Brooklyn Inland Wetlands Commission
P.O. Box 356
Brooklyn, Connecticut 06234

Town of Brooklyn
Inland Wetlands and Watercourses Commission
Regular Meeting Minutes
Virtual WebEx Meeting
October 13, 2020

Call to Order: The meeting was called to order at 6:00 p.m.

Members Present: Jeffrey Arends, Richard Oliverson, George Sipila, James Paquin.

Members Absent: None.

Staff Present: Margaret Washburn, Wetlands Agent, Rick Ives, First Selectman, Audrey Cross-Lussier, Recording Secretary.

Also Present: Paul Archer, Norm Thibeault, Bob Deluca, Bob Russo, Betty Lehto, public in attendance.

Roll Call: All members present stated their name for the record.

Seating of Alternates: None.

Public Commentary: Mr. Paquin voiced his concerns with regards to the virtual Webex meetings. He feels they are not sustainable. Mr. Paquin thanks Selectman Ives for working towards the goal of having public meetings again.

Commission to Possible Additions to Agenda:

1. 060920B VBL Properties, LLC, Beecher Road, Map 22, Lot 38, RA Zone; 5-Lot Subdivision.

Chairman Arends asks for a motion to add this item onto the agenda.

A motion was made by Rich Oliverson to add onto the agenda 060920B VBL Properties, LLC, Beecher Road, Map 22, Lot 38, RA Zone; 5-Lot Subdivision and reconsider the application. Jim Paquin seconds this motion. No discussion held. All in favor. The motion passes unanimously.

Approval of Minutes:

1. Regular Meeting Minutes September 8, 2020. The minutes are approved as written with no changes.

Public Hearings:

**Motion to open public hearing was done later in meeting.

1. 081120A Shane Pollock-Applicant/BLB, LLC Owner, Louise Berry Drive, Map 19, Lot 19, RA Zone; Construction of 51 Single Family Condominium Units with activity in the upland review area.

Norm Thibeault, Killingly Engineering Associates represents the applicant. The proposal is for 51 condominium units. The parcel is 13.5 acres with access from Louise Berry Drive. There are 2.35 acres of wetlands on the property that flow from east to west. The soil delineation was done by Joseph Theroux, Soil Scientist, report dated 9/23/20 (see attached).

Mr. Thibeault reviews wetland flags 1.1 to 10.1. There is stormwater run off from Louise Berry Drive to a catch basin that discharges water down the hill flowing south then to the west. Wetland flags 1A to 51A is a boundary forested wetland which flows to the property boundary. Wetland flags 15A to 20A define an intermittent watercourse which is a result of water discharge from Franklin Drive drainage. These converge on site to the southern portion and flow off site to the west. The project proposes 900 feet of newly paved roadway and a large stormwater basin to discharge from the site. There is no proposed wetlands disturbance, however, there is disturbance in the upland review area. Ms. Washburn requested Mr. Thibeault show the limits of the intermittent watercourse that flows down center of wetlands on the site plan. Mr. Thibeault reviews and discusses this with Commission Members. Mr. Thibeault also reviews the following: stormwater maintenance; roof water run-off, public water, and sewer connections; placement of units in upland review area.

Mr. Thibeault received a second page of comments from Syl Pauley, P.E. late last week and will address these on the plans. Mr. Pauley asked to have a couple of test holes excavated in the stormwater basin which will be done by the end of the week. This information will be available for next month's IWWC meeting.

Mr. Thibeault discussed the maintenance of the stormwater basin, homeowner maintenance agreement and upkeep of the road. This does not impose anything on the Town to maintain. Ms. Washburn mentioned a Town bond to maintain stormwater basin, Mr. Thibeault stated this can be discussed, homeowners are responsible for upkeep.

Mr. Thibeault discussed parking spaces. One parking space in driveway and two parking spaces in building (garage full depth of building). Off street parking spaces discussed. There will be "no parking" signs along the roadway. Mr. Thibeault discussed snow removal.

**Chairman Arends asks for a motion to open the public hearing. A motion was made by Jim Paquin to open the public hearing for application 081120A. Rich Oliverson seconds this motion. No discussion held. All in favor. The motion passes unanimously.

Commission Member Questions:

Chairman Arends asked how much wetlands disturbance is with the project. Mr. Thibeault stated none.

Mr. Oliverson asked what is the depth of the buildings other than 1, 2, and 3? Mr. Thibeault commented 42 feet. Are you creating any wetlands? Mr. Thibeault commented that the sediment forebay within the storm water basins may develop a wetland characteristics, but there are no creation of wetlands.

Mr. Paquin asked how the slopes will be stabilized. Mr. Thibeault stated E and S blanketing on all of the slopes.

Mr. Oliverson requests that Commission Members have site plans for this project. He cannot read the e-mailed plans. Commission members agree. Mr. Thibeault can provide half size plans to Commission Members. He will drop off at Town Hall.

Chairman Arends asked to have the rain garden been eliminated? Mr. Thibeault stated the rain garden was eliminated because they are no longer discharging roof water to it.

Chairman Arends asked if there is a designated area for snow removal. Mr. Thibeault stated there is an area at the end of the cul-de-sac, the slopes are gentle, and would be okay to push the snow there. Snow can also be stacked at the end of the condo driveways.

Chairman Arends asked if there is a gravel maintenance access for the storm basin? Mr. Thibeault stated that is correct.

Mr. Oliverson questioned the cul-de-sac sheet drain; is this curved including end of all other ones? Mr. Thibeault commented there is a curve at the end of the cul-de-sac with two catch basins.

Mr. Ives asked if you could push the snow through the cul-de-sac. Mr. Thibeault stated yes, using cape cod berm. Mr. Oliverson stated it must have a footing.

Mr. Paquin asked if there will be a dumpster area. Mr. Thibeault stated that it will be individual curbside garbage pick-up for the property. Mr. Oliverson suggests speaking with the garbage companies regarding this.

Mr. Paquin asked if they will be using propane tanks. Mr. Thibeault commented this has not been discussed yet with the applicant, there has been conversation about using Mitsubishi mini splits.

Chairman Arends opens comments to the public in attendance:

Kurt Hostman 11 Louise Berry Drive – no comments at this time.

Bill Purcell (#8604 08 phone) asked Mr. Thibeault why the TR 20 is being used instead of TR 55 for the run-off hydraulics? Mr. Thibeault commented the TR20 is what program he uses.

(#8607 95) No comments

(86708 97) No comments

(#8603 69) No comments

Ms. Washburn asked if there is going to be an increase in rate or amount of water leaving the site? Mr. Thibeault commented the volume of water leaving the site will increase at a controlled rate. Ms. Washburn asked how much volume release will increase? Mr. Thibeault stated it will be different each storm. He does not have this information at this time, he will provide this information next meeting.

Darren Hayward no comments.

Lou Brodeur are the fire hydrants on the road on a city water line? Mr. Thibeault commented yes, there will be fire hydrants.

Chairman Arends suggests continuing the application to next months meeting with revised plans. Mr. Thibeault will supply six sets of revised plans.

A motion was made by Jim Paquin to continue public hearing on application 081120A Shane Pollock-Applicant/BLB, LLC Owner, Louise Berry Drive, Map 19, Lot 19, RA Zone; Construction of 51 Single Family Condominium Units with activity in the upland review area to the next regularly scheduled meeting. George Sipila seconds this motion. No discussion held. All in favor. The motion passes unanimously.

Old Business:

1. 081120A Shane Pollock-Applicant/BLB, LLC Owner, Louise Berry Drive, Map 19, Lot 19, RA Zone; Construction of 51 Single Family Condominium Units with activity in the upland review area.

A motion was made by Chairman Arends to move application 081120A to the next regularly schedule meeting. Jim Paquin seconds this motion. No discussion held. All in favor. The motion passes unanimously.

2. 090820A Square 1 Building Associates; Tripp Hollow Road, Map 7, Lot 12-1, RA Zone; 4-Lot Subdivision; Residential building construction consisting of houses, driveways, wells, septic systems, and associated grading.

Bob Deluca with CLA Engineers along with Bob Russo, Soil Scientist with CLA Engineers and Paul Archer, Archer Surveying. represents the applicant.

The parcel is at the end of Tripp Hollow Road along the Canterbury Town Line. There is a turn-around presently being built by the Town of Brooklyn. The remaining land is 23 acres. The subdivision will consist of 1 frontage lot and 3 rear lots sharing a driveway.

Bob Russo Soil Scientist delineated the wetlands and sent reports dated 9/3/20 which comments on site setting; surficial geology and soils; soil types and properties at the Square 1 Subdivision site; wetland description and function; potential for impacts; summary (see attached). A second report was received dated 10/8/20 addressing staff comments (see attached).

Ms. Washburn commented all wetland flag numbers must be shown on the plan. Discussion held. Mr. Deluca will take care of showing all the flags on the plan.

Ms. Washburn asked that the mitigation plantings be shown on the plan. Mr. Russo discusses the driveway crossing, limits of clearing, shrub plantings. Mr. Russo discusses Syl Pauley's comments with regards to the driveway crossing and pipes. Discussion ensued.

Ms. Washburn asked how much wetlands is being filled? Mr. Deluca stated 2800 sq. ft. Ms. Washburn questioned is there anything other than silt fence that can be used for mitigation? Mr. Deluca commented they could use shrubs as screening, this is up to the Commission if they would like this added to the plan.

Chairman Arends asked can the removed wetland soils be placed in other area on the site? Mr. Russo addressed this with Chairman Arends.

Mr. Paquin asked how the wetlands continues to south? Mr. Deluca describes this and demonstrates on the site plan. Discussion ensued.

Mr. Paquin asked what is the approximate length of the wetland crossing proposed? Mr. Deluca states it is about 80 feet. Mr. Paquin discusses separating the pipes. Discussion ensued. Mr. Deluca will make the discussed changes to the plan.

Ms. Washburn asked if silt fence will benefit the finger lake projection to south? Mr. Deluca commented that check dams could be placed along the driveway because of the east and west grade but would not run silt fence. Bob Russo commented that a woodchip berm could be placed along the limit of clearing between driveway and trees, that would slow down and disperse water and would be left there to compost. Mr. Russo reviews the site plan with Commission Members. Discussion ensued.

Mr. Oliverson suggests a site walk of the property.

Chairman Arends suggests a public hearing be scheduled for this application. Chairman Arends also requests scheduling a site walk. All Commission Members unanimously agree.

A motion was made by Chairman Arends to schedule a public hearing for the next scheduled meeting. Jim Paquin seconds this motion. No discussion held. All in favor. The motion passes unanimously.

A motion was made by Richard Oliverson to schedule a site walk on Friday 10/15/20 at 4 p.m. George Sipila seconds this motion. No discussion held. All in favor. The motion passes unanimously. All members are to meet at the site.

3. 260 Woodward Road Violation – Seth Duval. Work without a permit for depositing fill in Sandy Brook.

Ms. Washburn met with Seth Duval and photographs were taken today. Ms. Washburn feels Mr. Duval has not done any more work since April 2020, except pulling out logs and moving rocks. Nothing has changed with the ford. After today's inspection Ms. Washburn feels that nothing needs to be done, however, suggests doing periodic inspections of the site. Commission Members agree.

4. 060920B VBL Properties, LLC, Beecher Road, Map 22, Lot 38, RA Zone; 5-Lot Subdivision; Single Family Homes, Driveways, Well, Septic and Minor Grading.

A motion was made by Chairman Arends to reconsider application 060920B. Richard Oliverson seconds this motion. No discussion held. All in favor. The motion passes unanimously.

Mr. Oliverson visited the site today. Mr. Oliverson's biggest concern was the standpoint of impact and flooding with a 100-year storm. Since visiting the site Mr. Oliverson commented he does not see this as a concern now. He also feels the same about the lot to the west side of the brook, there is a clear field with not much disturbance there.

Chairman Arends does not personally like the application at all. The Commission has nothing to tie this to a regulation to deny it, therefore, if it ends up in court the Commission will lose, therefore, he does not want to waste taxpayer dollars.

Mr. Paquin comments that he appreciates everyone opinion that it should not be developed as designed. He stands by his statement if done responsibly, it will not have an impact on the resource. Mr. Paquin is in favor of moving forward to an approval. There has been talk about the western side piece that contains the duplex to be sold to the Town of Brooklyn. As a taxpayer, Mr. Paquin would like to see this happen. The property owner should have an open discussion with Mr. Ives and come to terms.

A motion was made by Chairman Arends to rescind the previous decision of denial on application 060920B. Richard Oliverson seconds this motion. No discussion held. All in favor: Jim Paquin, George Sipila, Richard Oliverson and Chairman Arends. The motion passes unanimously.

A motion was made by Richard Oliverson to add application 060920B to tonight's agenda under Old Business. Jim Paquin seconds this motion. No discussion held. All in favor. The motion passes unanimously.

Bob Deluca, Bob Russo, Paul Archer and Betty Lehto are in attendance. Mr. Deluca discussed last month's concerns. Mr. Deluca reviewed the site plan of the subdivision with Commission Members. Mr. Deluca discussed Lot 5 listed on sheet 5 of the site plan. The septic system is 80 feet from flagged wetlands and 150-feet from the edge of brook. The 125-foot wetland setback is shown on the site plan. The septic system can be pushed 20-feet away without causing design changes. The system would be 100-feet from the wetlands and 175-feet from the watercourse.

Mr. Deluca discussed swapping the driveway on northwest side to the northeast side which would be less into the wetlands buffer to reduce distance of disturbance to wetlands area.

Chairman Arends left the meeting due to computer issues and rejoined the meeting via telephone.

Chairman Arends commented his concerns were with the wetlands and watercourse resource and putting the septic systems opposite one another on opposite side of the brook at the same location.

Mr. Deluca commented that on the other side of the brook they are 200 feet away from the septic system.

Chairman Arends is satisfied with the septic system being moved 20 feet over. Mr. Deluca commented that the applicant is willing to make those adjustments.

Mr. Oliverson commented that the driveway is fine where it is and is not an issue. Chairman Arends and Mr. Paquin also agree.

Discussion ensued.

A motion was made by Richard Oliverson to approve application 060920B VBL Properties, LLC, Beecher Road, Map 22, Lot 38, RA Zone; 5-Lot Subdivision, because the plans as presented meet the requirements of the IWWC regulations, with the following conditions:

1. Modifications of the plans to meet the requirements of the Town's Consulting Engineer as contained in his memo dated 8/27/20. A revised plan shall be submitted with the following revisions within 30 days of action by the Commission.

2. The new location of septic system on lot 38 (duplex lot) moved 20 feet to the east towards the road but not to create a pump system. Chairman Arends seconds this motion. No discussion held. All in favor. The motion passes unanimously.

New Business:

1. 101320A Ken and Mary Switzer, 41 Bailey Woods Road, Map 23, Lot 32-13, RA Zone; 3 car garage with storage above, driveway and minor grading.

Chairman Arends talked with Ms. Washburn with regards to this application being Duly Authorized Approval. Chairman Arends felt uncomfortable with it being a Duly Authorized as it is a relatively large project close to a wetlands and asked that the application be brought to the Commission.

Paul Archer, Archer Surveying represents the applicant. The proposed is a three-car garage being built in the backyard with no septic system in the upland review area. The wetlands were delineated by Joseph Theroux, Soil Scientist.

Commission members discussed approval by Duly Authorized.

Ms. Washburn stated there is a frost wall 25-feet from the wetlands. The IWWC regulations say the Chairman makes the call if it is to be a duly authorized.

Mr. Paquin commented the driveway is 30-feet away from wetlands, there is very little topography. The frost wall is 55 feet from the southwest side. It is further away as you go on. Mr. Paquin suggests standard silt fence as erosion control measures and sees no problem at all with the project.

Mr. Oliverson and Mr. Sipila have no comments with regards to any issues.

A motion was made by Chairman Arends to approve as a duly authorized. Richard Oliverson seconds this motion. No discussion held. All in favor. The motion passes unanimously.

Communications:

1. Discussion of updates to IWWC Regulations.

Chairman Arends commented that the IWWC Regulations have not been updated in many years. He suggests looking at what changes have been made to regulations and what is applicable to Brooklyn. Mr. Paquin comments not starting this until the Commission meets in person. Chairman Arends and Selectman Ives agree.

2. Wetlands agent monthly report. Nothing to report.

3. Budget update. Chairman Arends commented the Commission is well beneath and below budget. Selectman Ives states the Commission is doing fine.

Public Commentary: None.

Adjourn: A motion was made by Jim Paquin to adjourn at 7:56 p.m. Richard Oliverson seconds this motion. No discussion held. All in favor. The motion passes unanimously.

Audrey Cross-Lussier, Recording Secretary

MONITORING

JOSEPH R. THEROUX

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WETLAND DELINEATIONS AND PERMITTING ~ E&S/SITE

WETLAND FUNCTION & VALUE ASSESSMENTS

9/23/20

Killingly Engineering Associates
P.O. Box 421
Dayville, CT. 06241

Re: Wetland function/value and impact assessment report for the proposed site development for Shane Pollock, Louise Berry Drive, Brooklyn, Connecticut.

Dear Mr. Thibeault,

At your request, I have reviewed the site plans entitled: "PROPOSED MULTI- FAMILY DEVELOPMENT, LOUISE BERRY DRIVE BROOKLYN, CONNECTICUT. PREPARED FOR SHANE POLLOCK, dated April 23, 2020, revised to August 24, 2020 and the above referenced property for the purposes of assessing the wetland functions and values and potential impacts to the inland wetlands and watercourses in proximity to the proposed housing development.

The wetland function and value assessment was conducted on 9/22/2020.

Existing Conditions

The property is 13.497 acres in size and is located on the south side of Louise Berry Drive, in Brooklyn, CT.

The majority of the parcel is comprised of uplands, with gentle to moderate slopes and gravelly, well drained soils. The southern portion of the property is occupied by a large palustrine forested/scrub-shrub wetland & watercourse complex and adjacent forested uplands along the southern property line.

Upland Review Areas

The 125 foot upland review area around the delineated forested/scrub-shrub wetland/watercourse is vegetated in the overstory with a mix of white pine and mixed hardwoods in the sawtimber and polewood size classes. The mixed hardwoods include white, black and scarlet oaks, hickory, black birch and red maple.

The site was heavily logged several years ago resulting in the removal of the majority of the overstory. This increase in light has released the understory saplings, shrub and herbaceous species resulting in a very dense understory, especially in and adjacent to the wetlands.

This densely vegetated understory is comprised of polewood and saplings in these species as well as shrub species such as, spicebush, winterberry, Japanese barberry, multiflora rose and highbush blueberry. Herbaceous vegetation includes numerous fern species, goldenrod, black raspberry and miscellaneous grasses.

Wetlands

A palustrine forested/scrub-shrub wetland with 2 watercourses were delineated in the southern and eastern portions of the property. (See wetland delineation report).

One intermittent watercourse flows to the south along the eastern property boundary. The only source of hydrology for the watercourse is from storm water discharges from the impervious surfaces associated with the school, and from Louise Berry Drive.

The other watercourse, (Anderson Brook), flows onto the property in the southeast property corner, and joins with the eastern watercourse. It then flows to the west off the parcel along the western property line. Storm water discharges from Franklin Drive enter the wetlands and watercourse on the southern property line.

The wetlands and watercourses were inundated on the date of the delineation, (12/28/15 and 5/4/20). On the date of the assessment, (9/22/2020), the wetlands were not inundated nor were the watercourses flowing, however a few small pockets were inundated within the watercourse, due to perched water trapped in depressions.

It should also be noted that floodplain soils were found adjacent to Anderson Brook which flows to the west off the parcel.

The majority of this wetland/watercourse is densely vegetated with red maple, white oak, white ash and elm in the overstory, and in the understory saplings and typical wetland shrub species such as highbush blueberry, speckled alder, arrowwood, sweet pepperbush, winterberry and spicebush. Other species included Japanese barberry, multiflora rose, grapevines and bittersweet.

Herbaceous vegetation included sphagnum moss, sensitive, Christmas, interrupted, hay scented, lady & cinnamon ferns, black raspberry, sedges, rushes, skunk cabbage, goldenrod, jewelweed and misc. grasses.

Wildlife tracks/sign found and directly observed in and adjacent to the wetland/watercourse included mammals and bird species such as: white tailed deer, eastern coyote, red fox, raccoon gray & red squirrels, red tailed hawk, American crow, red wing blackbird, and numerous songbird species.

Amphibians found included green and pickerel frogs. Undoubtedly, this wetland complex serves as habitat to numerous reptile and amphibian species.

I am uncertain if a fish population exists within Anderson Brook, due to its shallow average depths and status as intermittent. I do not believe it is possible for fish to inhabit the eastern intermittent watercourse due to its steep, rocky slope, intermittent nature and poor water quality due to the untreated, non-attenuated storm water discharges that severely erode the stream channel during significant storm events.

Wetland Functions and Values

The forested/scrub-shrub wetland and watercourse(s), were inspected to determine wetland functions and values utilizing the Army Corps. Of Engineers methodology as outlined in "The Highway Methodology Workbook Supplement".

This methodology recognizes 8 separate wetland functions: groundwater recharge/discharge, floodflow alteration/storage, fish/shellfish habitat, sediment/toxicant/pathogen retention, nutrient removal/retention/transformation, production export, sediment/shoreline stabilization and wildlife habitat. The 4 wetland values include: recreational value, educational/scientific value, uniqueness/heritage value and threatened/endangered species habitat.

For each wetland function or value to be determined, 2 to 31 different considerations/or qualifiers are considered as rationale to apply or eliminate that specific function or value.

Palustrine forested/scrub-shrub wetland & Anderson Brook functions:

The following is a list of the wetland functions exhibited by this wetland/watercourse and their descriptions:

Ground water recharge: Ground water recharge function is possible due to the perched water table being trapped in small inundated pockets within the wetlands and slowly infiltrating during dry season. Anderson Brook stream flows off the property diminishes this function.

Sediment/toxicant retention: Dense herbaceous vegetation, shrubs and flat topography in the wetlands can effectively trap sediments/toxicants from surface flows from the adjacent topography. Although with no current sources of sediments or toxicants present, this wetland has little opportunity to provide this function.

Nutrient removal/retention: Herbaceous and shrub vegetation in the wetlands can effectively trap and utilize potential nutrients before reaching watercourses. Nitrogen fixing bacteria in wetland soils also trap nitrogen. Although with no current sources of nutrients present, this wetland has little opportunity to provide this function.

Production export: numerous tree, shrub and herbaceous plant species in the wetlands provide food, berries and seeds for wildlife. Invertebrates and amphibians provide food for birds and mammals.

Sediment and shoreline stabilization: Roots from herbaceous grasses and plants, shrub species and trees found in wetlands adjacent to the watercourses help bind and stabilize soils which helps prevent erosion along steeper edges of wetlands and streambanks.

Wildlife habitat: Numerous amphibians, reptile, mammal, and bird species inhabit this wetland and watercourse complex. The wetland and upland riparian zones adjacent to the wetland serve as wildlife habitat. Wildlife habitat is the primary function of this wetland.

This wetland did not exhibit the wetland functions of fish habitat nor floodflow alteration due to the lack of significant deep-water habitat areas capable of sustaining fish or storing flood waters.

Palustrine forested scrub-shrub wetland & Anderson Brook values

The following wetland values were exhibited by this wetland/watercourse:

Recreation: This wetland/watercourse complex holds the potential for active or passive recreational opportunities such as hiking, hunting or viewing of wildlife, although with no public access on this property, this wetland has little opportunity to provide this value.

Educational/scientific value: this wetland/watercourse is relatively undisturbed, contains multiple wetland classes, and is considered as valuable wildlife habitat, although with no public access on this property, this wetland has little opportunity to provide this value.

Uniqueness/heritage value: this wetland/watercourse serves an important role in the ecological system of the area, it is a typical wetland class for the area, and serves as valuable wildlife habitat.

Visual/aesthetic value: the wetland/watercourse is visible from multiple viewing locations due to its position in the landscape, it contains a diversity of vegetation that turns vibrant colors during different seasons, it is considered valuable wildlife habitat, and is not significantly disturbed.

This wetland/watercourse did not exhibit the value of threatened/endangered species habitat as the site was not shown within the shaded areas on the current natural diversity database maps.

Potential wetland impacts

The project plans and site were reviewed to assess the potential impacts to the wetlands from the proposed parking area expansion.

On this parcel, a 51-unit development is proposed with an access road/cul de sac, utilities, water, sanitary sewer & storm water discharge/treatment systems.

Along the southern limits of the development, a 3:1 slope or less is proposed as shown on the site plan.

The clearing limits and E&S measures shown on the plans vary from approx. 120 feet in width to immediately adjacent to the wetlands.

The topsoil stockpile is shown a considerable distance from the wetlands and silt fencing is shown along its downslope perimeter.

A two-bay grassed storm water basin is proposed to remove sediments and attenuate storm water flows before discharge.

E&S Measures:

The submitted project plans show the proposed E&S measures around the perimeter of the clearing limits adjacent to the wetlands as silt fencing.

It should be noted that the proposed storm water treatment basin and swale are proposed to be utilized as a temporary sediment basin during construction to prevent potential sediment discharges from reaching the wetlands.

Jute netting is proposed to help hold and establish vegetation on steeper slopes.

It would be my recommendation that the E&S measures be installed as soon as possible after the initial timber cutting/land clearing and before the stumping and topsoil removal operation. It is during this phase where the most likely opportunity will occur for erosion and sedimentation. In the northeast area the existing slopes adjacent to the wetlands/watercourse are moderate, and the excavation, filling and grading are proposed directly adjacent to the wetlands.

Along the portions of the clearing limits within 75 feet of the wetlands, I would recommend either super silt fencing or silt fencing backed by staked hay bales should be proposed and implemented. The silt fencing will also prevent reptiles and amphibians from entering the development areas.

Silt fencing should be shown along wetland flags WF-37 to WF-39 for the excavation/installation of the rip rap level spreader and pipe.

I would also recommend that E&S inspections be conducted on a frequent basis during the land clearing/stumping/topsoil stripping phases, and prior to significant storm events.

Direct wetland impacts:

No direct wetland or watercourse disturbance is proposed.

Potential short-term impacts:

The potential short-term impacts associated with the land clearing, stumping, top soil stripping and construction would be limited to potential sediment discharges during significant storm events.

Provided that the proposed/recommended E&S measures/inspections are correctly implemented and maintained throughout the project timeframe, the disturbance directly adjacent to the wetlands will not significantly impact the wetlands or their existing functions due to erosion and sedimentation. Once the top soils are removed, the well-drained, sandy/gravelly soils will allow for good infiltration of storm water runoff both pre and post construction.

The quick and permanent establishment of vegetation in the disturbed areas is crucial to the prevention of erosion. To minimize the potential for these impacts, E&S control measures have been incorporated into the project plans on sheet 7 of 9.

Potential long-term impacts:

Wetland hydrology

I see no direct or long-term impacts to the wetland/watercourse hydrology as a result of the proposed development, or storm water treatment basin. The storm water associated with the access drives, parking areas and the impervious surfaces, (roof areas), will be a significant input to the existing hydrology, through some minor overland flow, but mostly through the storm water basin, impervious grass & rip rap swale, as ground water recharge or as direct discharge during significant storm events after treatment. It is my opinion that these inputs from the impervious surfaces will augment the existing hydrology.

Currently, the storm water associated with the school storm water system, Louise Berry Drive and Franklin Drive and ground water discharge are all inputs into the hydrology of Anderson Brook and the wetlands. These inputs will not change as a result of the construction of the development.

It should be noted that currently the sources of hydrology for the wetlands/watercourses are ground water, off site stream and storm water flows, minor overland storm water & precipitation flows and a small measure of direct infiltration through the well-drained gravelly soils within the upland areas adjacent to the wetlands.

Water quality:

Due to the incorporation of the paved parking surfaces, rip rap and grass lined water swales, the 2-bay grassed storm water treatment basin, rain garden, and some direct infiltration of storm water in the well-drained, sandy, gravelly soils, I see no significant or adverse impacts to the existing water quality of the wetlands or Anderson Brook from storm water discharges.

Adjacent upland wildlife habitat

Potential long-term impacts to the upland habitat from the project would include the loss of a significant portion of the URA serving as riparian zones and upland wildlife habitat adjacent to the wetlands and brook corridor. This intrusion will force wildlife into the vegetated corridor in and around the wetlands and brook, during and after the construction timeframe, and into other areas where the uplands are not disturbed.

The remaining non-developed southern portion of the property below the development varies in width from 100 feet to 270 feet in width, within this area, the wetlands and adjacent upland riparian zones will still provide for all of the wetland functions/values and significant wildlife habitat.

In summary, the design of the project implements features intended to minimize or eliminate potential impacts to the wetlands such as storm water runoff, significant loss of wetland and watercourse habitats, and erosion and sedimentation associated with construction activities.

I feel these proposed measures are adequate to protect the wetlands provided that the recommended erosion and sedimentation control features are implemented and maintained throughout the development timeframe.

The existing wetlands and watercourses will still have the ability to provide the same wetland functions and values they currently provide.

If you have any questions concerning the site assessment or this report, please feel free to contact me.

Sincerely,

Joseph R. Theroux

Joseph R. Theroux
Certified Forester and Soil Scientist
Member SSSSNE, SSSA

JOSEPH R. THEROUX

~ CERTIFIED FORESTER/ SOIL SCIENTIST ~
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WETLAND DELINEATIONS AND PERMITTING ~ E&S/SITE
MONITORING
WETLAND FUNCTION/VALUE ASSESSMENTS

5/12/20

KILLINGLY ENGINEERING ASSOCIATES
P.O. BOX 421
DAYVILLE, CT. 06241

RE: WETLAND DELINEATION, BLB LLC. PROPERTY, SCHOOL ST., BROOKLYN, CT.

DEAR MR. GLAUDE,

AT YOUR REQUEST I HAVE DELINEATED THE INLAND WETLANDS AND WATERCOURSE ON THE SUBJECT PROPERTY.

THESE WETLANDS HAVE BEEN DELINEATED IN ACCORDANCE WITH THE STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY AND THE DEFINITIONS OF WETLANDS AND WATERCOURSES AS FOUND IN THE CONNECTICUT STATUTES, CHAPTER 440, SECTION 22A-38.

FLUORESCENT PINK FLAGS WITH A CORRESPONDING LOCATION NUMBER DELINEATE THE BOUNDARY BETWEEN THE WETLAND AND UPLAND SOILS.

FLAG SERIES WF- 1 THROUGH WF- 53 DELINEATE A PALUSTRINE FORESTED WETLAND ON THE SOUTHERN PORTION OF THE PROPERTY. AN INTERMITTENT WATERCOURSE FLOWS THROUGH THIS WETLAND AND FLOWS WERE NOTED AT THE DATE OF THE DELINEATION, (12/28/15 AND 5/4/20). HYDROLOGY INPUTS INTO THE WATERCOURSE INCLUDE AN INTERMITTENT WATERCOURSE THAT HAS FORMED FROM STORM WATER FLOWS FROM SCHOOL STREET, (WETLAND FLAGS WF-1-1 THROUGH WF-10-1), AS WELL AS GROUND WATER BREAKOUT, AND RUNOFF FROM ADJACENT TOPOGRAPHY. THIS WATERCOURSE WAS NOT FLOWING ON THE DATES OF THE DELINEATIONS, (12/28/15 AND 5/4/20).

FLAG SERIES WF-1A THROUGH WF-51A DELINEATE THE SOUTHERN BOUNDARY OF THE SAME FORESTED WETLAND AND INTERMITTENT WATERCOURSE. AN INTERMITTENT WATERCOURSE ALSO FLOWS INTO THIS WETLAND FROM THE STORM WATER DRAINAGE SYSTEM ASSOCIATED WITH FRANKLIN DRIVE, A PORTION OF WHICH IS DELINEATED BY WETLAND FLAGS WF-15A THROUGH WF-20A. THIS WATERCOURSE WAS NOT FLOWING ON THE DATES OF THE DELINEATIONS, (12/28/15 AND 5/4/20).

THESE WETLAND SOILS THAT HAVE FORMED AS A RESULT OF SHALLOW WATER TABLES CREATED FROM GROUNDWATER HYDROLOGY FROM THE ADJACENT HILLSIDES. GROUNDWATER BREAKOUT WAS NOTED AT THE TOE OF SLOPE ON THE ADJACENT HILLSIDES.

THESE WETLAND SOILS ARE CHARACTERIZED BY SHALLOW REDOXIMORPHIC FEATURES AND LOW CHROMA COLORS WITHIN 20 INCHES OF THE SOIL SURFACE.

IT SHOULD ALSO BE NOTED THAT FLOODPLAIN SOILS WERE FOUND ADJACENT TO THE LARGER WATERCOURSE FLOWING THROUGH THE WETLAND.

IN CONCLUSION, IF YOU HAVE ANY QUESTIONS CONCERNING THE DELINEATION OR THIS REPORT, PLEASE FEEL FREE TO CONTACT ME.

THANK YOU,

Joseph R. Theroux

JOSEPH R. THEROUX
CERTIFIED SOIL SCIENTIST
MEMBER SSSSNE, NSCSS, SSSA.

CLA Engineers, Inc.

Civil • Structural • Survey

317 MAIN STREET • NORWICH, CT 06360 • (860) 886-1966 • (860) 886-9165 FAX

September 3, 2020

Inland Wetlands Commission
Town of Brooklyn
69 South Main Street
Suite 22
Brooklyn, CT 06234

RE: CLA 6503
Square 1 Subdivision
Tripp Hollow Rd

To the Commission:

CLA Engineers was retained by Square 1 Building Associates LLC to conduct a wetlands investigation and functional assessment on the parcel of land, located on Tripp Hollow Road, that is proposed to be developed for a residential subdivision. The 23+/- (Source NECOG GIS) acre site is located within the Town of Brooklyn on the Canterbury border. It is currently wooded undeveloped land. The approximate site location is shown on the cover sheet of the site plans. The purposes of the investigation were to: establish the wetland delineation, provide background data in the form of determining wetland functions, and assess the potential for wetland impacts due to the proposed development.

Wetlands were delineated by Robert Russo of CLA Engineers according to the State of Connecticut statutory definition as described in Section 22a of the State Statutes. CLA conducted field work in June and July of 2020.

After wetland delineation was complete, the wetland resources of the site were surveyed by conducting a deliberate walk through of the site, traversing each wetland in order to collect data characteristic of that wetland. During the walk through, vegetation identifiable was noted, and described.

Site Setting

Much of the site had been used for agriculture up until the 20th century as demonstrated by abundant stonewalls.The Square 1 subdivision site currently has two vegetative cover types that were established after farming ceased. Both cover types, wooded upland and wooded swamp, are dominated by mixed hardwoods.

The areas of upland have mixed hardwoods such as red maple, red oak, white oak, black cherry and black birch. The wetlands are dominated by red maple trees with other species such as yellow birch and pin oak in lesser numbers.

The land uses surrounding the site include residential, agricultural and woodland. The residential development is primarily located to the east along Tripp Hollow Rd. Undeveloped farmland and woodland surrounds the site to the north, west and south.

Throughout the site slopes vary from moderate to nearly flat. The surface water drains forn the west and east to the centrally located wetland and flows northward off sit to Tatnic Brook. The slopes on the east and west side of the wetland are gentle at the edge of the wetland and are not prone to erosion.

Surficial Geology and Soils

Southern New England was overlain by glacial ice as recently as 12,000-15,000 years ago. The materials that the glaciers deposited over top the local bedrock determine the surficial geology of the region and of the Square 1subdivision site. Connecticut's glacial deposits are generally divided into three categories: glacial till (un-stratified sand, silt and rock), glaciofluvial (water sorted, stratified sand and gravel), and glaciolacustrine (stratified sand, silt and clay that settled out in lakebeds). Only glacial till is present on the site. However, one of the wetland soil types is formed in post glacial deposits of organic matter. The soils formed in till deposits typically have sandy loam to silt loam textures and in this case they are the coarser, sandy loams. The slopes are moderate to flat throughout the site and this leads to differences in soil mapping classification as listed by the NRCS.

Table 1 is a summary table of the soils found on the site.

Table 1 - Soil Types and Properties at the Square 1 Subdivision Site

Soil Series	Parent Material	Drainage Class	Texture/Characteristics
*3 Ridgebury, Leicester and Whitman	Glacial Till	Somewhat poorly to very poorly drained	Stony sandy loam
*17 Timakwa and Natchuag	Decayed organic matter	Very poorly drained	Well to moderately decayed
47 Woodbridge	Glacial Till	Moderately Well Drained	Sandy loam

* Wetland soil types

Wetland Descriptions and Functions

The Square 1 Subdivision site has one wetland system that occupies a broad swale approximately 1000 west of Tripp Hollow Rd. The wetland itself varies from approximately 100 to 200 feet wide. It is nearly level but has hummocky micro-topography Under the USFWS system is a palustrine deciduous swamp (PF01) that is seasonally flooded/saturated. This designation reflect its vegetation which is dominated by mature trees, and its hydrology which has shallow standing water in the winter and after storm events. The wetland lacks standing water in the summer and was not found to contain a perennial stream or vernal pool.

The typical vegetation of the wetlands includes: trees such as red maple trees and saplings, yellow birch trees and saplings; shrubs such as spice bush, highbush blueberry, winterberry holly, sweet pepperbush, clammy azalea, alder and plants such as skunk cabbage, cinnamon fern, sphagnum, royal fern, and sensitive fern.

The principle functions of this wetland system are typical to local red maple swamps and the wetland is generally undisturbed with an undisturbed wooded upland buffer. The CTDEEP NDDB (June 2020) shows no known habitat of threatened, endangered or special concern species.

The functions were found to include:

- Wildlife habitat
- Floodwater retention/detention
- Groundwater recharge/discharge
- Biomass production export
- Recreation
- Aesthetics

These values associated with the wetland and are supported by several important features of that wetland:

- Areas of undeveloped buffer
- Limited development within the watershed
- Evidence of use by a diversity of wildlife species.

Potential for Impacts

As shown on the project plans there are proposed activities in the inland wetlands. The total area of wetland excavation and fill proposed is 2,800 square feet. These activities are limited to impacts necessary to provide a driveway for the lot located furthest from the road. This lot has significant developable area that cannot be accessed without wetland

impacts. The driveway crossing location is at a narrow point in the wetland to assist in minimizing wetland impacts. There is one other narrow point to the north, but this location would result in no further reduction of wetland impact. The width of the driveway has been kept to the minimum required and the use of multiple, smaller diameter culverts assists in keeping the elevation of the driveway low, minimizing the side slopes needed for the crossing. CLA believes that the proposed driveway crossing is the most feasible and prudent alternative.

As shown on the plans, work in the upland review zone will include:

- Clearing and grading
- Construction of driveways, a houses and a septic systems
- Installation of erosion and sedimentation controls
- Construction of utilities

These activities in the upland review zone present limited potential for wetland impacts. The site has only moderate slopes and short length of slope. CLA believes that the Best Management Practices (BMPs) measures shown on the plans for erosion and sediment control and stormwater management will be adequate in preventing wetland impacts if properly installed and maintained.

CLA notes that in order to minimize the potential for impacts to wetlands, the E&S has been designed in compliance with the CTDEEP 2002 E&S Manual.

Summary

The proposed development activities will directly impact wetlands. The work in the upland review zone can be managed with BMPS so as to not impact wetlands during construction. In summary, if the proposed erosion and sedimentation control measures are adhered to, CLA believes that the wetland impacts will be limited to what is necessary to provide a driveway for a building lot.

Please contact me if you have any questions.

Very truly yours,

R C Russo

Robert C. Russo
Soil Scientist

Appendix A
Soils Data

NRCS Soils descriptions

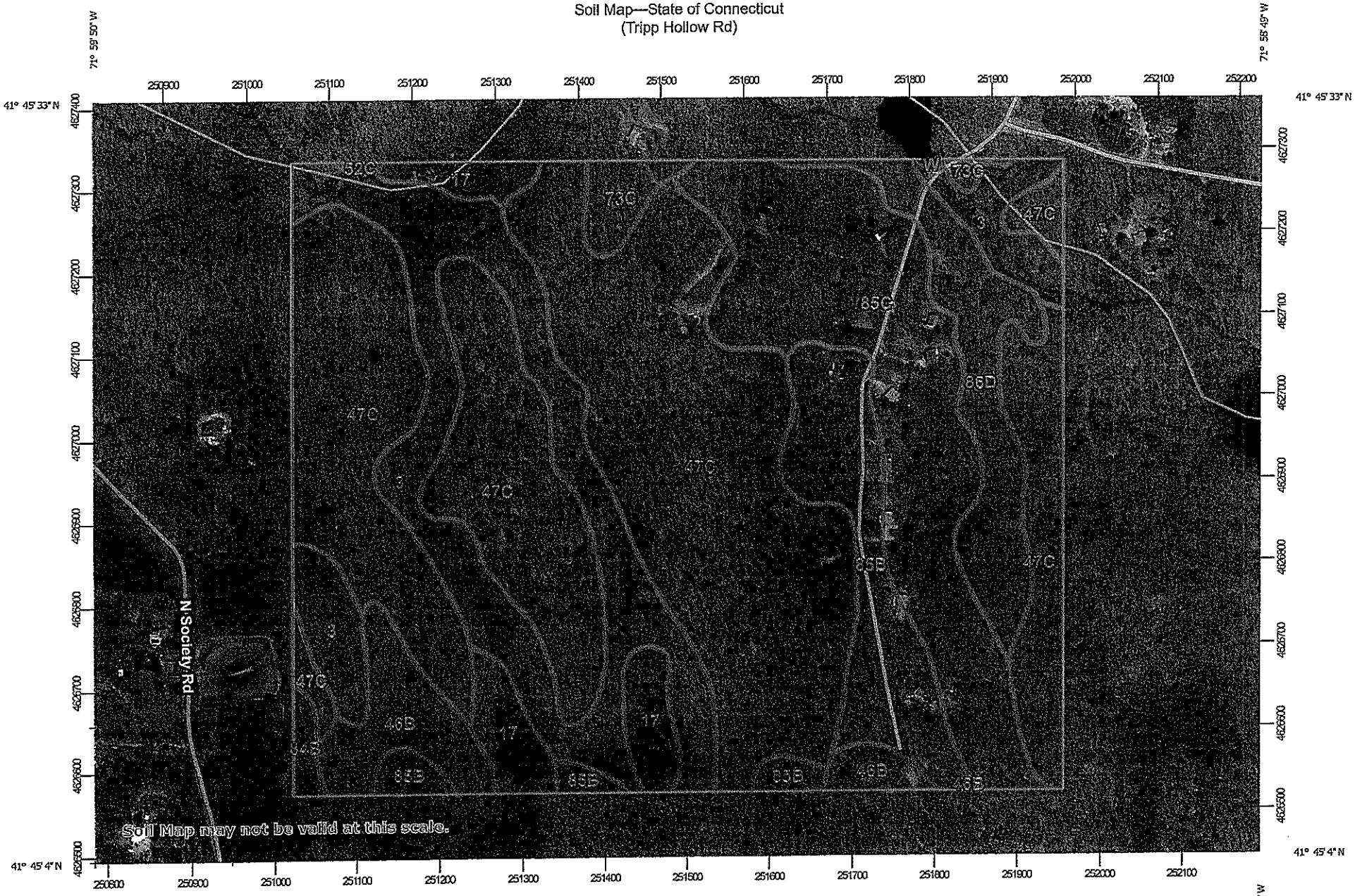
(3) The Ridgebury series consists of very deep, somewhat poorly and poorly drained soils formed in lodgment till derived mainly from granite, gneiss and/or schist. They are commonly shallow to a densic contact. They are nearly level to gently sloping soils in depressions in uplands. They also occur in drainageways in uplands, in toeslope positions of hills, drumlins, and ground moraines, and in till plains. Slope ranges from 0 to 15 percent. Saturated hydraulic conductivity is moderately high or high in the solum and very low to moderately low in the substratum. Mean annual temperature is about 9 degrees C. and the mean annual precipitation is about 1143 mm.

(17) The Timakwa series consists of very deep, very poorly drained soils formed in woody and herbaceous organic materials over sandy deposits in depressions on lake plains, outwash plains, till plains, moraines, and flood plains. Saturated hydraulic conductivity is moderately high or high in the organic layers and high or very high in the sandy material. Slope ranges from 0 to 2 percent. Mean annual temperature is about 13 degrees C and the mean annual precipitation is about 1258 mm.

(17 The Natchaug series consists of very deep, very poorly drained soils formed in woody and herbaceous organic materials overlying loamy deposits in depressions on lake plains, outwash plains, till plains, moraines, and flood plains. Saturated hydraulic conductivity is moderately high or high in the organic layers and moderately low to high in the loamy material. Slope ranges from 0 to 2 percent. Mean annual temperature is about 9 degrees Celsius and mean annual precipitation is about 1205 millimeters.)

(47) 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. Saturated hydraulic conductivity ranges from moderately high to high in the surface layer and subsoil and low or moderately low in the dense substratum. Mean annual temperature is about 9 degrees C., and mean annual precipitation is about 1168 mm.

Soil Map—State of Connecticut
(Tripp Hollow Rd)



Map Scale: 1:6,450 if printed on A landscape (11" x 8.5") sheet.

Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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 20, Jun 9, 2020

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

Date(s) aerial images were photographed: Mar 30, 2011—May 1, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	28.9	16.4%
17	Timakwa and Natchaug soils, 0 to 2 percent slopes	6.7	3.8%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	7.1	4.0%
47C	Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony	79.2	45.0%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	0.1	0.1%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	2.5	1.4%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	1.0	0.5%
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	13.8	7.8%
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	26.9	15.3%
86D	Paxton and Montauk fine sandy loams, 15 to 35 percent slopes, extremely stony	9.9	5.6%
W	Water	0.1	0.0%
Totals for Area of Interest		**176.1**	**100.0%**

CLA Engineers, Inc.
Civil • Structural • Survey

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October 8, 2020

Inland Wetlands Commission
Town of Brooklyn
69 South Main Street
Suite 22
Brooklyn, CT 06234

RECEIVED
OCT - 8 2020

RE: CLA 6503
Square 1 Subdivision
Tripp Hollow Rd

To the Commission:

CLA Engineers was retained by Square 1 Building Associates LLC to conduct a wetlands investigation and functional assessment on the parcel of land, located on Tripp Hollow Road, that is proposed to be developed for a residential subdivision. CLA has previously documented the soils and wetland conditions on the site in a letter dated September 3, 2020 provided to the Commission as part of the application. CLA has received comments on that application from staff and provides the following comments below. The original staff comments are in boldface.

Alternatives which would cause less or no environmental impact to wetlands or watercourses and why the alternative as set forth in the application was chosen; all such alternatives shall be diagramed on a site plan or drawing;

An alternative wetland crossing was considered and a diagram is provided (see attached SK-1). As shown on SK-1 the alternative crossing location would impact the same wetland systems in the same manner as the proposed crossing. The square footage of wetland impact (±100 square feet) is not significantly different from that of the proposed crossing and the wetland vegetation, soil, and functions are the same.

A description of the ecological communities and functions of the wetlands or watercourses involved with the application and the effects of the proposed activity on these communities and wetland functions;

This information is provide in CLA's letter of September 3, 2020.

A description of how the applicant will change, diminish, or enhance the ecological communities and functions of the wetlands or watercourses involved in the application and each alternative which would cause less or no environmental impact

to wetlands or watercourses, and a description of why each alternative considered was deemed neither feasible nor prudent; management practices and other measures designed to mitigate the impact of the proposed activity; and

Management practices and other measures designed to mitigate the impact of the proposed activity.

This this information is provided in CLA's letter of September 3, 2020

In particular, we would be looking for the following: Any reasonable measures which would mitigate the impacts of the regulated activity and which would (a) prevent or minimize pollution or other environmental damage, (b) maintain or enhance existing environmental quality, or (c) in the following order of priority: restore, enhance and create productive wetland or watercourse resources.

CLA recommends enhancement of the area proposed to be disturbed by planting wetland shrubs along the limits of disturbance of the proposed driveway. To accomplish this, native species of wetland shrubs (Highbush blue berry and winterberry holly) will be planted along the edge of the disturbance for the driveway. A total of 16 shrubs (8 of each species) are proposed.

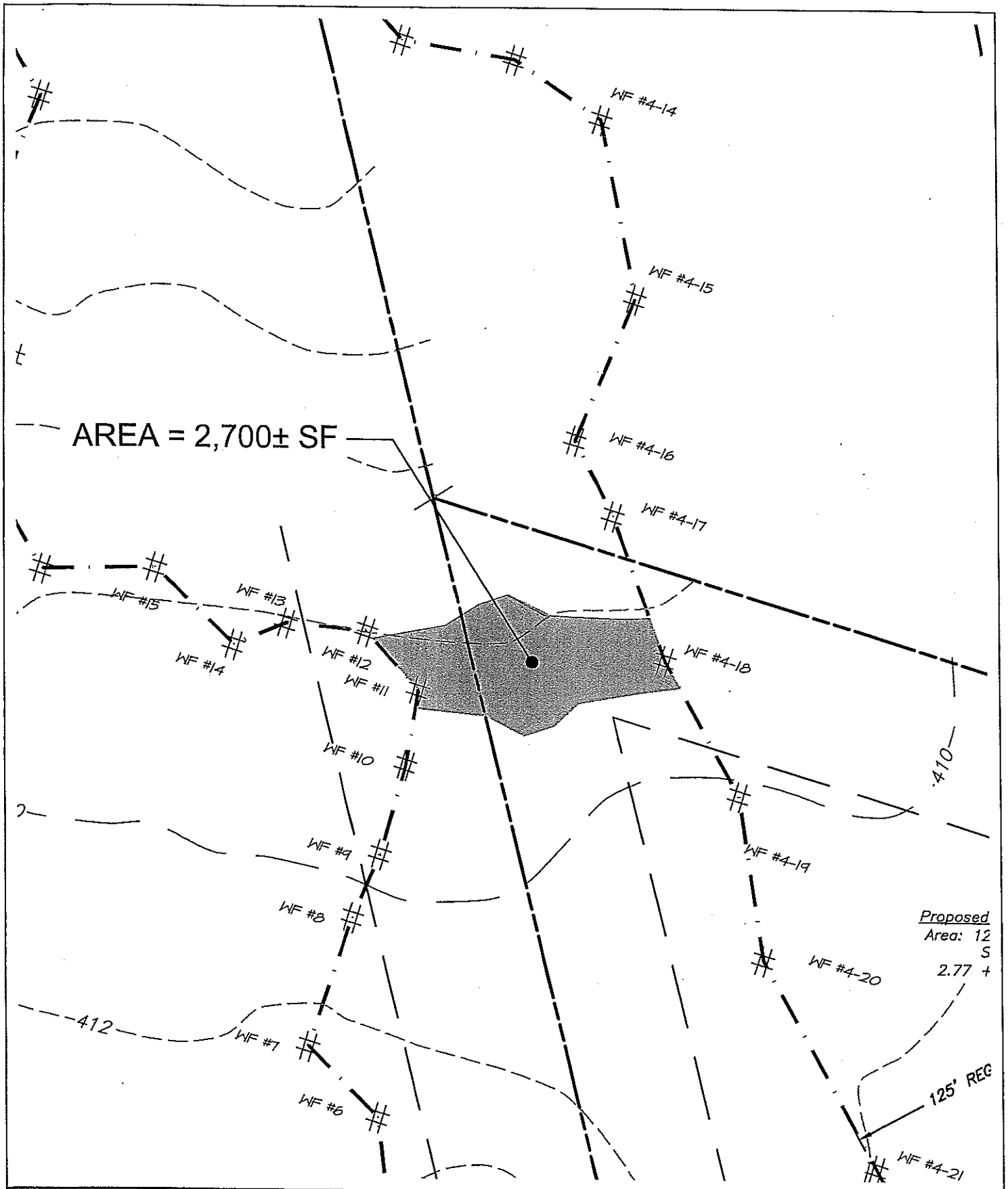
Note that on October 6, 2020, Robert Russo, C.S.S. Re-established the wetland boundary at the location of the proposed crossing and the alternative. This was done because some of the wetland flags were no longer present so that the commission could have a clear picture of the edge of wetland during their upcoming site visit. To assure that the site plans matched the field conditions, the surveyor re-checked the flag locations and they are portrayed on the plans.

Please contact me if you have any questions.

Very truly yours,

R C Russo

Robert C. Russo
Soil Scientist



CLA Engineers, Inc. CIVIL · STRUCTURAL · SURVEYING 317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165	4-Lot Sub-Division Brooklyn, CT	JOB:	CLA-6503
		SCALE:	1"=40'
		DATE:	10/07/20
	POTENTIAL WETLAND DISTURBANCE (NORTH)	SKETCH NO:	**SK-1**