAFI ENVIROFENCE OR APPROVED EQUIVALENT.

1 / C-501 SILT FENCE DETAIL

SCALE: NONE
CROSS REFERENCE: NONE



PROFILE

PLAN VIEW

NOTES:

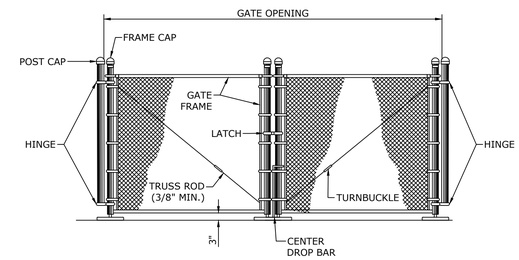
1. USE 1"-4" STONE, NYSDOT NO. 2 CRUSHED STONE, OR RECLAIMED OR RECYCLED CONCRETE, OR APPROVED EQUIVALENT.
2. THE LENGTH SHALL NOT BE LESS THAN 50 FEET.
3. NYSDOT NO. 2 CRUSHED STONE SHALL BE MAINTAINED AT A MINIMUM OF 6" IN DEPTH.
4. ENTRANCE SHALL HAVE A 12 FOOT MINIMUM WIDTH, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. ENTRANCE SHALL BE AT LEAST 24 FEET WIDE IF SINGLE ENTRANCE TO SITE.
5. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS NOT PRACTICAL, A MOUNTABLE BERM WITH 1V:5H SLOPES WILL BE PERMITTED.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS- OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
7. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

2 / C-501 STABILIZED CONSTRUCTION ACCESS

SCALE: NONE
CROSS REFERENCE: NONE

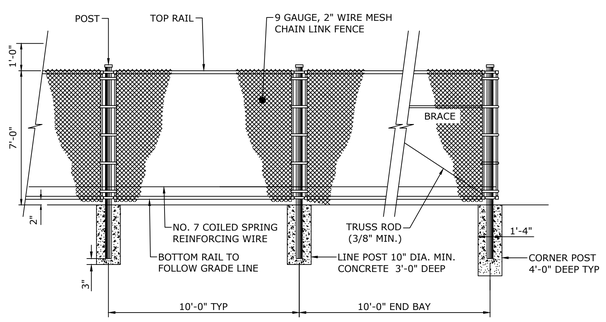
3 / C-501 OPEN CHANNEL WET SWALE

SCALE: NONE
CROSS REFERENCE: NONE



4 / C-501 TEMPORARY DOUBLE GATE

SCALE: NONE
CROSS REFERENCE: NONE

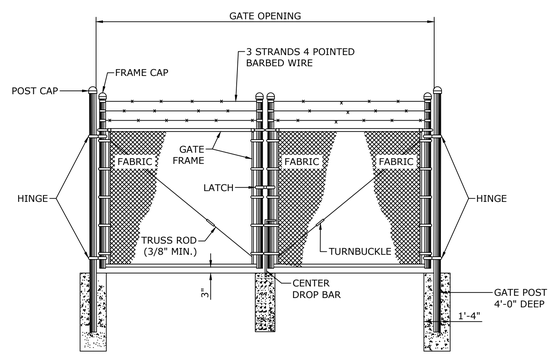


NOTE:

1. USE SONATUBE TO FORM CONCRETE FOR FENCE POSTS, EXTEND SONATUBE 1" ABOVE FINNISH GRADE, DO NOT ALLOW CONCRETE TO OVERFLOW SONATUBE.

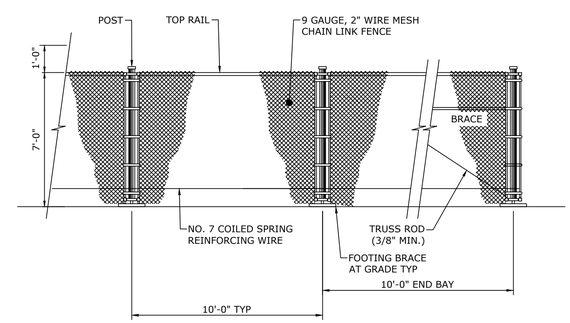
5 / C-501 PERMANENT CHAIN LINK FENCE

SCALE: NONE
CROSS REFERENCE: NONE



6 / C-501 PERMANENT DOUBLE GATE

SCALE: NONE
CROSS REFERENCE: NONE



7 / C-501 TEMPORARY CONSTRUCTION FENCE

SCALE: NONE
CROSS REFERENCE: NONE

PRELIMINARY

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PROJ. NO : 16.6428
SCALE : AS NOTED
DATE : APRIL, 2018

DETAILS I

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
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COBLESKILL, NY • GLENS FALLS, NY • HIGHLAND, NY • JOHNSTOWN, NY
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C-501

SHEET 11 OF 12

DWG. NO: 18-200

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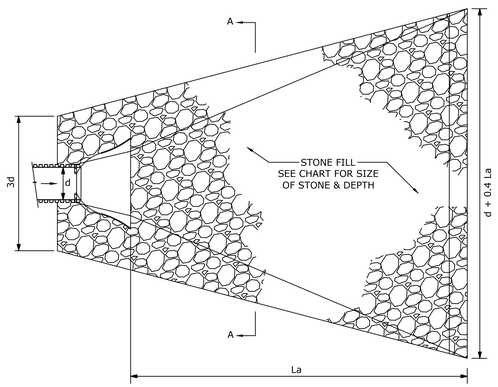
CAD DWG. FILE NAME: C-501.dwg

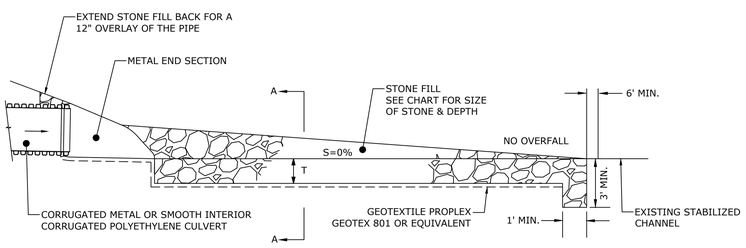
RIPRAP APRON SIZING*					
PIPE SIZE [d] (IN.)	PIPE SLOPE	STONE DIMENSION [d50] (IN.)	NYSDOT STANDARD STONE FILLING	APRON THICKNESS [T] (IN.)	APRON LENGTH [La] (FT.)
12	0-3%	4	LIGHT	18	10
	3-7%	6	LIGHT	18	14
	7-10%	9	MEDIUM	24	15
15,18	0-2%	6	LIGHT	18	14
	2-5%	9	MEDIUM	24	20
	5-10%	12	MEDIUM	30	24
24	0-1%	6	MEDIUM	24	14
	1-2%	9	MEDIUM	24	20
	2-5%	12	MEDIUM	30	26
	5-8%	18	HEAVY	36	30
30	0-3%	12	MEDIUM	28	28
	3-6%	18	HEAVY	36	36

*THE ABOVE TABLE IS BASED ON:
NYSDEC "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" - FIGURE 5B.12 OUTLET PROTECTION DESIGN - MINIMUM TAILWATER CONDITION (DESIGN OF OUTLET PROTECTION FOR A ROUND PIPE FLOWING FULL, MINIMUM TAILWATER CONDITION: Tw < 0.5Do) (USDA-NRCS)

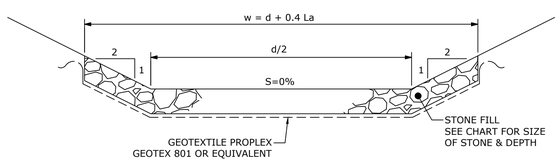
NOTES:
1. APRON DIMENSIONS ARE BASED ON PIPES FLOWING FULL; USING ACTUAL FLOWS MAY RESULT IN DIFFERENT APRON DIMENSIONS.
2. MINIMUM THICKNESS OF THE RIPRAP LAYER SHALL BE 1.5 TIMES THE MAXIMUM STONE DIAMETER FOR d50 OF 15 INCHES OR LESS; AND 1.2 TIMES THE MAXIMUM STONE SIZE FOR d50 GREATER THAN 15".



PLAN VIEW

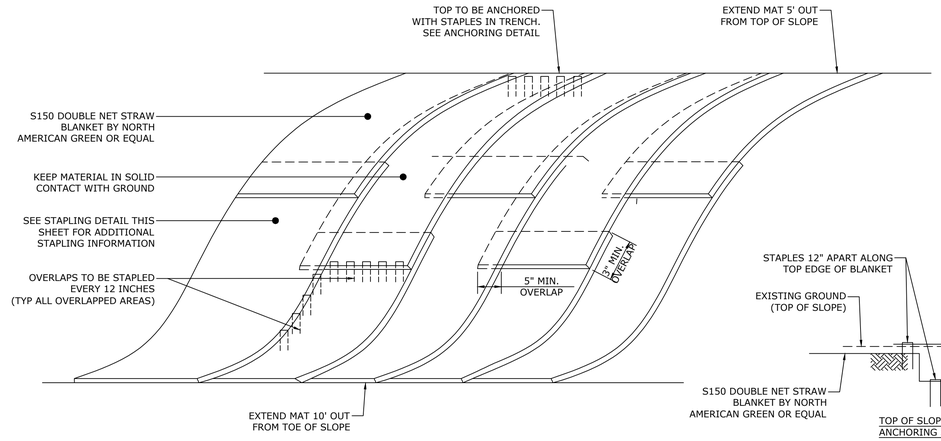


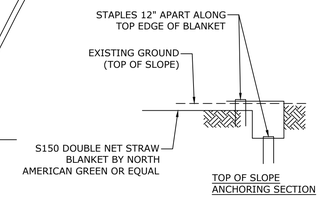
PROFILE VIEW



SECTION A-A

1 C-501 ROCK OUTLET PROTECTION
SCALE: NONE
CROSS REFERENCE: NONE

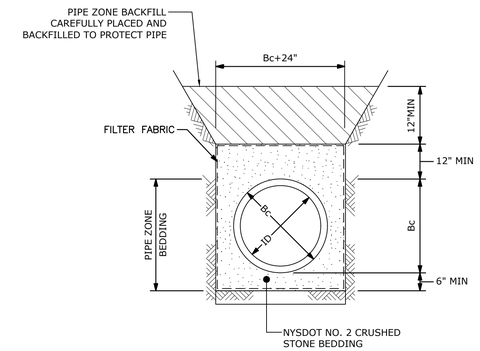




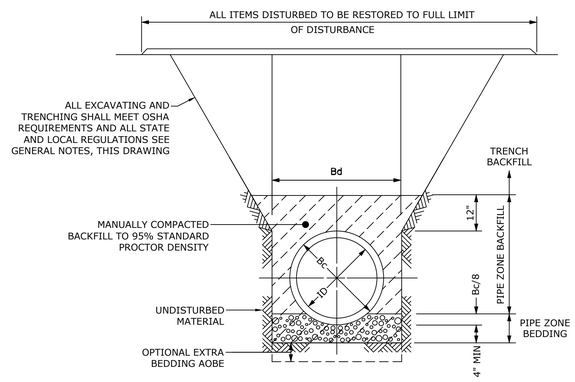
NOTES:

1. APPLY APPLICATION OF ANY LIME, FERTILIZER, AND SEED BEFORE INSTALLING TURF REINFORCEMENT MAT.
2. INSTALL USING ALL MANUFACTURERS INSTALLATION RECOMMENDATIONS AND GUIDELINES.

2 C-501 EROSION CONTROL BLANKET
SCALE: NONE
CROSS REFERENCE: NONE



3 C-501 HDPE PIPE BEDDING
SCALE: NONE
CROSS REFERENCE: NONE



NOTES:

1. OVEREXCAVATE AT BELLS TO PROVIDE 4" BEDDING BELOW BELLS.
2. COMPACTED PIPE ZONE BACKFILL AND TRENCH BACKFILL TO BE SATISFACTORILY EXCAVATED MATERIAL OR SPECIAL TRENCH BACKFILL, AS REQUIRED BY THE SPECIFICATIONS.

4 C-501 CMP PIPE BEDDING
SCALE: NONE
CROSS REFERENCE: NONE

GENERAL NOTES:

EXCAVATING, TRENCHING, SHEETING AND SHORING REQUIREMENTS:

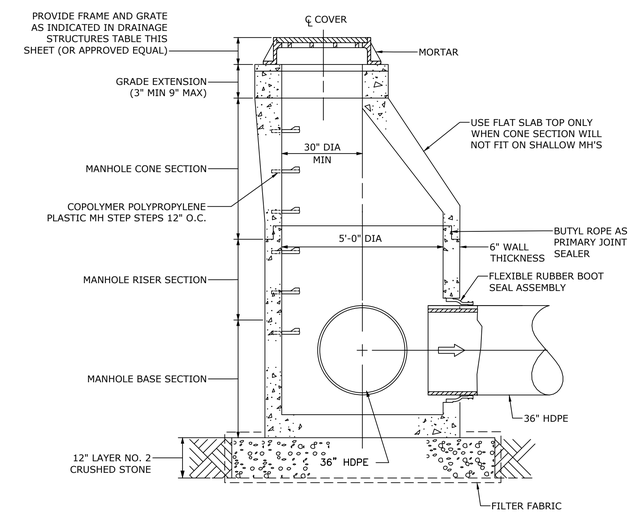
A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY OF ALL SHEETING AND SHORING USED AND FOR ALL DAMAGE RESULTING FROM ITS FAILURE OR FROM PLACING, MAINTAINING AND REMOVING IT.

B. REQUIREMENTS OF REGULATORY AGENCIES:

1. SUBPART 23-4, "EXCAVATION OPERATIONS", OF NEW YORK STATE DEPARTMENT OF LABOR INDUSTRIAL CODE RULE 23.
2. SUBPART P, "EXCAVATIONS", OF UNITED STATES DEPARTMENT OF LABOR OSHA REGULATIONS FOR CONSTRUCTION.
3. THE MORE STRINGENT REQUIREMENT IN EACH OF THE ABOVE CODES SHALL APPLY. THESE REQUIREMENTS ARE MINIMUM REQUIREMENTS AND SHALL BE INCREASED IF NECESSARY TO PROVIDE SAFE WORKING CONDITIONS.
4. ALL MUNICIPAL, COUNTY, STATE OR FEDERAL ORDINANCES, REGULATIONS, OR LAWS AND ALL NECESSARY PERMITS AND APPROVALS OBTAINED BY THE CONTRACTOR SHALL BE OBSERVED.

PIPE DIMENSIONS				TRENCH DIMENSIONS	
NOMINAL ID	DISPLACEMENT 1/2 PIPE OD (CY/LF)	BARREL OD (Bc)	BELL OD	Bd	ROCK* EXCAVATION BELOW PIPE(d)
6"	0.005	6.9"	8.75"	30"	6"
8"	0.008	9.1"	11.1"	32"	6"
10"	0.012	11.1"	13.2"	34"	6"
12"	0.018	13.2"	15.3"	36"	6"
14"	0.024	15.3"	17.9"	38"	6"
16"	0.031	17.4"	20.0"	40"	6"
18"	0.038	19.5"	22.1"	42"	6"
20"	0.047	21.6"	24.3"	44"	6"
24"	0.067	25.8"	28.5"	48"	6"
30"	0.103	32.0"	35.0"	54"	9"
36"	0.148	38.3"	41.4"	60"	9"
42"	0.200	44.5"	-	66"	9"
48"	0.260	50.8"	-	72"	9"
54"	0.329	57.1"	-	78"	9"

*BELOW AND ON EACH SIDE OF ALL PIPE, VALVES & FITTINGS.



5 C-501 PRECAST CONCETE DRAINAGE MANHOLE
SCALE: NONE
CROSS REFERENCE: NONE

PRELIMINARY

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CHECKED : TJH
PROJ. NO : 16.6428
SCALE : AS NOTED
DATE : APRIL, 2018

DETAILS II

CHANNEL DAYLIGHTING AND
RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 518.786.7400
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C-502
SHEET 12 OF 12
DWG. NO: 18-200

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CAD DWG. FILE NAME: C-502.dwg

Appendix C
USFWS, NYNHP, and NYSDEC Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Field Office
3817 Luker Road
Cortland, NY 13045
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo

To: Alicia Shultz Date: Feb 21, 2019

USFWS File No: 19I0987

Regarding your: ___Letter ___Fax _x_ Email Dated: Feb 13, 2019

For project: Wallkill Channel Daylighting

Located: SR 211 near intersection of Lloyds Dr. and Fitzgerald Dr.

In Town/County: Town of Wallkill, Orange County

Pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the U.S. Fish and Wildlife Service:

_x_ Acknowledges receipt of your "no effect" and/or no impact determination. No further ESA coordination or consultation is required. DWM & SWP & JBat

___ Acknowledges receipt of your determination. Please provide a copy of your determination and supporting materials to any involved Federal agency for their final ESA determination.

___ Is taking no action pursuant to ESA or any legislation at this time, but would like to be kept informed of project developments.

As a reminder, until the proposed project is complete, we recommend that you check our website (http://www.fws.gov/northeast/nyfo/es/section7.htm) every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current. Should project plans change or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

USFWS Contact(s): Robyn Amin

Supervisor: Acting Branch Chief Date: 2/21/19

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

October 12, 2018

Alicia Shultz
Governor's Office of Storm Recovery
38-40 State Street
Albany, NY 12207

Re: Channel Daylighting and Riparian Improvements Project
County: Orange Town/City: Wallkill

Dear Ms. Shultz:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

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

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, at dep.r3@dec.ny.gov.

Sincerely,

Nick Conrad

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program

1149

Governor's Office of
Storm Recovery

ANDREW M. CUOMO
Governor

Via Electronic Mail

February 13, 2019

Robyn A. Niver
Endangered Species Biologist USFWS
New York Field Office
Cortland, NY 13045

Re: Section 7 Project Review - ESA/MBTA/BGEPA Consultation for the Wallkill Channel Daylighting Project, Town of Wallkill, Orange County, New York

Dear Ms. Niver:

The Governor's Office of Storm Recovery (GOSR), acting under the auspices of New York State Homes and Community Renewal's (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the Department of Housing & Urban Development (HUD), is conducting an environmental review under HUD's environmental review regulations (24 CFR Part 58) and New York State's Environmental Quality Review Act (SEQRA) for the Wallkill Channel Daylighting Project, Town of Wallkill, Orange County, New York (see **Figures 1** and **2**).

The purpose of this letter is to provide the U.S. Fish and Wildlife Service – New York Field Office (USFWS) notice of the proposed project and to document compliance with Section 7 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), as well as the Migratory Bird Treaty Act of 1918 (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703-712), and the Bald and Golden Eagle Protection Act of 1940 (BGEPA) (54 Stat. 240, as amended; 16 U.S.C. 668-668c).

Program Overview: The project drainage way is part of the system that conveys stormwater to Silver Lake. Hurricane Irene and Tropical Storm Lee overwhelmed the drainage way and caused flooding in the community. Due to the natural slope and watershed, Fitzgerald Drive (parallel and to the north of SR 211) sustained severe flooding, where water reached four to five feet in depth, isolating the predominantly low-moderate income Crestwood Apartment complex. In addition, the floodwaters flowed downstream to the commercial areas in the Shoprite Plaza and SR 211, where inundation occurred as well. SR 211 is the major arterial connecting the Town of Wallkill with the City of Middletown, and both communities depend on the businesses located in this area. Flooding and flood damage made SR 211 impassible. Egress and ingress to the vitally important commercial area of the Town of Wallkill was eliminated because of flooding.

The project will ensure public safety to the Crestwood Apartment community and mitigate flooding which causes main arterial road closures, damage to public infrastructure, and flooding of commercial establishments. The improved drainage will require less maintenance, and will improve the community's economic resilience

by preventing the long-term closure of businesses due to flooding, has had a serious negative impact on the community's tax base and ability to provide local services to its residents.

Area of Potential Effect: The Town of Wallkill, Orange County, New York, is proposing to improve the drainage way between commercial properties along SR 211 (Wickham Avenue) near the intersection of Lloyds Drive and directly adjacent to Middletown High School as well as the area along Fitzgerald Drive across from the Crestwood Apartments (**Figures 1** and **2**).

Proposed Project Description: An unnamed creek that flows through this area is the primary water source for Silver Lake. During the urbanization of this area from 1970 to 2010, part of this unnamed creek, just northwest of the Middletown High School football field was culverted. This culvert is now partially collapsed/obstructed and the grade is incorrect, so that there are low spots where water stagnates and does not flow toward Silver Lake. The proposed project would remove the existing headwall along Fitzgerald Drive, approximately 436 linear feet of chain link fence, 8,540 square feet of parking lot, and the existing catch basin on the northern portion of the project area. Two detention/infiltration basins will be constructed on the south side of Fitzgerald Drive behind the businesses on the north side of SR 211, and 137 feet of HDPE pipe would replace the catch basin. Approximately 185 feet of the existing collapsed culvert between the Shoprite Plaza and Middletown High School, the adjacent 160 feet of concrete curb, and a portion of the wing wall at the east side of the stadium would be removed in the southern portion of the project area. The project would construct an open channel in its place.

An estimated 2.3 acres of trees will be removed by the project (see the attached **Areas of Tree Removal**). The trees are in isolated semi-forested areas (each of less than three acres) that are located in a highly developed area. The nearest significant forested area is located over 2,500 feet away, and the nearest protected forest land is located over three miles away.

Wetlands: See the attached wetland map, **Figure 3**.

- A Freshwater Forested/Shrub National Wetlands Inventory (NWI) wetland area is within the northern portion of the Project area, surrounding the proposed detention/infiltration basins. Although this wetland area currently is vacant, it already has been disturbed by development along Fitzgerald Drive and in the surrounding area. The Project will disturb less than one acre of this wetland (it is approximately 0.5 acres), and the detention/infiltration basin that will cover it will perform many of the same functions as the wetland (filtering and slowing the flow of water). A wetland field delineation on July 18, 2018, identified a much smaller wetland area (see the attached **North Project Area Wetlands Sketch Map 20180719**). An additional wetland area was delineated in the southern project site (see the attached **South Project Area Wetlands Sketch Map 20180719**).
- The Project site is not within New York State Department of Environmental Conservation (NYSDEC) wetlands or the 300-foot buffer of NYSDEC wetlands.

ESA, Migratory Bird Treaty Act, And Bald and Golden Eagle Protection Act Species: The New York State Natural Heritage Program (NYSNHP) database search completed on May 9, 2018, had no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity. (See attached **New York Natural Heritage Program Review**.) In addition, a jurisdictional review (attached) prepared by NYSDEC stated that the project area does not occur in the immediate vicinity of known

occurrences of rare or state-listed bat species. Because this project does not take place within known occupied habitat, there are no restrictions on tree cutting.

The USFWS, New York Ecological Services Field Office was contacted through the Information, Planning, and Conservation System (IPaC) regarding the potential presence of species under the jurisdiction of the USFWS within the project area. The attached Official Species List identifies two threatened and two endangered species and no critical habitats: the threatened northern long-eared bat (NLEB, *Myotis septentrionalis*) and endangered Indiana bat (*Myotis sodalis*), endangered dwarf wedgemussel (*Alasmidonta heterodon*), and threatened small whorled pogonia (*Isotria medeoloides*). No critical habit for these species was identified in IPaC. The IPaC review also indicated that there are several migratory birds of concern that could potentially be affected by the proposed project. Below is a determination of potential effects of the project on each of threatened and endangered species.

Northern Long-eared Bat (NLEB)

Orange County is within the White-Nose Syndrome Zone. The NLEB, listed as federally threatened, is a temperate, insectivorous bat whose life cycle can be coarsely divided into two primary phases - reproduction and hibernation. NLEB hibernate in caves or mines during winter and then emerge in early spring, with males dispersing and remaining solitary until mating season at the end of the summer, and pregnant females forming maternity colonies in which to rear young. No caves or mines occur near the project site. Summer habitat of the NLEB generally includes upland and riparian forest within heavily forested landscapes. The NLEB is sensitive to fragmentation and urbanization, and requires interior forest for both foraging and breeding. Roost trees are usually in intact forest, close to the core and away from large clearings, roads, or other sharp edges. The Project area is not within five miles of NLEB hibernacula or known maternity colonies (see the attached **Figure 4, Bat Review,** and **Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form**). All activities associated with the proposed project will not:

- disturb hibernating NLEBs or in a known hibernaculum;
- alter the entrance or interior environment of a known hibernaculum;
- remove any trees within 0.25 miles of a known hibernaculum at any time of year; or
- cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from a maternity roost tree, during the pup season (June 1 through July 31).

Based on these conditions, GOSR has determined that the proposed project **may affect** the NLEB, but any resulting incidental take of the NLEB is not prohibited by the final 4(d) Rule.

Indiana Bat

The Indiana bat (IB), listed as federally endangered, is a temperate, insectivorous bat. IB hibernate in caves or mines during winter and emerge during the spring, with males dispersing and remaining solitary or forming small bachelor groups until the end of the summer, and pregnant females forming maternity colonies. Summer habitat of the IB generally includes wooded areas, where they roost under loose tree bark on dead or dying trees. The IB consumes a variety of flying insects found along rivers and other inland water bodies, and the IB is sensitive to forested habitat fragmentation and urbanization of habitat that was previously used for roosting.

The proposed project involves the removal of an estimated 2.3 acres of trees during the active season of the IB. The patches of forested land are within primarily disturbed and urban areas, surrounded by commercial, residential, and institutional properties. The nearest protected forest land is located over three miles away (where Indiana bats have been located in the past). All activities associated with the proposed project will not:

- disturb hibernating IBs or in a known hibernaculum;
- alter the entrance or interior environment of a known hibernaculum;
- remove any trees within 0.25 miles of a known hibernaculum at any time of year; or
- cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from a maternity roost tree, during the pup season (June 1 through July 31).

Based on these conditions and bat habitat, GOSR has determined that the proposed project would have **no effect** on the IB because of a lack of suitable habitat.

Dwarf Wedgemussel

The typical habitat of the dwarf wedgemussel includes running water from small brooks to large rivers. The IPaC Report for the project area stated that the dwarf wedgemussel may occur within the project location. The NYSNHP database search did not identify the species within the project area. According to NYSNHP Conservation Guide for the dwarf wedgemussel, the extent of this species in New York is limited to a small area within the Delaware River watershed, the Neversink River. In New York, dwarf wedgemussels live embedded in the fine sediment that has accumulated between cobbles in slow to moderate current and relatively shallow water (40 cm) in small cool water rivers and similar habitat in larger rivers. The species prefer the aquatic community of relatively large, fast flowing sections of streams with a moderate to gentle gradient. Typical habitat for this mussel includes running waters of all sizes, from small brooks to large rivers. Bottom substrates include silt, sand and gravel, which may be distributed in relatively small patches behind larger cobbles and boulders.

According to the USWFS, Northeast Region Dwarf Wedgemussel Recovery Plan, no populations of the dwarf wedgemussel are known to have historically occurred in the water bodies within the project area (http://www.fws.gov/northeast/nyfo/es/dwm.pdf).

The project would not disturb any rivers and would be undertaken in a predominantly urban area. Since there is no suitable habitat in the project area, the project would have **no effect** on the dwarf wedgmussel population.

Small Whorled Pogonia

The largest cluster of small whorled pogonia is centered around the Appalachian Mountains of New England and coastal Massachusetts. Only historic sites are known in New York, and most viable populations are now protected, with site-specific protection and monitoring efforts well underway. The small whorled pogonia is a perennial herb that grows up to 3 cm in height. A whorl of 5 or 6 leaves near the top of the stem and beneath the flower(s) gives the plant its common name. The leaves are grayish-green and are usually 4 to 8 cm long. Solitary (or occasionally paired) greenish-yellow flowers arise from the center of the leaf whorl. It blooms in May in the south and as late as mid-June in the northern part of its range. Capsules mature in the fall.

The species occurs in acidic soils of dry to mesic second-growth, mixed deciduous/coniferous, mid-successional forest with gaps in the canopy allowing for an open herb layer; although, it occasionally occurs among dense

ferns, a moderate to light shrub layer, and a relatively open canopy. The shallowly-rooted small whorled pogonia grows in soils typically covered with light to moderate leaf litter and frequently occurs on flats or slope bases near canopy breaks. The slope of the terrain where the small whorled pogonia is found is typically 8 to 15 percent. Soils at most sites where the plant is found are highly acidic and nutrient poor sandy loams with a fragipan (impervious layer) and moderately high soil moisture values. The Project area does not contain sandy loams (see **Figure 5**) and does not appear to have the habitat required for the pogonia. (http://explorer.natureserve.org/servlet/NatureServe?searchName=Isotria+medeoloides, https://www.nrc.gov/docs/ML0931/ML093160787.pdf, https://www.fws.gov/r5gomp/gom/habitatstudy/metadata/small_whorled_pogonia_model.htm)

The project involves ground disturbance in locations previously disturbed by local roads, residential, and commercial development. Therefore, GOSR has determined that the proposed project will have **no effect** on small whorled pogonia populations.

Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

The IPaC review indicated that migratory bird information was not available for the Project area. The NYNHP database search did not identify the bald eagle as a species near the project areas. Although the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are not identified as birds of conservation concern for this area, it warrants attention because of the Bald and Golden Eagle Protection Act or for potential susceptibilities in offshore areas to certain types of development or activities. As with other migratory birds, foraging bald eagles may temporarily avoid the area during construction due to noise and disturbance. **If USFWS has documentation of the presence of the bald eagle in this area, GOSR requests that this documentation be provided to GOSR for review.**

Summary and Compliance

The proposed project would not jeopardize the continued existence of ESA species or destroy or adversely modify their critical habitat. On this basis, GOSR has determined that the proposed action would have **no effect** on the IB, dwarf wedgemussel, and small whorled pogonia populations or migratory birds. GOSR has determined that the proposed project **may affec**t the NLEB, but any resulting incidental take of the NLEB is not prohibited by the final 4(d) Rule. We request your concurrence with this determination. Additionally, we request to be alerted if USFWS becomes aware of a Bald or Golden Eagle nest within 660 feet of the project site.

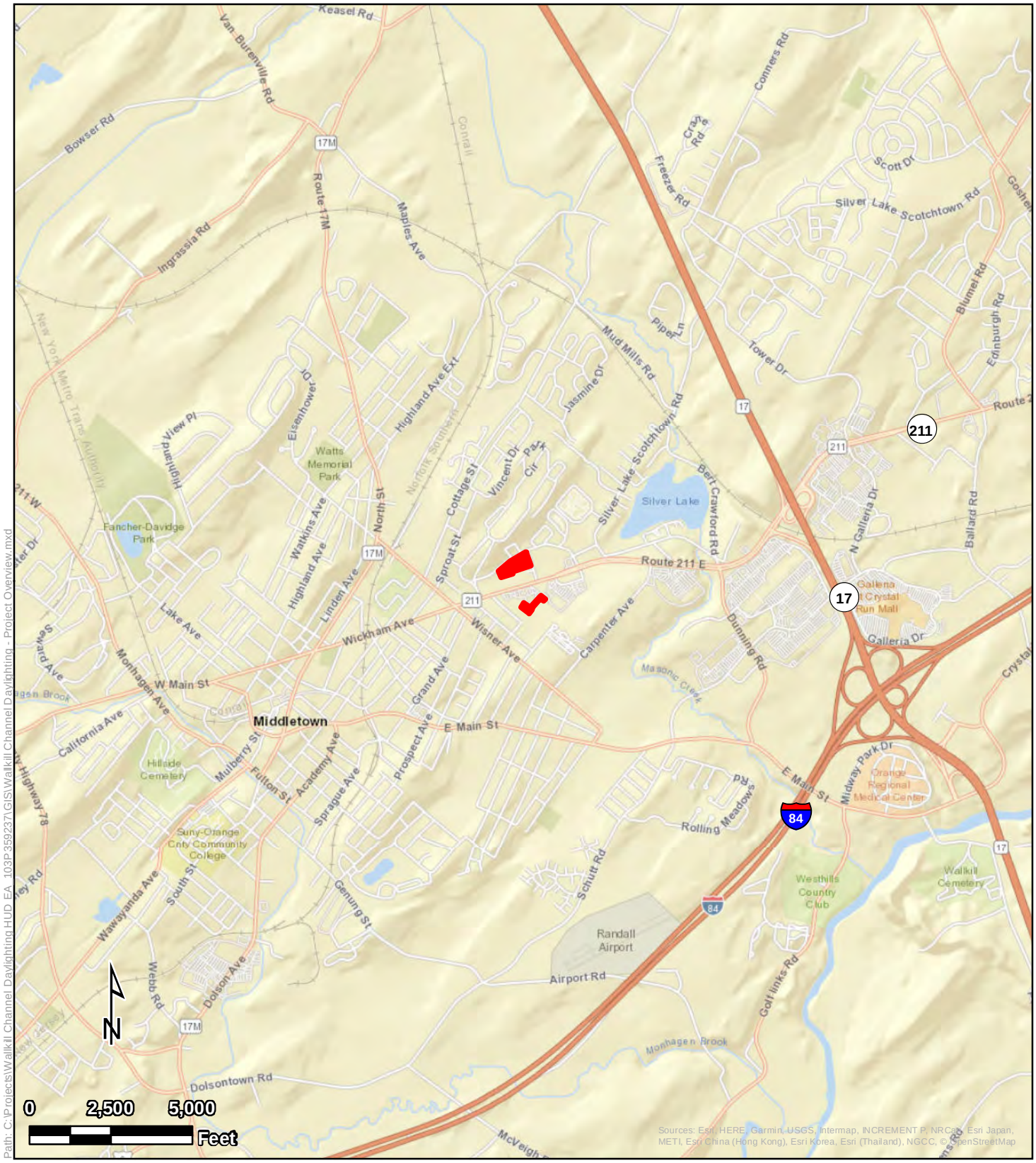
Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. The proposed project would not have a significant impact on ESA species or adversely modify any critical habitat. Conservation measures would be employed to avoid impacts to bats, including a tree survey prior to any Project-related disturbance and clearly demarcating trees to be protected compared with those to be cut if any are identified in the survey.

If you have questions or require additional information regarding this request, please contact me at (518) 474-0647 or Alicia.Shultz@nyshcr.org. Thank you for your time and consideration.

Sincerely,

Alicia Shultz
Senior Environmental Scientist
Governor's Office of Storm Recovery
NYS Homes and Community Renewal

Attachments:
Figure 1 - Project Overview
Figure 2 - Project Area
Figure 3 – Freshwater Wetlands
Figure 4 - Northern Long-eared Bat Hibernacula
Figure 5 - Soils
Areas of Tree Removal
North Project Area Wetlands Sketch Map 20180719
South Project Area Wetlands Sketch Map 20180719
New York Natural Heritage Program Review
NYSDEC Jurisdictional Review
Official Species List
Bat Review
Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form



Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P-35923\GIS\Wallkill Channel Daylighting - Project Overview.mxd

Project Overview

Legend

Project Location

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 1

Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P35923\GIS\Wallkill Channel Daylighting - Project Area.mxd

Source: ... DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aerogrid, IGN, and the GIS User Community

Project Area

Legend

Project Area

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 2

Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P35923\GIS\Wallkill Channel Daylighting - Freshwater Wetlands.mxd

Legend

- Project Area
- NYS Freshwater Wetlands
- NYS Freshwater Wetlands Buffer

NWI Wetlands

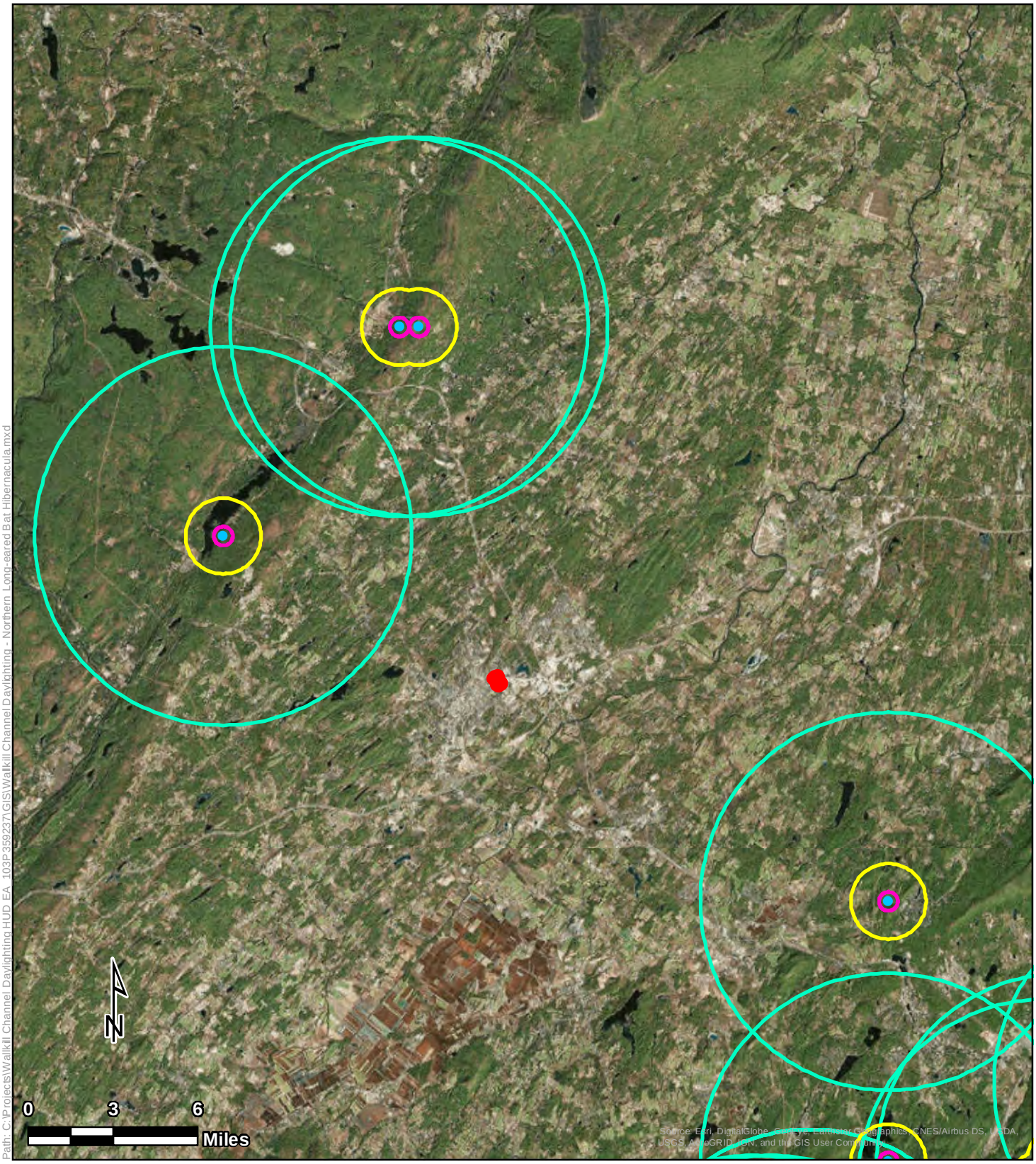
- Freshwater Forested/Shrub Wetland

Freshwater Wetlands

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 3



Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P-359237\GIS\Wallkill Channel Daylighting - Northern Long-eared Bat Hibernacula.mxd

Legend

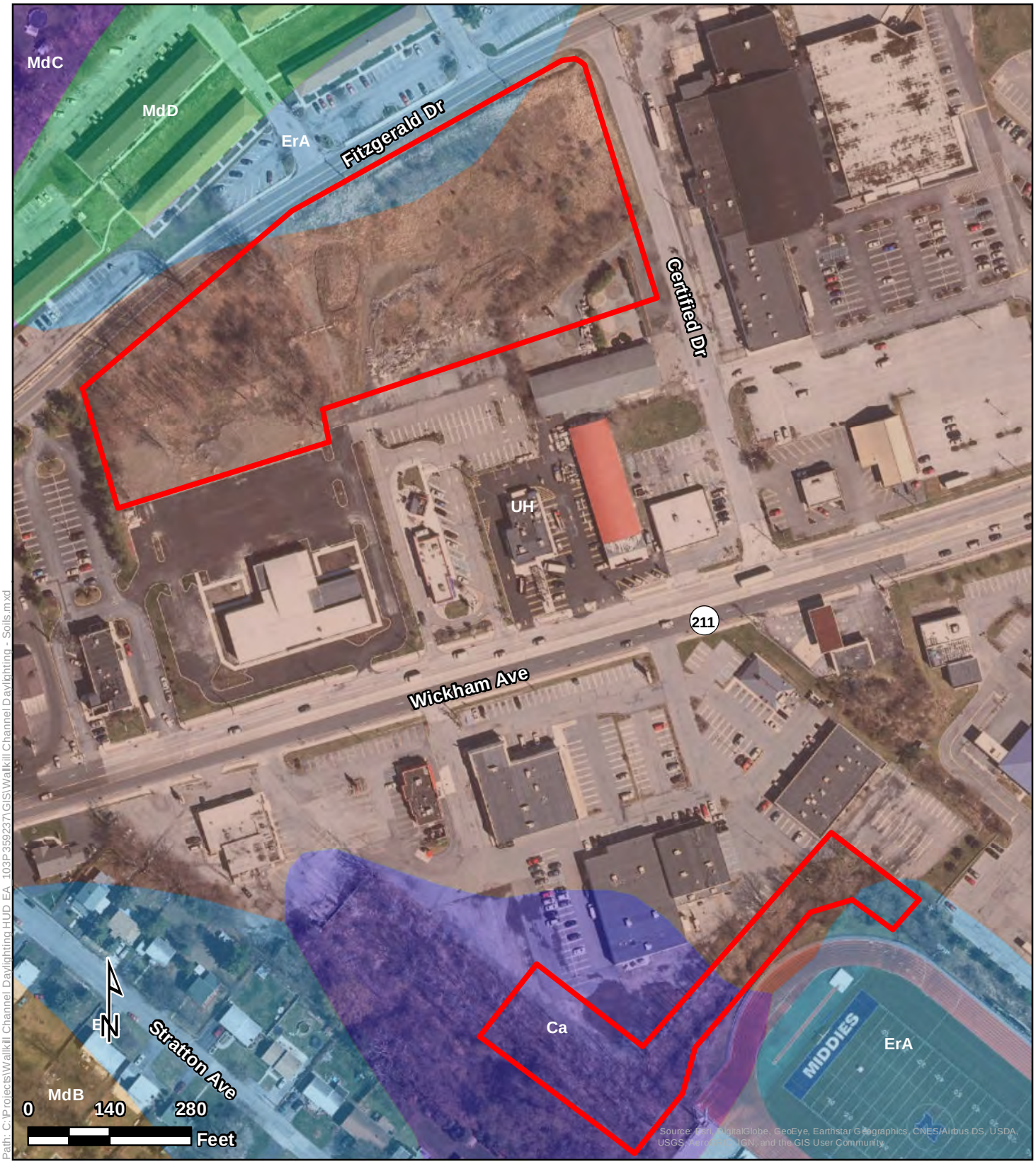
- NLEB Hibernacula
- Project Area
- NLEB Hibernacula 0.25 Mile Buffer
- NLEB Hibernacula 1 Mile Buffer
- NLEB Hibernacula 5 Mile Buffer

Northern Long-eared Bat Hibernacula

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 4



Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P359237\GIS\Wallkill Channel Daylighting - Soils.mxd

Legend

- Project Area
- Ca, Canandaigua silt loam
- ErA, Erie gravelly silt loam, 0 to 3 percent slopes
- MdB, Mardin gravelly silt loam, 3 to 8 percent slopes
- MdC, Mardin gravelly silt loam, 8 to 15 percent slopes
- MdD, Mardin gravelly silt loam, 15 to 25 percent slopes
- UH, Udorthents, smoothed

Soils

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 5

Google Maps Middletown

Imagery ©2019 Google, Map data ©2019 Google 100 ft

TOWN OF WALLKILL - AREAS OF TREE REMOVAL
(SOUTH AREA)

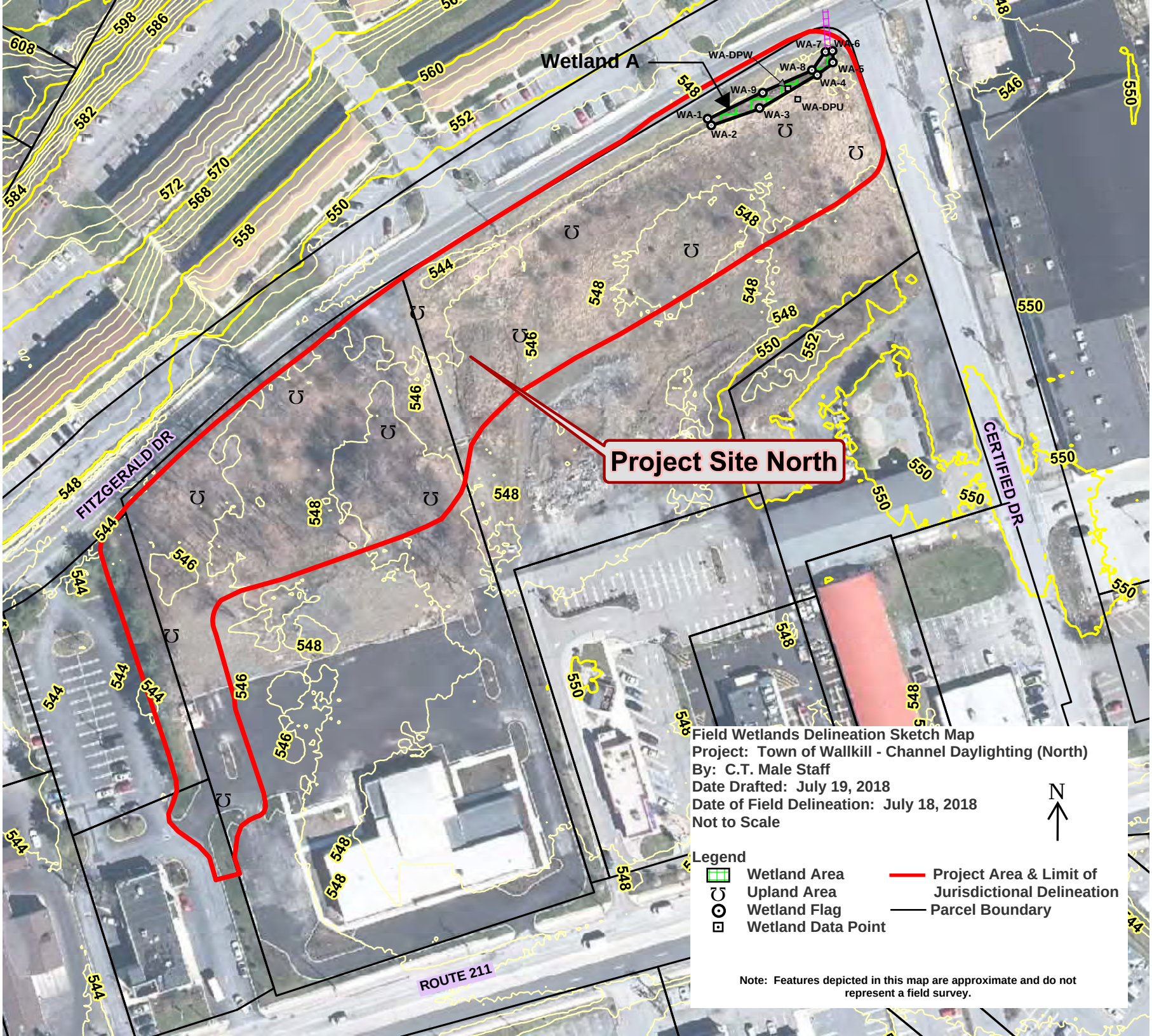
C.T. Male Associates
2-12-2019

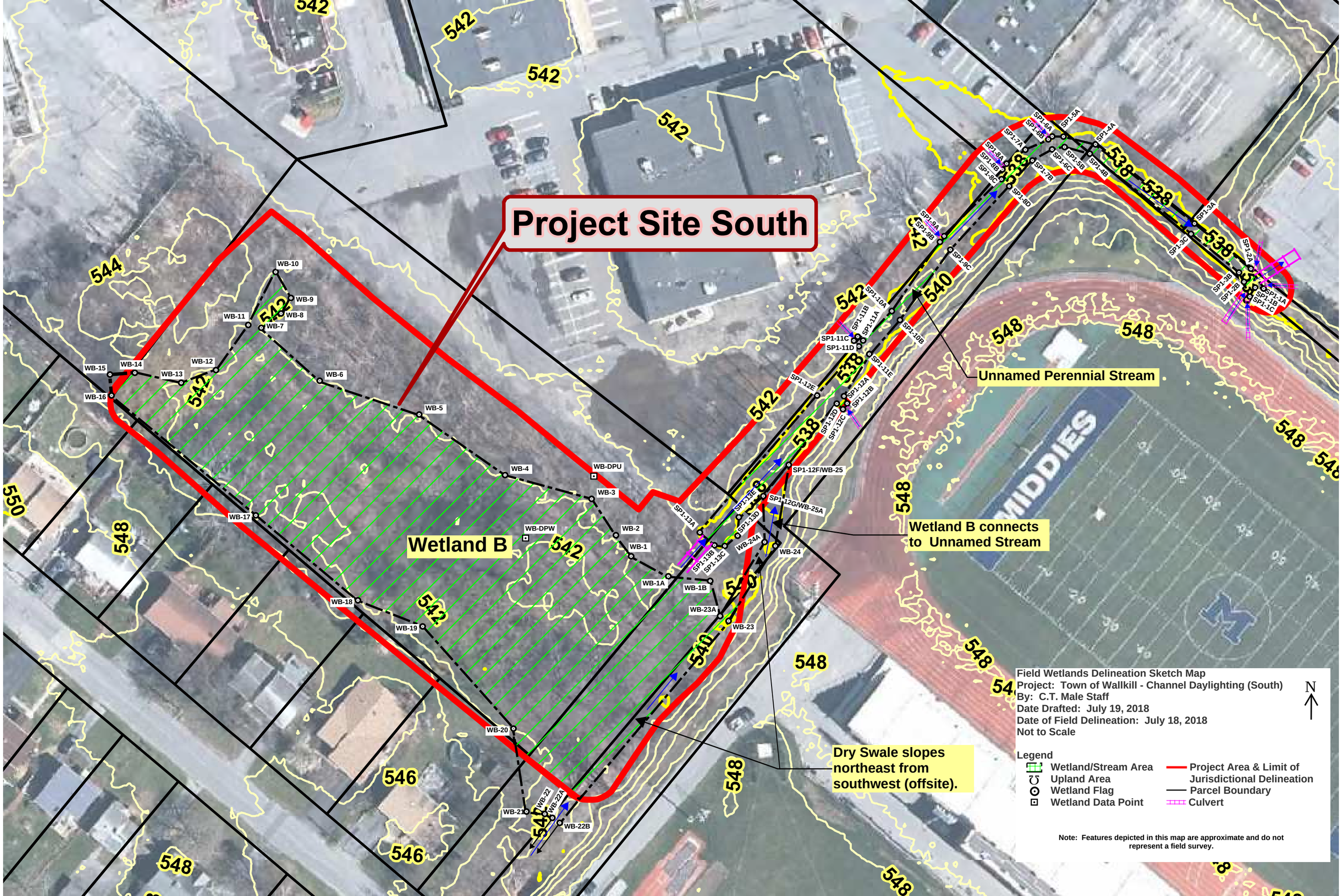
Google Maps Middletown

Imagery ©2019 Google, Map data ©2019 Google 100 ft

TOWN OF WALLKILL - AREAS OF TREE REMOVAL
~~SO~~ (NORTH AREA)

C.T. Male Associates
2-12-2019


Wetland A
WA-1
WA-2
WA-3
WA-4
WA-5
WA-6
WA-7
WA-8
WA-9
WA-DPW
WA-DPU
Project Site North
FITZGERALD DR
CERTIFIED DR
ROUTE 211
Field Wetlands Delineation Sketch Map
Project: Town of Wallkill - Channel Daylighting (North)
By: C.T. Male Staff
Date Drafted: July 19, 2018
Date of Field Delineation: July 18, 2018
Not to Scale
N
Legend
Wetland Area
Upland Area
Wetland Flag
Wetland Data Point
Project Area & Limit of Jurisdictional Delineation
Parcel Boundary
Note: Features depicted in this map are approximate and do not represent a field survey.


Project Site South
Wetland B
Unnamed Perennial Stream
Wetland B connects to Unnamed Stream
Dry Swale slopes northeast from southwest (offsite).
WB-1
WB-1A
WB-1B
WB-2
WB-3
WB-4
WB-5
WB-6
WB-7
WB-8
WB-9
WB-10
WB-11
WB-12
WB-13
WB-14
WB-15
WB-16
WB-17
WB-18
WB-19
WB-20
WB-21
WB-22
WB-22A
WB-22B
WB-23
WB-23A
WB-24
WB-24A
WB-25
WB-DPU
WB-DPW
SP1-12F/WB-25
SP1-12G/WB-25A
Field Wetlands Delineation Sketch Map
Project: Town of Wallkill - Channel Daylighting (South)
By: C.T. Male Staff
Date Drafted: July 19, 2018
Date of Field Delineation: July 18, 2018
Not to Scale
N
Legend
Wetland/Stream Area
Upland Area
Wetland Flag
Wetland Data Point
Project Area & Limit of Jurisdictional Delineation
Parcel Boundary
Culvert
Note: Features depicted in this map are approximate and do not represent a field survey.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

May 9, 2018

Alicia Shultz
Governor's Office of Storm Recovery
38-40 State Street
Albany, NY 12207

Re: Wallkill Channel Daylighting
County: Orange Town/City: Wallkill

Dear Ms. Shultz:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

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

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Nick Conrad

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 3
21 South Putt Corners Road, New Paltz, NY 12561-1620
P: (845) 256-3054 | F: (845) 255-4659
www.dec.ny.gov

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

July 14, 2016

Lori DuBord
c/o HGA, LLC
185 Green Street
Kingston, NY 12401
ldubord@stormrecovery.ny.gov

RE: Channel Daylighting and Riparian Improvements
Permit Jurisdiction Determination
Town of Wallkill, Orange County

Dear Ms. DuBord:

The New York State Department of Environmental Conservation (DEC) has received the submitted materials pertaining to the above referenced project. The Town of Wallkill is proposing to design and construct improvements to the drainage between commercial properties adjacent to Middletown High School in the Town of Wallkill, Orange County The proposed improvements include: daylighting of the existing drainage-way between the Shop Rite and Middletown High School, installation of water conveyance infrastructures that are appropriately sized, expansion of the riparian buffer (to include native and appropriate flora), and the potential installation of a detention basin.

Based upon our review of your Pre-application Report dated March 1, 2016, we offer the following comments:

PROTECTION OF WATERS

There are no waterbodies that appear on our regulatory maps at the location identified Therefore, if there is a stream or pond outlet present at the site with year-round flow, it assumes the classification of the watercourse into which it feeds, Silver Lake, Class B, and a Protection of Waters permit is required. If there is a stream or pond outlet present at the site that runs intermittently (seasonally), it is not protected, and a Protection of Waters permit is not required.

If a permit is not required, please note, however, you are still responsible for ensuring that work shall not pollute any stream or waterbody. Care shall be taken to stabilize any disturbed areas promptly after construction, and all necessary precautions shall be taken to prevent contamination of the stream or waterbody by silt, sediment, fuels, solvents, lubricants, or any other pollutant associated with the project.

FRESHWATER WETLANDS

The project site is not within a New York State protected Freshwater Wetland. However please contact the town officials and the United States Army Corps of Engineers in New York City, telephone (917) 790-8511 (Westchester/Rockland Counties), or (917) 790-8411 (other counties), for any permitting they might require.

STATE-LISTED SPECIES

No records of sensitive resources were identified by this review.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

CULTURAL RESOURCES

We have reviewed the statewide inventory of archaeological resources maintained by the New York State Museum and the New York State Office of Parks, Recreation, and Historic Preservation. These records indicate that the project is not located within an area considered to be sensitive with regard to archaeological resources. For more information, please visit the New York State Office of Historic Preservation website at http://www.nysparks.com/shpo/.

OTHER

Please note that this letter only addresses the requirements for the following permits from the Department: Protection of Waters, State-listed Species, and Freshwater Wetlands. Other permits from this Department or other agencies may be required for projects conducted on this property now or in the future. Also, regulations applicable to the location subject to this determination occasionally are revised and you should, therefore, verify the need for permits if your project is delayed or postponed. This determination regarding the need for permits will remain effective for a maximum of one year unless you are otherwise notified. Applications may be downloaded from our website at www.dec.ny.gov under "Programs" then "Division of Environmental Permits."

Please contact this office if you have questions regarding the above information. Thank you.

Sincerely,

Katherine Coffin

Katherine Coffin
Division of Environmental Permits
Region 3, Telephone No. (845) 256-3158

Cc: Town of Wallkill
Attn: Daniel Depew
99 Tower Drive
Middletown, NY 10941

NOTE: Regarding erosion/sedimentation control requirements:
Stormwater discharges require a State Pollutant Discharge Elimination System (SPDES) Stormwater permit from this Department if they either:

- occur at industrial facilities and contain either toxic contaminants or priority pollutants OR
- result from construction projects involving the disturbance of 5000 square feet or more of land within the NYC Department of Environmental Protection East of Hudson Watershed or for proposed disturbance of 1 acre or more of land outside the NYC DEP Watershed

Your project may be covered by one of two Statewide General Permits or may require an individual permit. For information on stormwater and the general permits, see the DEC website at http://www.dec.ny.gov/chemical/8468.html.
For construction permits, if this site is within an MS4 area (Municipal Separate Storm Sewer System), the stormwater plan must be reviewed and accepted by the municipality and the MS-4 Acceptance Form must be submitted to the Department. If the site is not within an MS4 area and other DEC permits are required, please contact the regional Division of Environmental Permits.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Field Office
3817 Luker Road
Cortland, NY 13045
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo

To: Alicia Shultz Date: Feb 21, 2019

USFWS File No: 19I0987

Regarding your: ___Letter ___Fax _x_ Email Dated: Feb 13, 2019

For project: Wallkill Channel Daylighting

Located: SR 211 near intersection of Lloyds Dr. and Fitzgerald Dr.

In Town/County: Town of Wallkill, Orange County

Pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the U.S. Fish and Wildlife Service:

_x_ Acknowledges receipt of your "no effect" and/or no impact determination. No further ESA coordination or consultation is required. DWM & SWP & JBat

___ Acknowledges receipt of your determination. Please provide a copy of your determination and supporting materials to any involved Federal agency for their final ESA determination.

___ Is taking no action pursuant to ESA or any legislation at this time, but would like to be kept informed of project developments.

As a reminder, until the proposed project is complete, we recommend that you check our website (http://www.fws.gov/northeast/nyfo/es/section7.htm) every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current. Should project plans change or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

USFWS Contact(s): Robyn Amin

Supervisor: Acting Branch Chief Date: 2/21/19

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: February 11, 2019
Consultation Code: 05E1NY00-2019-SLI-0987
Event Code: 05E1NY00-2019-E-03083
Project Name: Wallkill Channel Daylighting Project, Town of Wallkill, Orange County, New York

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

To Whom It May Concern:

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

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

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

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

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

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2019-SLI-0987

Event Code: 05E1NY00-2019-E-03083

Project Name: Wallkill Channel Daylighting Project, Town of Wallkill, Orange County, New York

Project Type: Federal Grant / Loan Related

Project Description: The Town of Wallkill, Orange County, New York, is proposing to improve the drainage way between commercial properties along SR 211 (Wickham Avenue) near the intersection of Lloyds Drive and directly adjacent to Middletown High School as well as the area along Fitzgerald Drive across from the Crestwood Apartments.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.45574898213529N74.40028770508697W

Counties: Orange, NY

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Clams

NAME	STATUS
Dwarf Wedgemussel *Alasmidonta heterodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/363/office/52410.pdf	Endangered

Flowering Plants

NAME	STATUS
Small Whorled Pogonia *Isotria medeoloides*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1890
Species survey guidelines:
https://ecos.fws.gov/ipac/guideline/survey/population/742/office/52410.pdf

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife
625 Broadway, 5th Floor, Albany, NY 12233-4750
P: (518) 402-8924 | F: (518) 402-8925
www.dec.ny.gov

May 16, 2018

Ms. Alicia Shultz
Governor's Office of Storm Recovery
30-40 State St., Hampton Plaza
Albany, NY 12207

RE: Wallkill Channel Daylighting
Town of Wallkill, Orange County, NY

Dear Ms. Shultz,

We received your jurisdictional inquiry request for the Wallkill Channel Daylighting project in Wallkill, Orange County. It is our understanding that an existing collapsed culvert will be removed and replaced, an open channel with a riparian buffer would be created, and two detention/infiltration basins will be constructed (approximately 0.9 acres and approximately 0.55 acres, respectively). Based on our understanding of the project and the NYS Resources map created by Amanda Bailey on 5/16/2018 (attached), we have the following comments on the project:

STATE-LISTED SPECIES

All threatened or endangered species are subject to regulation under Article 11, Title 5 of the Environmental Conservation Law and a permit is required for a taking of that species pursuant to 6 NYCRR Part 182. Besides death of individuals, taking includes harassment, interference with essential behaviors, and adverse modification of habitat. **If the site is in close proximity to known occurrences of state-protected species, additional information on the proposal will be required by the appropriate regional office for a determination on the need for an incidental take permit.**

We have reviewed the available information in the New York Natural Heritage Program database on known occurrences of rare or state-listed bat species. This project area does not occur in the immediate vicinity of known occurrences of rare or state-listed bat species (see NYS Resources map, attached). The major concern for bat species in relation to this project would be the destruction of potential roosts and roosting habitat that may occur if tree clearing is required. Because this project does not take place within known occupied habitat, there are no restrictions on cutting.

The absence of data does not necessarily mean that any rare or state-listed bat species do not exist on or adjacent to the proposed site. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence of all rare or state-listed bat species. To avoid potential take, DEC *recommends* that any tree clearing be conducted between November 1 and March 31, when bats are inactive in hibernation sites. DEC also recommends that all snag and cavity trees remain uncut, unless their removal is necessary for protection of human life and property. For more information, please refer to the

DEC Northern long-eared bat protective measures guidance, available at: http://www.dec.ny.gov/animals/106090.html.

This document is only intended to address state-listed bat species. Other rare or state-listed species, natural communities or other significant habitats may exist within the project area and would require additional review. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

OTHER

USFWS Cortland Field Office

If a federal agency is involved in the project, or if federal funding is used, there are additional considerations for federally listed species. Section 7(a)(1) of the Endangered Species Act requires federal agencies to use their authorities to conserve listed species. Section 7(a)(2) requires federal agencies to consult on any action that may affect a listed species.

Other permits from this Department or other agencies may be required for projects conducted on this property now or in the future. Also, regulations applicable to the location subject to this determination occasionally are revised and you should, therefore, verify the need for permits if your project is delayed or postponed. This determination regarding the need for permits will remain effective for a maximum of one year unless you are otherwise notified. Applications may be downloaded from our website at www.dec.ny.gov under “Programs” then “Division of Environmental Permits.”

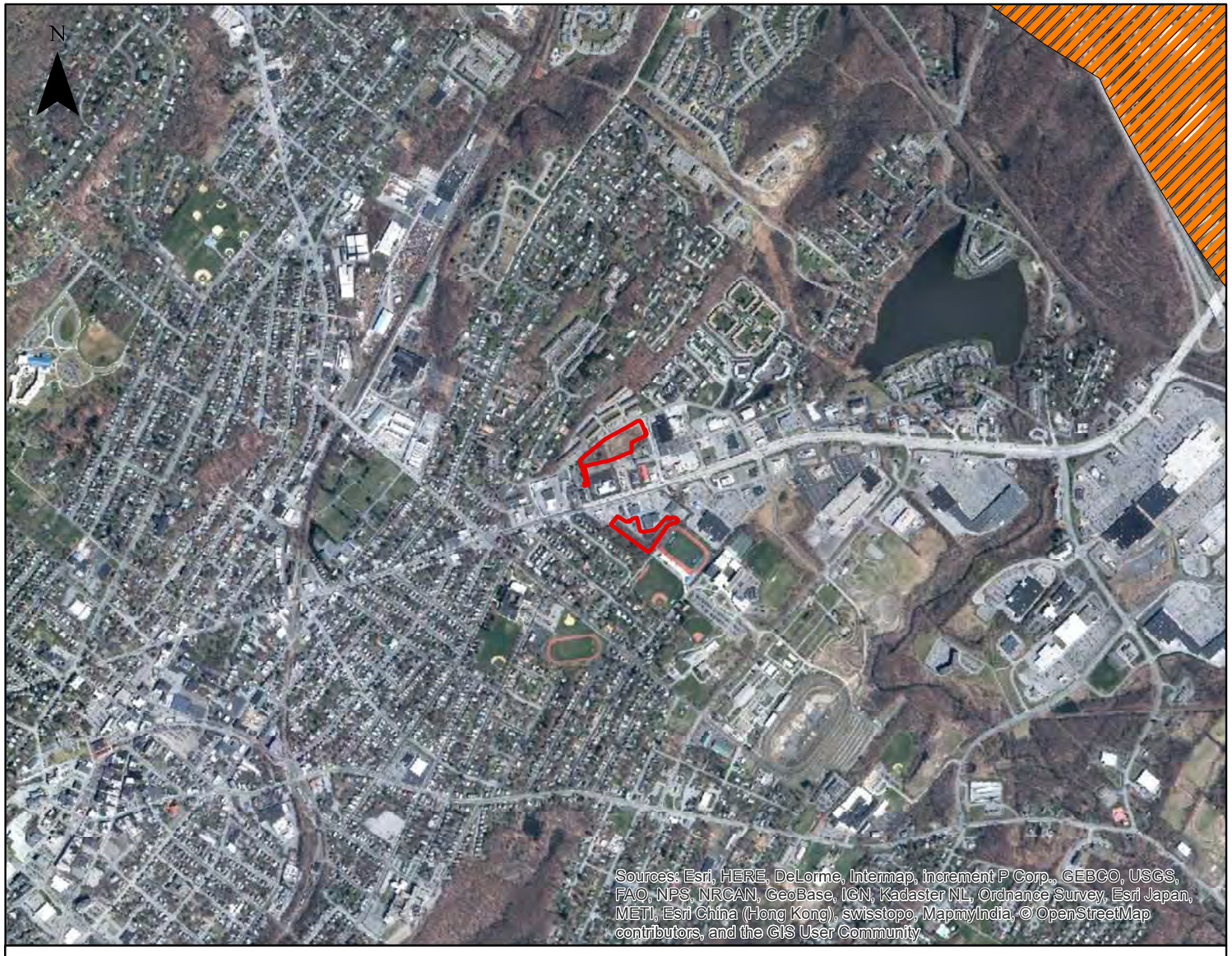
Please contact this office if you have questions regarding the above information. Thank you.

Sincerely,

Amanda Bailey

Amanda Bailey
Division of Fish and Wildlife
Amanda.bailey@dec.ny.gov
518-402-8859

Cc: May O’Malley, NYSDEC Division of Environmental Permits
Christopher Lang, NYSDEC Division of Environmental Permits, Region 3



NEW YORK STATE OF OPPORTUNITY

Department of Environmental Conservation

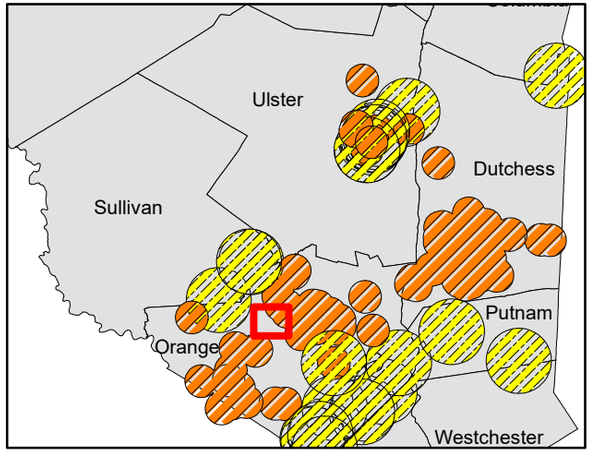
0 0.15 0.3 0.45 0.6 Miles

1 inch = 1,500 feet

NYS Resources Map

Wallkill Channel Daylighting
Town of Wallkill, Orange County

Prepared by AMB on 5/16/2018



Project area

Bat Occurrences

Indiana Bat

Northern Long-eared Bat

Disclaimer: this map was prepared by the NYSDEC using the most current data available. It is deemed accurate but is not guaranteed. NYSDEC is not responsible for any inaccuracies in the data and does not necessarily endorse any interpretations or products derived from the data. This map may contain information that is considered sensitive and therefore the distribution of this map is strictly prohibited.

Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

Information to Determine 4(d) Rule Compliance:	**YES**	**NO**
1. Does the project occur wholly outside of the WNS Zone[1]?	☐	☒
2. Have you contacted the appropriate agency[2] to determine if your project is near known hibernacula or maternity roost trees?	☒	☐
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	☐	☒
4. Could the project alter the entrance or interior environment of a known hibernaculum?	☐	☒
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	☐	☒
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	☐	☒

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Agency and Applicant[3] (Name, Email, Phone No.): Alicia Shultz, Governor's Office of Storm Recovery, NYS Homes and Community Renewal, Alicia.Shultz@nyshcr.org, (518) 474-0647

Project Name: Wallkill Channel Daylighting Project

Project Location (include coordinates if known): The project is located in the drainage way between commercial properties along SR 211 (Wickham Avenue) near the intersection of Lloyds Drive and directly adjacent to Middletown High School as well as the area along Fitzgerald Drive across from the Crestwood Apartments in the Town of Wallkill, Orange County, New York.

[1] http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf
[2] See http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html
[3] If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

Basic Project Description (provide narrative below or attach additional information):
An unnamed creek that flows through this area is the primary water source for Silver Lake. During the urbanization of this area from 1970 to 2010, part of this unnamed creek, just northwest of the Middletown High School football field was culverted. This culvert is now partially collapsed/obstructed and the grade is incorrect, so that there are low spots where water stagnates and does not flow toward Silver Lake. The proposed project would remove the existing headwall along Fitzgerald Drive, approximately 436 linear feet of chain link fence, 8,540 square feet of parking lot, and the existing catch basin on the northern portion of the project area. Two detention/infiltration basins will be constructed on the south side of Fitzgerald Drive behind the businesses on the north side of SR 211, and 137 feet of HDPE pipe would replace the catch basin. Approximately 185 feet of the existing collapsed culvert between the Shoprite Plaza and Middletown High School, the adjacent 160 feet of concrete curb, and a portion of the wing wall at the east side of the stadium would be removed in the southern portion of the project area. The project would construct an open channel in its place.

An estimated 2.3 acres of trees will be removed by the project. The trees are in isolated semi-forested areas (each of less than 3 acres) that are located in a highly developed area. The nearest significant forested area is located over 2500 feet away, and the nearest protected forest land is located over three miles away.

General Project Information	**YES**	**NO**
Does the project occur within 0.25 miles of a known hibernaculum?	☐	☒
Does the project occur within 150 feet of a known maternity roost tree?	☐	☒
Does the project include forest conversion[4]? (if yes, report acreage below)	☐	☒
Estimated total acres of forest conversion		
If known, estimated acres[5] of forest conversion from April 1 to October 31		
If known, estimated acres of forest conversion from June 1 to July 31[6]		
Does the project include timber harvest? (if yes, report acreage below)	☐	☒
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	☐	☒
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	☐	☒
Estimated wind capacity (MW)		

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project

[4] Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).
[5] If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.
[6] If the activity includes tree clearing in June and July, also include those acreage in April to October.

responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: _____ Date Submitted: February 12, 2019

Governor's Office of
Storm Recovery

ANDREW M.
CUOMO
Governor

Via Electronic Mail

April 19, 2018

Nicholas Conrad
New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program – Information Services
625 Broadway, 5th Floor
Albany, New York 12233-4757

Re: Natural Heritage Compliance Process for the Wallkill Channel Daylighting, Town of Wallkill, Orange County, New York

Dear Mr. Conrad:

The Governor's Office of Storm Recovery (GOSR), acting under the auspices of New York State Homes and Community Renewal's (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the Department of Housing & Urban Development (HUD), is conducting an environmental review under HUD's environmental review regulations (24 CFR Part 58) and New York State's Environmental Quality Review Act (SEQRA) for the Wallkill Channel Daylighting Project, located in the Town of Wallkill, Orange County, New York (see **Figures 1** and **2**).

The purpose of this letter is to request a search of the files of the New York Natural Heritage Program for records of the occurrence of any rare animals, plants, and natural communities and/or significant wildlife habitats in the vicinity of this project. The information we receive will be used in NEPA and SEQRA documentation and/or any permit applications. We will retain the confidentiality, as needed, of any information received.

Program Overview: The project drainage way is part of the system that conveys stormwater to Silver Lake. Hurricane Irene and Tropical Storm Lee overwhelmed the drainage way and caused flooding in the community. Due to the natural slope and watershed, Fitzgerald Drive (parallel and to the north of SR 211) sustained severe flooding, where water reached four to five feet in depth, isolating the predominantly low-moderate income Crestwood Apartment complex. In addition, the floodwaters flowed downstream to the commercial areas in the Shoprite Plaza and SR 211, where inundation occurred as well. SR 211 is the major arterial connecting the Town of Wallkill with the City of Middletown, and both communities depend on the businesses located in this area. Flooding and flood damage made SR 211 impassible. Egress and ingress to the vitally important commercial area of the Town of Wallkill was eliminated because of flooding.

The project will ensure public safety to the Crestwood Apartment community and mitigate flooding which causes main arterial road closures, damage to public infrastructure, and flooding of commercial establishments.

The improved drainage will require less maintenance, and will improve the community's economic resilience by preventing the long-term closure of businesses due to flooding, has had a serious negative impact on the community's tax base and ability to provide local services to its residents.

Area of Potential Effect: The Town of Wallkill, Orange County, New York, is proposing to improve the drainage way between commercial properties along SR 211 (Wickham Avenue) near the intersection of Lloyds Drive and directly adjacent to Middletown High School as well as the area along Fitzgerald Drive across from the Crestwood Apartments (**Figures 1** and **2**).

Proposed Project Description: An unnamed creek that flows through this area is the primary water source for Silver Lake. During the urbanization of this area from 1970 to 2010, part of this unnamed creek, just northwest of the Middletown High School football field was culverted. This culvert is now partially collapsed/obstructed and the grade is incorrect, so that there are low spots where water stagnates and does not flow toward Silver Lake. The proposed project would remove approximately 400 feet of the existing collapsed culvert between the Shoprite Plaza and Middletown High School and construct an open channel in its place. A riparian buffer would be established along the newly constructed channel to include native and appropriate grasses, grass-like forbs, shrubs, and trees. Approximately 1,500 feet of the existing open channel, upstream of the removed culvert, will be dredged to improve flow. Two detention/infiltration basins (approximately 0.9 acres and approximately 0.55 acres, respectively) will be constructed on the south side of Fitzgerald Drive behind the businesses on the north side of SR 211. A new culvert will be installed between the existing drainage system and the retention basins.

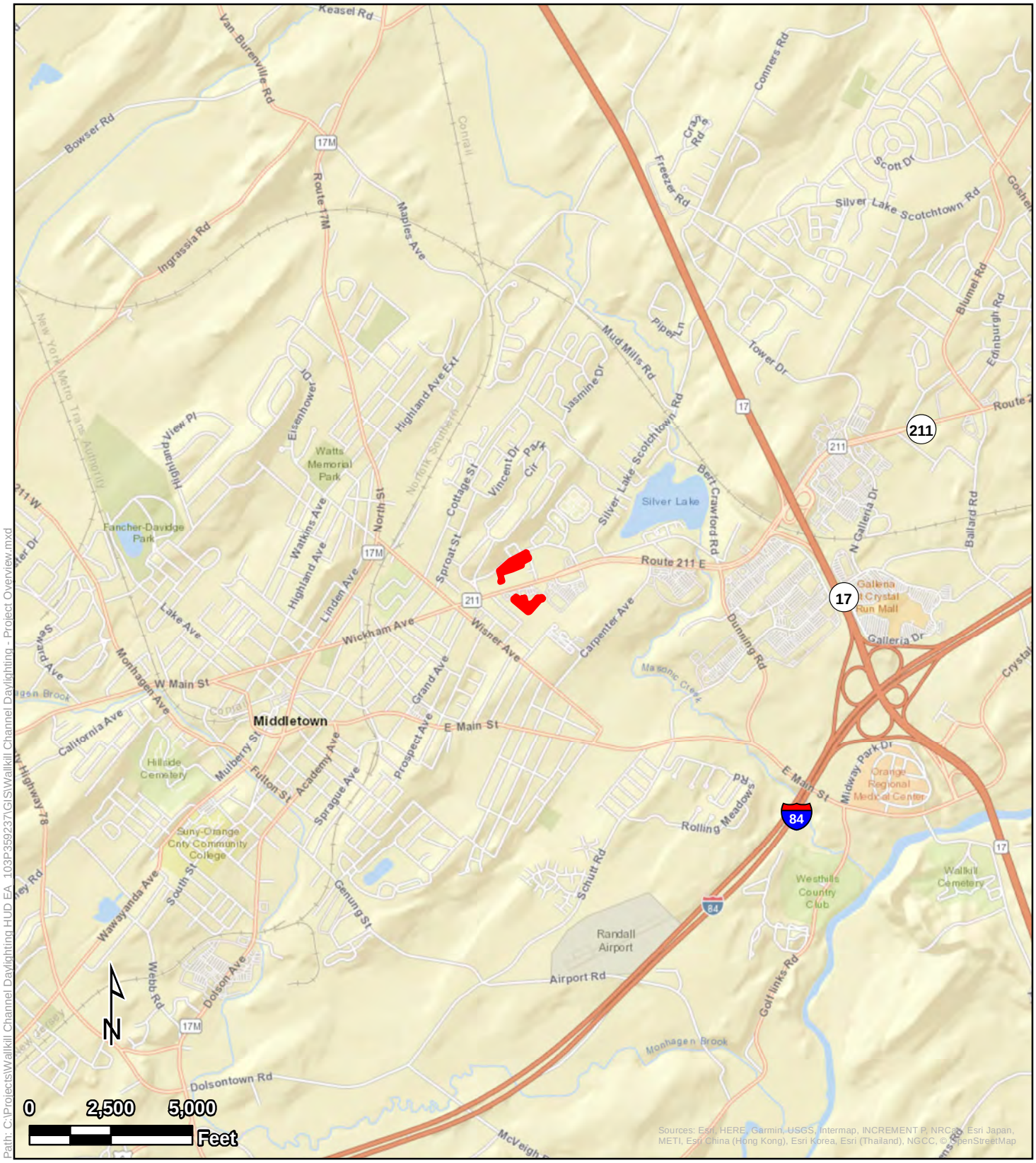
Compliance: According to information reviewed from the New York State Environmental Resource Mapper (ERM), the project area is not within a half mile of significant natural communities or rare plants or animals (see attached **Figure 3**). A July 14, 2016, New York State Department of Environmental Conservation review of the project (attached) determined that the project sites are not located within or near records of state-listed species. The proposed project would involve ground disturbance. As such, GOSR respectfully requests that the New York Natural Heritage Program review its records of concern for any rare or state-listed animals or plants, or significant natural communities, at this site or in its immediate vicinity.

If you have questions or require additional information regarding this request, please contact me at (518) 474-0647 or Alicia.Shultz@nyshcr.org. Thank you for your time and consideration.

Sincerely,

Alicia Shultz
Community Developer - Environmental Services
Governor's Office of Storm Recovery
NYS Homes and Community Renewal

Attachments:
Figure 1 - Wallkill Channel Daylighting - Project Overview
Figure 2 - Wallkill Channel Daylighting - Project Area
Figure 3 - Wallkill Channel Daylighting – Environmental Resource Mapper Results
DEC Jurisdictional Determination- 07-14-2016



Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P359237\GIS\Wallkill Channel Daylighting - Project Overview.mxd

Project Overview

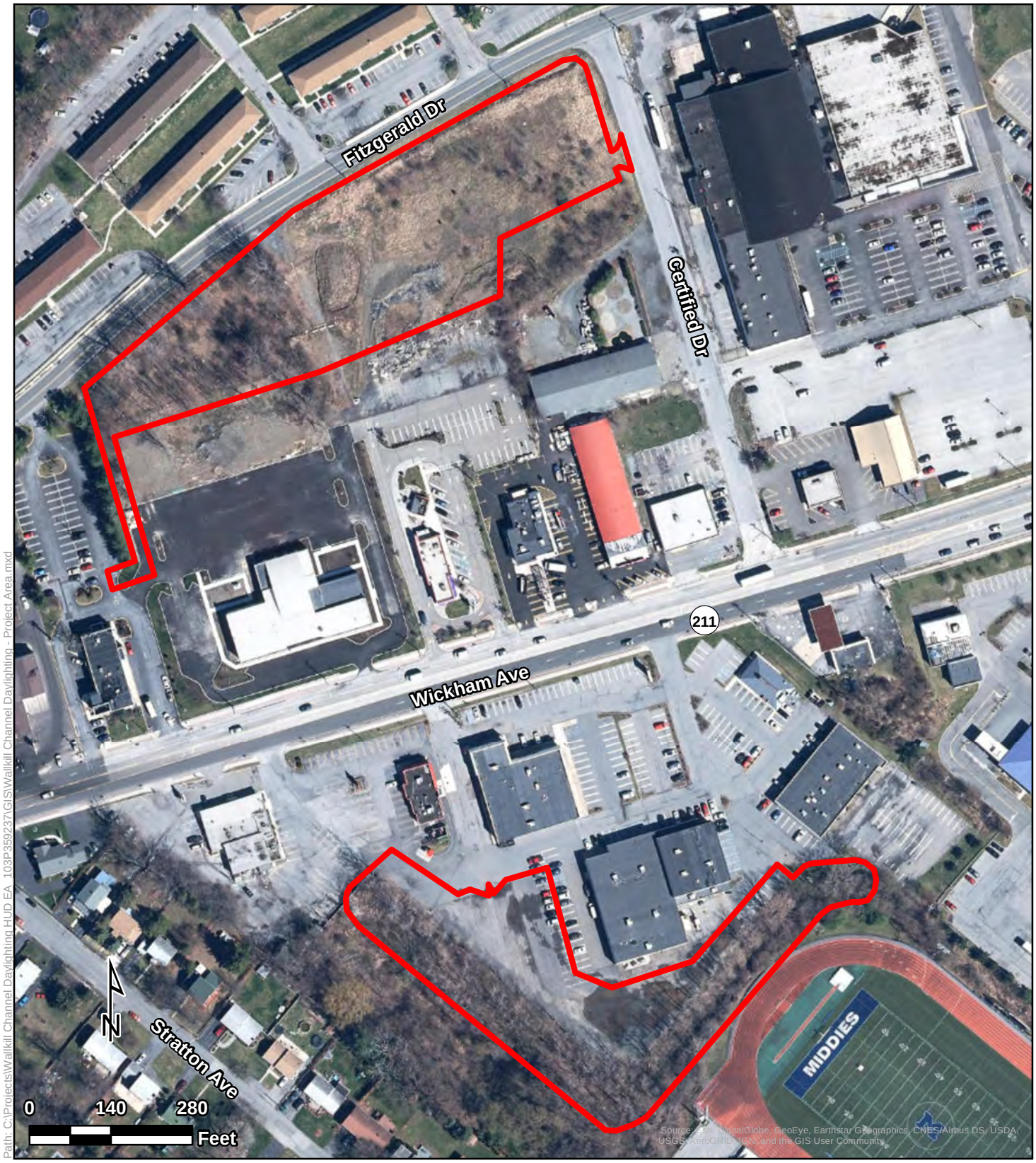
Legend

Project Location

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 1



Project Area

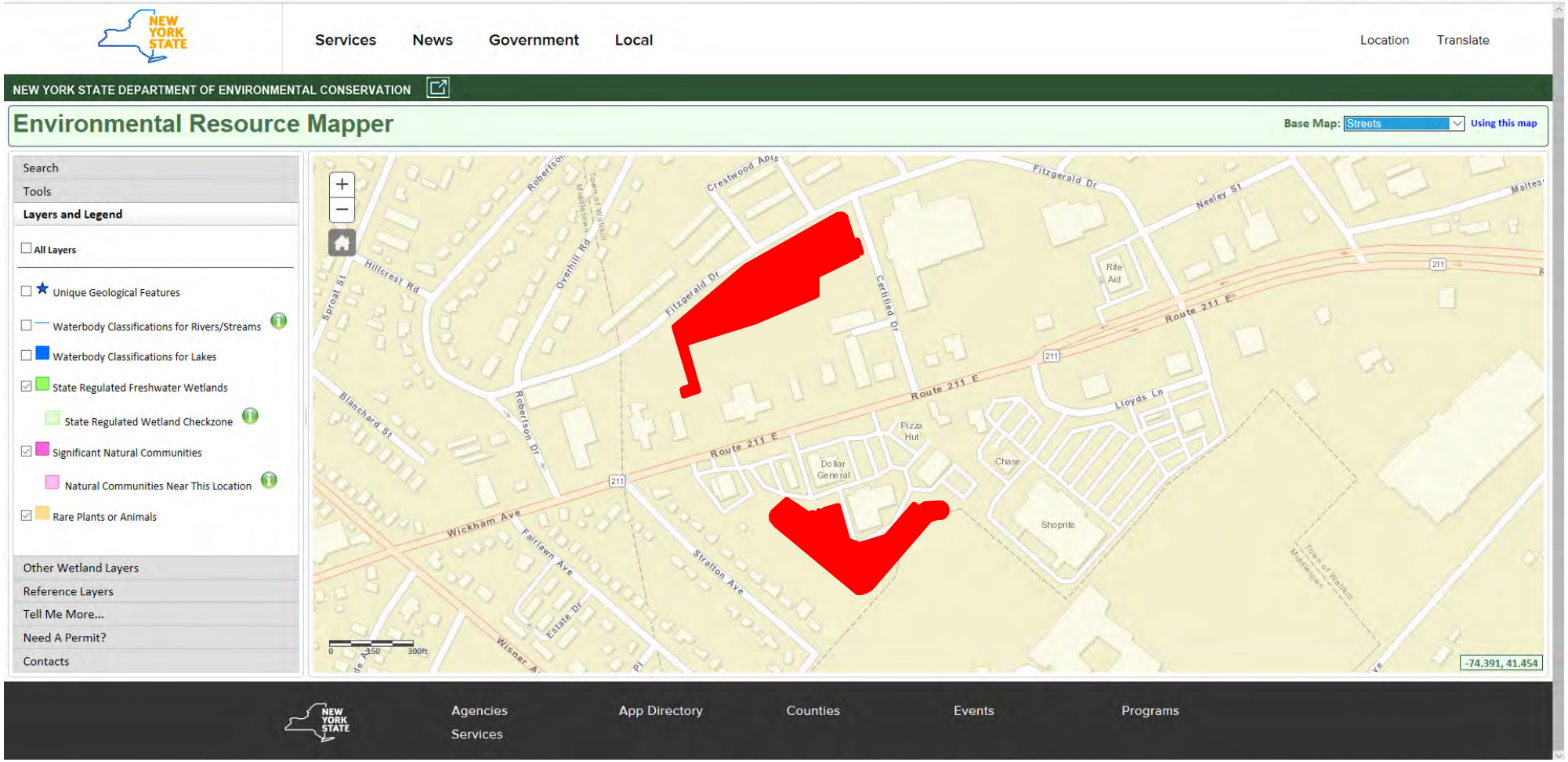
Legend

Project Area

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 2



Environmental Resource Mapper Results

Project Location

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Figure 3

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 3
21 South Putt Corners Road, New Paltz, NY 12561-1620
P: (845) 256-3054 | F: (845) 255-4659
www.dec.ny.gov

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

July 14, 2016

Lori DuBord
c/o HGA, LLC
185 Green Street
Kingston, NY 12401
ldubord@stormrecovery.ny.gov

RE: Channel Daylighting and Riparian Improvements
Permit Jurisdiction Determination
Town of Wallkill, Orange County

Dear Ms. DuBord:

The New York State Department of Environmental Conservation (DEC) has received the submitted materials pertaining to the above referenced project. The Town of Wallkill is proposing to design and construct improvements to the drainage between commercial properties adjacent to Middletown High School in the Town of Wallkill, Orange County The proposed improvements include: daylighting of the existing drainage-way between the Shop Rite and Middletown High School, installation of water conveyance infrastructures that are appropriately sized, expansion of the riparian buffer (to include native and appropriate flora), and the potential installation of a detention basin.

Based upon our review of your Pre-application Report dated March 1, 2016, we offer the following comments:

PROTECTION OF WATERS

There are no waterbodies that appear on our regulatory maps at the location identified Therefore, if there is a stream or pond outlet present at the site with year-round flow, it assumes the classification of the watercourse into which it feeds, Silver Lake, Class B, and a Protection of Waters permit is required. If there is a stream or pond outlet present at the site that runs intermittently (seasonally), it is not protected, and a Protection of Waters permit is not required.

If a permit is not required, please note, however, you are still responsible for ensuring that work shall not pollute any stream or waterbody. Care shall be taken to stabilize any disturbed areas promptly after construction, and all necessary precautions shall be taken to prevent contamination of the stream or waterbody by silt, sediment, fuels, solvents, lubricants, or any other pollutant associated with the project.

FRESHWATER WETLANDS

The project site is not within a New York State protected Freshwater Wetland. However please contact the town officials and the United States Army Corps of Engineers in New York City, telephone (917) 790-8511 (Westchester/Rockland Counties), or (917) 790-8411 (other counties), for any permitting they might require.

STATE-LISTED SPECIES

No records of sensitive resources were identified by this review.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

CULTURAL RESOURCES

We have reviewed the statewide inventory of archaeological resources maintained by the New York State Museum and the New York State Office of Parks, Recreation, and Historic Preservation. These records indicate that the project is not located within an area considered to be sensitive with regard to archaeological resources. For more information, please visit the New York State Office of Historic Preservation website at http://www.nysparks.com/shpo/.

OTHER

Please note that this letter only addresses the requirements for the following permits from the Department: Protection of Waters, State-listed Species, and Freshwater Wetlands. Other permits from this Department or other agencies may be required for projects conducted on this property now or in the future. Also, regulations applicable to the location subject to this determination occasionally are revised and you should, therefore, verify the need for permits if your project is delayed or postponed. This determination regarding the need for permits will remain effective for a maximum of one year unless you are otherwise notified. Applications may be downloaded from our website at www.dec.ny.gov under "Programs" then "Division of Environmental Permits."

Please contact this office if you have questions regarding the above information. Thank you.

Sincerely,

Katherine Coffin

Katherine Coffin
Division of Environmental Permits
Region 3, Telephone No. (845) 256-3158

Cc: Town of Wallkill
Attn: Daniel Depew
99 Tower Drive
Middletown, NY 10941

NOTE: Regarding erosion/sedimentation control requirements:
Stormwater discharges require a State Pollutant Discharge Elimination System (SPDES) Stormwater permit from this Department if they either:

- occur at industrial facilities and contain either toxic contaminants or priority pollutants OR
- result from construction projects involving the disturbance of 5000 square feet or more of land within the NYC Department of Environmental Protection East of Hudson Watershed or for proposed disturbance of 1 acre or more of land outside the NYC DEP Watershed

Your project may be covered by one of two Statewide General Permits or may require an individual permit. For information on stormwater and the general permits, see the DEC website at http://www.dec.ny.gov/chemical/8468.html.
For construction permits, if this site is within an MS4 area (Municipal Separate Storm Sewer System), the stormwater plan must be reviewed and accepted by the municipality and the MS-4 Acceptance Form must be submitted to the Department. If the site is not within an MS4 area and other DEC permits are required, please contact the regional Division of Environmental Permits.

Appendix D
SHPO Correspondence

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Acting Commissioner

February 21, 2019

Alicia Shultz
Governor's Office of Storm Recovery
38 State Street
Albany, NY 11207

Re: GOSR/ HUD CDBG-DR/ Town of Wallkill Channel Daylighting:
Town of Wallkill, City of Middletown, Orange County.
19PR01078

Dear Ms. Shultz:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/ Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based on this review, it is the opinion of SHPO that there will be No Historic Properties Affected by the proposed undertaking.

If I can be of further assistance, please contact me at (518) 268-2187 Larry.moss@parks.ny.gov

Sincerely,

LMoss

Larry K Moss, Historic Preservation Technical Specialist

CC: Genevieve Kaiser, Tetratech

Governor's Office of
Storm Recovery

ANDREW M. CUOMO
Governor

February 19, 2019

Mr. Larry Moss
Historic Preservation Technical Specialist
New York State Office of Parks, Recreation and Historic Preservation
Division of Historic Preservation
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189

Re: Section 106 Compliance for the Wallkill Channel Daylighting Project, Town of Wallkill, Orange County, New York

Dear Mr. Moss,

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. §5301 et seq.), the Governor's Office of Storm Recovery (GOSR), an office of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"), is serving as the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and request for consultation.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. A consultation request for the project described herein will also be sent to the Tribal Historic Preservation Offices for the Delaware Nation, Delaware Tribe of Indians, and Stockbridge-Munsee Community Band of Mohicans. In accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. §306108), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action.

Proposed Project Description: The Town of Wallkill, Orange County, New York, is proposing to improve the drainage way between commercial properties along SR 211 (Wickham Avenue) near the intersection of Lloyds Drive and directly adjacent to Middletown High School as well as the area along Fitzgerald Drive across from the Crestwood Apartments (Figures 1 and 2).

An unnamed creek that flows through this area is the primary water source for Silver Lake. During the urbanization of this area from 1970 to 2010, part of this unnamed creek, just northwest of the Middletown High School football field was culverted. This culvert is now partially collapsed/obstructed and the grade is incorrect, so that there are low spots where water stagnates and does not flow toward Silver Lake. The proposed project would remove the existing headwall along Fitzgerald Drive, approximately 436 linear feet of chain link fence, 8,540 square feet of parking lot, and the existing catch basin on the northern portion of the project area. Two

detention/infiltration basins will be constructed on the south side of Fitzgerald Drive behind the businesses on the north side of SR 211, and 137 feet of HDPE pipe would replace the catch basin. Approximately 185 feet of the existing collapsed culvert between the Shoprite Plaza and Middletown High School, the adjacent 160 feet of concrete curb, and a portion of the wing wall at the east side of the stadium would be removed in the southern portion of the project area. The project would construct an open channel in its place. The proposed project involves the removal of two trees

Area of Potential Effects: The Project's total direct area of potential effects (direct APE) resulting from construction-related ground disturbance is 5.68 acres. The construction areas include areas already associated with the roadways and drainage. Shallow grading will be required in the basin areas. The attached figures and plans show the areas of Potential Effects.

Request for Comment: The purpose of this letter is to initiate consultation pursuant to Section 106 of the NHPA per the implementing regulations at 36 Code of Federal Regulations (CFR) Part 800. GOSR respectfully requests your review of the proposed Project described herein. If you have any questions or require additional information regarding this request, please feel free to contact me at (518) 474-0647 or via email at alicia.shultz@nyshcr.org. Thank you for your time and consideration.

Sincerely,

Alicia Shultz
Senior Environmental Scientist
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery

Enclosures uploaded to CRIS:
Aerial Map
APE Map
Project Area Map
Design Plans

Appendix E
Wetlands

SUMMARY OF THE 8-STEP WETLAND ANALYSIS FOR WALLKILL CHANNEL DAYLIGHTING PROJECT ORANGE COUNTY, NEW YORK

Governor's Office of Storm Recovery
U.S. Department of Housing and Urban Development Community Development Block Grant – Disaster Recovery

Introduction & Overview

The purpose of Executive Order (EO) 11988 Floodplain Management is "to avoid to the extent possible the long- and short-term adverse impacts associated with occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative." The purpose of EO 11990 Protection of Wetlands is "to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." This report contains the analysis prescribed by 24 CFR Part 55 and documents the eight-step decision making process for the Proposed Action and pertains to activities within the Special Flood Hazard Area (SFHA) as defined by the Federal Emergency Management Agency (FEMA), or its successors, pursuant to the National Flood Insurance Program (NFIP), or a successor program, whether advisory, preliminary, or final.

The Governor's Office of Storm Recovery (GOSR), an office of the New York State Housing Trust Fund Corporation (HTFC), proposes to provide Community Development Block Grant – Disaster Recovery (CDBG-DR) funding from the NY Rising Community Reconstruction Program to the Town of Wallkill for the Wallkill Channel Daylighting Project (Proposed Action) to be located within the drainage system between commercial properties along SR 211 (Wickham Avenue) near the intersection of Lloyds Drive and directly adjacent to Middletown High School, as well as in the area along Fitzgerald Drive across from the Crestwood Apartments in the Town of Wallkill, New York (**Figure 1** and **Figure 2**). The drainage way is part of the system that conveys stormwater to Silver Lake. Hurricane Irene and Tropical Storm Lee overwhelmed the drainage system in this area and caused flooding to the community.

The analysis that follows focuses on wetland impacts because the Proposed Action will result in impacts to wetlands. Based on an analysis of the Proposed Action activities and locations described herein, it is concluded that there is a reasonable basis to proceed with funding for this Proposed Action within wetlands. The CDBG-DR funding is administered through the New York State Rising Community Reconstruction Program which is using bottom-up community participation and State-provided technical expertise to develop resilient and sustainable communities. Thus, alternatives preventing or impeding the development of resilient and sustainable communities are not considered reasonable alternatives.

Description of Proposed Action & Land Use

The proposed project involves improvements in two separate areas. The southern area includes the existing storm sewer between the Shoprite Plaza and Middletown High School (see **Figure 2**). In the area, the project would remove approximately 185 feet of the existing collapsed culvert and replace it with a new open channel (see the attached **Site Plans**). The adjacent 160 feet of concrete

curb, and a portion of the wing wall (retaining wall at the end of the reinforced concrete pipe at the southeasternmost end of the project) at the at the east side of the stadium would also be removed. The new channel will be approximately 185 feet long, 45 feet wide, and 7 feet deep. A riparian buffer would be established along the newly constructed channel to include native and appropriate grasses, shrubs, and trees. In addition, approximately 540 feet of existing open channel downstream of the removed storm sewer would be dredged to a depth of 2 feet to improve flow. The dredged sediment will be disposed of offsite.

The northern area would be constructed on the south side of Fitzgerald Drive behind the businesses on the north side of SR 211 (see **Figure 2**). In this area, the proposed project would remove the existing headwall along Fitzgerald Drive, approximately 436 linear feet of chain link fence, 8,540 square feet of parking lot, and the existing catch basin on the northern portion of the project area (see the attached **Site Plans**). Two detention/infiltration basins will be constructed (one approximately 0.84 acres [9 feet deep] and a second approximately 0.63 acres [6 feet deep]). A new storm sewer would be installed between the existing drainage system and the retention basins. An estimated 2.3 acres of trees will be removed by the project. (see the attached **Site Plans**). The trees are in isolated semi-forested areas (each of less than three acres) that are located in a highly developed area. The nearest significant forested area is located over 2,500 feet away, and the nearest protected forest land is located over three miles away.

Applicable Regulatory Procedure Per EO 11988 and EO 11990

The Proposed Action corresponds with a noncritical action not excluded under 24 CFR §55.12(b) or (c), and the use is a functionally dependent use. Funding is permissible for the use in the floodplain and wetland if the proposed action is processed under §55.20 and the findings of the determination are affirmative to suggest that the project may proceed. No work is anticipated in a floodplain or floodway. The Proposed Action would have both temporary and permanent effects on wetlands.

***Step 1.* Determine Whether the Proposed Action is Located in the 100-year Floodplain (500-year for Critical Actions) or results in New Construction in Wetlands.**

A Freshwater Forested/Shrub National Wetlands Inventory (NWI) wetland area is within the northern portion of the Project area, surrounding the proposed detention/infiltration basins. (See **Figure 3**). Although this wetland area currently is vacant, it already has been disturbed by development along Fitzgerald Drive and in the surrounding area. The Project would disturb less than one acre of this wetland (it is approximately 0.5 acres).

A wetland field delineation on July 18, 2018, identified a much smaller wetland area in the northern portion of the project (approximately 0.05 acres). (See **Figure 4**). An additional wetland area was delineated in the southern project site. Approximately 0.69 acres of this wetland extend throughout the southern project site. (See **Figure 5**). The Proposed Action will result in physical disturbances to these wetland areas only during construction. These delineated areas also have been disturbed by development along Fitzgerald Drive, Wickham Avenue, Certified Drive, and Stratton Avenue, including residential and commercial development and Middletown High School.

The Proposed Action will result in impacts to wetlands, and prior to construction, the appropriate permits will be obtained in accordance with 6NYCRR Part 608, Protection of Waters Program; 6NYCRR Part 661, NYSDEC stormwater discharge from construction activities regulations, and Section 401 of the Clean Water Act. An SWPPP would be prepared for the Project. A permit under Section 404 of the Clean Water Act will be obtained prior to construction.

Step 2. Initiate Public Notice for Early Review of Proposal.
Because the proposed action is located within wetlands, GOSR published an early notice, that allowed for the public and public agencies to provide input on the decision to provide funding for the proposed action. The early public notice and 15-day comment period is complete.

"Early Notice of a Proposed Activity in Wetlands" was published in the Middletown Times Herald Record newspaper on March 11, 2019, with the 15-day period expiring on March 26, 2019. The notice targeted local residents, including those within the floodplain. (See the attached **Early Notice** and **Affidavit of Publication**). The notice was also sent to the following state and Federal agencies on March 8, 2019: HUD; Federal Emergency Management Agency (FEMA); U.S Fish and Wildlife Service (USFWS); U.S. Environmental Protection Agency (EPA); NYSDEC; NY State Historic Preservation Office (SHPO); NYS Office of Parks, Recreation and Historic Preservation; NYS Department of Transportation (DOT); and the NYS Division of Homeland Security & Emergency Services. The notice was also sent to agencies within the Town of Wallkill. GOSR has not received comments in response to the Early Notice.

***Step 3.* Identify and Evaluate Practicable Alternatives to Locating the Proposed Action in a 100-year Floodplain (or 500-year Floodplain if a Critical Action) or Wetland.**
The New York State Rising Community Reconstruction Program is structured to provide eligible communities' resources and expertise to build projects resilient to future flooding events.

The primary alternative for the current proposed action is the "No Action" alternative. Not undertaking the Proposed Action would not be consistent with the goals and objectives of the Town of Wallkill New York Rising Community Reconstruction Plan, in which it is a featured project that would improve water conveyance through the existing system, increase flood flow capacity, and provide additional floodplain storage without negatively without resulting in worse flooding downstream. The No Action Alternative would result in future severe flooding of the area and will cost the Town of Wallkill, Orange County, New York, significantly more money in damages over time. Without a new drainage system, the area would continue to be impacted by flooding and water damage.

The above identified alternatives will be re-evaluated in response to public comments received.

***Step 4.* Step 4: Identify and describe the proposed action's direct and indirect effects associated with occupying or modifying the floodplain and wetlands.**
The purpose of wetland evaluation is to consider factors relevant to a Proposed Action's effect on the survival, quality, and beneficial function and values of the wetland. These factors include public health (including water supply and water quality), maintenance of natural systems, cost increases attributed to construction in wetland, and other uses of wetland in the public interest.

Public health, safety, and welfare, including water supply, quality, recharge, and discharge; pollution; flood and storm hazards and hazard protection; and sediment and erosion.
An unnamed creek that flows through the area along SR 211 (Wickham Avenue) near the intersection of Lloyds Drive and directly adjacent to Middletown High School and along Fitzgerald Drive across from the Crestwood Apartments is the primary contributory inflow of the Silver Lake. During the urbanization of this area from 1970 to 2010, part of this unnamed creek, just northwest of the Middletown High School football field was buried in a system of storm sewers. These storm sewers are generally in poor condition, with partial collapses, obstructions, and sags causing water to stagnate, reducing the capacity of the system. Hurricane Irene and Tropical Storm Lee overwhelmed the drainage system in this area and caused flooding to the in the community.

Due to the natural slope and watershed, Fitzgerald Drive sustained severe flooding where water reached four to five feet in depth, isolating the Crestwood Apartment complex. In addition, the floodwaters flowed downstream to the commercial areas in the Shoprite Plaza and SR 211 where inundation occurred as well. SR 211 was inundated and damaged. This main arterial road serving the City of Middletown and Town of Wallkill was made impassible. Egress and ingress to this vitally important commercial area of the Town of Wallkill was non-existent as well.

Both the Town of Wallkill and the City of Middletown and both communities depend on the businesses located in this area. Long-term closure of businesses due to flooding would have a serious negative impact on the community's tax base and ability to offer local services to its residents.

The project will ensure public safety to the Crestwood Apartment community, mitigate flooding which causes main arterial road closures, damage to public infrastructure, and flooding of commercial establishments. The improved drainage way will require less maintenance than the current drainage system.

Maintenance of natural systems, including conservation and long-term productivity of existing flora and fauna; species and habitat diversity and stability; natural hydrologic function; wetland type; fish; wildlife; timber; and food and fiber resources.
Implementation of the Proposed Action will comply with all best management practices and permit requirements and conditions set forth in the applicable Federal, State, and local permits. Prior to construction, the appropriate permits would be obtained in accordance with 6NYCRR Part 608, Protection of Waters Program; 6NYCRR Part 661, NYSDEC stormwater discharge from construction activities regulations, and Section 401 of the Clean Water Act. An SWPPP would be prepared for the Project. The Proposed Action would adhere to the requirements of these permits, which include preventing backfill from entering the wetland or protected buffer area, using clean fill, confining equipment and materials storage to upland areas, and stabilizing disturbed soil.

A Clean Water Act Section 404 Permit will be obtained for the Proposed Activity. The proposed Activity would adhere to the conditions of this permit, which requires that steps be taken to avoid impacts to wetlands, streams and other aquatic resources; that potential impacts have been minimized; and that compensation will be provided for all remaining unavoidable impacts.

While the Proposed Activity would temporarily disturb wetland areas, the open channel and detention ponds that would be created by the project also will perform many of the same functions

as the wetland (filtering and slowing the flow of water). Water quality will be protected from temporary disturbance from construction of the Proposed Action by preventing erosion, sedimentation, and the introduction of contaminants associated with construction equipment within the floodplain. Temporary erosion and sediment controls would be installed over the length of the Project. These measures would be installed prior to disturbance and would remain in place until all slopes are stabilized and revegetated as necessary.

Cost increases attributed to wetland-required new construction and mitigation measures to minimize harm to wetlands that may result from such use.
These wetland areas have been disturbed by development along Fitzgerald Drive, Wickham Avenue, Certified Drive, and Stratton Avenue, including residential and commercial development and Middletown High School. The proposed project activities will be completed in accordance with construction best management practices and all applicable federal, state, and local permits and their requirements and conditions, which will be obtained prior to commencing work. Consequently, there would be no additional anticipated cost increases for mitigation measures to minimize harm to wetlands.

Other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.
The Proposed Action would not change current land use or require the acquisition of additional property and would, therefore, not affect any current uses of the project area.

***Step 5.* Identify methods to minimize the potential adverse impacts within a floodplain and wetland and to restore and preserve the natural and beneficial values.**
Implementation of the Proposed Action will comply with all best management practices and permit requirements and conditions set forth in the applicable Federal, State, and local permits. Best management practices following permit requirements and conditions will be implemented during the construction period and disturbed areas revegetated as appropriate once construction is completed. Water quality will be protected from temporary disturbance from construction of the Proposed Action by preventing erosion, sedimentation, and the introduction of contaminants associated with construction equipment within the floodplain. Temporary erosion and sediment controls would be installed over the length of the Project. These measures would be installed prior to disturbance and would remain in place until all slopes are stabilized and revegetated as necessary. All stockpiled soils would be protected with sediment and erosion control measures in compliance with Section 207-02 of the NYS Department of Transportation Standard Specifications. All necessary precautions would be undertaken to prevent contamination of any streams, channels or waterways by silt, sediment, fuel, solvents, lubricants, epoxy coatings, debris, concrete leachate, or any other pollutant associated with Project construction would be avoided through proper equipment maintenance and washout basins, platforms, nets, and screens for equipment cleaning. Debris or excess construction material would be immediately removed off-site.

Prior to construction, the appropriate permits would be obtained in accordance with 6NYCRR Part 608, Protection of Waters Program; 6NYCRR Part 661, NYSDEC stormwater discharge from construction activities regulations, and Section 401 of the Clean Water Act. An SWPPP would be prepared for the Project. Construction activities related to the Proposed Action would adhere to the requirements of these permits, which include preventing backfill from entering the wetland or protected buffer area, using clean fill, confining equipment and materials storage to upland areas,

and stabilizing disturbed soil. A Clean Water Act Section 404 Permit will be obtained for the Proposed Activity. The proposed Activity would adhere to the conditions of this permit, which requires that steps be taken to avoid impacts to wetlands, streams and other aquatic resources; that potential impacts have been minimized; and that compensation will be provided for all remaining unavoidable impacts.

The project area has been disturbed by development along Fitzgerald Drive, Wickham Avenue, Certified Drive, and Stratton Avenue, including residential and commercial development and Middletown High School that diminish the quality of the wetlands. The open channel and sedimentation ponds that would be created by the project also will perform many of the same functions as the wetland (filtering and slowing the flow of water).

***Step 6.* Reevaluate the Alternatives and Proposed Action.**

The "no action" alternative would not address the purpose and need of the Proposed Action. Not undertaking the Project would not be consistent with the goals and objectives of the Town of Wallkill New York Rising Community Reconstruction Plan to improve water conveyance through the existing system, increase flood flow capacity, and provide additional floodplain storage without negatively without resulting in worse flooding downstream. Under the No Action Alternative, the project area would continue to be subject to future severe flooding, which will cost the Town of Wallkill, Orange County, New York significantly more money in damages over time. The Town would continue to experience main arterial road closures, damage to public infrastructure, and flooding of commercial establishments during storm events. Construction activities will adhere to the conditions of all applicable permits, which will be obtained prior to construction. This will minimize potential temporary adverse impacts on the wetlands during construction.

The impacts of these alternatives will be re-evaluated in response to any public comments received.

***Step 7.* If the only practicable alternative is locating in a floodplain, publish a final public notice.**

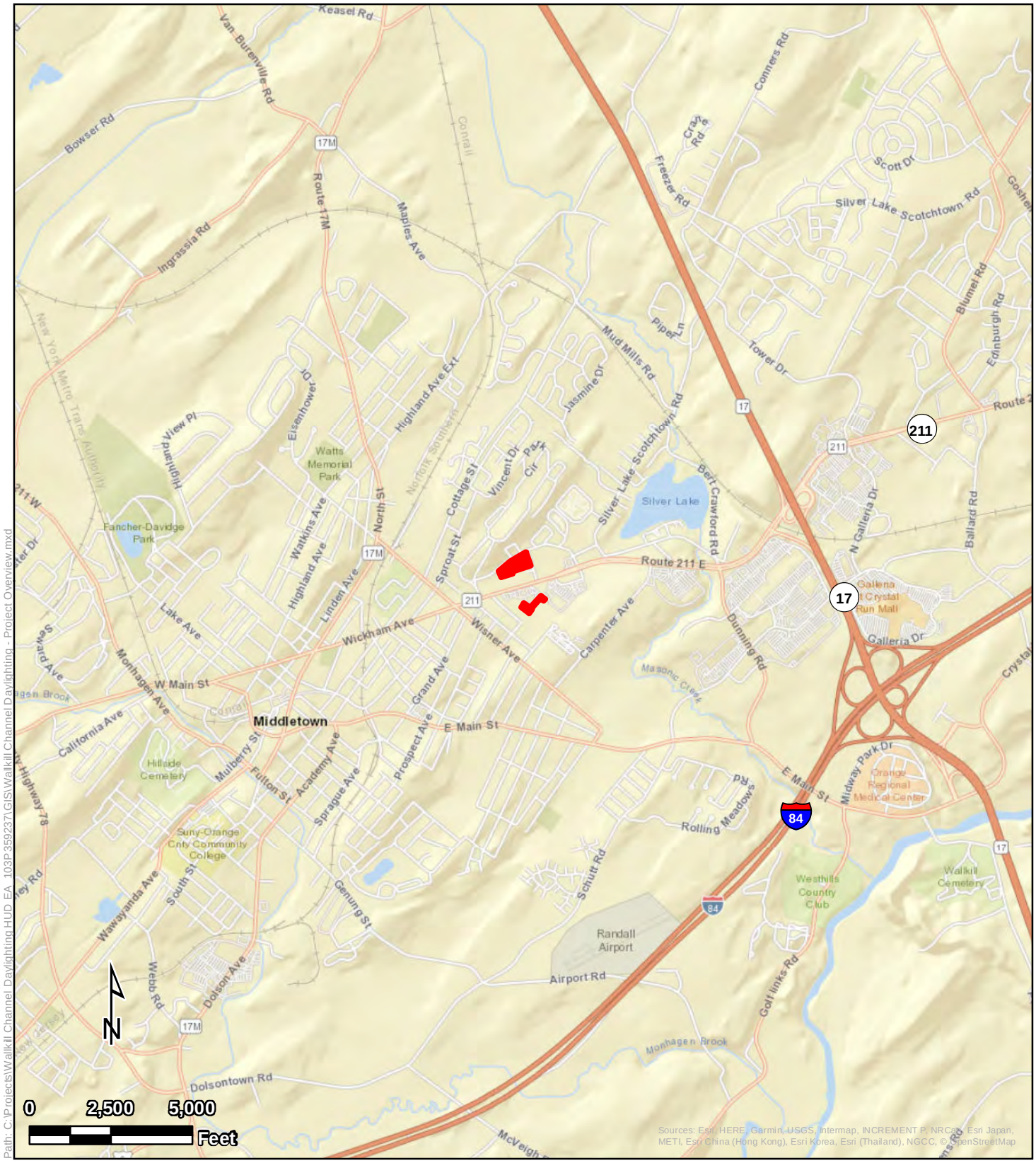
It is the finding of this report that there is no practicable alternative to locating the project in the floodplain and wetlands. The location within floodplain and wetlands cannot be avoided to provide public recreational and educational access to the Sunset Cove tidal area.

A combined Notice of Intent to Release Funds (NOIRROF)/final public notice was published in the Middletown Times Herald Record newspaper by the Governor's Office of Storm Recovery on May 29, 2019, in compliance with Executive Orders 11988 and 11990 and 24 CFR Part 55. The final notice details the reasons why the project must be located in wetlands, a list of alternatives considered, and all mitigation measures taken to minimize adverse impacts and preserve natural and beneficial values of the wetlands. All comments received during the comment period will be addressed prior to funds being committed to the proposed project. The comment period started with the Notice of Intent to Release Funds (NOIRROF)/final public notice on May 29, 2019. The comment period for the Final Notice expires at 5pm on June 13, 2019. The Final Notice was also sent to the following state and Federal agencies on May 29, 2019: the US Army Corps of Engineers, HUD, FEMA, USFWS, EPA, NYSDEC, NY SHPO, NYS Office of Parks, Recreation and Historic Preservation, NYS DOT, and the NYS Division of Homeland Security and Emergency Services. The notice was also sent to the agencies within the Town of Wallkill.

Step 8. **Implement the Proposed Action**

GOSR, operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation, is the responsible entity. GOSR will ensure that the Proposed Action, as described above, is executed and necessary language will be included in all agreements with participating parties. Implementation of the proposed action may require additional local and state permits, which could place additional design modifications or mitigation requirements on the Project. It is acknowledged there is a continuing responsibility by the responsible entity to ensure, to the extent feasible and necessary, compliance with Steps 5 through 7.

Attachments
Figure 1 - Wallkill Channel Daylighting - Project Overview
Figure 2- Wallkill Channel Daylighting - Project Area
Figure 3 - Wallkill Channel Daylighting - Freshwater Wetlands
Figure 4 - North Project Area Wetlands Sketch Map
Figure 5 - South Project Area Wetlands Sketch Map
Site Plans
Early Notice
Affidavit of Publication



Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P-35923\GIS\Wallkill Channel Daylighting - Project Overview.mxd

Project Overview

Legend

Project Location

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 1

Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P35923\GIS\Wallkill Channel Daylighting - Project Area.mxd

Source: ... DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aerogrid, IGN, and the GIS User Community

Project Area

Legend

Project Area

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 2

Path: C:\Projects\Wallkill Channel Daylighting HUD EA_103P35923\GIS\Wallkill Channel Daylighting - Freshwater Wetlands.mxd

Legend

- Project Area
- NYS Freshwater Wetlands
- NYS Freshwater Wetlands Buffer

NWI Wetlands

- Freshwater Forested/Shrub Wetland

Freshwater Wetlands

Wallkill Channel Daylighting
Town of Walkill
Orange County, New York

Tetra Tech, Inc

Figure 3

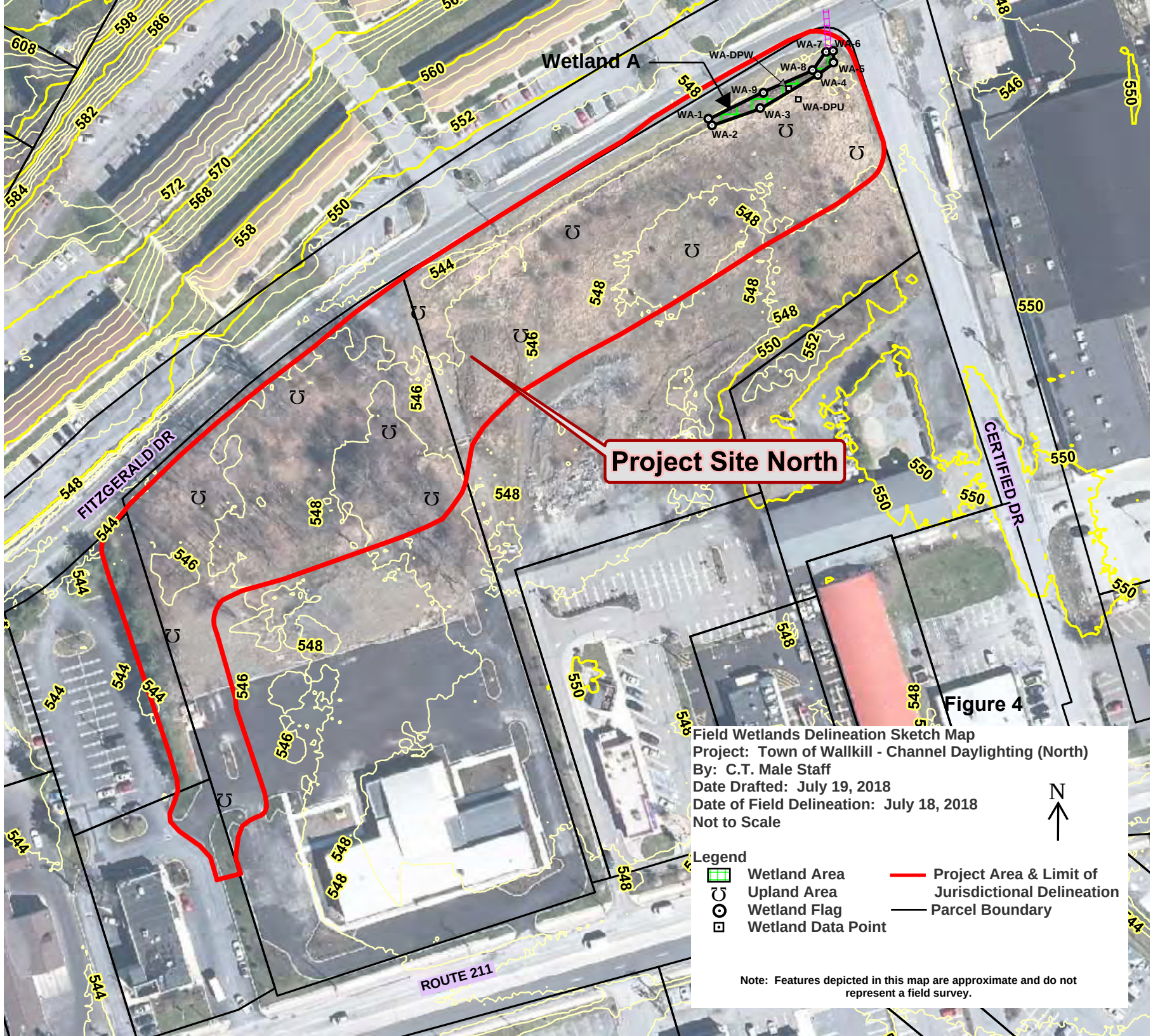


Figure 4

Field Wetlands Delineation Sketch Map
Project: Town of Wallkill - Channel Daylighting (North)
By: C.T. Male Staff
Date Drafted: July 19, 2018
Date of Field Delineation: July 18, 2018
Not to Scale

Legend
- Wetland Area
- Upland Area
- Wetland Flag
- Wetland Data Point
- Project Area & Limit of Jurisdictional Delineation
- Parcel Boundary

Note: Features depicted in this map are approximate and do not represent a field survey.

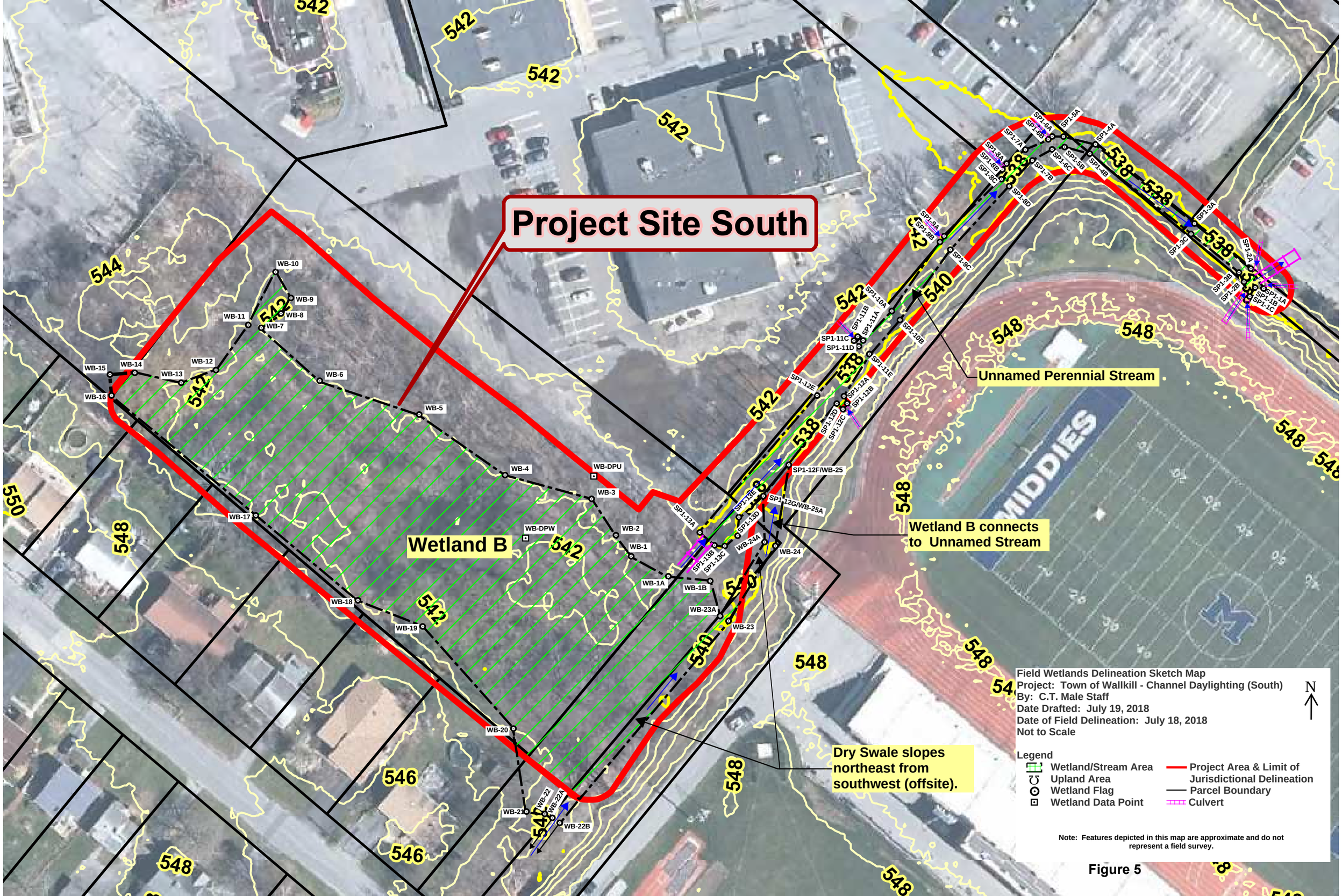
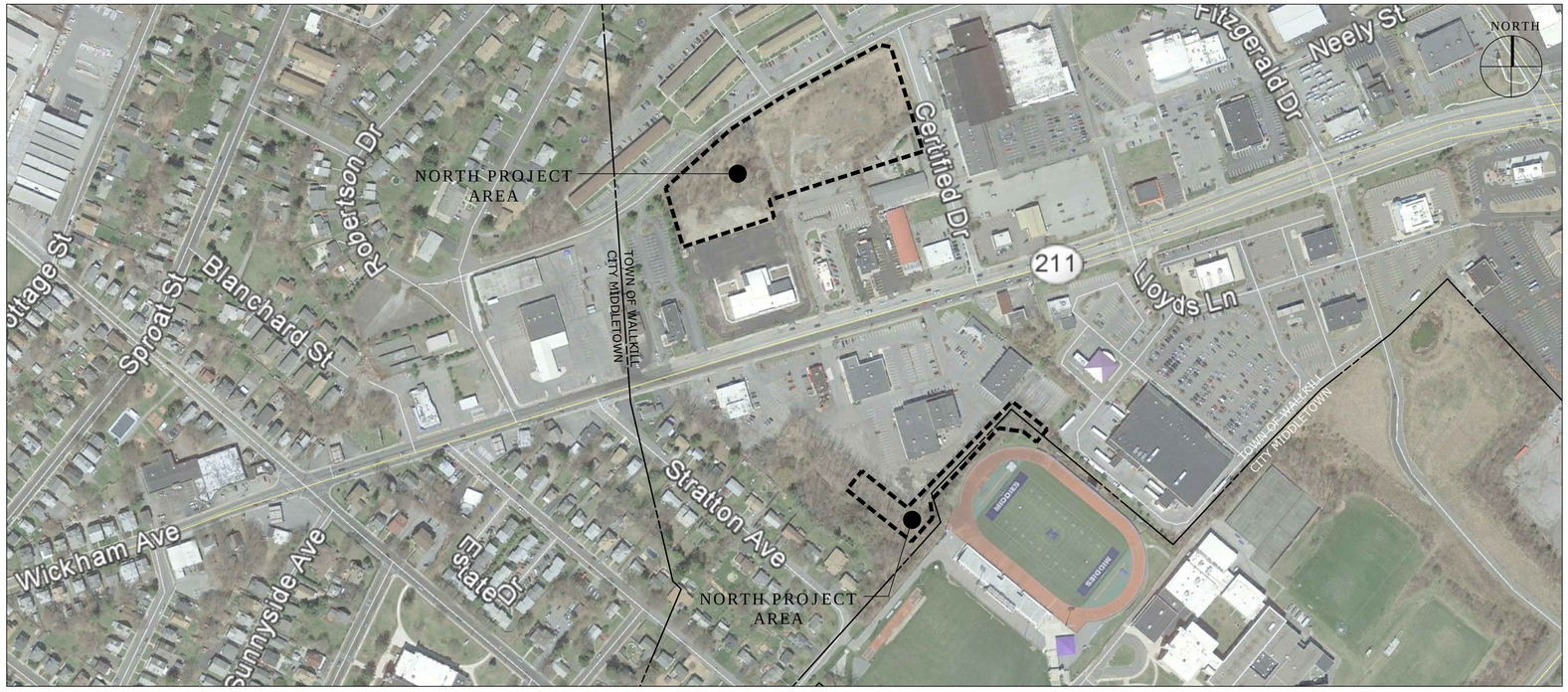

Project Site South
Wetland B
Unnamed Perennial Stream
Wetland B connects to Unnamed Stream
Dry Swale slopes northeast from southwest (offsite).
WB-1
WB-1A
WB-1B
WB-2
WB-3
WB-4
WB-5
WB-6
WB-7
WB-8
WB-9
WB-10
WB-11
WB-12
WB-13
WB-14
WB-15
WB-16
WB-17
WB-18
WB-19
WB-20
WB-21
WB-22
WB-22A
WB-22B
WB-23
WB-23A
WB-24
WB-24A
WB-25
WB-DPU
WB-DPW
SP1-12F/WB-25
SP1-12G/WB-25A
Field Wetlands Delineation Sketch Map
Project: Town of Wallkill - Channel Daylighting (South)
By: C.T. Male Staff
Date Drafted: July 19, 2018
Date of Field Delineation: July 18, 2018
Not to Scale
N
Legend
Wetland/Stream Area
Upland Area
Wetland Flag
Wetland Data Point
Project Area & Limit of Jurisdictional Delineation
Parcel Boundary
Culvert
Note: Features depicted in this map are approximate and do not represent a field survey.

Figure 5

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

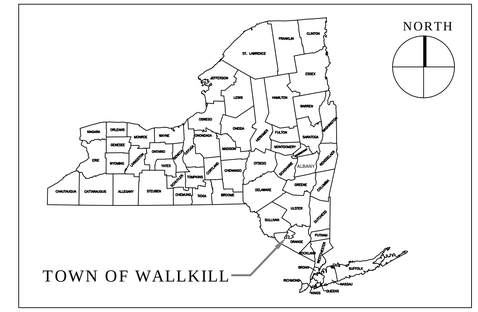
TOWN OF WALLKILL

ORANGE COUNTY, NEW YORK



SITE MAP

SCALE : 1" = 200'



SITE VICINITY MAP

LOCATION PLAN

DRAWING LIST

SHEET#	DWG#	TITLE
01	G-001	COVER SHEET
02	G-002	GENERAL NOTES AND LEGEND
03	C-101	EXISTING CONDITION AND REMOVALS PLAN (NORTH)
04	C-102	EXISTING CONDITION AND REMOVALS PLAN (SOUTH)
05	C-103	PROPOSED CONDITION PLAN (NORTH)
06	C-104	PROPOSED CONDITION PLAN (SOUTH)
07	C-105	EROSION AND SEDIMENT CONTROL PLAN (NORTH)
08	C-106	EROSION AND SEDIMENT CONTROL PLAN (SOUTH)
09	C-301	PROFILES (NORTH)
10	C-302	PROFILES (SOUTH)
11	C-501	DETAILS I
12	C-502	DETAILS II

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C.T. MALE ASSOCIATES

WARNING: IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT IS ALTERED, THE ALTERING ARCHITECT SHALL AFFIX TO HIS ITEM THE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. ARCHITECTURE
- COMMISSIONER'S REGULATIONS PART 69.5.

WARNING: IT IS A VIOLATION OF THIS LAW FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. PROFESSIONAL ENGINEERING AND LAND SURVEYING - ART. 145, SECTION. 7209

C.T. MALE ASSOCIATES

Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.

50 CENTURY HILL DRIVE, LATHAM, NY 518.786.7400
COBLESKILL, NY · GLENS FALLS, NY · HIGHLAND, NY · JOHNSTOWN, NY
LITTLE FALLS, NY · RED HOOK, NY · SYRACUSE, NY

PROJECT NO. 16-6428
DRAWING NO. 18-0200

G-001

FEATURE	SYMBOL	
	PROPOSED	EXISTING
ROADS	ASPHALT MILLINGS ASPHALT CONC	TYPE
SIDEWALKS		TYPE
CURB / GUTTER		TYPE
GRAVEL ROAD/DRIVEWAY		TYPE
BLACK TOP / CONC. DRIVEWAY		TYPE
BOX BEAM / CORRUGATED GUIDE RAIL	TYPE	TYPE
FENCE	SIZE AND TYPE	SIZE AND TYPE
STONE WALL		
RAILROAD		
DITCH		
STREAM / RIVER		
POND/LAKE BOUNDARY		
RIPRAP		
ROCK OUTCROP		
CONTOURS	100	100
BASE LINE / TRAV. PT.		BL
BUILDING		
EASEMENT LINE		
COUNTY / CITY BOUNDARY	TYPE	TYPE
ROAD CENTERLINE		
PROPERTY LINE		
R.O.W. / ST / HWY BDY		
CAPPED IRON ROD FOUND		CIRF
CAPPED IRON ROD SET		CIRS
IRON PIPE/ROD FOUND		IPF IRF
SQUARE/TRIANGULAR MONUMENT	SMON TMON	SMON TMON
TRAVERSE/BASE LINE POINT		BL
BENCH MARK		BENCHMARK FOUND "X" CUT HYD. BOLT ELEVATION=742.40'
SPOT ELEVATION	+ELEV	+ELEV
SOIL BORING/GEOPROBE/PAVE CORE	SB GP PC	SB GP PC
TEST PIT	TP	TP
EDGE OF WOODS		
DECIDUOUS/CONIFEROUS TREE		
DECIDUOUS/CONIFEROUS SHRUB		SHRUB SHRUB
STUMP		STUMP
HEDGE		
MAIL BOX RESIDENCE		MB
U.S. MAIL BOX		USMB
NEWSPAPER BOX		NB
SIGN / BILLBOARD		
N.Y.S. MILE MARKER		MILE MARKER 7 1410 2307
SILT FENCE		
WETLANDS DELINEATION FLAG	WLF	WLF C-14
WETLANDS		WLF-C-14 WLF C-13

FEATURE	SYMBOL	
	PROPOSED	EXISTING
UTILITY POLE		NUMBER
UTILITY POLE w/LIGHT		NUMBER
UTILITY POLE w/GUY		NUMBER
STREET LIGHT		
YARD LIGHT		YL
LAMP POST	LP	LP
ELECTRIC MANHOLE	EMH	EMH
ELECTRIC METER		EMTR
TRANSFORMER	TRANS	TRANS
HAND HOLE	HH	HH
TRAFFIC SIGNAL SUPPORT POLE	SSP	SSP
TRAFFIC SIGNAL POLE	TSP	TSP
TRAFFIC SIGNAL BOX	TSB	TSB
TRAFFIC SIGNAL HEAD		
POLICE / FIRE CALL BOX	PCB FCB	PCB FCB
SANITARY SEWER	SIZE AND TYPE SS	SIZE AND TYPE SS
FORCE MAIN	SIZE AND TYPE FM	SIZE AND TYPE FM
SANITARY MANHOLE	SMH	SMH
CLEAN OUT	CO	CO
STORM SEWER	SIZE AND TYPE ST	SIZE AND TYPE ST
CULVERT w/ END SECTION & PLAIN END	ES SIZE AND TYPE ST	ES SIZE AND TYPE ST
STORM MANHOLE	STMH	STMH
CATCH BASINS	CB CBCI CBR	CB CBCI CBR CB
WATER LINE	SIZE AND TYPE W	SIZE AND TYPE W
WATER VALVE	WV	WV
FIRE HYDRANT	HYD	HYD
CURB STOP	WSO	WSO
WATER MANHOLE	WMH	WMH
WELL	WELL	WELL
GAS LINE	SIZE AND TYPE G	SIZE AND TYPE G
GAS VALVE	GV	GV
GAS DRIP	GD	GD
GAS TEST	GT	GT
ELECTRIC MANHOLE	EMH	EMH
UNDERGROUND ELECTRIC	UE	UE
OVERHEAD ELECTRIC	E	E
OVERHEAD WIRES		OHW
UNDERGROUND TELEPHONE	UT	UT
TELEPHONE MANHOLE	TMH	TMH
TELEPHONE PEDESTAL		TPED
UNDERGROUND CABLE T.V.	UCATV	UCATV
CABLE T.V. PEDESTAL		CPED

SITE PLAN NOTES:

1. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY BOUNDARY MONUMENTATION. ANY MONUMENTATION THAT HAS BEEN DISTURBED OR DESTROYED, AS JUDGED BY THE SURVEYOR, ENGINEER OR OWNER, SHALL BE REPLACED BY A NYS LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
2. THE OWNER AND CONTRACTOR(S) SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: NYS FIRE CODE, NYS BUILDING CODE, NATIONAL ELECTRIC CODE, AND WORKER HEALTH AND SAFETY LAWS AND REGULATIONS. CONTRACTOR SHALL COMPLY WITH THE CONDITIONS OF ALL APPLICABLE PERMITS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY AND SAFELY MAINTAINING CONSTRUCTION ACTIVITY WITHIN THE LIMITS OF THE CONSTRUCTION SITE.
4. NO WORK, STORAGE, OR TRESPASS IS ALLOWED BEYOND THE SITE PROPERTY LINES OR PUBLIC RIGHTS-OF-WAY.
5. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE CONTRACT DRAWINGS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE CONTRACT DRAWINGS WITHOUT PRIOR REVIEW AND ACCEPTANCE BY THE ENGINEER.
6. PAVEMENT DIMENSIONS ARE TO FACE OF CURB, UNLESS OTHERWISE NOTED.
7. NOTIFY THE ENGINEER OF ANY CONDITIONS THAT DEVIATE FROM THOSE SHOWN ON THE CONTRACT DRAWINGS.
8. THE CONTRACTOR SHALL RESTORE EXISTING FEATURES (I.E., LAWNS, DRIVEWAYS, CULVERTS, SIGNS, ETC.) THAT HAVE BEEN DISTURBED DURING CONSTRUCTION TO A CONDITION AT LEAST AS GOOD AS THEY WERE PRIOR TO SAID DISTURBANCE. FEATURES SHALL EITHER BE PROTECTED OR REMOVED AND REPLACED IN-KIND AS THEY WERE PRIOR TO THEIR REMOVAL, AS DETERMINED BY THE ENGINEER. ANY DAMAGED FEATURES SHALL BE REPLACED IN-KIND AT THE CONTRACTOR'S EXPENSE.

"ONLY COPIES OF THIS MAP SIGNED IN RED INK AND EMBOSSED WITH THE SEAL OF AN OFFICER OF C.T. MALE ASSOCIATES OR A DESIGNATED REPRESENTATIVE SHALL BE CONSIDERED TO BE A VALID TRUE COPY".

GENERAL NOTES:

1. CONTRACTOR MUST ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER AND OWNER PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL HIRE A PROFESSIONAL LICENSED LAND SURVEYOR TO LOCATE ALL EXISTING PROPERTY CORNERS AND HIGHWAY MONUMENTATION THAT WILL BE DISTURBED BY CONTRACTOR AND REPLACE THEM UPON COMPLETION OF THE PROJECT.
3. RIGHT-OF-WAY AND BOUNDARY LINES SHOWN ARE APPROXIMATE AND ARE INTENDED FOR REFERENCE ONLY.
4. NO WORK, STORAGE OR TRESPASS SHALL BE PERMITTED BEYOND THE BOUNDARIES OF ANY RIGHT-OF-WAYS WITHOUT WRITTEN PERMISSION OF THE PROPERTY OWNER.
5. ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATION ONLY. THEIR EXACT LOCATION SHALL BE VERIFIED AT THE SITE BEFORE CONSTRUCTION BEGINS. CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK AT 1-800-968-7962 PRIOR TO EXCAVATION. CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF NYS CODE RULE 753 (16 NYCRR PART 753)
6. ANY AND ALL EXISTING PIPE IF DAMAGED BY THE CONTRACTOR SHALL BE REPLACED IN KIND WITH NEW PIPE AT THE CONTRACTORS EXPENSE.
7. THE CONTRACTOR'S WORK SHALL ACCOMMODATE THE CONTINUED OPERATION OF THE COMMERCIAL PROPERTY BUSINESSES DURING ITS NORMAL BUSINESS HOURS.
8. CONTRACTOR SHALL SAW CUT ALL PAVEMENT, ROADS AND DRIVEWAYS TO BE DISTURBED DURING CONSTRUCTION. ALL ROADS, DRIVEWAYS AND PARKING LOTS SHALL RECEIVE TEMPORARY PAVEMENT UNTIL FINAL ROAD/DRIVE/PARKING LOT RESTORATION.
9. CONTRACTOR SHALL RESTRAIN ALL UTILITY POLES TO UTILITY OWNER'S REQUIREMENTS AS REQUIRED DURING CONSTRUCTION.
10. SEWER MAINS (BOTH STORM AND SANITARY) IN RELATION TO WATER MAINS: WHERE POSSIBLE, WATER MAINS SHALL BE LAID AT LEAST 10(TEN) FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER MAIN. VERTICAL SEPARATION SHALL BE MAINTAINED TO PROVIDE 18(EIGHTEEN) INCHES BETWEEN TOP OF SEWER AND THE INVERT OF THE WATER MAIN AT UTILITY CROSSING. WHEN IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION, PRESSURE RATED SEWER PIPE SHALL BE USED 10(TEN) FEET ON EACH SIDE OF THE WATER MAIN BEING CROSSED.
11. CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, PARKING LOTS, WALKS, CURBS, WALLS, FENCES ETC. TO A CONDITION AT LEAST AS GOOD AS THEY WERE BEFORE BEING DISTURBED. MAILBOXES, POSTS, ETC., SHALL BE PROTECTED OR REMOVED AND REPLACED AS THEY WERE BEFORE BEING DISTURBED OR AS DIRECTED BY ENGINEER. DAMAGED ITEMS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
12. BOX ALL TREES AND HOUSE ALL SHRUBS & HEDGES BEFORE PLACING EARTH AGAINST OR NEAR THEM. SHRUBS & HEDGES WHICH MUST BE REMOVED DURING CONSTRUCTION SHALL BE HEALED IN AND REPLANTED IN AS GOOD A CONDITION AS THEY WERE BEFORE THEIR REMOVAL, ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
13. SILTATION PREVENTION/EROSION CONTROL MEASURES SHOWN ARE A MINIMUM. CONTRACTOR HAS THE RESPONSIBILITY TO PREVENT SILTATION OF WETLANDS, STREAMS, WATERWAYS, DRAINAGE STRUCTURES AND DRAINAGE PIPES FROM THE WORK SITE.
14. TRENCH DEWATERING SHALL BE CONDUCTED USING A PORTABLE PUMP AND HOSE, AS NECESSARY. EXCESS WATER SHALL BE PUMPED TO A DEWATERING STRUCTURE OR GEOTEXTILE FILTER BAG LOCATED IN A WELL VEGETATED UPLAND AREA. WHEN COMPLETED, ALL DEPOSITED SEDIMENTS SHALL BE DISPOSED OF OFF-SITE.
15. EROSION CONTROL FABRIC SHALL BE USED ON ALL SLOPES STEEPER THAN 1V:3H AND MORE THAN 5 FEET HIGH.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL REQUIREMENTS ON STATE AND LOCAL ROADS.
17. CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER OR DESIGNATED REPRESENTATIVE 8 HOURS IN ADVANCE OF PERFORMING ANY WORK ON THEIR PROPERTY.
18. SITE REMOVALS: CONTRACTOR SHALL LEGALLY DISPOSE OF REMOVED ITEMS.
19. MAINTAIN EMERGENCY ACCESS ON ALL ROADS AT ALL TIMES.
20. AT THE END OF EACH WORK DAY, THE JOBSITE SHALL BE LEFT IN A CLEAN AND SAFE CONDITION. ALL ROADS SHALL BE SWEPT CLEAN. WATER SHALL BE USED DURING SWEEPING TO MINIMIZE AIRBORNE DUST.
21. PROVIDE FOR AN INDEPENDENT UTILITY LOCATOR TO LOCATE AND MARK ALL UTILITIES ON THE SITE PRIOR TO THE START OF WORK. CONTRACTOR SHALL MAINTAIN THE MARKOUTS.
22. RESTRAIN ALL UTILITY POLES IN ACCORDANCE WITH FACILITY/UTILITY OWNER REQUIREMENTS. COORDINATE AND PAY FOR UTILITY OWNER TO RESTRAIN POLES, IF NECESSARY.
23. USE NATIVE SOIL OR OTHER MATERIAL SUCH AS PLYWOOD UNDER TRACKS OF EQUIPMENT TO PROTECT PAVEMENT, REMOVE AND SWEEP AT END OF EACH WORK DAY.
24. ALL PAVEMENT SHALL BE SAWCUT FULL DEPTH PRIOR TO EXCAVATING. AT THE END OF THE PROJECT ALL DISTURBED PAVEMENT SHALL BE REPLACED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ADDITIONAL SAW CUTTING MAY BE REQUIRED IF TRENCH WALLS COLLAPSE OR IF EXISTING PAVEMENT EDGES ARE DAMAGED
25. ADEQUATE RECORDS SHALL BE MAINTAINED, INCLUDING THE LOCATION AND DISTANCE FROM TWO PERMANENT POINTS AND DEPTH FOR ALL NEW AND EXISTING UTILITIES FOUND.
26. CLEAR AND GRUB EXISTING VEGETATION, REGARDLESS OF SIZE, NECESSARY TO INSTALL THE WORK OF THE CONTRACT. REMOVE ALL ABOVE GROUND PORTIONS OF PLANTS. GRUB ALL BELOW GROUND PORTIONS OF PLANTS TO A MINIMUM OF 6" BELOW FINISH GRADE IN LAWN AREAS. COMPLETELY REMOVE ALL BELOW GROUND PORTIONS OF PLANTS IN AREAS TO BE COVERED WITH BUILDINGS AND OTHER STRUCTURES, PAVEMENTS AND PLANTING BEDS. ALL INDIVIDUAL TREES INDICATED FOR REMOVAL ARE TO BE REMOVED IN THEIR ENTIRETY, INCLUDING ALL ABOVE AND BELOW GROUND PORTIONS. PRESERVE AND PROTECT ALL EXISTING VEGETATION NOT INDICATED TO BE REMOVED AND OTHER VEGETATION OUTSIDE THE CLL/GLL NOT REQUIRED TO BE DISTURBED BY THE WORK OF THIS CONTRACT, AND RELATED CONTRACTS. PROVIDE FENCES, BARRICADES AND OTHER SUITABLE DEVICES TO PREVENT DAMAGE BY VEHICLES. RESTRICT VEHICULAR TRAFFIC TO AREAS OUTSIDE THE DRIP LINE OF TREES. PREVENT COMPACTION OF SOIL WITHIN THE DRIP LINE OF TREES AND SHRUBS. DO NOT DRIVE OR PARK VEHICLES ON LAWNS.
27. STRIP ALL EXISTING ORGANIC SOILS FROM ALL AREAS WITHIN THE GRADING LIMIT LINE WHERE EXCAVATION OR FILL IS REQUIRED. UNCONTAMINATED ORGANIC SOILS FROM LAWN AND LANDSCAPED AREAS WILL BE ACCEPTABLE FOR RE-USE AS TOPSOIL. STOCKPILE ALL STRIPPED ORGANIC SOIL AS DIRECTED BY THE DIRECTOR'S REPRESENTATIVE. DO NOT STOCKPILE NON-ORGANIC MINERAL SOIL OR OTHER CONTAMINATED MATERIALS WITH TOPSOIL. PROTECT FROM DAMAGE ALL EXISTING PHYSICAL FEATURES ON THE SITE NOT INDICATED OR REQUIRED TO BE REMOVED FOR THE WORK. RESTORE TO THEIR ORIGINAL CONDITION ALL EXISTING PHYSICAL FEATURES DAMAGED BY THE UNAUTHORIZED ACT OR OMISSION OF THE CONTRACTOR. ORIGINAL CONDITION SHALL MEAN THE CONDITION IN WHICH THE FEATURE WAS FOUND AT THE START OF THE WORK.
28. FINE GRADE, TOPSOIL, SEED AND MULCH ALL AREAS DISTURBED BY THE WORK OF THIS CONTRACT AND NOT SPECIFIED TO BE COVERED BY BUILDINGS, PAVEMENTS, OR OTHER FINISHED SURFACE. RESTORE ALL EXISTING CONSTRUCTION TO ORIGINAL CONDITION, UNLESS SHOWN OR DIRECTED OTHERWISE.
29. ALL TRENCH EXCAVATION AND ANY SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE N.Y.S. INDUSTRIAL CODE RULE 23 AND OSHA REGULATIONS FOR CONSTRUCTION.
30. TEST PITS NECESSARY FOR EXISTING CONDITION VERIFICATION SHALL BE BACKFILLED BEFORE THE END OF THE WORK DAY WITH WELL COMPACTED SELECTED FILL PLACED IN SIX (6") LIFTS. NO TEST PIT SHALL BE LEFT OPEN DURING NIGHT PERIODS.
31. THE CONTRACT LIMIT LINE (CLL) AND GRADING LIMIT LINE (GLL) SHALL BE ONE AND THE SAME. ALL REFERENCES TO THE GRADING LIMIT LINE SHALL BE CONSIDERED THE CONTRACT LIMIT LINE.
32. UNDERGROUND UTILITIES, INCLUDING EXISTING WATER MAINS, ARE SHOWN FROM FIELD LOCATIONS WHERE POSSIBLE AND FROM RECORD DATA WHERE FOUND. EXACT LOCATION OF UTILITIES MAY DIFFER FROM THE LOCATION SHOWN, AND ADDITIONAL UTILITIES MAY EXIST. VERIFY THE PRESENCE OF AND EXACT LOCATION OF ALL UTILITIES WITHIN THE AREAS OF WORK PRIOR TO COMMENCING ANY EXCAVATION WORK PURSUANT TO THE CONTRACT DOCUMENTS.
33. PROVIDE EMERGENCY PHONE NUMBERS FOR NIGHT AND WEEKEND EMERGENCY CONTACT. HAVE A CREW AVAILABLE TO PERFORM EMERGENCY MAINTENANCE AND REPAIR WORK AS NECESSARY TO MAINTAIN ALL UTILITY SERVICES TO THE FACILITY DURING THE DURATION OF THE CONSTRUCTION PROJECT.
34. ALL TOPSOIL TO BE USED FOR CONSTRUCTION SHALL BE IMPORTED FROM OFFSITE SOURCES AND SHALL BE COMPLIANT WITH NYSDOT TOPSOIL SPECIFICATIONS FOR LAWNS.

DEMOLITION NOTES:

1. REFER TO DRAWING C-101 FOR DEMOLITION/REMOVAL NOTES.

GRADING PLAN NOTES:

1. THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS HAVING UNDERGROUND UTILITIES ON-SITE OR IN THE RIGHT-OF-WAY THAT MAY BE AFFECTED BY THE WORK, PRIOR TO EXCAVATING AND SITE GRADING.
2. SITE GRADING SHALL NOT PROCEED UNTIL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE PATTERNS DURING THE COURSE OF THE WORK.
4. EARTHWORK SHALL BE SMOOTHLY AND EVENLY BLENDED INTO EXISTING CONDITIONS. IN THE EVENT THAT WORK OUTSIDE OF DESIGNATED LIMITS OF CONSTRUCTION IS NECESSARY, THE PERMISSION OF THE PROPERTY OWNER MUST FIRST BE OBTAINED BEFORE COMMENCING SUCH WORK.
5. BOX TREES, SHRUBS, AND HEDGES TO REMAIN BEFORE PLACING EARTH AGAINST OR NEAR THEM. SHRUBS AND HEDGES, WHICH MUST BE REMOVED TO PERFORM THE WORK, SHALL BE HEALED IN AND REPLANTED IN AS GOOD A CONDITION AS THEY WERE BEFORE THEIR REMOVAL. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES INTENDED TO REMAIN SHALL BE REPLACED IN SIMILAR SIZE AND SPECIES AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING, BARRICADES, OR OTHER SUITABLE PROTECTION LOCATED OUTSIDE THE DRIP LINE (OUTER PERIMETER OF BRANCHES) TO PROTECT TREES AND OTHER PLANTS INTENDED TO REMAIN FROM DAMAGE.

GEOTECHNICAL NOTES:

1. SOIL BORINGS WERE PREPARED TO DESIGN FLOOD CONTROL BASIN & DETENTION BASIN. INFORMATION GATHERED CAN BE FOUND IN THE APPENDIX OF THE SWPPP.
2. INFILTRATION TESTING WAS PERFORMED TO DESIGN THE STORMWATER INFILTRATION BASINS. THE TESTING RESULTS ARE INCLUDED IN THE APPENDIX OF THE SWPPP.

SAFETY NOTES:

1. SAFETY PRECAUTIONS THROUGHOUT THE DURATION OF THE WORK SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT AND THOSE OF RELEVANT REGULATORY AGENCIES. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ON-SITE SUFFICIENT PROPER AND EFFICIENT LIFE SAVING APPLIANCES IN ACCORDANCE WITH OSHA REGULATIONS PART 1926, SUBPART E, WORKING OVER OR NEAR WATER. THESE LIFE SAVING APPLIANCES SHALL BE READILY AVAILABLE FOR USE AT ALL TIMES AND SITE PERSONNEL SHALL BE FULLY TRAINED AND CONVERSANT WITH THEIR USE.
2. MAINTAIN SIDES AND SLOPES OF EXCAVATIONS IN A SAFE CONDITION UNTIL COMPLETION OF BACKFILLING. COMPLY WITH THE REQUIREMENTS OF REGULATORY AGENCIES RELATING TO EXCAVATION, SHEETING, AND SHORING REQUIREMENTS, INCLUDING:
   a. SUBPART 23-4, "EXCAVATION OPERATIONS", OF THE NEW YORK STATE DEPARTMENT OF LABOR INDUSTRIAL CODE RULE 23.
   b. SUBPART P, "EXCAVATIONS", OF THE UNITED STATES DEPARTMENT OF LABOR OSHA REGULATIONS FOR CONSTRUCTION.
3. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL WORKER HEALTH AND SAFETY LAWS AND REGULATIONS.
4. ALL MUNICIPAL, COUNTY, STATE, OR FEDERAL ORDINANCES, REGULATIONS, OR LAWS AND ALL REQUIREMENTS OF NECESSARY PERMITS AND APPROVALS OBTAINED BY THE CONTRACTOR SHALL BE OBSERVED.

EROSION CONTROL NOTES:

1. REFER TO DRAWINGS C-104 AND C-105 FOR EROSION CONTROL DETAILS AND NOTES.

MAP REFERENCES:

1. "WALLKILL STREAM DAYLIGHT PROJECT FOR TOWN OF WALLKILL BOUNDARY & TOPOGRAPHIC SURVEY, O&B REALTY CORP. SEC. 50, BLK.2, LOT 32.12" TOWN OF WALLKILL, ORANGE COUNTY, DATED NOVEMBER 8, 2017, AND LAST REVISED MAY 14, 2018, SHEET NO. 1 OF 2.
2. "WALLKILL STREAM DAYLIGHT PROJECT FOR TOWN OF WALLKILL BOUNDARY & TOPOGRAPHIC SURVEY, O&B REALTY CORP. SEC. 50, BLK.2, LOT 32.12" TOWN OF WALLKILL, ORANGE COUNTY, DATED NOVEMBER 8, 2017, AND LAST REVISED MAY 14, 2018, SHEET NO. 2 OF 2.

PRELIMINARY

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GENERAL NOTES AND LEGEND

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

C.T. MALE ASSOCIATES
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G-002
SHEET 02 OF 12
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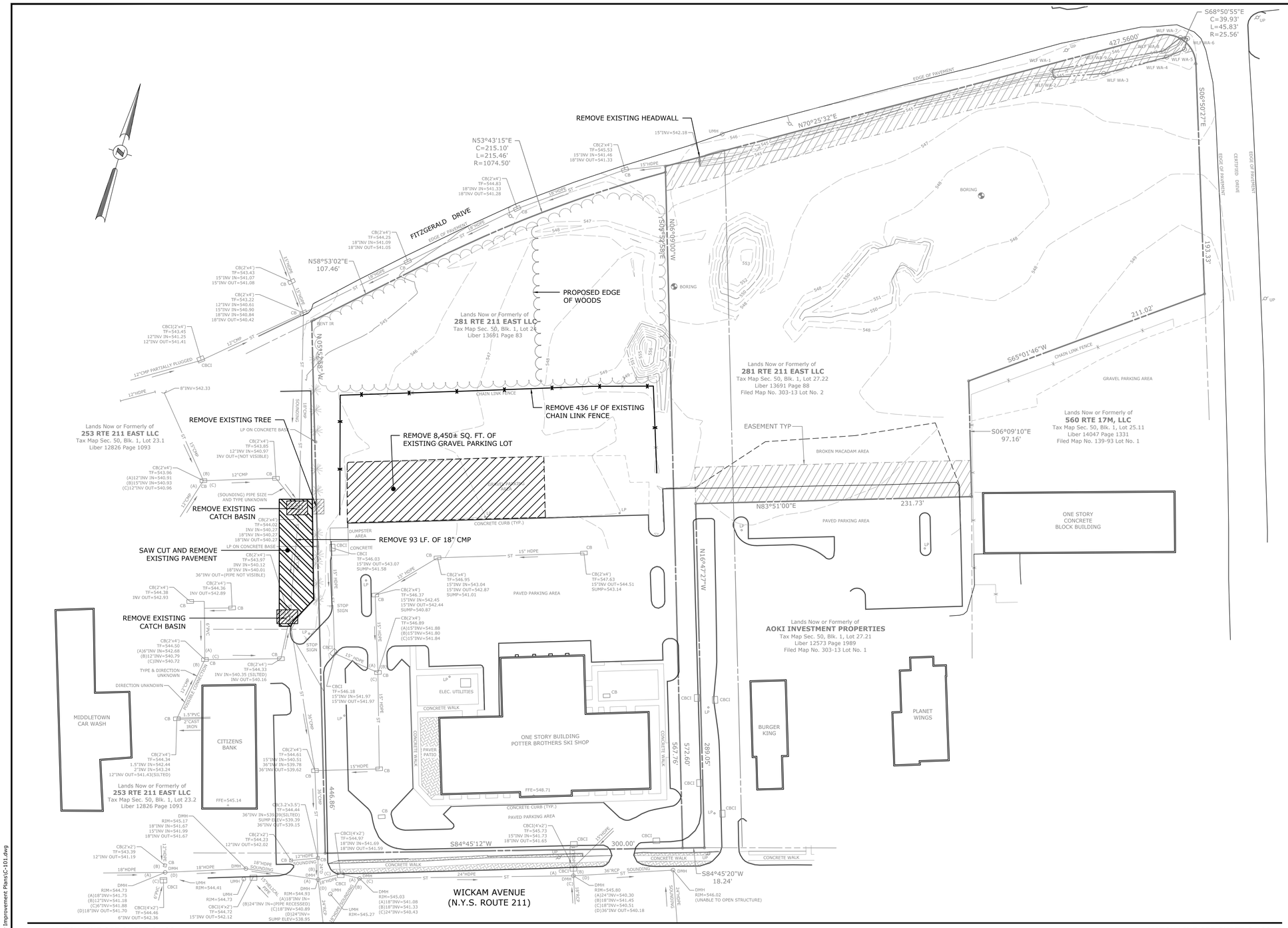

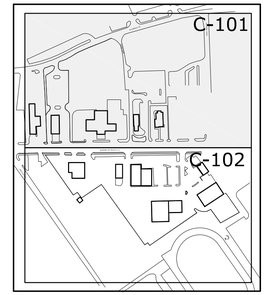

KEY MAP

SCALE: NONE

DEMOLITION/REMOVAL NOTES:

1. PRIOR TO DEMOLISHING ANY STRUCTURES, THE CONTRACTOR SHALL PERFORM A PRE-DEMOLITION SURVEY IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS GOVERNING THE DISPOSAL OF SOLID WASTE. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE AUTHORITY HAVING JURISDICTION (AHJ).
2. DEMOLITION DEBRIS, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL MATERIAL, AND CONSTRUCTION REFUSE SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF OFF THE PROPERTY, IN ACCORDANCE WITH APPLICABLE REGULATIONS. WHEN REMOVING AND TRANSPORTING SAID ITEMS, DO SO IN A MANNER THAT PREVENTS SPILLAGE ON ADJACENT SURFACES AND AREAS, IN ACCORDANCE WITH APPLICABLE REGULATIONS. BURNING IS PROHIBITED.
3. CONFORM TO APPLICABLE CODES FOR DEMOLITION OF STRUCTURES, PRESERVATION OF ADJACENT STRUCTURES, DUST CONTROL, RUNOFF CONTROL, AND HAULING/DISPOSAL/STORAGE OF DEBRIS.
4. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES AS NECESSARY.
5. LIMIT THE REMOVAL OF VEGETATION, TREES, STUMPS, GRASSES, ORGANIC SOILS, DEBRIS, AND DELETERIOUS MATERIALS WITHIN THE LIMITS OF CONSTRUCTION, TO THE MINIMUM NECESSARY TO PERFORM THE WORK.
6. STRIP ALL TOPSOIL WITHIN THE WORK AREA, PRIOR TO COMMENCING EARTHWORK OPERATIONS. TOPSOIL MAYBE STORED/REUSED IN LAWN AND PLANTING AREAS IF DEEMED ACCEPTABLE FOR REUSE BY THE ENGINEER AND/OR LANDSCAPE ARCHITECT.
7. THE CONTRACTOR SHALL VERIFY THE LOCATION AND STATUS OF ALL UTILITY SERVICES ENCOUNTERED PRIOR TO SCHEDULING A PLANNED INTERRUPTION. MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING OPERATIONAL FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY THE OWNER AND THE AUTHORITIES HAVING JURISDICTION.
8. NOTIFY ADJACENT OWNERS OF ANY ACTIVITIES THAT MAY AFFECT THEIR PROPERTY OR NORMAL OPERATIONS INCLUDING, POTENTIAL NOISE, UTILITY OUTAGE, OR DISRUPTION. COORDINATE PLANNED DISRUPTIONS WITH OWNER, AS NECESSARY.
9. PREVENT MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES THAT MAY BE IMPACTED BY THE PROPOSED WORK. PROVIDE BRACING AND SHORING, AS NECESSARY. CEASE OPERATIONS IMMEDIATELY IF ADJACENT STRUCTURES APPEAR TO BE IN DANGER. NOTIFY AUTHORITY HAVING JURISDICTION.
10. UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATIONAL PURPOSES ONLY. THEIR EXACT LOCATION SHALL BE FIELD VERIFIED BEFORE CONSTRUCTION BEGINS. DISCONNECT AND SEAL, OR CAP-OFF, UTILITY SERVICES THAT WILL BE AFFECTED BY THIS PROJECT. NOTIFY AFFECTED UTILITY OWNERS BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE PROGRESSING WITH THE WORK.
11. PROTECT EXISTING FEATURES THAT ARE NOT INTENDED TO BE DEMOLISHED.
12. CONDUCT DEMOLITION OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC AND PRIVATE ACCESS.
13. MAINTAIN INGRESS AND EGRESS TO THE SITE AT ALL TIMES. DO NOT CLOSE OR OBSTRUCT PUBLIC ROADWAYS, OR SIDEWALKS WITHOUT OBTAINING NECESSARY PERMITS/APPROVALS.
14. ROUGH GRADE AREAS AFFECTED BY DEMOLITION AND PLACE COMPACTED FILL TO MAINTAIN SITE GRADES.
15. CONDUCT DEMOLITION/REMOVAL OPERATIONS IN A MANNER THAT PREVENTS INJURY TO PERSONS AND DAMAGE TO ADJACENT BUILDINGS/STRUCTURES AND FACILITIES THAT ARE TO REMAIN. ENSURE SAFE PASSAGE OF PERSONS AND VEHICLES AROUND THE SELECTIVE DEMOLITION OPERATIONS.
16. USE WATER MIST, TEMPORARY ENCLOSURES AND/OR OTHER SUITABLE METHODS TO LIMIT THE SPREAD OF DUST AND DIRT DURING SELECTIVE DEMOLITION OPERATIONS. COMPLY WITH APPLICABLE ENVIRONMENTAL PROTECTION REGULATIONS DURING SELECTIVE DEMOLITION OPERATIONS. DO NOT USE WATER WHEN IT HAS THE POTENTIAL TO CAUSE DAMAGE TO EXISTING CONSTRUCTION, SUCH AS ICING, FLOODING, AND POLLUTION.

BAR SCALE

40 0 20 40 80

1 inch = 40 ft.

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EXISTING CONDITIONS AND REMOVALS PLAN (NORTH)

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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C-101

SHEET 03 OF 12

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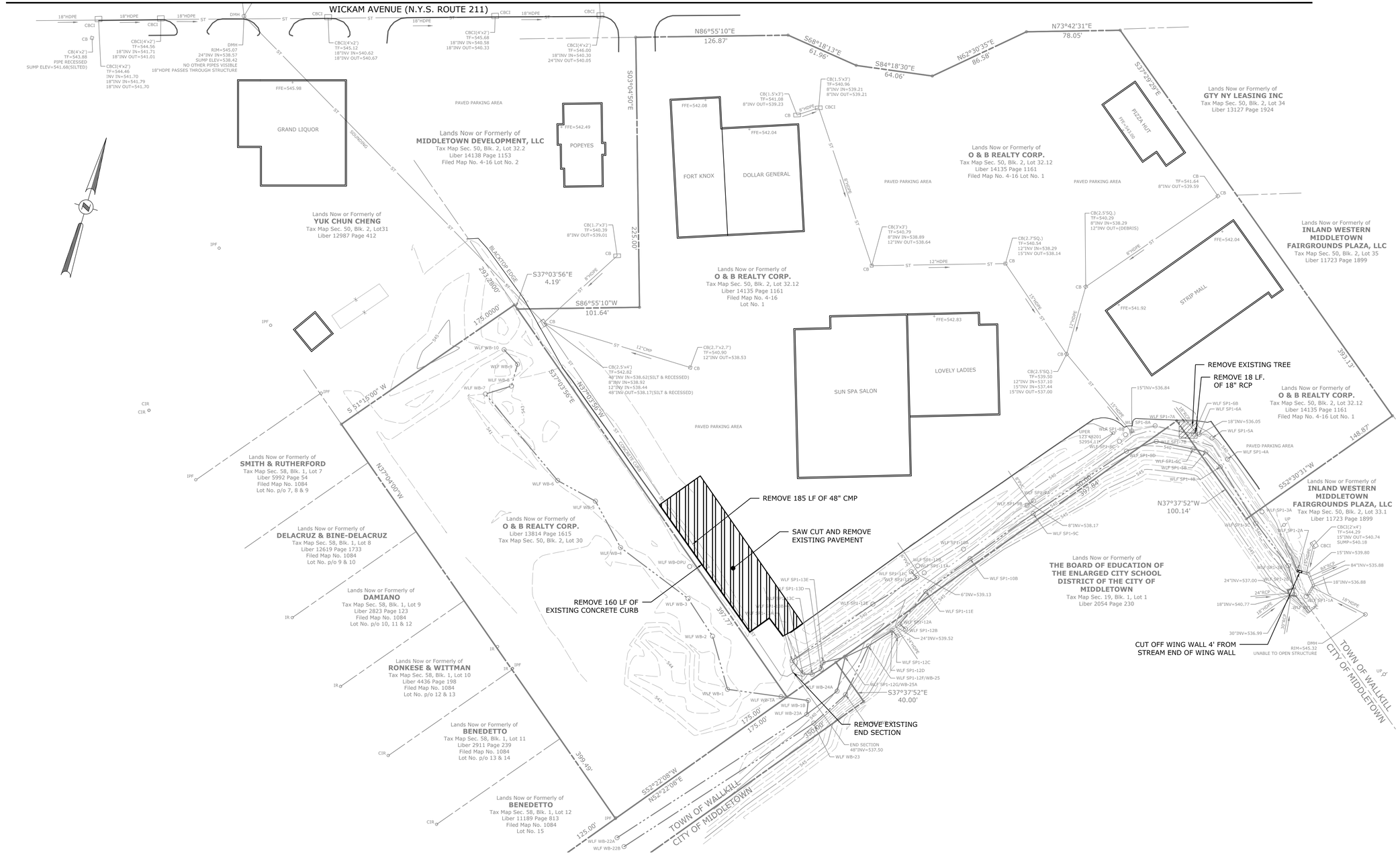

KEY MAP
SCALE: NONE

CAD DWG. FILE NAME: C-102.dwg

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

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EXISTING CONDITIONS AND REMOVALS PLAN (SOUTH)

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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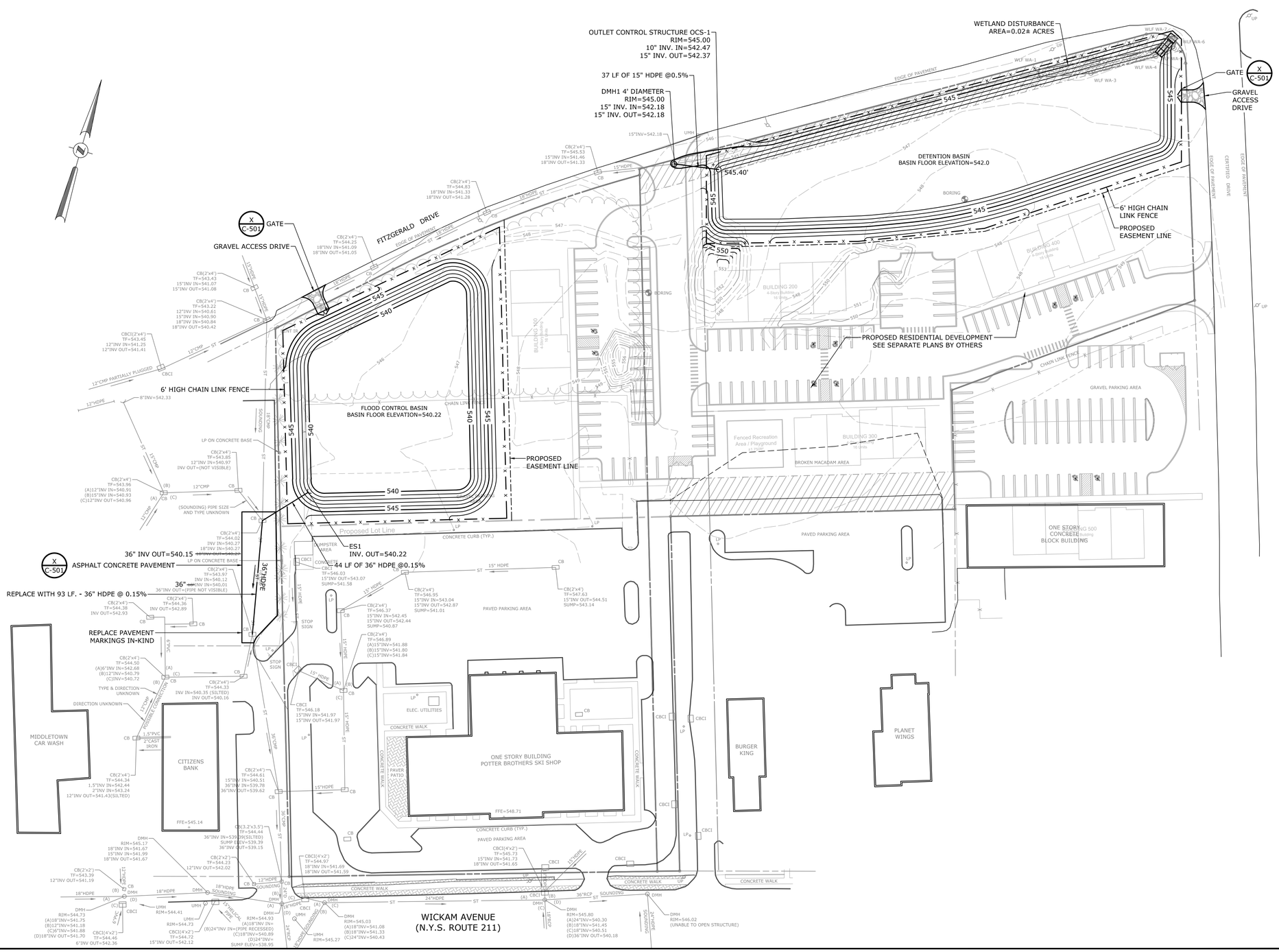

MATCH LINE SEE SHEET C-104

MATCH LINE SEE SHEET C-104

1 C-103 WEST/ EAST BASIN PLAN

SCALE: 1" = 40'

CROSS REFERENCE: NONE

BAR SCALE

40 0 20 40 80

1 inch = 40 ft.

KEY MAP

SCALE: NONE

PAVING NOTES:

1. REMOVE LOOSE AND FOREIGN MATERIAL FROM THE SURFACE OF THE SUBBASE BEFORE PAVING.
2. NO VEHICULAR TRAFFIC SHALL BE PERMITTED ON THE GRADED AND COMPACTED SURFACE OF THE SUBBASE MATERIAL ONCE IT HAS BEEN PREPARED FOR PAVING. IF, IN THE OPINION OF THE ENGINEER, PREPARED AREAS HAVE BEEN DAMAGED, THEY SHALL BE RE-GRADED AND RE-COMPACTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. A TACK COAT SHALL BE APPLIED TO CONTACT SURFACES OF EXISTING ASPHALT AND CONCRETE. BRUSH APPLY TACK COAT TO SURFACES OF CURBS, GUTTERS, MANHOLES, AND OTHER STRUCTURES PROJECTING INTO OR ABUTTING PAVEMENT. DRY TO A "TACKY" CONSISTENCY BEFORE PAVING. TACK COAT ENTIRE VERTICAL SURFACE OF ABUTTING EXISTING PAVEMENT.
4. PLACE HOT-MIX ASPHALT CONCRETE MIXTURE ON PREPARED SURFACE, SPREAD AND STRIKE-OFF USING A SELF-PROPELLED PAVING MACHINE, WITH VIBRATING SCREED. PLACEMENT IN LIMITED ACCESS AREAS MAY BE DONE BY HAND.
5. PROVIDE CONSTRUCTION JOINTS BETWEEN OLD AND NEW PAVEMENTS AND BETWEEN SUCCESSIVE DAYS WORK.
6. AFTER COMPLETION OF PAVING OPERATIONS, BROOM CLEAN OR POWER WASH SURFACES OF LOOSE AND FOREIGN DEBRIS.
7. ALL PAVEMENT RESTORATION SHALL MATCH EXISTING GRADES UNLESS OTHERWISE DIRECTED.
8. ALL SAWCUT LINES SHALL BE PARALLEL AND CURVILINEAR TO EXISTING OR PROPOSED CURBING AND SHALL BE A CONSTANT DISTANCE OF AT LEAST 12 INCHES AWAY, OR AS ORDERED BY THE ENGINEER.

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PROPOSED CONDITIONS PLAN
(NORTH)

CHANNEL DAYLIGHTING AND
RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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SHEET 05 OF 12

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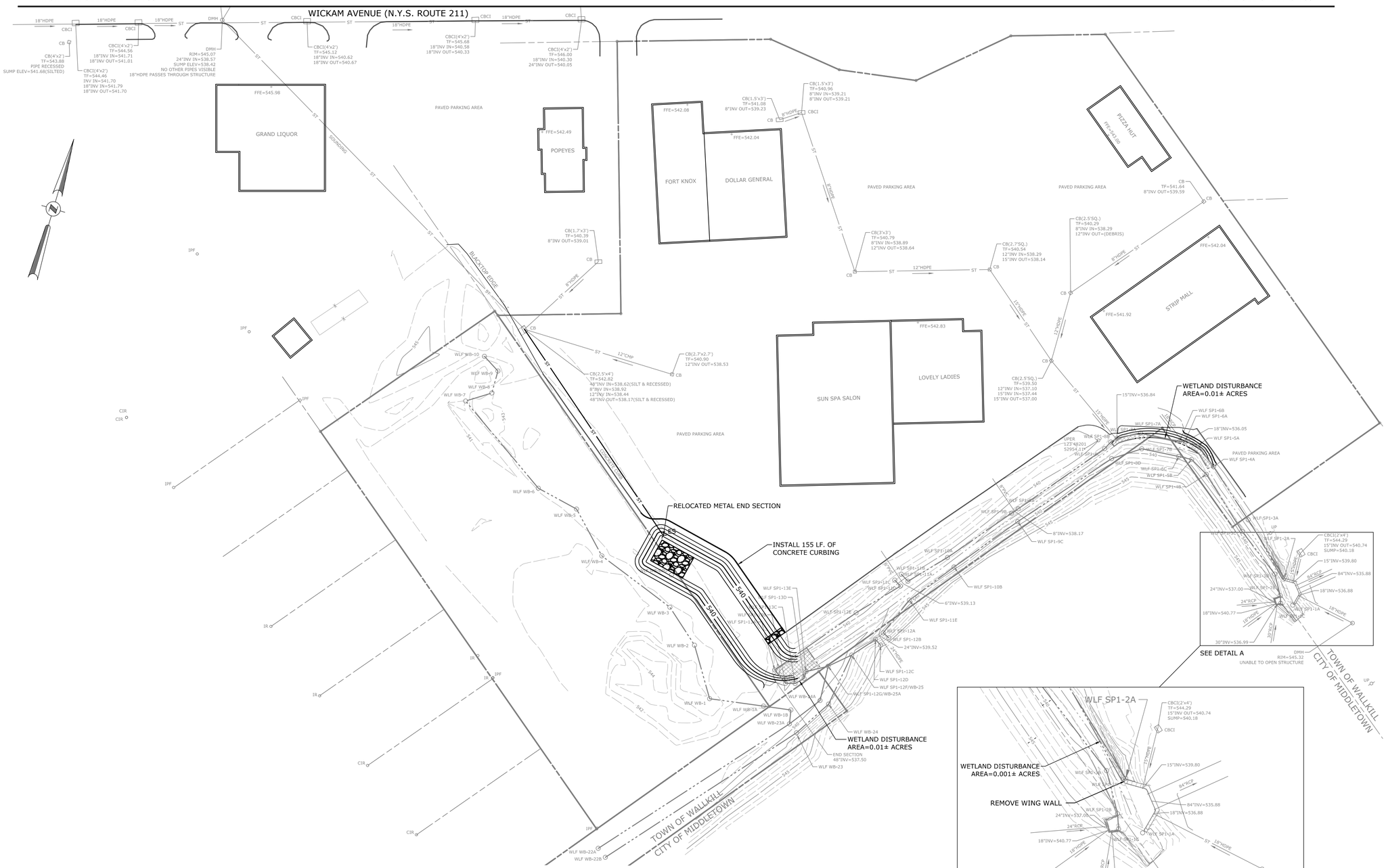
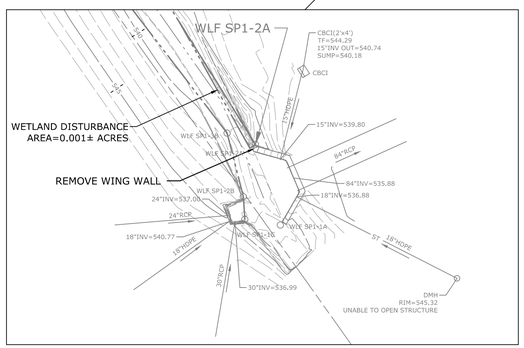


1
C-104

SOUTH CHANNEL PLAN

SCALE: 1" = 40'
CROSS REFERENCE: NONE

KEY MAP
SCALE: NONE



DETAIL A
SCALE: 1"=20'

PRELIMINARY

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

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PROJ. NO : 16.6428
SCALE : 1" = 40'
DATE : APRIL, 2018

PROPOSED CONDITIONS PLAN (SOUTH)

CHANNEL DAYLIGHTING AND
RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

C.T. MALE ASSOCIATES
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C-104
SHEET 06 OF 12
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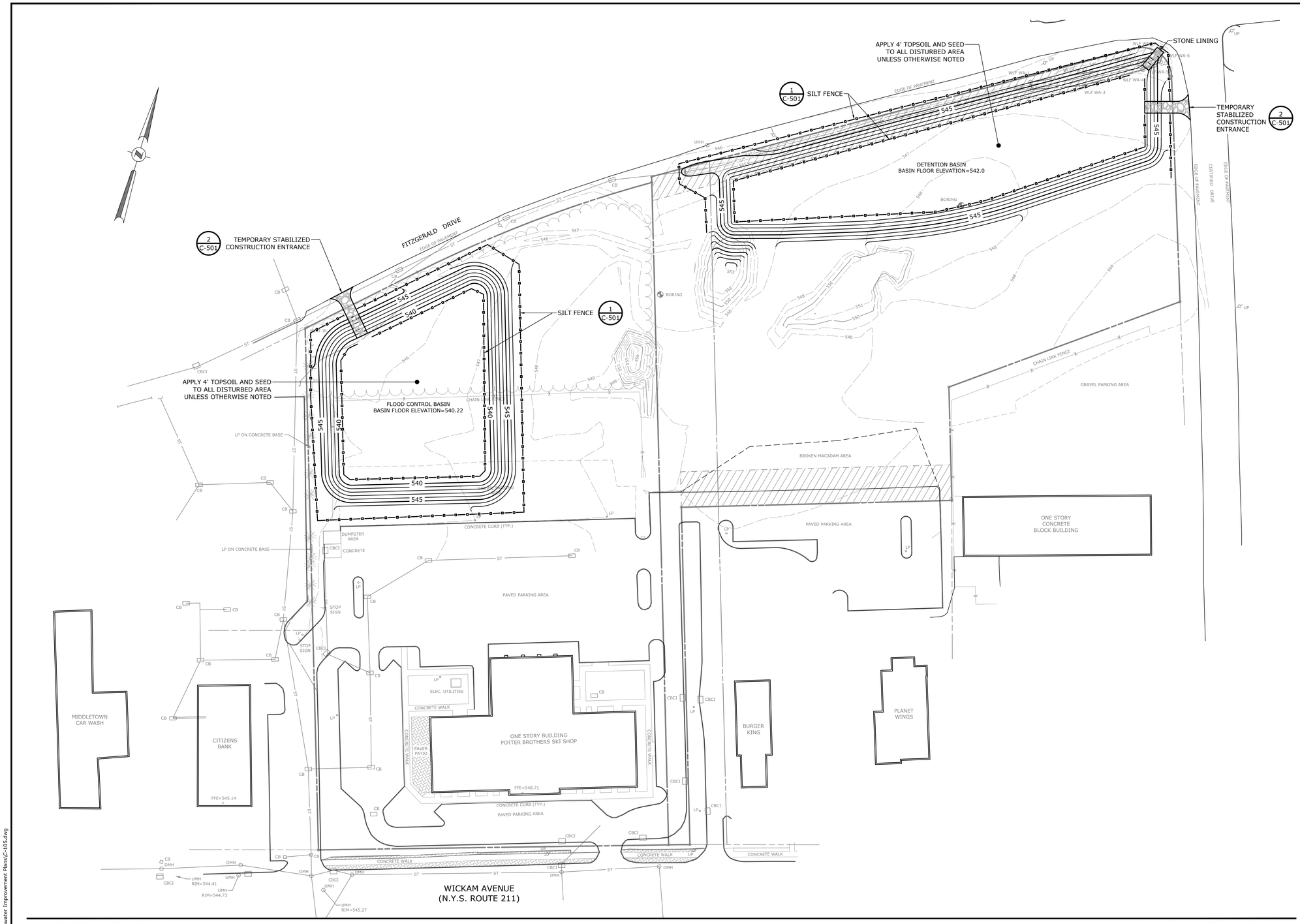
CAD DWG. FILE NAME: C-104.dwg



1 C-105 WEST/ EAST BASIN PLAN
SCALE: 1" = 40'
CROSS REFERENCE: NONE

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

KEY MAP
SCALE: NONE

EROSION AND SEDIMENT CONTROL NOTES:

1. CONSTRUCTION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE AREA AND DURATION OF SOIL DISTURBANCE. EXISTING VEGETATION SHALL BE PRESERVED AND PROTECTED TO THE MAXIMUM EXTENT PRACTICABLE.
2. CORRIDORS FOR THE ROUTING OF CONSTRUCTION TRAFFIC THROUGH THE SITE SHALL BE PLANNED TO MINIMIZE LAND DISTURBANCE. ROUTES OF CONVENIENCE SHALL BE AVOIDED.
3. TRENCH DE-WATERING SHALL BE CONDUCTED USING A PORTABLE PUMP AND HOSE, AS NECESSARY. WATER SHALL BE DISCHARGED TO A SEDIMENTATION STRUCTURE OR GEOTEXTILE FILTER BAG LOCATED IN A WELL VEGETATED UPLAND AREA, AWAY FROM ANY SURFACE WATER BODIES OR WETLANDS. ACCUMULATED SEDIMENT SHALL BE DISPOSED OF OFF SITE.
4. SOIL STOCKPILES SHALL BE LOCATED IN LEVEL UPLAND AREAS. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FEET OF ANY CATCH BASIN, DITCH, STREAM, WETLAND, OR OTHER SURFACE WATER BODY.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION THROUGHOUT THE DURATION OF SOIL DISTURBANCE ACTIVITIES, AND THEN REMOVED FROM THE SITE ONCE ALL TRIBUTARY AREAS HAVE BEEN FINALLY STABILIZED. GRASSED AREAS SHALL NOT BE CONSIDERED FINALLY STABILIZED UNTIL THEY HAVE ACHIEVED 80 PERCENT MATURE GRASS COVERAGE.
6. SEDIMENT COLLECTED DURING THE MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DISPOSED OF OFF SITE.
7. DISTURBED AREAS WHICH ARE TO REMAIN UNWORKED FOR 14 DAYS OR LONGER SHALL RECEIVE TEMPORARY SEEDING AND MULCHING WITHIN 24 HOURS OF THE END OF GRADING ACTIVITIES.
8. AREAS THAT HAVE ACHIEVED FINAL GRADE SHALL BE STABILIZED WITH A COMPACTED BASE COURSE FOR AREAS WHICH ARE TO BE PAVED; OR WITH PERMANENT SEEDING AND MULCHING FOR AREAS WHICH ARE TO BE GRASSED OR LANDSCAPED. STABILIZATION SHALL BE COMPLETED WITHIN 24 HOURS OF THE END OF GRADING ACTIVITIES.

TEMPORARY CONSTRUCTION FENCING NOTES:

1. CONTRACTOR TO PROVIDE AND MAINTAIN TEMPORARY CONSTRUCTION FENCING IN COORDINATION WITH THE TOWN OF WALLKILL AND AFFECTED PRIVATE PROPERTY OWNERS.

PRELIMINARY

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SCALE : 1" = 40'
DATE : APRIL, 2018

EROSION AND SEDIMENT CONTROL PLAN (NORTH)

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

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KEY MAP
SCALE: NONE

TEMPORARY CONSTRUCTION FENCING NOTES:

1. CONTRACTOR TO PROVIDE AND MAINTAIN TEMPORARY CONSTRUCTION FENCING IN COORDINATION WITH THE TOWN OF WALLKILL AND AFFECTED PRIVATE PROPERTY OWNERS.

1 / C-106 SOUTH CHANNEL PLAN
SCALE: 1" = 40'
CROSS REFERENCE: NONE

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

PRELIMINARY

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EROSION AND SEDIMENT CONTROL PLAN (SOUTH)

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

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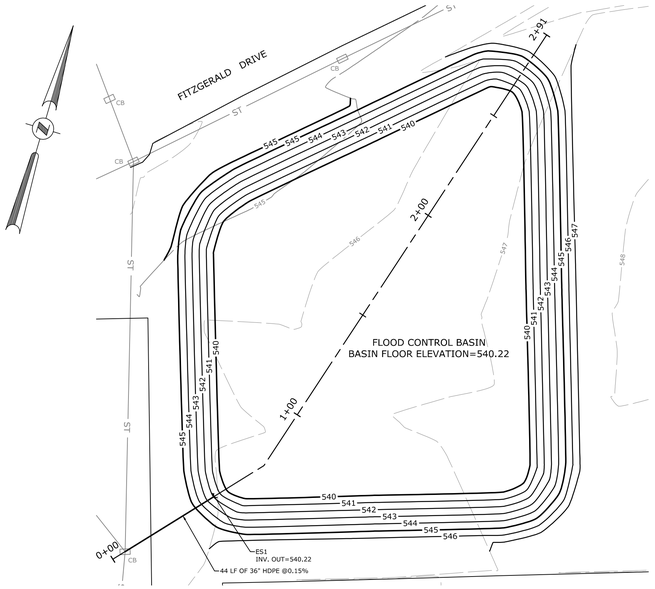
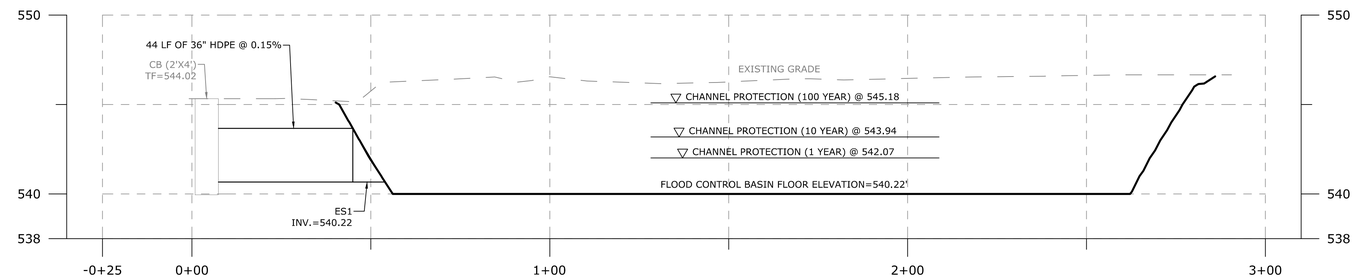


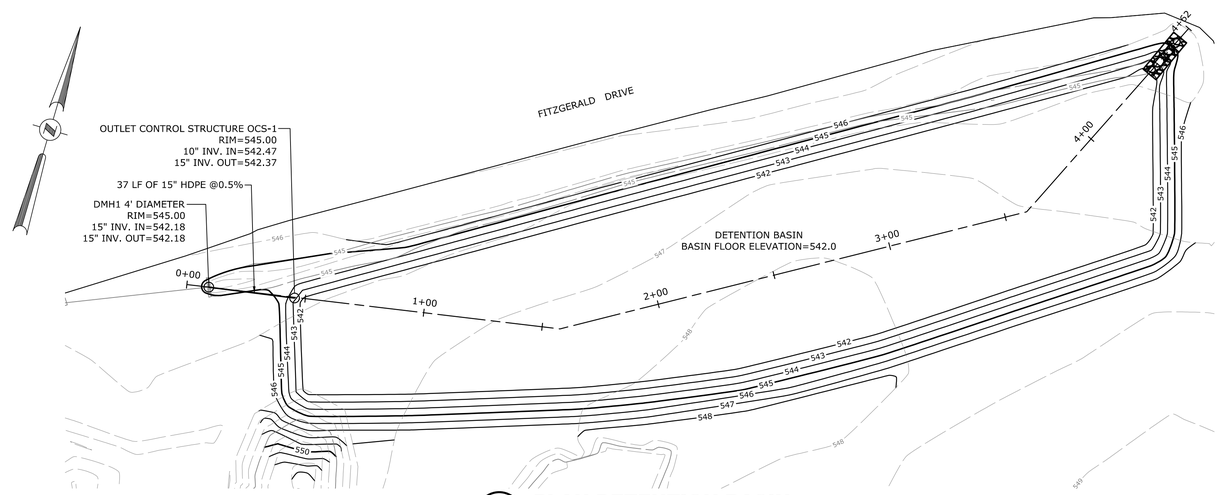
1 / C-301 PLAN FLOOD CONTROL BASIN

SCALE: 1" = 30'
CROSS REFERENCE: NONE



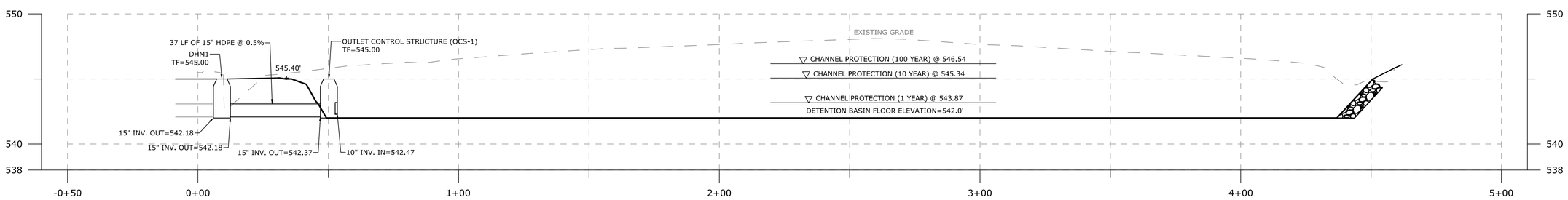
1 / C-301 PROFILE FLOOD CONTROL BASIN

SCALE: HORZ. 1" = 20'
VERT. 1" = 4'
CROSS REFERENCE: NONE



2 / C-301 PLAN DETENTION BASIN

SCALE: 1" = 30'
CROSS REFERENCE: NONE



2 / C-301 PROFILE DETENTION BASIN

SCALE: HORZ. 1" = 20'
VERT. 1" = 4'
CROSS REFERENCE: NONE

PRELIMINARY

BAR SCALE
20 0 10 20
1 inch = 20 ft.
4
1 inch = 4 ft.

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PROFILE
NORTH BASINS

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PROFILE
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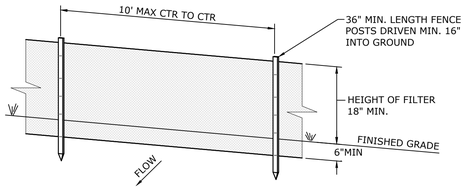
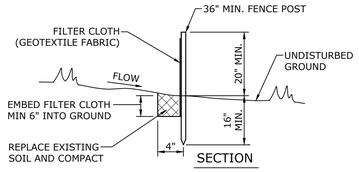


PERSPECTIVE VIEW



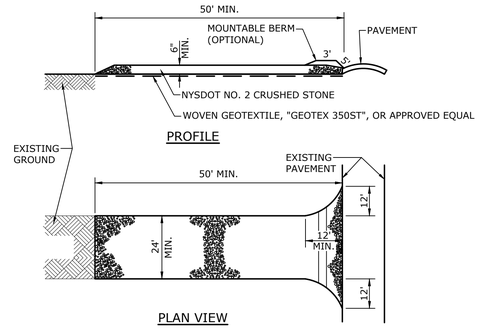
SECTION

NOTES:

1. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH SHALL BE FASTENED SECURELY TO POSTS.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
4. FILTER CLOTH SHALL BE MIRAFI 100X OR APPROVED EQUAL.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. WHEN THE ACCUMULATED SEDIMENT REACHES 30% OF THE SILT FENCE HEIGHT, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROPRIATE UPLAND AREA.
6. PREFABRICATED UNITS SHALL BE MIRAFI SILT FENCE, MIRAFI ENVIROFENCE OR APPROVED EQUIVALENT.

1 / C-501 SILT FENCE DETAIL

SCALE: NONE
CROSS REFERENCE: NONE



PROFILE

PLAN VIEW

NOTES:

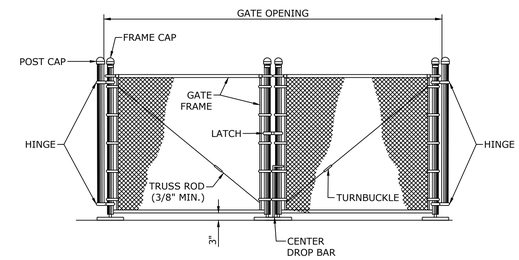
1. USE 1"-4" STONE, NYSDOT NO. 2 CRUSHED STONE, OR RECLAIMED OR RECYCLED CONCRETE, OR APPROVED EQUIVALENT.
2. THE LENGTH SHALL NOT BE LESS THAN 50 FEET.
3. NYSDOT NO. 2 CRUSHED STONE SHALL BE MAINTAINED AT A MINIMUM OF 6" IN DEPTH.
4. ENTRANCE SHALL HAVE A 12 FOOT MINIMUM WIDTH, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. ENTRANCE SHALL BE AT LEAST 24 FEET WIDE IF SINGLE ENTRANCE TO SITE.
5. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS NOT PRACTICAL, A MOUNTABLE BERM WITH 1V:5H SLOPES WILL BE PERMITTED.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS- OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
7. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

2 / C-501 STABILIZED CONSTRUCTION ACCESS

SCALE: NONE
CROSS REFERENCE: NONE

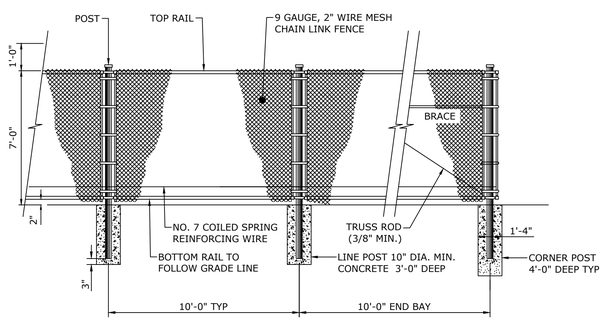
3 / C-501 OPEN CHANNEL WET SWALE

SCALE: NONE
CROSS REFERENCE: NONE



4 / C-501 TEMPORARY DOUBLE GATE

SCALE: NONE
CROSS REFERENCE: NONE

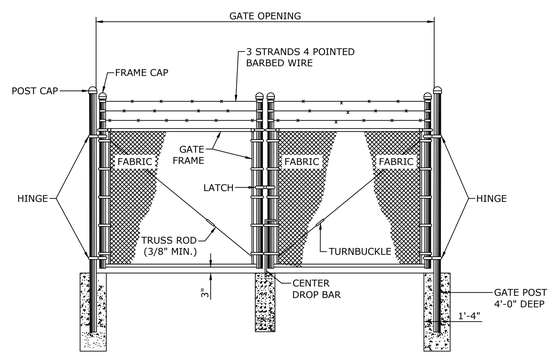


NOTE:

1. USE SONATUBE TO FORM CONCRETE FOR FENCE POSTS, EXTEND SONATUBE 1" ABOVE FINNISH GRADE, DO NOT ALLOW CONCRETE TO OVERFLOW SONATUBE.

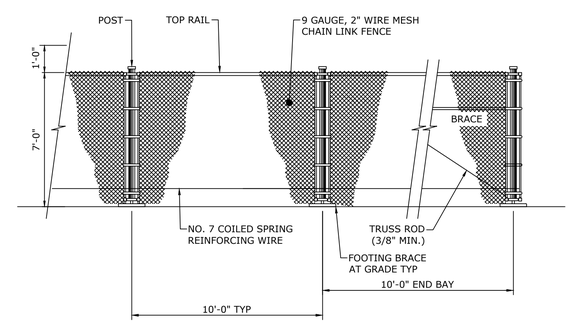
5 / C-501 PERMANENT CHAIN LINK FENCE

SCALE: NONE
CROSS REFERENCE: NONE



6 / C-501 PERMANENT DOUBLE GATE

SCALE: NONE
CROSS REFERENCE: NONE



7 / C-501 TEMPORARY CONSTRUCTION FENCE

SCALE: NONE
CROSS REFERENCE: NONE

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DETAILS I

CHANNEL DAYLIGHTING AND RIPARIAN IMPROVEMENTS PROJECT

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SHEET 11 OF 12

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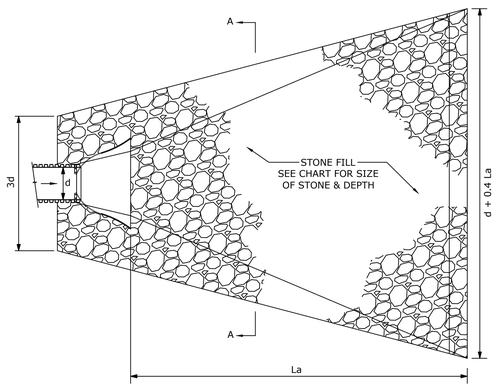
CAD DWG. FILE NAME: C-501.dwg

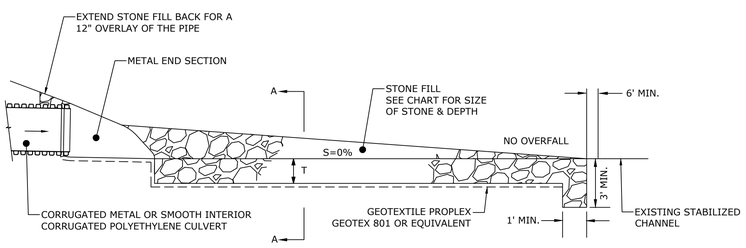
RIPRAP APRON SIZING*					
PIPE SIZE [d] (IN.)	PIPE SLOPE	STONE DIMENSION [d50] (IN.)	NYSDOT STANDARD STONE FILLING	APRON THICKNESS [T] (IN.)	APRON LENGTH [La] (FT.)
12	0-3%	4	LIGHT	18	10
	3-7%	6	LIGHT	18	14
	7-10%	9	MEDIUM	24	15
15,18	0-2%	6	LIGHT	18	14
	2-5%	9	MEDIUM	24	20
	5-10%	12	MEDIUM	30	24
24	0-1%	6	MEDIUM	24	14
	1-2%	9	MEDIUM	24	20
	2-5%	12	MEDIUM	30	26
	5-8%	18	HEAVY	36	30
30	0-3%	12	MEDIUM	28	28
	3-6%	18	HEAVY	36	36

*THE ABOVE TABLE IS BASED ON:
NYSDEC "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" - FIGURE 5B.12 OUTLET PROTECTION DESIGN - MINIMUM TAILWATER CONDITION (DESIGN OF OUTLET PROTECTION FOR A ROUND PIPE FLOWING FULL, MINIMUM TAILWATER CONDITION: Tw < 0.5Do) (USDA-NRCS)

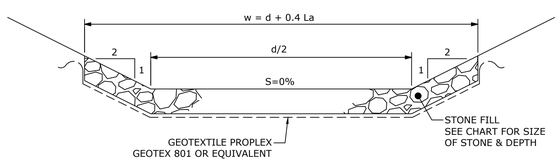
NOTES:
1. APRON DIMENSIONS ARE BASED ON PIPES FLOWING FULL; USING ACTUAL FLOWS MAY RESULT IN DIFFERENT APRON DIMENSIONS.
2. MINIMUM THICKNESS OF THE RIPRAP LAYER SHALL BE 1.5 TIMES THE MAXIMUM STONE DIAMETER FOR d50 OF 15 INCHES OR LESS; AND 1.2 TIMES THE MAXIMUM STONE SIZE FOR d50 GREATER THAN 15".



PLAN VIEW

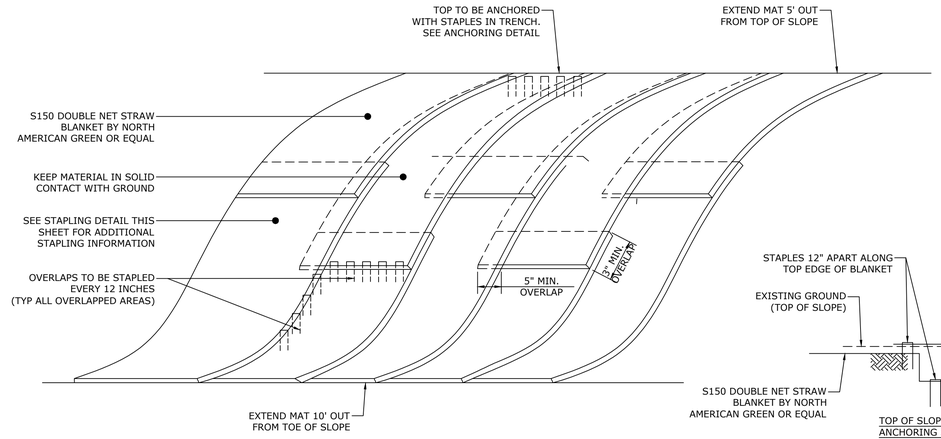


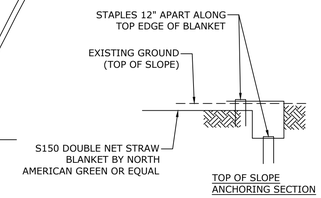
PROFILE VIEW



SECTION A-A

1 C-501 ROCK OUTLET PROTECTION
SCALE: NONE
CROSS REFERENCE: NONE

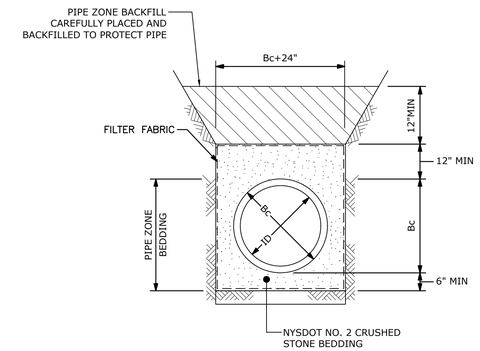




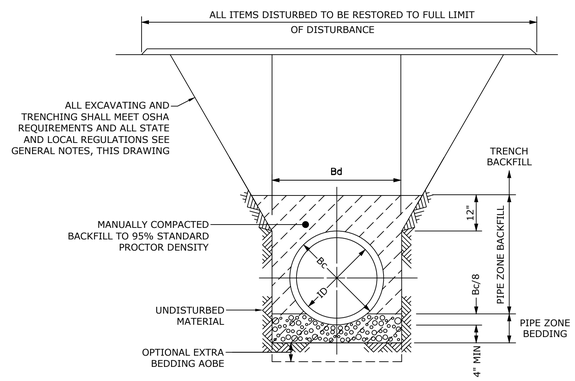
NOTES:

1. APPLY APPLICATION OF ANY LIME, FERTILIZER, AND SEED BEFORE INSTALLING TURF REINFORCEMENT MAT.
2. INSTALL USING ALL MANUFACTURERS INSTALLATION RECOMMENDATIONS AND GUIDELINES.

2 C-501 EROSION CONTROL BLANKET
SCALE: NONE
CROSS REFERENCE: NONE



3 C-501 HDPE PIPE BEDDING
SCALE: NONE
CROSS REFERENCE: NONE



NOTES:

1. OVEREXCAVATE AT BELLS TO PROVIDE 4" BEDDING BELOW BELLS.
2. COMPACTED PIPE ZONE BACKFILL AND TRENCH BACKFILL TO BE SATISFACTORILY EXCAVATED MATERIAL OR SPECIAL TRENCH BACKFILL, AS REQUIRED BY THE SPECIFICATIONS.

4 C-501 CMP PIPE BEDDING
SCALE: NONE
CROSS REFERENCE: NONE

GENERAL NOTES:

EXCAVATING, TRENCHING, SHEETING AND SHORING REQUIREMENTS:

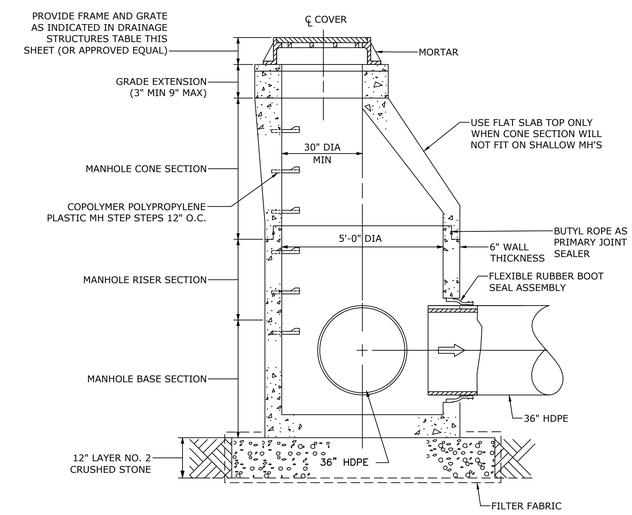
A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY OF ALL SHEETING AND SHORING USED AND FOR ALL DAMAGE RESULTING FROM ITS FAILURE OR FROM PLACING, MAINTAINING AND REMOVING IT.

B. REQUIREMENTS OF REGULATORY AGENCIES:

1. SUBPART 23-4, "EXCAVATION OPERATIONS", OF NEW YORK STATE DEPARTMENT OF LABOR INDUSTRIAL CODE RULE 23.
2. SUBPART P, "EXCAVATIONS", OF UNITED STATES DEPARTMENT OF LABOR OSHA REGULATIONS FOR CONSTRUCTION.
3. THE MORE STRINGENT REQUIREMENT IN EACH OF THE ABOVE CODES SHALL APPLY. THESE REQUIREMENTS ARE MINIMUM REQUIREMENTS AND SHALL BE INCREASED IF NECESSARY TO PROVIDE SAFE WORKING CONDITIONS.
4. ALL MUNICIPAL, COUNTY, STATE OR FEDERAL ORDINANCES, REGULATIONS, OR LAWS AND ALL NECESSARY PERMITS AND APPROVALS OBTAINED BY THE CONTRACTOR SHALL BE OBSERVED.

PIPE DIMENSIONS				TRENCH DIMENSIONS	
NOMINAL ID	DISPLACEMENT 1/2 PIPE OD (CY/LF)	BARREL OD (Bc)	BELL OD	Bd	ROCK* EXCAVATION BELOW PIPE(d)
6"	0.005	6.9"	8.75"	30"	6"
8"	0.008	9.1"	11.1"	32"	6"
10"	0.012	11.1"	13.2"	34"	6"
12"	0.018	13.2"	15.3"	36"	6"
14"	0.024	15.3"	17.9"	38"	6"
16"	0.031	17.4"	20.0"	40"	6"
18"	0.038	19.5"	22.1"	42"	6"
20"	0.047	21.6"	24.3"	44"	6"
24"	0.067	25.8"	28.5"	48"	6"
30"	0.103	32.0"	35.0"	54"	9"
36"	0.148	38.3"	41.4"	60"	9"
42"	0.200	44.5"	-	66"	9"
48"	0.260	50.8"	-	72"	9"
54"	0.329	57.1"	-	78"	9"

*BELOW AND ON EACH SIDE OF ALL PIPE, VALVES & FITTINGS.



5 C-501 PRECAST CONCETE DRAINAGE MANHOLE
SCALE: NONE
CROSS REFERENCE: NONE

PRELIMINARY

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

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C.T. MALE ASSOCIATES

DESIGNED: TJH
DRAFTED : SMW
CHECKED : TJH
PROJ. NO : 16.6428
SCALE : AS NOTED
DATE : APRIL, 2018

DETAILS II

CHANNEL DAYLIGHTING AND
RIPARIAN IMPROVEMENTS PROJECT

TOWN OF WALLKILL — ORANGE COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 518.786.7400
COBLESKILL, NY • GLENS FALLS, NY • HIGHLAND, NY • JOHNSTOWN, NY
LITTLE FALLS, NY • RED HOOK, NY • SYRACUSE, NY
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C-502
SHEET 12 OF 12
DWG. NO: 18-200

"ONLY COPIES OF THIS MAP SIGNED IN RED INK AND EMBOSSED WITH THE SEAL OF AN OFFICER OF C.T. MALE ASSOCIATES OR A DESIGNATED REPRESENTATIVE SHALL BE CONSIDERED TO BE A VALID TRUE COPY".

AFFIDAVIT OF PUBLICATION

STATE OF NEW YORK
COUNTY OF NEW YORK

Alison Bloom being duly sworn hereby declares and says, that she is the Advertising Account Executive responsible for placing the attached advertisement in: the Middletown Times Herald Record newspaper for Miller Advertising Agency, Inc.; located in New York, NY, and that the New York State Governor's Office of Storm Recovery advertisement, of which the annexed is a true copy, has been published in the said publication on the following issue date(s): March 11, 2019.

Alison Bloom

Subscribed to and Sworn before me

This 12th day of April, 2019

Notary Public

Donna Perez
Notary Public State Of New York
No. 01PE6151365
Qualified In New York County
Commission Expires August, 14th - 2022

Automotive Wanted

WANTED!
DEAD OR ALIVE!
Cars, Trucks, Machinery = $$$$ for you. Certified scale. New and used parts. NYS #7092957
Recycling for over 80 years.
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ALL CARS, TRUCKS & VANS
WANTED
TOP DOLLAR PAID
Same Day Service
DMV 7108162
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CASH PAID
FOR JUNK CARS, TRUCKS & VANS RUNNING OR NOT. 845-406-2381

Remove Unwanted Cars
PAY TOP DOLLAR
845-647-4195
WOODYSAUTOPARTS.COM

e-mail
your ad copy to
classads@th-record.com
We'll Take Care Of The Rest!

Autos for Sale

Quickway Exotic Auto
13Cars.com

HONDA CIVICS
08 Lx 100k,at,ac,spoiler.....5500
10 Ex-L 92k, Nav,Htd lth.....7500

NISSAN Sentra's
15 Sv 11k,at,ac,cd.....12500
12 Sr 53k,ac,alu whls.....8700
06 1.8s 71k, alu whls.....4700
5 to choose from

NISSAN Altima's
10 55k,at,av,P-w,l,m.....7500
12 57k,at,ac,P-w,l,m.....8200

INFINITI G37x (AWD)
11 107k,at,cc,roof.....13900
11 70k,at,cc,P-w,l,m.....11900
15 Q40 29k, Nav,roof.....15900
5 to choose from

JEEPS
14 Latitude 23k, htd seats.....13900
07 Liberty Spts 91k.....6500
11 Liberty Spts 70K.....9900
6 to choose from

CARGO VAN
17 GMC 6k,at,ac,P-w,l.....22900

Quickway Exotic Auto
68 RT. 17 & 17K EXIT 116
BLOOMINGBURG, NY
Teek & Vee 845-733-5000

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$ CASH PAID $
FOR GOOD CONDITION CAMPERS
ENCLOSED TRAILERS!
QUICK RESPONSE
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Legals

EARLY NOTICE OF A PROPOSED ACTIVITY IN WETLANDS
WALLKILL CHANNEL DAYLIGHTING PROJECT
TOWN OF WALLKILL, ORANGE COUNTY, NEW YORK
MARCH 11, 2019

To: All interested Agencies, Groups, and Individuals
This is to give notice that the Governor's Office of Storm Recovery (GOSR), an office of the New York State Housing Trust Fund Corporation (HTFC), has received an application from the Town of Olive to use Community Development Block Grant – Disaster Recovery (CDBG-DR) funding from the NY Rising Community Reconstruction Program to implement Wallkill Channel Daylighting Project in the Town of Wallkill, Orange County, New York (hereinafter, the "Proposed Activity") and is conducting an evaluation as required by Executive Order 11988 and Executive Order 11990 in accordance with U.S. Department of Housing and Urban Development (HUD) regulations (24 CFR Part 55).

There are three primary purposes for this notice. First, to provide the public an opportunity to express their concerns and share information about the Proposed Activity, including alternative locations outside of wetlands. Second, adequate public notice is an important public education tool. The dissemination of information about wetlands facilitates and enhances governmental efforts to reduce the risks associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the government determines it will participate in actions taking place in wetlands, it must inform those who may be put at greater or continued risk. Funding for the Proposed Activity will be provided by the HUD CDBG-DR program for storm recovery activities in New York State.

The Town of Wallkill, Orange County, New York, is proposing to improve the drainage way between commercial properties along SR 211 (Wickham Avenue) near the intersection of Lloyds Drive and directly adjacent to Middletown High School as well as the area along Fitzgerald Drive across from the Crestwood Apartments. An unnamed creek that flows through this area is the primary water source for Silver Lake. During the urbanization of this area from 1970 to 2010, part of this unnamed creek, just northwest of the Middletown High School football field was culverted. This culvert is now partially collapsed/obstructed and the grade is incorrect, so that there are low spots where water stagnates and does not flow toward Silver Lake. The proposed project would remove the existing headwall along Fitzgerald Drive, approximately 436 linear feet of chain link fence, 8,540 square feet of parking lot, and the existing catch basin on the northern portion of the project area. Two detention/infiltration basins will be constructed on the south side of Fitzgerald Drive behind the businesses on the north side of SR 211, and 137 feet of HDPE pipe would replace the catch basin. Approximately 185 feet of the existing collapsed culvert between the Shoprite Plaza and Middletown High School, the adjacent 160 feet of concrete curb, and a portion of the wing wall at the east side of the stadium would be removed in the southern portion of the project area. The project would construct an open channel in its place.

A Freshwater Forested/Shrub National Wetlands Inventory (NWI) wetland area is within the northern portion of the Project area, surrounding the proposed detention/infiltration basins. Although this wetland area currently is vacant, it already has been disturbed by development along Fitzgerald Drive and in the surrounding area. The Project will disturb less than one acre of this wetland (it is approximately 0.5 acres), and the detention/infiltration basin that will cover it will perform many of the same functions as the wetland (filtering and slowing the flow of water). A wetland field delineation on July 18, 2018, identified a much smaller wetland area in the northern portion of the project (approximately 0.05 acres). An additional wetland area was delineated in the southern project site. Approximately 0.69 acres of this wetland extend throughout the southern project site. The open channel that would be created by the project also will perform many of the same functions as the wetland (filtering and slowing the flow of water). These delineated areas also have been disturbed by development along Fitzgerald Drive, Wickham Avenue, Certified Drive, and Stratton Avenue, including residential and commercial development and Middletown High School.

Wetlands maps based on the NWI and New York State Department of Environmental Conservation (NYSDEC) data and the July 18, 2018, delineation maps have been prepared and are available for review with additional information at http://www.stormrecovery.ny.gov/environmental-docs.

Any individual, group, or agency may submit written comments on the Proposed Activity or request further information by contacting Lori A. Shirley, Certifying Officer, Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, NY 12260; email: NYSCDBG_DR_ER@nyshcr.org. Standard office hours are 9:00 AM to 5:00 PM Monday through Friday. For more information call 518-474-0755. All comments received by March 26, 2019, will be considered.

Governor's Office of Storm Recovery

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EARLY NOTICE OF A PROPOSED ACTIVITY IN WETLANDS

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TOWN OF WALLKILL, ORANGE COUNTY, NEW YORK
MARCH 11, 2019

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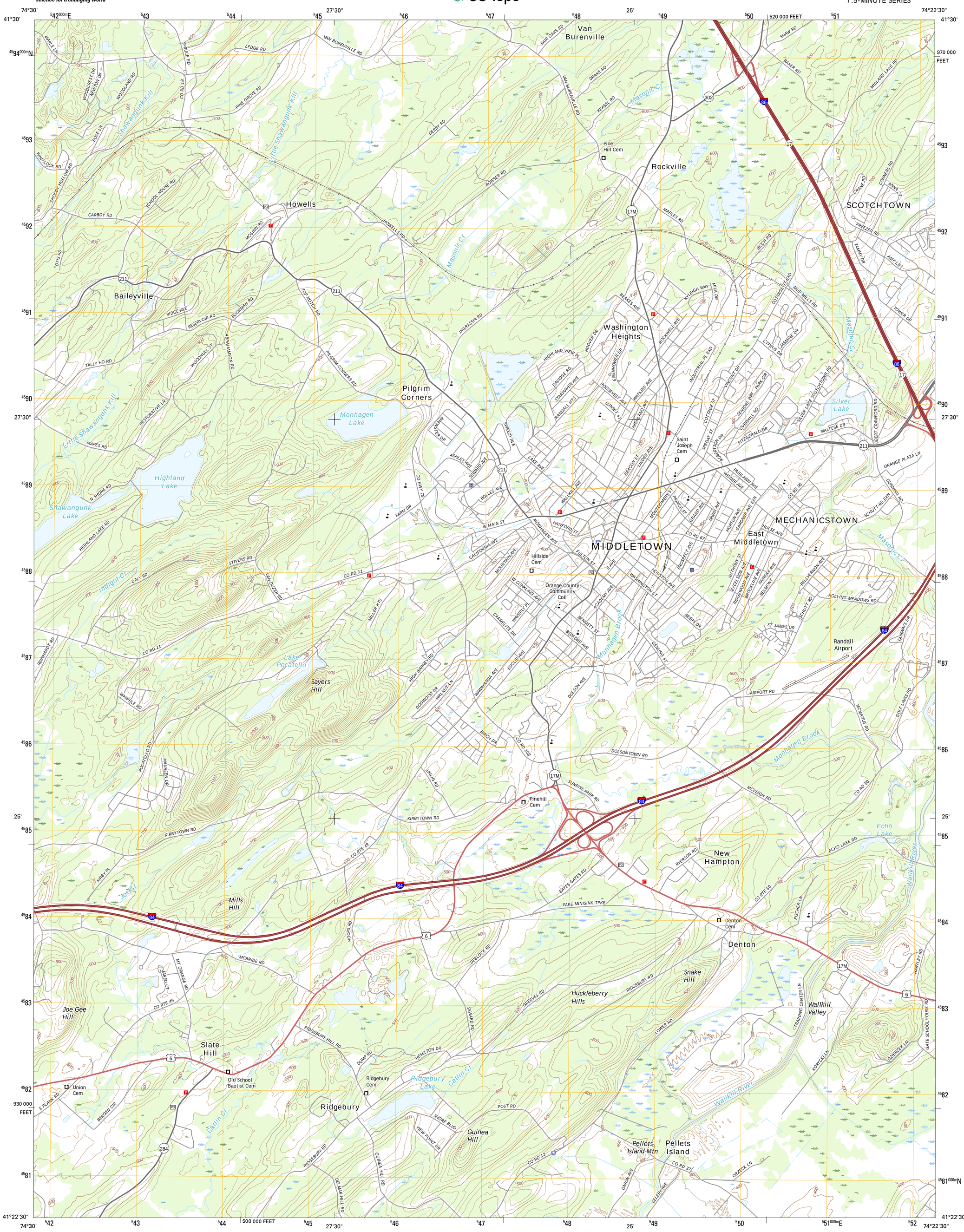
Appendix F
Topography and Soils

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

MIDDLETOWN QUADRANGLE
NEW YORK-ORANGE CO.
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 18T
10 000-foot ticks: New York Coordinate System of 1983 (east zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, July 2013
Roads..... U.S. Census Bureau, 2015 - 2016
Names.....GNIS, 2016
Hydrography.....National Hydrography Dataset, 2013
Contours.....National Elevation Dataset, 2016
Boundaries.....Multiple sources; see metadata file 1972 - 2016

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

MN
12° 55′
230 MILS
GN
0° 22′
7 MILS
UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
WL
Grid Zone Designation 18T

SCALE 1:24 000

KILOMETERS 1 0.5 0 1 2
METERS 1000 500 0 1000 2000
MILES 1 0.5 0 1
FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

NEW YORK
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES
1 Yankee Lake
2 Wurtsboro
3 Pine Bush
4 Otisville
5 Goshen
6 Unionville
7 Pine Island
8 Warwick

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

MIDDLETOWN, NY
2016

NSN. 7643016386909
NGA REF NO. USGSX24K29120

Surface Water Management, System—Orange County, New York
(Surface Water Management: Wallkill Channel Daylighting)

Map Scale: 1:2,540 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Lines

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Points

Very limited

Somewhat limited

Not limited

Not rated or not available

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: Orange County, New York
Survey Area Data: Version 19, Sep 3, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 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.

Surface Water Management, System

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Ca	Canandaigua silt loam	Somewhat limited	Canandaigua (75%)	Ponding (0.50)	0.8	14.7%
ErA	Erie gravelly silt loam, 0 to 3 percent slopes	Very limited	Erie (75%)	Cemented pan (1.00)	0.5	8.4%
				Slow water movement (0.30)		
UH	Udorthents, smoothed	Somewhat limited	Udorthents (75%)	Slope (0.22)	4.4	76.9%
Totals for Area of Interest					**5.7**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Somewhat limited	5.2	91.6%
Very limited	0.5	8.4%
Totals for Area of Interest	**5.7**	**100.0%**

Description

The ratings for Surface Water Management, System are based on the soil properties that affect the capacity of the soil to convey surface water across the landscape. Factors affecting the system installation and performance are considered. Water conveyances include graded ditches, grassed waterways, terraces, and diversions. The ratings are for soils in their natural condition and do not consider present land use. The properties that affect the surface system performance include depth to bedrock, saturated hydraulic conductivity, depth to cemented pan, slope, flooding, ponding, large stone content, sodicity, surface water erosion, and gypsum content.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as that listed for the map unit. The percent composition of each component in a particular map unit is given so that the user will realize the percentage of each map unit that has the specified rating.

A map unit may have other components with different ratings. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

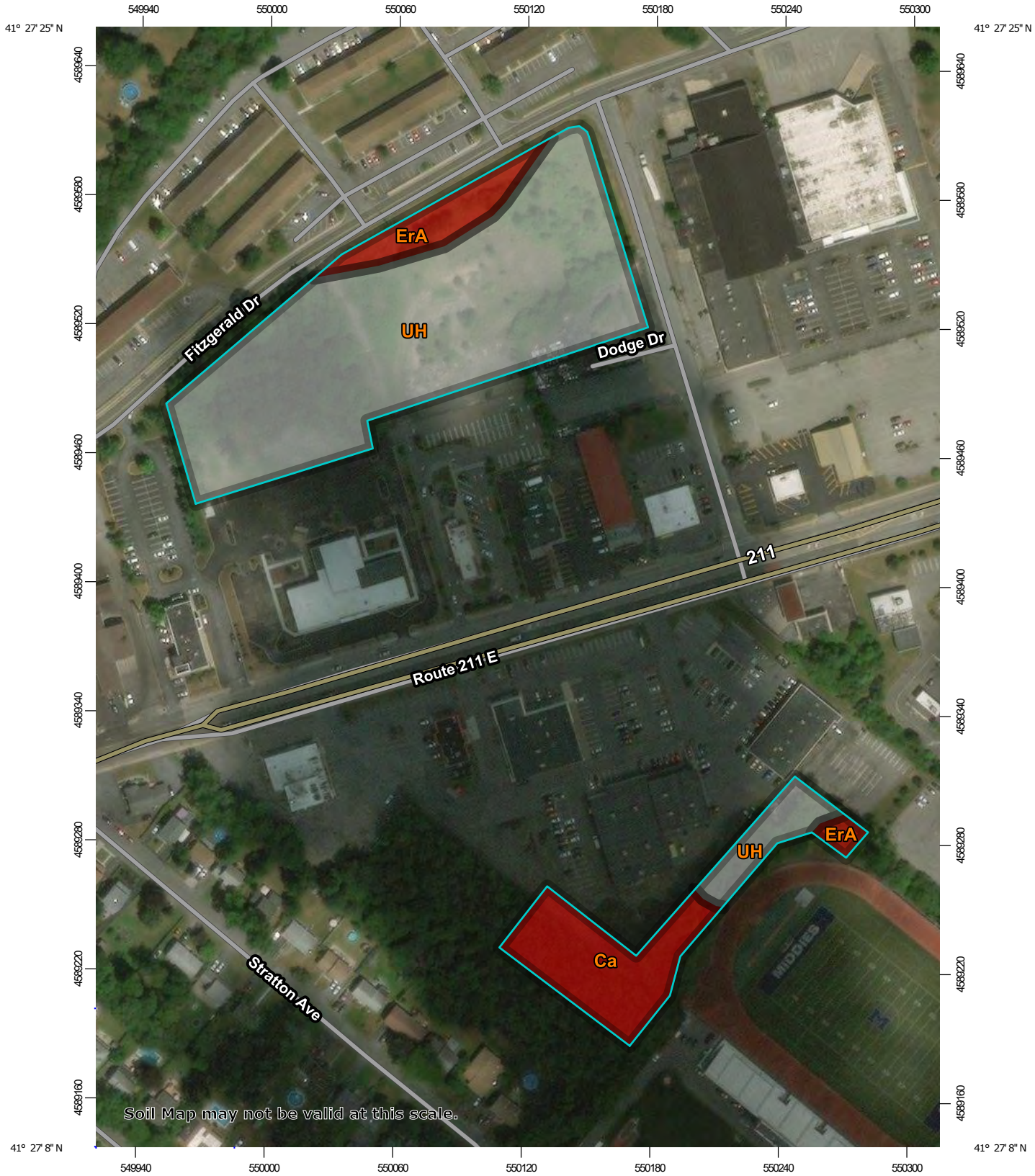
Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Stormwater Management - Infiltration (NY)—Orange County, New York
(Stormwater Management - Infiltration: Wallkill Channel Daylighting)



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Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

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Area of Interest (AOI)

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Somewhat limited

Least limited

Not rated or not available

Soil Rating Lines

Most limited

Somewhat limited

Least limited

Not rated or not available

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Major Roads

Local Roads

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Aerial Photography

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Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Orange County, New York
Survey Area Data: Version 19, Sep 3, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 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.

Stormwater Management - Infiltration (NY)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Ca	Canandaigua silt loam	Most limited	Canandaigua (75%)	Depth to saturation (1.00)	0.8	14.7%
ErA	Erie gravelly silt loam, 0 to 3 percent slopes	Most limited	Erie (75%)	Low permeability (1.00)	0.5	8.4%
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
UH	Udorthents, smoothed	Not rated	Udorthents (75%)		4.4	76.9%
			Alden (5%)			
			Bath (5%)			
			Fredon (5%)			
			Raynham (5%)			
			Wurtsboro (5%)			
Totals for Area of Interest					**5.7**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Most limited	1.3	23.1%
Null or Not Rated	4.4	76.9%
Totals for Area of Interest	**5.7**	**100.0%**

Description

Proper management of stormwater runoff from construction sites and developed areas is an issue of growing importance in New York State. During construction, exposed soil is subject to a greater risk of erosion, resulting in a greater potential for sedimentation in waterways. Stormwater runoff increases on the rooftops of buildings, paved parking lots, and other impervious surfaces, and thus increases the potential for flooding and discharge of polluted runoff into open water. Management of stormwater runoff can prevent or reduce the availability, release, or transport of substances that can degrade surface and ground waters. Guidelines and design criteria for stormwater management practices have been established by the New York State Department of Environmental Conservation (2008).

This interpretation is designed to evaluate the limitations of soils for stormwater management practices. The purpose of the interpretation is to help decision makers use soil survey information in the selection and implementation of the stormwater management practices best suited to a particular location. The information in the interpretations is intended for planning purposes and does not eliminate the need for on-site investigation of the soil.

Rating class terms indicate the extent to which the soils are limited by the soil features that influence the design, construction, and performance of stormwater management practices. "Least limited" indicates that the soil has features that are very favorable for this practice. Good performance and low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the practice. The limitations can be overcome or minimized by special planning, design, or construction. Fair performance and moderate maintenance can be expected. "Most limited" indicates that the soil has one or more features that are unfavorable for the practice. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive construction procedures. Poor performance and high maintenance can be expected.

The rating class is based on the maximum value of the rating indices generated for each soil feature considered. Where the rating value is:

equal to 0.0, the rating class is "least limited."

greater than 0 and less than 1.0, the rating class is "somewhat limited."

equal to 1.0, the rating class is "most limited."

Design criteria in the "New York State Stormwater Management Design Manual" (New York State Department of Environmental Conservation, 2008) were used to guide the selection of potentially limiting soil properties. Additional limiting features incorporated into the interpretations are based on soil function for the specific practice.

Infiltration Practices

This interpretation evaluates the limitations of soils for stormwater management infiltration practices. Infiltration practices collect stormwater runoff in basins (or trenches) for storage prior to filtration through undisturbed soil in the basin (or trench) floor and sides. Deep, well drained, and permeable soils are required for implementing infiltration practices. Following is a synopsis of the soil features considered in this interpretation.

Excessive permeability: Excessive permeability in one or more layers may allow stormwater to move rapidly through the soil without sufficient filtering, resulting in a potential for groundwater contamination. Additional pretreatment or soil amendments may be required as part of an infiltration practice. The interpretation evaluates the range (low to high) of permeability values for the most transmissive layer in the soil.

Low permeability: Low permeability restricts movement of water through the soil, impeding the infiltration function. The interpretation evaluates the range (low to high) of permeability values for the least transmissive layer in the soil.

Slope gradient: Excessive slope limits the functionality of an infiltration practice. The representative slope gradient percent for the soil component is the property evaluated.

Depth to bedrock: Limited depth to bedrock impedes excavation and restricts infiltration. The minimum depth to bedrock is the property evaluated.

Depth to manufactured layer: In urban areas, some anthropogenic (human-altered) soils have a restrictive layer, such as pavement, below the surface. Limited depth to this feature impedes excavation and restricts infiltration. The minimum depth to a manufactured layer is the property evaluated.

Depth to saturation: A seasonal high water table in the upper part of the soil limits the storage capacity of an infiltration practice. The interpretation evaluates the minimum depth to a zone of saturation.

Excessive fines: Soils with a high content of silt and clay may become plugged with sediment from stormwater, resulting in restricted infiltration. The interpretation evaluates the weighted average of the percent clay and percent silt, for depths greater than 36 inches.

In addition to soil characteristics, other attributes of the site and the surrounding area are important factors in planning and implementing stormwater management practices. For example, proximity and slope direction from the installation practice to a drinking water well are important considerations when sites for infiltration practices are selected.

The components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed in the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as the one listed for the map unit. The percent composition of these components is described. As a result, the percentage of the rating class in the map unit is indicated.

Other components with different ratings may occur in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the "Stormwater Management (NY)" report from the Soil Reports tab in Web Soil Survey.

References:

New York State Department of Environmental Conservation. April 2008. New York State Stormwater Management Design Manual.

New York State Department of Environmental Conservation. June 2000. Urban/ Stormwater Runoff Management Practices Catalogue for Nonpoint Source Pollution Prevention in New York State.

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Stormwater Management - Ponds (NY)—Orange County, New York
(Stormwater Management - Ponds: Wallkill Channel Daylighting)

Map Scale: 1:2,540 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Most limited

Somewhat limited

Least limited

Not rated or not available

Soil Rating Lines

Most limited

Somewhat limited

Least limited

Not rated or not available

Soil Rating Points

Most limited

Somewhat limited

Least limited

Not rated or not available

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)

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Soil Survey Area: Orange County, New York
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Stormwater Management - Ponds (NY)

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Description

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This interpretation is designed to evaluate the limitations of soils for stormwater management practices. The purpose of the interpretation is to help decision makers use soil survey information in the selection and implementation of the stormwater management practices best suited to a particular location. The information in the interpretations is intended for planning purposes and does not eliminate the need for on-site investigation of the soil.

Rating class terms indicate the extent to which the soils are limited by the soil features that influence the design, construction, and performance of stormwater management practices. "Least limited" indicates that the soil has features that are very favorable for this practice. Good performance and low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the practice. The limitations can be overcome or minimized by special planning, design, or construction. Fair performance and moderate maintenance can be expected. "Most limited" indicates that the soil has one or more features that are unfavorable for the practice. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive construction procedures. Poor performance and high maintenance can be expected.

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Design criteria in the "New York State Stormwater Management Design Manual" (New York State Department of Environmental Conservation, 2008) were used to guide the selection of potentially limiting soil properties. Additional limiting features incorporated into the interpretations are based on soil function for the specific practice.

Pond Practices

This interpretation is designed to evaluate the limitations of soils for stormwater management ponds (excluding small "pocket ponds"). Although designs vary, most stormwater ponds are excavated, have a dam with a spillway, a separate forebay area, and a permanent pool 4 to 6 feet deep. Such designs detain stormwater for a number of days to a few weeks, allowing pollutants to settle out while aiding biological uptake of nutrients. Following is a synopsis of the soil features considered in this interpretation.

Permeability: Excessive permeability limits the capability of the soil to retain water. The interpretation evaluates the representative permeability in the least transmissive layer (minimum) and the bottom layer, excluding bedrock.

Slope gradient: Excessive slope reduces the feasibility of constructing a pond. The representative slope gradient percent for the soil component is the property evaluated.

Depth to bedrock: Limited depth to bedrock impedes excavation and construction of the pond. Minimum depth to bedrock is the property evaluated. The severity of the depth limitation increases as slope gradient increases, since the bedrock impedes grading and shaping of the land. The interpretation also evaluates slope gradient percent in conjunction with depth to bedrock.

Depth to manufactured layer: In urban areas, some anthropogenic (human-altered) soils have a restrictive layer, such as pavement, below the surface. Limited depth to this restriction impedes excavation and construction of the pond. The minimum depth to a manufactured layer is the property evaluated. The severity of the depth limitation increases as slope gradient increases, since the pavement or other restriction impedes grading and shaping of the land. The interpretation also evaluates slope gradient percent in conjunction with depth to a manufactured layer.

Flooding: Flooding limits the storage capacity of the pond and may degrade the quality of the site. The interpretation evaluates the flooding frequency of the soil.

Depth to saturation: A seasonal high water table at the surface of the soil limits the storage capacity of the pond. The interpretation evaluates the minimum depth to a zone of saturation.

In addition to soil characteristics, other attributes of the site and the surrounding area are important factors in planning and implementing stormwater ponds. For example, an increase in the runoff-generating potential and size of a contributing area upslope from the proposed pond site generally increases the size of the required area with suitable soils for constructing the stormwater pond.

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