ENVIRONMENTAL ASSESSMENT

SCRAPYARD SOLAR PROJECT

524 NEW LONDON ROAD

COLCHESTER, CONNECTICUT

Prepared for:

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1 Introduction

All-Points Technology Corporation, P.C. ("APT") prepared this Environmental Assessment ("EA") on behalf of 524 NLR LLC (the "Petitioner") for the proposed installation and utility interconnection of a solar-based electric generating facility (collectively, the "Project"), with output of approximately 3.99 megawatts[1] ("MW") located in the Town of Colchester, Connecticut ("Town"). This EA has been completed to support the Petitioner's submission to the Connecticut Siting Council ("Council") of a petition for declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of the electric generating facility.

The results of this assessment demonstrate that the proposed development will comply with the Connecticut Department of Energy and Environmental Protection's ("DEEP") air and water quality standards and will not have an adverse effect on the existing environment and ecology of the Site or the surrounding area. Further, the proposed Project is neither defined as an "affecting facility"[2] nor located within an "environmental justice community"[3] under Connecticut General Statutes § 22a-20a.

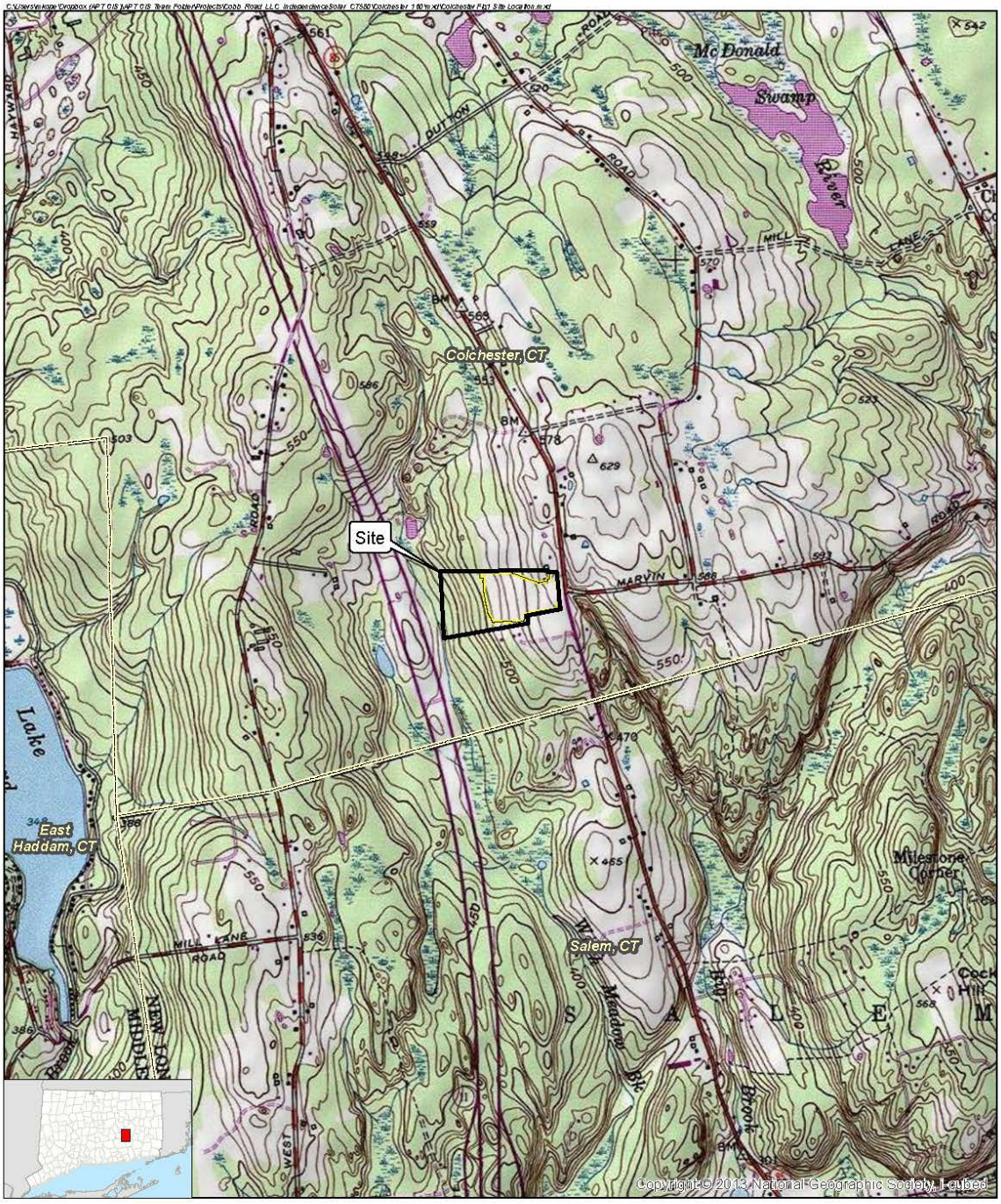
The Project will be located on a 35.56-acre property on the west side of New London Road (State Route 85) in Colchester, Connecticut (referred to herein as the "Site"). The eastern portion of the Site contains an automotive salvage yard; the western portion is undeveloped. The Site is within the Rural zoning district; the portion of the Site nearest Route 85 is also within the Route 85 Arterial/Commercial overlay district.

Figure 1, *Site Location Map*, depicts the location of the Site and the immediate surrounding area.

[1] The output referenced is Alternating Current (AC).

[2] "Affecting facility" is defined, in part, as any electric generating facility with a capacity of more than ten megawatts.

[3] "Environmental justice community" means (A) a United States census block group, as determined in accordance with the most recent United States census, for which thirty per cent or more of the population consists of low income persons who are not institutionalized and have an income below two hundred per cent of the federal poverty level, or (B) a distressed municipality, as defined in subsection (b) of § 32-9p.



Legend

- Site
- Project Area
- Municipal Boundary

Map Notes:
Base Map Source: USGS 7.5 Minute
Topographic Quadrangle Map: Colchester, CT (1984)
Map Scale: 1 inch = 2,000 feet
Map Date: January 2023

2,000 1,000 0 2,000 Feet

Figure 1
Site Location Map

Proposed Solar Energy Facility
524 New London Road
Colchester, Connecticut

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2 Proposed Project

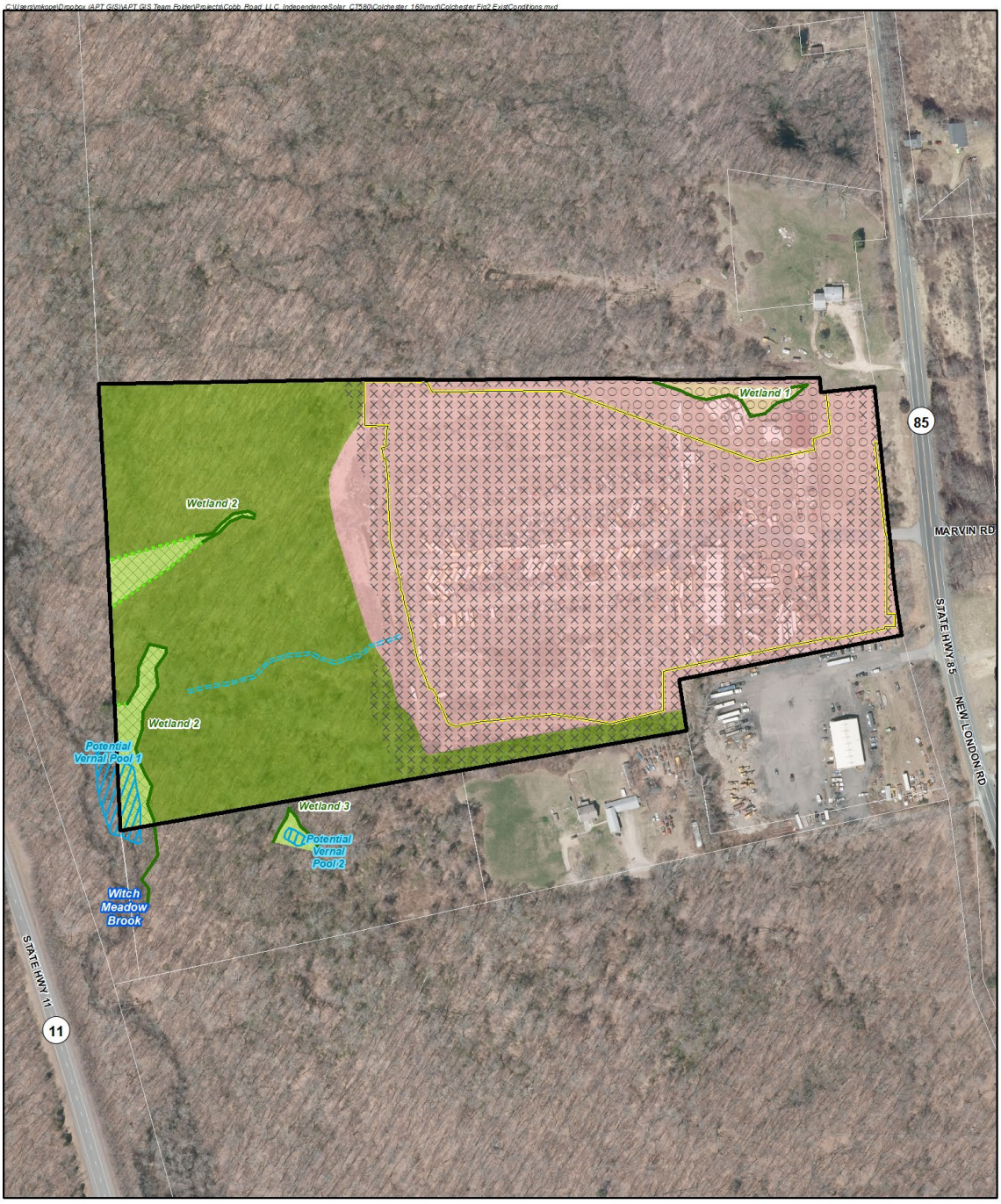
2.1 Project Setting

The Project will occupy ±16.49 acres in the eastern portion of the Site (the "Project Area"). The Project Area is entirely within the footprint of the developed portion of the Site, which is currently being used for the automotive salvage yard operations. The electrical service interconnection line will extend to New London Road at the northeastern corner of the Site. Access will be over an existing access drive from New London Road.

The Site's existing topography ranges from approximately 424 feet above mean sea level ("AMSL") to 578 feet AMSL. Grades within the Project Area slope downward from the east to the west, with ground elevations ranging from approximately 560 feet AMSL to 510 feet AMSL.

Figure 2, *Existing Conditions*, depicts current conditions on the Site.

The surrounding area includes wooded areas, sparse residential development, with commercial development immediately to the south and agricultural fields to the east. State Route 85 borders the Site on the east. State Route 11 is to the west beyond the woodlands.



Legend

- Site
- Project Area
- Approximate Parcel Boundary
- Prime Farmland Soils
- Statewide Important Farmland Soils
- Eroded Channel
- Delineated Wetland Boundary
- Approximate Wetland Boundary
- Wetland Area
- Potential Vernal Pool

Habitat Cover Type

- Developed
- Forested Wetland
- Upland Forest

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 300 feet
Map Date: January 2023

N

300 150 0 300 Feet

Figure 2
Existing Conditions Map

Proposed Solar Energy Facility
524 New London Road
Colchester, Connecticut

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2.2 Project Development and Operation

Upon its completion, the solar electric energy generating facility (the "Facility") will consist of a total of 7,655 665W photovoltaic modules ("panels")[4] and associated equipment. A ground-mounted single-axis tracker racking system will be used to secure the panel arrays. The perimeter of the Facility will be surrounded by a solid nine (9)-foot tall solid fence along New London Road, transitioning to a seven (7)-foot tall chain link fence west of the northeast and southeast corners of the Facility. The salvage yard has an existing solid perimeter fence on the eastern, northern and southern sides, which will remain on the northern and southern sides outside of the proposed chain link fencing for the Project post-construction; the eastern portion will be replaced with a like fence along the eastern Facility boundary. The Project will also require one (1) electrical service interconnection that will extend from the existing Eversource distribution system along the west side of New London Road. The interconnection route will run overhead on four (4) utility poles to the northeast corner of the Facility and from there to pad-mounted electrical equipment. Electrical connections will then extend underground into the Facility. Once complete, the fenced Facility will occupy approximately 13.44 acres of the Site with an additional ±3.05 acres of improvements beyond the fenced limits, for a total Project Area of ±16.49 acres.

Proposed development drawings are provided in Appendix A, *Project Plans*.

The leading edge of the panels will be at least 3.0 feet above the existing ground surface, which will provide adequate room for any accumulating snow to "sheet" off. Any production degradation due to snow build-up has already been modeled into the annual system output and performance calculations. The Petitioner does not envision requiring any "snow removal" operations; rather, the snow will be allowed to melt or slide off.

Construction activities within the Project Area will require the following:

- installing erosion and sedimentation control measures;
- creating four (4) temporary sediments traps and associated grading;
- installing racking and modules;
- trenching for electrical service and interconnection; and

[4] The total number of panels may be adjusted up or down based on the available panel wattage and form factors once the Project is ready to begin material procurement, however, the total area of the panels is expected to stay approximately the same.

- installing four (4) overhead utility poles for interconnection to the existing electrical distribution system along New London Road.
- Earthwork is required to allow the Project development to comply with DEEP's *Appendix I, Stormwater Management at Solar Array Construction Projects*. ("Appendix I") to the *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* ("General Permit"), including creation of the perimeter drive, grading associated with the required drainage and erosion and sedimentation control features (cuts/fills), re-use of existing material stockpiles (gravel, rock, soil,) as appropriate with removal of any remainder, and construction of the temporary sediment traps.

The Facility is unstaffed; after construction is complete and the Facility is operable, traffic at the Site will be minimal. It is anticipated that the Facility will require routine maintenance of the electrical equipment and tracker system four (4) times per year. Annual maintenance will typically involve two (2) technicians for a day. Repairs will be made on an as-needed basis. It is expected that mowing would occur, at a minimum, one (1) time per year to suppress woody growth and maintain a meadow environment. Depending on site-specific conditions, additional mowings (e.g., 2 to 3 times annually) may be required to negate shading of the panels from taller species.

2.2.1 Access

The Facility will be accessed from New London Road via an existing driveway. An 18-foot wide gravel drive will extend around the perimeter of the Facility to provide access within the Facility.

2.2.2 Public Health and Safety

The Project will meet applicable local, state, national and industry health and safety standards and requirements related to electric power generation. The Facility will not consume any raw materials, will not produce any by-products and will be unstaffed during normal operating conditions.

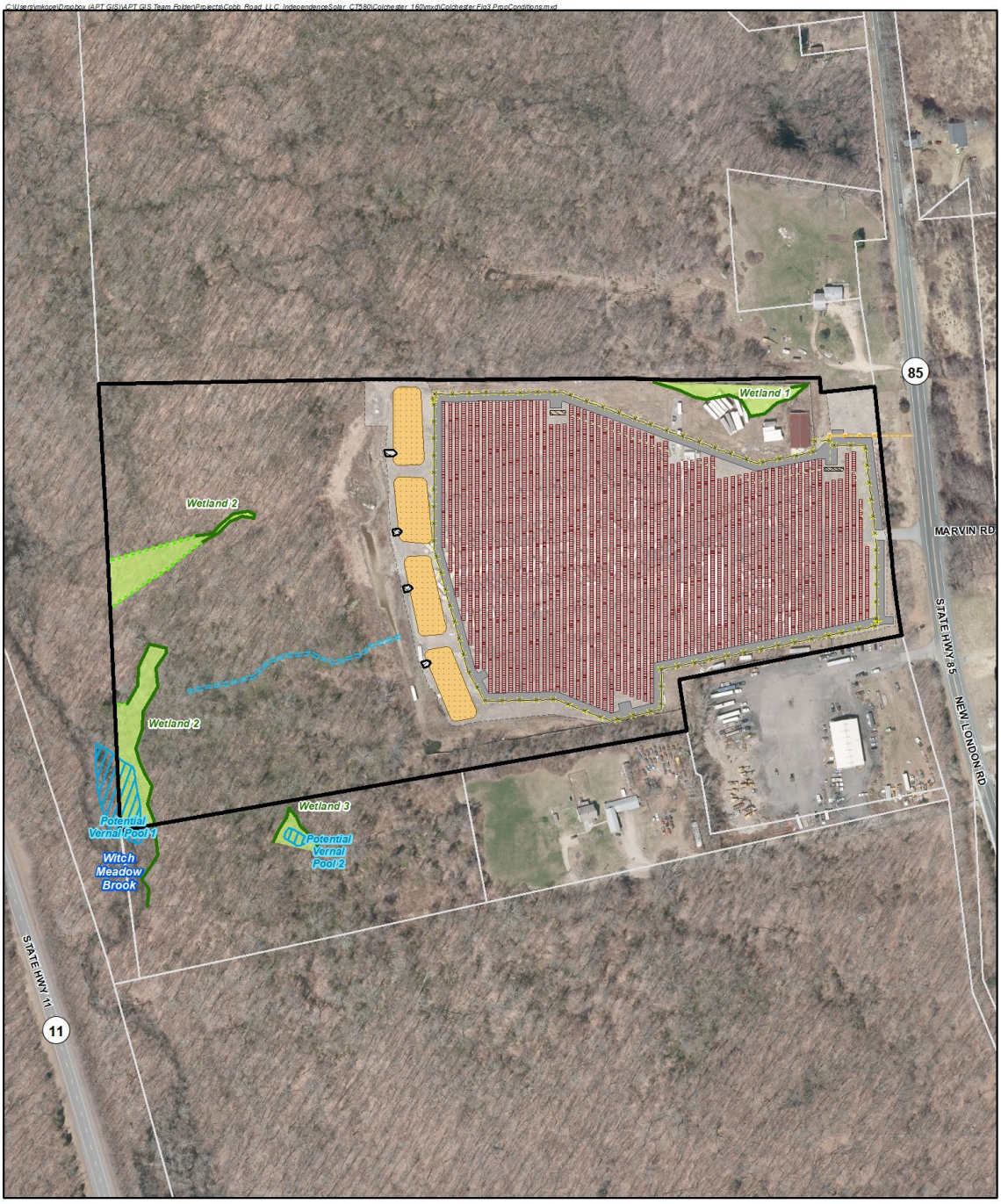
Most of the Facility will be enclosed by a seven (7)-foot tall chain link fence; along New London Road and at the northeast and southeast corners, the fence will be a solid 9-foot tall fence matching the fence currently in place. The entrance to the Facility will be gated, limiting access to authorized personnel only. All Town emergency response personnel will be provided access via

a Knox padlock. The Facility will be remotely monitored and will have the ability to de-energize via a main disconnect switch located outside of the fenced area near the Project entrance in the case of an emergency.

3 Environmental Conditions

This section provides an overview of the current conditions at the Site and an evaluation of the Project's potential impacts on the environment. The results of this assessment demonstrate that the Project will comply with the DEEP air and water quality standards and will not have an undue adverse effect on the existing environment and ecology.

Please refer to Figure 3, *Proposed Conditions* for a depiction of the Project and its relationship with the resources discussed herein.



Legend

- Site
- Approximate Parcel Boundary
- Fence
- Overhead Utilities
- Underground Utilities
- Utility Pole
- Solar Modules
- Concrete Pad
- Temporary Sediment Rip-Rap Overflow Weir
- Gravel Access Drive
- Temporary Sediment Trap
- Limit of Distrubance
- Potential Vernal Pool
- Eroded Channel
- Approximate Wetland Boundary
- Delineated Wetland Boundary
- Wetland Area

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 300 feet
Map Date: January 2023

N

300 150 0 300 Feet

Figure 3
Proposed Conditions Map

Proposed Solar Energy Facility
524 New London Road
Colchester, Connecticut

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3.1 Air Quality

Due to the nature of a solar energy generating facility, no air emissions will be generated during operations and, therefore, the operation of the Facility will have no adverse effects on air quality and no permit is required.

Temporary, potential, construction-related mobile source emissions will include those associated with construction vehicles and equipment. Any potential air quality impacts related to construction activities can be considered de minimis. Such emissions will be mitigated using available measures, including limiting idling times of equipment; proper maintenance of all vehicles and equipment; and watering/spraying to minimize dust and particulate releases. In addition, all on-site and off-road equipment will meet the latest standards for diesel emissions, as prescribed by the United States Environmental Protection Agency.

3.2 Water Resources

3.2.1 Wetlands and Watercourses

APT Registered Soil Scientists identified portions of three (3) wetlands on or proximate to the Site during a field inspection and wetland delineation completed on August 11, 2022. The results of this investigation are summarized below. The location of these resources is depicted on Figure 2, *Existing Conditions*.

Wetland 1 is located in the northeastern corner of the Site within a heavily disturbed area consisting of altered/filled material and containing abandoned vehicles/debris. Draining north off-Site, this wetland contains bordering emergent vegetation consisting predominantly of common reed, soft rush, sensitive fern, and bladder sedge, transitioning to an interior scrub/shrub complex dominated by speckled alder, Bebb willow, and eastern cottonwood saplings. Historic grading and filling associated with the current and former salvage yard operation has resulted in a perched water table within this disturbed wetland feature. Off-Site undisturbed portions of this wetland consist of bordering scrub-shrub transitioning to an interior forested red maple-dominant wetland.

Wetland 2 occurs in the far western extents of the Site and consists of a forested wetland dominated by red maple and yellow birch overstory. This resource is removed from the salvage yard, with seasonally saturated hillside seeps that drain west off-Site over rocky soils, eventually discharging into seasonally flooded backwater channels associated with a perennial watercourse

identified as Witch Meadow Brook. These backwater channels contain buttressed roots, micro-depressions with sparse vegetation, and moss trim lines that are indicative of seasonal inundation that potentially supports vernal pool habitat, identified as potential vernal pool 1 ("PVP 1).

Wetland 3 is off-Site, south of the western portion of the Site. It is comprised of seasonally saturated soils with seepage outbreaks that form along shallow densic contacts (dense glacial till) resulting from a shallow, seasonally perched water table. This resource is predominantly forested, dominated by red maple. An interior pocket of emergent vegetation displays physical evidence of seasonal inundation that may support vernal pool breeding habitat, identified as PVP 2. If breeding habitat is supported it may be limited due to apparent shallow depth of inundation (6 inches or less).

3.2.2 Vernal Pools

PVPs 1 and 2 are potential cryptic-style vernal pools. Surveys for breeding of obligate vernal pool species were not performed because the 2022 breeding season had passed. However, because the entire Project Area is within Developed Habitat that provides suboptimal terrestrial habitat and there is substantial distance between these features and the Project Area, the following analysis assumes both PVPs support productive vernal pool breeding by obligate species.

It is widely documented that vernal pool dependent amphibians are not solely reliant upon the actual vernal pool habitat for breeding (i.e., egg and larval development) but do require surrounding upland forest habitat for most of their adult lives. Accepted studies recommend conservation of adjacent habitat up to 750 feet from the vernal pool edge for obligate pool-breeding amphibians (Calhoun, Klemens, 2002; "BDP").[5] Although construction activity will be taking place within this 750-foot area (the Project Area limits are ±713 feet from PVP 1 and ±425 feet from PVP 2), disturbance will be limited to previously developed areas that are suboptimal vernal pool terrestrial habitat. Off-Site undisturbed wetland and forested habitats to the north and southwest of the Project offer relatively higher quality terrestrial habitat that would support possible migratory vectors for vernal pool obligate species. Construction and operation of the Facility would not result in a direct physical impact to either vernal pool nor would it impact higher quality terrestrial habitat or intercept principal migratory vectors. The Facility will be well outside

[5] Calhoun, A.J.K. and M.W. Klemens. 2002. Best Development Practices (BDPs): Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States. WCS/MCA Technical Paper No. 5.

the 100-foot Vernal Pool Envelope and no clearing of forested habitat is associated with the Project. Although the Project Area would occur within the Critical Terrestrial Habitat zone, development of the Facility does not increase developed areas within the Critical Terrestrial Habitat associated with either vernal pool. Therefore, the Project is not anticipated to result in a likely adverse impact to the two PVPs or obligate vernal pool species populations that could be utilizing these pools and the surrounding forested habitats.

3.2.3 Wetland Impacts

The Project will not result in any direct impacts to wetland resources. The nearest activity to wetland resources consists of landscape plantings which will be installed within ±47 feet of Wetland 1 to provide a vegetated buffer between the development and New London Road. A small portion of the perimeter fencing and road will be located ±95 feet from Wetland 1 with solar modules maintaining a 100-foot minimum buffer. Significant buffers of ±313 feet and ±415 feet, respectively, are provided to Wetlands 2 and 3. Construction activities would not be expected to result in an adverse impact to the Site's wetland resources based on sufficient buffers being afforded, the existing disturbed condition of Wetland 1, and the fact that the Project will not require clearing of any mature vegetation within those buffers. Table 1, *Summary of Project Wetlands*, provides the distances to wetland resources.

Table 1: Summary of Wetlands

Distance to Wetlands	
Distance from Wetland 1 (± ft.)	47
Distance from Wetland 2 (± ft.)	313
Distance from Wetland 3 (± ft.)	415

3.2.4 Floodplain Areas

The Facility will not be located within a 100- or 500-year flood zone. APT reviewed the United States Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("FIRM") covering the Site. A FIRM is the official map of a community on which FEMA has delineated both the special hazard areas and risk premium zones applicable to the community. The area inclusive of the Site is mapped on FIRM PANEL #09011C 0168 G, dated July 18, 2011. Based upon the reviewed FIRM Map, the Site is located in an area designated as Zone X, which is defined as an area of minimal flooding, typically above the 500-year flood level.

No special design considerations or precautions relative to flooding are required for the Facility. As no portion of the Project Area is proposed to be located in or impact 100- or 500-year flood zones, no impacts are anticipated to floodplain or downstream areas.

3.3 Water Quality

As discussed in this section, the Project will comply with DEEP's water quality standards. Once operative, the Facility will be unstaffed, and no potable water uses or sanitary discharges are planned. No liquid fuels are associated with the operation of the Facility. Stormwater generated by the proposed development will be properly handled and treated in accordance with the 2004 *Connecticut Stormwater Quality Manual* and Appendix I.

3.3.1 Groundwater

Groundwater underlying the Site is classified by publicly available DEEP mapping as "GA".[6] This classification indicates groundwater within the area is presumed to be suitable for human consumption without treatment.

Based upon a review of available DEEP mapping, the Site is not located within a mapped (preliminary or final) DEEP Aquifer Protection Area. The nearest Aquifer Protection Area is located approximately 0.48 mile northwest of the Site.

No public water system serves the area surrounding the Site; it is therefore presumed that neighboring developed properties are served by private wells. Typical construction techniques for installation of the Facility do not require blasting or other similar measures. Construction and operation of the Facility should have no impact to groundwater resources.

The Project will have no adverse environmental effect on ground water quality.

3.3.2 Surface Water

The Project will have no adverse environmental effect on surface water quality. Based upon DEEP mapping, the Site is located in Major Drainage Basin 4 (Connecticut River), Regional Drainage

[6] Designated uses in GA classified areas include existing private and potential public or private supplies of drinking water and base flow or hydraulically connected surface water bodies.

Basin 48 (Eightmile River), Subregional Drainage Basin 4802 (East Branch Eightmile River), and Local Drainage Basin 4802-02 (Witch Meadow Brook above unnamed brook).

Based upon DEEP mapping, Witch Meadow Brook is located downgradient and approximately 50 feet west of the Site and approximately 870 feet west of the Project area. Witch Meadow Brook is classified as a Class A surface waterbody by the DEEP.[7] The Project will have no effect on this surface waterbody.

Based upon DEEP mapping, the Site is not located within a mapped Public Drinking Supply Watershed. The nearest Public Drinking Supply Watershed is located approximately 0.35 mile to the east.

During construction, erosion and sediment ("E&S") controls will be installed and maintained in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. Once operative, stormwater will be managed in accordance with the 2004 *Connecticut Stormwater Quality Manual*.

3.3.3 Stormwater Management

In addition to the 2004 Connecticut Stormwater Quality Manual and 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, the Project has been designed to meet Appendix I. Combined, these address three (3) main concerns: stormwater runoff peak attenuation, water quality volume treatment, and E&S control during construction. The Petitioner will apply for a General Permit from DEEP. Technical details, mapping, and HydroCAD modeling results are provided in a Stormwater Management Report. A summary of these results is provided below.

Please see Appendix E, Stormwater Management Report.

Stormwater Runoff Peak Attenuation

The potential for changes in runoff from the Site as a result of Project construction has been evaluated and addressed in compliance with Appendix I. The Project will require the installation of solar racking and panels, utility poles for interconnection, underground utilities, equipment pads, and a perimeter access drive. Stormwater conditions will be improved as a result of a net

[7] Designated uses for A classified waterbodies include potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply and other legitimate uses including navigation.

reduction in impervious surfaces and the establishment of competent ground cover vegetation on current nutrient-poor soils throughout the Facility.

The stormwater calculations for the Project predict that the post-development peak discharges to the waters of the State of Connecticut for the 2-, 25-, 50- and 100- year storm events are less than the pre-development peak discharges. Therefore, the Project is not anticipated to result in any adverse conditions to the surrounding areas and properties.

Water Quality Volume Treatment

As noted above, the Project results in a net reduction of impervious cover on the Site. In addition, the Project Area will be stabilized and planted with a seed mix tailored to nutrient-poor soils, which will result in a meadow-type cover. As a result, the amount of stormwater runoff is reduced. Water quality is expected to improve without any additional stormwater management features.

Erosion and Sediment Control During Construction

To safeguard water resources from potential impacts during construction, the Petitioner is committed to implementing protective measures in the form of a Stormwater Pollution Control Plan ("SWPCP"), subject to approval by DEEP Stormwater Management. The SWPCP will include monitoring of established E&S controls that are to be installed and maintained in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control* and Appendix I.

To meet the requirement of the General Permit, four (4) temporary sediment traps will be installed prior to the start of Facility construction. Perimeter erosion controls (silt fence) will encircle the Project Area to capture sediment potentially mobilized during site work. The traps will be cleaned of deposited sediment as needed during construction to maintain sufficient sediment storage capacity. Upon final site stabilization, they will be removed and the area regraded and stabilized.

At the start of construction, open areas will be temporarily stabilized with appropriate seed mixes and soil amendment as necessary. The Project Area will be seeded with a permanent seed blend tailored to the amended soil condition upon completion of construction. The phased erosion control plan and details are provided in Appendix A, *Project Plans*.

With the incorporation of these protective measures, stormwater runoff from Project development is not anticipated to result in an adverse impact to water quality associated with nearby surface water bodies.

3.4 Habitat and Wildlife

Three (3) distinct habitat types (vegetative communities) separated by transitional ecotones are located on the Site. These habitats were assessed using remote sensing and publicly available datasets and were physically inspected during the August 11, 2022 field evaluation.

The habitats occupying the Site are as follows.

- Developed;
- Upland Forest; and
- Forested Wetland

3.4.1 Habitat Types

Developed

Developed areas encompass the majority of the eastern half and central portions of the Site. Currently utilized as a salvage yard, the ±21.17-acre Developed area consists of a combination of gravel and udorthents (moderately well-drained to excessively well-drained soils that have been disturbed through historic cutting and/or filling) with an assortment of immobile vehicles, debris, and trailers. The entire Project Area will be located within this Developed habitat. These soil surfaces are disturbed, nutrient-poor, compacted, and impacted from routine vehicle movement and prolonged storage of metal, debris, and scrap salvage, inhibiting growth of vegetation. This habitat is characterized by sparsely vegetated areas with autumn olive, speckled alder, goldenrod, black-eyed susan, red clover, and mugwort; autumn olive and mugwort are classified as non-native invasive species. The intensive land use and lack of vegetation has resulted in the Developed habitat providing minimal wildlife habitat value. As described in Section 3.1.1, Wetland 1 is within this Developed area and has experienced historic alteration.

An existing approximately 9-foot tall security fence encompasses three sides of the salvage yard, which also restricts wildlife movement and further degrades the quality of the resource from a habitat perspective. The open and unfenced western boundary contains an existing stormwater

basin and swale with evidence of woody debris along the transitional interface to the upland forest. This transitional scrub/shrub area is dominated by autumn olive, honeysuckle bush, and multiflora rose, separating this habitat from surrounding Upland Forest habitats; honeysuckle bush and multiflora rose are classified as non-native invasive species.

Upland Forest

The Upland Forest habitat occupies a large portion of the western half of the Site and serves as a transitional area between the Developed and Forested Wetland habitats. This habitat is characterized by mixed-aged hardwood forest with a dense shrub understory. It is part of a larger forested block that includes off-Site habitat to the north and south and adjacent Forested Wetland habitats. The Upland Forested habitat differs from the adjacent Forested Wetland habitats in that it occurs entirely within well-drained upland areas and has a significantly different vegetative species composition. Dominant species within the Upland Forest habitat include American beech, sugar maple, and black birch. These areas are characterized by a moderately dense understory dominated by hornbeam, American hophornbeam, and Japanese barberry; Japanese barberry is classified as a non-native invasive species. The forest floor consists of hayscented fern, cinnamon fern, and Christmas fern.

Development of the Facility will not result in any impacts to the Upland Forest habitat type. Any potential secondary short-term impacts during the Project's construction phase will be minimized through the proper stabilization of soils during construction through strict adherence to the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*.

Forested Wetland

As introduced in Section 3.1.1, Forested Wetland habitat occupies areas along the western property boundary. The on-Site wetlands in this portion of the Site consist of seasonally saturated seeps dominated by a mixed hardwood forest draining west into a broad backwater riparian complex with pockets of seasonally flooded and/or semi-permanent flooded depressions. Dominant species within this habitat include red maple, yellow birch, spicebush, Japanese barberry, cinnamon fern, skunk cabbage, jewelweed, Japanese stilt grass, and sphagnum moss; Japanese stilt grass is classified as a non-native invasive species.

With the exception of a minor encroachment into the 100-foot buffer to Wetland 1 associated with landscaping, perimeter fencing and access road, a minimum 100-foot setback from surrounding Wetland habitat will be maintained throughout the Project. There is no proposed tree clearing within this habitat, and erosion and sediment control measures will be installed and maintained as part of the Project to avoid potential secondary impacts. As such, no significant impacts are anticipated to the Forested Wetland habitat from the Project.

Table 2, *Habitat Areas* provides the total acreages of each habitat type located on the Site and within the Project Area.

Table 2: Habitat Areas

Habitat Areas		
Habitat Type	Total Area On-Site (± ac.)	Area Occupied by Project (± ac.)
Developed	21.17	16.49
Edge Forest	13.45	0.00
Forested Wetland	0.90	0.00

3.4.2 Core Forest Determination

The entire Project Area is cleared and developed; no tree removal is required for development of the Facility. As a result, the Project will not affect core forest resources.

In accordance with General Statutes §16-50k(a), the Petitioner initiated consultation with the DEEP Forestry Division in August 2022, including information on the Site and the Project. DEEP responded on September 26, 2022, confirming that the Project "**will not** materially affect the status of such Site as core forest." (Emphasis in original) See Appendix C, DEEP and DOA correspondence.

3.4.3 Wildlife

Project-related impacts within on-Site habitats are limited and are not anticipated to adversely affect wildlife.

Development of the Project will occur within only one of the Site's three habitats, the Developed habitat. Developed habitat areas currently provide limited value from a wildlife utilization

standpoint due to the lack of vegetation and site disturbance associated with the existing use as a salvage yard.

Based on the surrounding land uses, the adjacent edge upland forest located in proximity to the Project Area is likely utilized by species that are more tolerant of human disturbance and habitat fragmentation. Generalist wildlife species, including several song birds and mammals such as raccoon, striped skunk, grey squirrel, Virginia opossum, white-tailed deer, and eastern chipmunk could be expected to use this area. Due to the relatively small size of this habitat block, lack of direct impacts, and the abundance of similar habitat surrounding the Site, the Project is not anticipated to result in a significant impact to wildlife.

The Project Area will not encroach into the western Upland and Forested Wetland habitats. Project development will occur entirely in areas with existing development and disturbance. As a result, wildlife utilization within these habitats is expected to continue relatively uninterrupted. Noise and associated human activities during construction may result in limited, temporary disruption to wildlife using nearby Forested Wetland habitat. Any wildlife that may be temporarily displaced are expected to relocate deeper into existing wetland habitats of similar character to the west, north, and south. Post-construction, operation of the Facility will not result in a likely adverse effect to wildlife using these habitats because it will be unoccupied and does not generate any significant noise or traffic.

In addition, pollinator-friendly seed mixes will be incorporated into the final plantings throughout the Project Area, including beneath the panels and between the panel rows, replacing sparsely vegetated areas currently in use for automotive salvage operations. This blend will have a mix of shade tolerant and sun tolerant seeds so that full coverage can be expected. Moreover, because a significant portion of these plantings will take place on land that was previously used as an automotive scrap yard, it is anticipated that this seed blend will be a net gain for the area's wildlife.

3.5 Rare Species

APT reviewed publicly available information to determine the potential presence of state/federally listed species and critical habitat on or proximate to the Site. A discussion is provided in the following sections.

3.5.1 Natural Diversity Data Base

The DEEP Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state-listed species and to help landowners conserve the state's biodiversity. In furtherance of this endeavor, the DEEP also developed maps to serve as a pre-screening tool to help developers determine if there is the potential for project-related impact to state-listed species.

The NDDB maps represent approximate locations of (i) endangered, threatened and special concern species and, (ii) significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by DEEP staff, scientists, conservation groups, and landowners. In some cases, an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded (or cross-hatched) polygons on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowners' rights whenever species occur on private property.

APT reviewed the most recent DEEP NDDB mapping (December 2022), which revealed the nearest area of state-listed species is located ±0.99 mile west/southwest from the Site. Because no state-listed species or communities are documented on the Site, consultation with NDDB is not required in accordance with their review policy.

3.5.2 USFWS Consultation

Federal consultation was completed in accordance with Section 7 of the Endangered Species Act through the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation System ("IPaC"). Based on the results of the IPaC review, one federally-listed[8] endangered species is known to occur in the vicinity of the Site, northern long-eared bat ("NLEB"; *Myotis septentrionalis*). The NLEB's range encompasses the entire State of Connecticut and suitable NLEB roost habitat includes trees (live, dying, dead, or snag) with a diameter at breast height ("DBH") of three (3) inches or greater. Effective March 31, 2023, NLEB has been reclassified from

[8] Listing under the federal Endangered Species Act

threatened to endangered. As a result, a change to the consultation process for this species is expected.

APT reviewed the DEEP's publicly available *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* map (February 1, 2016) to determine the locations of any known maternity roost trees or hibernaculum in the state. This map reveals that there are currently no known NLEB maternity roost trees in Connecticut. The nearest NLEB habitat resource to the Site is located in North Branford, ±25.3 miles to the southwest.

APT completed a determination of compliance with Section 7 of the Endangered Species Act of 1973 for the Project under the previously allowed 4(d) determination key consultation process. In compliance with the USFWS criteria for assessing NLEB which is in effect until January 30, 2023, the Project will not likely result in an adverse effect or incidental take[9] of NLEB and does not require a permit from USFWS. A USFWS letter dated August 23, 2022 confirmed compliance at the time of consultation. Once the new NLEB consultation process is made available by USFWS, the project will be reassessed under the new compliance tools. Since the Project does not require tree clearing, no likely adverse effect to NLEB is anticipated even with the reclassification of this species.

A full review of the *Endangered Species Act (ESA) Compliance Determination* and USFWS's Response Letter is provided in Appendix B, *USFWS and NDDB Compliance Statement*.

3.6 Soils and Geology

Surficial materials on the Subject Property are classified as thin and thick deposits of glacial till. Bedrock beneath the Subject Property is identified as Brimfield Schist. Brimfield Schist is described as a gray, rusty-weathering, medium to coarse-grained, interlayered schist and gneiss, composed of oligoclase, quartz, K-feldspar, and biotite, and commonly garnet, sillimanite, graphite, and pyrrhotite. K-feldspar partly as augen. The Petitioner does not anticipate encountering bedrock during Project development.

[9] "Incidental take" is defined by the Endangered Species Act as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." For example, harvesting trees can kill bats that are roosting in the trees, but the purpose of the activity is not to kill bats.

Soil from construction of the temporary sediment traps will be retained in stockpiles and reused upon decommissioning of the sediment traps. Grading within the Facility is not anticipated to generate excess soil. See Appendix A*, Project Plans.*

All exposed soils resulting from construction activities will be properly and promptly treated in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*.

3.6.1 Prime Farmland Soils

In accordance with the Code of Federal Regulations, CFR Title 7, part 657, farmland soils include land that is defined as prime, unique, or farmlands of statewide or local importance based on soil type. They represent the most suitable land for producing food, feed, fiber, forage, and oilseed crops.

According to the Connecticut Environmental Conditions Online Resource Guide[10], nearly all of the Project Area contains Prime Farmland Soils, with the remainder Statewide Important Farmland Soils (See Figure 2, *Existing Conditions Map)*. As discussed above, however, there is no agricultural use associated with the Site and the Site's potential for agricultural use has been adversely impacted by long-standing use as an automotive salvage yard.

In accordance with General Statutes §16-50k(a), the Petitioner initiated consultation with the Connecticut Department of Agriculture ("DOA") in August 2022, including information on the Site and the Project. DOA responded on October 17, 2022, concluding that "there will be no further material impact, beyond the existing impact" on prime farmland soils. See Appendix C, DEEP and DOA correspondence.

3.7 Historic and Archaeological Resources

At the request of APT, and on behalf of the Petitioner, Heritage Consultants LLC ("Heritage") reviewed relevant historic and archaeological information to determine whether the Site holds potential historic or cultural resource significance. Their review of historic maps and aerial images of the Site, examination of files maintained by the Connecticut State Historic Preservation Office ("SHPO"), and a pedestrian survey of the Site revealed that two archaeological sites are located within one (1) mile of the Site; no National or Connecticut State Register of Historic Places

[10] Connecticut Environmental Conditions Online (CTECO) Resource Guide, www.cteco.uconn.edu.

properties were identified within one (1) mile of the Site. Their pedestrian survey revealed that the Site has been subjected to extensive modern disturbance and therefore the Site retains no/low potential to yield archaeological sites.

The SHPO concurred, stating that "no additional archaeological investigation of the project area is warranted and that no historic properties will be affected by the proposed undertaking."

The Phase 1A report and the SHPO response, dated September 23, 2022, are included in Appendix D.

3.8 Scenic and Recreational Areas

No state or local designated scenic roads or scenic areas are located near the Site and therefore none will be physically or visually impacted by development of the Project. The nearest scenic road is located approximately 1.22 miles north of the Project Area; Dutton Road is designated as a local (Colchester) scenic road.

There are no Connecticut Blue Blaze Hiking Trails, municipal parks, or State parks or forests located proximate to the Site. The Project will have no effect on any scenic or recreational resources.

See Figure 4, *Surrounding Features Map,* for resources located within one mile of the Project Area.

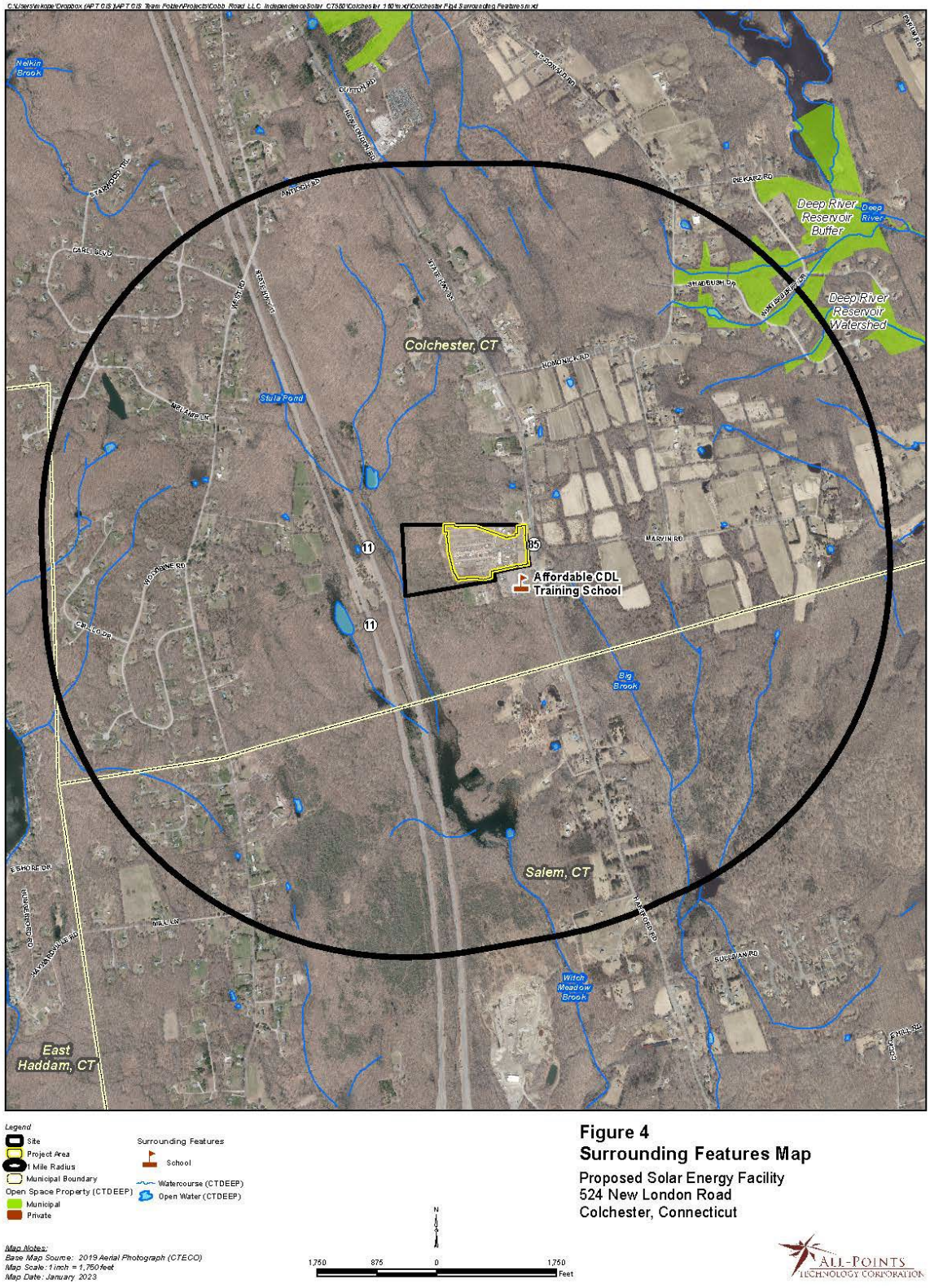


Figure 4
Surrounding Features Map
Proposed Solar Energy Facility
524 New London Road
Colchester, Connecticut

ALL-POINTS TECHNOLOGY CORPORATION

3.9 Noise

The Site contains an auto salvage yard and wooded land. Noise associated with human activities is currently generated on the Site.

Construction noise is exempted under State of Connecticut regulations for the control of noise, RCSA 22a-69-1.8(h)[11]. During construction of the Facility, the temporary increase in noise would likely raise localized ambient sound levels immediately surrounding the Project Area. Standard types of construction equipment would be used for the Project. In general, the highest noise level from this type of equipment (e.g., backhoe, bulldozer, crane, trucks, etc.) is approximately 88 dBA at the source.

Once operational, noise from the Facility will be minimal and generated from inverters (daytime only), transformers and tracker motors. The highest source of noise from the Facility is the inverters[12], which will be located at the northern end of certain of the module rows. The inverters will generate a maximum sound level of approximately 73 dBA measured at 1-meter (3.281 feet) away. The Facility would, conservatively, be considered a Class C (Industrial) noise emitter. The nearest property line from the northern end of the rows is ±50 feet to the north, an undeveloped property on New London Road. That property is within the Town's Rural zoning district, which allows for activities within the Class B noise zone; noise standards of 66 dBA apply to the Class B receptor. The nearest residence to the northern end of the rows is at 504 New London Road, ±347 feet to the north. The residentially developed property would be considered a Class A noise zone; noise standards of 61 dBA during the daytime and 51 dBA at night apply to the Class A receptor.[13]

Sound reduces with distance, and the inverters are inactive at night. APT applied the Inverse Square Law[14] to evaluate the relative sound level of the inverters to the nearest receptors. At a distance of 50 feet, the sound level would reduce to 49.3 dBA. The calculations show that the sound generated from the inverters would reduce to 32.5 dBA at a distance of 347 feet. With increased distances from the source, the noise level would decrease even further. The two

[11] The Town of Colchester does not have a municipal Noise Ordinance.

[12] Solectria XGI 1500-166 (166 kW-AC) inverters are proposed.

[13] RCSA 22a-69-3.5. Noise Zone Standards

[14] Inverse Square Law states that *the intensity of a force is inversely proportional to the square of the distance from that force*. With respect to sound, this means that any a noise will have a drastic drop-off in volume as it moves away from the source and then shallows out.

transformers comply with IEEE and ANSI standards for noise and the tracker motors produce minimal noise. Thus, all off-Site receptors are of sufficient distances from the proposed Project-related equipment that, once operational, noise levels during Facility operation will meet applicable State noise standards.

3.10 Lighting

No exterior lighting is planned for the Project.

3.11 FAA Determination

The Petitioner submitted relevant Project information to the Federal Aviation Administration ("FAA") for an aeronautical study to evaluate potential hazards to air navigation. The nearest airport is the Skis Airport located 3.06 miles to the north. The FAA provided Determinations of No Hazard to Air Navigation on January 17, 2023. See Appendix F, *FAA Determinations.* Based on this determination, there is no need to conduct a glare analysis.

3.12 Visibility

The Facility will consist of non-reflective solar panels measuring approximately 10 feet above grade. The proposed electrical interconnection will require the installation of four (4) new utility poles in the northeastern corner of the Site.

The solar modules are designed to absorb incoming solar radiation and minimize reflectivity, such that only a small percentage of incidental light will be reflected off the panels. This incidental light is significantly less reflective than common building materials, such as steel, or the surface of smooth water. The panels will be tilted up toward the southern sky, thereby further reducing reflectivity.

APT assessed the predicted visibility of the Facility with a Project-specific computer analysis of a one-mile radius around the Site. As depicted on the resulting viewshed maps, off-Site year-round visibility of the proposed Facility is limited to areas approximately 0.1 mile north and south of the Site and along portions of Route 85. It is anticipated that any such views will be similar to that currently experienced, although the fence on the eastern side of the Facility will be closer to Route 85 than the existing fence. The proposed fence will be approximately 120 feet from Route

85 once construction is completed. Seasonal visibility and views of the interconnect utility poles may be experienced along Route 85 south of the Site; it should be noted that utility poles exist along the western side of Route 85. Seasonal visibility is also predicted north and east of the Site up to approximately 0.25 mile away; occasional visibility of the utility poles is predicted within a portion of that area. In addition, seasonal visibility is predicted surrounding the Facility in areas where visibility of the existing salvage yard is likely and along a portion of Route 11 northwest of the Project. In general, views along Route 85 and to the northeast will be mitigated by the proposed 9-foot tall solid fence, existing mature vegetative buffer along Route 85, and by proposed vegetative screening at the northeast corner of the Site. The incremental impact on views in comparison to the existing use is not anticipated to be significant.

Please see Appendix G, *Visibility Documentation* for viewshed maps and photo-simulations.

4 Conclusion

As demonstrated in this Environmental Assessment, the Project will comply with the DEEP air and water quality standards. Further, it will not have an undue adverse effect on the existing environment and ecology; nor will it affect the scenic, historic and recreational resources in the vicinity of the Project.

Once operative, the Facility will be unstaffed and generate minimal traffic.

Development of the Project will have no significant impact on existing habitats and wildlife. The Northern long-eared bat was identified as potentially occurring within the vicinity of the Site but the Project is not expected to result in an adverse effect or an incidental take.

The Project Area will have no adverse effect on Prime Farmland Soils or Core Forest as the Project Area is already cleared and currently used as an automotive salvage yard. The Facility will convert areas of nutrient-poor soil to meadow-type vegetation. Once the Facility has reached the end of its useful life, the panels and equipment will be removed.

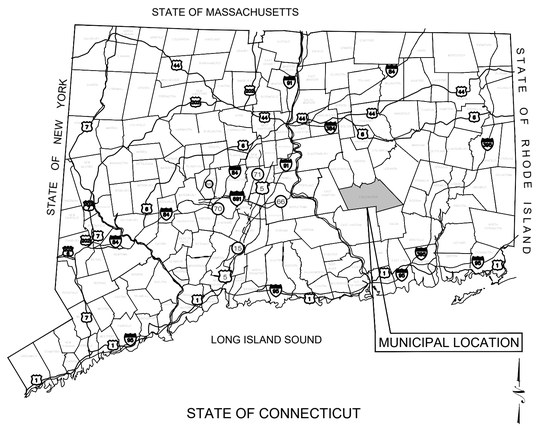
Predicted year-round visibility of the proposed Facility beyond the Site is primarily limited to areas within approximately 0.1 mile to the north and west, and will be similar to visibility of the existing salvage yard fence currently experienced. Seasonal visibility is predicted to extend around the Project perimeter and northeast of the Site. The interconnection utility poles are predicted to be visible occasionally within the areas of visibility. There are no scenic resources in the vicinity of the Project, and therefore no effect on any such resources.

There are no impacts, direct or indirect, to wetlands on the Site. The nearest wetland boundary to the Project area is 47 feet away at the northeast corner of the Site, with distances of over 300 feet to the wetlands in the western portion of the Site. E&S controls will be installed and maintained throughout construction in accordance with the Project's Resource Protection Plan. The distance from the main areas of disturbance within the fenced Facility to wetlands and implementation of protective management techniques will mitigate potential impacts to these resources during construction.

Overall, development of the Project will improve the environmental conditions at the Site by decreasing impervious surfaces, stabilizing soils and improving vegetation. Grading and excavation will be required for the development of the Facility and the construction of the temporary sediment traps. The Project has been designed to adequately handle water volume, in accordance with the DEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* as well as Appendix I. The Petitioner will implement a SWPCP, in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*, that will include provisions for monitoring of development activities and the establishment of E&S controls to be installed and maintained throughout construction.

APPENDIX A

PROJECT PLANS



524 NLR LLC

"SCRAPYARD SOLAR"

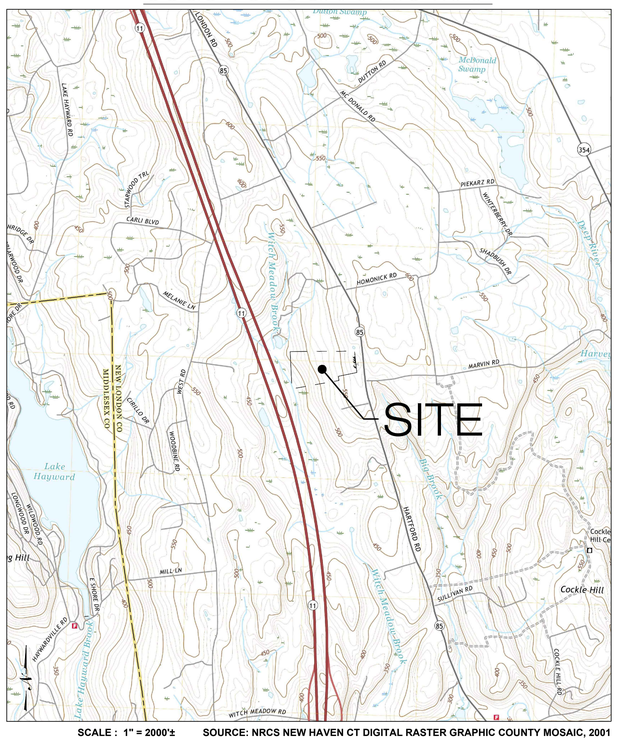
524 NEW LONDON ROAD
COLCHESTER, CT

LIST OF DRAWINGS

SITE INFORMATION

SITE NAME:	COLCHESTER SOLAR
LOCATION:	524 NEW LONDON ROAD COLCHESTER, CT
SITE TYPE/DESCRIPTION:	ADD (1) GROUND MOUNTED SOLAR PANEL ARRAY W/ ASSOCIATED EQUIPMENT AND GRAVEL ACCESS ROAD.
PROPERTY OWNER:	FIVE J, LLC 524 NEW LONDON ROAD COLCHESTER, CT
APPLICANT:	524 NLR LLC 9 NOVELTY LANE - UNIT 9B ESSEX, CT 06426
ENGINEER CONTACT:	KEVIN A. MCCAFFERY, P.E. (860) 581-4477
LATITUDE: LONGITUDE:	41.527693° -72.299056°
MBLU: ZONE:	01-10/03B-000 RU - RURAL
TOTAL SITE ACREAGE: TOTAL DISTURBED AREA:	35.56± AC. 16.49± AC.
APPROX. VOLUME OF CUT: APPROX. VOLUME OF FILL: APPROX. NET VOLUME:	5,192± CY (TEMPORARY) 630± CY (TEMPORARY) 4,562± CY OF CUT (TEMPORARY)

USGS TOPOGRAPHIC MAP



SCALE : 1" = 2000'± SOURCE: NRCS NEW HAVEN CT DIGITAL RASTER GRAPHIC COUNTY MOSAIC, 2001

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION

567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
0	03/07/23	FOR FILING: KAM
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23 CHECKED BY: KAM

SHEET TITLE:

TITLE SHEET & INDEX

SHEET NUMBER:

T-1

MAP NOTES:

1. THIS MAP AND SURVEY HAVE BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND "THE MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" ADOPTED JUNE 21, 1996; AMENDED OCTOBER 26, 2018.

2. THE TYPE OF SURVEY PERFORMED AND THE MAPPED FEATURES DEPICTED HEREON ARE IN ACCORDANCE WITH THE REQUIREMENTS OF A PROPERTY & TOPOGRAPHIC SURVEY AND IS INTENDED TO DEPICT EXISTING FEATURES UPON THE SUBJECT PARCEL FOR THE PURPOSE OF DESIGN CONSIDERATIONS.

3. THE HORIZONTAL BASELINE CONFORMS TO A CLASS A-2 ACCURACY.
THE VERTICAL BASELINE CONFORMS TO A CLASS V-2 ACCURACY.
THE TOPOGRAPHIC FEATURES CONFORM TO A CLASS T-3 ACCURACY.

4. THE PROPERTY/BOUNDARY DETERMINATION/OPINION DEPICTED HEREON CONFORMS TO A CLASS A-2 STANDARD AND IS BASED UPON A RESURVEY OF MAP REFERENCE 'A'.

5. THE VERTICAL RELIEF AND CONTOURS DEPICTED HEREON HAVE BEEN COMPILED FROM THE 2016 LIDAR FLIGHT CONDUCTED BY THE STATE OF CONNECTICUT AVAILABLE AT CTECO.COM AND BY A UAS FLIGHT CONDUCTED BY MARTIN SURVEYING ASSOCIATES ON JULY 28, 2022. THE VERTICAL RELIEF AND CONTOURS DEPICTED HEREON HAVE BEEN MODIFIED TO NOT DEPICT CERTAIN STOCK PILES LOCATED WITHIN THE PROJECT SCOPE AT THE CLIENTS REQUEST.

6. THE NORTH ARROW AND BEARINGS ARE BASED UPON THE CONNECTICUT STATE COORDINATE SYSTEM N.A.D. 1983 (2011). THE ELEVATIONS ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) USING GEOID 12B. COORDINATES AND ELEVATIONS WERE DETERMINED FROM RTK GPS OBSERVATIONS MADE ON JULY 28, 2022, USING THE CT DOT RTK NETWORK KNOWN AS ACORN (CTMA BASE), HAVING THE FOLLOWING VALUES:

LATITUDE = N 41° 43' 52.91679"
LONGITUDE = W 72° 12' 38.87732"
ELLIPSOID HEIGHT = 55.16M

MAP NOTES:

7. THE FEATURES DEPICTED HEREON ARE BASED UPON AN UNMANNED AERIAL SURVEY CONDUCTED ON JULY 28, 2022 AND A FIELD SURVEY CONDUCTED IN AUGUST, 2022.

8. UNDERGROUND UTILITIES, STRUCTURES AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON ARE BASED UPON OBSERVABLE SURFACE EVIDENCE WHILE CONDUCTING THE FIELD SURVEY. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE WHICH IS UNKNOWN TO MARTIN SURVEYING ASSOCIATES, LLC.. ALL CONTRACTORS ARE REQUIRED TO CONTACT CALL-BEFORE-YOU-DIG AT 1-800-922-4455 FOR LOCATION AND OR STAKEOUT OF ANY UTILITY PRIOR TO ANY EXCAVATION.

9. THE WETLANDS DELINEATION DEPICTED HEREON HAS BEEN PROVIDED BY ALL POINTS TECHNOLOGY CORPORATION.

MAP REFERENCES:

A. "KEY MAP PREPARED FOR DWIGHT R. MARVIN, CONNECTICUT ROUTE 85 COLCHESTER, CONNECTICUT" SCALE: 1"=100'; DATED: JUNE, 1989; BY: ROLAND J. HARRIS & ASSOCIATES.

B. "PLAN MADE FOR DWIGHT H. & DWIGHT R. MARVIN TOWN OF COLCHESTER, CONNECTICUT" SCALE: 1"= 40'; DATED: NOVEMBER, 1955; BY: CHANDLER & PALMER , ENGINEERS.

C. "MAP SHOWING PROPERTY OF DWIGHT MARVIN ROUTE #85 COLCHESTER, CONNECTICUT" SCALE: 1"=100'; DATED: APRIL 10, 1975; BY: BERNARD F. STONE.

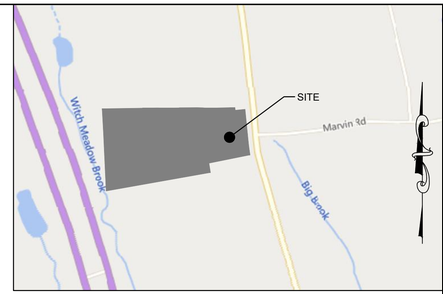
D. "LAND OF DWIGHT MARVIN 10 ACRES FOR PROPOSED USED AUTO PARTS" SCALE: 1"=100'; DATED: SEPTEMBER, 1970; BY: EDWARD J. BAZZELL.

E. "GLEN RIDGE SUBDIVISION OF PROPERTY BELONGING TO DWIGHT R. MARVIN BEING CONVEYED TO LINDA M. GLENN PROPERTY LOCATED AT HARTFORD-NEW LONDON TURNPIKE (ROUTE 85) COLCHESTER CONNECTICUT, ASSESSORS MAP 1-10, LOT 3" SCALE: 1"=100'; DATED: DECEMBER 24, 1987; BY: ROWLEY ENGINEERING & ASSOCIATES.

F. CLAUSON ESTATES SUBDIVISION PLAN PREPARED FOR ANN H. CLAUSON COLCHESTER, CONNECTICUT" SCALE: 1"=100'; DATED: SEPTEMBER 4, 1974; BY: ILLEGIBLE. DRAWER 14 SHEET 53 OF THE TOWN OF COLCHESTER LAND RECORDS.

G. "RIGHT OF WAY MAP TOWN OF COLCHESTER, COLCHESTER TO WATERFORD ROAD, FROM LAKE HAYWARD ROAD SOUTHERLY TO THE SALEM TOWN LINE" (SHEETS 4 THROUGH 7) SCALE: 1"=80'; DATED: SEPTEMBER, 1994; BY: CONNECTICUT DEPARTMENT OF TRANSPORTATION.

H. "RIGHT OF WAY MAP, TOWN OF COLCHESTER, HARTFORD-NEW LONDON TURNPIKE, FROM CROSS LANE SOUTHERLY TO SALEM TOWN LINE, ROUTE NO. 102" (SHEETS 1-2, 2A) SCALE: 1"=40'; DATED: MARCH, 1960; BY: CONNECTICUT STATE HIGHWAY DEPARTMENT.



SITE LOCATION MAP (NOT TO SCALE)

CT N.A.D. 83 (2011)

CHD FOUND

N/F
ALYCE DONAHUE
VOL:I503 PG:0335
PARCEL ID: 01-10/003-000
#NEW LONDON ROAD

N 89°05'38" E
696.84'
S 88°38'13" E
123.66'
N 88°32'29" E
79.12'
STONE WALL
N 89°16'16" E
297.89'
S 88°03'05" E
159.99'
STONE WALL
N 88°45'46" E
319.45'
S 05°42'16" E
34.74'
IRON PIN FOUND (¾") REBAR
CHD FOUND
N 84°17'44" E
125.00'
IRON PIN FOUND (BENT)
S 05°42'16" E
416.30'
SEE SHEET 2

N 03°07'26" W
320.13'
N 02°38'37" W
720.07'

N/F
KELLEN E SAVAGE
VOL:0999 PG:0358
PARCEL ID:01-10/008-000
#442 NEW LONDON ROAD

NEW LONDON ROAD
CT ROUTE 85

MARVIN ROAD

L=163.63'
R=2392.01'
Δ=3°55'10"
CB=N 07°40'20" W
CL=163.60'

CHD FOUND

IRON PIN FOUND (¾" REBAR)
IRON PIN FOUND (¾" REBAR)

529.07'
S 78°36'21" W
S 08°58'09" E
119.27'
1337.49'
STONE WALL
S 79°56'54" W
STONE WALL

N/F
AFFORDABLE CDL LLC
VOL:1142 PG:0351
PARCEL ID:01-10/03A-000
#532 NEW LONDON ROAD

N/F
WILLIAM M CONGDON & SHANNON M CONGDON
VOL: 270 PG 012
PARCEL ID: 1-10/002-000
#536 NEW LONDON ROAD

CONC MON FOUND (DISK)
IRON PIN FOUND (¾" REBAR)
CHD FOUND (DISK)

N/F
WILLIAM M CONGDON & SHANNON M CONGDON
VOL: 177 PG: 246
PARCEL ID:01-10/003-001
#NEW LONDON ROAD

SUBJECT PARCEL
LAND OF FIVE J, LLC
VOLUME: 1076 PAGE: 150
1,548,880 S.F.± / 35.557 ACRES±
PARCEL 1-10-38-00
524 NEW LONDON ROAD

40 0 40 80 120
SCALE: 1"=80'

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

70147
DEAN MARTIN LICENSE NO.

THIS DOCUMENT AND COPIES THEREOF ARE VALID ONLY IF THEY BEAR THE SIGNATURE AND EMBOSSED SEAL OF THE DESIGNATED LICENSED PROFESSIONAL. UNAUTHORIZED ALTERATIONS TO THIS PLAN RENDER THE DECLARATION HEREON NULL AND VOID.

LEGEND:

- IRON PIN (FOUND)
- Rebar/Drill Hole (To Be Set)
- MONUMENT (FOUND)
- MANHOLE
- DRAINAGE MANHOLE
- SANITARY MANHOLE
- ELEC. MANHOLE
- TELE. MANHOLE
- "C" CATCH BASIN
- "C-L" CATCH BASIN
- DECIDUOUS TREES
- EVERGREEN TREES
- SHRUB/BUSH
- FLAG POLE
- TRAFFIC CONTROL BOX
- SIGN
- POST
- LIGHT POLE
- GUY ANCHOR
- UTILITY POLE
- WATER GATE
- WATER METER
- GAS VALVE
- GAS METER
- TRANSFORMER
- ELEC. METER
- MAIL BOX
- HAND HOLE
- BUTTON BOX
- A.C. UNIT
- TRAFFIC LIGHT POLE
- BOUNDARY LINE
- GUARD RAIL
- UNDERGROUND PIPING (San.,Stm.)
- U/G GAS LINE
- U/G ELEC. LINE
- WATER LINE
- OVERHEAD UTILITIES
- U/G TELE. LINE
- CHAIN LINK FENCE
- TREE LINE

martin
Surveying Associates, LLC
201 CHRISTIAN LANE BERLIN, CT 06037
860-832-9328 860-357-4604 (FAX)
WWW. MARTINSURVEY.COM

REVISIONS:

PROPERTY & TOPOGRAPHIC SURVEY
LAND OF
FIVE J, LLC

524 NEW LONDON ROAD
CT ROUTE NO. 85
COLCHESTER, CONNECTICUT

MSA PROJECT NO: 22-085

SCALE: 1"=80
DRAWN BY: G.S.D.
DATE: 2022-09-06
CHECKED BY: D.G.M.

SHEET:
1 OF 2

N/F
ALYCE DONAHUE
VOL:1503 PG:0335
PARCEL ID: 01-10/003-000
#NEW LONDON ROAD

N 89°05'38" E 696.84'
S 88°38'13" E 123.66'
N 88°32'29" E 79.12'
N 89°16'16" E 297.89'
S 88°03'05" E 159.99'
N 88°45'46" E 319.45'
S 05°42'16" E 34.74'
N 84°17'44" E 125.00'
S 05°42'16" E 416.30'

STONE WALL
METAL FENCE
WOODED AREA
POSSIBLE ENCROACHMENT FENCE 1.1' OVER PROPERTY LINE
TREE CANOPY
CANOPY EL=583'
CANOPY EL=582'
CANOPY EL=601'
CANOPY EL=604'
CANOPY EL=608'
CANOPY EL=602'
CANOPY EL=597'
CANOPY EL=576'
CANOPY EL=583'
CANOPY EL=585'
CANOPY EL=578'
CANOPY EL=603'
CANOPY EL=621'
CANOPY EL=590'
CANOPY EL=601'

IRON PIN FOUND (¾") REBAR
CHD FOUND
IRON PIN FOUND (BENT)
SITE
1 STORY METAL BUILDING
CONC. PAD
DIRT DRIVE
BIT. DRIVE
BIT. APRON
GATE
CHAIN LINK FENCE
HIGH VEGETATION
TREE LINE
GRASS
GRAVEL
WF-1-1
WF-1-2
WF-1-3
WF-1-4
WF-1-5
WF-1-6
WF-1-7
WF-1-8
WF-1-9
WF-1-10

NEW LONDON ROAD
CT ROUTE 85
MARVIN ROAD

L=163.63'
R=2392.01'
Δ=3°55'10"
CB=N 07°40'20" W
CL=163.60'

IRON PIN FOUND (¾" REBAR)
IRON PIN FOUND (¾" REBAR)
529.07'
S 78°36'21" W
POSSIBLE ENCROACHMENT FENCE 1.8' OVER PROPERTY LINE

S 06°58'09" E 119.27'
POSSIBLE ENCROACHMENT FENCE 2.1' OVER PROPERTY LINE

1337.49'
S 79°56'54" W

FIELD LOCATED WATER CHANNEL

N/F
WILLIAM M CONGDON & SHANNON M CONGDON
VOL: 270 PG 012
PARCEL ID: 1-10/002-000
#536 NEW LONDON ROAD

N/F
AFFORDABLE CDL LLC
VOL:1142 PG:0351
PARCEL ID:01-10/03A-000
#532 NEW LONDON ROAD

CT N.A.D. 83 (2011)

SCALE: 1"=50'

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

70147
DEAN MARTIN LICENSE NO.

THIS DOCUMENT AND COPIES THEREOF ARE VALID ONLY IF THEY BEAR THE SIGNATURE AND EMBOSSED SEAL OF THE DESIGNATED LICENSED PROFESSIONAL. UNAUTHORIZED ALTERATIONS TO THIS PLAN RENDER THE DECLARATION HEREON NULL AND VOID.

LEGEND:

- IRON PIN (FOUND)
- Rebar/Drill Hole (To Be Set)
- MONUMENT (FOUND)
- MANHOLE
- DRAINAGE MANHOLE
- SANITARY MANHOLE
- ELEC. MANHOLE
- TELE. MANHOLE
- "C" CATCH BASIN
- "C-L" CATCH BASIN
- DECIDUOUS TREES
- EVERGREEN TREES
- SHRUB/BUSH
- FLAG POLE
- TRAFFIC CONTROL BOX
- SIGN
- POST
- LIGHT POLE
- GUY ANCHOR
- UTILITY POLE
- WATER GATE
- WATER METER
- GAS VALVE
- GAS METER
- TRANSFORMER
- ELEC. METER
- MAIL BOX
- HAND HOLE
- BUTTON BOX
- A.C. UNIT
- TRAFFIC LIGHT POLE
- BOUNDARY LINE
- GUARD RAIL
- UNDERGROUND PIPING (San.,Stm.)
- G — U/G GAS LINE
- E — U/G ELEC. LINE
- W — WATER LINE
- \\ — OVERHEAD UTILITIES
- T — U/G TELE. LINE
- CHAIN LINK FENCE
- TREE LINE

martin
Surveying Associates, LLC
201 CHRISTIAN LANE BERLIN, CT 06037
860-832-9328 860-357-4604 (FAX)
WWW. MARTINSURVEY.COM

REVISIONS:

PROPERTY & TOPOGRAPHIC SURVEY
LAND OF
FIVE J, LLC
524 NEW LONDON ROAD
CT ROUTE NO. 85
COLCHESTER, CONNECTICUT

MSA PROJECT NO: 22-085

SCALE: 1"=50' | DRAWN BY: G.S.D.
DATE: 2022-09-06 | CHECKED BY: D.G.M.

SHEET: 2 OF 2

GENERAL NOTES

1. ALL CONSTRUCTION SHALL COMPLY WITH PROJECT DEVELOPER STANDARDS, TOWN OF COLCHESTER STANDARDS, CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS IN THE ABOVE REFERENCED INCREASING HIERARCHY. IF SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. IF NO PROJECT CONSTRUCTION SPECIFICATION PACKAGE IS PROVIDED BY THE PROJECT DEVELOPER OR THEIR REPRESENTATIVE, THE CONTRACTOR SHALL COMPLY WITH THE MANUFACTURER, TOWN OF COLCHESTER, OR CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, AND BE IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS.
3. THE PROJECT DEVELOPER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING AND STORMWATER PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL TOWN OF COLCHESTER CONSTRUCTION PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
4. REFER TO PLANS, DETAILS AND REPORTS PREPARED BY ALL-POINTS TECHNOLOGY CORPORATION FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE PROJECT DEVELOPER IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO BIDDING/CONSTRUCTION. ANY CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CONFIRMED WITH THE PROJECT DEVELOPERS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, MATERIALS PER PLANS, AND SPECIFICATIONS TO THE PROJECT DEVELOPER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
6. SHOULD ANY UNKNOWN OR INCORRECTLY LOCATED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE PROJECT DEVELOPER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
7. DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE PROJECT DEVELOPER OR OTHERS DURING OCCUPIED HOURS, EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE PROJECT DEVELOPER AND THE LOCAL MUNICIPALITY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
8. THE CONTRACT LIMIT IS THE PROPERTY LINE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE CONTRACT DRAWINGS.
9. THE CONTRACTOR SHALL ABIDE BY ALL OSHA, FEDERAL, STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS. ANY UTILITY COMPANY FEES SHALL BE PAID FOR BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL COMPLY WITH OSHA CFR 29 PART 1926 FOR EXCAVATION TRENCHING AND TRENCH PROTECTION REQUIREMENTS.
11. THE ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OF PERSONNEL OR TO SUPERVISE SAFETY AND DO NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
12. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE PROJECT DEVELOPER OR TOWN OF COLCHESTER.
13. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE PROJECT DEVELOPER AT THE END OF CONSTRUCTION.
14. ALTERNATIVE METHODS AND PRODUCTS, OTHER THAN THOSE SPECIFIED, MAY BE USED IF REVIEWED AND APPROVED BY THE PROJECT DEVELOPER, ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO INSTALLATION DURING THE BIDDING/CONSTRUCTION PROCESS.
15. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" 72 HOURS BEFORE COMMENCEMENT OF WORK AT "811" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
16. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS AND PERMITS ARE GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.

SITE PLAN NOTES

1. THE SURVEY WAS PROVIDED BY MARTIN SURVEYING ASSOCIATES, LLC. DATED 09/06/2022.
2. THERE ARE BORDERING VEGETATED WETLANDS (BVW/S) LOCATED ON THE SITE AS INDICATED ON THE PLANS. BVW BOUNDARIES WERE FLAGGED AND LOCATED BY ALL POINTS TECHNOLOGY CORP. IN AUGUST 2022.
3. THERE WILL BE MINIMAL GRADING ON SITE IN THE AREAS OF THE MINOR CLEARING, TO ENSURE THAT PROPER DRAINAGE IS MAINTAINED.
4. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDED SEQUENCE OF CONSTRUCTION NOTES PROVIDED ON THE EROSION CONTROL PLAN OR SUBMIT AN ALTERNATE PLAN FOR APPROVAL BY THE ENGINEER AND/OR PERMITTING AGENCIES PRIOR TO THE START CONSTRUCTION. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
5. PROPER CONSTRUCTION PROCEDURES SHALL BE FOLLOWED ON ALL IMPROVEMENTS WITHIN THIS PARCEL SO AS TO PREVENT THE SILTING OF ANY WATERCOURSE OR BVWS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. IN ADDITION, THE CONTRACTOR SHALL ADHERE TO THE "EROSION CONTROL PLAN" CONTAINED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE TO POST ALL BONDS AS REQUIRED BY GOVERNMENT AGENCIES WHICH WOULD GUARANTEE THE PROPER IMPLEMENTATION OF THE PLAN.
6. ALL SITE WORK, MATERIALS OF CONSTRUCTION, AND CONSTRUCTION METHODS FOR EARTHWORK AND STORM DRAINAGE WORK, SHALL CONFORM TO THE SPECIFICATIONS AND DETAILS AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS MANUAL. OTHERWISE THIS WORK SHALL CONFORM TO THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION AND PROJECT GEOTECHNICAL REPORT IF THERE IS NO PROJECT SPECIFICATIONS MANUAL. ALL FILL MATERIAL UNDER STRUCTURES AND PAVED AREAS SHALL BE PER THE ABOVE STATED APPLICABLE SPECIFICATIONS, AND/OR PROJECT GEOTECHNICAL REPORT, AND SHALL BE PLACED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER. MATERIAL SHALL BE COMPACTED IN 8" LIFTS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 1557 AT 95% PERCENT OF OPTIMUM MOISTURE CONTENT.
7. ALL DISTURBANCE INCURRED TO PUBLIC, MUNICIPAL, COUNTY, STATE PROPERTY DUE TO CONSTRUCTION SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER, TO THE SATISFACTION OF THE TOWN OF COLCHESTER AND THE STATE OF CONNECTICUT.
8. SHOULD CONTAMINATED SOIL BE ENCOUNTERED ON THE SITE, SUCH SOIL SHALL BE HANDLED IN ACCORDANCE WITH SECTION 5 OF THE GENERAL PERMIT FOR CONTAMINATED SOIL AND/OR SEDIMENT MANAGEMENT (STAGING AND TRANSFER) THAT WAS ISSUED ON SEPTEMBER 20, 2013 BY CT DEEP, WHICH CAN BE FOUND AT: HTTPS://PORTAL.CT.GOV/-/MEDIA/DEEP/PERMITS_AND_LICENSES/WASTE_GENERAL_PERMITS/SOILSTAGINGGPPDF.PDF. ALTHOUGH THE GENERAL PERMIT IS NOW EXPIRED, CT DEEP HAS INSTRUCTED ALL PARTIES THAT MAY ENCOUNTER CONTAMINATED SOIL ON A JOB SITE TO HANDLE SUCH SOIL IN ACCORDANCE WITH SECTION 5.

UTILITY NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE TOWN OF COLCHESTER TO SECURE CONSTRUCTION PERMITS AND FOR PAYMENT OF FEES FOR STREET CUTS AND CONNECTIONS TO EXISTING UTILITIES.
2. REFER TO DRAWINGS BY PROJECT DEVELOPER FOR THE ONSITE ELECTRICAL DRAWINGS AND INTERCONNECTION TO EXISTING ELECTRICAL GRID. SITE CONTRACTOR SHALL SUPPLY AND INSTALL PIPE ADAPTERS AS NECESSARY AT BUILDING CONNECTION POINT OR AT EXISTING UTILITY OR PIPE CONNECTION POINT. THESE DETAILS ARE NOT INCLUDED IN THESE PLANS.
3. UTILITY LOCATIONS AND PENETRATIONS ARE SHOWN FOR THE CONTRACTOR'S INFORMATION AND SHALL BE VERIFIED WITH THE ELECTRICAL ENGINEER AND THE PROJECT DEVELOPER'S CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE PROP. SANITARY SEWERS AND WHERE PROP. STORM PIPING WILL CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT THE PROJECT DEVELOPER IN THE EVENT OF ANY DISCOVERED OR UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED SANITARY SEWERS, STORM PIPING AND UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
5. UTILITY CONNECTION DESIGN AS REFLECTED ON THE PLAN MAY CHANGE SUBJECT TO UTILITY PROVIDER AND GOVERNING AUTHORITY STAFF REVIEW.
6. THE CONTRACTOR SHALL ENSURE THAT ALL UTILITY PROVIDERS AND GOVERNING AUTHORITY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET. THE CONTRACTOR SHALL PERFORM PROPER COORDINATION WITH THE RESPECTIVE UTILITY PROVIDER.
7. THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE RESPECTIVE UTILITY PROVIDERS FOR SERVICE INSTALLATIONS AND CONNECTIONS. THE CONTRACTOR SHALL COORDINATE WORK TO BE PERFORMED BY THE VARIOUS UTILITY PROVIDERS AND SHALL PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATIONS MANUAL AND/OR GENERAL CONDITIONS OF THE CONTRACT.
8. ALL EXISTING PAVEMENT WHERE UTILITY PIPING IS TO BE INSTALLED SHALL BE SAW CUT. AFTER UTILITY INSTALLATION IS COMPLETED, THE CONTRACTOR SHALL INSTALL TEMPORARY AND/OR PERMANENT PAVEMENT REPAIR AS DETAILED ON THE DRAWINGS OR AS REQUIRED BY THE TOWN OF COLCHESTER.
9. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
10. RELOCATION OF UTILITY PROVIDER FACILITIES, SUCH AS POLES, SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY PROVIDER.
11. THE CONTRACTOR SHALL COMPACT PIPE BACKFILL IN 8" LIFTS ACCORDING TO THE PIPE BEDDING DETAILS. TRENCH BOTTOM SHALL BE STABLE IN HIGH GROUNDWATER AREAS. A PIPE FOUNDATION SHALL BE USED PER THE TRENCH DETAILS AND IN AREAS OF ROCK EXCAVATION.
12. CONTRACTOR TO PROVIDE STEEL SLEEVES AND ANNULAR SPACE SAND FILL FOR UTILITY PIPE AND CONDUIT CONNECTIONS UNDER FOOTINGS.
13. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION FOR APPROVAL PRIOR TO BACKFILLING, IN ACCORDANCE WITH THE APPROPRIATE UTILITY PROVIDER REQUIREMENTS.
14. A ONE-FOOT MINIMUM VERTICAL CLEARANCE BETWEEN WATER, GAS, ELECTRICAL, AND TELEPHONE LINES AND STORM PIPING SHALL BE PROVIDED. A SIX-INCH MINIMUM CLEARANCE SHALL BE MAINTAINED BETWEEN STORM PIPING AND SANITARY SEWER. A 6-INCH TO 18-INCH VERTICAL CLEARANCE BETWEEN SANITARY SEWER PIPING AND STORM PIPING SHALL REQUIRE CONCRETE ENCASEMENT OF THE SANITARY PIPING.
15. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, DRAINAGE STRUCTURE, SWALE OR LANDSCAPED AREAS DISTURBED DURING CONSTRUCTION, TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE PROJECT DEVELOPER AND THE TOWN OF COLCHESTER.
16. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY, AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE INCLUDING SERVICES. CONTACT "CALL BEFORE YOU DIG" AT 811 72 HOURS PRIOR TO CONSTRUCTION AND VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY AND STORM DRAINAGE LOCATIONS. THE CONTRACTOR SHALL EMPLOY THE USE OF A UTILITY LOCATING COMPANY TO PROVIDE SUBSURFACE UTILITY ENGINEERING CONSISTING OF DESIGNATING UTILITIES AND STORM PIPING ON PRIVATE PROPERTY WITHIN THE CONTRACT LIMIT AND CONSISTING OF DESIGNATING AND LOCATING WHERE PROP. UTILITIES AND STORM PIPING CROSS EXISTING UTILITIES AND STORM PIPING WITHIN THE CONTRACT LIMITS.
17. THE CONTRACTOR SHALL ARRANGE AND COORDINATE WITH UTILITY PROVIDERS FOR WORK TO BE PERFORMED BY UTILITY PROVIDERS. THE CONTRACTOR SHALL PAY ALL UTILITY FEES UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATION MANUAL AND GENERAL CONDITIONS, AND REPAIR PAVEMENTS AS NECESSARY.
18. ELECTRIC DRAWINGS AND REQUIREMENTS ARE NOT INCLUDED AS PART OF THIS DRAWING SET AND SHOULD BE OBTAINED FROM THE PROJECT DEVELOPER.
19. ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED BY THE PROJECT DEVELOPER, ENGINEER, AND APPROPRIATE REGULATORY AGENCIES PRIOR TO INSTALLATION.
20. THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED TO DISCONNECT BY THE PROJECT DEVELOPER, TOWN OF COLCHESTER, UTILITY PROVIDERS AND GOVERNING AUTHORITIES.

GENERAL LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
BUILDING SETBACK		
SOLAR SETBACK		
EASEMENT		
TREE LINE		
WETLAND		
WETLAND BUFFER		
VERNAL POOL		
VERNAL POOL BUFFER		
WATERCOURSE		
WATERCOURSE BUFFER		
MAJOR CONTOUR		
MINOR CONTOUR		
UNDERGROUND ELECTRIC		E E
OVERHEAD ELECTRIC		OH OH
GAS LINE		
WATER LINE		W W
SOLID FENCE		
CHAIN LINK FENCE		X X X
LIMIT OF DISTURBANCE		LOD
FILTER SOCK		FS FS
SILT FENCE		SF SF
BAFFLE		

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
0	03/07/23	FOR FILING: KAM
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23

CHECKED BY: KAM

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

GN-1

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER

ENVIRONMENTAL NOTES - RESOURCES PROTECTION MEASURES

WETLAND PROTECTION PROGRAM

AS A RESULT OF THE PROJECT'S LOCATION IN THE VICINITY OF SENSITIVE WETLAND RESOURCES, THE FOLLOWING PROTECTION PROGRAM SHALL BE IMPLEMENTED BY THE CONTRACTOR TO AVOID UNINTENTIONAL IMPACTS TO PROXIMATE WETLAND RESOURCES DURING CONSTRUCTION ACTIVITIES.

IT IS OF THE UTMOST IMPORTANCE THAT THE CONTRACTOR COMPLIES WITH THE REQUIREMENT FOR THE INSTALLATION OF PROTECTIVE MEASURES AND THE EDUCATION OF ITS EMPLOYEES AND SUBCONTRACTORS PERFORMING WORK ON THE PROJECT SITE. THE WETLAND PROTECTION MEASURES SHALL BE IMPLEMENTED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES UNTIL PERMANENT STABILIZATION OF SITE SOILS HAS OCCURRED.

ALL-POINTS TECHNOLOGY CORPORATION, P.C. ("APT") WILL SERVE AS THE ENVIRONMENTAL MONITOR FOR THIS PROJECT TO ENSURE THAT THESE PROTECTION MEASURES ARE IMPLEMENTED PROPERLY AND WILL PROVIDE AN EDUCATION SESSION ON THE PROJECT'S PROXIMITY TO SENSITIVE WETLANDS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONTACT DEAN GUSTAFSON, SENIOR WETLAND SCIENTIST AT APT, AT LEAST 5 BUSINESS DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. MR. GUSTAFSON CAN BE REACHED BY PHONE AT (860) 552-2033 OR VIA EMAIL AT DGUSTAFSON@ALLPOINTSTECH.COM.

THIS RESOURCES PROTECTION PROGRAM CONSISTS OF SEVERAL COMPONENTS INCLUDING: EDUCATION OF ALL CONTRACTORS AND SUB-CONTRACTORS PRIOR TO INITIATION OF WORK ON THE SITE; INSTALLATION OF EROSION CONTROLS; PETROLEUM MATERIALS STORAGE AND SPILL PREVENTION; PROTECTIVE MEASURES; RARE SPECIES PROTECTION MEASURES; HERBICIDE, PESTICIDE, AND SALT RESTRICTIONS; AND REPORTING.

1. CONTRACTOR EDUCATION:

a. PRIOR TO WORK ON SITE AND INITIAL DEPLOYMENT/MOBILIZATION OF EQUIPMENT AND MATERIALS, THE CONTRACTOR SHALL ATTEND AN EDUCATIONAL SESSION AT THE PRE-CONSTRUCTION MEETING WITH APT. THIS ORIENTATION AND EDUCATIONAL SESSION WILL CONSIST OF INFORMATION SUCH AS, BUT NOT LIMITED TO: IDENTIFICATION OF WETLAND RESOURCES PROXIMATE TO WORK AREAS, REPRESENTATIVE PHOTOGRAPHS OF TYPICAL HERPETOFAUNA THAT MAY BE ENCOUNTERED, TYPICAL SPECIES BEHAVIOR, AND PROPER PROCEDURES IF SPECIES ARE ENCOUNTERED, AND THE ENVIRONMENTALLY SENSITIVE NATURE OF THE DEVELOPMENT SITE.

b. THE CONTRACTOR'S PROJECT MONITOR WILL BE PROVIDED WITH CELL PHONE AND EMAIL CONTACTS FOR APT PERSONNEL. EDUCATIONAL POSTER MATERIALS WILL BE PROVIDED BY APT AND DISPLAYED ON THE JOB SITE TO MAINTAIN WORKER AWARENESS AS THE PROJECT PROGRESSES.

c. APT WILL ALSO POST CAUTION SIGNS THROUGHOUT THE PROJECT SITE FOR THE DURATION OF THE CONSTRUCTION PROJECT PROVIDING NOTICE OF THE ENVIRONMENTALLY SENSITIVE NATURE OF THE WORK AREA.

2. EROSION AND SEDIMENTATION CONTROLS/ISOLATION BARRIERS

a. PLASTIC NETTING USED IN A VARIETY OF EROSION CONTROL PRODUCTS (I.E., EROSION CONTROL BLANKETS, FIBER ROLLS [WATTLES], REINFORCED SILT FENCE) HAS BEEN FOUND TO ENTANGLE WILDLIFE, INCLUDING REPTILES, AMPHIBIANS, BIRDS AND SMALL MAMMALS. NO PERMANENT EROSION CONTROL PRODUCTS OR REINFORCED SILT FENCE WILL BE USED ON THE PROJECT. TEMPORARY EROSION CONTROL PRODUCTS THAT WILL BE EXPOSED AT THE GROUND SURFACE AND REPRESENT A POTENTIAL FOR WILDLIFE ENTANGLEMENT WILL USE EITHER EROSION CONTROL BLANKETS AND FIBER ROLLS COMPOSED OF PROCESSED FIBERS MECHANICALLY BOUND TOGETHER TO FORM A CONTINUOUS MATRIX (NETLESS) OR NETTING COMPOSED OF PLANAR WOVEN NATURAL BIODEGRADABLE FIBER TO AVOID/MINIMIZE WILDLIFE ENTANGLEMENT.

b. THE EXTENT OF THE EROSION CONTROLS WILL BE AS SHOWN ON THE SITE PLANS. THE CONTRACTOR SHALL HAVE ADDITIONAL SEDIMENTATION AND EROSION CONTROLS STOCKPILED ON SITE SHOULD FIELD OR CONSTRUCTION CONDITIONS WARRANT EXTENDING DEVICES. IN ADDITION TO THE CONTRACTOR MAKING THESE DETERMINATIONS, REQUESTS FOR ADDITIONAL CONTROLS WILL ALSO BE AT THE DISCRETION OF THE ENVIRONMENTAL MONITOR.

c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS FOR TEARS OR BREACHES AND ACCUMULATION LEVELS OF SEDIMENT, PARTICULARLY FOLLOWING STORM EVENTS THAT GENERATE A DISCHARGE, AS DEFINED BY AND IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL NOTIFY THE APT ENVIRONMENTAL MONITOR WITHIN 24 HOURS OF ANY BREACHES OF THE SEDIMENTATION AND EROSION CONTROLS AND ANY SEDIMENT RELEASES BEYOND THE PERIMETER CONTROLS THAT IMPACT WETLANDS, THE VERNAL POOL, OR AREAS WITHIN 100 FEET OF WETLANDS. THE APT ENVIRONMENTAL MONITOR WILL PROVIDE PERIODIC INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES ONLY AS IT PERTAINS TO THEIR FUNCTION TO PROTECT NEARBY WETLANDS. SUCH INSPECTIONS WILL GENERALLY OCCUR ONCE PER MONTH. THE FREQUENCY OF MONITORING MAY INCREASE DEPENDING UPON SITE CONDITIONS, LEVEL OF CONSTRUCTION ACTIVITIES IN PROXIMITY TO SENSITIVE RECEPTORS, OR AT THE REQUEST OF REGULATORY AGENCIES. IF THE ENVIRONMENTAL MONITOR IS NOTIFIED BY THE CONTRACTOR OF A SEDIMENT RELEASE, AN INSPECTION WILL BE SCHEDULED SPECIFICALLY TO INVESTIGATE AND EVALUATE POSSIBLE IMPACTS TO WETLAND RESOURCES.

d. THIRD PARTY MONITORING OF SEDIMENTATION AND EROSION CONTROLS WILL BE PERFORMED BY OTHER PARTIES, AS NECESSARY, UNDER APPLICABLE LOCAL, STATE AND/OR FEDERAL REGULATIONS AND PERMIT CONDITIONS.

e. NO EQUIPMENT, VEHICLES OR CONSTRUCTION MATERIALS SHALL BE STORED WITHIN 100 FEET OF WETLAND RESOURCES.

f. ALL SILT FENCING AND OTHER EROSION CONTROL DEVICES SHALL BE REMOVED WITHIN 30 DAYS OF COMPLETION OF WORK AND PERMANENT STABILIZATION OF SITE SOILS. IF FIBER ROLLS/WATTLES, STRAW BALES, OR OTHER NATURAL MATERIAL EROSION CONTROL PRODUCTS ARE USED, SUCH DEVICES WILL NOT BE LEFT IN PLACE TO BIODEGRADE AND SHALL BE PROMPTLY REMOVED AFTER SOILS ARE STABLE SO AS NOT TO CREATE A BARRIER TO WILDLIFE MOVEMENT. SEED FROM SEEDING OF SOILS SHOULD NOT SPREAD OVER FIBER ROLLS/WATTLES AS IT MAKES THEM HARDER TO REMOVE ONCE SOILS ARE STABILIZED BY VEGETATION.

3. PETROLEUM MATERIALS STORAGE AND SPILL PREVENTION

a. CERTAIN PRECAUTIONS ARE NECESSARY TO STORE PETROLEUM MATERIALS, REFUEL AND CONTAIN AND PROPERLY CLEAN UP ANY INADVERTENT FUEL OR PETROLEUM (I.E., OIL, HYDRAULIC FLUID, ETC.) SPILL DUE TO THE PROJECTS LOCATION IN PROXIMITY TO WETLAND RESOURCES.

b. A SPILL CONTAINMENT KIT CONSISTING OF A SUFFICIENT SUPPLY OF ABSORBENT PADS AND ABSORBENT MATERIAL WILL BE MAINTAINED BY THE CONTRACTOR AT THE CONSTRUCTION SITE THROUGHOUT THE DURATION OF THE PROJECT. IN ADDITION, A WASTE DRUM WILL BE KEPT ON SITE TO CONTAIN ANY USED ABSORBENT PADS/MATERIAL FOR PROPER AND TIMELY DISPOSAL OFF SITE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL LAWS.

c. SERVICING OF MACHINERY SHALL NOT OCCUR WITHIN 100 FEET OF WETLANDS.

d. AT A MINIMUM, THE FOLLOWING PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING RESTRICTIONS AND SPILL RESPONSE PROCEDURES WILL BE ADHERED TO BY THE CONTRACTOR.

i. PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING
1. REFUELING OF VEHICLES OR MACHINERY SHALL OCCUR A MINIMUM OF 100 FEET FROM WETLANDS AND SHALL TAKE PLACE ON AN IMPERVIOUS PAD (I.E. COMPACTED GRAVEL ROAD OR PAVED AREA) WITH SECONDARY CONTAINMENT DESIGNED TO CONTAIN FUELS.
2. ANY FUEL OR HAZARDOUS MATERIALS THAT MUST BE KEPT ON SITE SHALL BE STORED ON AN IMPERVIOUS SURFACE UTILIZING SECONDARY CONTAINMENT A MINIMUM OF 100 FEET FROM WETLANDS

ii. INITIAL SPILL RESPONSE PROCEDURES
1. STOP OPERATIONS AND SHUT OFF EQUIPMENT.
2. REMOVE ANY SOURCES OF SPARK OR FLAME.
3. CONTAIN THE SOURCE OF THE SPILL.
4. DETERMINE THE APPROXIMATE VOLUME OF THE SPILL.
5. IDENTIFY THE LOCATION OF NATURAL FLOW PATHS TO PREVENT THE RELEASE OF THE SPILL TO SENSITIVE NEARBY WETLANDS AND VERNAL POOL.
6. ENSURE THAT FELLOW WORKERS ARE NOTIFIED OF THE SPILL.

iii. SPILL CLEAN UP & CONTAINMENT
1. OBTAIN SPILL RESPONSE MATERIALS FROM THE ON-SITE SPILL RESPONSE KIT. PLACE ABSORBENT MATERIALS DIRECTLY ON THE RELEASE AREA.
2. LIMIT THE SPREAD OF THE SPILL BY PLACING ABSORBENT MATERIALS AROUND THE PERIMETER OF THE SPILL.
3. ISOLATE AND ELIMINATE THE SPILL SOURCE.
4. CONTACT APPROPRIATE LOCAL, STATE AND/OR FEDERAL AGENCIES, AS NECESSARY.
5. CONTACT A DISPOSAL COMPANY TO PROPERLY DISPOSE OF CONTAMINATED MATERIALS.

iv. REPORTING
1. OBTAIN SPILL RESPONSE MATERIALS FROM THE ON-SITE SPILL RESPONSE KIT. PLACE ABSORBENT MATERIALS DIRECTLY ON THE RELEASE AREA.
2. LIMIT THE SPREAD OF THE SPILL BY PLACING ABSORBENT MATERIALS AROUND THE PERIMETER OF THE SPILL.

4. HERBICIDE, PESTICIDE, AND SALT RESTRICTIONS

a. THE USE OF HERBICIDES AND PESTICIDES AT THE FACILITY SHALL BE MINIMIZED. IF HERBICIDES AND/OR PESTICIDES ARE REQUIRED AT THE FACILITY, THEIR USE WILL BE USED IN ACCORDANCE WITH CURRENT INTEGRATED PEST MANAGEMENT ("IPM") PRINCIPLES WITH PARTICULAR ATTENTION TO AVOID/MINIMIZE APPLICATIONS WITHIN 100 FEET OF WETLAND AND VERNAL POOL RESOURCES.

b. MAINTENANCE OF THE FACILITY DURING THE WINTER MONTHS SHALL NOT INCLUDE THE APPLICATION OF SALT OR SIMILAR PRODUCTS FOR MELTING SNOW OR ICE.

5. REPORTING

a. COMPLIANCE MONITORING REPORTS (BRIEF NARRATIVE AND APPLICABLE PHOTOS) DOCUMENTING EACH APT INSPECTION WILL BE SUBMITTED BY APT TO THE PERMITTEE AND ITS CONTRACTOR FOR COMPLIANCE VERIFICATION OF THESE PROTECTION MEASURES. THESE REPORTS ARE NOT TO BE USED TO DOCUMENT COMPLIANCE WITH ANY OTHER PERMIT AGENCY APPROVAL CONDITIONS (I.E., DEEP STORMWATER PERMIT MONITORING, ETC.). ANY NON-COMPLIANCE OBSERVATIONS OF EROSION CONTROL MEASURES OR EVIDENCE OF EROSION OR SEDIMENT RELEASE WILL BE IMMEDIATELY REPORTED TO THE PERMITTEE AND ITS CONTRACTOR AND INCLUDED IN THE REPORTS.

b. FOLLOWING COMPLETION OF THE CONSTRUCTION PROJECT, APT WILL PROVIDE A FINAL COMPLIANCE MONITORING REPORT TO THE PERMITTEE DOCUMENTING IMPLEMENTATION OF THE WETLAND PROTECTION PROGRAM AND MONITORING OBSERVATIONS. THE PERMITTEE IS RESPONSIBLE FOR PROVIDING A COPY OF THE FINAL COMPLIANCE MONITORING REPORT TO THE CONNECTICUT SITING COUNCIL FOR COMPLIANCE VERIFICATION.

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
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CSC PERMIT SET

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DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23 CHECKED BY: KAM

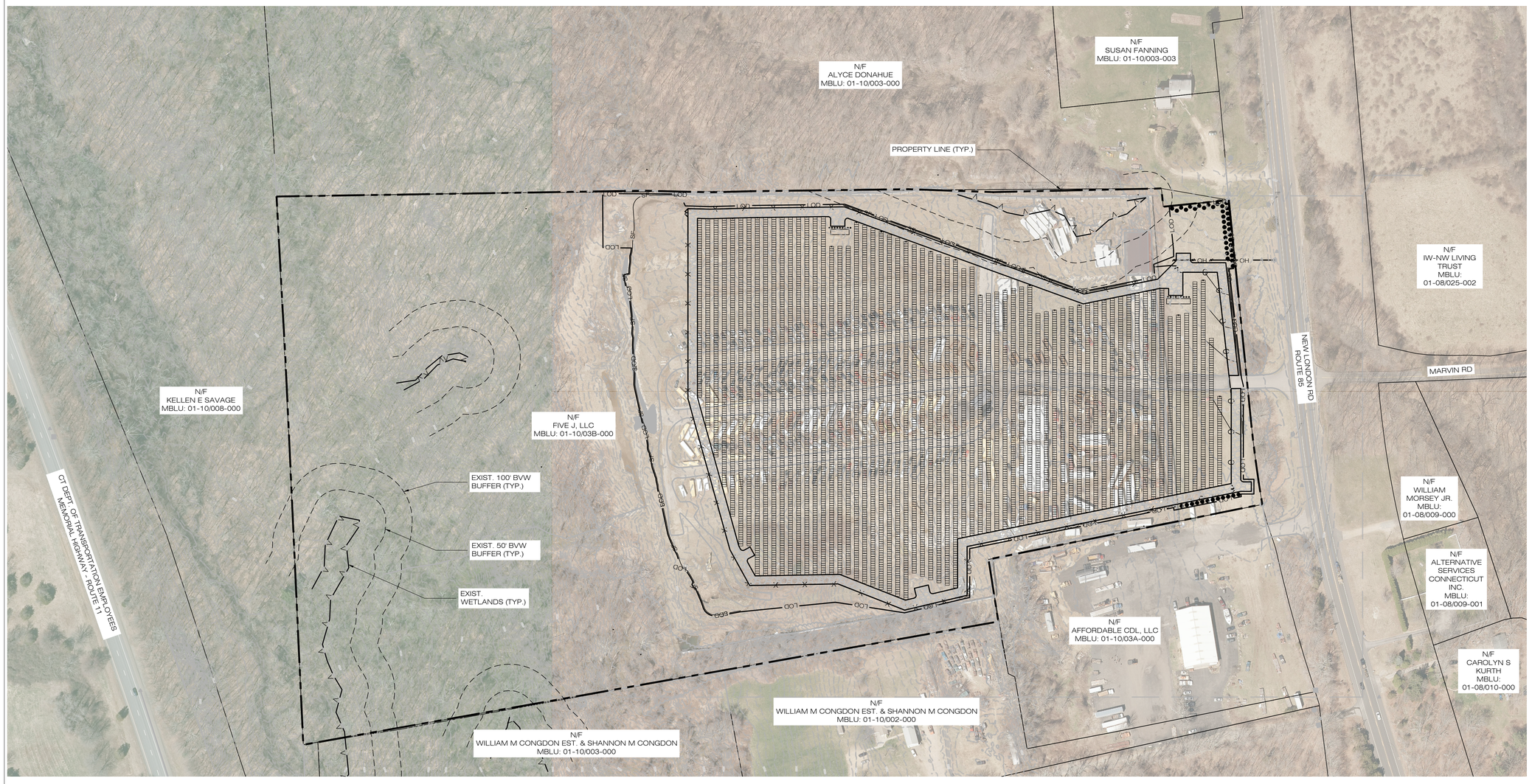
SHEET TITLE:

ENVIRONMENTAL NOTES

SHEET NUMBER:

GN-2

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25877 LICENSED PROFESSIONAL ENGINEER



1 OP-1 **OVERALL LOCUS MAP**
SCALE : 1" = 100'-0"

100 0 50 100 200
(IN FEET) 1 inch = 100 ft.

524 NLR LLC

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SHEET TITLE:
OVERALL LOCUS MAP

SHEET NUMBER:
OP-1

STATE OF CONNECTICUT
KEVIN A. MCCAFFERY
25877
LICENSED
PROFESSIONAL ENGINEER

EROSION CONTROL NOTES

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, LATEST EDITION, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND AS DIRECTED BY THE TOWN OF COLCHESTER, PERMITTEE, AND/OR SWPCP MONITOR. ALL PERIMETER SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CLEARING AND GRUBBING AND DEMOLITION OPERATIONS.

2. THESE DRAWINGS ARE ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL MEASURES FOR THIS SITE. SEE CONSTRUCTION SEQUENCE FOR ADDITIONAL INFORMATION. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN ARE SHOWN AS REQUIRED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL EROSION CONTROL MEASURES ARE CONFIGURED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO STORM DRAINAGE SYSTEMS AND/OR WATERCOURSES. ACTUAL SITE CONDITIONS OR SEASONAL AND CLIMATIC CONDITIONS MAY WARRANT ADDITIONAL CONTROLS OR CONFIGURATIONS, AS REQUIRED, AND AS DIRECTED BY THE PERMITTEE AND/OR SWPCP MONITOR. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.

3. A BOND OR LETTER OF CREDIT MAY BE REQUIRED TO BE POSTED WITH THE GOVERNING AUTHORITY FOR THE EROSION CONTROL INSTALLATION AND MAINTENANCE.

4. THE CONTRACTOR SHALL APPLY THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN IN CONJUNCTION WITH CONSTRUCTION SEQUENCING, SUCH THAT ALL ACTIVE WORK ZONES ARE PROTECTED. ADDITIONAL AND/OR ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE CONTRACTOR, OWNER, SITE ENGINEER, MUNICIPAL OFFICIALS, OR ANY GOVERNING AGENCY. THE CONTRACTOR SHALL CONTACT THE OWNER AND APPROPRIATE GOVERNING AGENCIES FOR APPROVAL IF ALTERNATIVE CONTROLS OTHER THAN THOSE SHOWN ON THE PLANS ARE PROPOSED BY THE CONTRACTOR.

5. THE CONTRACTOR SHALL TAKE EXTREME CARE DURING CONSTRUCTION SO AS NOT TO DISTURB UNPROTECTED WETLAND AREAS OR INSTALLED SEDIMENTATION AND EROSION CONTROL MEASURES. THE CONTRACTOR SHALL INSPECT ALL SEDIMENT AND EROSION CONTROLS WEEKLY AND WITHIN 24 HOURS OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCHES OR GREATER TO VERIFY THAT THE CONTROLS ARE OPERATING PROPERLY AND MAKE REPAIRS AS NECESSARY IN A TIMELY MANOR.

6. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (SILT FENCE, COMPOST FILTER SOCK, EROSION CONTROL BLANKET, ETC.) ON-SITE FOR PERIODIC MAINTENANCE AND EMERGENCY REPAIRS.

7. ALL FILL MATERIAL PLACED ADJACENT TO ANY WETLAND AREA SHALL BE GOOD QUALITY, WITH LESS THAN 5% FINES PASSING THROUGH A #200 SIEVE (BANK RUN), SHALL BE PLACED IN MAXIMUM ONE FOOT LIFTS, AND SHALL BE COMPACTED TO 95% MAX. DRY DENSITY MODIFIED PROCTOR OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.

8. PROTECT EXISTING TREES THAT ARE TO BE SAVED BY FENCING, ORANGE SAFETY FENCE, CONSTRUCTION TAPE, OR EQUIVALENT FENCING/TAPE. ANY LIMB TRIMMING SHOULD BE DONE AFTER CONSULTATION WITH AN ARBORIST AND BEFORE CONSTRUCTION BEGINS IN THAT AREA; FENCING SHALL BE MAINTAINED AND REPAIRED DURING CONSTRUCTION.

9. CONSTRUCTION ENTRANCES (ANTI-TRACKING PADS) SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF ALL CONSTRUCTION IF REQUIRED. THE LOCATION OF THE TRACKING PADS MAY CHANGE AS VARIOUS PHASES OF CONSTRUCTION ARE COMPLETED. CONTRACTOR SHALL ENSURE THAT ALL VEHICLES EXITING THE SITE ARE PASSING OVER THE ANTI-TRACKING PADS PRIOR TO EXITING.

10. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE LIMIT OF DISTURBANCE, WHICH SHALL BE MARKED WITH SILT FENCE, SAFETY FENCE, STRAW BALES, RIBBONS, OR OTHER MEANS PRIOR TO CLEARING. CONSTRUCTION ACTIVITY SHALL REMAIN ON THE UPHILL SIDE OF THE SEDIMENT BARRIER UNLESS WORK IS SPECIFICALLY CALLED FOR ON THE DOWNHILL SIDE OF THE BARRIER.

11. NO CUT OR FILL SLOPES SHALL EXCEED 2:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS. ALL SLOPES SHALL BE SEEDED AND BANKS WILL BE STABILIZED IMMEDIATELY UPON COMPLETION OF FINAL GRADING UNTIL TURF IS ESTABLISHED.

12. DIRECT ALL DEWATERING PUMP DISCHARGE TO A SEDIMENT CONTROL DEVICE CONFORMING TO THE GUIDELINES WITHIN THE APPROVED LIMIT OF DISTURBANCE IF REQUIRED. DISCHARGE TO STORM DRAINS OR SURFACE WATERS FROM SEDIMENT CONTROLS SHALL BE CLEAR AND APPROVED BY THE PERMITTEE OR MUNICIPALITY.

13. THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AND SHALL NOT ALLOW THE ACCUMULATION OF RUBBISH OR CONSTRUCTION DEBRIS ON THE SITE. PROPER SANITARY DEVICES SHALL BE MAINTAINED ON-SITE AT ALL TIMES AND SECURED APPROPRIATELY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID THE SPILLAGE OF FUEL OR OTHER POLLUTANTS ON THE CONSTRUCTION SITE AND SHALL ADHERE TO ALL APPLICABLE POLICIES AND REGULATIONS RELATED TO SPILL PREVENTION AND RESPONSE/CONTAINMENT.

14. MINIMIZE LAND DISTURBANCES. SEED AND MULCH DISTURBED AREAS WITH TEMPORARY MIX AS SOON AS PRACTICABLE (2 WEEK MAXIMUM UNSTABILIZED PERIOD) USING PERENNIAL RYEGRASS AT 40 LBS PER ACRE. MULCH ALL CUT AND FILL SLOPES AND SWALES WITH LOOSE STRAW AT A RATE OF 2 TONS PER ACRE. IF NECESSARY, REPLACE LOOSE STRAW ON SLOPES WITH EROSION CONTROL BLANKETS OR JUTE CLOTH. MODERATELY GRADED AREAS, ISLANDS, AND TEMPORARY CONSTRUCTION STAGING AREAS MAY BE HYDROSEEDED WITH TACKIFIER.

15. SWEEP AFFECTED PORTIONS OF OFF SITE ROADS ONE OR MORE TIMES A DAY (OR LESS FREQUENTLY IF TRACKING IS NOT A PROBLEM) DURING CONSTRUCTION. FOR DUST CONTROL, PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAYS DAMP. CALCIUM CHLORIDE MAY ALSO BE APPLIED TO ACCESS ROADS. DUMP TRUCK LOADS EXITING THE SITE SHALL BE COVERED.

16. VEGETATIVE ESTABLISHMENT SHALL OCCUR ON ALL DISTURBED SOIL, UNLESS THE AREA IS UNDER ACTIVE CONSTRUCTION, IT IS COVERED IN STONE OR SCHEDULED FOR PAVING WITHIN 30 DAYS. TEMPORARY SEEDING OR NON-LIVING SOIL PROTECTION OF ALL EXPOSED SOILS AND SLOPES SHALL BE INITIATED WITHIN THE FIRST 7 DAYS OF SUSPENDING WORK IN AREAS TO BE LEFT LONGER THAN 30 DAYS.

17. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP CONCRETE PADS, CLEAN THE STORMWATER MANAGEMENT SYSTEMS AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS ONCE THE SITE IS FULLY STABILIZED AND APPROVAL HAS BEEN RECEIVED FROM PERMITTEE OR THE MUNICIPALITY.

18. THE SITE WAS DESIGNED TO COMPLY WITH FEDERAL, STATE, AND, IF APPLICABLE, LOCAL STANDARDS, PLUS CURRENT ACCEPTED PRACTICES FOR THE INDUSTRY. ADDITIONAL CONTROLS AND ACTIVITIES MAY BE DEEMED NECESSARY BY THE SWPCP MONITOR DURING CONSTRUCTION AS A RESULT OF UNFORESEEN CONDITIONS AND/OR MEANS AND METHODS. SUCH ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO: ADDITIONAL FOREBAYS, BASINS, OR UPSTREAM STRUCTURAL CONTROLS, THE USE OF FLOCCULANTS OR FLOCK LOGS TO DECREASE SEDIMENT, DISCHARGE MANAGEMENT SUCH AS ADDITIONAL ARMORING AND FILTERING MEASURES (I.E. STRAW BALES, WATTLES, ETC.), AND HYDROSEEDING WITH RAPIDLY GERMINATING SEED.

19. SEEDING MIXTURES SHALL BE AS SPECIFIED ON THE PLAN VIEW AND DETAIL SHEETS.

CONSTRUCTION OPERATION AND MAINTENANCE PLAN - BY CONTRACTOR

E&S MEASURE	INSPECTION SCHEDULE	MAINTENANCE REQUIRED
CONSTRUCTION ENTRANCE	DAILY	PLACE ADDITIONAL STONE, EXTEND THE LENGTH OR REMOVE AND REPLACE THE STONE. CLEAN PAVED SURFACES OF TRACKED SEDIMENT.
COMPOST FILTER SOCK	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.25"	REPAIR/REPLACE WHEN FAILURE OR DETERIORATION IS OBSERVED.
SILT FENCE	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.25"	REPAIR/REPLACE WHEN FAILURE OR DETERIORATION IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.
TOPSOIL/BORROW STOCKPILES	DAILY	REPAIR/REPLACE SEDIMENT BARRIERS AS NECESSARY.
TEMPORARY SEDIMENT BASIN (W/ BAFFLES)	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.5"	REMOVE SEDIMENT ONCE IT HAS ACCUMULATED TO ONE HALF OF MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATERING AS NEEDED. RESTORE TRAP TO ORIGINAL DIMENSIONS. REPAIR/REPLACE BAFFLES WHEN FAILURE OR DETERIORATION IS OBSERVED.
TEMPORARY SEDIMENT TRAP (W/ BAFFLES)	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.5"	REMOVE SEDIMENT ONCE IT HAS ACCUMULATED TO ONE HALF OF MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATERING AS NEEDED. RESTORE TRAP TO ORIGINAL DIMENSIONS. REPAIR/REPLACE BAFFLES WHEN FAILURE OR DETERIORATION IS OBSERVED.
TEMPORARY SOIL PROTECTION	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.25"	REPAIR ERODED OR BARE AREAS IMMEDIATELY. RESEED AND MULCH.

SEDIMENT & EROSION CONTROL NARRATIVE

1. THE PROJECT INVOLVES THE CONSTRUCTION OF A GROUND MOUNTED SOLAR PANEL FACILITY WITH ASSOCIATED EQUIPMENT, INCLUDING THE CLEARING, GRUBBING AND GRADING OF APPROXIMATELY 16.49± ACRES OF EXISTING LOT.

THE PROPOSED PROJECT INVOLVES THE FOLLOWING CONSTRUCTION:

A. CLEARING AND GRUBBING WHERE NECESSARY.
B. REMOVAL OF EXISTING ACCESS ROAD AND MATERIAL STOCKPILES AND GRADING OF EXISTING LOT.
C. CONSTRUCTION OF 7,655 GROUND MOUNTED SOLAR PANELS AND ASSOCIATED EQUIPMENT.
D. THE STABILIZATION OF DISTURBED AREAS WITH PERMANENT VEGETATIVE TREATMENTS.

2. FOR THIS PROJECT, THERE ARE APPROXIMATELY 16.49± ACRE OF THE SITE BEING DISTURBED WITH A NET DECREASE OF IMPERVIOUS AREA ON THE SITE. PROPOSED IMPERVIOUS AREAS CONSIST OF CONCRETE PADS FOR ELECTRICAL EQUIPMENT AND COMPACTED GRAVEL ACCESS ROADS.

3. THE PROJECT SITE, AS MAPPED IN THE SOIL SURVEY OF STATE OF CONNECTICUT (NRCS, VERSION 18, DEC 6, 2018), CONTAINS TYPE 60B AND 72C (HYDROLOGIC SOIL GROUP B), 50B AND 52C (HYDROLOGIC SOIL GROUP B/D), 45A AND 45B (HYDROLOGIC SOIL GROUP C/D) AND 2 AND 3 (HYDROLOGIC SOIL GROUP D) SOILS. A GEOTECHNICAL ENGINEERING REPORT HAS BEEN COMPLETED DATED 25 OCTOBER 2022.

4. IT IS ANTICIPATED THAT ARRAY CONSTRUCTION WILL BE COMPLETED IN APPROXIMATELY 4-6 MONTHS. IT IS ANTICIPATED THAT A PRELIMINARY PHASE OF SITE WORK WILL OCCUR PRIOR TO ARRAY CONSTRUCTION, TO RE-GRADE AND STABILIZE THE SITE, WHICH WILL BE COMPLETED IN APPROXIMATELY 2-3 MONTHS.

5. REFER TO THE CONSTRUCTION SEQUENCING AND EROSION AND SEDIMENTATION NOTES FOR INFORMATION REGARDING SEQUENCING OF MAJOR OPERATIONS IN THE ON-SITE CONSTRUCTION PHASES.

6. STORMWATER MANAGEMENT DESIGN CRITERIA UTILIZES THE APPLICABLE SECTIONS OF THE 2004 CONNECTICUT STORMWATER QUALITY MANUAL AND THE TOWN OF COLCHESTER STANDARDS, TO THE EXTENT POSSIBLE AND PRACTICABLE FOR THIS PROJECT ON THIS SITE. EROSION AND SEDIMENTATION MEASURES ARE BASED UPON ENGINEERING PRACTICE, JUDGEMENT AND THE APPLICABLE SECTIONS OF THE CONNECTICUT EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, LATEST EDITION.

7. DETAILS FOR THE TYPICAL STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION MEASURES ARE SHOWN ON THE PLAN SHEETS OR PROVIDED AS SEPARATE SUPPORT DOCUMENTATION FOR REVIEW IN THIS PLAN.

8. CONSERVATION PRACTICES TO BE USED DURING CONSTRUCTION:
B. STAGED CONSTRUCTION;
C. MINIMIZE THE DISTURBED AREAS TO THE EXTENT PRACTICABLE DURING CONSTRUCTION;
D. STABILIZE DISTURBED AREAS WITH TEMPORARY OR PERMANENT MEASURES AS SOON AS POSSIBLE, BUT NO LATER THAN 7-DAYS FOLLOWING DISTURBANCE;
E. MINIMIZE IMPERVIOUS AREAS;
F. UTILIZE APPROPRIATE CONSTRUCTION EROSION AND SEDIMENTATION MEASURES.

9. THE FOLLOWING SEPARATE DOCUMENTS ARE TO BE CONSIDERED A PART OF THE EROSION AND SEDIMENTATION PLAN:
A. STORMWATER MANAGEMENT REPORT DATED FEBRUARY 2023.
B. SWPCP, TO BE ISSUED.

SUGGESTED CONSTRUCTION SEQUENCE

THE FOLLOWING SUGGESTED SEQUENCE OF CONSTRUCTION ACTIVITIES IS PROJECTED BASED UPON ENGINEERING JUDGEMENT AND BEST MANAGEMENT PRACTICES. THE CONTRACTOR MAY ELECT TO ALTER THE SEQUENCING TO BEST MEET THE CONSTRUCTION SCHEDULE, THE EXISTING SITE ACTIVITIES AND WEATHER CONDITIONS. SHOULD THE CONTRACTOR ALTER THE CONSTRUCTION SEQUENCE OR ANY EROSION AND SEDIMENTATION CONTROL MEASURES THEY SHALL MODIFY THE STORMWATER POLLUTION CONTROL PLAN ("SWPCP") AS REQUIRED BY THE GENERAL PERMIT. MAJOR CHANGES IN SEQUENCING AND/OR METHODS MAY REQUIRE REGULATORY APPROVAL PRIOR TO IMPLEMENTATION.

1. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING. PHYSICALLY FLAG THE LIMITS OF DISTURBANCE IN THE FIELD AS NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.

2. CONDUCT A PRE-CONSTRUCTION MEETING TO DISCUSS THE PROPOSED WORK AND EROSION AND SEDIMENTATION CONTROL MEASURES. THE MEETING SHOULD BE ATTENDED BY THE OWNER, THE OWNERS REPRESENTATIVE(S), THE GENERAL CONTRACTOR, DESIGNATED SUB-CONTRACTORS AND THE PERSON, OR PERSONS, RESPONSIBLE FOR THE IMPLEMENTATION, OPERATION, MONITORING AND MAINTENANCE OF THE EROSION AND SEDIMENTATION MEASURES. THE CONSTRUCTION PROCEDURES FOR THE ENTIRE PROJECT SHALL BE REVIEWED AT THIS MEETING.

3. NOTIFY CALL BEFORE YOU DIG AT 811, AS REQUIRED, PRIOR TO THE START OF CONSTRUCTION.

PHASE 1

4. REMOVE EXISTING IMPEDIMENTS AS NECESSARY AND PROVIDE MINIMAL CLEARING AND GRUBBING TO INSTALL THE REQUIRED CONSTRUCTION ENTRANCE/S.

5. CLEAR ONLY AS NEEDED TO INSTALL THE PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES AND, IF APPLICABLE, TREE PROTECTION. ALL WETLAND AREAS SHALL BE PROTECTED BEFORE MAJOR CONSTRUCTION BEGINS.

6. INSTALL PERIMETER EROSION CONTROL.

7. INSTALL TEMPORARY SEDIMENT TRAPS 1-4 (TST-1, TST-2, TST-3 & TST-4), AND ASSOCIATED OVERFLOW WEIRS, STOCKPILE AREAS AND SEDIMENT TRAP BAFFLES. UPON COMPLETION OF THE INSTALLATION AND STABILIZATION OF THE SEDIMENT TRAPS AND SWALES, PHASE 2 WORK UP GRADIENT CAN PROCEED.

PHASE 2

8. UPON COMPLETION OF THE INSTALLATION OF EACH OF THE TEMPORARY SEDIMENT BASINS; THE AREA ABOVE THE BASIN CAN HAVE THE REMAINING ARRAY AREA CLEARING AND GRUBBING COMPLETED AS REQUIRED. REMOVE CUT WOOD AND STOCKPILE FOR FUTURE USE OR REMOVE OFF-SITE. REMOVE AND DISPOSE OF DEMOLITION DEBRIS OFF-SITE IN ACCORDANCE WITH APPLICABLE LAWS.

9. INSTALL NEW ACCESS ROADS IF SITE CONDITIONS ALLOW.

10. TEMPORARILY SEED DISTURBED AREAS NOT UNDER CONSTRUCTION FOR THIRTY (30) DAYS OR MORE.

11. FINISH GRADE AREA WITHIN ARRAY FOOTPRINT, PROVIDE SOIL AMENDMENT AND SEEDING MIX AS DETAILED IN PLANS AND DETAILS, INSTALL INTERIOR FILTER SOCK.

12. INSTALL ELECTRICAL CONDUIT AND EQUIPMENT PADS.

13. REMOVE INTERIOR COMPOST FILTER SOCKS WITH APPROVAL OF SWPCP MONITOR AND CONSERVATION DISTRICT.

14. INSTALL RACKING POSTS FOR GROUND MOUNTED SOLAR PANELS.

15. INSTALL GROUND MOUNTED SOLAR PANELS AND COMPLETE ELECTRICAL INSTALLATION.

16. AFTER SUBSTANTIAL COMPLETION OF THE INSTALLATION OF THE SOLAR PANELS, COMPLETE REMAINING SITE WORK, INCLUDING ANY REQUIRED LANDSCAPE SCREENING, AND STABILIZE ALL DISTURBED AREAS.

17. FINE GRADE, RAKE, SEED AND MULCH ALL REMAINING DISTURBED AREAS.

FINAL GRADING & DRAINAGE PLAN

18. AFTER THE SITE IS STABILIZED AND WITH THE APPROVAL OF THE PERMITTEE AND CONSERVATION DISTRICT AGENT, REMOVE TEMPORARY SEDIMENT TRAPS 1-4 (TST-1, TST-2, TST-3 & TST-4), AS WELL AS ASSOCIATED OVERFLOW WEIRS, SEDIMENT TRAP BAFFLES AND ANY PERIMETER EROSION AND SEDIMENTATION CONTROLS. ANY AREAS DISTURBED DURING CLEAN UP SHALL BE PERMANENTLY SEEDED.

19. THE SITE SHALL BE MONITORED ONCE A MONTH FOR TWO FULL GROWING SEASONS (APRIL - OCTOBER).

20. ISSUE NOTICE OF TERMINATION UPON COMPLETION OF MONITORING REQUIRED PER APPENDIX I.

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SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23 CHECKED BY: KAM

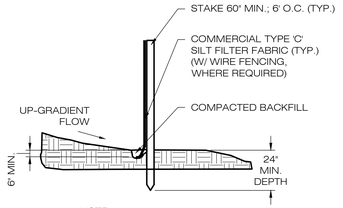
SHEET TITLE:

SEDIMENTATION & EROSION CONTROL NOTES

SHEET NUMBER:

EC-1

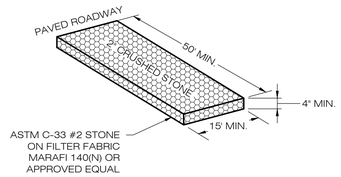
STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER



NOTE:
SILT FENCE SHALL BE LAPPED ONLY WHEN NECESSARY PER THE MANUFACTURER RECOMMENDATIONS.

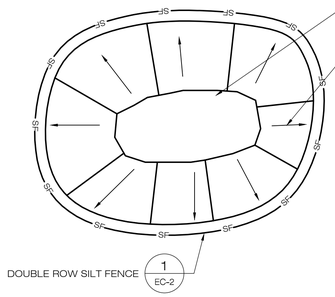
1 EC-2 SILT FENCE DETAIL

SCALE : N.T.S.



2 EC-2 CONSTRUCTION ENTRANCE DETAIL

SCALE : N.T.S.



NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

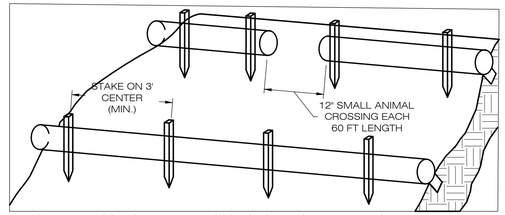
2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.

3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

3 EC-2 MATERIALS STOCKPILE DETAIL

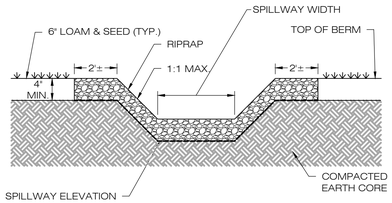
SCALE : N.T.S.



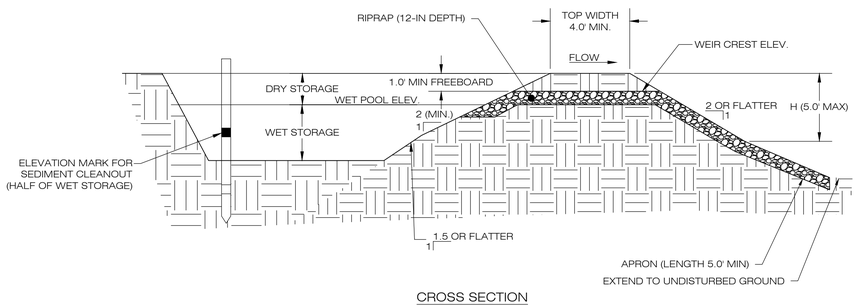
1. BEGIN AT THE LOCATION WHERE THE SOCK IS TO BE INSTALLED BY EXCAVATING A 2-3" (5-7.5 CM) DEEP X 9" (22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE SOCK IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE SOCK ON THE UPHILL SIDE. SOCKS SHALL BE INSTALLED IN 60 FT CONTINUOUS LENGTHS WITH ADJACENT SOCKS TIGHTLY ABUT. EVERY 60 FT THE SOCK ROW SHALL BE SPACED 12 INCHES CLEAR, END TO END, FOR AMPHIBIAN AND REPTILE TRAVEL. THE OPEN SPACES SHALL BE STAGGERED MID LENGTH OF THE NEXT DOWN GRADIENT SOCK.
3. SECURE THE SOCK WITH 18-24" (45.7-61 CM) STAKES EVERY 3-4' (0.9 -1.2 M) AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE SOCK LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE SOCK. STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.

4 EC-2 COMPOST FILTER SOCK SEDIMENTATION CONTROL BARRIER

SCALE : N.T.S.



OUTLET ELEVATION



CROSS SECTION

SEED MIX TO BE NEWP NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES.

New England Erosion Control/Restoration Mix For Detention Basins and Moist Sites

Botanical Name	Common Name	Indicator
Elymus riparius	Riverbank Wild Rye	FACW
Schizachyrium scoparium	Little Bluestem	FACU
Festuca rubra	Red Fescue	FACU
Andropogon gerardii	Big Bluestem	FAC
Panicum virgatum	Switch Grass	FAC
Vernonia noveboracensis	New York Ironweed	FACW+
Agrostis perennans	Upland Bentgrass	FACU
Bidens frondosa	Beggar Ticks	FACW
Eupatorium maculatum (Eutrochium maculatum)	Spotted Joe Pye Weed	OBL
Eupatorium perfoliatum	Boneset	FACW
Aster novae-angliae (Symphyotrichum novae-anglia	New England Aster	FACW-
Scirpus cyperinus	Wool Grass	FACW
Juncus effusus	Soft Rush	FACW+

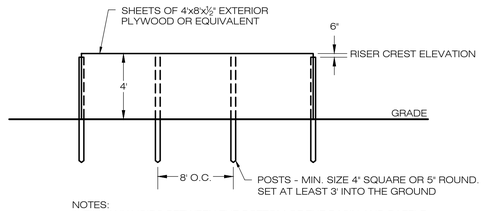
PRICE PER LB. $37.00 MIN. QUANITY 3 LBS. **TOTAL:** $111.00 APPLY: 35 LBS/ACRE :1250 sq ft/lb

5 EC-2 TEMPORARY SEDIMENT TRAP

SCALE : N.T.S.

TEMPORARY SEDIMENT TRAP SIZING TABLE

NAME	DRAINAGE AREA (AC)	SEDIMENT VOLUME/ACRE AREA (CY)	REQ. VOLUME (CY)	REQ. WET VOLUME (CY)	PROP. BTM. ELEV. (FT)	PROP. PERVIOUS STONE BTM ELEV. (FT)	PROP. WEIR CREST ELEV. (FT)	PROP. TOP ELEV. (FT)	WET VOL. PROVIDED (CY)	TOTAL VOL. PROVIDED. (CY)
TST-1	4.94 AC	134 CYD	661.94 CY	330.97 CY	513.0'	514.5'	515.5'	517.0'	435.6 CY	1,400.7 CY
TST-2	4.93 AC	134 CYD	660.87 CY	330.44 CY	511.0'	512.5'	513.5'	515.0'	416.8 CY	1,328.3 CY
TST-3	4.80 AC	134 CYD	642.97 CY	321.48 CY	509.0'	510.5'	511.5'	513.0'	414.2 CY	1,345.9 CY
TST-4	4.56 AC	134 CYD	610.39 CY	305.19 CY	510.0'	511.5'	512.5'	514.0'	382.8 CY	1,251.7 CY



NOTES:
1. FILL ANY VOIDS BETWEEN THE BOTTOM OF THE BASIN AND BAFFLE.

6 EC-2 SEDIMENT TRAP BAFFLE

SCALE : N.T.S.

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
0	03/07/23	FOR FILING: KAM
1		
2		
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DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

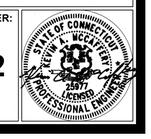
DATE: 03/07/23 **CHECKED BY:** KAM

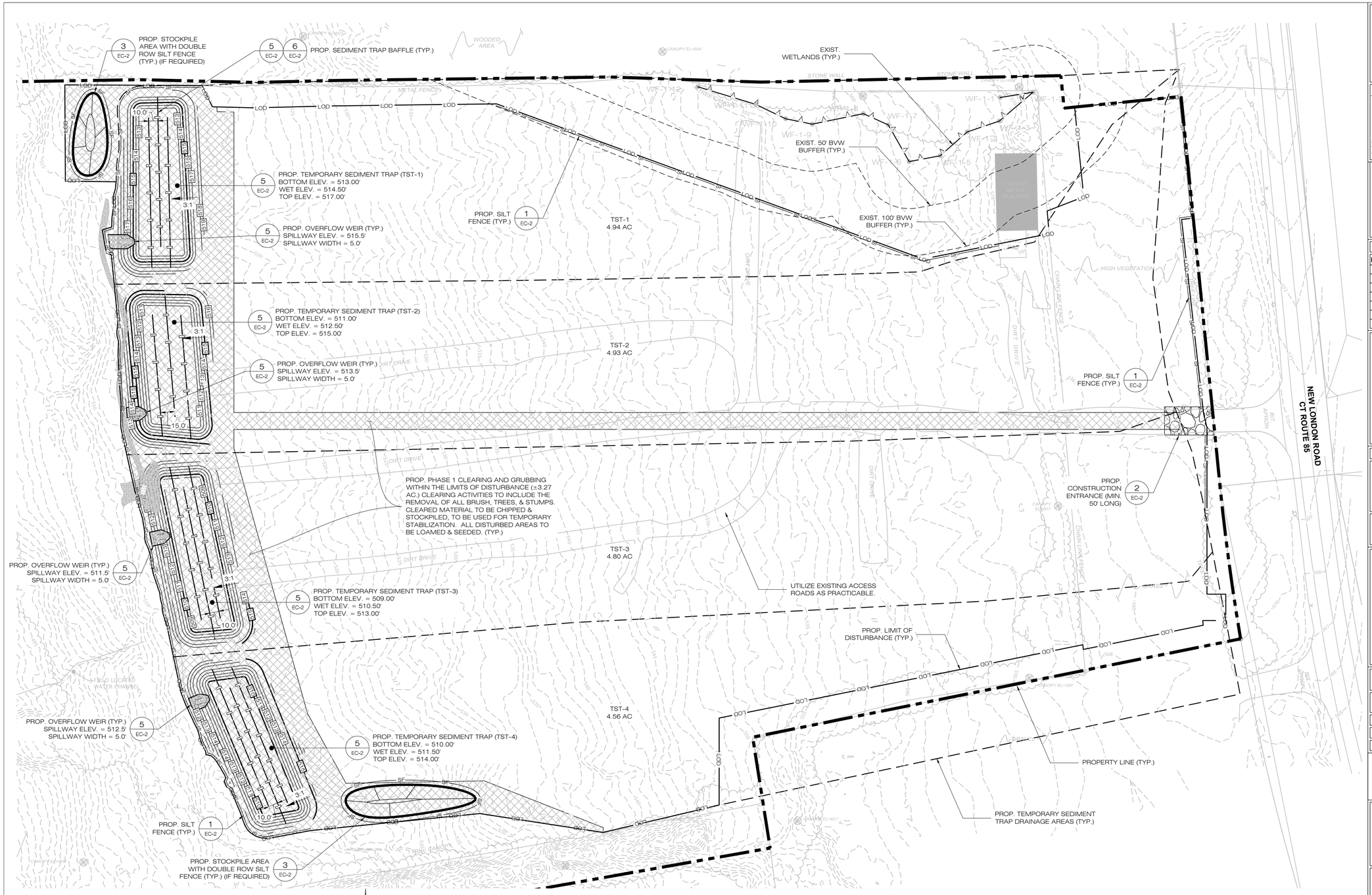
SHEET TITLE:

SEDIMENTATION & EROSION CONTROL DETAILS

SHEET NUMBER:

EC-2





524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION

567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
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DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23 CHECKED BY: KAM

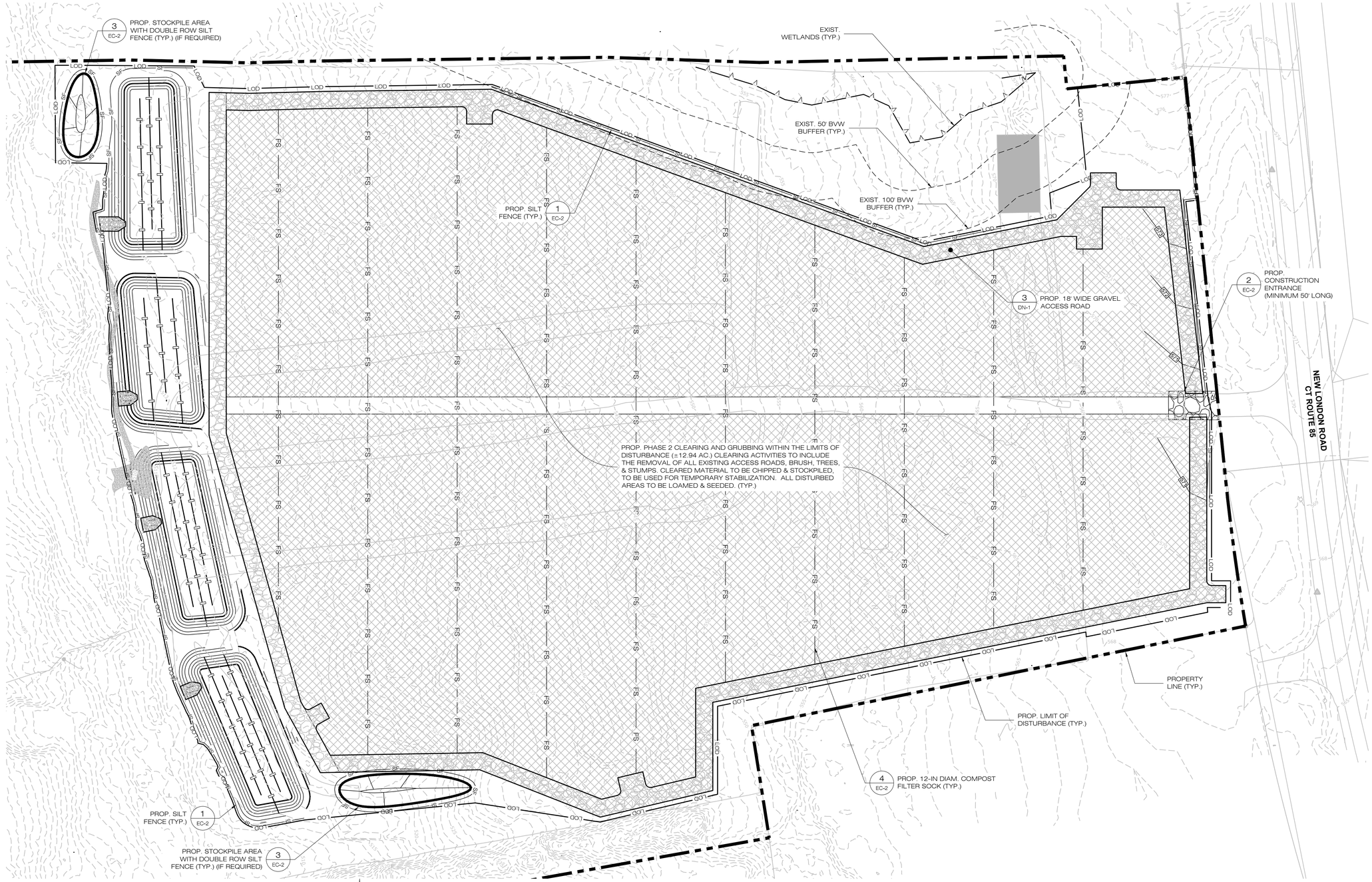
SHEET TITLE:

PHASE 1 SEDIMENTATION & EROSION CONTROL PLAN

SHEET NUMBER:

EC-3

STATE OF CONNECTICUT · KEVIN A. MCCAFFERY · 25977 · LICENSED PROFESSIONAL ENGINEER



1 EC-4 **PHASE 2 - SEDIMENTATION & EROSION CONTROL PLAN**

SCALE : 1" = 50'-0"

50 0 25 50 100

(IN FEET) 1 inch = 50 ft.

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION

567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
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DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23 CHECKED BY: KAM

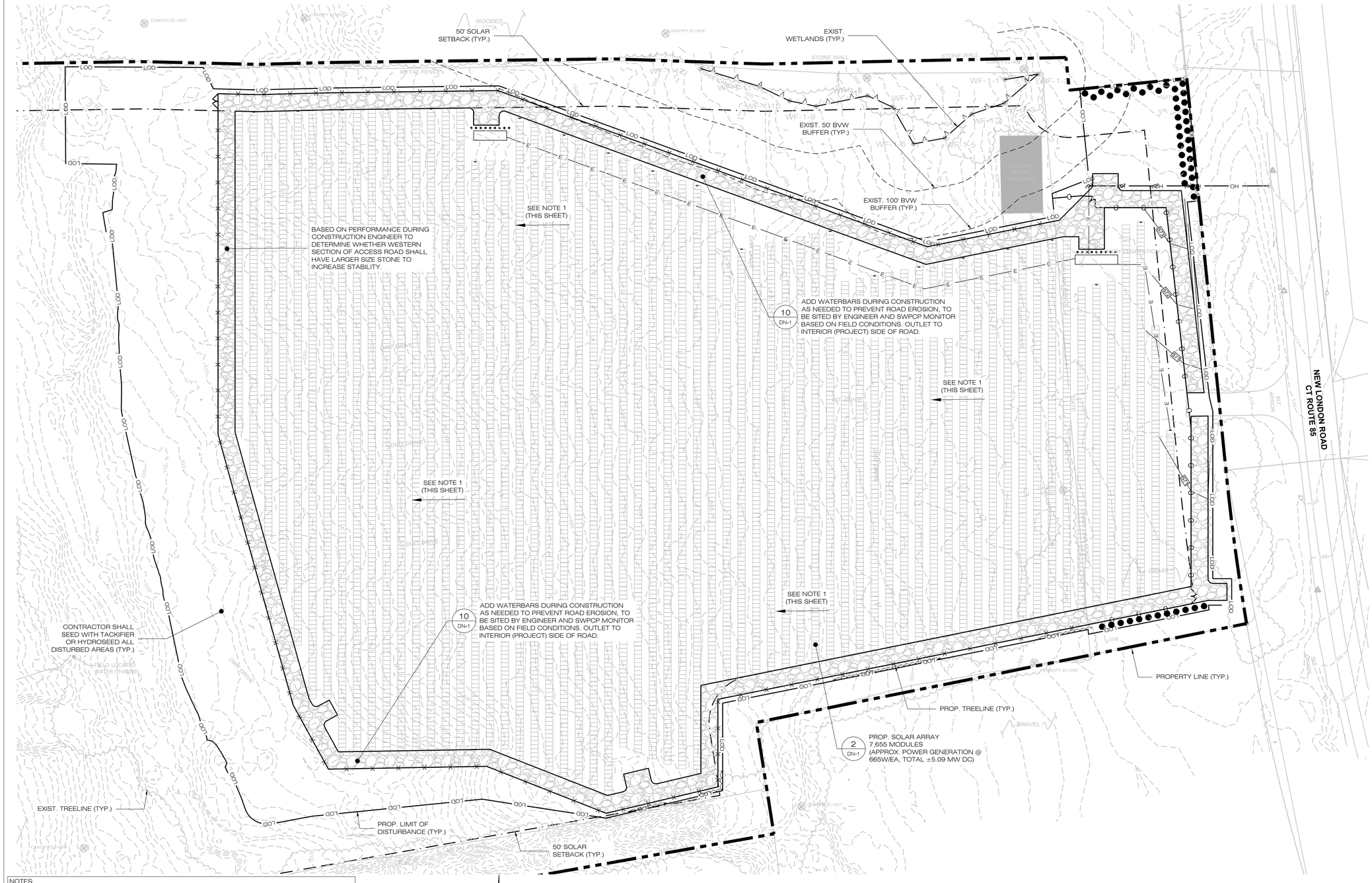
SHEET TITLE:

PHASE 2 SEDIMENTATION & EROSION CONTROL PLAN

SHEET NUMBER:

EC-4

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER



NOTES:
1. GRADE/SHAPE AREA TO MAINTAIN EXIST. DRAINAGE PATTERNS.
2. CONTRACTOR SHALL REMOVE ALL TEMPORARY SEDIMENT TRAPS, BAFFLES, AND OVERFLOW WEIRS AND RE-GRADE THE AREA TO MIMIC PRE-CONSTRUCTION CONDITIONS UPON THE SITE OR DRAINAGE AREA BEING DEEMED STABILIZED PER THE SWPCP.

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

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DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23 CHECKED BY: KAM

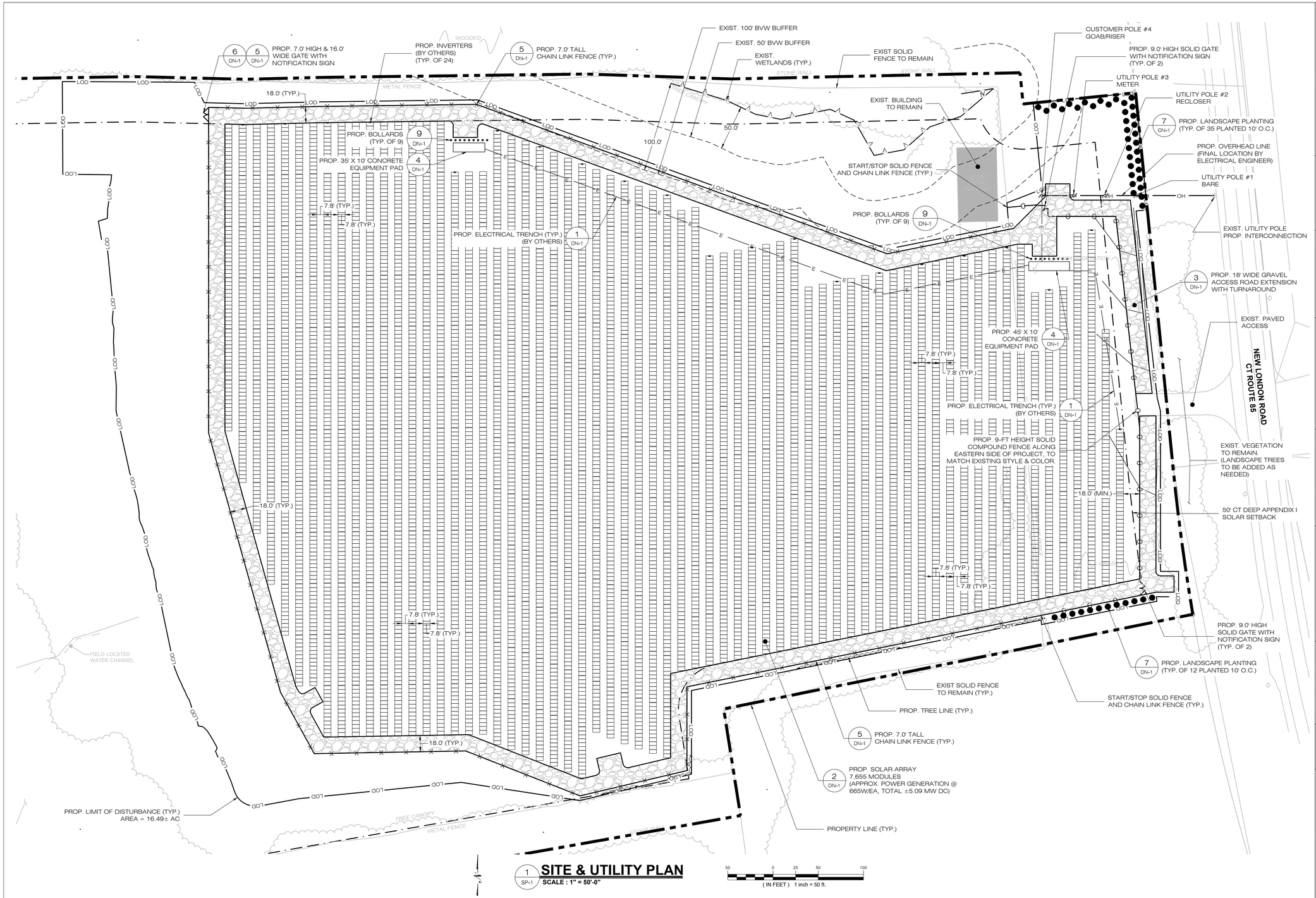
SHEET TITLE:

FINAL GRADING & DRAINAGE PLAN

SHEET NUMBER:

GD-1

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER



1 SP-1 SITE & UTILITY PLAN

SCALE : 1" = 50'-0"

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION

567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
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DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23 CHECKED BY: KAM

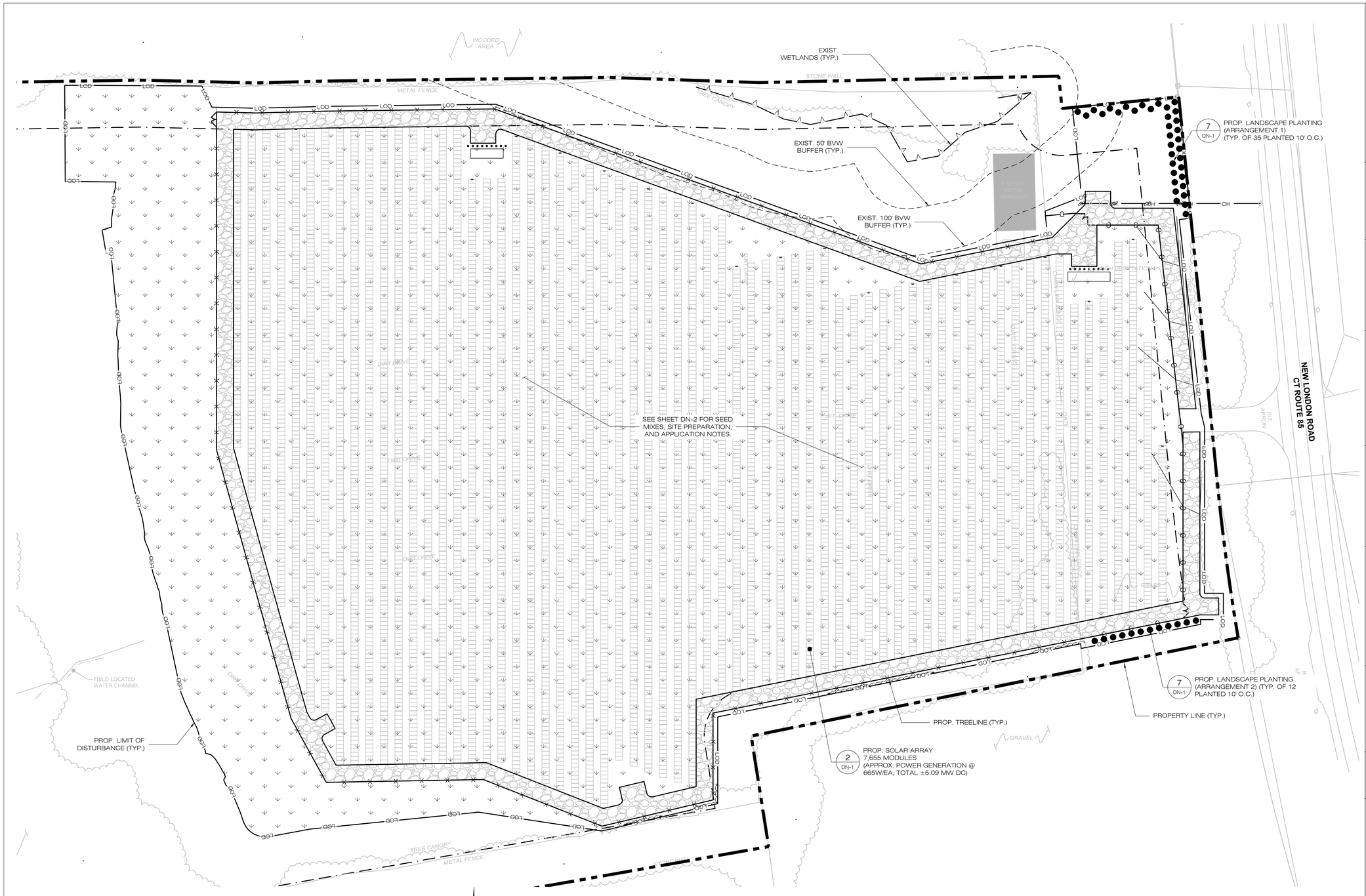
SHEET TITLE:

SITE & UTILITY PLAN

SHEET NUMBER:

SP-1

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25071 LICENSED PROFESSIONAL ENGINEER



1 LP-1 **LANDSCAPE SEEDING PLAN**
SCALE : 1" = 50'-0"

50 0 25 50 100
(IN FEET) 1 inch = 50 ft.

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
0	03/07/23	FOR FILING: KAM
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DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23 CHECKED BY: KAM

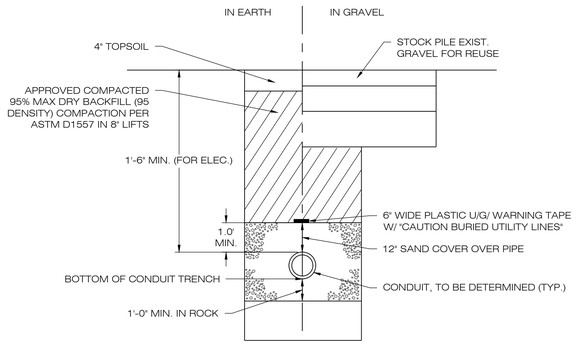
SHEET TITLE:

LANDSCAPE SEEDING PLAN

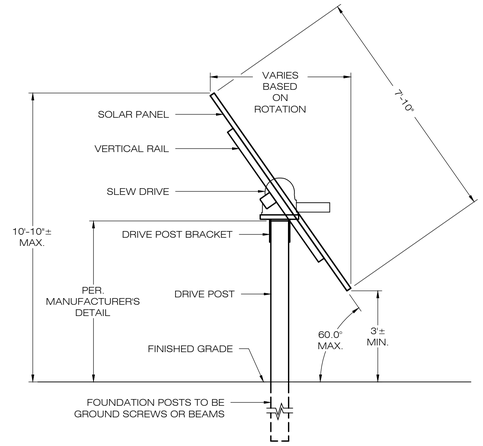
SHEET NUMBER:

LP-1

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25877 LICENSED PROFESSIONAL ENGINEER

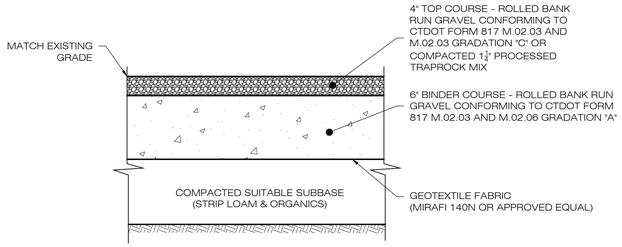


1 DN-1 **ELECTRICAL TRENCH DETAIL**
SCALE : N.T.S.



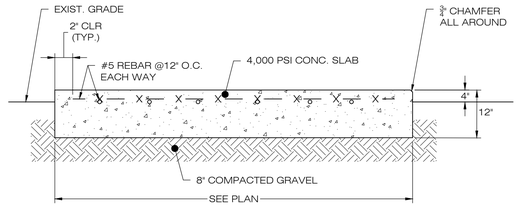
NOTES:
SEE MANUFACTURER'S DETAIL SHEETS FOR ADDITIONAL INFORMATION REGARDING RACKING SYSTEM REQUIREMENTS AND INSTALLATION PROCEDURES. RACKING SYSTEM TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

2 DN-1 **TYPICAL TRACKER POST MOUNTED RACKING SYSTEM**
SCALE : N.T.S.

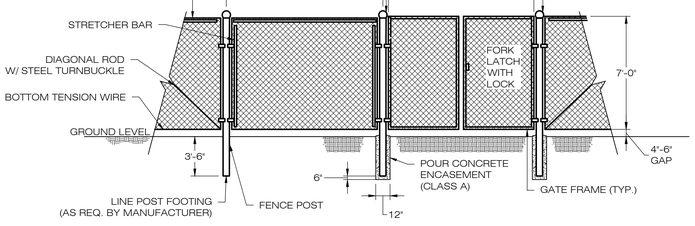


NOTES:
1. SUBBASE MAY CONSIST OF NATIVE MATERIALS IF FOUND ACCEPTABLE BY THE ENGINEER. SUBBASE TO BE COMPACTED TO 95% MAX DRY DENSITY.
2. SUBBASE IS TO BE FREE FROM DEBRIS AND UNSUITABLE MATERIALS.

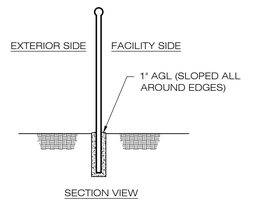
3 DN-1 **GRAVEL ACCESS DRIVE SECTION**
SCALE : N.T.S.



4 DN-1 **CONCRETE EQUIPMENT PAD**
SCALE : N.T.S.



5 DN-1 **CHAIN-LINK FENCE & GATE DETAIL**
SCALE : N.T.S.

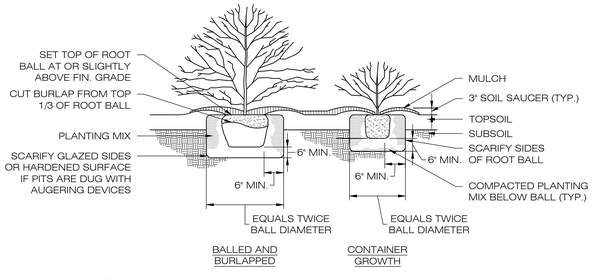


SCRAPYARD SOLAR

IN CASE OF EMERGENCY
CALL T.B.D.

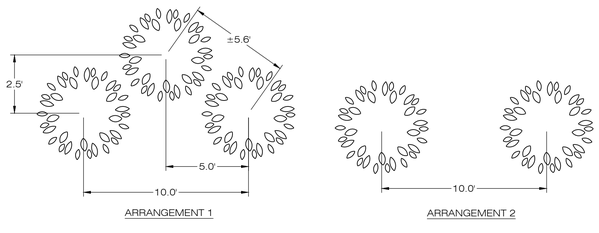
NOTES:
EMERGENCY CALL NUMBER TO BE PROVIDED ONCE DETERMINED.

6 DN-1 **NOTIFICATION SIGN DETAIL**
SCALE : N.T.S.

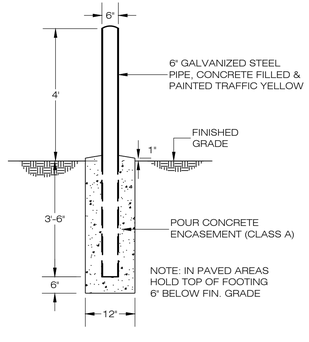


NOTES:
IN AREAS OF MASS PLANTINGS, CONTINUOUSLY EXCAVATE AND MULCH ENTIRE BED..

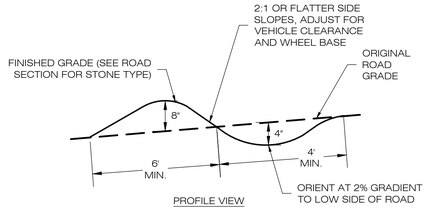
7 DN-1 **TYPICAL PLANTING DETAIL**
SCALE : N.T.S.



8 DN-1 **SCREENING TREE SPACING**
SCALE : N.T.S.



9 DN-1 **BOLLARD DETAIL**
SCALE : N.T.S.



NOTES:
1. SHALL BE ORIENTATED AT A 10 DEGREE ANGLE DOWNGRADE.
2. RIP-RAP OUTFALL SHALL BE INSTALLED AT OUTFALL TO AVOID WASHOUT.
3. WATER BARS SHALL MAINTAIN A MINIMUM OF 6" STONE IN ALL AREAS.
2. WATERBARS SHALL DISCHARGE TO A STABLE AREA OR HAVE A RIP-RAP OUTFALL SHALL BE INSTALLED TO AVOID WASHOUT.
3. DAMAGED OR ERODED WATERBARS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 48 HOURS OF INSPECTION.
4. MAINTENANCE OF WATERBARS SHALL BE PROVIDED UNTIL ROADWAY, SKIDTRAIL, OR DITCH HAS ACHIEVED PERMANENT STABILIZATION.
5. WATERBARS SHALL BE INSTALLED PRIOR TO ANY SWITCH BACK OR SHARP CURVE.

RECOMMENDED WATER BAR SPACING	
PERCENT SLOPE	SPACING (FT)
1%	400*
5%	125
10%	78
15%	58

* OR AS DIRECTED BY THE ENGINEER OF RECORD.

10 DN-1 **WATERBAR DETAIL**
SCALE : N.T.S.

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
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DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB
DATE: 03/07/23 **CHECKED BY:** KAM

SHEET TITLE:
SITE DETAILS

SHEET NUMBER:
DN-1

STATE OF CONNECTICUT · KEVIN A. MCCAFFERY · 25977 · LICENSED PROFESSIONAL ENGINEER

SEEDING NOTES:

1. CONDUCT SOIL FERTILITY TESTING AND SHARE RESULTS WITH DESIGN TEAM TO CONFIRM THE FOLLOWING RECOMMENDATIONS.
2. APPLY MINIMUM OF 2 INCHES OF COMPOST (OR TO ALTERNATE DEPTH RECOMMENDED BY ONSITE TESTING).
3. APPLY SLOW RELEASE OR ORGANIC FERTILIZER AND LIME AT RATES RECOMMENDED FROM SOIL FERTILITY TESTING RESULTS.
4. TILL COMPOST, FERTILIZER, AND LIME IN TO TOP 4-6 INCHES OF SOIL TO PREPARE SEED BED.
5. APPLY A HYDROSEED BLEND OF THE FOLLOWING MIXES AT THE VOLUME PERCENTAGES NOTED WITH A BONDED FIBER MATRIX MULCH TO THE AMENDED SOIL.

Quick Erosion Control Cover Mix - ERNMX-104

	Botanical Name	Common Name	Price/Lb
50.00 %	*Lolium multiflorum*	Annual Ryegrass	1.20
50.00 %	*Lolium perenne, 'Blackstone'*	Perennial Ryegrass, 'Blackstone'	4.08
100.00 %		**Mix Price/Lb Bulk:**	**$2.64**

Seeding Rate: 50 lb per acre

Erosion Control & Revegetation

Designed to achieve that quick, green color and fast erosion control with strong, fibrous roots. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

1 DN-2 **QUICK EROSION CONTROL COVER MIX (35%)**

Ernst Native Biomass Mix for Strip Mines & Gas Production Sites - ERNMX-110

	Botanical Name	Common Name	Price/Lb
30.00 %	*Andropogon gerardii, 'Niagara'*	Big Bluestem, 'Niagara'	12.62
26.00 %	*Panicum amarum, Atlantic-VA Ecotype*	Coastal Panicgrass, Atlantic-VA Ecotype	11.11
26.00 %	*Panicum virgatum, 'Carthage', NC Ecotype*	Switchgrass, 'Carthage', NC Ecotype	12.79
12.00 %	*Elymus virginicus, Madison-NY Ecotype*	Virginia Wildrye, Madison-NY Ecotype	10.16
4.00 %	*Chamaecrista fasciculata, PA Ecotype*	Partridge Pea, PA Ecotype	7.20
2.00 %	*Desmodium canadense, PA Ecotype*	Showy Ticktrefoil, PA Ecotype	48.00
100.00 %		**Mix Price/Lb Bulk:**	**$12.47**

Seeding Rate: 15 lbs/acre with 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 Jul) or grain rye (1 Aug to 31 Dec).

Erosion Control & Revegetation; Grasses & Grass-like Species - Herbaceous Perennial

A biodiverse mix of warm and cool season grasses with forbs for maximum, sustainable biomass production. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

2 DN-2 **ERNST NATIVE BIOMASS MIX FOR STRIP MINES & GAS PRODUCTION SITES (25%)**

Ernst Native Habitat for Strip Mines Mix - ERNMX-111

	Botanical Name	Common Name	Price/Lb
29.60 %	*Andropogon gerardii, 'Niagara'*	Big Bluestem, 'Niagara'	12.62
25.00 %	*Panicum virgatum, 'Shelter'*	Switchgrass, 'Shelter'	12.22
18.90 %	*Sorghastrum nutans, NY4 Ecotype*	Indiangrass, NY4 Ecotype	15.29
17.00 %	*Elymus virginicus, Madison-NY Ecotype*	Virginia Wildrye, Madison-NY Ecotype	10.16
3.00 %	*Rudbeckia hirta*	Blackeyed Susan	31.20
2.00 %	*Chamaecrista fasciculata, PA Ecotype*	Partridge Pea, PA Ecotype	7.20
2.00 %	*Heliopsis helianthoides, PA Ecotype*	Oxeye Sunflower, PA Ecotype	33.60
1.80 %	*Desmodium canadense, PA Ecotype*	Showy Ticktrefoil, PA Ecotype	48.00
0.30 %	*Monarda fistulosa, Fort Indiantown Gap-PA Ecotype*	Wild Bergamot, Fort Indiantown Gap-PA Ecotype	96.00
0.20 %	*Asclepias syriaca*	Common Milkweed	96.00
0.10 %	*Pycnanthemum tenuifolium*	Narrowleaf Mountainmint	168.00
0.10 %	*Solidago canadensis, PA Ecotype*	Canada Goldenrod, PA Ecotype	240.00
100.00 %		**Mix Price/Lb Bulk:**	**$14.91**

Seeding Rate: 20 lbs/acre with 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 Jul) or grain rye (1 Aug to 31 Dec).

Erosion Control & Revegetation; Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial

A permanent meadow mix for wildlife cover and pollinator habitat on disturbed sites. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

3 DN-2 **ERNST NATIVE HABITAT FOR STRIP MINES MIX (25%)**

Flat Pea/Perennial Pea Mix (Naturalized) - ERNMX-112

	Botanical Name	Common Name	Price/Lb
60.00 %	*Lathyrus sylvestris, Lathco*	Flat Pea, Lathco	16.80
40.00 %	*Lolium multiflorum*	Annual Ryegrass	1.20
100.00 %		**Mix Price/Lb Bulk:**	**$10.56**

Seeding Rate: 25 lb per acre, or 1-1/2 lb per 1,000 sq ft (sold in a combo pak)

Cover Crops - Herbaceous Perennial Legume; Erosion Control & Revegetation

A durable legume cover mix for disturbed sites and steep slopes. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

4 DN-2 **FLAT PEA/PERENNIAL PEA MIX (15%)**

524 NLR LLC

9 NOVELTY LANE, UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
0	03/07/23	FOR FILING: KAM
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

SCRAPYARD SOLAR

SITE ADDRESS: 524 NEW LONDON ROAD COLCHESTER, CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 03/07/23 CHECKED BY: KAM

SHEET TITLE:

SITE DETAILS

SHEET NUMBER:

DN-2

STATE OF CONNECTICUT · KEVIN A. MCCAFFERY · 25971 · LICENSED PROFESSIONAL ENGINEER

APPENDIX B

USFWS AND NDDB

COMPLIANCE STATEMENT

USFWS & NDDB COMPLIANCE

January 26, 2023

Mr. James Schwartz
524 NLR, LLC
9 Novelty Lane – Unit 9B
Essex, CT 06426

Re: Colchester Salvage Yard Solar Facility, 524 New London Road, Colchester, CT
APT Job No: CT580160

On behalf of 524 NLR, LLC, All-Points Technology Corporation, P.C. ("APT") performed an evaluation with respect to possible federally- and state-listed, threatened, endangered or special concern species in order to determine if the proposed referenced solar energy generation facility ("Facility") would result in a potential adverse effect to listed species.

APT understands that 524 NLR, LLC proposes the construction of a solar energy generation facility to be located on property known as the Colchester Salvage Yard at 524 New London Road, Colchester, Connecticut ("Subject Property").

USFWS

The federal consultation was completed in accordance with Section 7 of the Endangered Species Act through the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation System ("IPaC"). Based on the results of the IPaC review, one federally listed[1] threatened species is known to occur in the vicinity of the subject property documented as the northern long-eared bat ("NLEB"; *Myotis septentrionalis*). As a result of this preliminary finding, APT performed an evaluation to determine if the proposed referenced Facility would result in a likely adverse effect to NLEB.

The proposed Facility would be located within a mostly developed and cleared area used as a salvage yard with no tree clearing anticipated that could potentially impact NLEB habitat; trees potentially provide NLEB habitat. A review of the Connecticut Department of Energy & Environmental Protection ("CTDEEP") Wildlife Division Natural Diversity Data Base ("NDDB") NLEB habitat map[2] revealed that the proposed Facility is not within 150 feet of a known occupied NLEB maternity roost tree and is not within 0.25 mile of a known NLEB hibernaculum. The nearest NLEB habitat resource to the proposed Facility is located ±25.3 miles to the southwest in North Branford.

APT submitted the effects determination using the NLEB key within the IPaC system for the proposed Facility (the "Action"). This IPaC key assists users in determining whether a Federal action is consistent

[1] Listing under the federal Endangered Species Act

[2] *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* map. February 1, 2016.

with the activities analyzed in the USFWS's January 5, 2016, intra-Service Programmatic Biological Opinion ("PBO") on the Final 4(d) Rule for the NLEB for Section 7(a)(2) compliance.

Based upon the IPaC submission, the Action is consistent with activities analyzed in the PBO; please refer to the enclosed August 23, 2022 USFWS letter. The Action may affect NLEB; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). If the USFWS does not respond within 30 days from the date of the letter (September 23, 2022), one may presume that the IPaC-assisted determination was correct and that the PBO satisfies 524 NLR, LLC responsibilities for this Action under ESA Section 7(a)(2) with respect to NLEB. No response was received from USFWS. This would have satisfied compliance with ESA Section 7(a)(2) with respect to NLEB if not for recent reclassification of NLEB from Threatened to Endangered as published in the Federal Register on November 30, 2022. The NLEB faces extinction due to the range-wide impacts of white-nose syndrome ("WNS"), a deadly fungal disease affecting cave-dwelling bats across the continent.

On November 30, 2022, the USFWS published reclassification of NLEB as Endangered under the ESA. The reclassification eliminates use of the 4(d) rule for the NLEB, which may be applied only to Threatened species. Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. This project could result in an incidental take of NLEB and after the new listing goes into effect on March 31, 2023[3] an updated consultation with USFWS will be required. USFWS is expected to issue a new NLEB consultation tool/framework in early March 2023. At such time, APT will reinitiate NLEB consultation for this project using the new USFWS consultation tool/framework and issue an update to this compliance document.

At this time, 524 NLR, LLC would consider the following additional recommended voluntary measures, where appropriate and as the project schedule allows and as potentially subject to change due to reclassification of NLEB to endangered, to reduce the potential for impact to NLEB.

- Conduct tree removal activities outside of the NLEB pup season (June 1-July 31) and active season (April 1-October 31) to minimize impacts to pups at roosts not yet identified.
- Avoid clearing suitable spring staging and fall swarming habitat within a five-mile radius of known or assumed NLEB hibernacula during the staging and swarming seasons (April 1-May 15 and August 15-November 14, respectively). *Not applicable: site is located > 5 miles from the nearest hibernacula.*
- Maintain dead trees (snags) and large trees when possible. *Not applicable: no dead or large trees are anticipated to be removed.*
- Use herbicides and pesticides only if unavoidable. If necessary, spot treatment is preferred over aerial application.
- Minimize exterior lighting, opting for down-shielded, motion-sensor security lights instead of constant illumination.

[3] USFWS published on January 25, 2023 a 60-day extension of NLEB's Endangered listing effective date, originally scheduled for January 30, 2023, to March 31, 2023.

NDDB

No known areas of state-listed species are currently depicted on the most recent CTDEEP NDDB Maps in the location of the Facility or the Subject Property. Please refer to the enclosed NDDB Map which depicts the nearest NDDB buffer ±0.99 mile southwest of the Subject Property. Since the Subject Property is not located within a NDDB buffer area, consultation with DEEP is not required in accordance with their review policy[4].

Therefore, with implementation of these protective measures the proposed Facility is not anticipated to adversely impact any federal or state threatened, endangered or species of special concern. Once the new NLEB consultation tool/framework is issued by USFWS, this statement will be reassessed and modified as necessary.

Sincerely,
All-Points Technology Corporation, P.C.

Dean Gustafson
Senior Biologist

Enclosures

[4] DEEP Requests for NDDB State Listed Species Reviews.
http://www.ct.gov/deep/cwp/view.asp?a=2702&q=323466&deepNav_GID=1628%20

USFWS NLEB Letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:
Project code: 2022-0069597
Project Name: 524 NLR, LLC: Colchester Salvage Yard

August 23, 2022

Subject: Consistency letter for the '524 NLR, LLC: Colchester Salvage Yard' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Deborah Gustafson:

The U.S. Fish and Wildlife Service (Service) received on August 23, 2022 your effects determination for the '524 NLR, LLC: Colchester Salvage Yard' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

524 NLR, LLC: Colchester Salvage Yard

2. Description

The following description was provided for the project '524 NLR, LLC: Colchester Salvage Yard':

> 524 NLR, LLC is proposing to lease a portion of the +/- 34.79-acre site located at 524 New London Road, Colchester, Connecticut for development of a +/-4.0 (AC) megawatt solar photovoltaic electric generating facility.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.5270377,-72.30108242950931,14z

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/media/nleb-roost-tree-and-hibernacula-state-specific-data-links-0.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type ‘0’ in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type ‘0’ in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type ‘0’ in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type ‘0’ in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

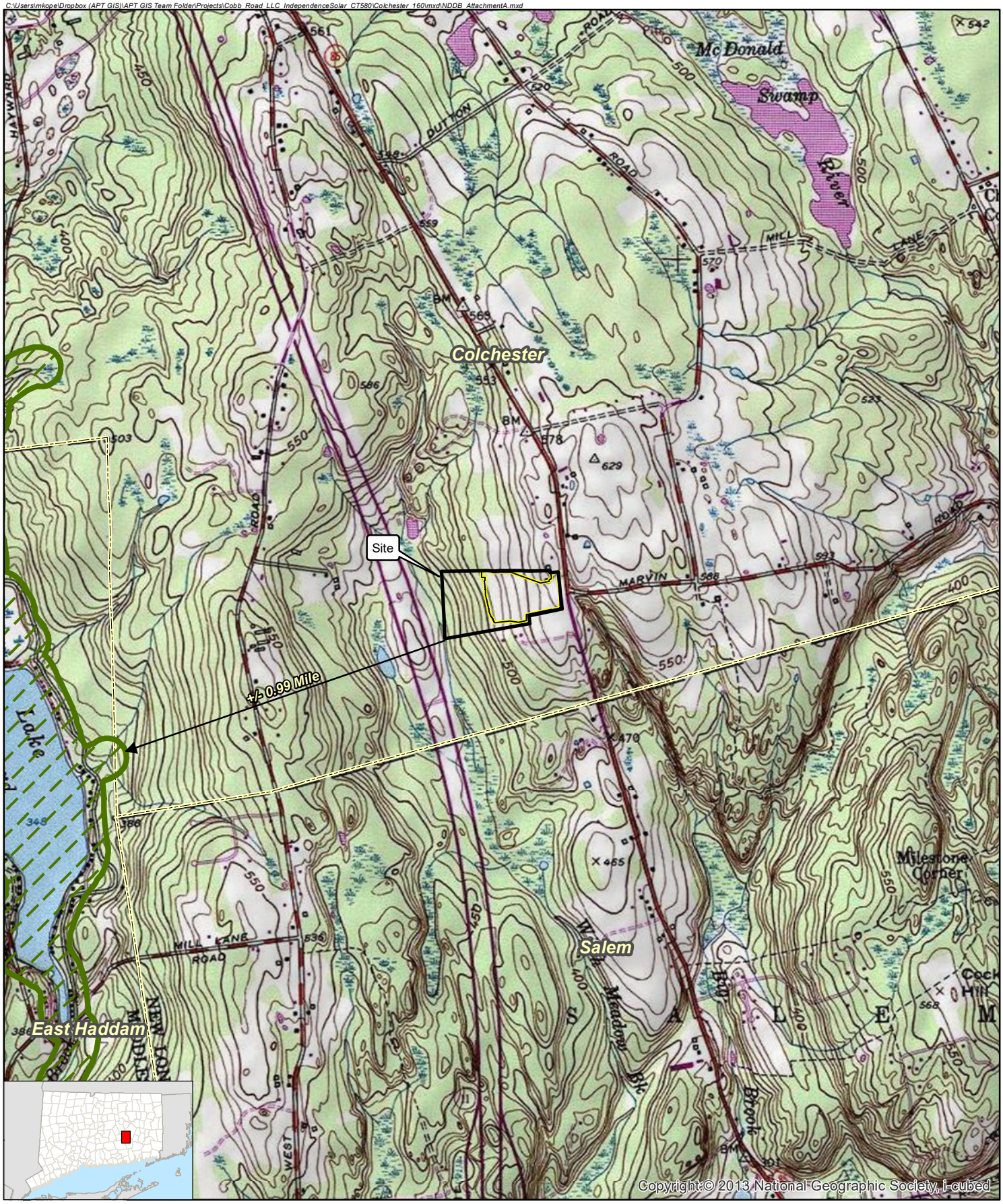
0

IPaC User Contact Information

Agency:	All-Points Technology Corporation, P.C.
Name:	Deborah Gustafson
Address:	567 Vauxhall Street Extension
Address Line 2:	Suite 311
City:	Waterford
State:	CT
Zip:	06235
Email	dleonardo@allpointstech.com
Phone:	8609849514

NDDB Map

C:\Users\mkope\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Cobb_Road_LLC_IndependenceSolar_CT580\Colchester_160\mxd\NDDB_AttachmentA.mxd



Legend

- Site
- Project Area
- CTDEEP Natural Diversity Database (updated Dec 2022)
- Municipal Boundary

N
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1,000 500 0 1,000
Feet

NDDB Attachment A: Overview Map

Proposed Solar Energy Facility
524 New London Road
Colchester, Connecticut

Map Notes:
Base Map Source: USGS 7.5 Minute
Topographic Quadrangle Map: Colchester, CT (1984)
Map Scale: 1:24,000
Map Date: January 2023

ALL-POINTS TECHNOLOGY CORPORATION

APPENDIX C

DEEP AND DOA CORRESPONDENCE

CONNECTICUT DEPARTMENT OF AGRICULTURE
450 Columbus Blvd, Suite 701 | Hartford, Connecticut 06103 | 860.713.2500
Office of the Commissioner
An Equal Opportunity Employer

October 17, 2022

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: 524 NLR, LLC Solar Project – 524 New London Road, Colchester

Dear Executive Director Bachman:

Pursuant to 16-50k(a) of the Connecticut General Statutes, we have reviewed the above cited project with respect to agricultural impacts, specifically, to determine whether "…such project will not materially affect the status of such land as prime farmland…"

524 NLR LLC is proposing to construct a 4.0-megawatt solar photovoltaic electric generating facility to be located on an industrial motor vehicle recycling facility/scrapyard owned since 2010 by FIVE J LLC. at 524 New London Road, in Colchester. Our Department has reviewed a project proposal dated August 12, 2022, as well as follow-up correspondence including aerial imagery dated September 22, 2022.

The parcel contains 17.9 acres of prime farmland soils and 3.4 acres of statewide important farmland soils that are impacted by the operation of a vehicle recycling facility and scrapyard. Based on aerial images provided by Attorney Lee Hoffman of Pullman and Comley, representing 524 NLR LLC, it appears that the site has been used in this fashion going as far back as 1986. There is no current agricultural production on site.

Based on preliminary information provided to DoAg (enclosed), and assuming the project is constructed according to the representations made by the applicant in its correspondence dated August 12, 2022, the Department of Agriculture concludes there will be no further material impact, beyond the existing impact.

If you have any questions, please feel free to contact Holly Lalime of my staff. Holly can be reached at Holly.Lalime@ct.gov or at (860) 969-7053.

Sincerely,

Bryan P. Hurlburt
Commissioner

Enc.
Cc: Katie Dykes, Commissioner, Department of Energy and Environmental Protection
Lee Hoffman, Legal Counsel, Pullman & Comley

PULLMAN &COMLEY

Lee D. Hoffman
90 State House Square
Hartford, CT 06103-3702
p 860 424 4315
f 860 424 4370
lhoffman@pullcom.com
www.pullcom.com

August 12, 2022

VIA ELECTRONIC MAIL

Jaime Smith
Holly Lalime
State of Connecticut Department of Agriculture
450 Columbus Blvd., Suite 701
Hartford, CT 06103

Re: Solar Energy Project Considerations, 524 NLR, LLC Project, 524 New London Road, Colchester, Connecticut - Plan for Solar Project

Dear Ms. Smith and Ms. Lalime:

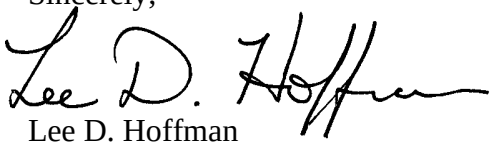
I am writing on behalf of my client, 524 NLR LLC, with respect to its proposed project to be located at 524 New London Road, Colchester, Connecticut. As you know, section 16-50k(a) of the Connecticut General Statutes requires that for a solar photovoltaic facility with a capacity of two or more megawatts to be located on prime farmland, "excluding any such facility that was selected by the Department of Energy and Environmental Protection in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j", the Department of Agriculture must represent, in writing, to the Connecticut Siting Council that such project will not materially affect the status of such land as prime farmland. It is our hope that once the Department has reviewed this information, it would agree that the project will not materially affect any prime farmland.

The reason why we are confident that this project will not have any adverse impact on prime farmland is that the project, if approved, will be located at an industrial motor vehicle recycling facility/scrapyard owned by FIVE J LLC. We have provided greater detail for the Department in the attached Connecticut Department of Agriculture's Solar Energy Project Considerations document, as well as with a few photographs of the site which accompany this letter.

As you can see from the enclosed information, while the site may have been mapped at one point as containing prime farmland soils, it is unlikely that the site currently contains such soil. Moreover, the proposed project will have zero impact on existing agriculture, since no agricultural activities are taking place at the site. Put simply, the proposed project will replace a vehicle scrapyard with a solar project, which is an environmentally beneficial reuse of the project site.

We would ask that the Department transmit a letter to the Connecticut Siting Council that the proposed project will not have an adverse impact on prime farmland soils so that the project may proceed under the Siting Council's petition process. We look forward to working with the Department on this matter. Should you have any questions, please contact me at your convenience. Thank you in advance for your consideration.

Sincerely,



Lee D. Hoffman

Enclosures

Connecticut Department of Agriculture

Solar Project Consideration Guidelines

524 New London Road, Colchester, CT

1. **Farm/Property Information:**
    a. **Farm Owner(s), Farm Name and Location**
        i. Location – The property is located at 524 New London Road, Colchester, Connecticut
        ii. Property owner – The property is owned by FIVE J LLC; Farm Name – There is no name associated with the farm, because the site is not being used for agriculture. As you can see from the attached photos, the site is currently in industrial use as a motor vehicle recycling facility/scrapyard.
    b. **Total acreage, identification of prime, statewide and/or locally important farmland soils & acreage**
        i. Total Acreage - ±34.79 Acres; Prime Farmland Acreage – ±17.9 acres, Statewide Farmland Acreage – ±3.4 acres
    c. **Current production agriculture on the farm and approximate location of crops, farm buildings, etc. used to support the farming operation**
        i. As stated above, the site is a motor vehicle recycling facility. As such, there are no crops and no agricultural production on the site.
2. **Energy Project Information**
    a. **Describe the energy project, including but not limited to, the size of the project in megawatts (MW), the footprint being proposed as it relates to prime farmland on the property, # of panels (if known), and a description of infrastructure needed to support the project**
        i. Megawatts – The project will have a nameplate capacity of approximately 4.0 MW AC.
        ii. Footprint related to prime farmland on the property – Approximately 15.9 acres of the project will be located on prime farmland soils, however, the existing use of the property is an industrial motor vehicle salvage yard. As such, it is not being used for agricultural purposes, and agriculture on the site is likely contraindicated.
        iii. Number of Panels – Currently, the plan is for approximately 9,500 Modules to be placed on the project site, however, that number may change during the final project design.
        iv. Infrastructure – The proposed solar development will utilize a tracker array system and include two (2) new concrete equipment pads to accommodate the

associated electrical system for the development, as well as new utility poles and overhead lines to accommodate the Eversource interconnection.

b. **Describe what the energy will be used for and how it will benefit the farming operation**
    i. The energy will be sold to the electric utilities as part of the Shared Clean Energy Facilities (SCEF) Program. As the Department is likely aware, the SCEF program is designed to assist underserved citizens and provide them with access to renewable energy resources. It is not designed to benefit farming operations, however, given that there is no farming taking place at this site, and that farming is unlikely to occur in the future, this does not appear to be an issue.
c. **Are there future plans to increase energy capacity beyond what is proposed? If so, please describe these future plans, and any impacts the increase may have on prime farmland or the overall farming operation.**
    i. There are no future plans to increase energy capacity beyond what is currently proposed.

3. **Agricultural Resource Impacts**
    a. **Describe any production agriculture currently being conducted within the footprint of the solar project**
        i. There is no production agriculture currently being conducted within the footprint of the solar project as that is the current location of the motor vehicle scrapyard, nor on the property.
    b. **Describe overall how the project will impact production agriculture currently being conducted on the farm**
        i. There is no production agriculture currently being conducted on the property and the property has no active farming operations.
    c. **Provide a description of any plans by the farm owner(s) to foster production agriculture within or as a result of the development (e.g. grazing animals in and around the solar project, providing pollinator habitat)**
        i. The property owner has no intention of utilizing the property for agricultural purposes. Indeed, given the past uses of the property, such use would not be favored. Moreover, there is little topsoil, if any, that is still located at the site. We estimate that if the site were examined today, given these conditions, it would not qualify as prime farmland. With little to no topsoil remaining in the proposed solar project footprint, erosion of sub-soils has occurred and is ongoing. To facilitate development of the project, topsoil will be imported, where needed, for establishing future ground cover to improve current site conditions. Post project stabilization, the applicant intends to use a pollinator-friendly seed mix in appropriate locations as permanent cover.
4. **Alternatives to Locating the Energy Project on Prime Farmland**
    a. **Provide a description of any alternatives considered by the farm owner(s) to developing the project on prime farmland soils (e.g., the option of selling agricultural**

development rights for the farm instead of developing for solar, or as a mitigation measure to reduce the size of the solar development);

i. No feasible alternatives for agricultural operations exist on the site, thus this question does not really apply to the site. By way of further explanation, the Site's eastern portion (the project area) is currently used as an industrial salvage yard and the western portion drops steeply down and is encumbered by wetlands. The owner has never used the property for agriculture and has no intention of utilizing the property for agricultural purposes in the future. The proposed solar development area mapped as prime farmland soils has been previously disturbed and little to no topsoil remains. As part of the SCEF submission and award, the proposed solar development was reduced to fit within the existing disturbed salvage yard footprint.

b. **Describe any alternatives examined which might enable placement of some or all of the solar panels in locations other than prime farmland (e.g., elsewhere on the property or on farm buildings)**

i. The entire property was examined with respect to placement of the proposed solar panels and the existing disturbed footprint of the salvage yard was determined to be the most feasible location to develop the project. The footprint of the existing salvage yard is already disturbed, cleared of trees, has little to no topsoil remaining, and is already used for industrial purposes, making it an ideal location for a solar array. Remaining (western) portions of the property are not mapped as prime or important farmland soils but are heavily wooded, contain steep slopes and are encumbered by wetlands. Any development in this portion of the site would require substantial tree clearing and earthwork, resulting in unnecessary environmental impacts. Moreover, given the current use of the site, placing a solar array on the site makes logical sense since it will result in impacted land being used for solar development rather than solar development on a "greenfield" site. Given the dearth of agricultural activities currently taking place on the site, and the unlikelihood of agriculture being conducted in the future, the project developer would hope that the Department would actively support this project.

c. **Provide a description of any other form of mitigation considered by the farm owner(s) (e.g., farmland restoration, or a future commitment to preserve the farm).**

i. The salvage yard owner, in working with the proposed solar project developer, will provide an opportunity for the existing disturbed salvage yard to be re-stabilized and remain relatively undisturbed, save for annual maintenance mowing, for the anticipated lifetime of the proposed solar facility. In addition, the existing stormwater management features on-site will be improved to prevent further erosion and potential damage to wetland and watercourse resources downslope.


524 New London Rd,
Colchester, CT 06415
New London Rd
Affordable CDL
Training School

PULLMAN &COMLEY

Lee D. Hoffman
90 State House Square
Hartford, CT 06103-3702
p 860 424 4315
f 860 424 4370
lhoffman@pullcom.com
www.pullcom.com

September 22, 2022

VIA ELECTRONIC MAIL

Holly Lalime
Jaime Smith
State of Connecticut Department of Agriculture
450 Columbus Blvd., Suite 701
Hartford, CT 06103

Re: Solar Energy Project Considerations, 524 NLR LLC Project, 524 New London Road, Colchester, Connecticut – Provision of Additional Information

Dear Ms. Lalime and Ms. Smith:

I am writing on behalf of my client, 524 NLR LLC, in connection with a proposed solar energy facility that would be constructed at a site in Colchester, Connecticut that is currently being used as an automobile scrapyard. I am writing this letter as a follow up to our August 12, 2022 correspondence on the matter and the Department's questions that were provided to us by e-mail on September 12, 2022.

In its e-mail, the Department requested additional information as to how long the site had been used as a motor vehicle recycling facility/scrapyard. In addition, the Department wished to ascertain how much of the approximately seventeen acre parcel was used for such operations, or was the entire seventeen acre area impacted by these operations.

Representatives of 524 NLR LLC contacted the current property owner, Five J, LLC to obtain information responsive to the Department's requests. According to the current property owner, the site was operated as an automotive scrapyard prior to Five J's purchase of the property. When Five J purchased the property in 2010, it also purchased the then-existing scrap operations and the scrap license of the prior owners. Five J has continued to operate the site as an automotive recycling facility/scrapyard since that purchase.

It is unclear as to exactly how much of the property was impacted by these automotive operations, however, based on the information available to us, it appears that the vast majority of the site was used for such operations. For your review, we have included the site plan from 2011. This site plan shows proposed upgrades to the scrap yard site that were presented to, and approved by, the Town of Colchester in 2011. As you can see, the approved plans call for the entirety of the site to be used for scrap operations.

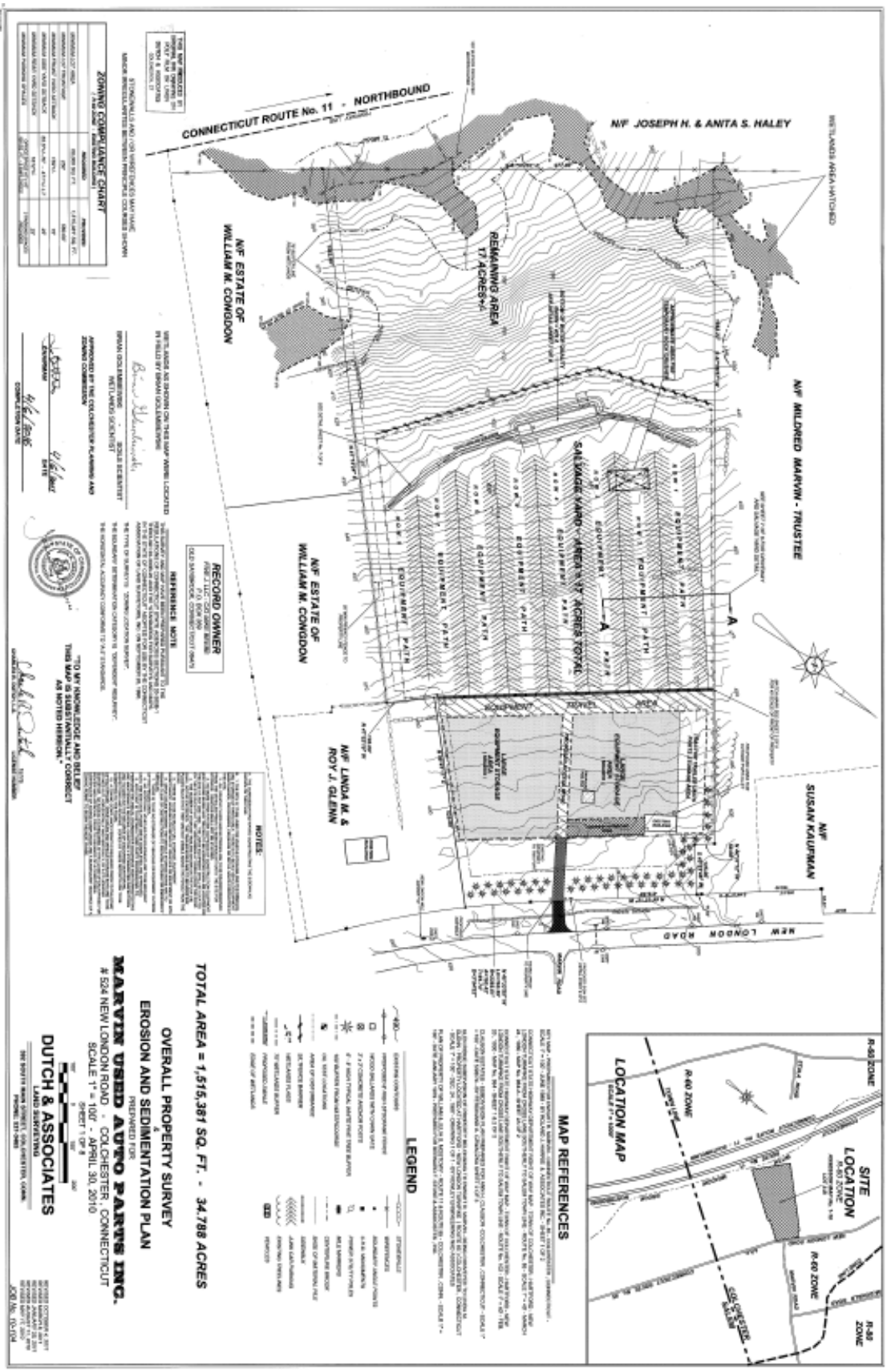
We are also including aerial photos from the UConn air photo archives. These pictures were taken in 1986 and 1990. While we cannot be certain, based on the locations of the roads, etc., it appears that these are photos of the subject site. As you can see, the scrap operations in those photos also incorporate the vast majority of the seventeen acres of the site.

Based on this information, we know that the vast majority of the site has been used for scrap operations since the current property owner purchased the property in 2010. Additional historical information leads us to believe that this was the case for at least an additional 25 years prior to that.

I trust that this information fully responds to your information request. Should you require any additional information, or if you have any questions, please contact me at your convenience. Thank you in advance for your consideration.

Sincerely,

Lee D. Hoffman


CONNECTICUT ROUTE No. 11 - NORTHBOUND
N/F JOSEPH H. & ANITA S. HALEY
N/F MILDRED MARVIN - TRUSTEE
N/F ESTATE OF WILLIAM M. CONGDON
REMAINING AREA 17.4 ACRES+/-
SALVAGE YARD - AREA 17.4 ACRES TOTAL
N/F ESTATE OF WILLIAM M. CONGDON
N/F LINDA M. & ROY J. GLENN
N/F SUSAN KAUFMAN
NEW LONDON ROAD
ZONING COMPLIANCE CHART
RECORD OWNER
REFERENCE NOTE
NOTES:
"TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON."
SITE LOCATION
R-60 ZONE
LOCATION MAP
MAP REFERENCES
LEGEND
TOTAL AREA = 1,515,381 SQ. FT. - 34.788 ACRES
OVERALL PROPERTY SURVEY
&
EROSION AND SEDIMENTATION PLAN
PREPARED FOR:
MARVIN USED AUTO PARTS INC.
524 NEW LONDON ROAD - COLCHESTER, CONNECTICUT
SCALE 1" = 100' - APRIL 30, 2010
SHEET 1 OF 1
DUTCH & ASSOCIATES
LAND SURVEYING
JOB No. 10-104


5-03-90
153·026
GT-JEP 32-63-6608
5-03-1990


3-22-1986
CT-DEP
29-63-4634

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

September 26, 2022

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

cc: Lee D. Hoffman
90 State House Square
Pullman and Comley
Hartford, CT 06103-3702

RE: 524 NLR LLC
Proposed 4.0MW (AC)
524 New London Road, Colchester, Connecticut

Dear Ms. Bachman,

Attorney Lee Hoffman of Pullman and Comley representing 524 NLR LLC ("Petitioner") has contacted the Connecticut Department of Energy and Environmental Protection ("DEEP") Bureau of Natural Resources and informed us of the intention to file a petition for a declaratory ruling with the Connecticut Siting Council. Petitioner proposes to construct a solar project with a capacity of two or more megawatts, to be located at 524 New London Road, Colchester, Connecticut 06415 ("Site").

Pursuant to Sec. 16-50k of the Connecticut General Statutes the DEEP Bureau of Natural Resources staff have reviewed documents submitted by Attorney Hoffman concerning this proposed project, which includes a site map dated July May 14, 2022, attached to written correspondence dated August 16, 2022 and September 22, 2022 prepared by All-Points Technology Corporation and Attorney Hoffman.

In conducting such review of the proposed project, DEEP Bureau of Natural Resources has determined that such proposed project, as represented in the above-mentioned documents **will not** materially affect the status of such Site as core forest.

Nothing in this letter relieves the Petitioner of other obligations under applicable federal, state, and local law that may be necessary as part of the proposed project design and implementation.

If you have any questions, you may contact me at 860-424-3060, or by mail at 79 Elm Street, Sixth Floor, Hartford, CT 06106-5127.

Connecticut is one of the most heavily forested states in America. Our forests clean our air and water, shelter our wildlife, sequester carbon, contribute tens of millions of dollars to our economy, and add immeasurably to the quality of our lives. Yet every day, our forests are under threat. Invasive insects and diseases and our dense and growing human population continue to stress our forests in unprecedented ways. Thank you for helping us to conserve a healthy core forest for future generations,

providing public transparency and working to make thoughtful development choices.

Sincerely,

Christopher Martin, State Forester
Bureau of Natural Resources
Department of Energy and Environmental Protection

CC: Bryan P. Hurlburt, Connecticut Department of Agriculture

Holly Lalime, Connecticut Department of Agriculture

Jenny Dickson, Director of Wildlife, Bureau of Natural Resources, DEEP

DEEP.OPPD@ct.gov

siting.council@ct.gov

APPENDIX D

CULTURAL RESOURCES REVIEW

September 23, 2022

Mr. David George
Heritage Consultants, LLC
830 Berlin Turnpike
Berlin, CT 06037
(sent via email only to dgeorge@heritage-consultants.com)

Subject: Phase IA Cultural Resources Assessment Survey
524 New London Road
Colchester, Connecticut

Dear Mr. George:

The State Historic Preservation Office (SHPO) has reviewed the interim report titled, *Phase IA Cultural Resources Assessment Survey of 524 New London Road in Colchester, Connecticut* prepared by Heritage Consultants, LLC (Heritage). The project consists of ground-mounted solar facilities at the referenced location and includes a proposed gravel access road, seven-foot chain link fence, and repairs to an existing stormwater swale and basin. The cultural resources assessment survey was completed by Heritage because the proposed project will require a Stormwater Discharge permit issued by DEEP through the authority of the Environmental Protection Agency. As a result, the proposed solar project is subject to review by this office pursuant to Section 106 of the National Historic Preservation Act.

The submitted report is well-written, comprehensive, and meets the standards set forth in the *Environmental Review Primer for Connecticut's Archaeological Resources*. The cultural resources assessment provided a thorough contextual overview of the project parcel which included a precontact and contact period history of the project region, natural setting, methodology, and literature review. The results of the cultural resources assessment survey indicated that there were two previously identified archaeological sites and no National Register of Historic Places listed properties located within one mile of the project parcel. The report also indicated that the soils contained within the project parcel were well-drained and correlated with intact archaeological deposits. However, a subsequent pedestrian survey conducted by Heritage in August of 2022 indicated that the entirety of the project area associated with the proposed solar development was significantly disturbed by the past use of the parcel as a scrapyard. As a result, Heritage concluded that the project parcel retained a no/low archaeological sensitivity assessment. SHPO concurs with Heritage that no additional archaeological investigation of the project area is warranted and that no historic properties will be affected by the proposed undertaking.

SHPO appreciates the cooperation of all interested parties in the professional management of Connecticut's archeological resources. For additional information, please contact Cory Atkinson, Staff archaeologist and Environmental Reviewer, at (860) 500-2458 or cory.atkinson@ct.gov.

Sincerely,

Jonathan Kinney

Jonathan Kinney
State Historic Preservation Officer

AUGUST 2022

PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF 524 NEW LONDON ROAD IN COLCHESTER, CONNECTICUT

PREPARED FOR:

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION – SUITE 311
WATERFORD, CONNECTICUT 06385

PREPARED BY:

HERITAGE CONSULTANTS
830 BERLIN TURNPIKE
BERLIN, CONNECTICUT 06037

ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey for a proposed solar facility located at 524 New London Road in Colchester, Connecticut. The project area encompasses approximately 15 acres of land within a larger 35 acre parcel. Heritage Consultants, LLC completed the current Phase IA cultural resources assessment survey in August of 2022. The current investigation consisted of: 1) preparation of an overview of the region's prehistory, history, and natural setting; 2) a literature search to identify and discuss previously recorded cultural resources in the region; 3) a review of readily available historical maps and aerial imagery depicting the project area to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area to determine archaeological sensitivity. Pedestrian survey revealed that the project area had been subjected to extensive modern disturbance. A majority of the area contained scrapped automobiles, buses, trucks, boats, and mechanical equipment. Stockpiles of dirt, asphalt, and concrete debris were also noted throughout the area, as was evidence of previous excavation. Due to the current condition of the project area, it was determined that the project parcel retains no/low potential to yield archaeological sites.

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CHAPTER I
INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey for a proposed solar facility located at 524 New London Road, which is currently the site of the Affordable CDL Training School in Colchester, Connecticut. (Figure 1). All-Points Technology Corporation, (All-Points) requested that Heritage Consultants, LLC (Heritage) complete the assessment survey as part of the planning process for a proposed solar facility. Heritage completed this investigation in August of 2022. All work associated with this project was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) promulgated by the Connecticut State Historic Preservation Office (CT-SHPO).

Project Description and Methods Overview

The proposed project will consist of the installation of solar modules and associated infrastructure, a proposed gravel access road, and a seven foot chain link fence around the perimeter of the facility. In addition, repairs will be made to the existing stormwater swale and stormwater basin as necessary (Figure 2). The study area is situated at elevations ranging from approximately 158 to 173 m (518 to 568 ft) NGVD and is surrounded to the north, south, and west by wooded areas. Witch Meadow Brook and Route 11 are both located to the west, and wooded areas and agricultural fields are located to the east of the project area.

The Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the region encompassing the project area; 3) a review of readily available historical maps and aerial imagery depicting the project area in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area in order to determine its archaeological sensitivity.

Project Results and Management Recommendations Overview

The review of historical maps and aerial images depicting the study area and files maintained by the CT-SHPO resulted in the identification of one prehistoric period site and one historical period site situated within 1.6 km (1 mi) of the project area. There were no National or Connecticut State Register properties identified within 1.6 km (1 mi) of the project area. Heritage combined data from the historical map and aerial image analysis, and subsequent pedestrian survey to stratify the project area into zones of no/low and/or moderate/high archaeological sensitivity.

Pedestrian survey revealed that the project area had been subjected to extensive modern disturbances. A majority of the area contained scrapped automobiles, buses, trucks, boats, and mechanical equipment. Stockpiles of dirt, asphalt, and concrete debris, as well as evidence of previous grading and excavations, were also noted throughout the area. Due to the current condition of the project area, it was determined that the project parcel retains no/low potential to yield archaeological sites.

Project Personnel

Key personnel for this project included David R. George, M.A., RPA, (Principal Investigator), Antonio Medina, B.A., (Field Operations Supervisor), David Naumec, PhD., (Historian), and Tevin Jourdain, B.A., (GIS Specialist).

CHAPTER II
NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the project region in Colchester, Connecticut. Previous archaeological research has documented that specific environmental factors can be associated with both prehistoric and historical period site selection. These include general ecological conditions, as well as types of fresh water sources present, degree of slopes, and soils situated within a given project area. The remainder of this chapter provides a brief overview of the ecology, hydrological resources, and soils present within the project area and the larger region in general.

Ecoregions of Connecticut

Throughout the Pleistocene and Holocene Periods, Connecticut has undergone numerous environmental changes. Variations in climate, geology, and physiography have led to the "regionalization" of Connecticut's modern environment. It is clear, for example, that the northwestern portion of the state has different natural characteristics than the coastline. Recognizing this fact, Dowhan and Craig (1976), as part of their study of the distribution of rare and endangered species in Connecticut, subdivided the state into various ecoregions. Dowhan and Craig (1976:27) defined an ecoregion as:

> "an area characterized by a distinctive pattern of landscapes and regional climate as expressed by the vegetation composition and pattern, and the presence or absence of certain indicator species and species groups. Each ecoregion has a similar interrelationship between landforms, local climate, soil profiles, and plant and animal communities. Furthermore, the pattern of development of plant communities (chronosequences and toposequences) and of soil profile is similar in similar physiographic sites. Ecoregions are thus natural divisions of land, climate, and biota."

Dowhan and Craig defined nine major ecoregions for the State of Connecticut. They are based on regional diversity in plant and animal indicator species (Dowhan and Craig 1976). Only one of the ecoregions is germane to the current investigation: Southeast Hills Ecoregion. A summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found in and adjacent to the project area.

<u>Southeast Hills Ecoregion</u>

The Southeast Hills ecoregion consists of "coastal uplands, lying within 25 miles of Long Island Sound, characterized by low, rolling to locally rugged hills of moderate elevation, broad areas of upland, and local areas of steep and rugged topography" (Dowhan and Craig 1976). Elevations in the Southeast Hills ecoregion generally range from 75.7 to 227.2 m (250 to 750 ft) above sea level (Dowhan and Craig 1976). The bedrock of the region is composed of schists and gneisses deposited during the Paleozoic. Soils in the region have developed on top of glacial till in upland locales, and on top of stratified deposits of sand, gravel, and silt in the local valleys and upland areas (Dowhan and Craig 1976).

Hydrology of the Study Region

The project area is located within close proximity of several streams, ponds and wetlands. The major fresh water sources in this area include Big Brook, Witch Meadow Brook, Hayward Lake, Lake Hayward Brook, and Deep River, as well as numerous unnamed wetlands and streams. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were

focal points for prehistoric occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources. These water sources also provided the impetus for the construction of water powered mill facilities during the eighteenth and nineteenth centuries.

Soils Comprising the Project Area

Soil formation is the direct result of the interaction of several variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to many diagenic processes. Different classes of artifacts may be preferentially protected, or unaffected by these processes, whereas others may deteriorate rapidly. Cyclical wetting and drying, freezing, and thawing, and compression can accelerate chemically and mechanically the decay processes for animal bones, shells, lithics, ceramics, and plant remains. Lithic and ceramic artifacts are largely unaffected by soil pH, whereas animal bones and shells decay more quickly in acidic soils such as those that are present within the current project area. In contrast, acidic soils enhance the preservation of charred plant remains.

A review of the soils within the project is presented below. It is characterized by three soil types, including Ridgebury, Sutton and Woodbridge soils (Figure 3). All three of these soil types are well drained and are correlated with the location of prehistoric and historical period archaeological sites. The profiles of these soil types are described briefly below. Data regarding them was collected from the National Resources Conservation Service (https://soilseries.sc.egov.usda.gov)

Ridgebury Soils

The Ridgebury series consists of very deep, somewhat poorly and poorly drained soils formed in lodgment till derived mainly from granite, gneiss and/or schist. Slope ranges from 0 to 15 percent. A typical profile associated with Ridgebury soils is as follows: **A**--0 to 13 cm; black (N 2/0) fine sandy loam; weak medium and coarse granular structure; friable; many very fine, fine, and medium tree roots; 5 percent gravel and 5 percent cobbles; very strongly acid; abrupt smooth boundary. **Bw**--13 to 23 cm; brown (10YR 4/3) sandy loam; weak medium subangular blocky structure; friable; few fine tree roots; 5 percent gravel and 5 percent cobbles; very strongly acid; abrupt wavy boundary. **Bg**--23 to 46 cm; dark gray (10YR 4/1) gravelly sandy loam; massive; friable; 10 percent gravel and 5 percent cobbles; common fine prominent yellowish brown (10YR 5/6) and common medium distinct reddish brown (5YR 4/4) masses of iron accumulation; very strongly acid; gradual wavy boundary. **Cd**--46 to 165 cm; gray (5Y 5/1) gravelly sandy loam; massive; firm; 10 percent gravel and 5 percent cobbles; common fine prominent reddish yellow (7.5YR 6/8) masses of iron accumulation; very strongly acid.

Sutton Series

The Sutton series consists of very deep, moderately well drained loamy soils formed in melt-out till. They are nearly level to strongly sloping soils on hills, low ridges, and ground moraines, typically on footslopes, lower backslopes and in slight depressions. Slope ranges from 0 to 15 percent. A typical profile associated with Sutton soils is as follows: **Oe**--0 to 2 cm; black (10YR 2/1) moderately decomposed forest plant material. **A**--2 to 15 cm; very dark brown (10YR 2/2) fine sandy loam; weak medium granular structure; very friable; common fine and medium roots; 5 percent gravel; strongly acid; clear wavy boundary. **Bw1**--15 to 30 cm; brown (7.5YR 4/4) fine sandy loam; weak fine and medium subangular blocky structure; friable; common fine and medium roots; 10 percent gravel and cobbles; moderately acid; gradual wavy boundary. **Bw2**--30 to 61 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; few medium roots; 10 percent gravel and cobbles; common fine and medium prominent light brownish gray (2.5Y 6/2) iron depletions and yellowish red (5YR 5/6) masses of iron accumulation; moderately acid; gradual wavy boundary. **Bw3**--61

to 71 cm; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; 10 percent gravel and cobbles; common medium prominent light brownish gray (2.5Y 6/2) iron depletions and reddish brown (5YR 4/4) and strong brown (7.5YR 5/6) masses of iron accumulation; moderately acid; gradual wavy boundary. **C1**--71 to 91 cm; brown (10YR 5/3) gravelly fine sandy loam; weak thick platy structure; firm; 15 percent gravel and cobbles; common medium distinct light brownish gray (2.5Y 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/6) masses of iron concentrations; moderately acid; gradual wavy boundary. **C2**--91 to 165 cm; light olive brown (2.5Y 5/4) gravelly sandy loam; massive; friable; 25 percent gravel and cobbles; moderately acid.

Woodbridge Soils

The Woodbridge series consists of moderately well drained loamy soils formed in lodgment till. They are very deep to bedrock and moderately deep to a densic contact. They are nearly level to moderately steep soils on hills, drumlins, till plains, and ground moraines. Slope ranges from 0 to 25 percent. A typical profile associated with Woodbridge soils is as follows: **Ap**--0 to 18 cm; very dark grayish brown (10YR 3/2) fine sandy loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many fine and medium roots; few very dark brown (10YR 2/2) earthworm casts; 5 percent gravel; moderately acid; abrupt wavy boundary. **Bw1**--18 to 46 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; few very dark brown (10YR 2/2) earthworm casts; 10 percent gravel; moderately acid; gradual wavy boundary. **Bw2**--46 to 66 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; few very dark brown (10YR 2/2) earthworm casts; 10 percent gravel; few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; gradual wavy boundary. **Bw3**--66 to 76 cm; light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; clear wavy boundary. **Cd1**--76 to 109 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; weak thick plates of geogenic origin; very firm, brittle; 20 percent gravel; many medium prominent strong brown (7.5YR 5/8) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; gradual wavy boundary. **Cd2**--109 to 165 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; weak thick plates of geogenic origin; very firm, brittle; few fine prominent very dark brown (10YR 2/2) coatings on plates; 25 percent gravel; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderately acid.

Summary

A review of mapping, geological data, ecological conditions, soils, slopes, and proximity to freshwater, suggests that portions of the project area appear to be favorable for both prehistoric and historical period occupations. This includes areas of low to moderate slopes with well drained soils located near freshwater sources. The types of Native American sites that may be contained in these areas include task specific, temporary, or seasonal base camps, which may include areas of lithic tool manufacturing, hearths, post-molds, and storage pits.

CHAPTER III
PREHISTORIC SETTING

Introduction

Prior to the late 1970s and early 1980s, very few systematic archaeological surveys of large portions of the state of Connecticut had been undertaken. Rather, the prehistory of the region was studied at the site level. Sites chosen for excavation were highly visible and they were in such areas as the coastal zone, e.g., shell middens, and Connecticut River Valley. As a result, a skewed interpretation of the prehistory of Connecticut was developed. It was suggested that the upland portions of the state, i.e., the northeastern and northwestern hills ecoregions, were little used and rarely occupied by prehistoric Native Americans, while the coastal zone, i.e., the eastern and western coastal and the southeastern and southwestern hills ecoregions, were the focus of settlements and exploitation in the prehistoric era. This interpretation remained unchallenged until the 1970s and 1980s when several town-wide and regional archaeological studies were completed. These investigations led to the creation of several archaeological phases that subsequently were applied to understand the prehistory of Connecticut. The remainder of this chapter provides an overview of the prehistoric setting of the region encompassing the project area.

Paleo-Indian Period (12,000 to 10,000 Before Present [B.P.])

The earliest inhabitants of the area encompassing the State of Connecticut, who have been referred to as Paleo-Indians, arrived in the area by ca., 12,000 B.P. (Gramly and Funk 1990; Snow 1980). Due to the presence of large Pleistocene mammals at that time and the ubiquity of large fluted projectile points in archaeological deposits of this age, Paleo-Indians often have been described as big-game hunters (Ritchie and Funk 1973; Snow 1980); however, as discussed below, it is more likely that they hunted a broad spectrum of animals.

While there have been numerous surface finds of Paleo-Indian projectile points throughout the State of Connecticut, only two sites, the Templeton Site (6-LF-21) in Washington, Connecticut, and the Hidden Creek Site (72-163) in Ledyard, Connecticut, have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980). The Templeton Site (6-LF-21) is in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small fluted points, the Templeton Site produced a stone tool assemblage consisting of gravers, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region.

Another Paleo-Indian site studied in detail in Connecticut is the Hidden Creek Site (72-163) (Jones 1997). The Hidden Creek Site is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut. While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the upper soil horizons, the lower levels of the site yielded artifacts dating from the Paleo-Indian era. Recovered Paleo-Indian artifacts included broken bifaces, side-scrapers, a fluted preform, gravers, and end-scrapers. Based on the types and number of tools present, Jones (1997:77) has hypothesized that the Hidden Creek Site represented a short-term occupation, and that separate stone tool reduction and

rejuvenation areas were present.

While archaeological evidence for Paleo-Indian occupation is scarce in Connecticut, it, combined with data from the West Athens Road and King's Road Site in the Hudson drainage and the Davis and Potts Sites in northern New York, supports the hypothesis that there was human occupation of the area not long after ca. 12,000 B.P. (Snow 1980). Further, site types currently known suggest that the Paleo-Indian settlement pattern was characterized by a high degree of mobility, with groups moving from region to region in search of seasonally abundant food resources, as well as for the procurement of high-quality raw materials from which to fashion stone tools.

Archaic Period (10,000 to 2,700 B.P.)

The Archaic Period, which succeeded the Paleo-Indian Period, began by ca., 10,000 B.P. (Ritchie and Funk 1973; Snow 1980), and it has been divided into three subperiods: Early Archaic (10,000 to 8,000 B.P.), Middle Archaic (8,000 to 6,000 B.P.), and Late Archaic (6,000 to 3,400 B.P.). These periods were devised to describe all non-farming, non-ceramic producing populations in the area. Regional archeologists recently have recognized a final "transitional" Archaic Period, the Terminal Archaic Period (3,400-2,700 B.P.), which was meant to describe those groups that existed just prior to the onset of the Woodland Period and the widespread adoption of ceramics into the toolkit (Snow 1980; McBride 1984; Pfeiffer 1984, 1990; Witthoft 1949, 1953).

Early Archaic Period (10,000 to 8,000 B.P.)

To date, very few Early Archaic sites have been identified in southern New England. As a result, researchers such as Fitting (1968) and Ritchie (1969), have suggested a lack of these sites likely is tied to cultural discontinuity between the Early Archaic and preceding Paleo-Indian Period, as well as a population decrease from earlier times. However, with continued identification of Early Archaic sites in the region, and the recognition of the problems of preservation, it is difficult to maintain the discontinuity hypothesis (Curran and Dincauze 1977; Snow 1980).

Like their Paleo-Indian predecessors, Early Archaic sites tend to be very small and produce few artifacts, most of which are not temporally diagnostic. While Early Archaic sites in other portions of the United States are represented by projectile points of the Kirk series (Ritchie and Funk 1973) and by Kanawha types (Coe 1964), sites of this age in southern New England are identified on the basis of a series of ill-defined bifurcate-based projectile points. These projectile points are identified by the presence of their characteristic bifurcated base, and they generally are made from high quality raw materials. Moreover, finds of these projectile points have rarely been in stratified contexts. Rather, they occur commonly either as surface expressions or intermixed with artifacts representative of later periods. Early Archaic occupations, such as the Dill Farm Site and Sites 6LF64 and 6LF70 in Litchfield County, are represented by camps that were relocated periodically to take advantage of seasonally available resources (McBride 1984; Pfeiffer 1986). In this sense, a foraging type of settlement pattern was employed during the Early Archaic Period.

Middle Archaic Period (8,000 to 6,000 B.P.)

By the onset of the Middle Archaic Period, essentially modern deciduous forests had developed in the region (Davis 1969). It is at this time that increased numbers and types of sites are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site, which is in Manchester, New Hampshire and studied by Dincauze (1976). Careful analysis of the Neville Site indicated that the Middle Archaic occupation dated from between ca., 7,700 and 6,000 years ago. In fact, Dincauze (1976) obtained several radiocarbon dates from the Middle Archaic component of the

Neville Site. The dates, associated with the then-newly named Neville type projectile point, ranged from 7,740±280 and 7,015±160 B.P. (Dincauze 1976).

In addition to Neville points, Dincauze (1976) described two other projectile points styles that are attributed to the Middle Archaic Period: Stark and Merrimac projectile points. While no absolute dates were recovered from deposits that yielded Stark points, the Merrimac type dated from 5,910±180 B.P. Dincauze argued that both the Neville and later Merrimac and Stark occupations were established to take advantage of the excellent fishing that the falls situated adjacent to the site area would have afforded Native American groups. Thus, based on the available archaeological evidence, the Middle Archaic Period is characterized by continued increases in diversification of tool types and resources exploited, as well as by sophisticated changes in the settlement pattern to include different site types, including both base camps and task-specific sites (McBride 1984:96)

Late Archaic Period (6,000 to 3,700 B.P.)

The Late Archaic Period in southern New England is divided into two major cultural traditions that appear to have coexisted. They include the Laurentian and Narrow-Stemmed Traditions (Funk 1976; McBride 1984; Ritchie 1969a and b). Artifacts assigned to the Laurentian Tradition include ground stone axes, adzes, gouges, ulus (semi-lunar knives), pestles, atlatl weights, and scrapers. The diagnostic projectile point forms of this time period in southern New England include the Brewerton Eared-Notched, Brewerton Eared and Brewerton Side-Notched varieties (McBride 1984; Ritchie 1969a; Thompson 1969). In general, the stone tool assemblage of the Laurentian Tradition is characterized by flint, felsite, rhyolite, and quartzite, while quartz was largely avoided for stone tool production.

In terms of settlement and subsistence patterns, archaeological evidence in southern New England suggests that Laurentian Tradition populations consisted of groups of mobile hunter-gatherers. While a few large Laurentian Tradition occupations have been studied, sites of this age generally encompass less than 500 m^2 (5,383 ft^2). These base camps reflect frequent movements by small groups of people in search of seasonally abundant resources. The overall settlement pattern of the Laurentian Tradition was dispersed in nature, with base camps located in a wide range of microenvironments, including riverine as well as upland zones (McBride 1978, 1984:252). Finally, subsistence strategies of Laurentian Tradition focused on hunting and gathering of wild plants and animals from multiple ecozones.

The second Late Archaic tradition, known as the Narrow-Stemmed Tradition, is unlike the Laurentian Tradition, and it likely represents a different cultural adaptation. The Narrow-Stemmed tradition is recognized by the presence of quartz and quartzite narrow stemmed projectile points, triangular quartz Squibnocket projectile points, and a bipolar lithic reduction strategy (McBride 1984). Other tools found in Narrow-Stemmed Tradition artifact assemblages include choppers, adzes, pestles, antler and bone projectile points, harpoons, awls, and notched atlatl weights. Many of these tools, notably the projectile points and pestles, indicate a subsistence pattern dominated by hunting and fishing, as well the collection of a wide range of plant foods (McBride 1984; Snow 1980:228).

Terminal Archaic Period (3,700 to 2,700 B.P.)

The Terminal Archaic Period, which lasted from ca., 3,700 to 2,700 BP, is perhaps the most interesting, yet confusing of the Archaic Periods in southern New England prehistory. Originally termed the "Transitional Archaic" by Witthoft (1953) and recognized by the introduction of technological innovations, e.g., broadspear projectile points and soapstone bowls, the Terminal Archaic has long posed problems for regional archeologists. While the Narrow-Stemmed Tradition persisted through the Terminal Archaic and into the Early Woodland Period, the Terminal Archaic is coeval with what appears

to be a different technological adaptation, the Susquehanna Tradition (McBride 1984; Ritchie 1969b). The Susquehanna Tradition is recognized in southern New England by the presence of a new stone tool industry that was based on the use of high-quality raw materials for stone tool production and a settlement pattern different from the "coeval" Narrow-Stemmed Tradition.

The Susquehanna Tradition is based on the classification of several Broadspear projectile point types and associated artifacts. There are several local sequences within the tradition, and they are based on projectile point type chronology. Temporally diagnostic projectile points of these sequences include the Snook Kill, Susquehanna Broadspear, Mansion Inn, and Orient Fishtail types (Lavin 1984; McBride 1984; Pfeiffer 1984). The initial portion of the Terminal Archaic Period (ca., 3,700-3,200 BP) is characterized by the presence of Snook Kill and Susquehanna Broadspear projectile points, while the latter Terminal Archaic (3,200-2,700 BP) is distinguished using Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

In addition, it was during the late Terminal Archaic Period that interior cord marked, grit tempered, thick-walled ceramics with conoidal (pointed) bases made their initial appearance in the Native American toolkit. These are the first ceramics in the region, and they are named Vinette I (Ritchie 1969a; Snow 1980:242); this type of ceramic vessel appears with much more frequency during the ensuing Early Woodland Period. In addition, the adoption and widespread use of soapstone bowls, as well as the implementation of subterranean storage, suggests that Terminal Archaic groups were characterized by reduced mobility and longer-term use of established occupation sites (Snow 1980:250).

Finally, while settlement patterns appeared to have changed, Terminal Archaic subsistence patterns were analogous to earlier patterns. The subsistence pattern still was diffuse in nature, and it was scheduled carefully. Typical food remains recovered from sites of this period consist of fragments of white-tailed deer, beaver, turtle, fish, and various small mammals. Botanical remains recovered from the site area consisted of *Chenopodium* sp., hickory, butternut, and walnut (Pagoulatos 1988:81). Such diversity in food remains suggests at least minimal use of a wide range of microenvironments for subsistence purposes.

Woodland Period (2,700 to 350 B.P.)

Traditionally, the advent of the Woodland Period in southern New England has been associated with the introduction of pottery; however, as mentioned above, early dates associated with pottery now suggest the presence of Vinette I ceramics appeared toward the end of the preceding Terminal Archaic Period (Ritchie 1969a; McBride 1984). Like the Archaic Period, the Woodland Period has been divided into three subperiods: Early, Middle, and Late Woodland. The various subperiods are discussed below.

<u>Early Woodland Period (ca., 2,700 to 2,000 B.P.)</u>

The Early Woodland Period of the northeastern United States dates from ca., 2,700 to 2,000 B.P., and it has been thought to have been characterized by the advent of farming, the initial use of ceramic vessels, and increasingly complex burial ceremonialism (Griffin 1967; Ritchie 1969a and 1969b; Snow 1980). In the Northeast, the earliest ceramics of the Early Woodland Period are thick walled, cord marked on both the interior and exterior, and possess grit temper.

Careful archaeological investigations of Early Woodland sites in southern New England have resulted in the recovery of narrow stemmed projectile points in association with ceramic sherds and subsistence remains, including specimens of white-tailed deer, soft and hard-shell clams, and oyster shells (Lavin and Salwen: 1983; McBride 1984:296-297; Pope 1952). McBride (1984) has argued that the combination of

the subsistence remains and the recognition of multiple superimposed cultural features at various sites indicates that Early Woodland Period settlement patterns were characterized by multiple re-use of the same sites on a seasonal basis by small co-residential groups.

Middle Woodland Period (2,000 to 1,200 B.P.)

The Middle Woodland Period is marked by an increase in the number of ceramic types and forms utilized (Lizee 1994a), as well as an increase in the amount of exotic lithic raw material used in stone tool manufacture (McBride 1984). The latter suggests that regional exchange networks were established, and that they were used to supply local populations with necessary raw materials (McBride 1984; Snow 1980). The Middle Woodland Period is represented archaeologically by narrow stemmed and Jack's Reef projectile points; increased amounts of exotic raw materials in recovered lithic assemblages, including chert, argillite, jasper, and hornfels; and conoidal ceramic vessels decorated with dentate stamping. Ceramic types, indicative of the Middle Woodland Period, include Linear Dentate, Rocker Dentate, Windsor Cord Marked, Windsor Brushed, Windsor Plain, and Hollister Stamped (Lizee 1994a:200).

In terms of settlement patterns, the Middle Woodland Period is characterized by the occupation of village sites by large co-residential groups that utilized native plant and animal species for food and raw materials in tool making (George 1997). These sites were the principal place of occupation, and they were positioned close to major river valleys, tidal marshes, estuaries, and the coastline, all of which would have supplied an abundance of plant and animal resources (McBride 1984:309). In addition to villages, numerous temporary and task-specific sites were utilized in the surrounding upland areas, as well as in closer ecozones such as wetlands, estuaries, and floodplains. The use of temporary and task-specific sites to support large village populations indicates that the Middle Woodland Period was characterized by a resource acquisition strategy that can best be termed as logistical collection (McBride 1984:310).

Late Woodland Period (ca., 1,200 to 350 B.P.)

The Late Woodland Period in southern New England dates from ca., 1,200 to 350 B.P., and it is characterized by the earliest evidence for the use of corn in the lower Connecticut River Valley (Bendremer 1993; Bendremer and Dewar 1993; Bendremer et al. 1991; George 1997; McBride 1984); an increase in the frequency of exchange of non-local lithics (Feder 1984; George and Tryon 1996; McBride 1984; Lavin 1984); increased variability in ceramic form, function, surface treatment, and decoration (Lavin 1980, 1986, 1987; Lizee 1994a, 1994b); and a continuation of a trend towards larger, more permanent settlements in riverine, estuarine, and coastal ecozones (Dincauze 1974; McBride 1984; Snow 1980).

Stone tool assemblages associated with Late Woodland occupations, especially village-sized sites, are functionally variable and they reflect plant and animal resource processing and consumption on a large scale. Finished stone tools recovered from Late Woodland sites include Levanna and Madison projectile points; drills; side-, end-, and thumbnail scrapers; mortars and pestles; nutting stones; netsinkers; and celts, adzes, axes, and digging tools. These tools were used in activities ranging from hide preparation to plant processing to the manufacture of canoes, bowls, and utensils, as well as other settlement and subsistence-related items (McBride 1984; Snow 1980). Finally, ceramic assemblages recovered from Late Woodland sites are as variable as the lithic assemblages. Ceramic types identified include Windsor Fabric Impressed, Windsor Brushed, Windsor Cord Marked, Windsor Plain, Clearview Stamped, Sebonac Stamped, Selden Island, Hollister Plain, Hollister Stamped, and Shantok Cove Incised (Lavin 1980, 1988a, 1988b; Lizee 1994a; Pope 1953; Rouse 1947; Salwen and Ottesen 1972; Smith 1947). These types are

more diverse stylistically than their predecessors, with incision, shell stamping, punctation, single point, linear dentate, rocker dentate stamping, and stamp and drag impressions common (Lizee 1994a:216).

Summary of Connecticut Prehistory

In sum, the prehistory of Connecticut spans from ca., 12,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. For much of the prehistoric era, local Native American groups practiced a subsistence pattern based on a mixed economy of hunting and gathering wild plant and animal resources. It is not until the Late Woodland Period that incontrovertible evidence for the use of domesticated species is available. Further, settlement patterns throughout the prehistoric era shifted from seasonal occupations of small co-residential groups to large aggregations of people in riverine, estuarine, and coastal ecozones. In terms of the region containing the proposed project area, a variety of prehistoric site types may be expected. These range from seasonal camps utilized by Archaic populations to temporary and task-specific sites of the Woodland era.

CHAPTER IV
HISTORICAL OVERVIEW

Introduction

The proposed project is situated on a parcel located at 524 New London Road in the Town of Colchester, located in New London County, Connecticut. For the purposes of this study, this history will provide an overview of New London County and the Town of Colchester with a focus on the impact of the proposed project area. As is the case with most Connecticut towns, present-day Colchester originated as Native American settlements and later became an English colonial village. Through the nineteenth and twentieth centuries most New London County towns functioned as agricultural hubs with manufacturing powered by local waterways as was the case with Colchester. Due to the absence of any major city, port, or waterway near the town its farmers relied on markets in nearby towns such as Norwich or Middletown and later shipped goods to larger urban areas by road and rail. The automobile culture of the twentieth century, along with the development of improved roads and highways in the twenty-first century, connected the Town of Colchester to nearby cities yet it largely remained rural with areas of residential and commercial development.

New London County

New London was one of the four original counties established in 1666 following the merger of Connecticut Colony and New Haven Colony. Located in the southeastern corner of Connecticut, it is bounded south by Long Island Sound, east by the State of Rhode Island, north by Windham County, Tolland, and Hartford Counties, and west by Middlesex and Tolland Counties. Its landscape includes rich farmland, significant freshwater rivers, and an extended shoreline on Long Island Sound. Important waterways associated with New London County include the Connecticut, Thames, Shetucket, Quinebaug, Yantic, Pawcatuck, Mystic, Poquonnock, and Niantic Rivers (Hurd 1882). The shoreline also has many smaller rivers, harbors, islands, and inlets. The county's three largest cities are located on the Thames River: New London on the western shore near the mouth, Groton on the eastern shore near the mouth, and Norwich at the river's head. Other important population centers are located at Mystic, Stonington Borough, Waterford, and Niantic (Connecticut 2020). The proposed project is located in the Town of Colchester.

Woodland Period to Seventeenth Century

During the Woodland Period of American history (ca. 3000 to 2500 years ago) indigenous peoples who resided in present-day Connecticut were part of the Algonquian culture of northeastern North America (Lavin 2013). They spoke variations of Algonquian languages and resided in extended kinship groups on lands maintained for a variety of horticultural and resource extraction purposes (Goddard 1978). These communities practiced subsistence activities including hunting, fowling, and fishing, along with the cultivation of crops such as maize, squash, and beans. They seasonally harvested shellfish, fruits, and plants during warmer periods, and nuts, roots, and tubers during colder times (Lavin 2013). During the winter, these communities came together to conduct deer hunts. Native people resided in settlements concentrated along rivers or wetlands, with villages fortified by wooden palisades at times. Habitations, known as a *weetu* or *wigwam,* consisted of a tree sapling frame covered in reed matting during warm months and tree bark in the winter. These varied in size from small, individual dwellings to expansive "long house" structures (Lavin 2013). The Native people who resided at present-day Colchester were affiliated with the Mohegan whose homelands were situated at the confluence of the Yantic and Shetucket Rivers in present-day Norwich, New London County, Connecticut (De Forest 1852; Lavin 2013).

Another group that may have been active in the western bounds of present-day Colchester were the Wangunk whose homelands included most of present-day Middlesex County, Connecticut (De Forest 1852; Lavin 2013).

Seventeenth Century through Eighteenth Century

As Native communities maintained oral tradition rather than a written record, most surviving information of the Indigenous people of Connecticut was recorded by European observers who were Dutch or English colonists (Lavin 2013). In 1614, Dutch traders sailing under Captain Adrian Block were the earliest Europeans known to have sailed along Long Island Sound and up the Connecticut River where they initiated contact and trade with the Indigenous people of the Connecticut River Valley (De Forest 1852; Lavin 2013). Following that voyage, Block created a figurative map of the region that depicted the Connecticut River, which the Dutch named the *Versche Rivier* (Fresh River) due to it being a freshwater river. By 1620 the Dutch partnered with the Pequot of southeastern Connecticut to trade wampum and furs for European goods. In 1624 they founded New Netherland Colony around Manhattan and the Hudson River and built a fort at present-day Hartford in 1633 (Jacobs 2009). The Pequot extended their dominance over the Long Island Sound and the lower Connecticut River Valley bringing groups there into a tributary relationship under their leadership, including the Mohegan (Hauptman & Wherry 2009; McBride 2013). To break from the Pequot, conquered Native leaders invited the English to the valley who settled the towns of Windsor (1633), Wethersfield (1634), Hartford (1635) and Saybrook (1635) (Van Dusen 1961). Tensions grew following the death of English traders blamed on the Pequot and in retaliation Massachusetts soldiers destroyed one of their villages in August 1636 which began the Pequot War. In May 1637 Connecticut forces, which included some Mohegans and the Sachem Uncas, destroyed a Pequot village at Mistick. The Pequot fled west where the final battle of war was fought at present-day Fairfield in July 1637 (Cave 1996). Pequot territory was considered conquered land claimed by Connecticut Colony while Massachusetts Bay settlers formed New Haven Colony at Quinnipiac in late 1638. In 1652, the Dutch lost the *Huys de Hoop* at Hartford during the First Anglo-Dutch War (Trumbull 1886). In January of 1639, the Connecticut River towns adopted the "fundamental orders" which outlined the framework for Connecticut Colony, a self-governed colony separate from Massachusetts Bay or Plimoth (Trumbull 1886).

In the aftermath of the Pequot War, the Sachem Uncas claimed much of northeastern Connecticut colony, the lands of former Pequot tributaries, as Mohegan lands through both right of conquest and hereditary claims (Oberg 2006). This included lands that would become the Town of Colchester. During the upheaval of King Philip's War (1675-1676) much of present-day Tolland and Windham counties were depopulated of Nipmuc communities or they fell in with the Mohegan who claimed most of those lands as their own (Oberg 2006). Connecticut Colony recognized the Mohegan Sachem Uncas's claims to lands in present-day Colchester. Uncas' son, Owaneco, then sachem of the Mohegan, sold Nathaniel Foote a large tract of land in the late 1690's which included present-day Colchester and soon after Foote distributed the grant among several English proprietors (Hurd 1882; Marshall 1922). In 1698 the Connecticut General Court authorized a township called "Jeremiah's Farm" be laid out on the road to New London and in 1699 the court renamed the town Colchester and specified its bounds to include the Twenty Mile River to the north, Lebanon to the northeast, Norwich to the east, Lyme to the south, and Middletown to the east (Hurd 1882; Marshall 1922, Barry 1985).

English settlement of Colchester began in earnest around 1703. It was initially incorporated as a town within Hartford County but was soon after transferred to New London County. Between 1704 and 1706 a series of water-powered mills were built in Colchester including a sawmill and a fulling-mill while allowing all unenclosed timber and stone in the township free for the taking (Hurd 1882; Marshall 1922).

Colchester continued to develop into an agricultural region producing a variety of crops such as corn, oats, and barley while others turned to raising livestock including cattle, sheep, and pigs. This agricultural development is reflected in the 1763 decision to build a gristmill for town use (Hurd 1882). The 1774 Connecticut colonial census recorded a "White" population of 3,057, a "Negro" population of 173, and recorded 28 "Indians" in Colchester (Hoadly 1887). During the American Revolution (1775-1783) Colchester recruited soldiers, supplied food stores, and provided military goods for the war effort. After the Revolution, the town recovered from wartime economic disruptions thanks to its robust agricultural production and proximity to urban markets. Although it is unclear how many people in town were free or enslaved, slavery existed in Colchester during the eighteenth century. It was primarily practiced by a few wealthy families, merchants, and ministers. Pierpont Bacon, founder of Bacon Academy, operated several farms partially by enslaved labor and in 1775, five percent of Colchester's population was enslaved (Marshall 1922; Colchester 2022). It would not be until 1784 that the State passed a gradual manumission law, but slavery was not fully abolished until 1848 (Normen 2013). On January 9, 1788, Connecticut ratified the U.S. Constitution to become the fifth state (Van Dusen 1961).

Nineteenth Century through the Twenty-first Century

During the early 1800's Colchester experienced continued population loss and although there was some manufacturing in town the community largely remained agricultural (Marshall 1922). In 1800 Bacon Academy was founded in town through the generosity of a bequest of Pierpont Bacon which offered schooling free of charge to local children while tuition was paid by others and built a reputation for preparing its students for higher education (Hurd 1882; Marshall 1922). The 1819 *Gazetteer of the States of Connecticut and Rhode-Island* reported that Colchester's land was hilly, rough, and stony, but fertile, and especially well-suited for growing of corn, oats, and rye and contained fine grazing lands. In addition to agriculture, the town had one woolen factory, an iron works, three tanneries, eight grain mills, and eight sawmills (Pease and Niles 1819). Colchester was located at the crossroads of several important roads which afforded local farmers access to the nearby Connecticut River as well as markets in Hartford, Lebanon, and Norwich (Wood 1919). In 1847 the Hayward Rubber Company was established in town which attracted a large labor force including European immigrants. In 1860, Colchester maintained a population of 2,862 residents and during the Civil War (1861-1865) 205 men credited to the town served in the military while the Haywood Rubber Company produced goods for the Union army (Niven 1965; Hines 2002). Following the Civil War manufacturing returned to peacetime production and the town's population remained steadily around 3,000 people but the Hayward Rubber Company closed in 1893 which led to local economic difficulties and the town lost nearly a third of its residents by the turn of the century (Table 1; Colchester 2022).

At the beginning of the twentieth century Colchester had a population of 1,991 residents, a number that grew very slowly to only 2,338 residents by 1940 (Table 1). Colchester's populations rebounded in part due to immigrants moving to town to farm which included significant numbers of Irish, Polish, Italian, French-Canadian, Portuguese, and Jewish immigrants (Colchester 2022). Dairy and egg operations became increasingly prevalent, many of which were practiced for several generations. The town's population steadily rose from just over 3,000 people in 1950 to doubling in size to 6,603 residents by 1970 (Table 1; Connecticut 2022a, 2022b). The population growth in the early twentieth century may have resulted from post-World War II development and Colchester's proximity to Willimantic, Glastonbury, Manchester, and Hartford. Unlike many surrounding towns, Colchester's population grew in subsequent decades to a total of 14,551 people by 2000 which was likely the result of its distance to important urban areas in Connecticut while being connected by several key highways (Table 1; DeLuca 2020; Connecticut 2022d). In the twenty-first century, Colchester remains largely a rural landscape with pockets of housing subdivisions and commercial development along Routes 2 and 11. As of 2020, the

U.S. Census Bureau shows 9,098 people living in Colchester, of which 96.1 percent identified as "white," 5.4 percent identified at "Hispanic or Latino," 2.5 percent identified as "Asian," 2 percent as "black or African American," and those who identified as "American Indian and Alaska Native" accounted for less than 1 percent of the population (US Census 2022). In 2021, the top three industries in town are health care / social assistance, retail trade, and local government (AdvanceCT 2022).

Table 1: Population of Colchester, New London County, Connecticut 1800-2020 (Connecticut 2022a-d)

Town	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900
Colchester, New London County	-	3,163	2,697	2,152	2,073	2,101	2,468	2,862	3,383	2,974	2,988	1,991
	1910	**1920**	**1930**	**1940**	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2020**
	2,140	2,050	2,134	2,338	3,007	4,648	6,603	7,761	10,980	14,551	16,068	15,555

History of the Project Area

The proposed LLC project is located at 524 New London Road (State Highway 85) on the west side of the street in the Town of Colchester, located in Tolland County, Connecticut. The project area is currently an automobile junkyard which had formerly been an agricultural field which was been actively farmed since European settlement. To the west of the parcel is Witch Meadow Brook and CT Route 11, to the north is a woodlot and a residential home and to the south is another home and the Affordable CDL Training School. The parcel is approximately 457 meters (1,500 feet) north of the Salem border.

The 1857 New London County map of the Town of Colchester depicts the project area as undeveloped land, presumably used for agricultural purposes immediately west of the New London turnpike and south of a marked PentWay which ran between Bacon Academy on West Road and the New London Turnpike. The home of an "O. Crouch" stands northeast of the project parcel at the intersection of the PentWay and the New London Turnpike (Figure 4). Similarly, the 1868 Beers *Atlas* of Colchester depicts the project area west of the New London Turnpike as cleared and presumably used for agricultural purposes. The area had not changed to any degree except for a road to the north of the parcel which appears to replace the earlier PentWay (Figure 5).

Photographs from a 1934 Aerial Survey document the project area as agricultural fields but provide details that depict the western half of the property as wooded and the eastern portion as cleared fields. All surrounding properties appear to be also used for agricultural purposes and there are no homes near the project parcel (Figure 6). Aerial photos taken in 1951 by the U.S. Department of Agriculture document a landscape that had not changed significantly since 1934. The project area and surrounding lots remain cleared and used for agricultural purposes. There are no new homes constructed in the vicinity and there is no real increase in wooded areas apart from the roadsides (Figure 7). The same is true for aerial photos taken in 1970, which documented an area that remained half wooded and half cleared although the northern, center portion of the property appears to show evidence being used to store old vehicles and junked cars (Figure 8). An aerial photograph taken in 1990 demonstrates that the former agricultural portions of the project parcel are being used for a new purpose as there appear to be roads or paths crossing the area filled with rows or concentrations of vehicles situated throughout (Figure 9). A 2004 aerial image depicts the project area as having become largely overgrown with parked vehicles lined up in the eastern portion of the project area (Figure 10). Finally, a 2019 aerial image from Connecticut Environmental Conditions Online documents a landscape within the Project Area that is covered with vehicles and trailers along with one structure and several dirt roads. The remainder of the project parcel is wooded (Figure 11).

Conclusions

The historical investigation of the proposed solar facility indicates that the location of the corridor is unlikely to be associated with any significant historical resources. Due to the landscape mainly consisting of forested land and agricultural fields, there is the possibility of encountering remains of outbuildings, stonewalls, or other evidence of historical farming although in its current state, many features could be obscured by the vehicles and debris on site. The historical record does not indicate that the corridor impacts the locations of any known historical residences or associated archaeological deposits that would be considered historically significant.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous archaeological research completed within the vicinity of the project area in Colchester, Connecticut. This discussion provides the comparative data necessary for assessing the results of the current Phase IA cultural resources assessment survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the project area are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites and National/State Register of Historic Places properties situated in the project region (Figures 12 and 13). The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office (CT-SHPO) in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage were examined during this investigation. Both the quantity and quality of the information contained in the original cultural resources survey reports and State of Connecticut archaeological site forms are reflected below.

Previously Recorded Archaeological Sites and National/State Register of Historic Places Properties/Districts in the Vicinity of the Project Area

A review of data currently on file at the CT-SHPO, as well as the electronic site files maintained by Heritage identified a single prehistoric period archaeological site and one historical period archaeological site situated within 1.6 km (1 mi) of the project area. No National/State Register of Historic Places properties are located within 1.6 km (1 mi) of the project area (Figures 12 and 13). A brief discussion of the two archaeological sites is provided below.

Site 28-15

Site 28-15, which is also known as the South Farms Fieldstone Dam and Footbridge, is situated on private land in Colchester, Connecticut (Figure 12). The site was reported in December of 1998 by Gregory F. Walwer of Archaeological Consulting Services (ACS) in Guilford, Connecticut. Walwer described the site as nineteenth to twentieth century dam and bridge that was likely built to provide water for pastured animals with the footbridge allowing for cart and equipment to be transported across the stream. The dam, which is approximately four feet high, is approximately 75 feet upstream from the footbridge. Site 28-15 has not been assessed applying the National Register of Historic Places criteria for evaluation (36 CR 60.4 [a-d]). It is located approximately 1.6 km (1 mi) to the northeast of the project area, and it will not be impacted by the proposed construction.

Site 28-16

Site 28-16, which is also known as the South Farms-Block E Site, is situated on private land on McDonald Road and northeast of a pond in Colchester, Connecticut (Figure 12). The site was reported in December of 1998 by Gregory F. Walwer of ACS in Guilford, Connecticut. Walwer described the site as temporary hunting camp of an unknown time period. A hearth and associated charcoal stains, a single siltstone stemmed point and knife, and quartz, quartzite, chert, and slate debitage were identified. Site 28-16 has not been assessed applying the National Register of Historic Places criteria for evaluation (36 CR 60.4 [a-d]). It is located approximately 1.6 km (1 mi) to the northeast of the project area, and it will not be impacted by the proposed construction.

CHAPTER VI
METHODS

Introduction

This chapter describes the research design and field methods used to complete the Phase IA cultural resources assessment survey of the project area in Colchester, Connecticut. The following tasks were completed during this investigation: 1) study of the region's prehistory, history, and natural setting, as presented in Chapters II through IV; 2) a literature search to identify and discuss previously recorded cultural resources in project region; 3) a review of historical maps, topographic quadrangles, and aerial imagery depicting the project area in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area in order to determine their archaeological sensitivity. These methods are in keeping with those required by the Connecticut State Historic Preservation Office in the document entitled: *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987).

Research Framework

The current Phase IA cultural resources assessment survey was designed to assess the archaeological sensitivity of the project area, as well as to visually examine the development areas for any previously unidentified cultural resources during pedestrian survey. The undertaking was comprehensive in nature, and project planning considered the distribution of previously recorded cultural resources located within the project region, as well as a visual assessment of house lots. The methods used to complete this investigation were designed to provide coverage of all portions of the project area. The fieldwork portion of this undertaking entailed pedestrian survey, photo-documentation, and mapping (see below).

Archival Research & Literature Review

Background research for this project included a review of a variety of historical maps depicting the two proposed project parcels; an examination of USGS 7.5' series topographic quadrangles; an examination of aerial images dating from 1934 through 2019; and a review of all archaeological sites and National and State Register of Historic Places on file with the CT-SHPO, as well as electronic cultural resources data maintained by Heritage. The intent of this review was to identify all previously recorded cultural resources situated within and immediately adjacent to the project area, and to provide a natural and cultural context for the project region. This information then was used to develop the archaeological context of the project area, and to assess its sensitivity with respect to the potential for producing intact cultural resources.

Background research materials, including historical maps, aerial imagery, and information related to previous archaeological investigations, were gathered from the CT-SHPO. Finally, electronic databases and Geographic Information System files maintained by Heritage were employed during the course of this project, and they provided valuable data related to the project region, as well as data concerning previously identified archaeological sites and National and State Register of Historic Places properties within the general vicinity of the proposed house lots.

Field Methodology and Data Synthesis

The field methods for this project included pedestrian survey, photo-documentation, and mapping of the area containing the proposed house lots. During the completion of the pedestrian survey, a representative from Heritage photo-documented all potential areas of impact using digital media. The

proposed project area was assessed for archaeological sensitivity. Photographs were taken throughout the project parcel.

CHAPTER VII
RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IA cultural resources assessment survey of the project area in Colchester, Connecticut. As stated in the introductory section of this report, the goals of the investigation included completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the project region; 3) a review of readily available historical maps and aerial imagery depicting the house lots in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area in order to determine their archaeological sensitivity.

Determining Archaeological Sensitivity

The field data associated with soils, slopes, aspect, distance to water, and previous disturbance collected during the pedestrian survey and presented above was used in conjunction with the analysis of historical maps, aerial images, and data regarding previously identified archaeological sites and National/State Register of Historic Places properties to stratify the project items into zones of no/low and/or moderate/high archaeological sensitivity. In general, historical period archaeological sites are relatively easy to identify on the current landscape because the features associated with them tend to be relatively permanent constructions that extend above the ground surface (i.e., stone foundations, pens, wells, privies, etc.). Archaeological sites dating from the prehistoric era, on the other hand, are less often identified during pedestrian survey because they are buried, and predicting their locations relies more on the analysis and interpretation of environmental factors that would have informed Native American site choices.

With respect to the potential for identifying prehistoric archaeological sites, the project area was divided into areas of no/low and/or moderate/high archaeological potential by analyzing the landform types, slope, aspect, soils contained within them, and their distance to water. In general, areas located less than 300 m (1,000 ft) from a freshwater source and that contain slopes of less than 8 percent and well-drained soils possess a high potential for producing prehistoric archaeological deposits. Those areas located between 300 and 600 m (1,000 and 2,000 ft) from a freshwater source and well drained soils are considered moderate probability areas. This is in keeping with broadly based interpretations of prehistoric settlement and subsistence models that are supported by decades of previous archaeological research throughout the region. It is also expected that there may be variability of prehistoric site types found in the moderate/high sensitivity zones. For example, large Woodland period village sites and Archaic period seasonal camps may be expected along large river floodplains and near stream/river confluences, while smaller temporary or task specific sites may be expected on level areas with well-drained soils that are situated more than 300 m (1,000 ft) but less than 600 m (2,000 ft) from a water source. Finally, steeply sloping areas, poorly drained soils, or areas of previous disturbance are generally deemed to retain a no/low archaeological sensitivity with respect to their potential to contain prehistoric archaeological sites.

In addition, the potential for a given area to yield evidence of historical period archaeological deposits is based not only on the above-defined landscape features but also on the presence or absence of previously identified historical period archaeological resources as identified during previous archaeological surveys, recorded on historical period maps, or captured in aerial images of the region under study. In this case, proposed project items that are situated within 100 m (328 ft) of a previously identified historical period archaeological site or a National or State Register of Historic Places district/individually listed property also may be deemed to retain a moderate/high archaeological sensitivity. In contrast, those areas situated over 100 m (328 ft) from any of the above-referenced properties would be considered to retain a no/low historical period archaeological sensitivity.

Results of Phase IA Survey and Management Recommendations

As noted earlier in this report, the proposed project will consist of the installation of solar modules and associated infrastructure, a proposed gravel access road, and a seven foot chain link fence around the perimeter of the facility. In addition, repairs will be made to the existing stormwater swale and stormwater basin as required. The study area is situated at elevations ranging from approximately 158 to 173 m (518 to 568 ft) NGVD and is surrounded to the north, south, and west by wooded areas. Witch Meadow Brook and Route 11 are both located to the west, and wooded areas and agricultural fields are located to the east. The project area encompasses approximately 15 acres of land within a larger 35 acre parcel. The predominant soil types located throughout the area include Ridgebury, Sutton and Woodbridge soils, which are well drained and correlated with the location of prehistoric and historical period archaeological sites.

Pedestrian survey of the project area was completed in August of 2022, and it revealed that the subject parcel had been extensively disturbed in the past. A majority of the area contained scrapped automobiles, buses, trucks, boats, and mechanical equipment (Figure 14 and Photos 1 through 12). Stockpiles of dirt, asphalt, and concrete debris were also noted throughout the area, as were areas of previous grading and excavations. Due to the current condition of the project area and the lack of archaeological sensitivity, no additional archaeological examination of the project area is recommended prior to construction.

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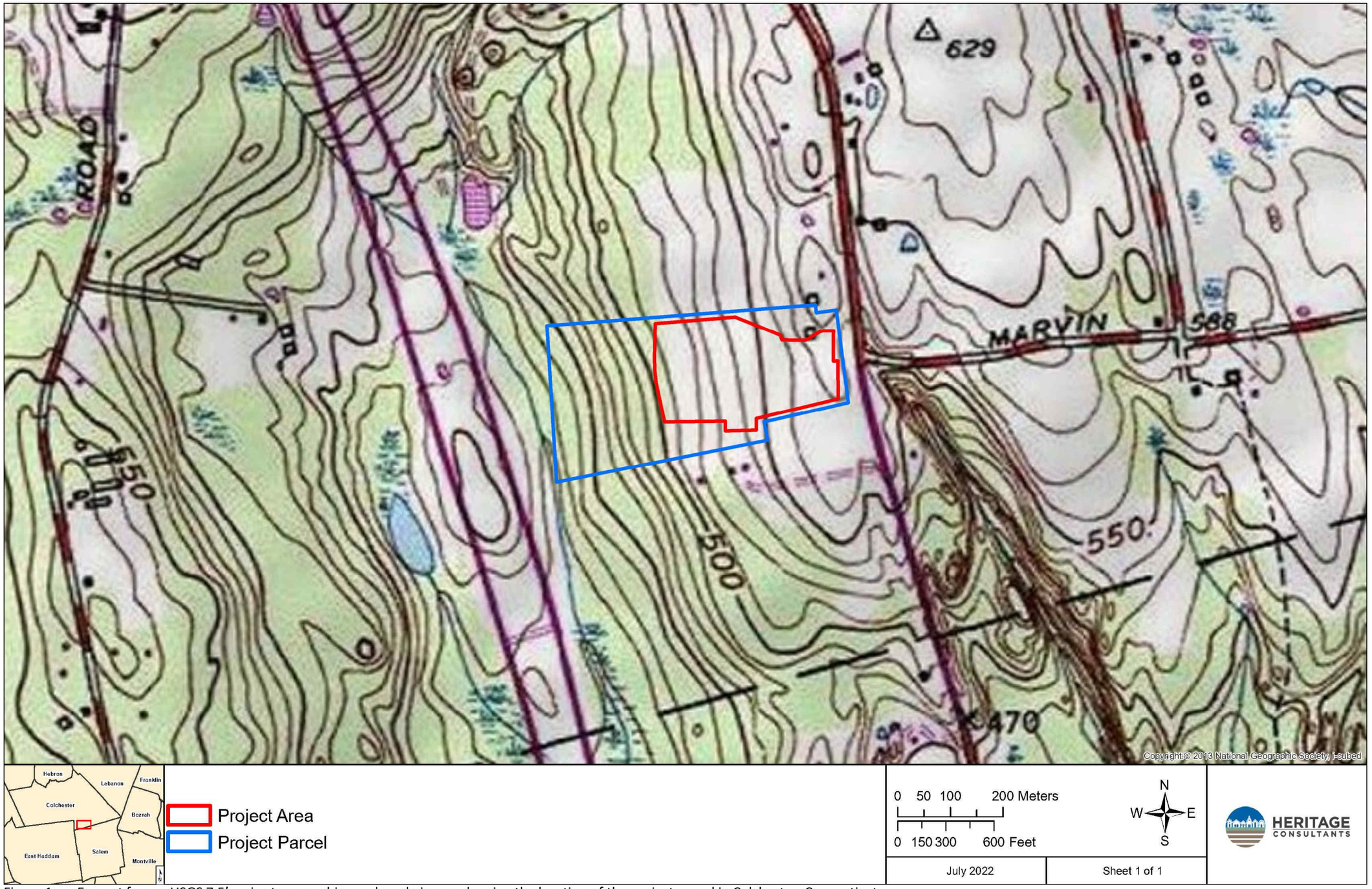

Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project parcel in Colchester, Connecticut.

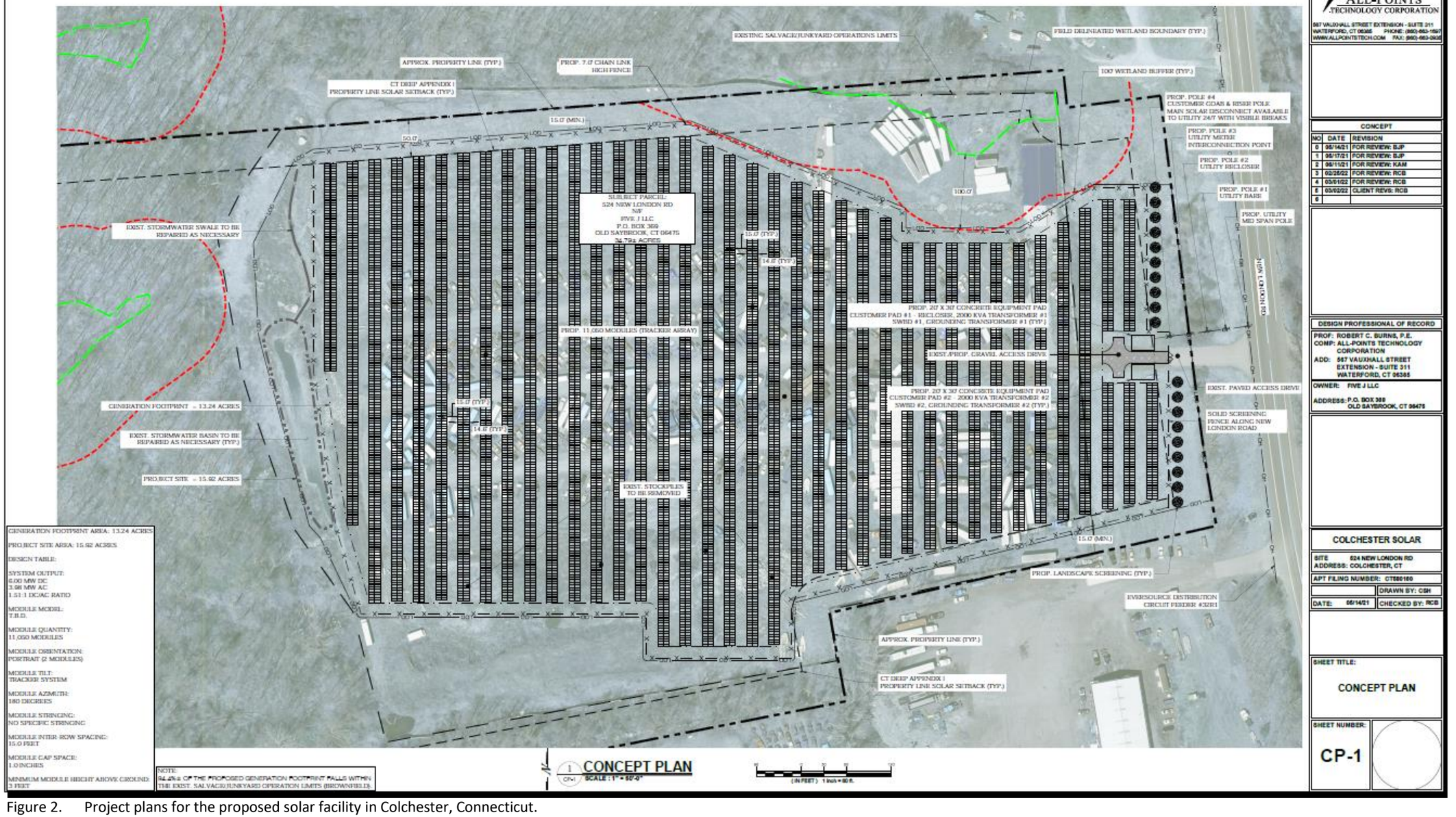

Figure 2. Project plans for the proposed solar facility in Colchester, Connecticut.

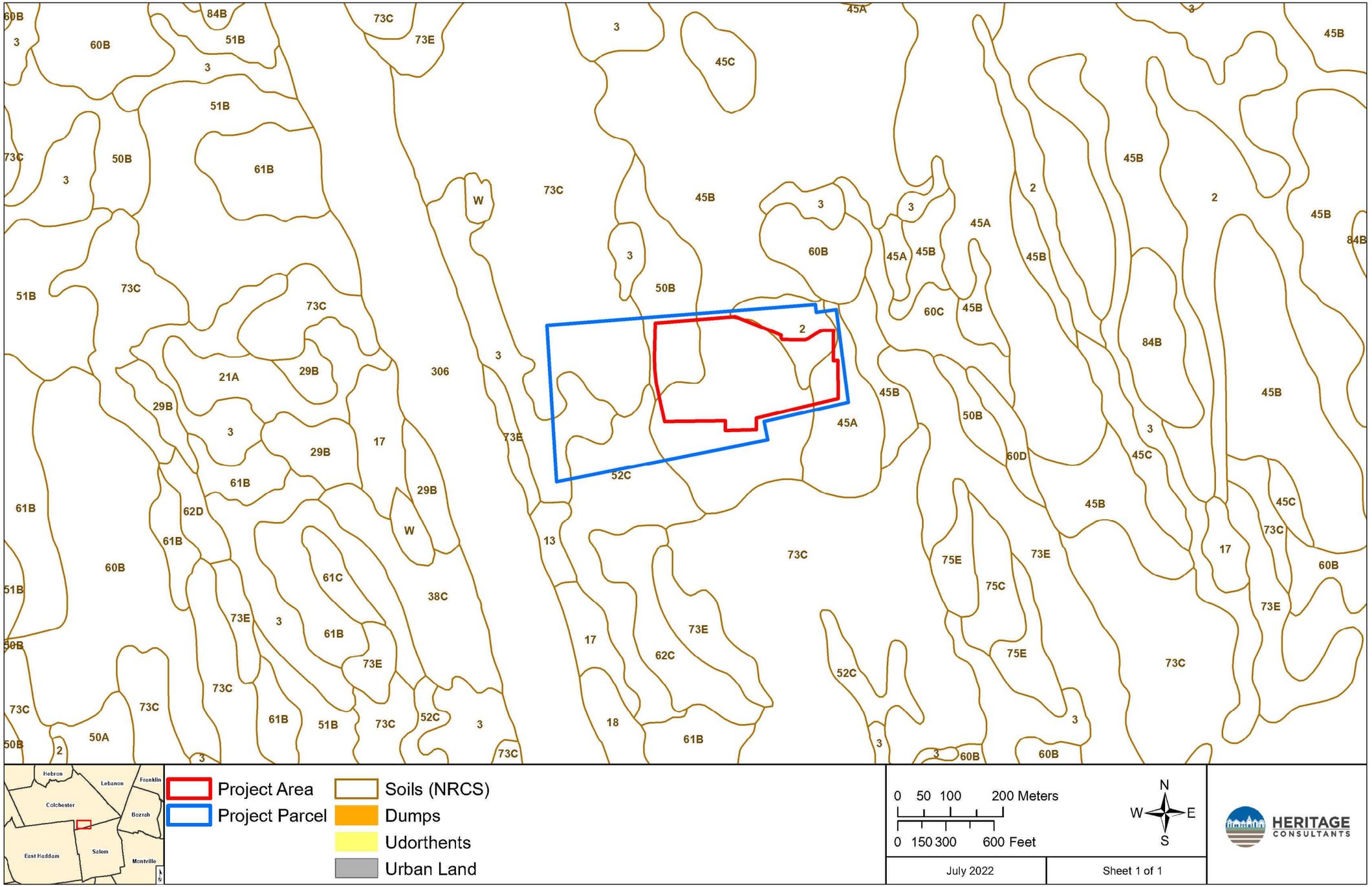

Figure 3. Map of soils located in the vicinity of the project area in Colchester, Connecticut.

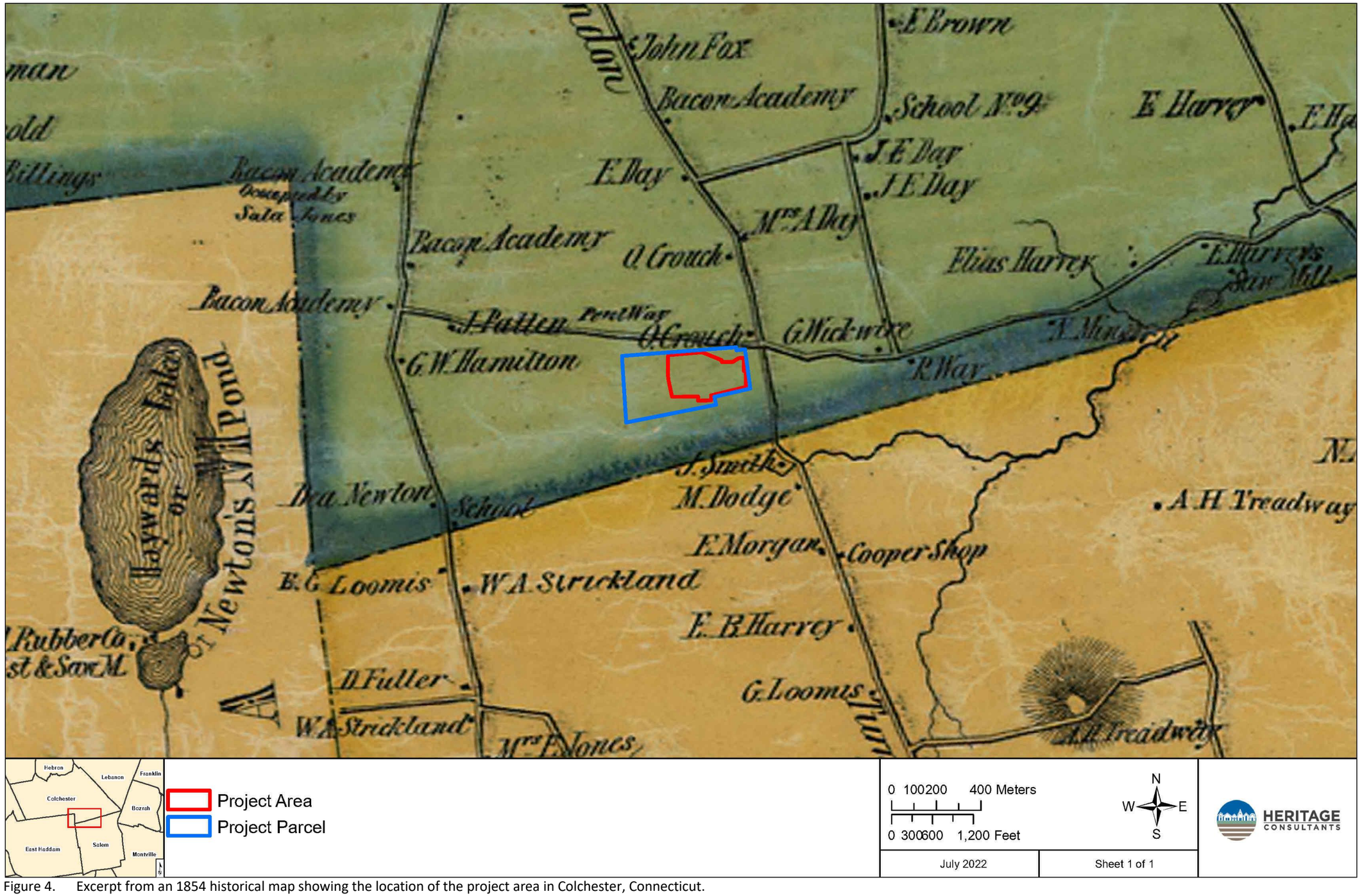

Figure 4. Excerpt from an 1854 historical map showing the location of the project area in Colchester, Connecticut.

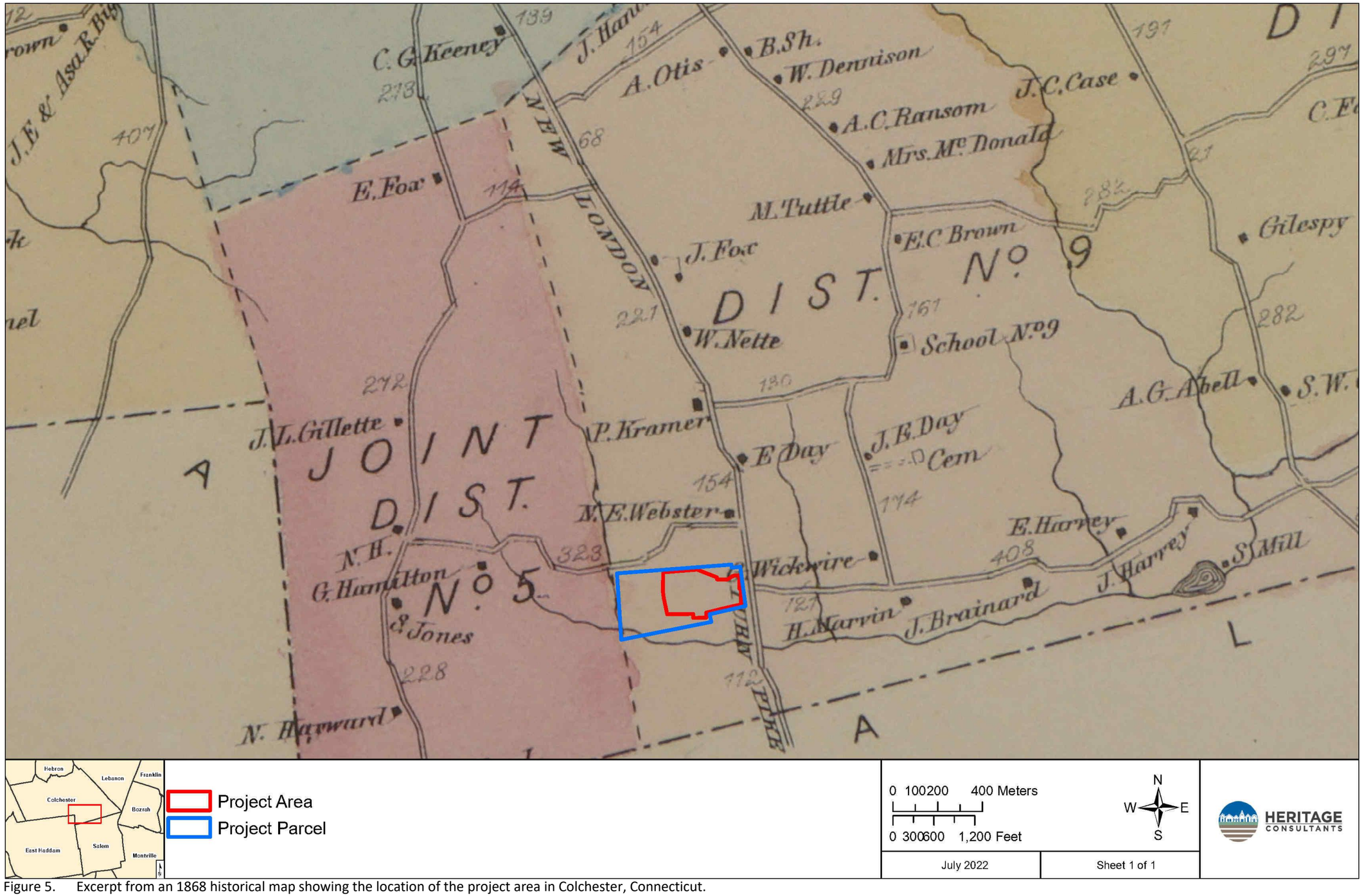

Figure 5. Excerpt from an 1868 historical map showing the location of the project area in Colchester, Connecticut.

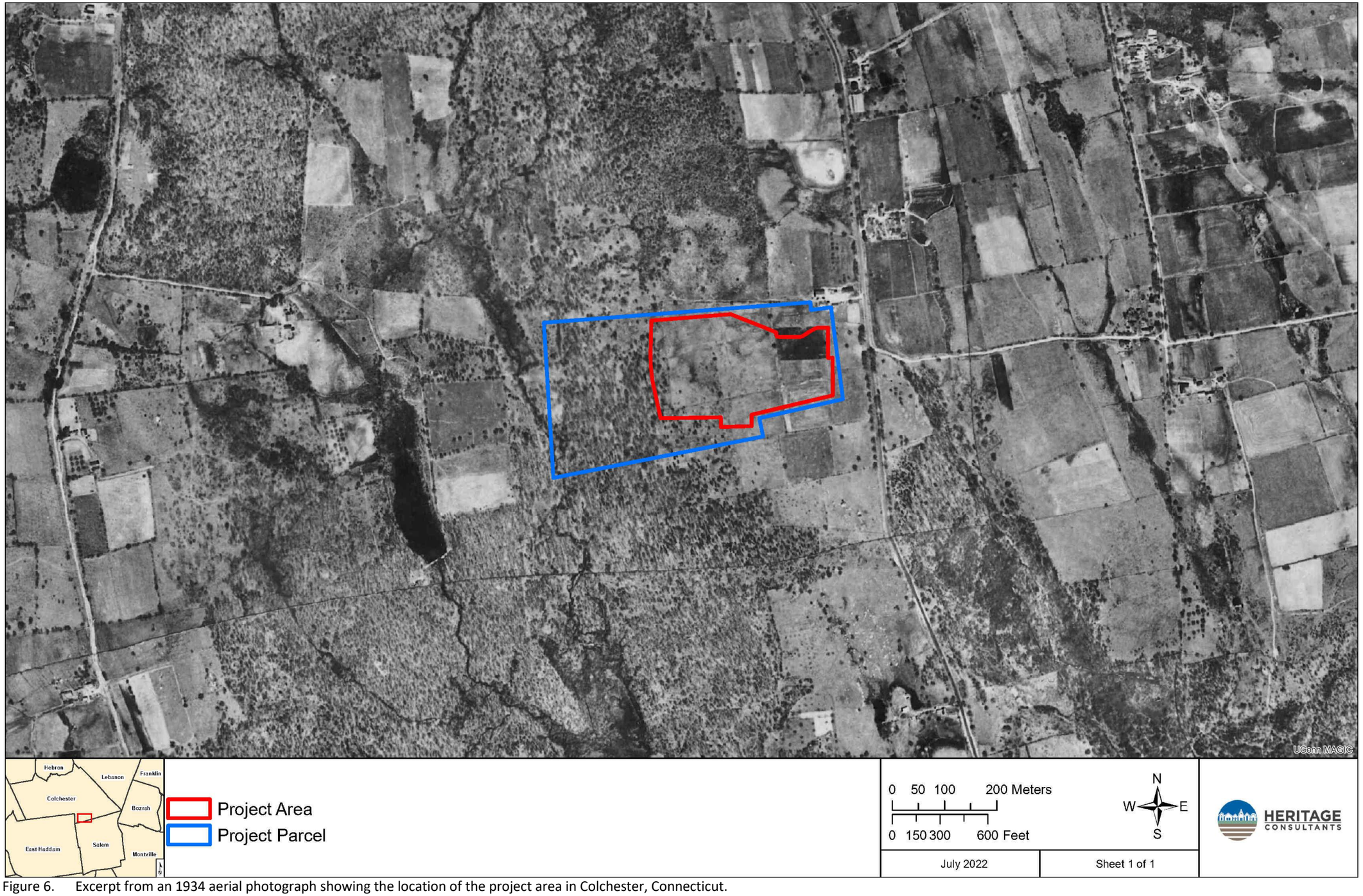

Figure 6. Excerpt from an 1934 aerial photograph showing the location of the project area in Colchester, Connecticut.

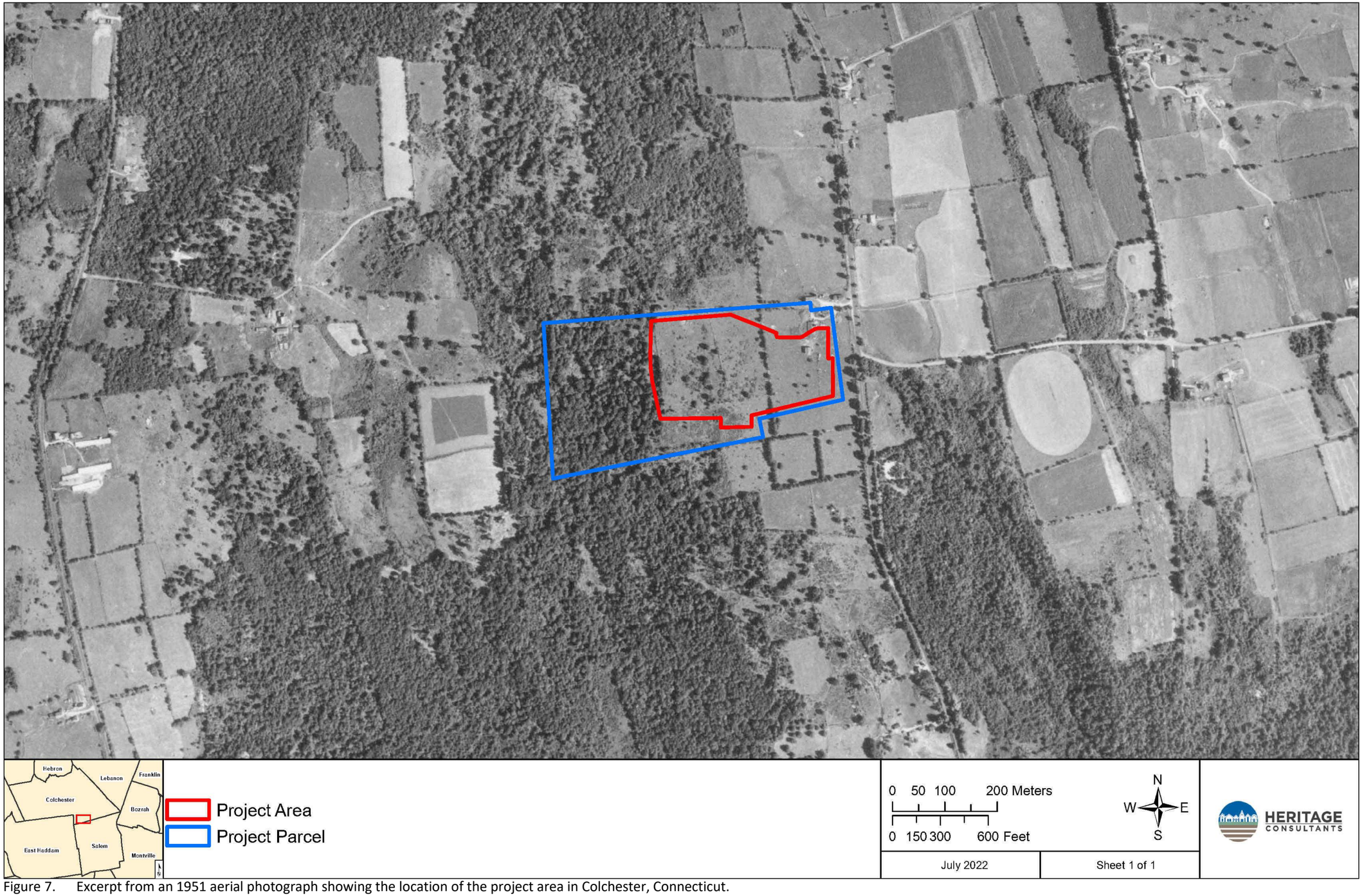

Figure 7. Excerpt from an 1951 aerial photograph showing the location of the project area in Colchester, Connecticut.

Figure 8. Excerpt from an 1970 aerial photograph showing the location of the project area in Colchester, Connecticut.

Figure 9. Excerpt from an 1990 aerial photograph showing the location of the project area in Colchester, Connecticut.

Figure 10. Excerpt from an 2004 aerial photograph showing the location of the project area in Colchester, Connecticut.

Figure 11. Excerpt from an 2019 aerial photograph showing the location of the project area in Colchester, Connecticut.

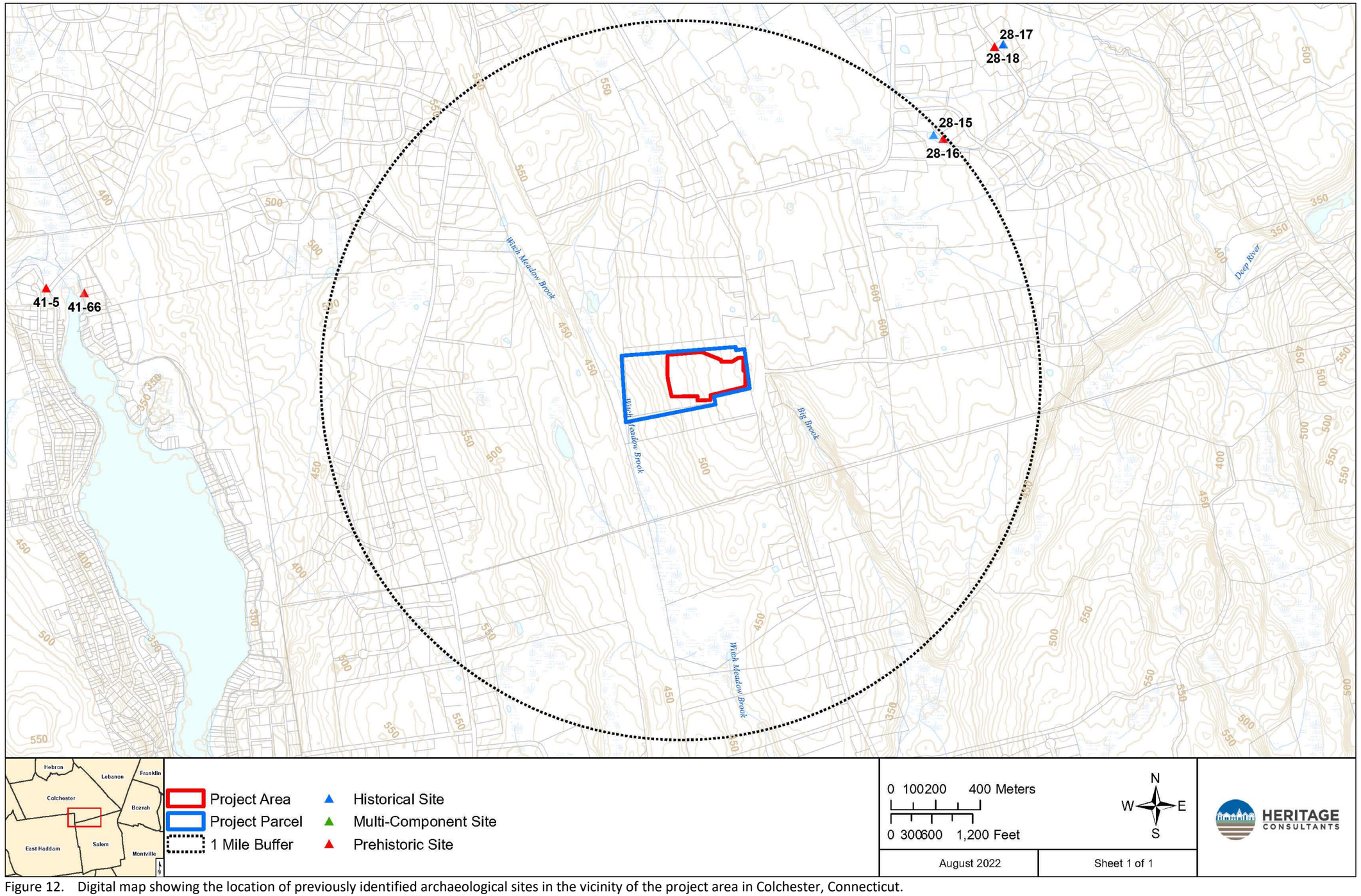

Figure 12. Digital map showing the location of previously identified archaeological sites in the vicinity of the project area in Colchester, Connecticut.

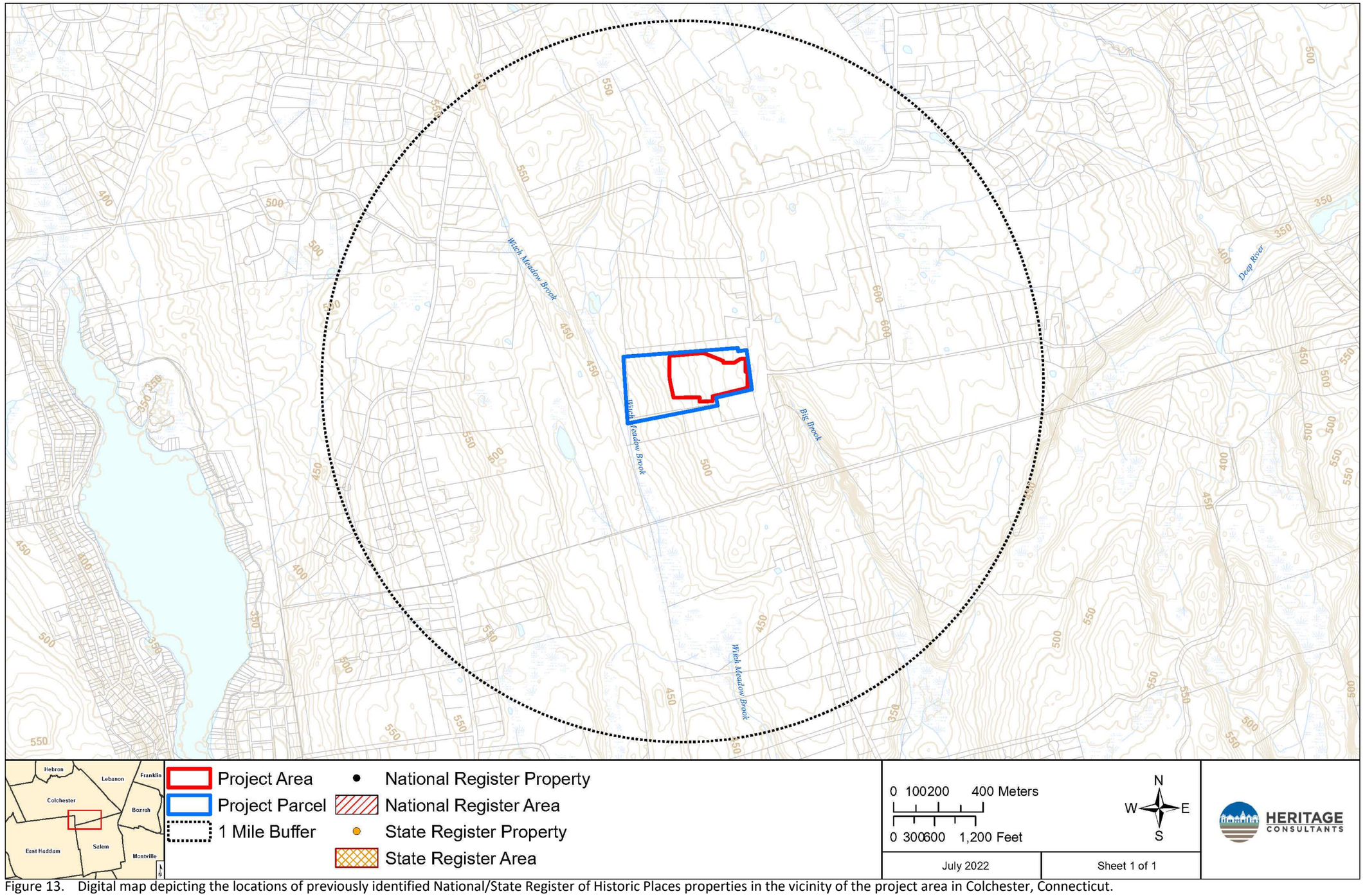

Figure 13. Digital map depicting the locations of previously identified National/State Register of Historic Places properties in the vicinity of the project area in Colchester, Connecticut.

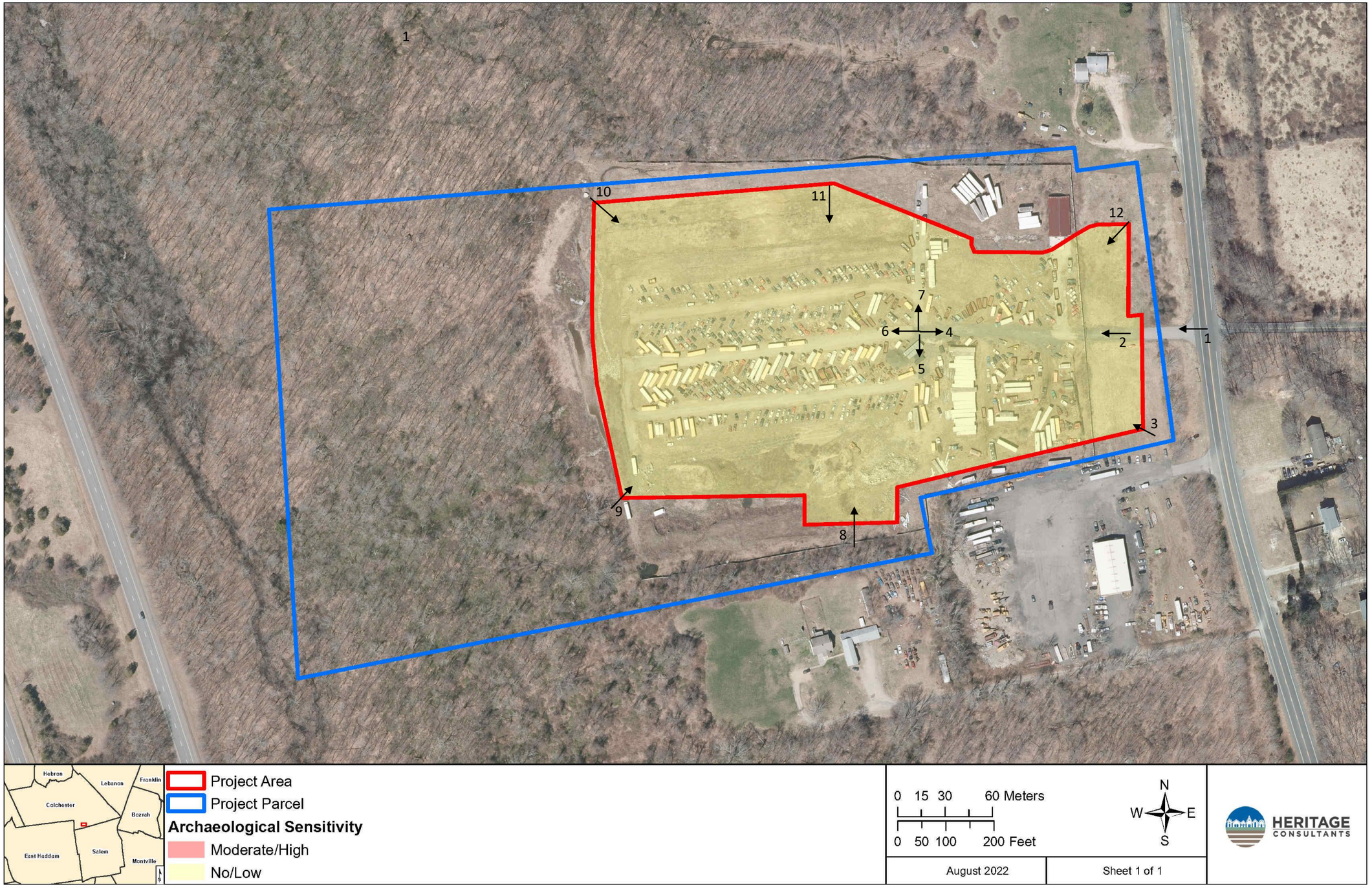

Figure 14. Excerpt from a 2019 aerial photograph showing areas of no/low and moderate/high sensitivity areas and photographs taken with directional arrows within the project area in Colchester, Connecticut.

Photo 1. Overview photo taken at entrance of 542 New London Road facing west.

Photo 2. Overview photo taken from inside entrance of project area facing west.

Photo 3. Overview photo taken from southeast corner of project area facing northwest.

Photo 4. Overview photo from the center of the project area. Photo taken facing east.

Photo 5. Overview photo from the center of the project area. Photo taken facing south.

Photo 6. Overview photo from the center of the project area. Photo taken facing west.

Photo 7. Overview photo from the center of the project area. Photo taken facing north.

Photo 8. Overview photo from the southern boundary of the project area. Photo taken facing north.

Photo 9. Overview photo from the southwest corner of the project area. Photo taken facing northeast.

Photo 10. Overview photo from the northwest corner of the project area. Photo taken facing southeast.

Photo 11. Overview photo from the northern boundary of the project area. Photo taken facing south.

Photo 12. Overview photo from the northeast corner of the project area. Photo taken facing southwest.

APPENDIX E

STORMWATER MANAGEMENT REPORT

STORMWATER MANAGEMENT REPORT

PROPOSED

SCRAPYARD

SOLAR PROJECT

524 NEW LONDON ROAD
COLCHESTER, CONNECTICUT
NEW LONDON COUNTY

Prepared for:

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9 Novelty Lane Unit 9B
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Prepared by:

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Waterford, CT 06385

February 2023

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Introduction

At the request of 524 New London Road ("NLR"), LLC, All-Points Technology Corporation, P.C. ("APT") has prepared the following analysis of and design to address stormwater impacts resulting from the development of a proposed 5.09 MW direct current ("DC") (3.99 MW alternating current ("AC")) solar electric generating facility referred to as Scrapyard Solar (the "Project") located at 524 New London Road, Colchester, Connecticut (the "Site").

The purpose of this report is to provide a description and analysis of the potential stormwater drainage impacts associated with the Project, as well as a description of the design to mitigate such potential stormwater drainage impacts. The design is intended to be in full compliance with the State regulations while taking prevailing site conditions and practical factors into account.

Existing Site Conditions

The Site is a privately owned, 35.56-acre parcel west of New London Road (Route 85) and east of Route 11. The Site is mostly undeveloped woods from the center of the Site to the western extent of the Site, and there is an automobile scrapyard on the eastern portion of the Site. Witch Meadow Brook also flows generally north to south through the western portion of the Site, east of Route 11. The Site is zoned Rural, with the portion of the Site nearest Route 85 within the Route 85 Arterial/Commercial Overlay District.

The Site's existing topography varies, ranging from approximately 424 feet above mean sea level ("AMSL") to 578 feet AMSL. In general, elevations decrease from the northeastern Site boundary to the southwestern Site boundary. Grades within the Project Area supporting the facility slope gently from northeast to southwest, with ground elevations ranging from approximately 510 feet AMSL in the southwest to approximately 577 feet AMSL in the northeast.

Developed Site Conditions

The Project will be constructed in an existing automobile scrapyard, and there is no tree clearing proposed for the installation of the array or access. Access to the Project area will be provided from New London Road, east of the Site. The Project includes the installation of (7,655) 665W solar panel modules, associated fencing, access road, utilities, and stormwater management features within approximately 16.49± acres of disturbance on the Site.

The proposed solar panels will be installed on a tracker post mounted racking system, with minimal changes to the existing grades. As a result, the post-development drainage patterns will mimic the pre-developed routes. Areas of existing ground cover that are disturbed during construction will be reseeded with a low growth seed mix.

Stormwater Management

Analysis Methodology

The hydrologic analysis was performed using the HydroCAD stormwater modeling system computer program developed by HydroCAD Software Solutions, LLC.

Hydrographs for each watershed were developed using the SCS Synthetic Unit Hydrograph Method with a Type III rainfall distribution. Hydrographs were developed for the NOAA Atlas 14, Volume 10, Version 3 Precipitation 2-, 25-, 50-, and 100-year storm event with rainfall depths of 3.42, 6.23, 7.03, and 7.89 inches respectively.

The existing and proposed drainage areas used in the calculations are illustrated on the Existing and Proposed Drainage Area Plans (EDA-1 & PDA-1). These maps and the corresponding HydroCAD output are attached.

The Project area soils identified by the United States Department of Agriculture (USDA) Natural Resources Conservation Service consist of an HSG rating of "B/D", "C/D", and "D". All soils were considered HSG "D" in the modeling with combined rating Map Units considered undrained.

Map Unit Symbol soils include 2, 45A, 45B, and 50B. Specific details for each soil Map Unit Symbol are provided in Appendix A with their extent shown on the Drainage Area Plans.

Existing Drainage Patterns

The Project area generally drains to the west. The Site is modeled at two (2) Analysis Points ("AP-1" & "AP-2"). AP-1 discharges to an existing wetland to the west of the Site. AP-2 discharges to New London Road to the east of the Site. Peak discharges have been computed at the points of study for the 2-, 25-, 50-, and 100-year storm events.

The pre-development peak discharges at each analysis point are tabulated in Table 1.

Table 1

Analysis Point	**Pre-developed Peak Storm Runoff (Q), cubic feet per second (cfs)**			
	2-year	**25-year**	**50-year**	**100-year**
AP-1	28.31	66.23	77.13	88.84
AP-2	3.21	8.19	9.66	11.24

Proposed Drainage Patterns

The Project will maintain existing hydrological conditions to the extent practicable, as only limited grading is required for the installation of the temporary sediment traps. Upon completion of construction, the temporary sediment traps will be removed, and the Site will be stabilized using a mix of native flowering grasses and plants selected specifically for solar installations (New England Semi-Shade Grass and Forbs Seed Mix), which will create a meadow condition.

Appendix I requires that the hydrologic soil group be reduced by a half-drop in those areas subject to heavy machinery traffic (i.e., the solar field and access), which typically results in a higher curve number. Since this Project's existing conditions hydrologic analysis was developed using HSG "D" soils there was no change to the modeled soil rating for proposed conditions.

The post-development conditions were modeled using the same two Analysis Points noted in the Existing Drainage Patterns section. Peak discharges have been computed at the points of study for the 2-year, 25-year, 50-year, and 100-year storm events and tabulated in Table 2 below.

Table 2

Analysis Point	**Post-developed Peak Storm Runoff (Q), cubic feet per second (cfs)**			
	2-year	**25-year**	**50-year**	**100-year**
AP-1	22.67	59.44	70.34	82.11
AP-2	2.93	7.50	8.84	10.29

The reduction in runoff achieved by the post-development discharges in comparison with the pre-development discharges are tabulated in Table 3.

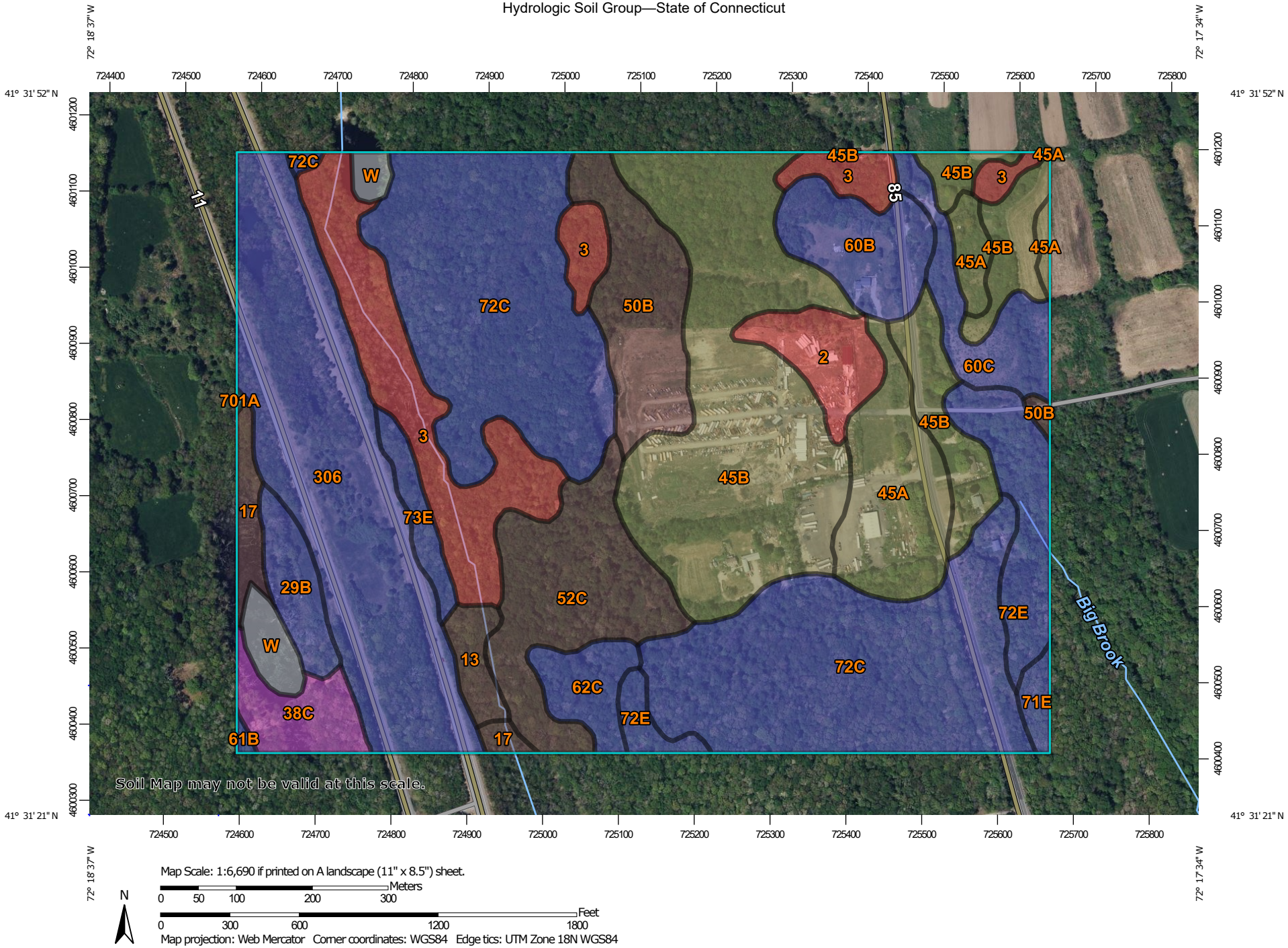
Table 3

Analysis Point	**Peak Storm Runoff (Q) Comparison Pre- and Post-, Percent (%) Change**			
	2-year	**25-year**	**50-year**	**100-year**
AP-1	-19.92%	-10.25%	-8.80%	-7.05%
AP-2	-8.72%	-8.42%	-8.49%	-8.45%

Conclusion

The project has been designed to reduce post-development peak discharge flows for the 2-, 25-, 50- and 100- year storm events at each of the Analysis Points noted herein. As a result, the proposed solar array is not anticipated to result in any adverse conditions to the surrounding areas and properties.

APPENDIX A: NRCS SOIL SURVEY



Map Scale: 1:6,690 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

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

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

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 1:12,000.

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: State of Connecticut
Survey Area Data: Version 21, Sep 7, 2021

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

Date(s) aerial images were photographed: Data not available.

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
2	Ridgebury fine sandy loam, 0 to 3 percent slopes	D	4.2	2.0%
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	D	17.0	8.1%
13	Walpole sandy loam, 0 to 3 percent slopes	B/D	2.0	1.0%
17	Timakwa and Natchaug soils, 0 to 2 percent slopes	B/D	2.5	1.2%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	B	3.3	1.6%
38C	Hinckley loamy sand, 3 to 15 percent slopes	A	3.9	1.8%
45A	Woodbridge fine sandy loam, 0 to 3 percent slopes	C/D	11.0	5.2%
45B	Woodbridge fine sandy loam, 3 to 8 percent slopes	C/D	38.0	18.1%
50B	Sutton fine sandy loam, 3 to 8 percent slopes	B/D	9.3	4.5%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	B/D	12.5	5.9%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	B	6.4	3.0%
60C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	B	5.1	2.4%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	B	0.2	0.1%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	B	3.3	1.6%
71E	Nipmuck-Brimfield-Rock outcrop complex, 15 to 45 percent slopes	B	1.1	0.5%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
72C	Nipmuck-Brookfield complex, 3 to 15 percent slopes, very rocky	B	50.2	23.9%
72E	Nipmuck-Brookfield complex, 15 to 45 percent slopes, very rocky	B	7.7	3.7%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	B	2.1	1.0%
306	Udorthents-Urban land complex	B	27.5	13.1%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	C	0.0	0.0%
W	Water		2.5	1.2%
Totals for Area of Interest			**209.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

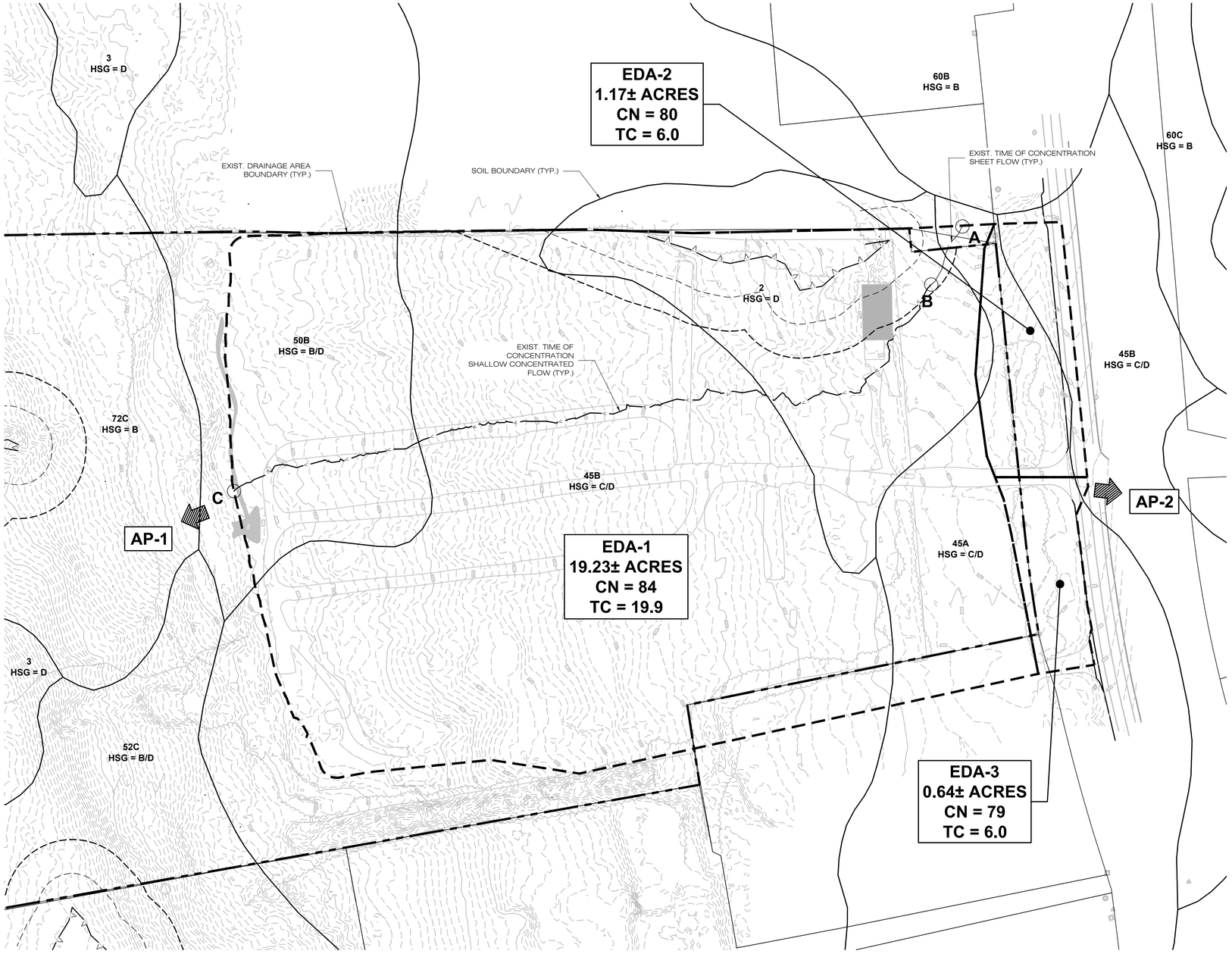
APPENDIX B: EXISTING DRAINAGE AREA MAP (EDA-1) & HYDROLOGIC COMPUTATION (HYDROCAD)

EXISTING DRAINAGE AREAS

	TOTAL AREA (ACRES)	COMPOSITE CN	TC (MINS.)
EDA-1	19.23	84	19.9
EDA-2	1.17	80	6.0
EDA-3	0.64	79	6.0

EXISTING CONDITION PEAK FLOWS

ANALYSIS POINT	2-YEAR (CFS)	25-YEAR (CFS)	50-YEAR (CFS)	100-YEAR (CFS)
AP-1	28.31	66.23	77.13	88.84
AP-2	3.21	8.19	9.66	11.24



1 EDA-1 **EXISTING DRAINAGE AREA MAP**
SCALE : 1" = 80'-0"

80 0 40 80 160
(IN FEET) 1 inch = 80 ft.

524 NLR LLC

9 NOVELTY LANE UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMIT SET

NO	DATE	REVISION
0	1/27/23	FOR REVIEW: KAM
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON RD COLCHESTER, CT

COLCHESTER SOLAR

SITE ADDRESS: 524 NEW LONDON RD COLCHESTER. CT

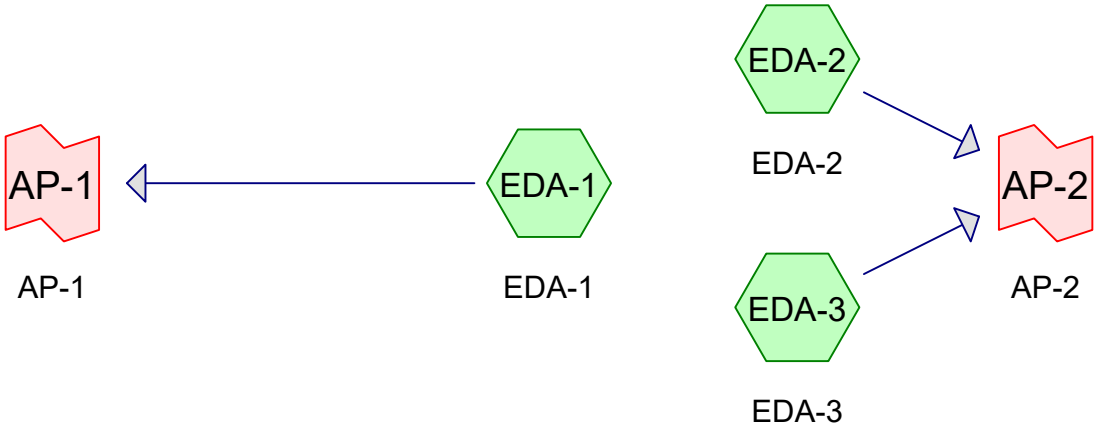
APT FILING NUMBER: CT580160

DRAWN BY: JAB

DATE: 1/27/23 CHECKED BY: KAM

SHEET TITLE:
EXISTING DRAINAGE AREA MAP

SHEET NUMBER:
EDA-1



Subcat Reach Pond Link

Routing Diagram for CT580160_Colchester - EX
Prepared by {enter your company name here}, Printed 1/27/2023

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
13.642	84	50-75% Grass cover, Fair, HSG D (EDA-1)
0.530	98	Bit Pavement, Rooftops, Conc HSG D (EDA-1)
1.476	96	Gravel surface, HSG D (EDA-1)
3.081	78	Meadow, non-grazed, HSG D (EDA-1, EDA-2, EDA-3)
0.286	98	Unconnected pavement, HSG D (EDA-2, EDA-3)
2.025	79	Woods, Fair, HSG D (EDA-1, EDA-2, EDA-3)
21.039	**84**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
21.039	HSG D	EDA-1, EDA-2, EDA-3
0.000	Other	
21.039		**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=837,449 sf 2.76% Impervious Runoff Depth=1.87"
Flow Length=1,345' Tc=19.9 min CN=84 Runoff=28.31 cfs 2.993 af

Subcatchment EDA-2: EDA-2 Runoff Area=51,041 sf 19.77% Impervious Runoff Depth=1.57"
Tc=6.0 min UI Adjusted CN=80 Runoff=2.11 cfs 0.154 af

Subcatchment EDA-3: EDA-3 Runoff Area=27,957 sf 8.40% Impervious Runoff Depth=1.50"
Tc=6.0 min UI Adjusted CN=79 Runoff=1.10 cfs 0.080 af

Link AP-1: AP-1 Inflow=28.31 cfs 2.993 af
Primary=28.31 cfs 2.993 af

Link AP-2: AP-2 Inflow=3.21 cfs 0.234 af
Primary=3.21 cfs 0.234 af

Total Runoff Area = 21.039 ac Runoff Volume = 3.227 af Average Runoff Depth = 1.84"
96.12% Pervious = 20.223 ac 3.88% Impervious = 0.815 ac

Summary for Subcatchment EDA-1: EDA-1

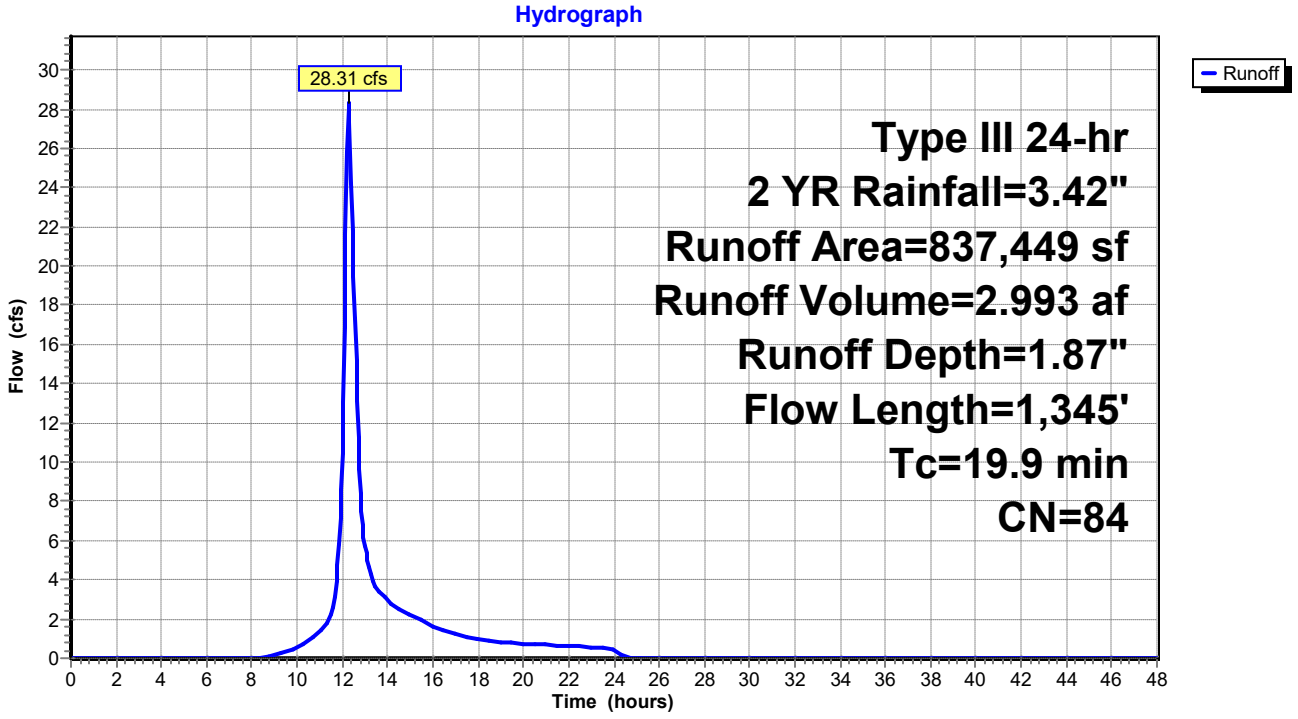
Runoff = 28.31 cfs @ 12.28 hrs, Volume= 2.993 af, Depth= 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.42"

	Area (sf)	CN	Description
	70,551	79	Woods, Fair, HSG D
	85,280	78	Meadow, non-grazed, HSG D
	594,254	84	50-75% Grass cover, Fair, HSG D
	64,282	96	Gravel surface, HSG D
*	23,082	98	Bit Pavement, Rooftops, Conc HSG D
	837,449	84	Weighted Average
	814,367		97.24% Pervious Area
	23,082		2.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0400	0.25		**Sheet Flow, A-B** Range n= 0.130 P2= 3.18"
13.3	1,245	0.0500	1.57		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
19.9	1,345	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

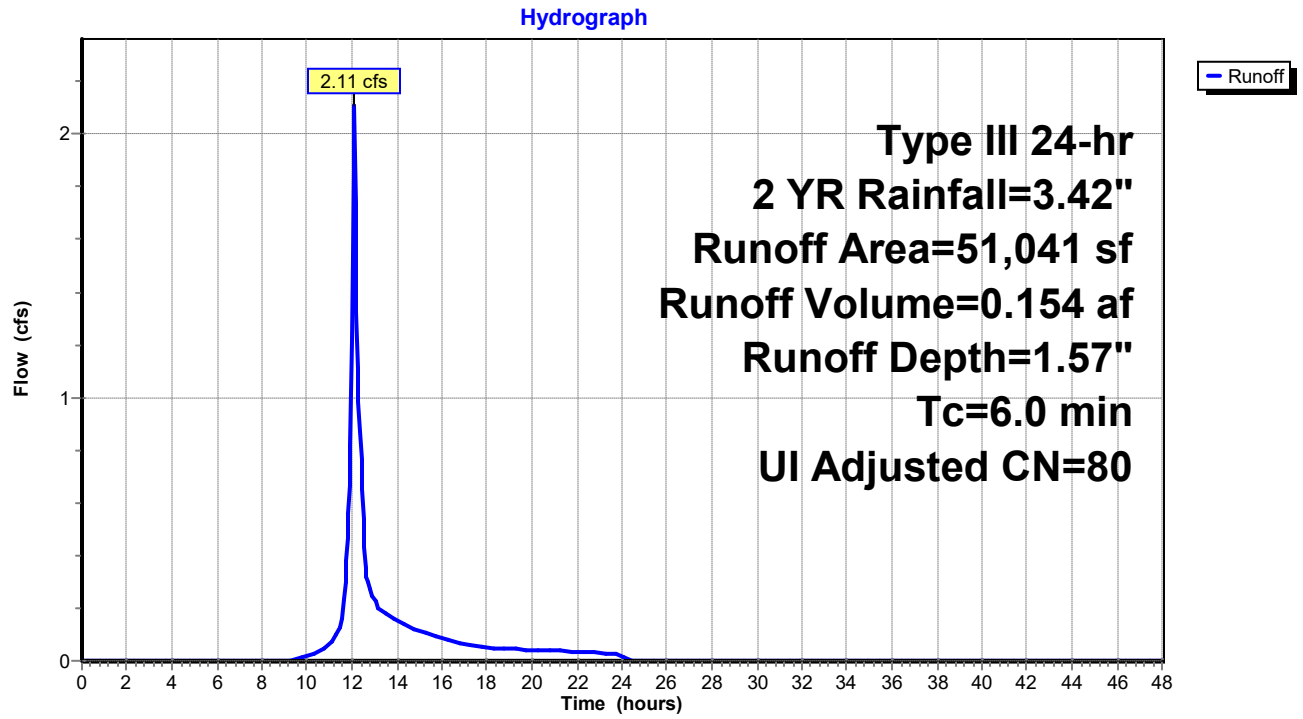
Runoff = 2.11 cfs @ 12.10 hrs, Volume= 0.154 af, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.42"

Area (sf)	CN	Adj	Description
7,013	79		Woods, Fair, HSG D
33,937	78		Meadow, non-grazed, HSG D
10,091	98		Unconnected pavement, HSG D
51,041	82	80	Weighted Average, UI Adjusted
40,950			80.23% Pervious Area
10,091			19.77% Impervious Area
10,091			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EDA-2: EDA-2



Summary for Subcatchment EDA-3: EDA-3

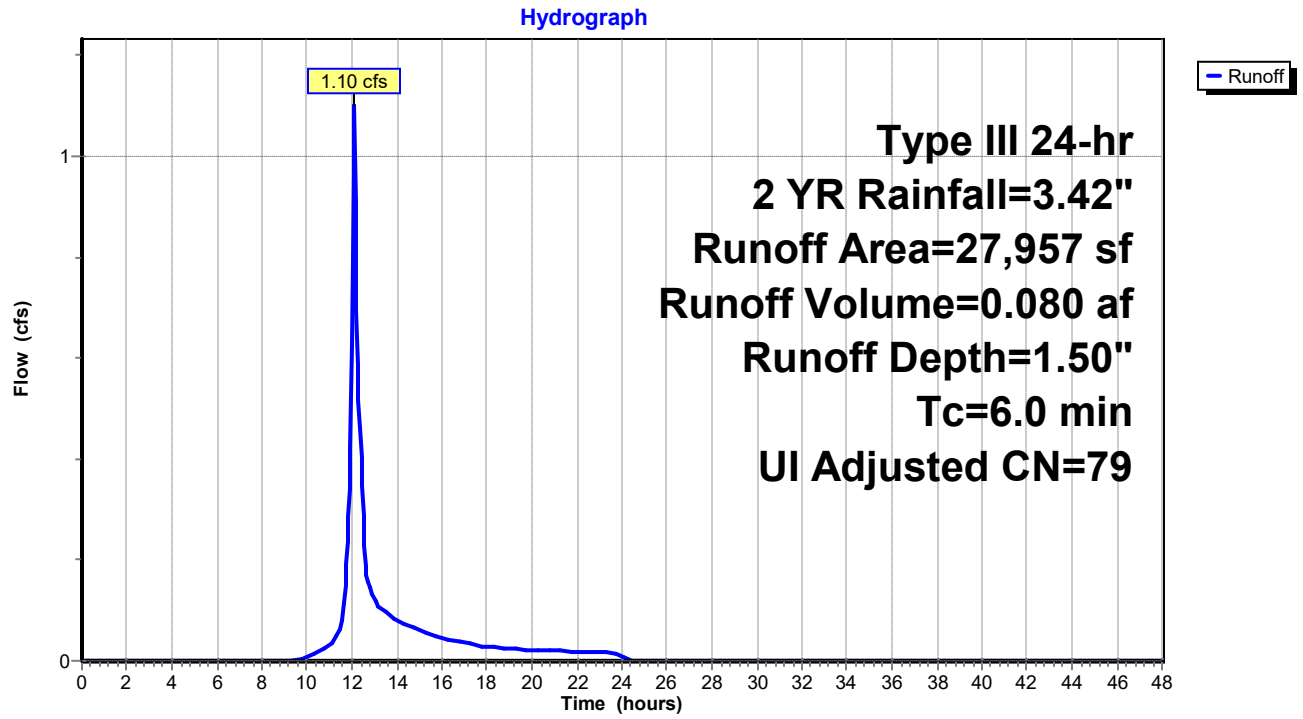
Runoff = 1.10 cfs @ 12.10 hrs, Volume= 0.080 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.42"

Area (sf)	CN	Adj	Description
10,629	79		Woods, Fair, HSG D
14,980	78		Meadow, non-grazed, HSG D
2,348	98		Unconnected pavement, HSG D
27,957	80	79	Weighted Average, UI Adjusted
25,609			91.60% Pervious Area
2,348			8.40% Impervious Area
2,348			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EDA-3: EDA-3

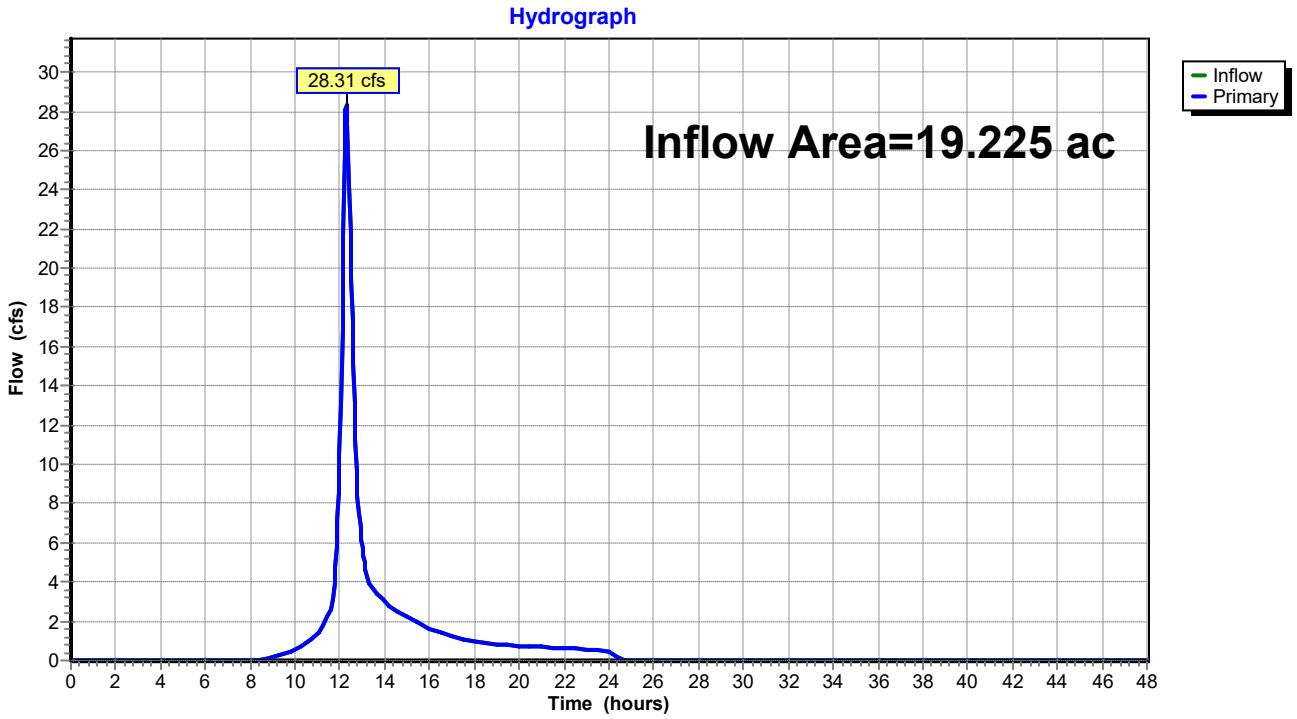


Summary for Link AP-1: AP-1

Inflow Area = 19.225 ac, 2.76% Impervious, Inflow Depth = 1.87" for 2 YR event
Inflow = 28.31 cfs @ 12.28 hrs, Volume= 2.993 af
Primary = 28.31 cfs @ 12.28 hrs, Volume= 2.993 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

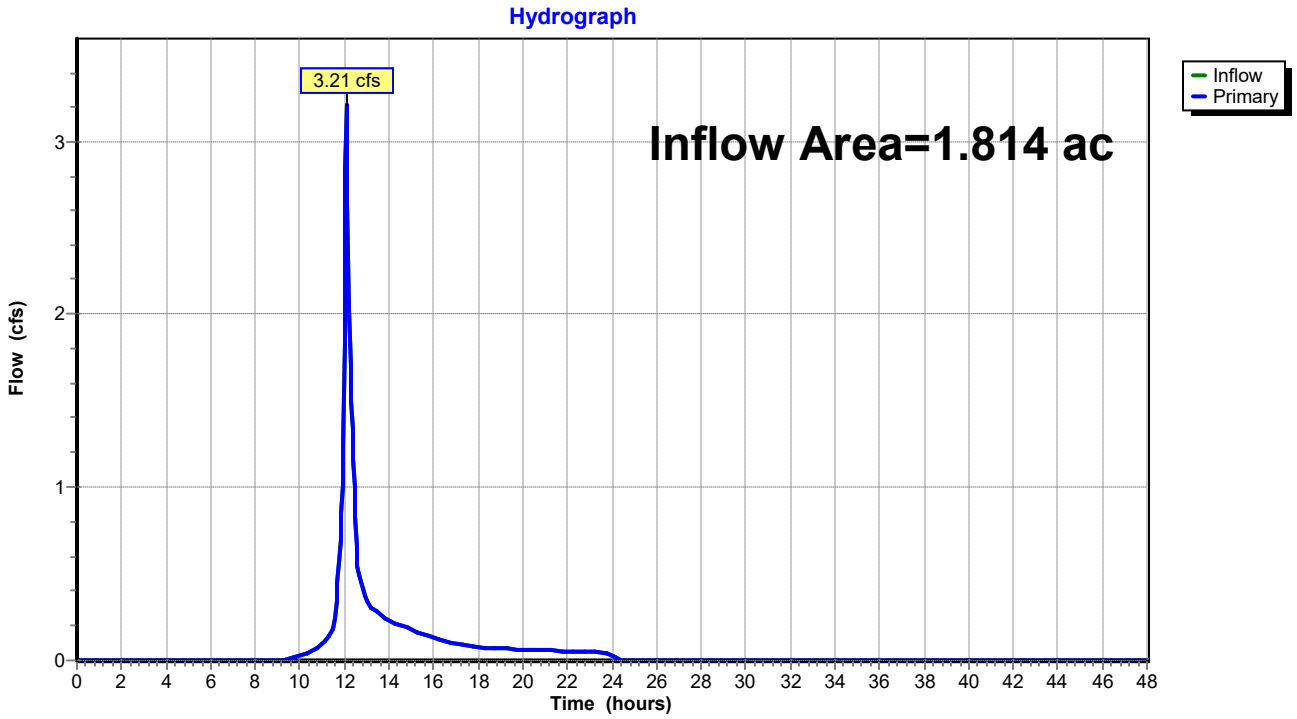


Summary for Link AP-2: AP-2

Inflow Area = 1.814 ac, 15.75% Impervious, Inflow Depth = 1.55" for 2 YR event
Inflow = 3.21 cfs @ 12.10 hrs, Volume= 0.234 af
Primary = 3.21 cfs @ 12.10 hrs, Volume= 0.234 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=837,449 sf 2.76% Impervious Runoff Depth=4.41"
Flow Length=1,345' Tc=19.9 min CN=84 Runoff=66.23 cfs 7.069 af

Subcatchment EDA-2: EDA-2 Runoff Area=51,041 sf 19.77% Impervious Runoff Depth=3.99"
Tc=6.0 min UI Adjusted CN=80 Runoff=5.34 cfs 0.390 af

Subcatchment EDA-3: EDA-3 Runoff Area=27,957 sf 8.40% Impervious Runoff Depth=3.89"
Tc=6.0 min UI Adjusted CN=79 Runoff=2.85 cfs 0.208 af

Link AP-1: AP-1 Inflow=66.23 cfs 7.069 af
Primary=66.23 cfs 7.069 af

Link AP-2: AP-2 Inflow=8.19 cfs 0.597 af
Primary=8.19 cfs 0.597 af

Total Runoff Area = 21.039 ac Runoff Volume = 7.666 af Average Runoff Depth = 4.37"
96.12% Pervious = 20.223 ac 3.88% Impervious = 0.815 ac

Summary for Subcatchment EDA-1: EDA-1

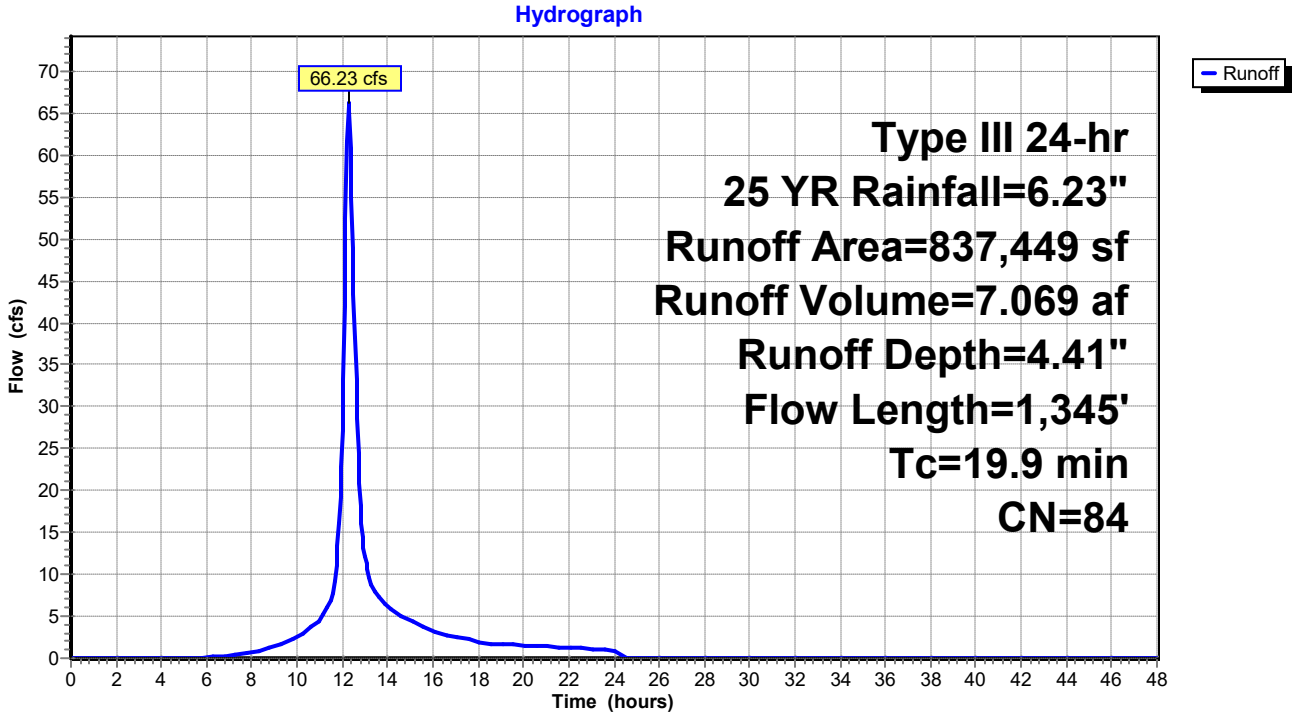
Runoff = 66.23 cfs @ 12.27 hrs, Volume= 7.069 af, Depth= 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.23"

	Area (sf)	CN	Description
	70,551	79	Woods, Fair, HSG D
	85,280	78	Meadow, non-grazed, HSG D
	594,254	84	50-75% Grass cover, Fair, HSG D
	64,282	96	Gravel surface, HSG D
*	23,082	98	Bit Pavement, Rooftops, Conc HSG D
	837,449	84	Weighted Average
	814,367		97.24% Pervious Area
	23,082		2.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0400	0.25		**Sheet Flow, A-B** Range n= 0.130 P2= 3.18"
13.3	1,245	0.0500	1.57		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
19.9	1,345	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

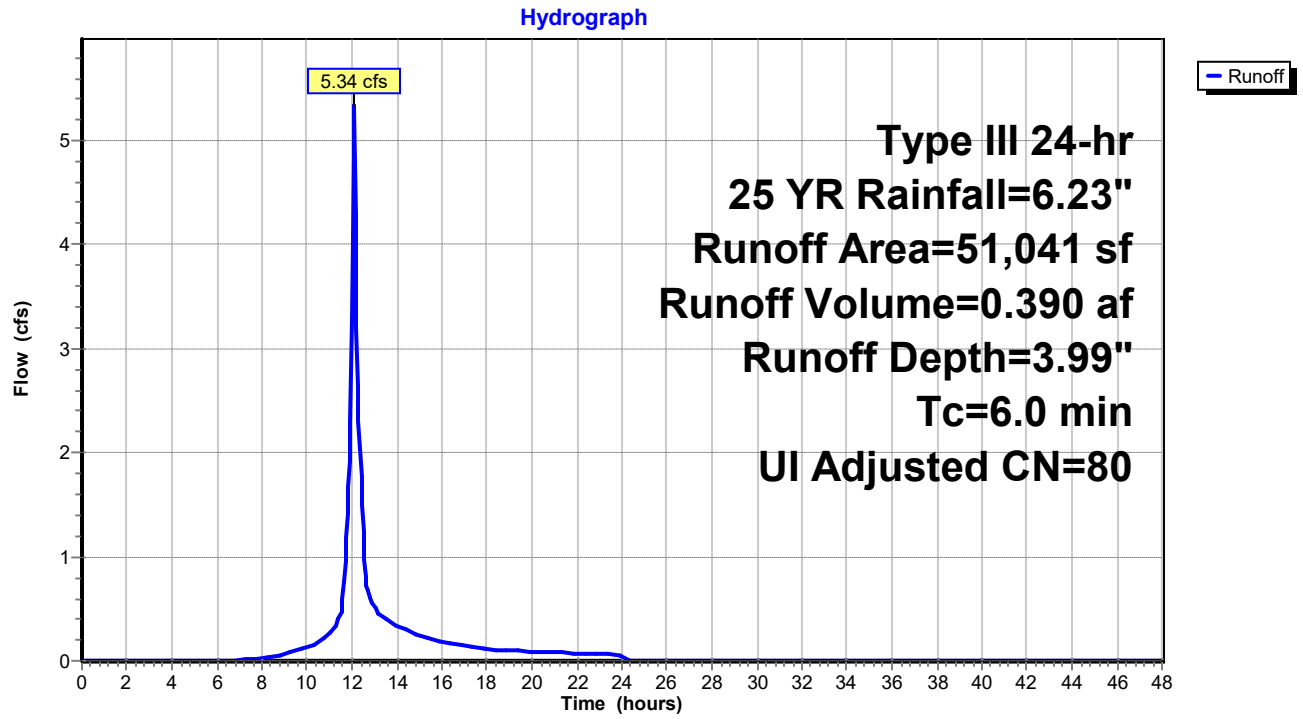
Runoff = 5.34 cfs @ 12.09 hrs, Volume= 0.390 af, Depth= 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.23"

Area (sf)	CN	Adj	Description
7,013	79		Woods, Fair, HSG D
33,937	78		Meadow, non-grazed, HSG D
10,091	98		Unconnected pavement, HSG D
51,041	82	80	Weighted Average, UI Adjusted
40,950			80.23% Pervious Area
10,091			19.77% Impervious Area
10,091			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EDA-2: EDA-2



Summary for Subcatchment EDA-3: EDA-3

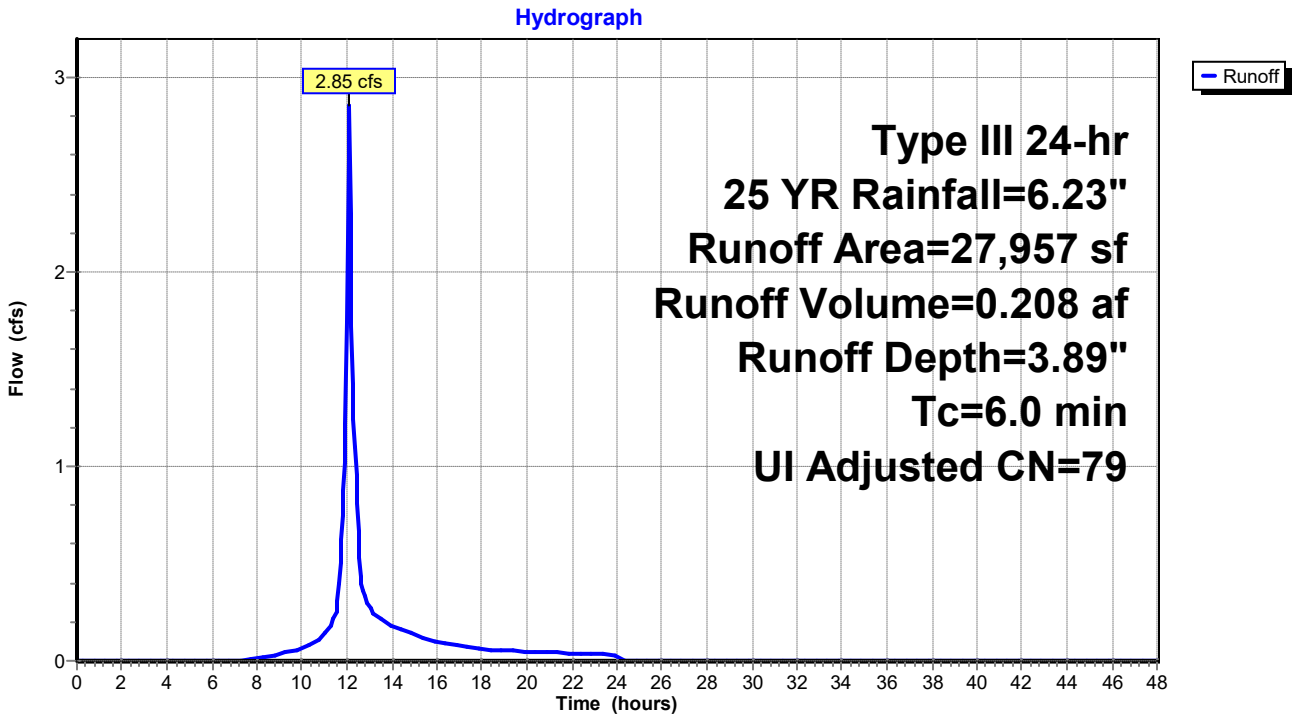
Runoff = 2.85 cfs @ 12.09 hrs, Volume= 0.208 af, Depth= 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.23"

Area (sf)	CN	Adj	Description
10,629	79		Woods, Fair, HSG D
14,980	78		Meadow, non-grazed, HSG D
2,348	98		Unconnected pavement, HSG D
27,957	80	79	Weighted Average, UI Adjusted
25,609			91.60% Pervious Area
2,348			8.40% Impervious Area
2,348			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EDA-3: EDA-3

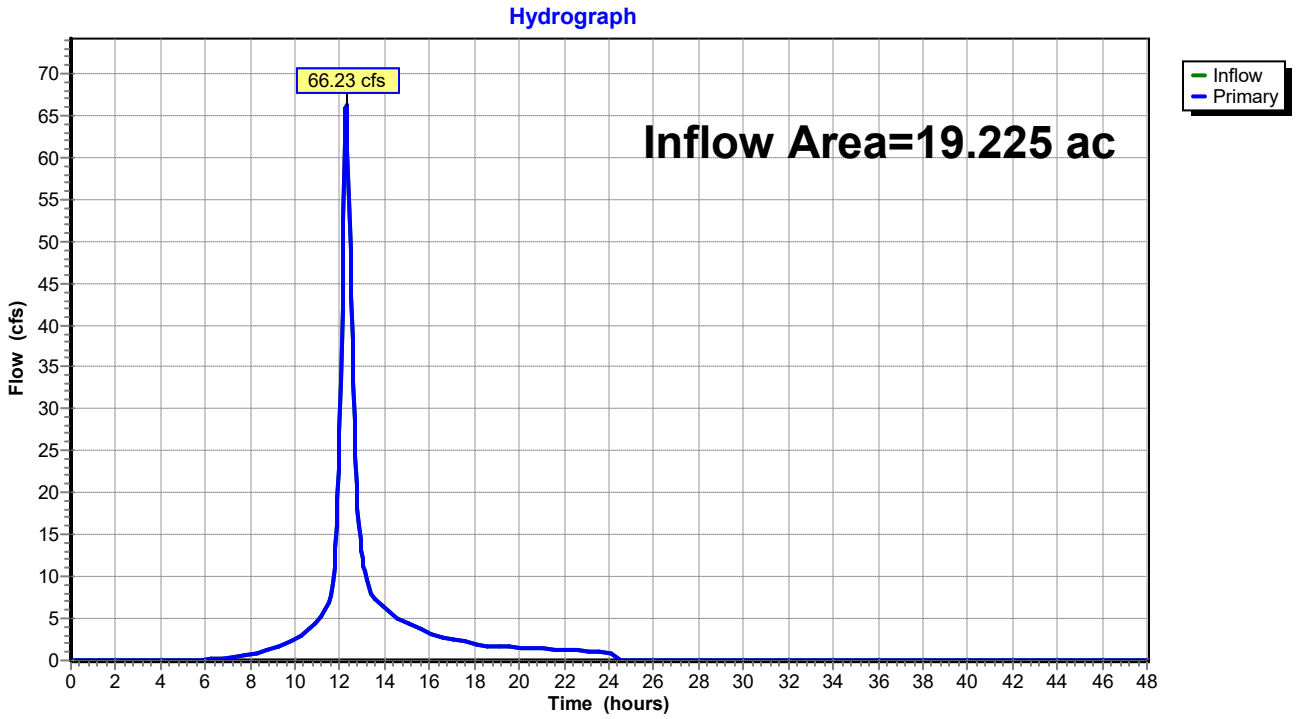


Summary for Link AP-1: AP-1

Inflow Area = 19.225 ac, 2.76% Impervious, Inflow Depth = 4.41" for 25 YR event
Inflow = 66.23 cfs @ 12.27 hrs, Volume= 7.069 af
Primary = 66.23 cfs @ 12.27 hrs, Volume= 7.069 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

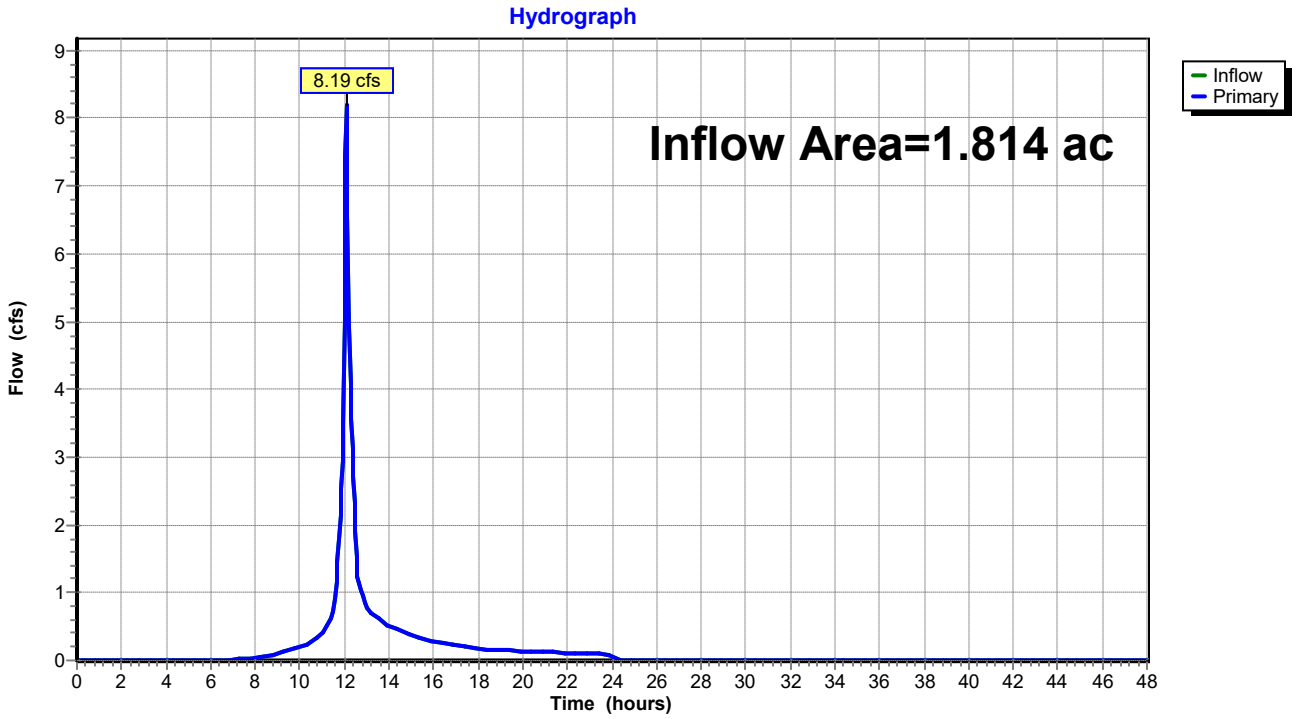


Summary for Link AP-2: AP-2

Inflow Area = 1.814 ac, 15.75% Impervious, Inflow Depth = 3.95" for 25 YR event
Inflow = 8.19 cfs @ 12.09 hrs, Volume= 0.597 af
Primary = 8.19 cfs @ 12.09 hrs, Volume= 0.597 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=837,449 sf 2.76% Impervious Runoff Depth=5.17"
Flow Length=1,345' Tc=19.9 min CN=84 Runoff=77.13 cfs 8.280 af

Subcatchment EDA-2: EDA-2 Runoff Area=51,041 sf 19.77% Impervious Runoff Depth=4.72"
Tc=6.0 min UI Adjusted CN=80 Runoff=6.29 cfs 0.461 af

Subcatchment EDA-3: EDA-3 Runoff Area=27,957 sf 8.40% Impervious Runoff Depth=4.61"
Tc=6.0 min UI Adjusted CN=79 Runoff=3.37 cfs 0.247 af

Link AP-1: AP-1 Inflow=77.13 cfs 8.280 af
Primary=77.13 cfs 8.280 af

Link AP-2: AP-2 Inflow=9.66 cfs 0.708 af
Primary=9.66 cfs 0.708 af

Total Runoff Area = 21.039 ac Runoff Volume = 8.988 af Average Runoff Depth = 5.13"
96.12% Pervious = 20.223 ac 3.88% Impervious = 0.815 ac

Summary for Subcatchment EDA-1: EDA-1

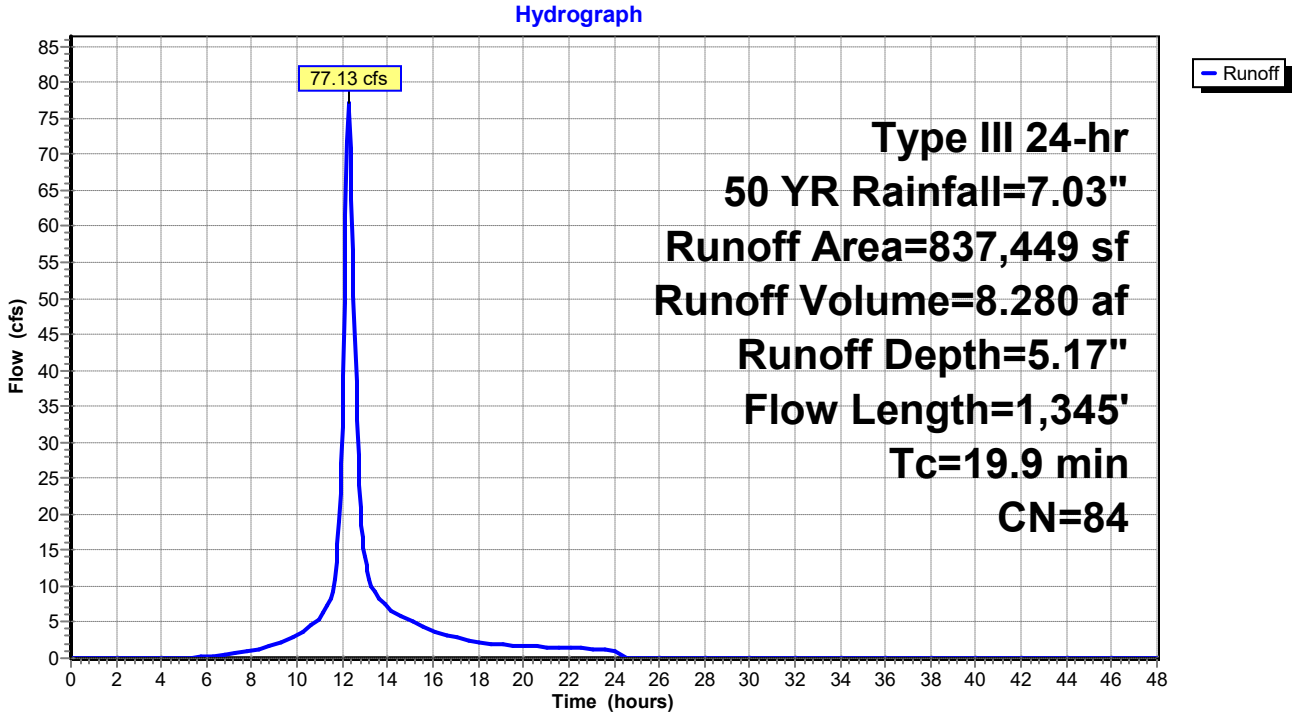
Runoff = 77.13 cfs @ 12.27 hrs, Volume= 8.280 af, Depth= 5.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.03"

	Area (sf)	CN	Description
	70,551	79	Woods, Fair, HSG D
	85,280	78	Meadow, non-grazed, HSG D
	594,254	84	50-75% Grass cover, Fair, HSG D
	64,282	96	Gravel surface, HSG D
*	23,082	98	Bit Pavement, Rooftops, Conc HSG D
	837,449	84	Weighted Average
	814,367		97.24% Pervious Area
	23,082		2.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0400	0.25		**Sheet Flow, A-B** Range n= 0.130 P2= 3.18"
13.3	1,245	0.0500	1.57		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
19.9	1,345	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

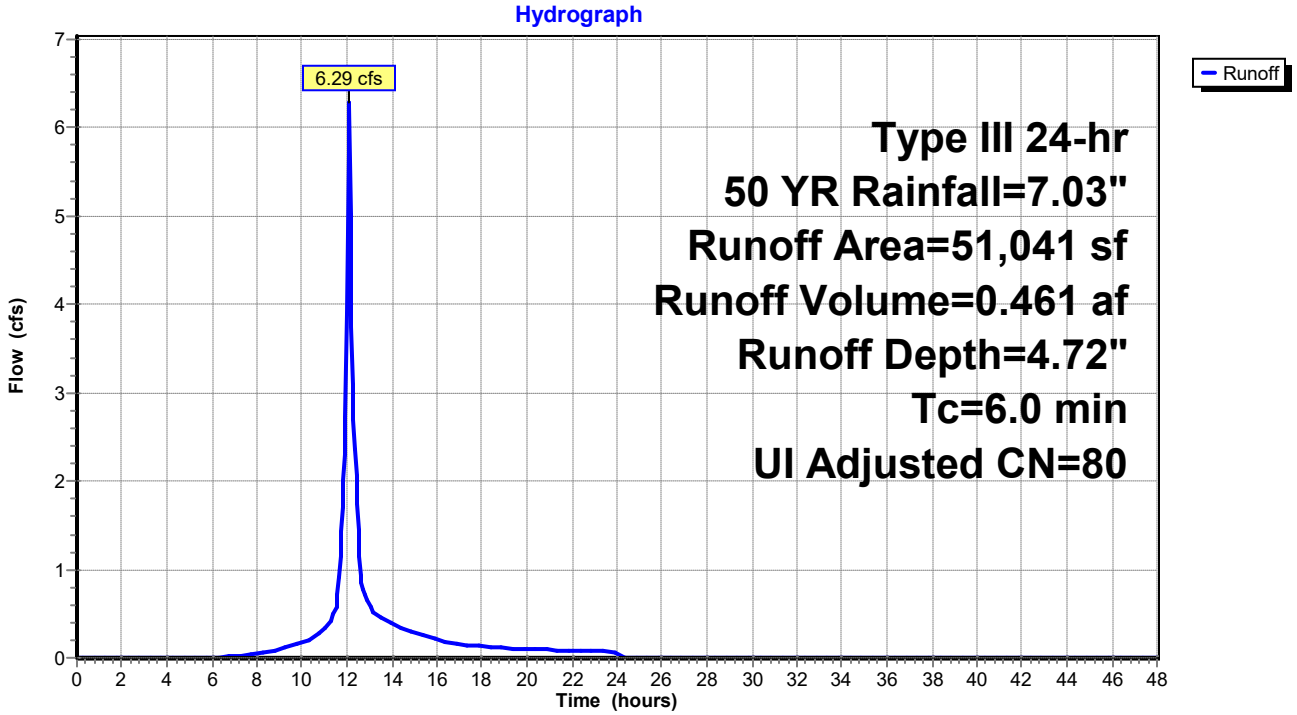
Runoff = 6.29 cfs @ 12.09 hrs, Volume= 0.461 af, Depth= 4.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.03"

Area (sf)	CN	Adj	Description
7,013	79		Woods, Fair, HSG D
33,937	78		Meadow, non-grazed, HSG D
10,091	98		Unconnected pavement, HSG D
51,041	82	80	Weighted Average, UI Adjusted
40,950			80.23% Pervious Area
10,091			19.77% Impervious Area
10,091			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EDA-2: EDA-2



Summary for Subcatchment EDA-3: EDA-3

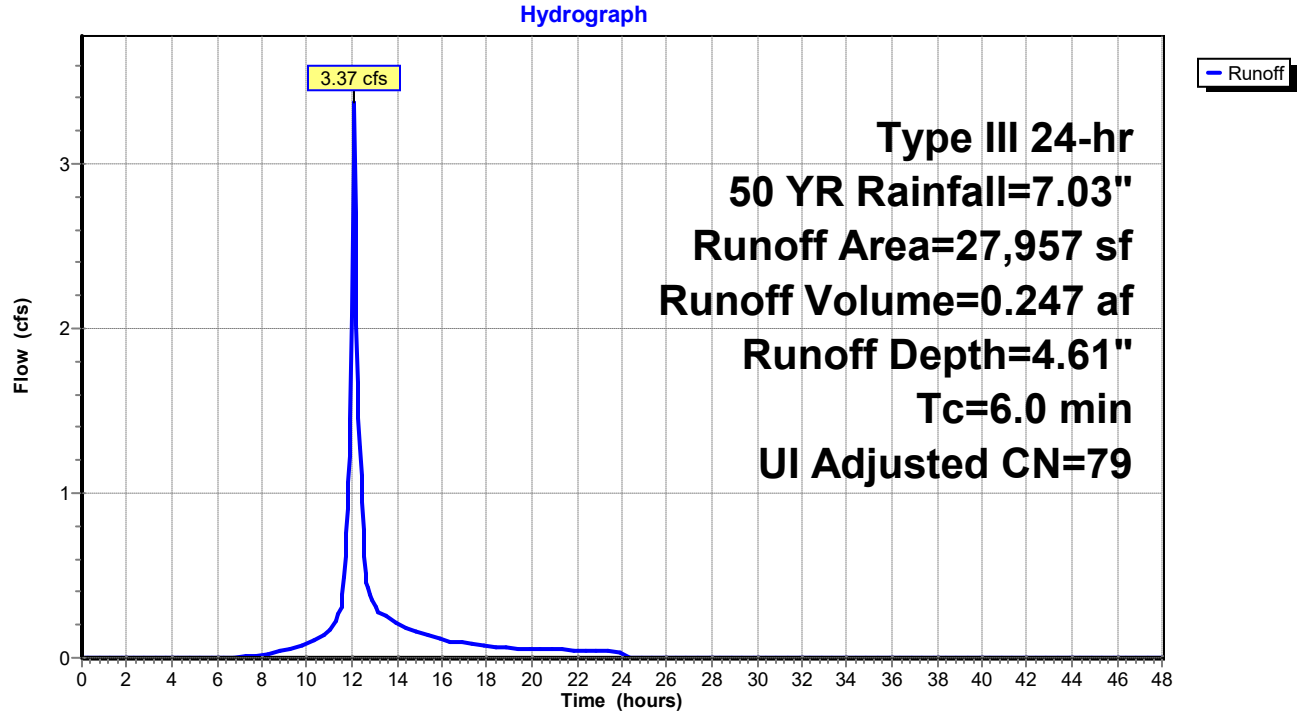
Runoff = 3.37 cfs @ 12.09 hrs, Volume= 0.247 af, Depth= 4.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.03"

Area (sf)	CN	Adj	Description
10,629	79		Woods, Fair, HSG D
14,980	78		Meadow, non-grazed, HSG D
2,348	98		Unconnected pavement, HSG D
27,957	80	79	Weighted Average, UI Adjusted
25,609			91.60% Pervious Area
2,348			8.40% Impervious Area
2,348			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EDA-3: EDA-3

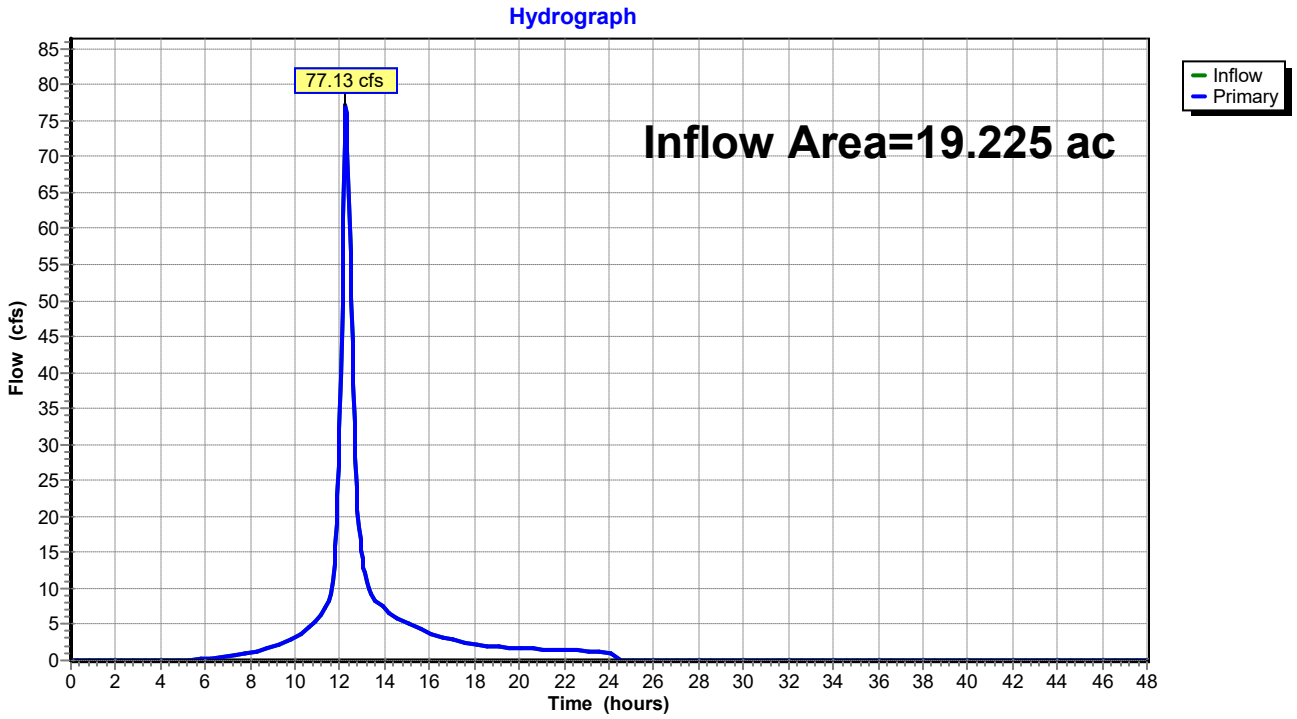


Summary for Link AP-1: AP-1

Inflow Area = 19.225 ac, 2.76% Impervious, Inflow Depth = 5.17" for 50 YR event
Inflow = 77.13 cfs @ 12.27 hrs, Volume= 8.280 af
Primary = 77.13 cfs @ 12.27 hrs, Volume= 8.280 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

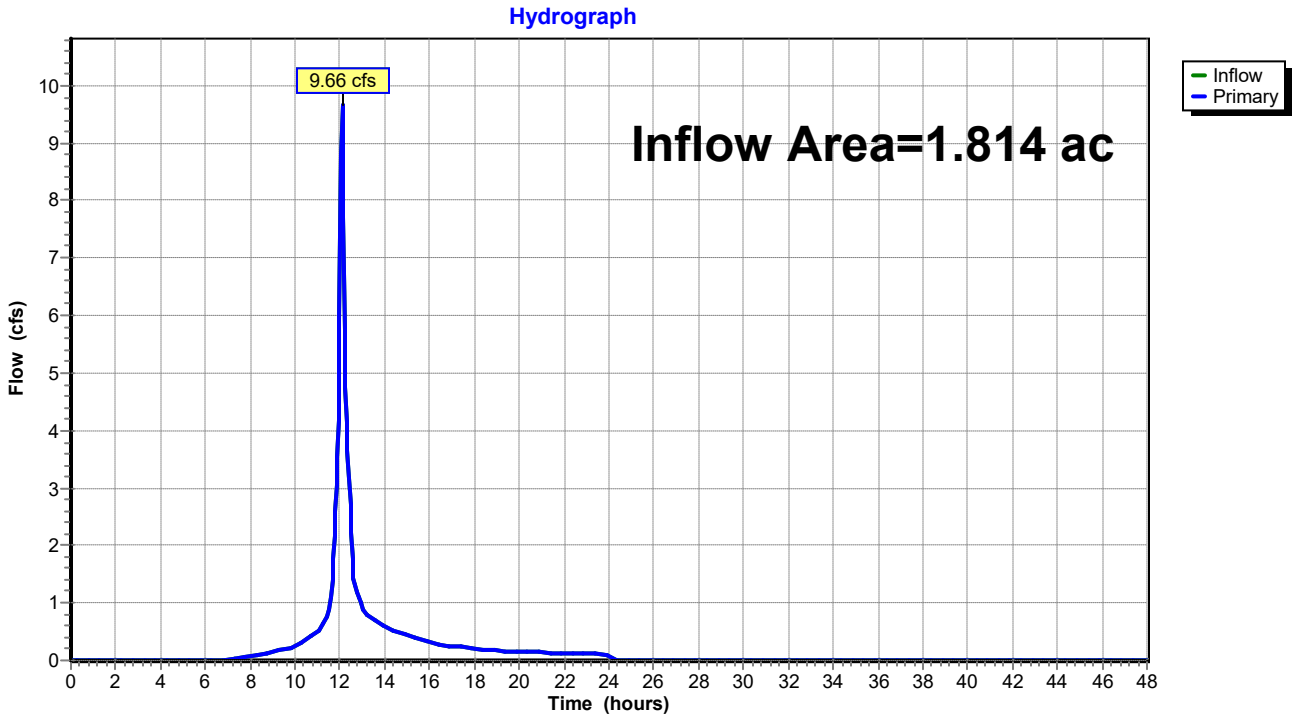


Summary for Link AP-2: AP-2

Inflow Area = 1.814 ac, 15.75% Impervious, Inflow Depth = 4.68" for 50 YR event
Inflow = 9.66 cfs @ 12.09 hrs, Volume= 0.708 af
Primary = 9.66 cfs @ 12.09 hrs, Volume= 0.708 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=837,449 sf 2.76% Impervious Runoff Depth=5.99"
Flow Length=1,345' Tc=19.9 min CN=84 Runoff=88.84 cfs 9.596 af

Subcatchment EDA-2: EDA-2 Runoff Area=51,041 sf 19.77% Impervious Runoff Depth=5.52"
Tc=6.0 min UI Adjusted CN=80 Runoff=7.31 cfs 0.539 af

Subcatchment EDA-3: EDA-3 Runoff Area=27,957 sf 8.40% Impervious Runoff Depth=5.41"
Tc=6.0 min UI Adjusted CN=79 Runoff=3.93 cfs 0.289 af

Link AP-1: AP-1 Inflow=88.84 cfs 9.596 af
Primary=88.84 cfs 9.596 af

Link AP-2: AP-2 Inflow=11.24 cfs 0.828 af
Primary=11.24 cfs 0.828 af

Total Runoff Area = 21.039 ac Runoff Volume = 10.424 af Average Runoff Depth = 5.95"
96.12% Pervious = 20.223 ac 3.88% Impervious = 0.815 ac

Summary for Subcatchment EDA-1: EDA-1

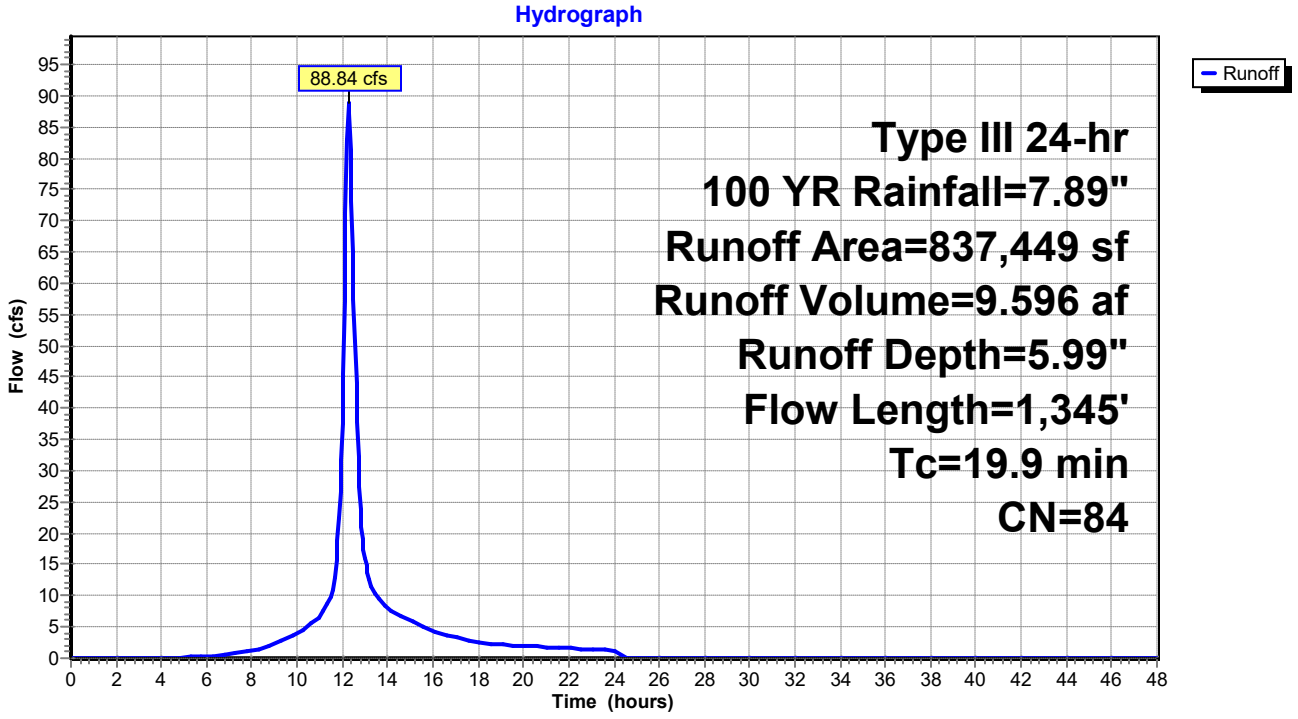
Runoff = 88.84 cfs @ 12.27 hrs, Volume= 9.596 af, Depth= 5.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.89"

	Area (sf)	CN	Description
	70,551	79	Woods, Fair, HSG D
	85,280	78	Meadow, non-grazed, HSG D
	594,254	84	50-75% Grass cover, Fair, HSG D
	64,282	96	Gravel surface, HSG D
*	23,082	98	Bit Pavement, Rooftops, Conc HSG D
	837,449	84	Weighted Average
	814,367		97.24% Pervious Area
	23,082		2.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0400	0.25		**Sheet Flow, A-B** Range n= 0.130 P2= 3.18"
13.3	1,245	0.0500	1.57		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
19.9	1,345	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

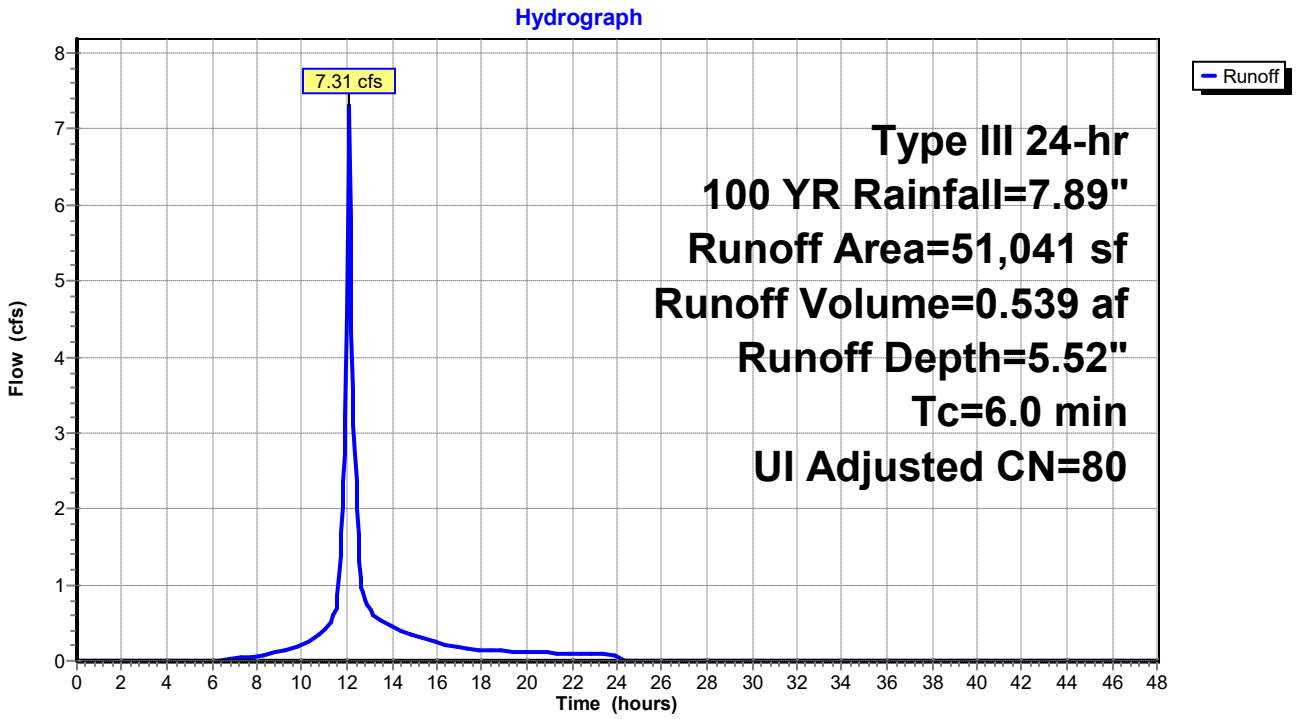
Runoff = 7.31 cfs @ 12.09 hrs, Volume= 0.539 af, Depth= 5.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.89"

Area (sf)	CN	Adj	Description
7,013	79		Woods, Fair, HSG D
33,937	78		Meadow, non-grazed, HSG D
10,091	98		Unconnected pavement, HSG D
51,041	82	80	Weighted Average, UI Adjusted
40,950			80.23% Pervious Area
10,091			19.77% Impervious Area
10,091			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EDA-2: EDA-2



Summary for Subcatchment EDA-3: EDA-3

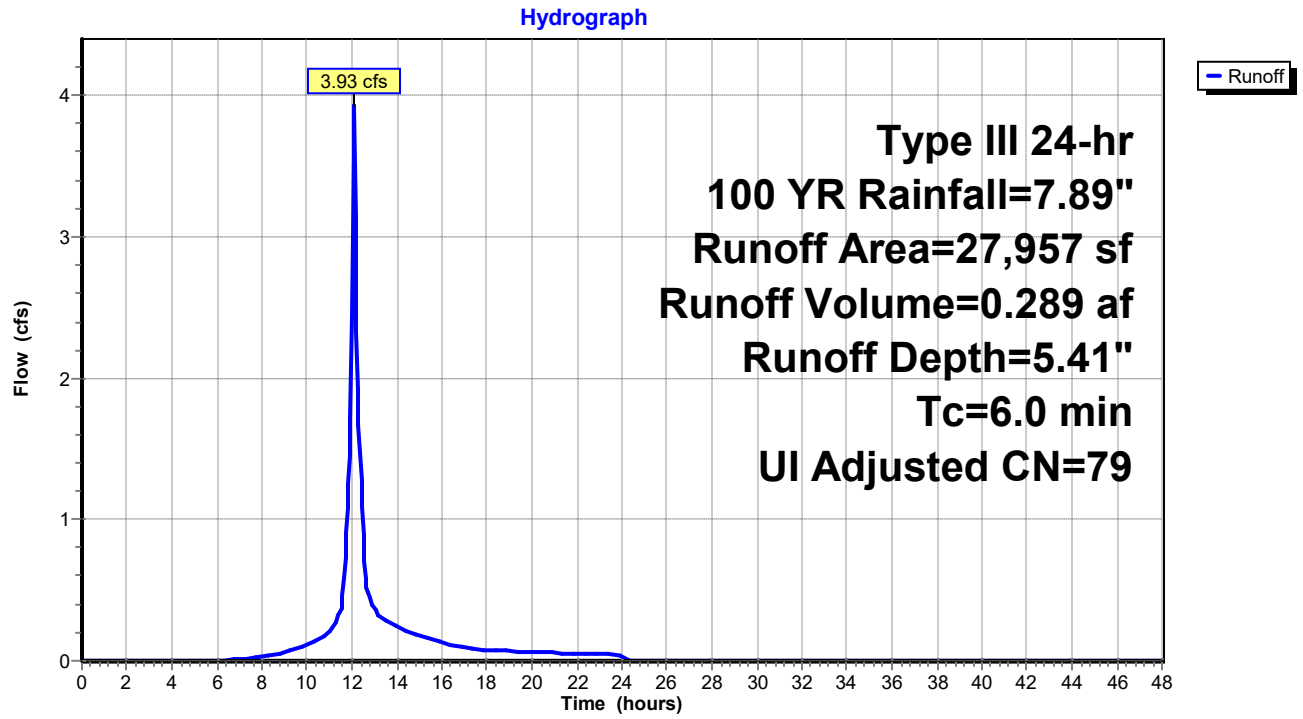
Runoff = 3.93 cfs @ 12.09 hrs, Volume= 0.289 af, Depth= 5.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.89"

Area (sf)	CN	Adj	Description
10,629	79		Woods, Fair, HSG D
14,980	78		Meadow, non-grazed, HSG D
2,348	98		Unconnected pavement, HSG D
27,957	80	79	Weighted Average, UI Adjusted
25,609			91.60% Pervious Area
2,348			8.40% Impervious Area
2,348			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EDA-3: EDA-3

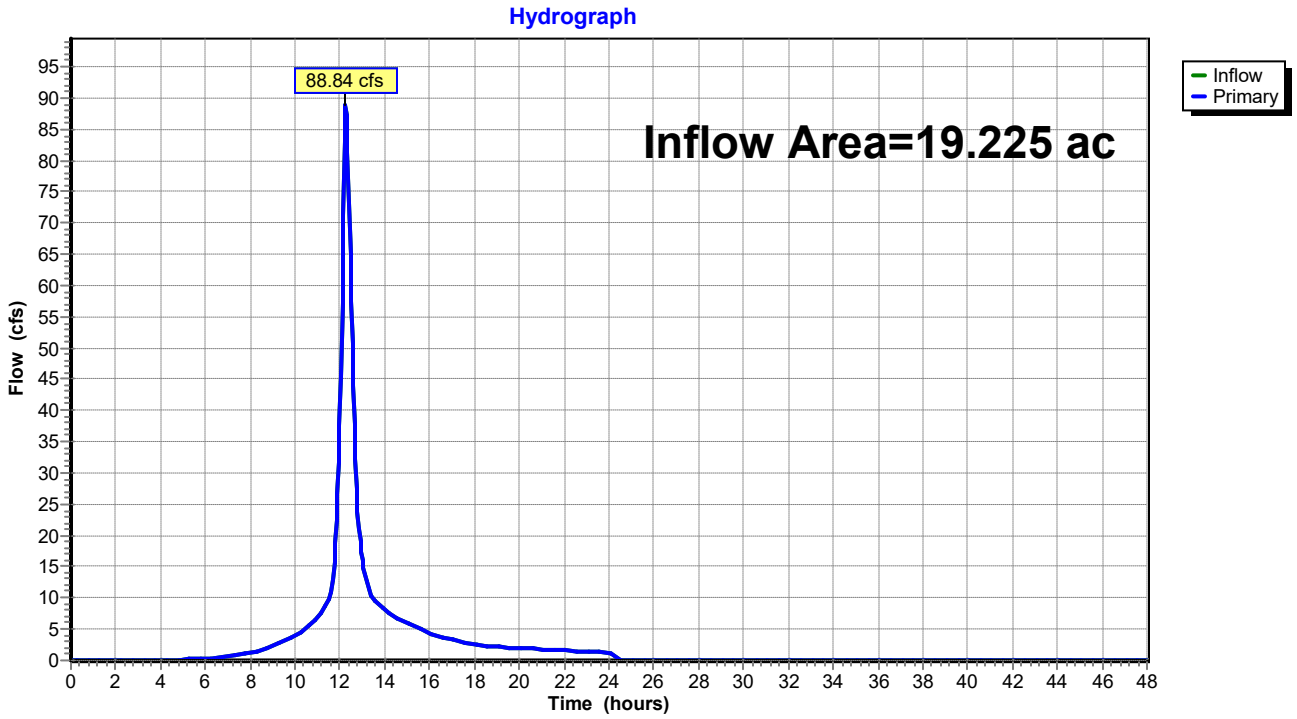


Summary for Link AP-1: AP-1

Inflow Area = 19.225 ac, 2.76% Impervious, Inflow Depth = 5.99" for 100 YR event
Inflow = 88.84 cfs @ 12.27 hrs, Volume= 9.596 af
Primary = 88.84 cfs @ 12.27 hrs, Volume= 9.596 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

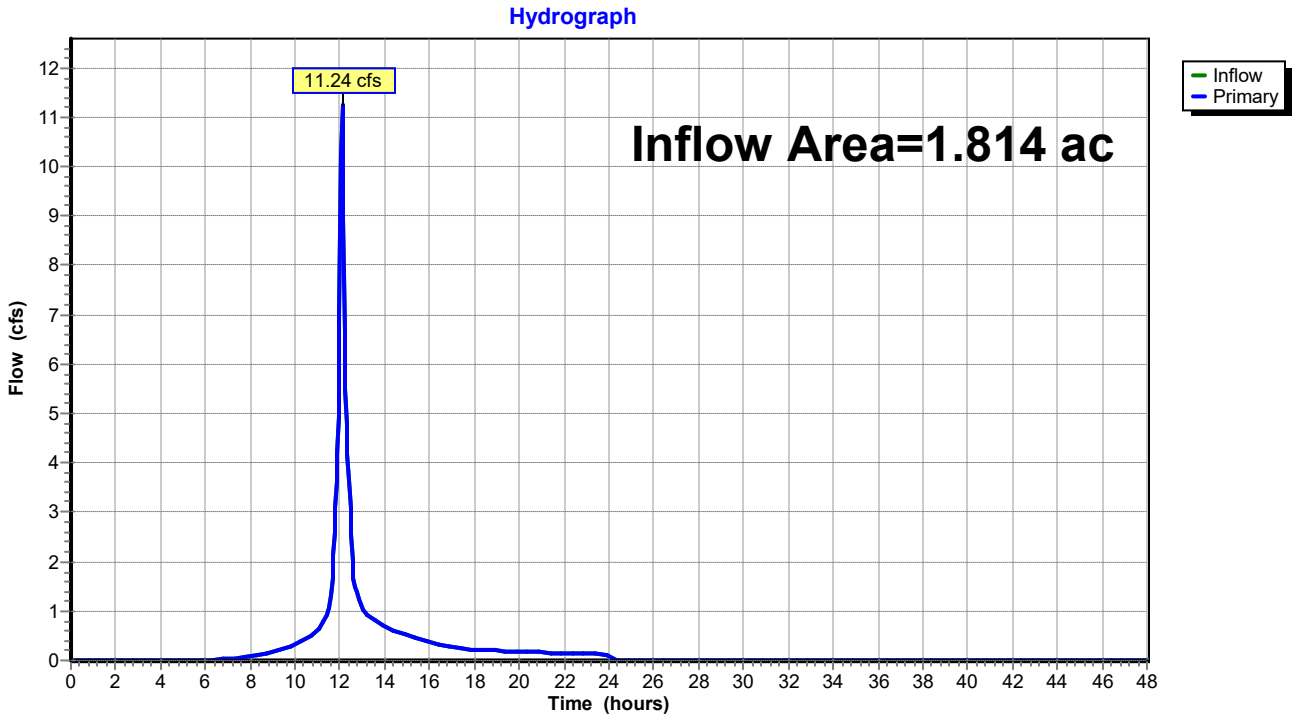


Summary for Link AP-2: AP-2

Inflow Area = 1.814 ac, 15.75% Impervious, Inflow Depth = 5.48" for 100 YR event
Inflow = 11.24 cfs @ 12.09 hrs, Volume= 0.828 af
Primary = 11.24 cfs @ 12.09 hrs, Volume= 0.828 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



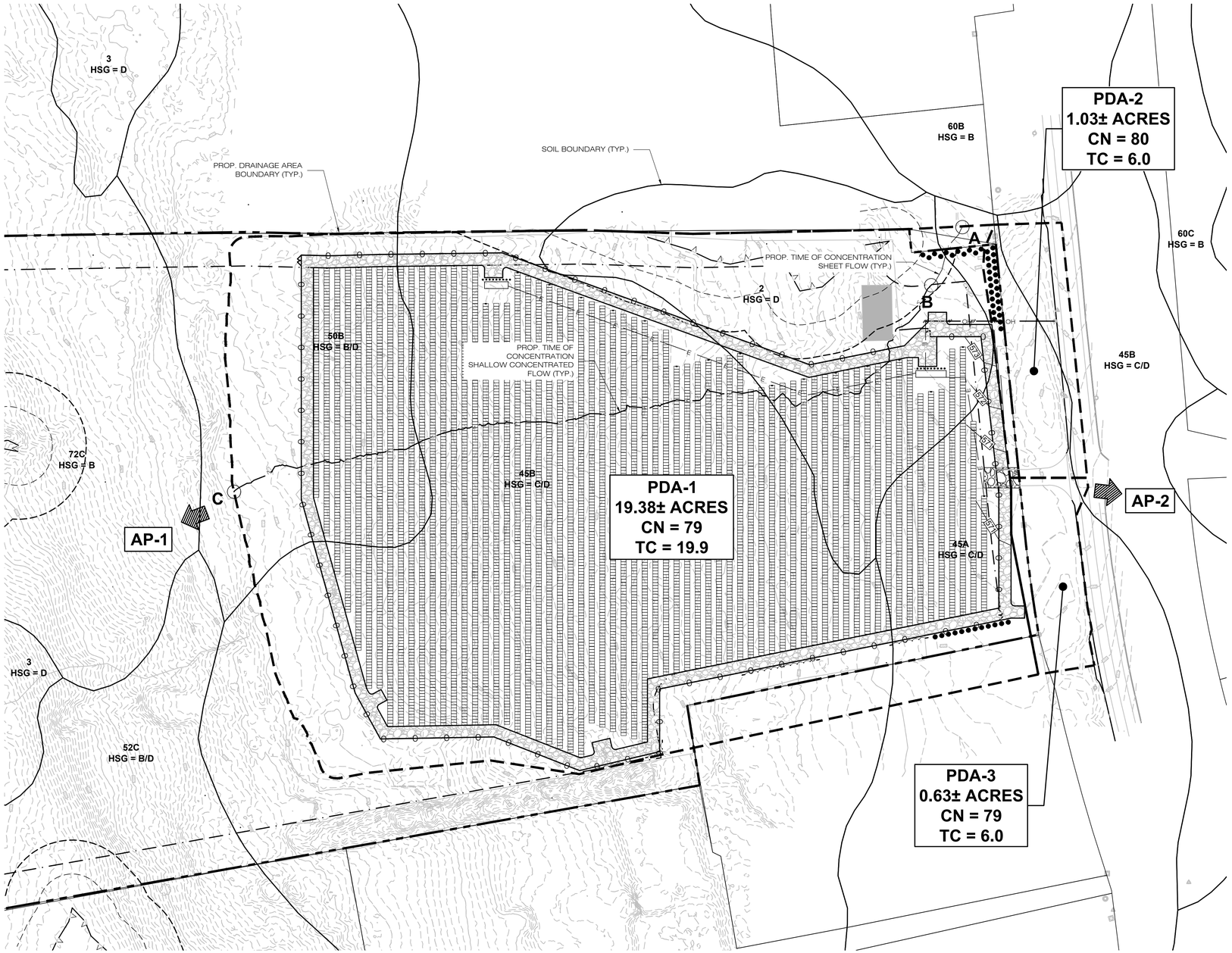
APPENDIX C: PROPOSED DRAINAGE AREA MAP (PDA-1) & HYDROLOGIC COMPUTATION (HYDROCAD)

PROPOSED DRAINAGE AREAS

	TOTAL AREA (ACRES)	COMPOSITE CN	TC (MINS.)
PDA-1	19.38	79	19.5
PDA-2	1.03	80	6.0
PDA-3	0.63	79	6.0

PROPOSED CONDITION PEAK FLOWS

ANALYSIS POINT	2-YEAR (CFS)	25-YEAR (CFS)	50-YEAR (CFS)	100-YEAR (CFS)
AP-1	22.67	59.44	70.34	82.11
AP-2	2.93	7.50	8.84	10.29



1 PDA-1 **PROPOSED DRAINAGE AREA MAP**
SCALE : 1" = 80'-0"

80 0 40 80 160
(IN FEET) 1 inch = 80 ft.

524 NLR LLC

9 NOVELTY LANE UNIT 9B
ESSEX, CT 06426

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMIT SET

NO	DATE	REVISION
0	1/27/23	FOR REVIEW: KAM
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: FIVE J, LLC

ADDRESS: 524 NEW LONDON RD COLCHESTER, CT

COLCHESTER SOLAR

SITE ADDRESS: 524 NEW LONDON RD COLCHESTER. CT

APT FILING NUMBER: CT580160

DRAWN BY: JAB

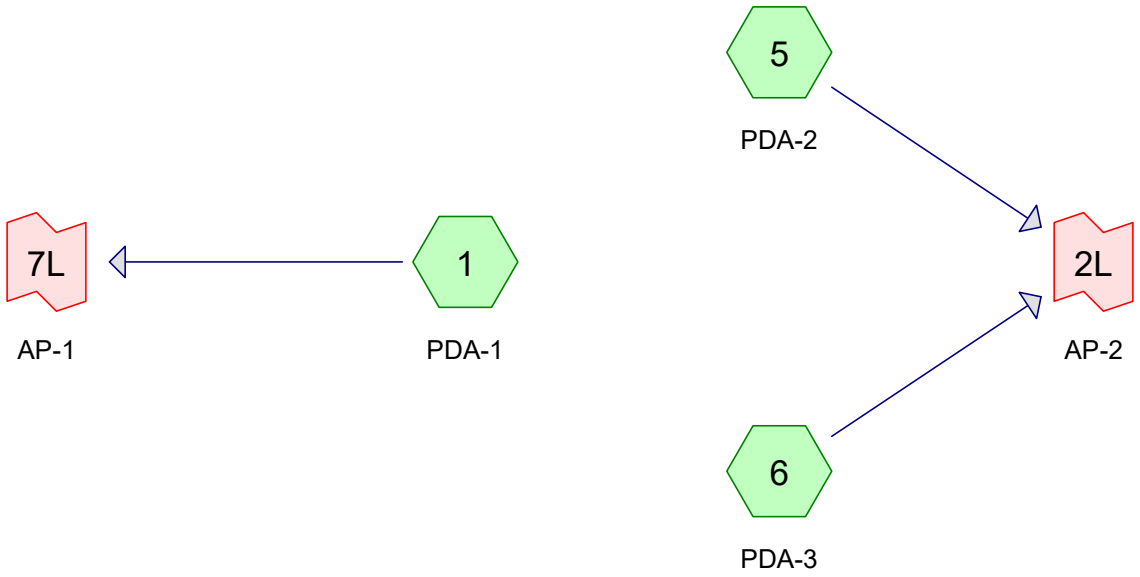
DATE: 1/27/23 CHECKED BY: KAM

SHEET TITLE:

PROPOSED DRAINAGE AREA MAP

SHEET NUMBER:

PDA-1



Subcat Reach Pond Link

Routing Diagram for CT580160_Colchester - PR
Prepared by {enter your company name here}, Printed 1/27/2023
HydroCAD® 10.00-26 s/n 07402 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.393	96	Gravel surface, HSG D (1)
18.481	78	Meadow, non-grazed, HSG D (1, 5, 6)
0.082	98	Roofs, HSG D (1)
0.304	98	Unconnected pavement, HSG D (1, 5, 6)
0.778	79	Woods, Fair, HSG D (1, 5, 6)
21.039	**80**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
21.039	HSG D	1, 5, 6
0.000	Other	
21.039		**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: PDA-1 Runoff Area=844,091 sf 0.52% Impervious Runoff Depth=1.50"
Flow Length=1,345' Tc=19.9 min CN=79 Runoff=22.67 cfs 2.429 af

Subcatchment 5: PDA-2 Runoff Area=44,934 sf 22.46% Impervious Runoff Depth=1.57"
Tc=6.0 min UI Adjusted CN=80 Runoff=1.86 cfs 0.135 af

Subcatchment 6: PDA-3 Runoff Area=27,422 sf 8.56% Impervious Runoff Depth=1.50"
Tc=6.0 min UI Adjusted CN=79 Runoff=1.08 cfs 0.079 af

Link 2L: AP-2 Inflow=2.93 cfs 0.214 af
Primary=2.93 cfs 0.214 af

Link 7L: AP-1 Inflow=22.67 cfs 2.429 af
Primary=22.67 cfs 2.429 af

Total Runoff Area = 21.039 ac Runoff Volume = 2.643 af Average Runoff Depth = 1.51"
98.16% Pervious = 20.653 ac 1.84% Impervious = 0.386 ac

Summary for Subcatchment 1: PDA-1

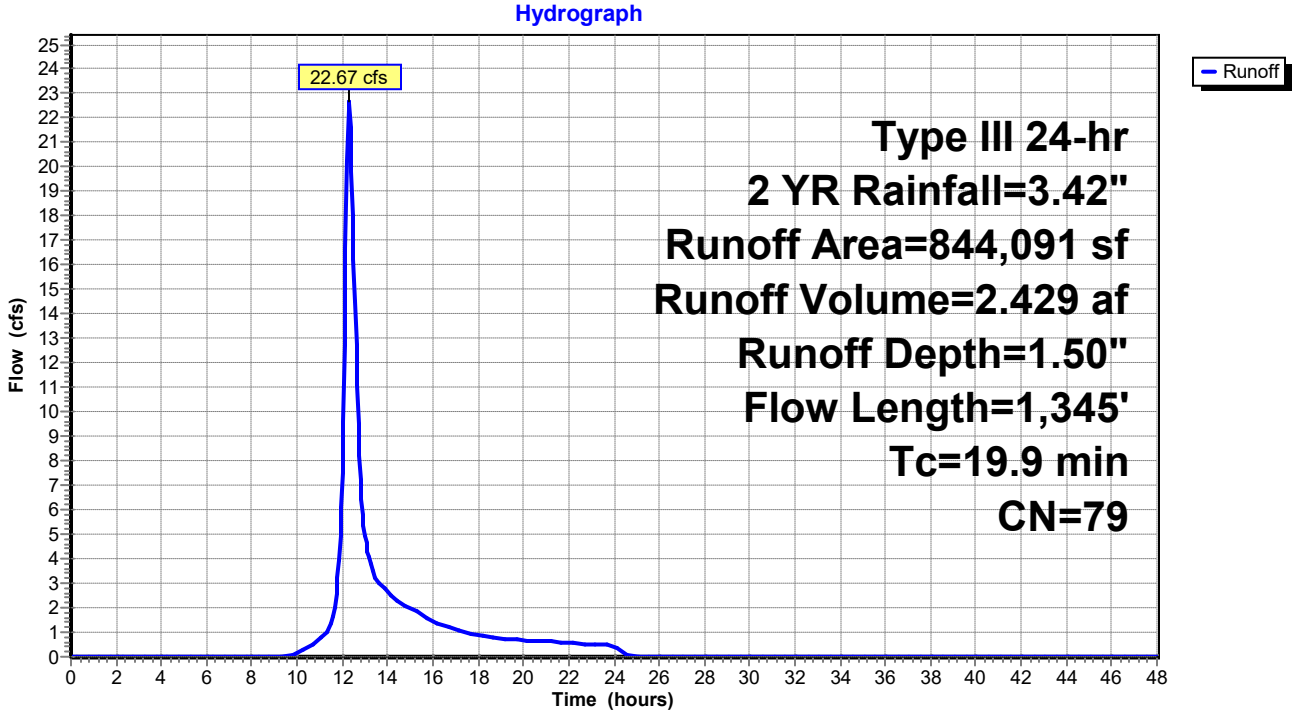
Runoff = 22.67 cfs @ 12.29 hrs, Volume= 2.429 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.42"

Area (sf)	CN	Description
16,248	79	Woods, Fair, HSG D
762,770	78	Meadow, non-grazed, HSG D
60,692	96	Gravel surface, HSG D
3,581	98	Roofs, HSG D
800	98	Unconnected pavement, HSG D
844,091	79	Weighted Average
839,710		99.48% Pervious Area
4,381		0.52% Impervious Area
800		18.26% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0400	0.25		**Sheet Flow, A-B** Range n= 0.130 P2= 3.18"
13.3	1,245	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.9	1,345	Total			

Subcatchment 1: PDA-1



Summary for Subcatchment 5: PDA-2

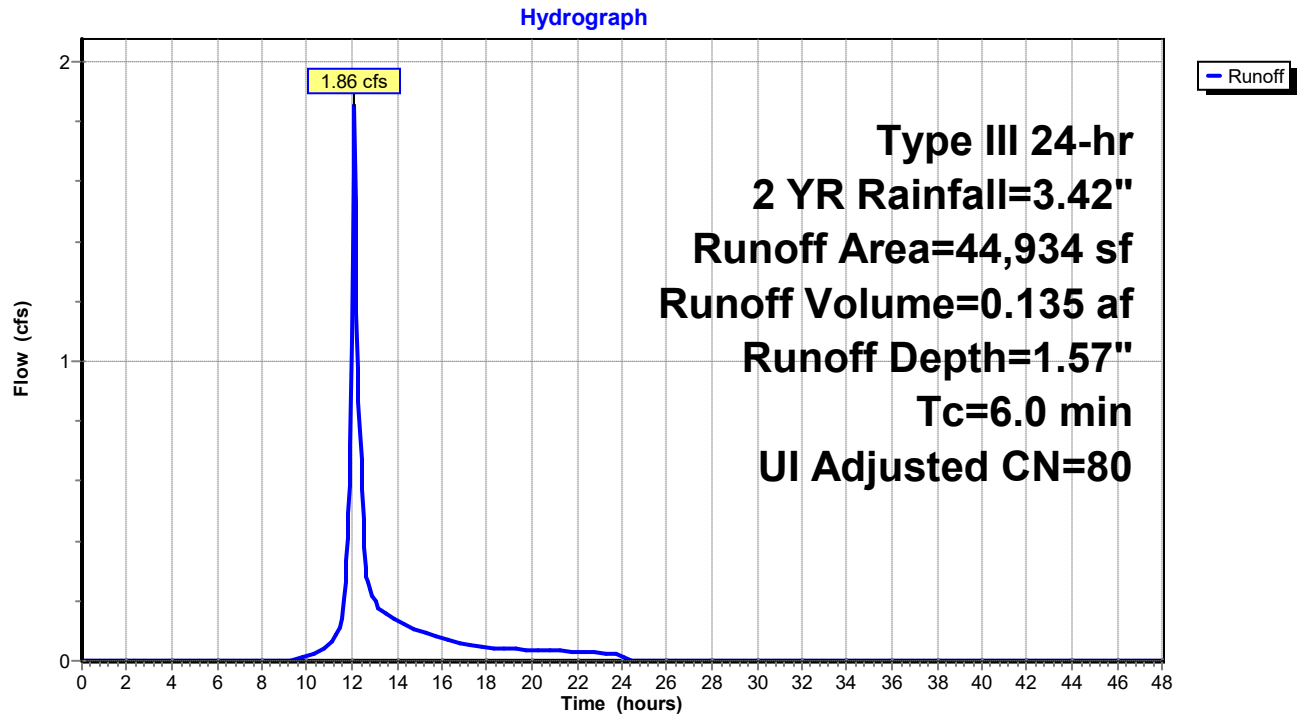
Runoff = 1.86 cfs @ 12.10 hrs, Volume= 0.135 af, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.42"

Area (sf)	CN	Adj	Description
7,013	79		Woods, Fair, HSG D
27,830	78		Meadow, non-grazed, HSG D
10,091	98		Unconnected pavement, HSG D
44,934	83	80	Weighted Average, UI Adjusted
34,843			77.54% Pervious Area
10,091			22.46% Impervious Area
10,091			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5: PDA-2



Summary for Subcatchment 6: PDA-3

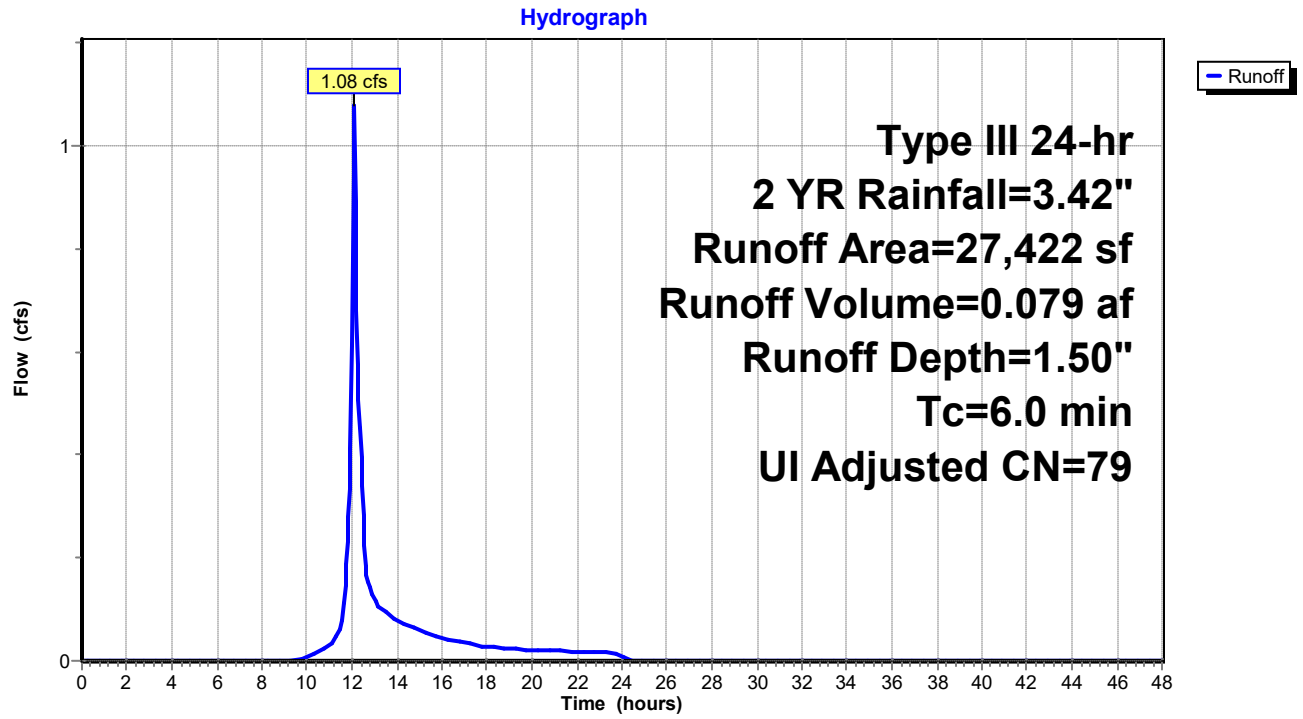
Runoff = 1.08 cfs @ 12.10 hrs, Volume= 0.079 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.42"

Area (sf)	CN	Adj	Description
10,629	79		Woods, Fair, HSG D
14,445	78		Meadow, non-grazed, HSG D
2,348	98		Unconnected pavement, HSG D
27,422	80	79	Weighted Average, UI Adjusted
25,074			91.44% Pervious Area
2,348			8.56% Impervious Area
2,348			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6: PDA-3

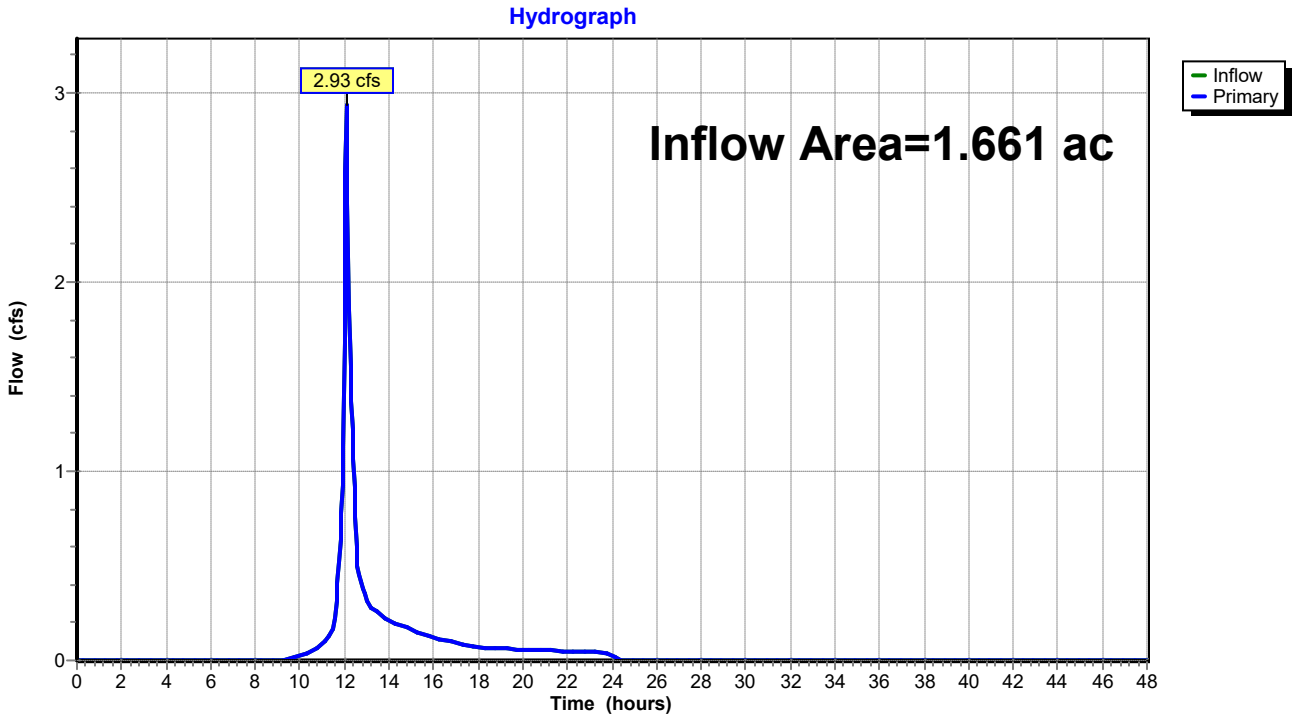


Summary for Link 2L: AP-2

Inflow Area = 1.661 ac, 17.19% Impervious, Inflow Depth = 1.55" for 2 YR event
Inflow = 2.93 cfs @ 12.10 hrs, Volume= 0.214 af
Primary = 2.93 cfs @ 12.10 hrs, Volume= 0.214 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2L: AP-2

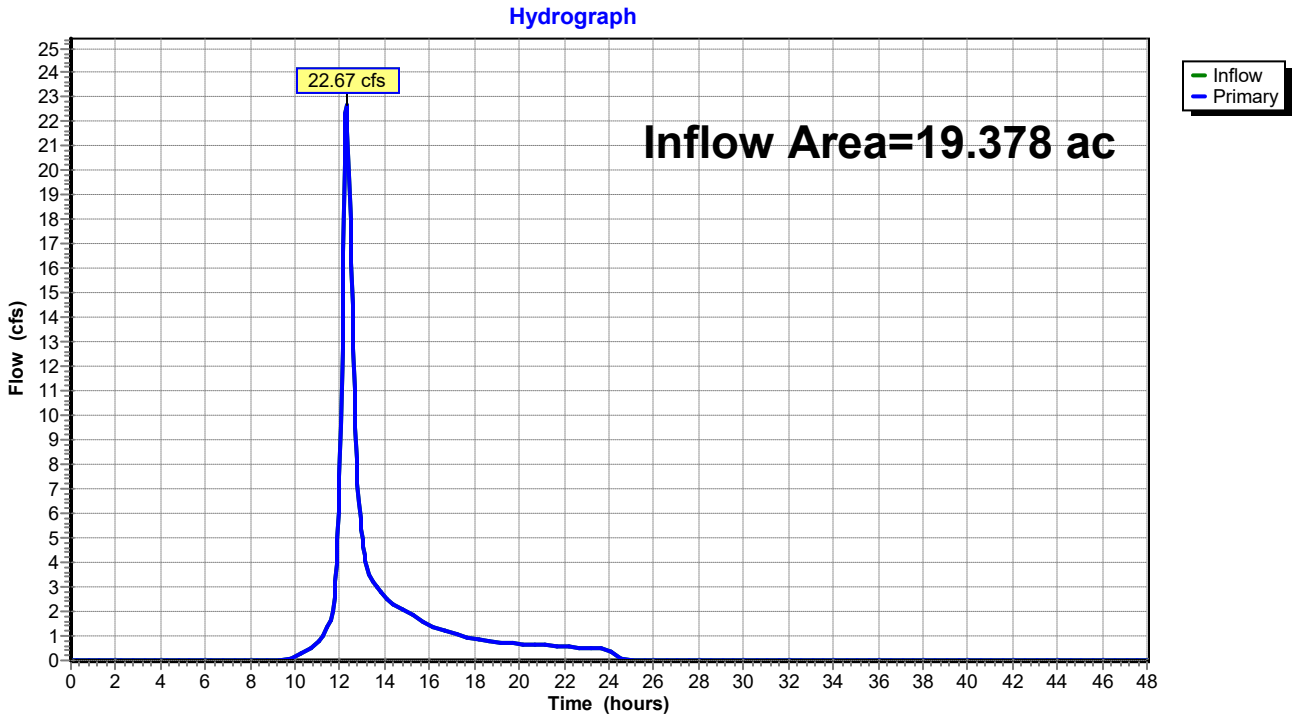


Summary for Link 7L: AP-1

Inflow Area = 19.378 ac, 0.52% Impervious, Inflow Depth = 1.50" for 2 YR event
Inflow = 22.67 cfs @ 12.29 hrs, Volume= 2.429 af
Primary = 22.67 cfs @ 12.29 hrs, Volume= 2.429 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 7L: AP-1



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: PDA-1 Runoff Area=844,091 sf 0.52% Impervious Runoff Depth=3.89"
Flow Length=1,345' Tc=19.9 min CN=79 Runoff=59.44 cfs 6.275 af

Subcatchment 5: PDA-2 Runoff Area=44,934 sf 22.46% Impervious Runoff Depth=3.99"
Tc=6.0 min UI Adjusted CN=80 Runoff=4.70 cfs 0.343 af

Subcatchment 6: PDA-3 Runoff Area=27,422 sf 8.56% Impervious Runoff Depth=3.89"
Tc=6.0 min UI Adjusted CN=79 Runoff=2.80 cfs 0.204 af

Link 2L: AP-2 Inflow=7.50 cfs 0.547 af
Primary=7.50 cfs 0.547 af

Link 7L: AP-1 Inflow=59.44 cfs 6.275 af
Primary=59.44 cfs 6.275 af

Total Runoff Area = 21.039 ac Runoff Volume = 6.821 af Average Runoff Depth = 3.89"
98.16% Pervious = 20.653 ac 1.84% Impervious = 0.386 ac

Summary for Subcatchment 1: PDA-1

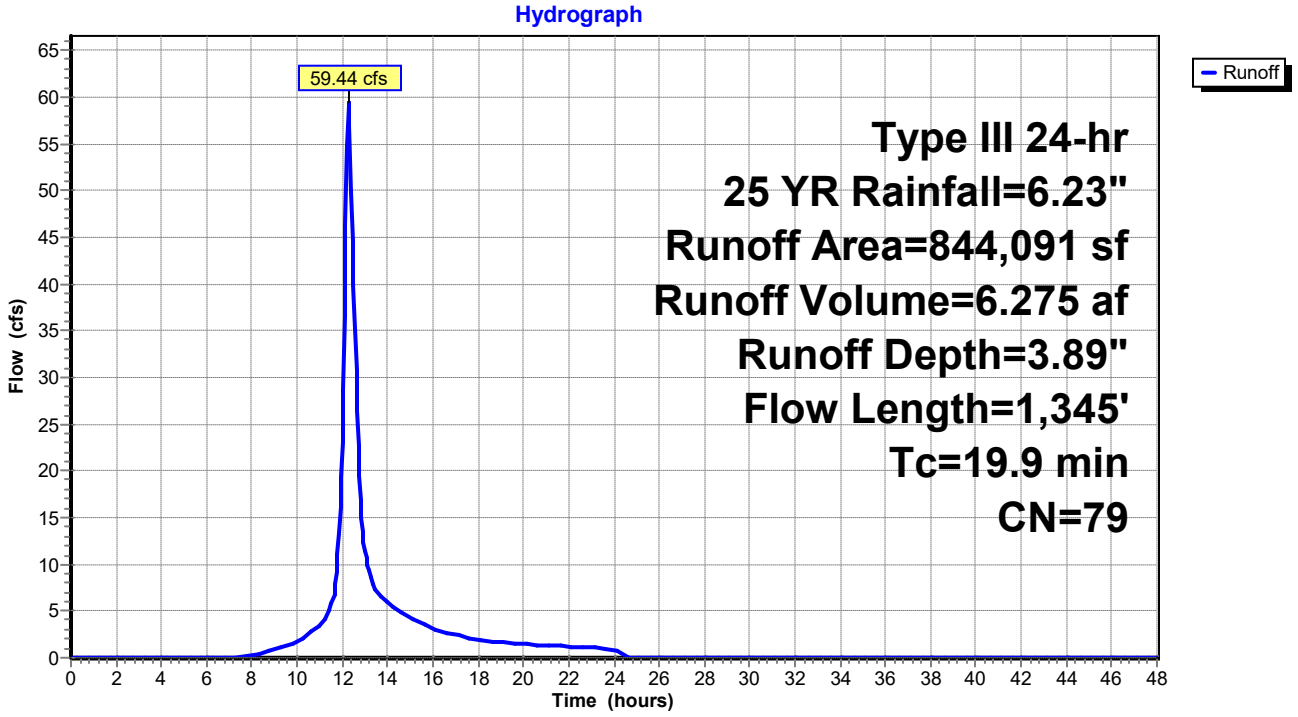
Runoff = 59.44 cfs @ 12.27 hrs, Volume= 6.275 af, Depth= 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.23"

Area (sf)	CN	Description
16,248	79	Woods, Fair, HSG D
762,770	78	Meadow, non-grazed, HSG D
60,692	96	Gravel surface, HSG D
3,581	98	Roofs, HSG D
800	98	Unconnected pavement, HSG D
844,091	79	Weighted Average
839,710		99.48% Pervious Area
4,381		0.52% Impervious Area
800		18.26% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0400	0.25		**Sheet Flow, A-B** Range n= 0.130 P2= 3.18"
13.3	1,245	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.9	1,345	Total			

Subcatchment 1: PDA-1



Summary for Subcatchment 5: PDA-2

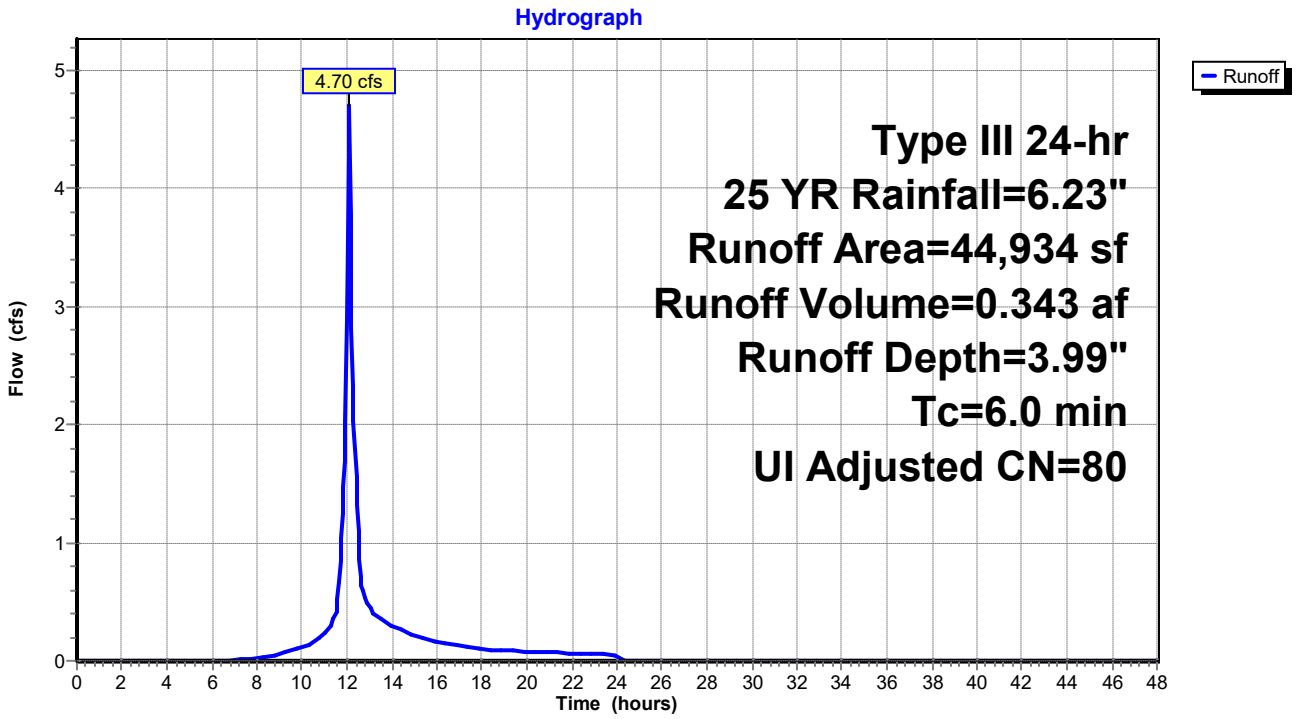
Runoff = 4.70 cfs @ 12.09 hrs, Volume= 0.343 af, Depth= 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.23"

Area (sf)	CN	Adj	Description
7,013	79		Woods, Fair, HSG D
27,830	78		Meadow, non-grazed, HSG D
10,091	98		Unconnected pavement, HSG D
44,934	83	80	Weighted Average, UI Adjusted
34,843			77.54% Pervious Area
10,091			22.46% Impervious Area
10,091			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5: PDA-2



Summary for Subcatchment 6: PDA-3

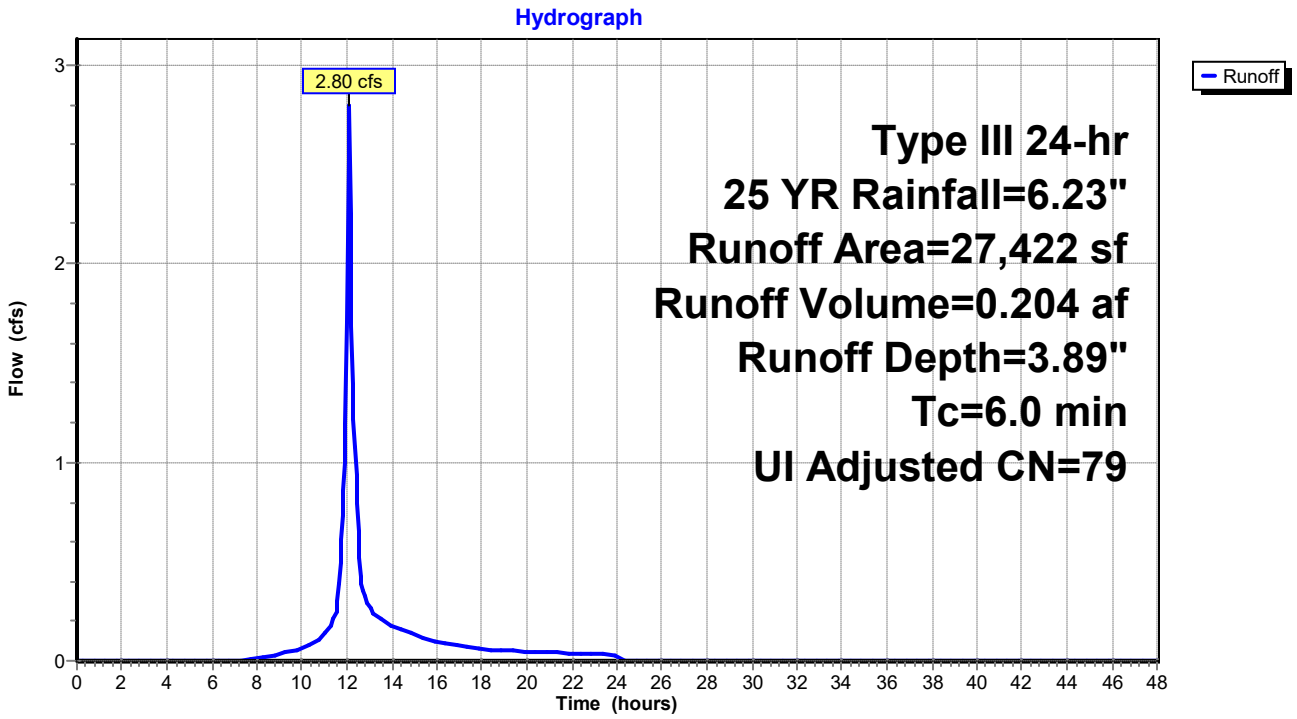
Runoff = 2.80 cfs @ 12.09 hrs, Volume= 0.204 af, Depth= 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.23"

Area (sf)	CN	Adj	Description
10,629	79		Woods, Fair, HSG D
14,445	78		Meadow, non-grazed, HSG D
2,348	98		Unconnected pavement, HSG D
27,422	80	79	Weighted Average, UI Adjusted
25,074			91.44% Pervious Area
2,348			8.56% Impervious Area
2,348			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6: PDA-3

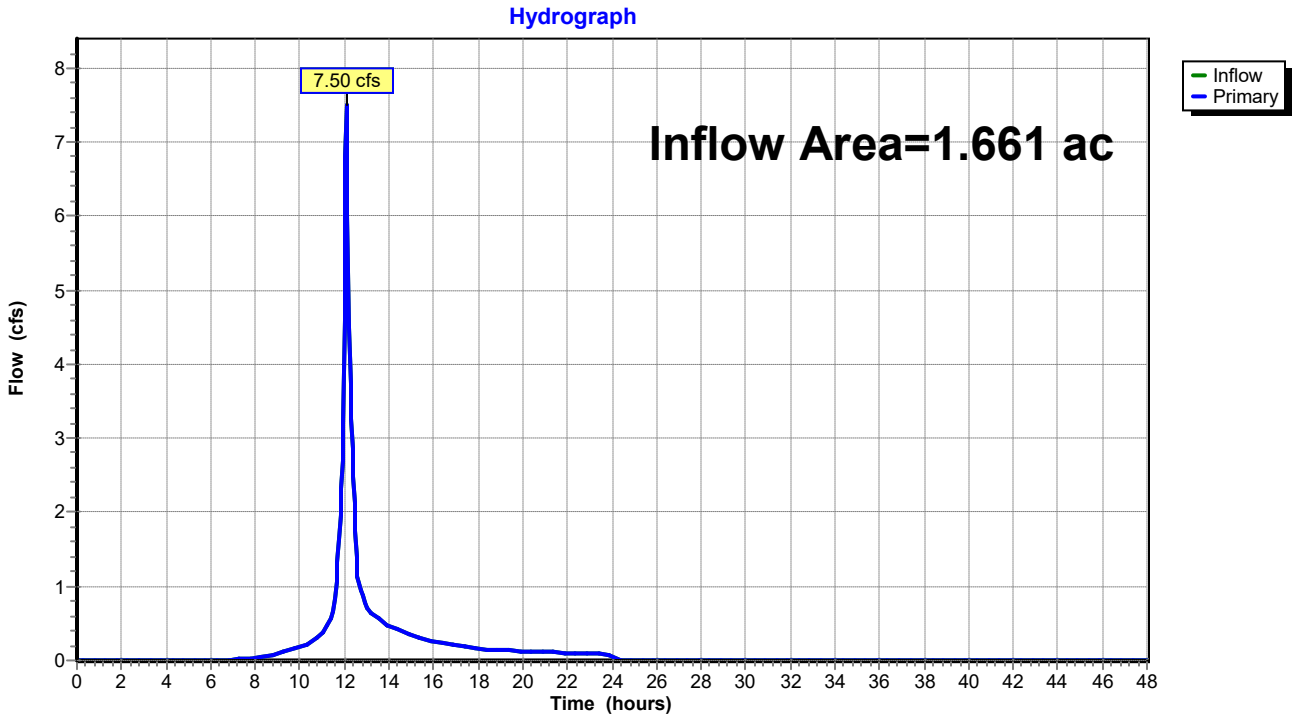


Summary for Link 2L: AP-2

Inflow Area = 1.661 ac, 17.19% Impervious, Inflow Depth = 3.95" for 25 YR event
Inflow = 7.50 cfs @ 12.09 hrs, Volume= 0.547 af
Primary = 7.50 cfs @ 12.09 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2L: AP-2

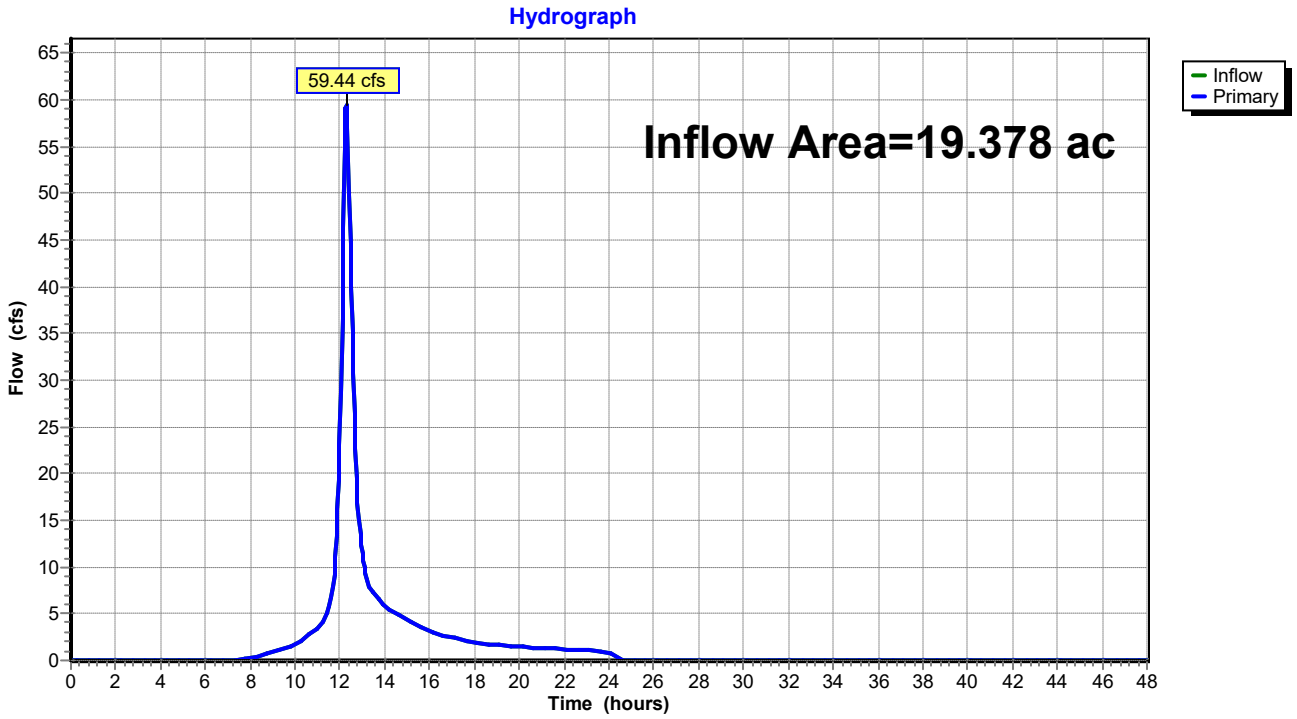


Summary for Link 7L: AP-1

Inflow Area = 19.378 ac, 0.52% Impervious, Inflow Depth = 3.89" for 25 YR event
Inflow = 59.44 cfs @ 12.27 hrs, Volume= 6.275 af
Primary = 59.44 cfs @ 12.27 hrs, Volume= 6.275 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 7L: AP-1



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: PDA-1 Runoff Area=844,091 sf 0.52% Impervious Runoff Depth=4.61"
Flow Length=1,345' Tc=19.9 min CN=79 Runoff=70.34 cfs 7.447 af

Subcatchment 5: PDA-2 Runoff Area=44,934 sf 22.46% Impervious Runoff Depth=4.72"
Tc=6.0 min UI Adjusted CN=80 Runoff=5.53 cfs 0.406 af

Subcatchment 6: PDA-3 Runoff Area=27,422 sf 8.56% Impervious Runoff Depth=4.61"
Tc=6.0 min UI Adjusted CN=79 Runoff=3.31 cfs 0.242 af

Link 2L: AP-2 Inflow=8.84 cfs 0.648 af
Primary=8.84 cfs 0.648 af

Link 7L: AP-1 Inflow=70.34 cfs 7.447 af
Primary=70.34 cfs 7.447 af

Total Runoff Area = 21.039 ac Runoff Volume = 8.095 af Average Runoff Depth = 4.62"
98.16% Pervious = 20.653 ac 1.84% Impervious = 0.386 ac

Summary for Subcatchment 1: PDA-1

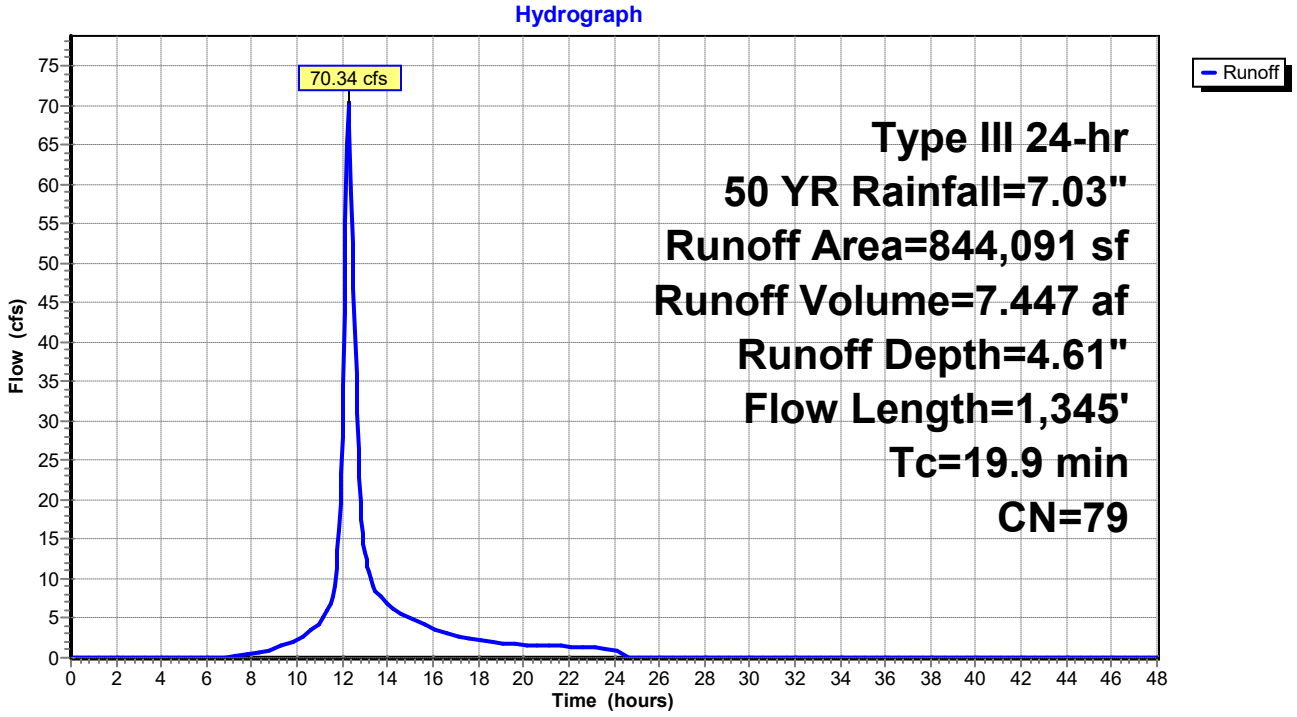
Runoff = 70.34 cfs @ 12.27 hrs, Volume= 7.447 af, Depth= 4.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.03"

Area (sf)	CN	Description
16,248	79	Woods, Fair, HSG D
762,770	78	Meadow, non-grazed, HSG D
60,692	96	Gravel surface, HSG D
3,581	98	Roofs, HSG D
800	98	Unconnected pavement, HSG D
844,091	79	Weighted Average
839,710		99.48% Pervious Area
4,381		0.52% Impervious Area
800		18.26% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0400	0.25		**Sheet Flow, A-B** Range n= 0.130 P2= 3.18"
13.3	1,245	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.9	1,345	Total			

Subcatchment 1: PDA-1



Summary for Subcatchment 5: PDA-2

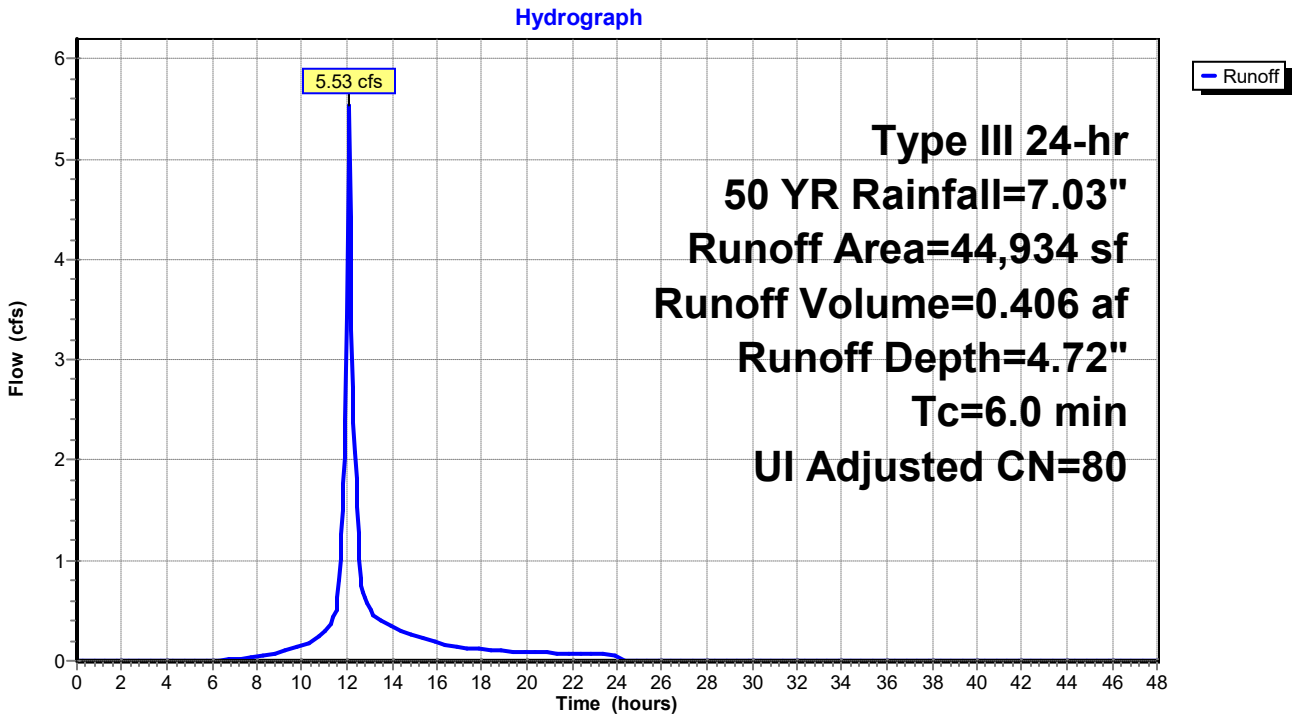
Runoff = 5.53 cfs @ 12.09 hrs, Volume= 0.406 af, Depth= 4.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.03"

Area (sf)	CN	Adj	Description
7,013	79		Woods, Fair, HSG D
27,830	78		Meadow, non-grazed, HSG D
10,091	98		Unconnected pavement, HSG D
44,934	83	80	Weighted Average, UI Adjusted
34,843			77.54% Pervious Area
10,091			22.46% Impervious Area
10,091			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5: PDA-2



Summary for Subcatchment 6: PDA-3

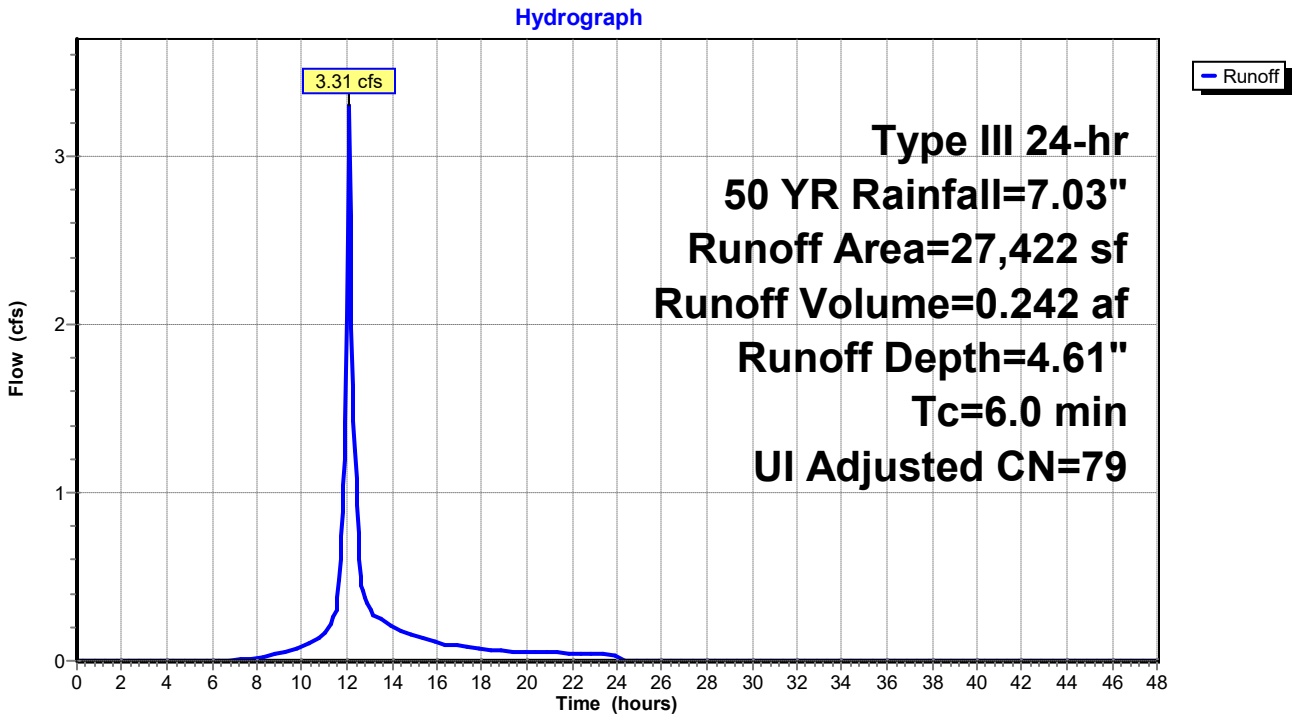
Runoff = 3.31 cfs @ 12.09 hrs, Volume= 0.242 af, Depth= 4.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.03"

Area (sf)	CN	Adj	Description
10,629	79		Woods, Fair, HSG D
14,445	78		Meadow, non-grazed, HSG D
2,348	98		Unconnected pavement, HSG D
27,422	80	79	Weighted Average, UI Adjusted
25,074			91.44% Pervious Area
2,348			8.56% Impervious Area
2,348			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6: PDA-3

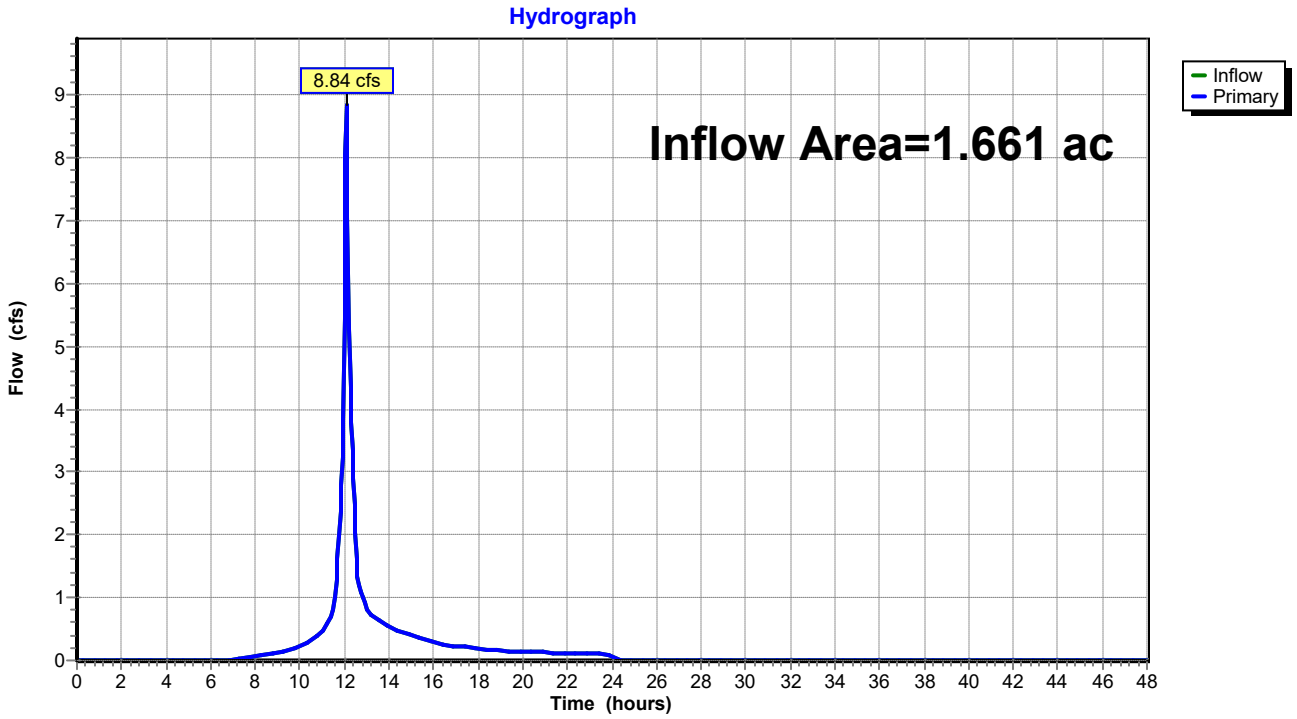


Summary for Link 2L: AP-2

Inflow Area = 1.661 ac, 17.19% Impervious, Inflow Depth = 4.68" for 50 YR event
Inflow = 8.84 cfs @ 12.09 hrs, Volume= 0.648 af
Primary = 8.84 cfs @ 12.09 hrs, Volume= 0.648 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2L: AP-2

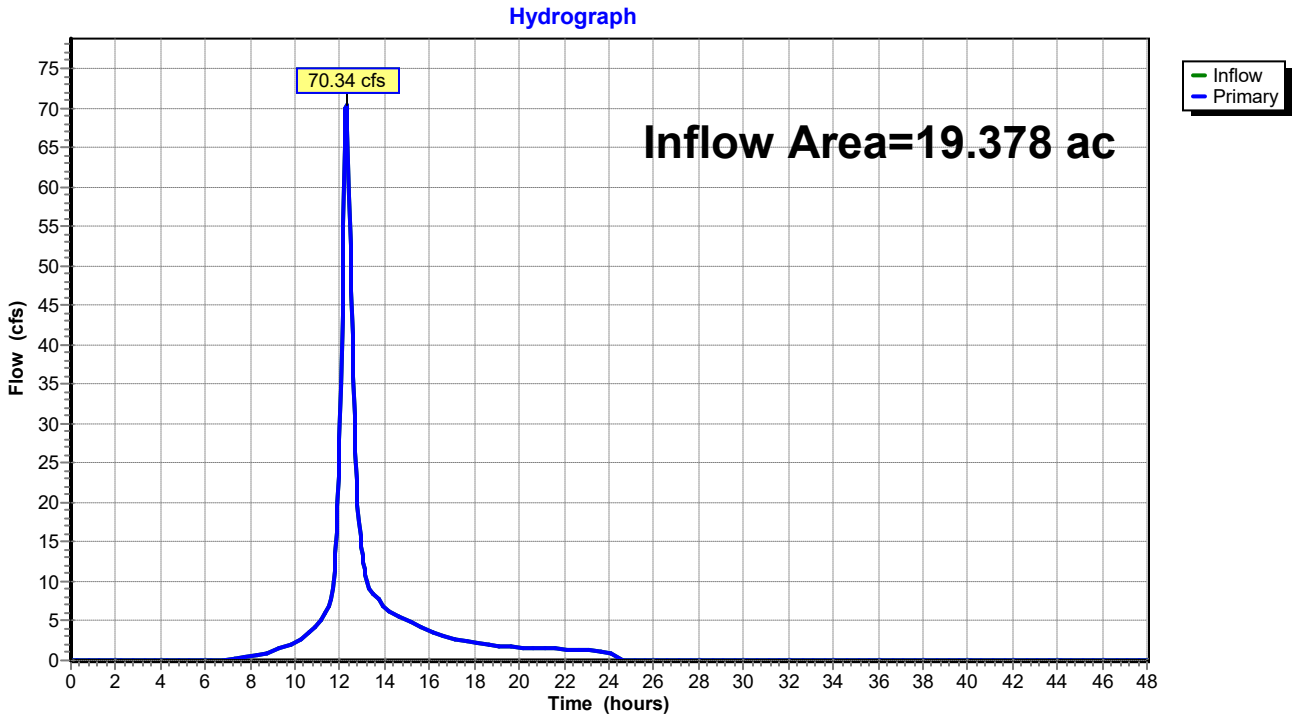


Summary for Link 7L: AP-1

Inflow Area = 19.378 ac, 0.52% Impervious, Inflow Depth = 4.61" for 50 YR event
Inflow = 70.34 cfs @ 12.27 hrs, Volume= 7.447 af
Primary = 70.34 cfs @ 12.27 hrs, Volume= 7.447 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 7L: AP-1



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: PDA-1 Runoff Area=844,091 sf 0.52% Impervious Runoff Depth=5.41"
Flow Length=1,345' Tc=19.9 min CN=79 Runoff=82.11 cfs 8.729 af

Subcatchment 5: PDA-2 Runoff Area=44,934 sf 22.46% Impervious Runoff Depth=5.52"
Tc=6.0 min UI Adjusted CN=80 Runoff=6.43 cfs 0.475 af

Subcatchment 6: PDA-3 Runoff Area=27,422 sf 8.56% Impervious Runoff Depth=5.41"
Tc=6.0 min UI Adjusted CN=79 Runoff=3.86 cfs 0.284 af

Link 2L: AP-2 Inflow=10.29 cfs 0.758 af
Primary=10.29 cfs 0.758 af

Link 7L: AP-1 Inflow=82.11 cfs 8.729 af
Primary=82.11 cfs 8.729 af

Total Runoff Area = 21.039 ac Runoff Volume = 9.487 af Average Runoff Depth = 5.41"
98.16% Pervious = 20.653 ac 1.84% Impervious = 0.386 ac

Summary for Subcatchment 1: PDA-1

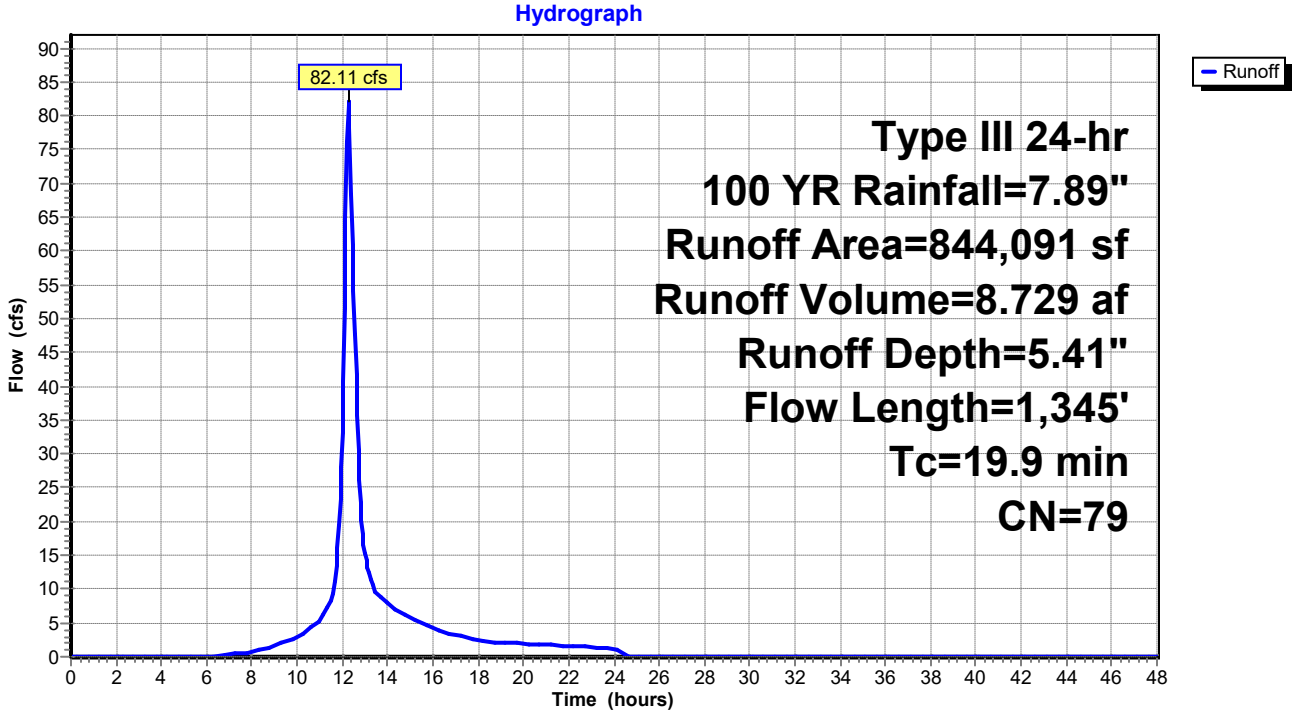
Runoff = 82.11 cfs @ 12.27 hrs, Volume= 8.729 af, Depth= 5.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.89"

Area (sf)	CN	Description
16,248	79	Woods, Fair, HSG D
762,770	78	Meadow, non-grazed, HSG D
60,692	96	Gravel surface, HSG D
3,581	98	Roofs, HSG D
800	98	Unconnected pavement, HSG D
844,091	79	Weighted Average
839,710		99.48% Pervious Area
4,381		0.52% Impervious Area
800		18.26% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0400	0.25		**Sheet Flow, A-B** Range n= 0.130 P2= 3.18"
13.3	1,245	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.9	1,345	Total			

Subcatchment 1: PDA-1



Summary for Subcatchment 5: PDA-2

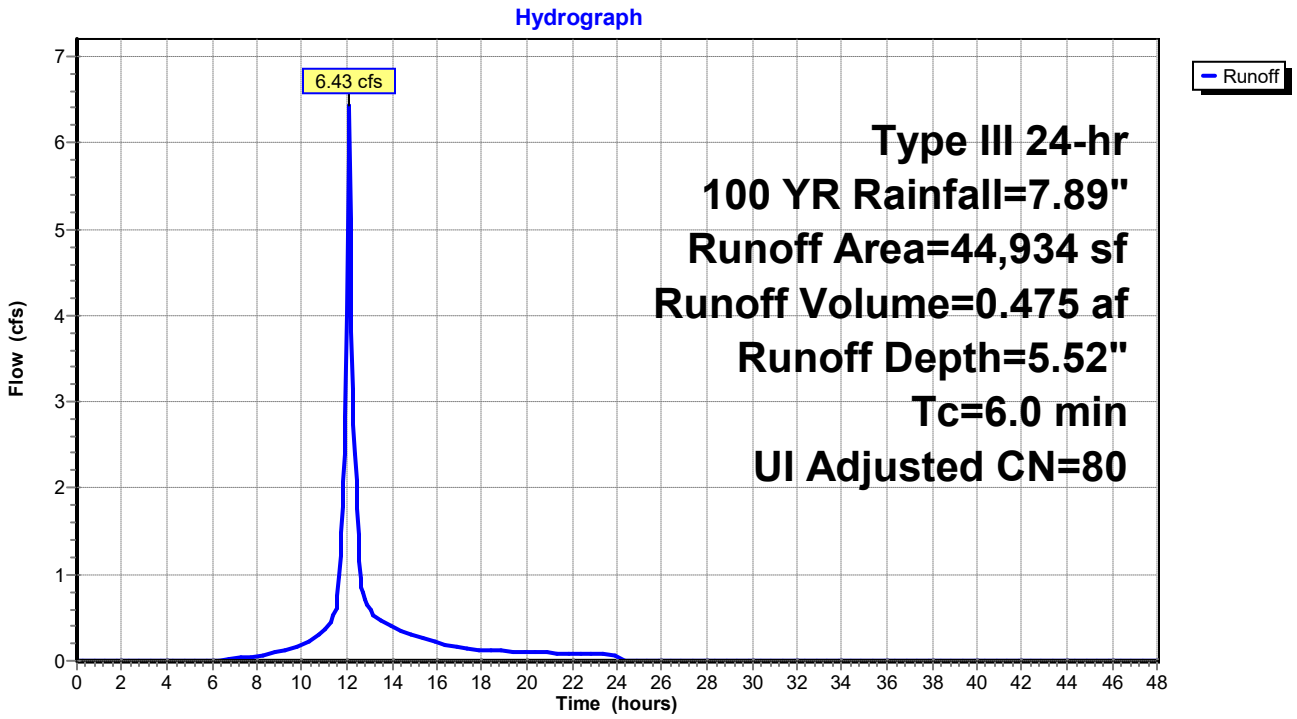
Runoff = 6.43 cfs @ 12.09 hrs, Volume= 0.475 af, Depth= 5.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.89"

Area (sf)	CN	Adj	Description
7,013	79		Woods, Fair, HSG D
27,830	78		Meadow, non-grazed, HSG D
10,091	98		Unconnected pavement, HSG D
44,934	83	80	Weighted Average, UI Adjusted
34,843			77.54% Pervious Area
10,091			22.46% Impervious Area
10,091			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5: PDA-2



Summary for Subcatchment 6: PDA-3

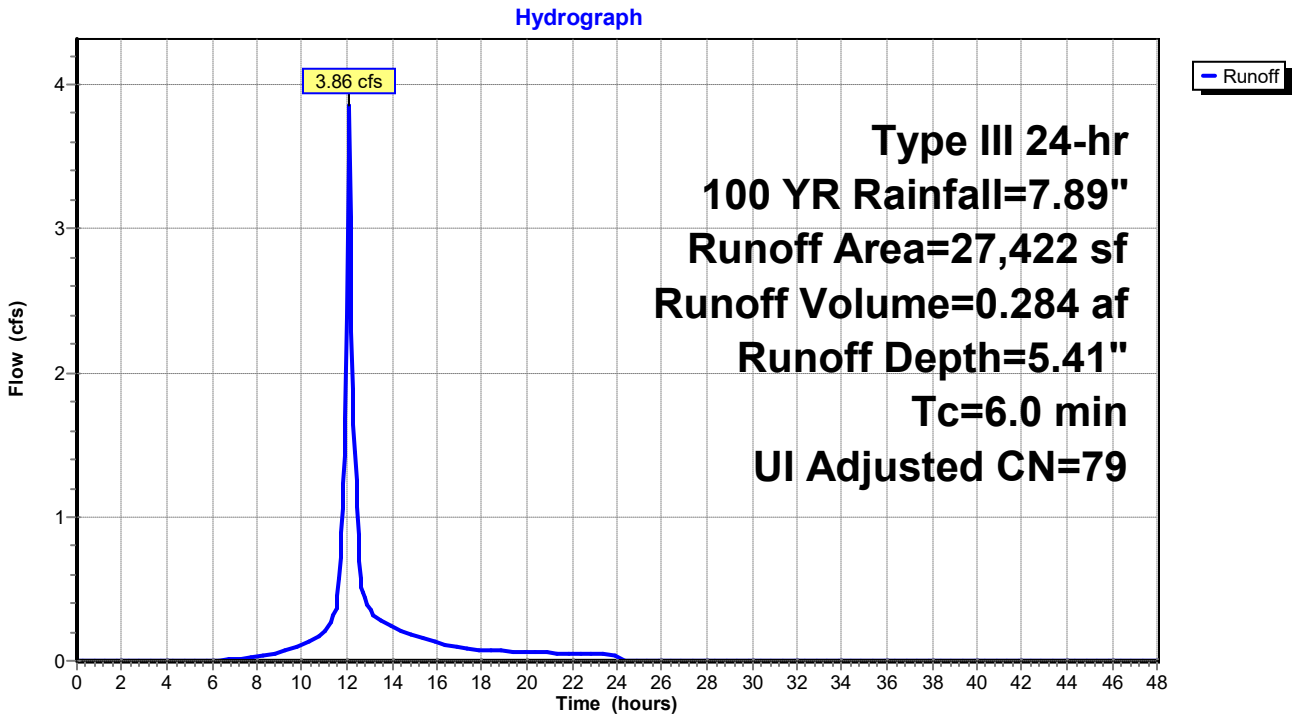
Runoff = 3.86 cfs @ 12.09 hrs, Volume= 0.284 af, Depth= 5.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.89"

Area (sf)	CN	Adj	Description
10,629	79		Woods, Fair, HSG D
14,445	78		Meadow, non-grazed, HSG D
2,348	98		Unconnected pavement, HSG D
27,422	80	79	Weighted Average, UI Adjusted
25,074			91.44% Pervious Area
2,348			8.56% Impervious Area
2,348			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6: PDA-3

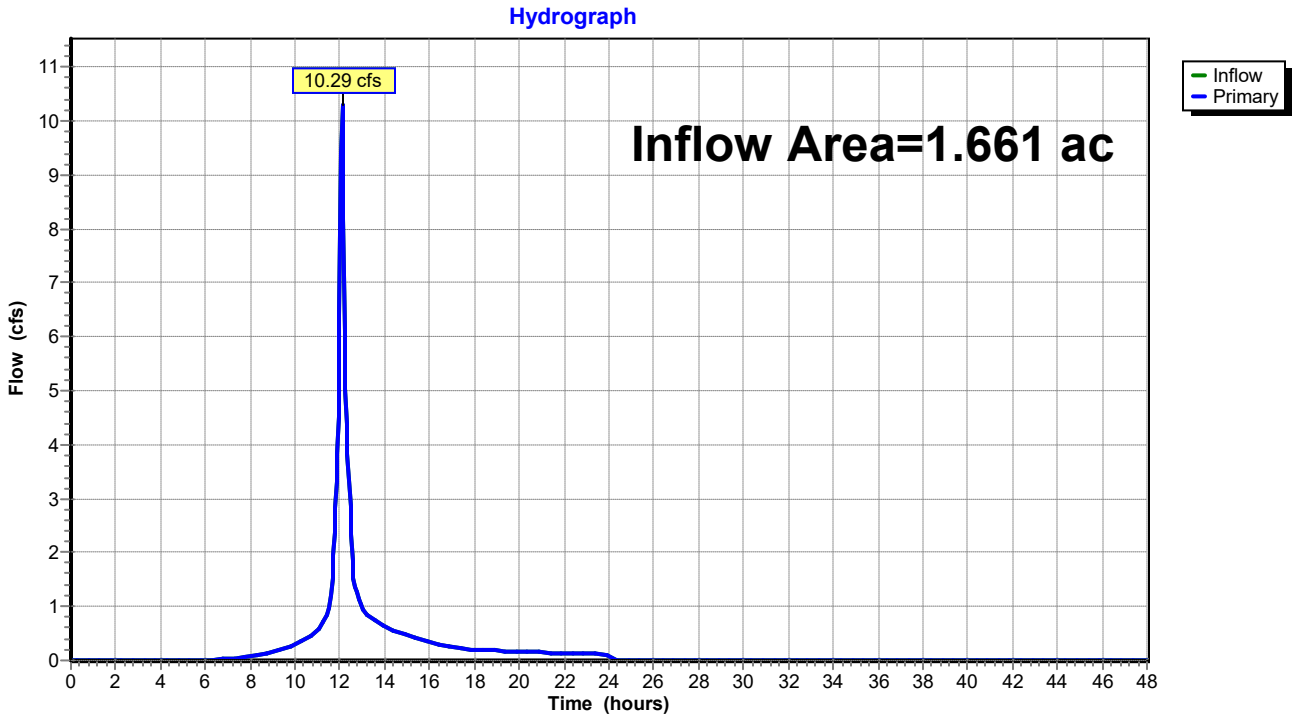


Summary for Link 2L: AP-2

Inflow Area = 1.661 ac, 17.19% Impervious, Inflow Depth = 5.48" for 100 YR event
Inflow = 10.29 cfs @ 12.09 hrs, Volume= 0.758 af
Primary = 10.29 cfs @ 12.09 hrs, Volume= 0.758 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2L: AP-2

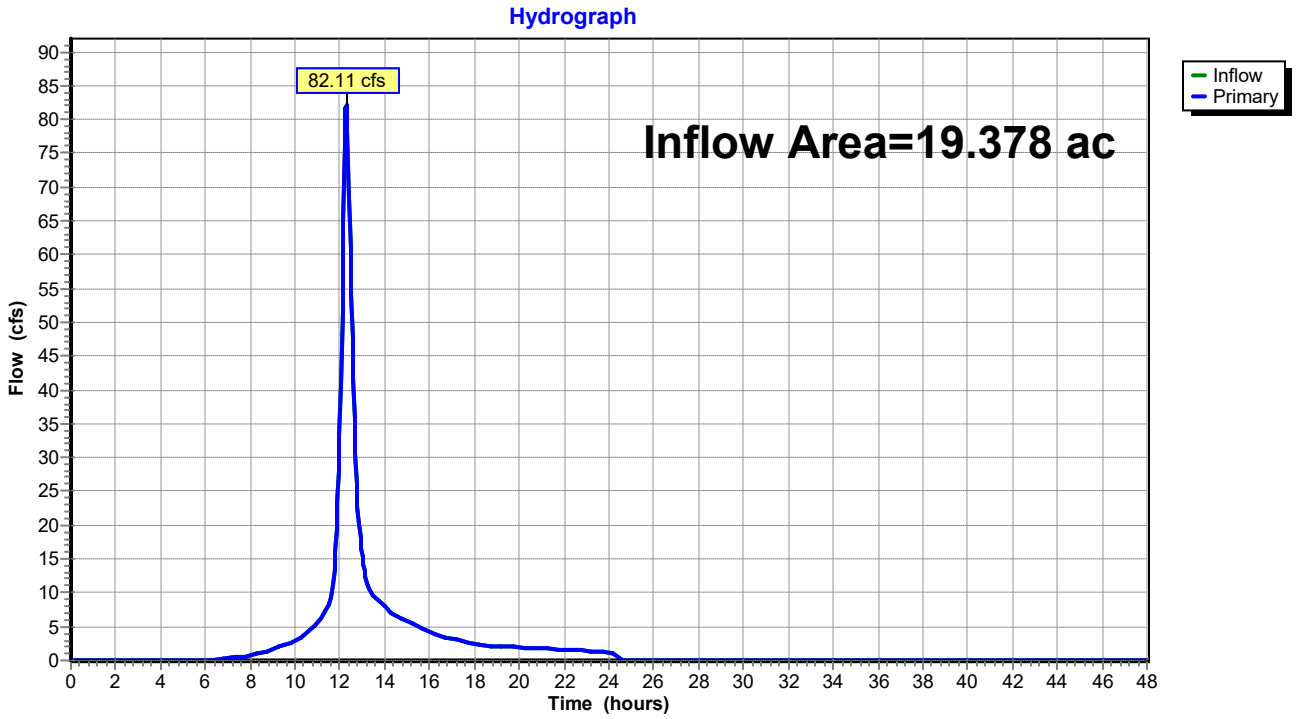


Summary for Link 7L: AP-1

Inflow Area = 19.378 ac, 0.52% Impervious, Inflow Depth = 5.41" for 100 YR event
Inflow = 82.11 cfs @ 12.27 hrs, Volume= 8.729 af
Primary = 82.11 cfs @ 12.27 hrs, Volume= 8.729 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 7L: AP-1



APPENDIX D: NOAA ATLAS 14 PRECIPITATION FREQUENCY TABLE

NOAA Atlas 14, Volume 10, Version 3
Location name: Town of Colchester, Connecticut, USA*
Latitude: 41.5277°, Longitude: -72.2991°
Elevation: 556.4 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.337 (0.260-0.427)	0.406 (0.313-0.513)	0.518 (0.399-0.657)	0.610 (0.466-0.778)	0.737 (0.547-0.977)	0.833 (0.606-1.12)	0.933 (0.661-1.30)	1.05 (0.703-1.48)	1.21 (0.783-1.77)	1.34 (0.851-2.00)
10-min	0.478 (0.369-0.604)	0.574 (0.443-0.727)	0.732 (0.562-0.929)	0.863 (0.659-1.10)	1.04 (0.775-1.38)	1.18 (0.859-1.59)	1.32 (0.936-1.84)	1.48 (0.996-2.10)	1.71 (1.11-2.50)	1.90 (1.21-2.83)
15-min	0.562 (0.434-0.711)	0.676 (0.521-0.856)	0.862 (0.663-1.09)	1.02 (0.777-1.30)	1.23 (0.911-1.63)	1.39 (1.01-1.87)	1.56 (1.10-2.17)	1.75 (1.17-2.47)	2.02 (1.31-2.95)	2.24 (1.42-3.33)
30-min	0.776 (0.599-0.982)	0.933 (0.720-1.18)	1.19 (0.914-1.51)	1.40 (1.07-1.79)	1.70 (1.26-2.25)	1.92 (1.39-2.58)	2.15 (1.52-2.99)	2.41 (1.62-3.41)	2.78 (1.80-4.06)	3.09 (1.95-4.59)
60-min	0.990 (0.764-1.25)	1.19 (0.918-1.51)	1.52 (1.17-1.93)	1.79 (1.37-2.28)	2.16 (1.60-2.86)	2.44 (1.78-3.30)	2.74 (1.94-3.82)	3.07 (2.06-4.35)	3.54 (2.29-5.18)	3.93 (2.49-5.85)
2-hr	1.29 (1.00-1.62)	1.54 (1.20-1.94)	1.95 (1.51-2.46)	2.30 (1.77-2.91)	2.77 (2.07-3.65)	3.12 (2.29-4.19)	3.49 (2.50-4.85)	3.93 (2.65-5.53)	4.57 (2.97-6.63)	5.11 (3.25-7.53)
3-hr	1.49 (1.17-1.87)	1.78 (1.39-2.23)	2.26 (1.75-2.83)	2.65 (2.05-3.34)	3.19 (2.39-4.19)	3.59 (2.65-4.81)	4.02 (2.89-5.57)	4.53 (3.06-6.34)	5.29 (3.44-7.62)	5.93 (3.77-8.69)
6-hr	1.91 (1.51-2.38)	2.28 (1.79-2.84)	2.88 (2.26-3.59)	3.38 (2.63-4.23)	4.06 (3.07-5.29)	4.57 (3.39-6.07)	5.12 (3.70-7.04)	5.76 (3.91-8.00)	6.73 (4.40-9.62)	7.55 (4.82-11.0)
12-hr	2.40 (1.91-2.97)	2.87 (2.27-3.54)	3.63 (2.86-4.49)	4.26 (3.34-5.30)	5.12 (3.90-6.63)	5.77 (4.30-7.61)	6.46 (4.69-8.81)	7.27 (4.96-10.0)	8.48 (5.56-12.0)	9.49 (6.08-13.7)
24-hr	2.84 (2.27-3.49)	3.42 (2.73-4.20)	4.37 (3.47-5.37)	5.15 (4.07-6.36)	6.23 (4.77-8.00)	7.03 (5.28-9.20)	7.89 (5.76-10.7)	8.91 (6.10-12.2)	10.4 (6.87-14.6)	11.7 (7.54-16.7)
2-day	3.19 (2.57-3.88)	3.88 (3.12-4.73)	5.01 (4.02-6.13)	5.95 (4.74-7.31)	7.25 (5.60-9.26)	8.20 (6.21-10.7)	9.24 (6.81-12.5)	10.5 (7.23-14.2)	12.4 (8.23-17.3)	14.1 (9.11-20.0)
3-day	3.46 (2.80-4.19)	4.21 (3.40-5.11)	5.44 (4.39-6.63)	6.47 (5.18-7.91)	7.88 (6.11-10.0)	8.92 (6.78-11.6)	10.1 (7.44-13.5)	11.4 (7.89-15.4)	13.6 (8.99-18.8)	15.4 (9.97-21.7)
4-day	3.71 (3.01-4.49)	4.51 (3.65-5.46)	5.81 (4.70-7.05)	6.89 (5.54-8.40)	8.39 (6.52-10.6)	9.49 (7.23-12.3)	10.7 (7.93-14.3)	12.2 (8.40-16.3)	14.4 (9.56-19.9)	16.4 (10.6-22.9)
7-day	4.42 (3.61-5.32)	5.30 (4.33-6.39)	6.75 (5.49-8.15)	7.96 (6.43-9.64)	9.61 (7.51-12.1)	10.8 (8.29-13.9)	12.2 (9.05-16.1)	13.8 (9.56-18.4)	16.2 (10.8-22.2)	18.3 (11.9-25.5)
10-day	5.12 (4.21-6.14)	6.06 (4.97-7.27)	7.59 (6.20-9.13)	8.86 (7.19-10.7)	10.6 (8.32-13.3)	11.9 (9.13-15.2)	13.3 (9.90-17.5)	15.0 (10.4-19.8)	17.4 (11.6-23.7)	19.5 (12.7-27.0)
20-day	7.32 (6.05-8.71)	8.32 (6.88-9.92)	9.97 (8.21-11.9)	11.3 (9.27-13.6)	13.2 (10.4-16.3)	14.6 (11.2-18.4)	16.1 (11.9-20.8)	17.7 (12.4-23.3)	20.0 (13.4-26.9)	21.8 (14.2-29.8)
30-day	9.16 (7.61-10.9)	10.2 (8.47-12.1)	11.9 (9.84-14.2)	13.3 (10.9-15.9)	15.3 (12.1-18.7)	16.8 (12.9-20.8)	18.3 (13.5-23.2)	19.8 (13.9-25.8)	21.8 (14.7-29.2)	23.4 (15.3-31.8)
45-day	11.4 (9.56-13.5)	12.5 (10.5-14.8)	14.3 (11.9-16.9)	15.8 (13.0-18.8)	17.8 (14.1-21.7)	19.4 (15.0-23.9)	20.9 (15.5-26.3)	22.4 (15.8-29.0)	24.1 (16.3-32.2)	25.4 (16.6-34.4)
60-day	13.4 (11.2-15.7)	14.5 (12.1-17.1)	16.3 (13.6-19.3)	17.8 (14.8-21.2)	19.9 (15.8-24.2)	21.6 (16.7-26.5)	23.2 (17.1-28.9)	24.6 (17.4-31.7)	26.2 (17.7-34.7)	27.2 (17.9-36.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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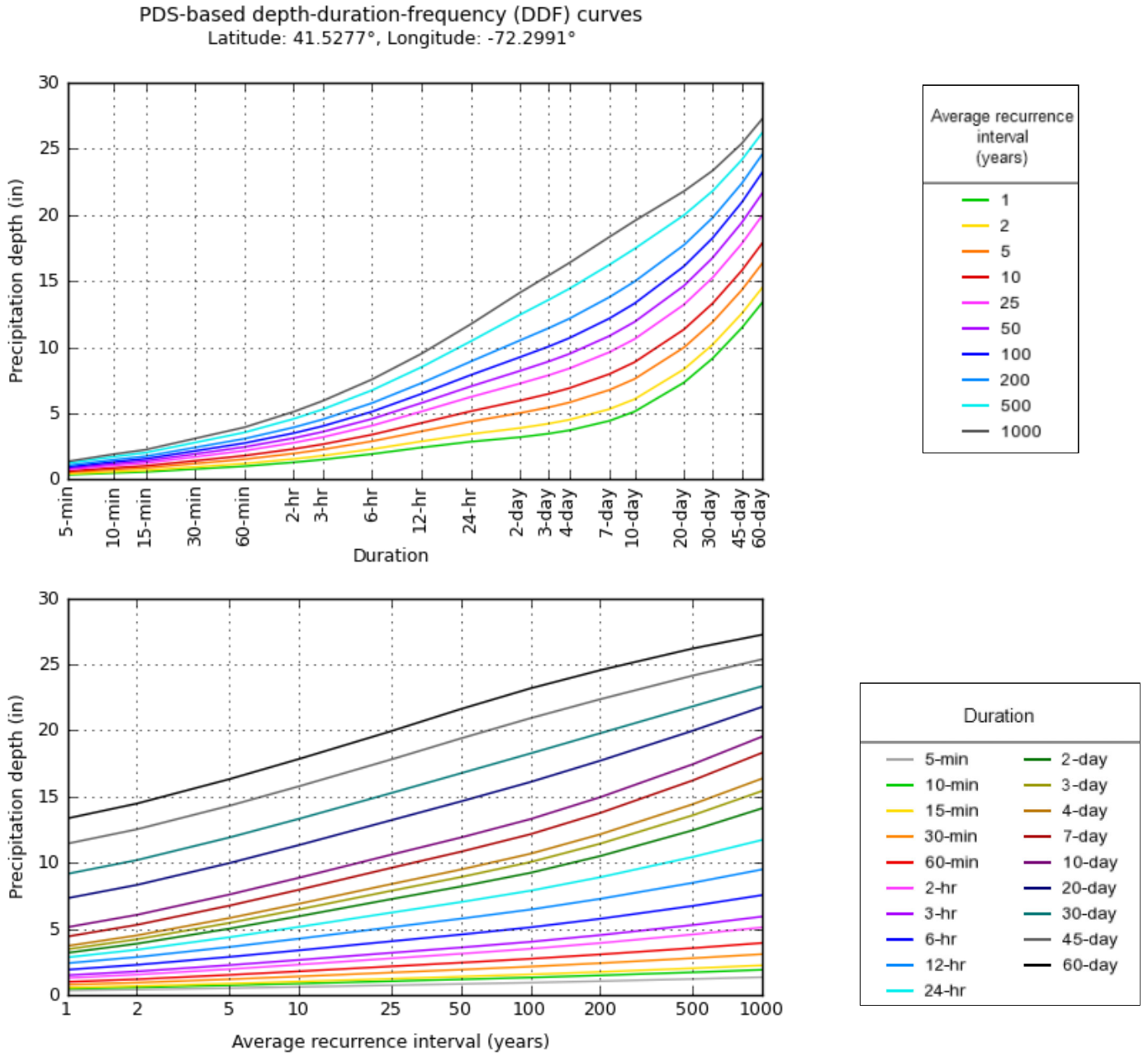
PF graphical



NOAA Atlas 14, Volume 10, Version 3 Created (GMT): Tue Oct 4 15:04:32 2022

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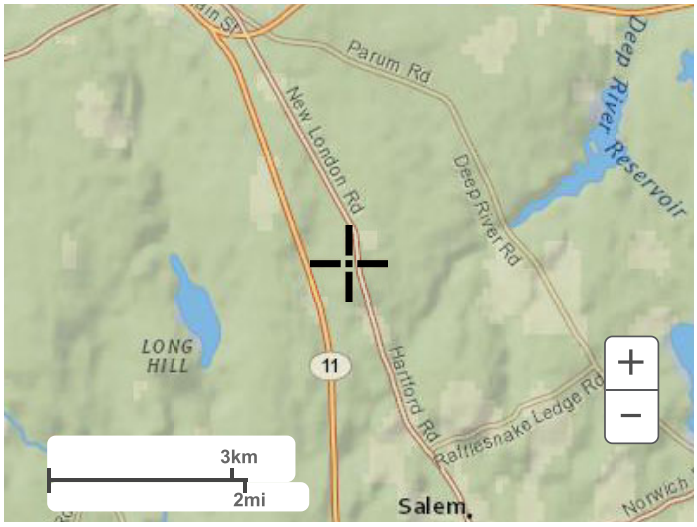
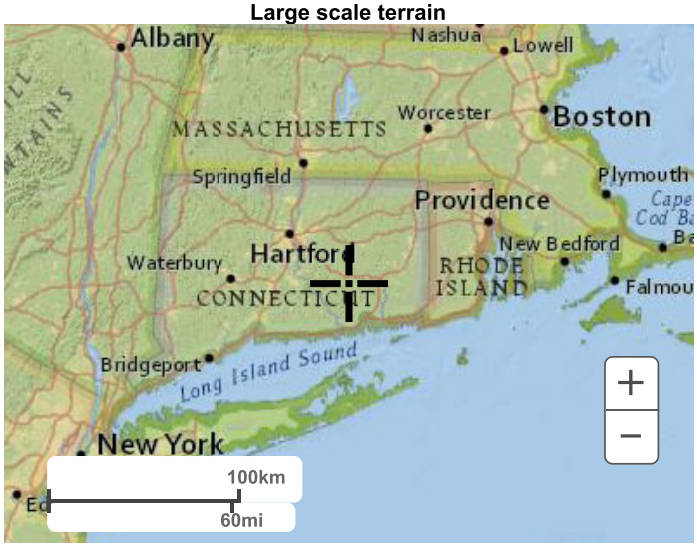
Maps & aerials

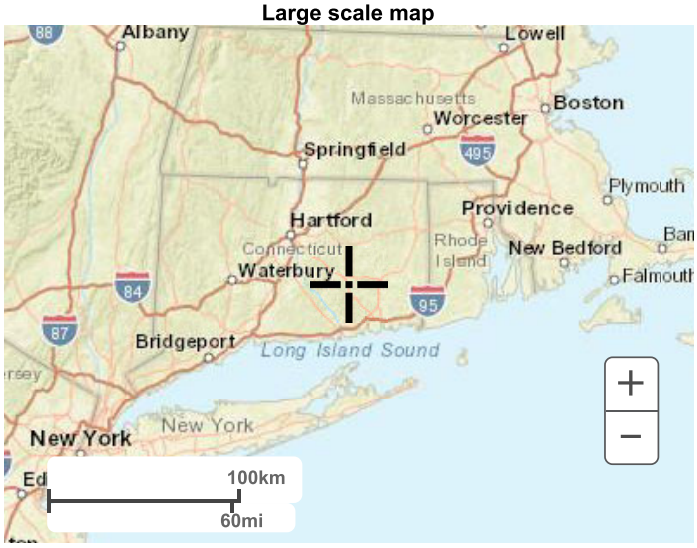
Small scale terrain



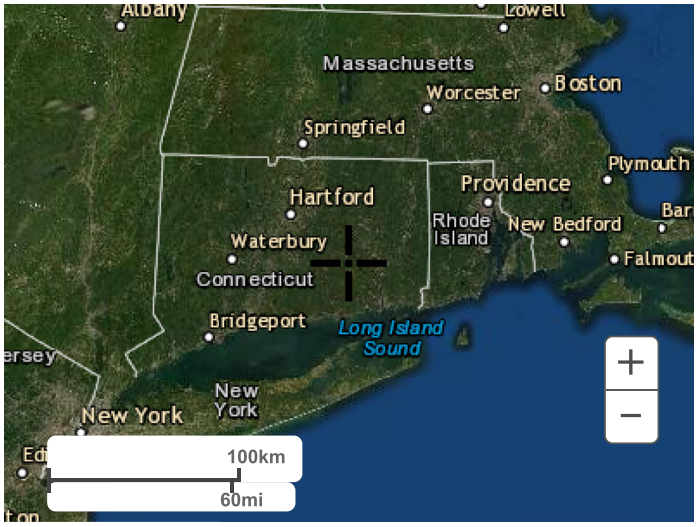
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

APPENDIX F

FEDERAL AVIATION ADMINISTRATION
DETERMINATIONS

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-290-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 1 (Also HP)
Location:	Colchester, CT
Latitude:	41-31-40.87N NAD 83
Longitude:	72-17-53.05W
Heights:	573 feet site elevation (SE)
	10 feet above ground level (AGL)
	583 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-290-OE.

Signature Control No: 567823100-568610867 (DNE)
Kelly Nelson
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2023-ANE-290-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-291-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 2
Location:	Colchester, CT
Latitude:	41-31-37.02N NAD 83
Longitude:	72-17-52.69W
Heights:	570 feet site elevation (SE) 10 feet above ground level (AGL) 580 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

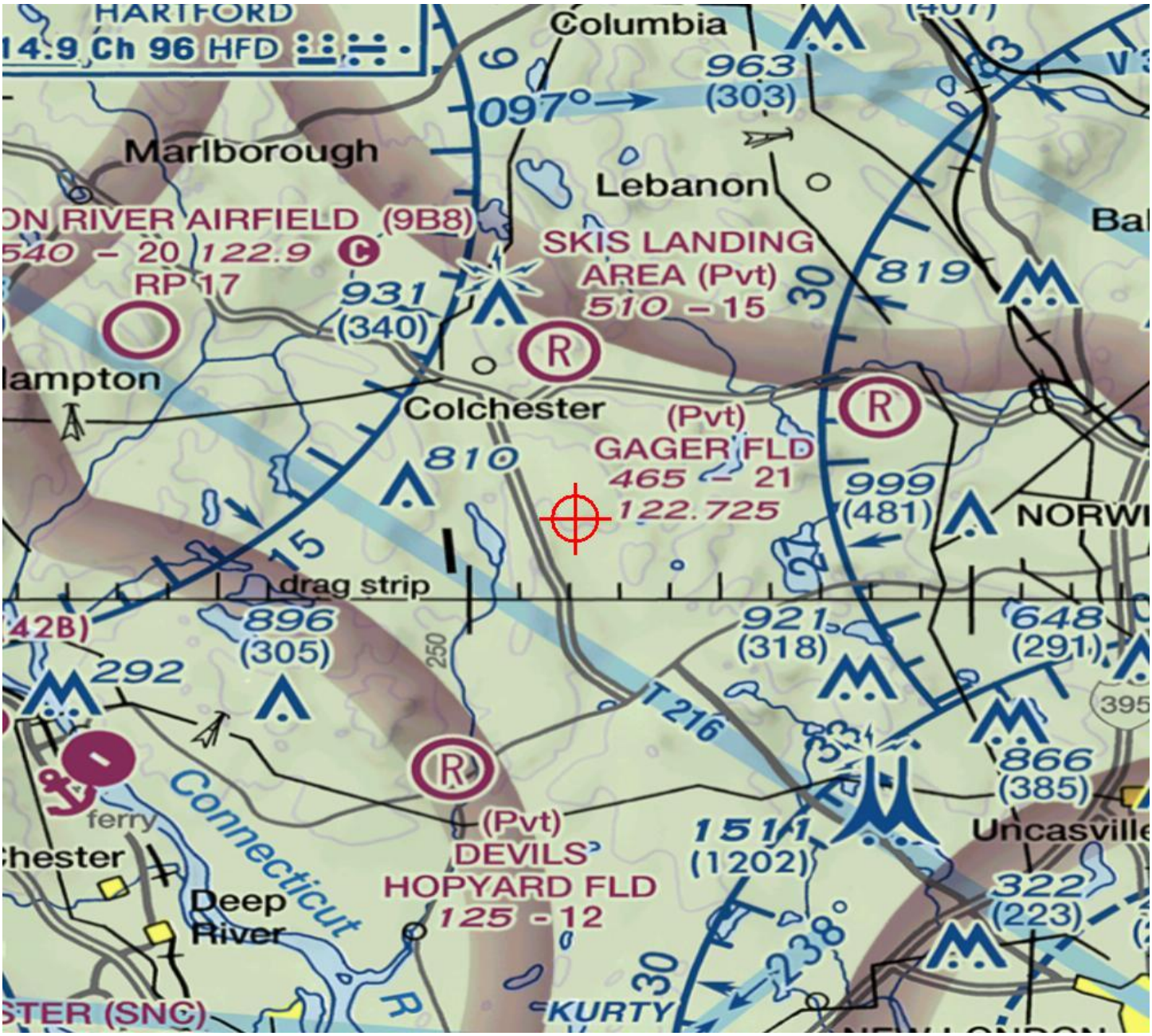
This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-291-OE.

Signature Control No: 567823103-568610869 (DNE)
Kelly Nelson
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2023-ANE-291-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-292-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 3
Location:	Colchester, CT
Latitude:	41-31-36.01N NAD 83
Longitude:	72-17-59.28W
Heights:	549 feet site elevation (SE) 10 feet above ground level (AGL) 559 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-292-OE.

Signature Control No: 567823104-568610865 (DNE)
Kelly Nelson
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2023-ANE-292-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-293-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 4
Location:	Colchester, CT
Latitude:	41-31-35.11N NAD 83
Longitude:	72-17-59.28W
Heights:	546 feet site elevation (SE) 10 feet above ground level (AGL) 556 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-293-OE.

Signature Control No: 567823105-568610868 (DNE)
Kelly Nelson
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2023-ANE-293-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-294-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 5
Location:	Colchester, CT
Latitude:	41-31-34.90N NAD 83
Longitude:	72-18-00.50W
Heights:	538 feet site elevation (SE) 10 feet above ground level (AGL) 548 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-294-OE.

Signature Control No: 567823106-568610871 (DNE)
Kelly Nelson
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2023-ANE-294-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-295-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 6
Location:	Colchester, CT
Latitude:	41-31-35.40N NAD 83
Longitude:	72-18-04.28W
Heights:	518 feet site elevation (SE) 10 feet above ground level (AGL) 528 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-295-OE.

Signature Control No: 567823110-568610870 (DNE)
Kelly Nelson
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2023-ANE-295-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-296-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 7
Location:	Colchester, CT
Latitude:	41-31-38.71N NAD 83
Longitude:	72-18-05.72W
Heights:	515 feet site elevation (SE) 10 feet above ground level (AGL) 525 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-296-OE.

Signature Control No: 567823112-568610873 (DNE)
Kelly Nelson
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2023-ANE-296-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-297-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 8
Location:	Colchester, CT
Latitude:	41-31-42.02N NAD 83
Longitude:	72-18-05.69W
Heights:	522 feet site elevation (SE) 10 feet above ground level (AGL) 532 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-297-OE.

Signature Control No: 567823114-568610866 (DNE)
Kelly Nelson
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2023-ANE-297-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-298-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 9
Location:	Colchester, CT
Latitude:	41-31-42.06N NAD 83
Longitude:	72-18-01.90W
Heights:	541 feet site elevation (SE) 10 feet above ground level (AGL) 551 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-298-OE.

Signature Control No: 567823126-568610864 (DNE)
Kelly Nelson
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2023-ANE-298-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-281-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Mobile Crane Point 1 (Also HP)
Location:	Colchester, CT
Latitude:	41-31-40.87N NAD 83
Longitude:	72-17-53.05W
Heights:	573 feet site elevation (SE)
	22 feet above ground level (AGL)
	595 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-281-OE

Signature Control No: 567820103-568588236 (TMP)
Kelly Nelson
Specialist

Additional Condition(s) or Information for ASN 2023-ANE-281-OE

Proposal: To construct and/or operate a(n) Mobile Crane to a height of 22 feet above ground level, 595 feet above mean sea level.

Location: The structure will be located 7.47 nautical miles southeast of 9B8 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2023-ANE-281-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-282-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Mobile Crane Point 2
Location:	Colchester, CT
Latitude:	41-31-37.02N NAD 83
Longitude:	72-17-52.69W
Heights:	570 feet site elevation (SE)
	22 feet above ground level (AGL)
	592 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-282-OE

Signature Control No: 567820104-568588234 (TMP)
Kelly Nelson
Specialist

Additional Condition(s) or Information for ASN 2023-ANE-282-OE

Proposal: To construct and/or operate a(n) Mobile Crane to a height of 22 feet above ground level, 592 feet above mean sea level.

Location: The structure will be located 7.51 nautical miles southeast of 9B8 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

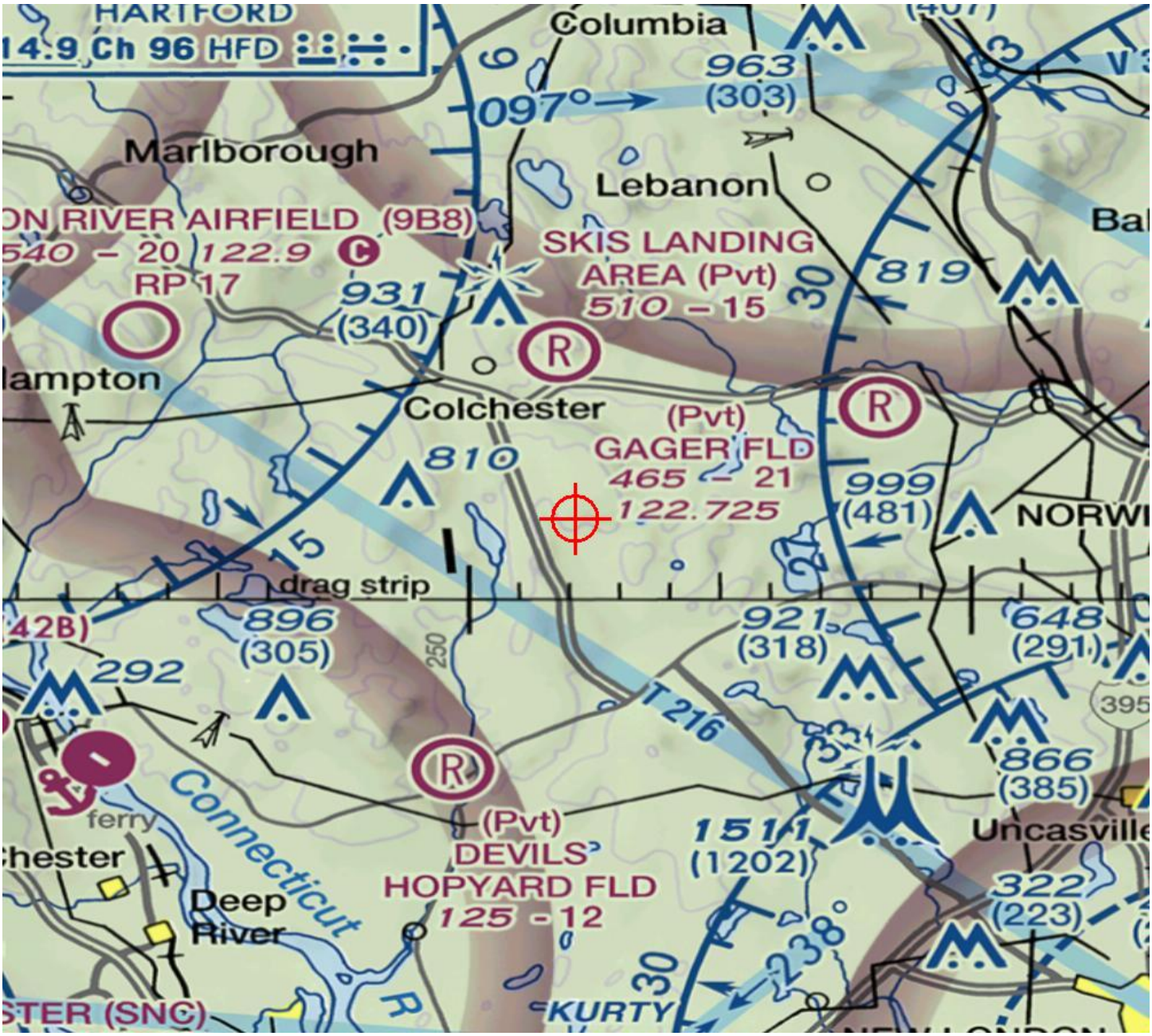
Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2023-ANE-282-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-283-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Mobile Crane Point 3
Location:	Colchester, CT
Latitude:	41-31-36.01N NAD 83
Longitude:	72-17-59.28W
Heights:	549 feet site elevation (SE)
	22 feet above ground level (AGL)
	571 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-283-OE

Signature Control No: 567820105-568588239 (TMP)
Kelly Nelson
Specialist

Additional Condition(s) or Information for ASN 2023-ANE-283-OE

Proposal: To construct and/or operate a(n) Mobile Crane to a height of 22 feet above ground level, 571 feet above mean sea level.

Location: The structure will be located 7.44 nautical miles southeast of 9B8 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2023-ANE-283-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-284-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Mobile Crane Point 4
Location:	Colchester, CT
Latitude:	41-31-35.11N NAD 83
Longitude:	72-17-59.28W
Heights:	546 feet site elevation (SE)
	22 feet above ground level (AGL)
	568 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-284-OE

Signature Control No: 567820106-568588241 (TMP)
Kelly Nelson
Specialist

Additional Condition(s) or Information for ASN 2023-ANE-284-OE

Proposal: To construct and/or operate a(n) Mobile Crane to a height of 22 feet above ground level, 568 feet above mean sea level.

Location: The structure will be located 7.45 nautical miles southeast of 9B8 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2023-ANE-284-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-285-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Mobile Crane Point 5
Location:	Colchester, CT
Latitude:	41-31-34.90N NAD 83
Longitude:	72-18-00.50W
Heights:	538 feet site elevation (SE)
	22 feet above ground level (AGL)
	560 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-285-OE

Signature Control No: 567820107-568588240 (TMP)
Kelly Nelson
Specialist

Additional Condition(s) or Information for ASN 2023-ANE-285-OE

Proposal: To construct and/or operate a(n) Mobile Crane to a height of 22 feet above ground level, 560 feet above mean sea level.

Location: The structure will be located 7.44 nautical miles southeast of 9B8 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2023-ANE-285-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-286-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Mobile Crane Point 6
Location:	Colchester, CT
Latitude:	41-31-35.40N NAD 83
Longitude:	72-18-04.28W
Heights:	518 feet site elevation (SE)
	22 feet above ground level (AGL)
	540 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-286-OE

Signature Control No: 567820108-568588237 (TMP)
Kelly Nelson
Specialist

Additional Condition(s) or Information for ASN 2023-ANE-286-OE

Proposal: To construct and/or operate a(n) Mobile Crane to a height of 22 feet above ground level, 540 feet above mean sea level.

Location: The structure will be located 7.4 nautical miles southeast of 9B8 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2023-ANE-286-OE

Mail Processing Center
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Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-287-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Mobile Crane Point 7
Location:	Colchester, CT
Latitude:	41-31-38.71N NAD 83
Longitude:	72-18-05.72W
Heights:	515 feet site elevation (SE)
	22 feet above ground level (AGL)
	537 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-287-OE

Signature Control No: 567820109-568588235 (TMP)
Kelly Nelson
Specialist

Additional Condition(s) or Information for ASN 2023-ANE-287-OE

Proposal: To construct and/or operate a(n) Mobile Crane to a height of 22 feet above ground level, 537 feet above mean sea level.

Location: The structure will be located 7.35 nautical miles southeast of 9B8 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2023-ANE-287-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-288-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Mobile Crane Point 8
Location:	Colchester, CT
Latitude:	41-31-42.02N NAD 83
Longitude:	72-18-05.69W
Heights:	522 feet site elevation (SE)
	22 feet above ground level (AGL)
	544 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-288-OE

Signature Control No: 567820110-568588238 (TMP)
Kelly Nelson
Specialist

Additional Condition(s) or Information for ASN 2023-ANE-288-OE

Proposal: To construct and/or operate a(n) Mobile Crane to a height of 22 feet above ground level, 544 feet above mean sea level.

Location: The structure will be located 7.32 nautical miles southeast of 9B8 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2023-ANE-288-OE

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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ANE-289-OE

Issued Date: 01/17/2023

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Mobile Crane Point 9
Location:	Colchester, CT
Latitude:	41-31-42.06N NAD 83
Longitude:	72-18-01.90W
Heights:	541 feet site elevation (SE) 22 feet above ground level (AGL) 563 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6430, or kelly.r.nelson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ANE-289-OE

Signature Control No: 567820111-568588242 (TMP)
Kelly Nelson
Specialist

Additional Condition(s) or Information for ASN 2023-ANE-289-OE

Proposal: To construct and/or operate a(n) Mobile Crane to a height of 22 feet above ground level, 563 feet above mean sea level.

Location: The structure will be located 7.37 nautical miles southeast of 9B8 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 07/17/2024 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.


HARTFORD
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ON RIVER AIRFIELD (9B8)
540 – 20 122.9
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931
(340)
SKIS LANDING
AREA (Pvt)
510 – 15
819
Hampton
Colchester
(Pvt)
GAGER FLD
465 – 21
122.725
810
999
(481)
NORW
drag strip
896
(305)
921
(318)
648
(291)
(42B)
292
T 216
866
(385)
ferry
Connecticut
(Pvt)
DEVILS
HOPYARD FLD
125 – 12
1511
(1202)
Uncasvill
322
(223)
Deep
River
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KURTY
STER (SNC)

APPENDIX G

VISIBILITY DOCUMENTATION

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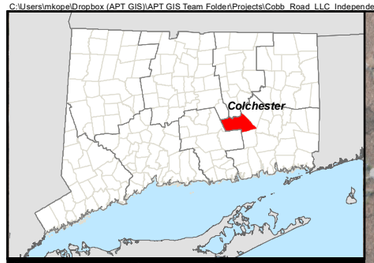
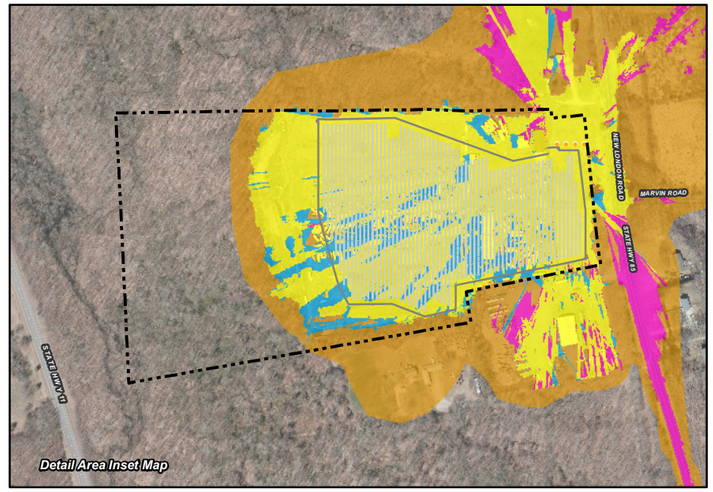


Statewide and Regional Overview Map



Detail Area Inset Map

Viewshed Analysis Map

Proposed Solar Energy Facility
524 New London Road
Colchester, Connecticut

Proposed solar modules to be mounted on approximate 10' AGL support structures.
Proposed interconnect utility pole to be approximately 40' AGL.
Forest canopy height and topographic contours are derived from LiDAR data.
Study area encompasses a 1-mile radius and includes 2,689 acres.
Information provided on this map has not been field verified.
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Date: January 2023

Legend

- Site
- Solar Modules
- Proposed Perimeter Fence
- Utility Pole
- Study Area (1-Mile Radius)
- Areas of Potential Seasonal Visibility, Proposed Utility Poles and/or Modules (60 Acres)

Predicted Year-Round Visibility (33 Acres Total)

- Proposed Modules and Utility Pole (23 Acres)
- Proposed Modules Only (6 Acres)
- Proposed Utility Pole Only (4 Acres)
- Municipal Boundary

- Trail
- CT Blue Blaze Hiking Trail
- Scenic Highway
- DEEP Boat Launches
- Municipal and Private Open Space Property
- State Forest/Park

Protected Open Space Property

- Federal
- Land Trust
- Municipal
- Private
- State

Data Sources:

Physical Geography / Background Data

A digital surface model (DSM) was created from the State of Connecticut 2016 LiDAR LAS data points. The first return LiDAR LAS values, associated with the highest feature in the landscape (such as a treetop or top of building), were used to capture the natural and built features on the Earth's surface beyond the approximate limits of clearing associated with the proposed solar facility. The "bare-earth" return values were utilized to reflect proposed conditions where vegetative clearing associated with the proposed solar facility would occur.

Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP. Scenic Roads: CTDOT State Scenic Highways (2015); Municipal Scenic Roads (compiled by APT)

Dedicated Open Space & Recreation Areas

Connecticut Department of Energy and Environmental Protection (DEEP): DEEP Property (May 2007; Federal Open Space (1997); Municipal and Private Open Space (1997); DEEP Boat Launches (1994)

Connecticut Forest & Parks Association, Connecticut Walk Books East & West

Other

CTDOT Scenic Strips (based on Department of Transportation data)

Notes

***Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.*

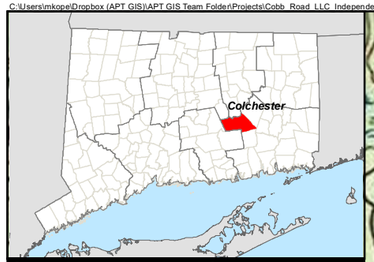
Limitations

This map depicts areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy and structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating the DSM and 2019 digital aerial photographs only. No in-field verification has been completed. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

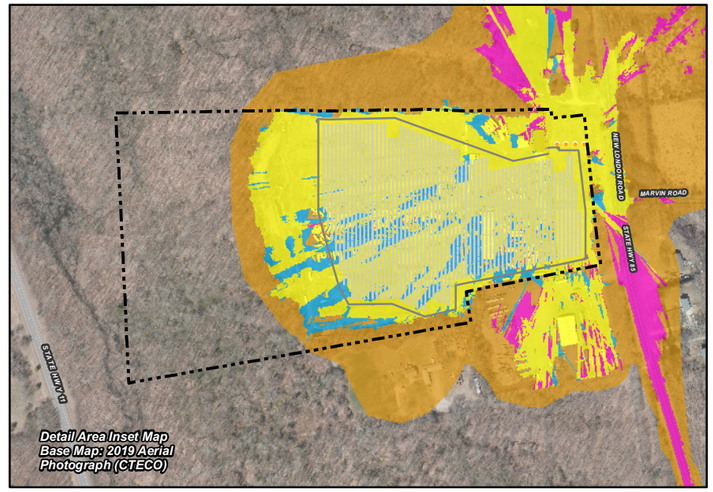
0.25 0.125 0 0.25 Miles

ALL-POINTS TECHNOLOGY CORPORATION

C:\Users\mkopel\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Cobb_Road_LLC_IndependenceSolar_CT580\Colchester_160\mxd\Colchester Viewshed USGS.mxd



Statewide and Regional Overview Map



Detail Area Inset Map
Base Map: 2019 Aerial Photograph (CTECO)

Viewshed Analysis Map

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Proposed interconnect utility pole to be approximately 40' AGL.
Forest canopy height and topographic contours are derived from LiDAR data.
Study area encompasses a 1-mile radius and includes 2,689 acres.
Information provided on this map has not been field verified.
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, Colchester, CT (1984)
Map Date: January 2023

Legend

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- Solar Modules
- Proposed Perimeter Fence
- Utility Pole
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0.25 0.125 0 0.25 Miles

ALL-POINTS TECHNOLOGY CORPORATION

PHOTOGRAPHED ON 9/15/2022

EXISTING

PHOTO	LOCATION	ORIENTATION
1	**NEW LONDON ROAD**	**WEST**

ALL-POINTS TECHNOLOGY CORPORATION

524 NLR, LLC

PROPOSED

PHOTO	LOCATION	ORIENTATION
1	**NEW LONDON ROAD**	**WEST**

ALL-POINTS TECHNOLOGY CORPORATION

524 NLR, LLC

PHOTOGRAPHED ON 9/15/2022

EXISTING

PHOTO	LOCATION	ORIENTATION
2	**NEW LONDON ROAD**	**WEST**

PROPOSED

PHOTO	LOCATION	ORIENTATION
2	**NEW LONDON ROAD**	**WEST**