

**INLAND WETLANDS COMMISSION
REGULAR MEETING
MINUTES**

December 13, 2023 @ 7:30 p.m.
Council Chambers, Newtown Municipal Center
3 Primrose Street, Newtown CT

These Minutes are subject to approval by the Inland Wetland Commission

Present: Sharon Salling, Mike McCabe, Scott Jackson, Kendall Horch, Suzanne Guidera, Craig Ferris

Staff Present: Steve Maguire, Deputy Director of Land Use, Sebastian Velez, Land Use Enforcement Officer, Dawn Fried, Clerk

Ms. Salling opened the meeting at 7:30 p.m.

PENDING APPLICATION

IW Application #23-28 by Residential and Commercial Builders, LLC, property located at 4 Southbrook Lane, for the removal of fill.

The applicant, Vasyl Ivoniuk gave a brief overview of the updated site plans and modifications. The Commission concurred that Mr. Ivoniuk filled the requirements.

With no further questions, Mr. McCabe moved to APPROVE IW Application #23-28 by Residential and Commercial Builders, LLC, property located at 4 Southbrook Lane, with standard conditions A, B, C, D, E, F, O and P. The approved plans are: Improvement Location Survey, prepared for Michelle Davies and John Davies, 4 Southbrook Lane, Newtown, Connecticut, Dated Received December 11, 2023 and all supporting documents Mr. Ferris seconded. All in favor. Ms. Guidera abstained. IW Application #23-28 by Residential and Commercial Builders, LLC was APPROVED.

PUBLIC HEARING

IW Application #23-31 by Castle Hill Real Estate Holdings, LLC, property located at 20 & 60 Castle Hill Road, to construct a cluster home community consisting of 117 single family units, community center and associated site improvements.

Mr. McCabe read the legal notice into the record. Ms. Salling gave an overview of the public hearing procedures.

Applicant, George Trudell, Castle Hill Real Estate Holdings, LLC, 48 S. Main Street, Newtown CT, Megan Raymond, Principal Soil Scientist, SLR International Corporation and Todd Ritchie, Professional Engineer of SLR International Corporation, presented the application.

Mr. Trudell explained that he and Joe Draper strictly followed the existing Borough Regulations, 4.05.1 Residential Open Space Development, during the planning process of this development. Of the 136-acre site, approximately 52 acres will be developed. The remaining 85 (+/-) acres abutting the lake will not be disturbed. The 85 acres will be ceded to the Town as a conservation easement and is to remain as open space. The 136 acres fall on two parcels which 66 acres are on 20 Castle Hill Road and 70 acres are on 60 Castle Hill Road. There will be 117 single-family homes with a community center, pool, gym, conference rooms, pickle ball courts and a play-ground.

Mr. Trudell stated he met with neighbors prior to the formal design plans to be sensitive to any potential concerns. Mr. Trudell stated the meetings were very constructive. Mr. Trudell also met with the Borough Board of Burgesses and the First Selectman. As part of the proposal a sidewalk will be donated starting from the monument on Main Street and ending at the project site. Mr. Trudell also received approval for the discontinuance of a portion of Reservoir Road, which currently bisects the two parcels. By discontinuing the road the two parcels will be joined together and the road will become a public easement for pedestrian, biking and equestrian use.

Mr. Trudell reiterated that he and Joe Draper would like to protect the lake and further restrict the open space area abutting the lake. Mr. Trudell stated it's important to protect the wetlands.

Mr. Ritchie, SLR International Corporation gave an overview of the project. Mr. Ritchie's presentation was inaudible. Please see attached testimony and slide presentation from Mr. Ritchie.

Megan Raymond, Principal Soil Scientist, SLR International Corporation gave an overview of the wetland systems. Ms. Raymond stated there are 7 wetland systems on 3.72 acres and one vernal pool. The wetland sizes range from .005 acres to 1.5 acres and are classified as forested wetlands and scrub shrub wetlands. The wetlands are high functioning wetlands. The vernal pool is located within a forested wetland and supports wood frogs and spotted salamanders.

There are two direct wetland impacts, one being the wetland crossing and the other a small slope wetland area approximately 400 sq. ft. The wetland crossing was previously a road crossing for a farm with a small drain comprised of stones. The water from the wetland drains down to a watercourse to the south. The wetland crossing area will be improved with a 24" pipe.

Ms. Raymond stated there will be a robust stormwater management program to mitigate the impervious areas. The proposed impervious area will increase to 13 acres. The impervious area in the upland review area is a half an acre which will consist of grading and landscaping modifications.

The sediment and erosion control measures will be based on the three phases of construction. The construction site will be bordered by sediment filter fencing and hay bales. Erosion control blankets and straw bales will be used along the slopes and the disturbed slopes will be stabilized and revegetated following construction. Ms. Raymond stated there is an overall balance on the site which maintains the functions of the wetlands and minimizes direct wetland impacts.

Ms. Horch asked the applicant several questions (please see attached).

Ms. Horch asked if CTDPH and Aquarion were notified. Mr. Ritchie stated yes, they will be contacting everyone who needs to be contacted.

Ms. Horch asked if there were other wetland seeps in addition to Wetland #5. Ms. Raymond stated yes there are other little seeps on the eastern side of the site.

Ms. Horch asked what is the duration of the project. Mr. Trudell stated the project should last four to five years.

Ms. Horch asked if there were detailed plans regarding the phasing and the cutting of the trees.

Mr. Ferris asked what is the vernal pool's water source. Ms. Raymond stated the source of water comes from the groundwater system. Mr. Ferris asked if there would be an increased flow of water into the vernal pool due to the construction. Ms. Raymond believes the watershed will be maintained and will not affect the water table.

Mr. Ferris noted the site plan has a 750-ft delineated area around the vernal pool. He stated this area is also where the construction is proposed. He asked if that area is critical for the wetland habitat. Ms. Raymond responded there is a forested protected area adjacent to the vernal pool that will serve as the directional buffer for the terrestrial habitat.

Mr. Ferris asked what will be done to protect the water quality in the vernal pool, specifically from fertilizers and regular lawn maintenance. Ms. Raymond stated it is hard to project into the future. They will try to manage around the vernal pool with permanent protection of mitigation plantings and a woody shrub buffer. The lawns will be maintained by the homeowners association and will limit chemical applications.

Mr. McCabe asked if there are any details on the water crossing. The old piping will be replaced with a 24" reinforced concrete pipe and the culvert will be replaced.

Mr. McCabe would like more detailed information on the stormwater management.

Mr. McCabe asked about the fence. Ms. Raymond stated the fence is to keep people from going into that area.

Mr. Jackson asked what safeguards are in place and who will be monitoring the site in regards to the sensitivity of the designated wetland areas. Mr. Trudell stated his 31 years of experience will be beneficial to the management of the site. Mr. Trudell along with other site supervisors will be monitoring and preparing for rainfalls. Mr. Trudell stated there will also be regular visits by a third party who will submit reports to the Town staff. Ms. Horch noted the site plans did not specify the weekly report submissions to the Town staff. Ms. Horch requested that be added to the site plans.

Ms. Guidera requested more information regarding the discharge from the property and the stormwater drainage basins. Mr. Ritchie gave an overview of the "Site Plan – Utilities" page (see attached).

Ms. Guidera asked whether the discharge from the stormwater basins will run into the vernal pool. Mr. Ritchie responded very minimal, if any.

Ms. Horch asked about the limit of lawn, specifically the backyards.

Ms. Horch stated she did not see alternate options being considered for the design plan. Ms. Raymond stated there are not any alternate drawings of the proposed plans. Mr. Trudell pointed out that not touching 85 acres would be preferable.

Ms. Horch recommended a third party review. The Commission had a discussion but did not make a determination.

Mr. Maguire emphasized the importance of the vernal pool and wants to make sure the hydrology will not be affected. Mr. Maguire asked whether the additional 2-ft pipe at the crossing will cause more water flow which will change the hydrology of the vernal pool. Mr. Maguire voiced concerns about the clearing by the pickle ball courts and whether the surface runoff from the impervious areas will feed into the vernal pool.

Mr. Maguire asked whether there is a plan for the excess pool water and the back-flushing of pool water.

Mr. Maguire asked whether the span of the crossing can be reconfigured with less impact.

Mr. Maguire noted the western wetland on Johnnie Cake has a continual flow. He asked where that water was coming from. Mr. Ritchie stated the water is tied into a farmer's drain coming from the hillside.

Mr. Maguire asked how Wetland #1 and Wetland #4 were fed. Ms. Raymond stated Wetland #1 is a sloped wetland system which has a watershed that feeds into it. Groundwater also significantly contributes to the flow. Ms. Raymond feels confident with the design of the grading and drainage plan.

PUBLIC PARTICIPATION

Jackie Willing, 5 King Street, is concerned with the steep slopes and the amount of clearing on the top of the ridge. Ms. Willing asked where the limit of clearing will be. Mr. Trudell stated there will be a 200 to 300 ft. buffer from the property line that will not be disturbed. The steep slope will also remain undisturbed.

Dotty Evans, 1 Reservoir Road, stated she is concerned with this pristine property being negatively impacted. The weight of this project will affect the migration of the wetland species.

Peter Friedman, 3 Cornfield Ridge, voiced concerns regarding the drainage of water coming from the south side of the property onto Castle Hill Road.

Ms. Salling made a motion to continue the public hearing to the next Regular IWC meeting on January 10, 2024 at 7:00 pm in the Council Chambers, 3 Primrose Street, Newtown, CT. Mr. Ferris so moved. Mr. McCabe seconded. All in favor. IW Application #23-31 by Castle Hill Real Estate Holdings, LLC, will be CONTINUED to January 10, 2024 at 7:00 pm in the Council Chambers, 3 Primrose Street, Newtown, CT.

APPROVAL OF MINUTES

The Commission found no substantive errors. Mr. Ferris moved to accept the minutes from November 8, 2023. Ms. Horch seconded. All in favor. Ms. Guidera abstained. The minutes from November 8, 2023 were approved.

ACCEPTANCE OF APPLICATIONS

The Commission accepted Application IW #23-32 by The Residence at Berkshire, LLC, property located at 296 Berkshire Road, to construct a new roadway with a stream crossing for an 11 single-family cluster-home development.

The Commission had a discussion on whether or not to hold a public hearing. The Commission concurred the application did not meet the criteria to hold a public hearing under the Newtown Inland Wetlands Regulations.

OTHER BUSINESS

IWC Calendar for 2024 - Mr. Ferris moved to accept the 2024 Schedule of Meetings. Ms. Horch seconded. All in favor. The IWC Calendar for 2024 was approved (see attached).

Slate of Officers – Ms. Salling would like to give the Commissioners an opportunity to reach out to staff if interested in becoming an officer. The slate will be voted on at the next IWC meeting.

ADJOURNMENT

With no additional business, Ms. Horch moved to adjourn. Ms. Guidera seconded. All in favor. The Regular IWC Meeting of December 13, 2023 was adjourned at 9:35 pm.

Respectfully Submitted, Dawn Fried

**Town of Newtown
Inland Wetlands Commission**

**Public Hearing
December 13, 2023 @ 7:30 P.M.
Council Chambers
Newtown Municipal Center
3 Primrose Street, Newtown, CT**

Public presentation prepared statements by Todd Ritchie, Principal Civil Engineer of SLR Consulting (prepared and submitted by Todd Ritchie)

Good evening, my name is Todd Ritchie and I'm a licensed professional civil engineer and board certified environmental engineer with SLR Consulting, at the office location of 99 Realty Drive in Cheshire, CT.

- Castle Hill Village is a residential open space development of single family homes proposed in the borough area of Newtown.
- The land parcels for the proposed development property area include:
 - +/- 66.4 acres at 20 Castle Hill Road
 - +/- 70.3 acres at 60 Castle Hill Road
 - +/- 1.8 acres of land within former (now abandoned) undeveloped town right-of-way of Reservoir Road
- 60 Castle Hill Road currently exists as an undeveloped forested parcel abutting the shoreline of Taunton Lake. It includes an existing easement area in the northeast corner for an existing public water supply water tower.
- The former undeveloped town roadway right-of-way which adjoins and is between the 20 and 60 Castle Hill Road parcels has an existing stone wall lined trail.
- No development activities are proposed for 60 Castle Hill Road and the former town road right-of-way.
- All proposed development will take place on land associated with 20 Castle Hill Road.
- 20 Castle Hill Road consists of +/- 66.4 acres of which +/- 3.7 acres are delineated as wetlands.
- There is also +/-0.3 acres of wetlands offsite and adjacent to the north property line along John Cake Lane.
- 20 Castle Hill Road was historically used as a farming estate with a single family home, barn and associated facilities. The house was demolished years ago, but the barn remains and will be repurposed in the proposed development. There hasn't been any farming on the property recently, however, the fields are periodically mowed.
- Existing access to 20 Castle Hill Road is from Johnny Cake Lane at the north and Castle Hill Road at the south.

- The proposed residential open space development consists of 117 single family homes, a community clubhouse with a pool, recreation areas, and playground and just over a mile of private roadways.
- Proposed utilities to serve the proposed Castle Hill Village community include:
 - Public water
 - Public sanitary sewer
 - Natural gas
 - Electric/TV/fiber/telephone
 - Stormwater drainage
- The topography of the site is such that there is a high point central to the property at the location of the former house, a north/south ridgeline on the west side of the property and a north/south ridge line along the east side of the property.
- The property is essentially divided into four stormwater runoff drainage areas discharging towards the westernmost wetlands, towards the central wetlands and vernal pool, towards the wetlands at Johnny Cake Lane, and towards the eastern/southeastern property lines.
- The development has been laid out to minimize tree clearing and impacts to wetlands and the associated 100' regulated upland review areas.
- Proposed finished ground slopes will not exceed 3' horizontal to 1' vertical.
- Retaining walls have been incorporated into site grading to limit the extent of disturbance associated with final grading around the buildings.
- Proposed landscaping includes evergreen, ornamental and shade trees across the development as well as individual building foundation plantings.
- Five stormwater basins are proposed to provide stormwater quality treatment and control the rate of stormwater discharge from the property in accordance with the Connecticut Department of Energy and Environmental Protection (CT DEEP) guidelines and town regulations.
- The stormwater basins will be planted with New England Wetlands Plants seed mixes for long term stabilization and habitat creation.
- All stormwater basins are designed to meet water quality volume, groundwater recharge volume, and restrict stormwater outflow to predevelopment peak discharge rates for storm events up to and including the 100-year storm.
- A total of 20 test pits were excavated, observed and documented onsite at various locations within the proposed stormwater basin areas.
- A total of 15 soil samples were obtained and analyzed to determine permeability rates of the soils.
- Two culvert pipes will be installed at locations of existing drainage passages between wetland areas.
 - One pipe culvert is located between the wetland areas along Johnny Cake Lane. The existing 18" corrugated metal (west end) to 18" clay tile (east end) pipe will be removed and replaced with a 24" reinforced concrete pipe. The existing pipes are old and

deteriorated and since a new driveway will be constructed over the culvert the culvert will be replaced as part of the new development.

- The other pipe culvert will be located under the proposed roadway in the western area of the property, along the intermittent watercourse. There is an existing path at this location with a farming drain at this location, consisting of boulders packed together in a subsurface trench. This drain is proposed to be replaced with a 24" HDPE pipe with a headwall.
- The has been divided into 3 construction phases, which will be completed consecutively.
- The proposed stormwater basins will serve as temporary sediment basins during construction, in addition to other temporary sediment traps.
- Proposed erosion and sediment control measures include:
 - Stabilize construction entrances
 - Silt fence and haybale barrier perimeter controls
 - Designated and controlled stockpile areas
 - Inlet protection/filtering
 - Energy dissipators at pipe outlets
 - Diversion berms and swales with check dams
 - Erosion control blankets
- The project requires a Construction Stormwater General Permit from CT DEEP since the total land disturbance area will exceed 5 acres.

Rendall Horch's
Comments. IWC mtg.
12/13/23

Castle Hill Village - IW Comments

What is the total area of disturbance for the project? And in that total area of disturbance, I see only one tree that is being protected. I assume all other trees located in that giant area of disturbance will be cut down? How will the bunker abandonment affect the tree protection since they are located very close and plans are not specific?

It looks like this project is located within a public water supply watershed. Was CTDPH notified? Was Aquarion notified?

Can you please explain to me about the testing done for the vernal pool? I read in the report it was done in June. Was the site visited any other time for wetland delineation/vernal pool inspection?

What was the quality of the vernal pool? Is a 100' setback sufficient for the wildlife you saw in the vernal pool? Do you anticipate runoff volume from the roof drains and grading to change the characteristics of the vernal pool?

Can you describe what Zone X is? I am unclear on what that means.

During our site walk we did not find the wetland pocket that you are proposing to fill in. Can you talk about this wetland? Was this the only area on the steep slope that was bleeding water? I see that you plan to fill it in but I do not see any mitigation/proposed wetlands to offset this action.

What is the anticipated duration of the project?

Are all construction vehicles entering the site from Mount Pleasant Road? I saw there was a tracking apron at the Castle Hill entrance.

Based on the Cut/Fill calculations on the cover page, there will be over 60,000 cubic yards of excess fill, that is approximately 3,000 truck loads of fill leaving the site from this excess alone and passing by the two wetlands located just off Johnnie Cake. Can the cut and fill be balanced better to lower this traffic next to the entrance wetlands?

On the same line of excess fill, I see there are many stockpiles. How will these stockpiles be protected from washing out into the wetlands? Have you considered hydro seeding the stockpiles if they will not be used within a specific time frame? For example, in Phase 1 there is a stock pile located inside the wetland buffer and just uphill of a steep slope into a wetland.

I don't see a limit of lawn indicated on the plans. It looks to me that there is clearing proposed in the wetland setback to provide for lawns. The split rail

fence proposed also significantly extends into the wetland buffer. I understand the reason for the fence but I am unclear as to why it has been pushed into the wetland buffer. Please explain.

Along that line, can you please describe the alternative designs proposed? They are a permit requirement and I did not see a conceptual plan.

Can you please provide a cross section or at least a limit of wetlands disturbance for the road wetland crossing? This crossing includes wetlands filling, a headwall, crossing of utilities including sanitary sewer, force main, water, gas and electric. It looks to me like the sanitary sewer is about 7 feet deep at this crossing and will be located outside of the roadway leading to even more wetland disturbance. I would like to see more detail for this crossing, especially a limit of wetland disturbance. And once again I didn't see any mitigation proposed for this direct wetland impact.

Sheet SE of the plan set is called Construction Phasing. There is no legend or notes on this plan. There is nothing called out to describe how this construction phasing will work. Therefore I have a lot of questions and I am sure the contractor will as well. For example, will all the trees be cut at one time or just in each phase? I didn't see S&E controls between each phase. What determines the completion of a phase? Can you provide a cut/fill analysis for each phase as well?

I saw on the plans that the detention basins have a temporary sediment trap contour. When will the Temporary Sediment Traps be converted into the permanent detention basins and how will they be stabilized when runoff is directed to them?

I did not see a provision for turbidity in construction runoff. The site disturbance is so large that turbid runoff will be collected in diversion swales and temporary sediment traps and ultimately end up in the temporary sediment trap discharge. Can you describe how you will handle turbidity in the construction runoff?

Speaking of the temporary sediment traps. The overflows from them present runoff issues. They have steep downslopes and most are upstream of road crossings. For example, the two basins located uphill of the Johnnie Cake wetlands outlet less than 25' from the wetlands and along steep slopes. I am concerned this will create a soil and erosion control issue. Was the pipe under Johnnie Cake that clearly both wetlands outlet to investigated? Is it sized to handle all of this additional flow you have outletting into someone else's stormwater management system? Was this pipe inspected during the existing conditions evaluation?

Stormwater Basin 510 and 410 both outlet to level spreaders located within the upland review area and on over 25% slopes. This seems like there will be a high probability of long term erosion. Can the level spreaders be moved out of the wetland buffer as well? Speaking of which, Stormwater Basin 120 is proposed to be built within the wetland setback. Can this basin be moved out?

On the cover page of the plan set, Note 6 mentions S&E inspections to be made on a weekly basis. Can you explain who will be performing these inspections? I recommend an independent site monitor and that these reports be submitted to the town. **At the meeting this was confirmed that an independent reviewer would perform the inspections and reports would be sent to the town. The plans should be revised to say this**

In conclusion, it looks like there will be major land disturbance to build this project and it appears to be extremely dense. This project is pushing at the limits of the wetland buffer at almost all areas of the project including building a detention basin within the buffer and providing no safe distance for the outlets and discharges on steep slopes before hitting the wetlands. At the Johnnie Cake entrance the width of disturbance is roughly 900' or three football fields wide and that is just the width. With all of that land being exposed at once, I am extremely concerned about the runoff going into our town's wetlands located just below that exposed hillside. My recommendation is that this project have a peer review to make sure that all construction activities stay contained and do not pollute our wetlands and watershed.

CASTLE HILL VILLAGE RESIDENTIAL OPEN SPACE DEVELOPMENT

20 & 60 CASTLE HILL ROAD
NEWTOWN, CONNECTICUT

SLR#20080.00003
NOVEMBER 8, 2023

GENERAL NOTES

- BOUNDARY AND TOPOGRAPHIC INFORMATION HAVE BEEN TAKEN FROM SURVEY ENTITLED "PROPERTY & TOPOGRAPHIC SURVEY MAP OF LAND 20 CASTLE HILL DRIVE NEWTOWN, CONNECTICUT PREPARED FOR CASTLE HILL REAL ESTATE HOLDINGS, LLC", DATED AUGUST 2023, SCALED 1"=100', AND PREPARED BY SLR CONSULTING.
- NORTH ARROW AND BEARINGS ARE BASED UPON THE CONNECTICUT COORDINATE SYSTEM NAD 1983.
- ELEVATIONS, CONTOUR AND BENCHMARKS ARE BASED UPON NAVD 1988.
- INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN BASED UPON AVAILABLE INFORMATION AND MAY BE INCOMPLETE, AND WHERE SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO BEGINNING CONSTRUCTION. CALL "CALL BEFORE YOU DIG", 1-800-922-4455. ALL UTILITY LOCATIONS THAT DO NOT MATCH THE VERTICAL OR HORIZONTAL CONTROL SHOWN ON THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
- SLR INTERNATIONAL CORPORATION ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF MAPS AND DATA WHICH HAVE BEEN SUPPLIED BY OTHERS.
- INLAND WETLANDS AND WATERCOURSES ON SITE WERE FLAGGED BY MEGAN B. RAYMOND, CERTIFIED SOIL SCIENTIST FROM SLR CONSULTING ON JUNE 10, 2021.
- A DEEP STORMWATER GENERAL PERMIT IS REQUIRED PRIOR TO INITIATION OF CONSTRUCTION.
- ALL UTILITY SERVICES ARE TO BE UNDERGROUND. THE EXACT LOCATION AND SIZE OF ELECTRIC, TELEPHONE, CABLE TELEVISION, SANITARY SEWER AND PUBLIC WATER ARE TO BE DETERMINED BY THE RESPECTIVE UTILITY COMPANIES.
- ALL STORM PIPING SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE) UNLESS OTHERWISE NOTED.
- ALL PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATE FINISHED GRADE.
- ALL GRAVITY SANITARY SEWER PIPE SHALL BE SDR35 UNLESS OTHERWISE NOTED.
- ALL FUEL, OIL, PAINT, OR OTHER HAZARDOUS MATERIALS USED ON SITE SHOULD BE STORED IN A SECONDARY CONTAINER AND REMOVED TO A LOCKED INDOOR AREA DURING NON-WORK HOURS.
- ALL UNITS ARE TO BE SERVED BY PUBLIC WATER AND SEWER.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ANY UTILITIES INCLUDING IRRIGATION PIPES PRIOR TO THE START OF CONSTRUCTION.
- ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- SEDIMENT AND EROSION CONTROL MEASURES AS DEPICTED ON THESE PLANS AND DESCRIBED WITHIN THE SEDIMENT AND EROSION CONTROL NARRATIVE SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT COVER AND STABILIZATION IS ESTABLISHED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL CONFORM TO THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, CONNECTICUT - 2002, AS AMENDED, AND IN ALL CASES BEST MANAGEMENT PRACTICES SHALL PREVAIL.
- ALL DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 6" TOPSOIL AND BE SEEDED WITH GROUND COVER SEED MIX, AS SHOWN ON THE PLANS.
- IN ALL CASES, TOPSOIL AND OTHER CONSTRUCTION MATERIALS SHALL BE DRAWN FROM THE ON-SITE STOCKPILES OF EXISTING MATERIAL. ONLY WHEN ON-SITE STOCKPILES HAVE BEEN USED SHALL MATERIAL BE IMPORTED TO THE SITE.
- ALL CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE TOWN OF NEWTOWN REQUIREMENTS AND TO THE APPLICABLE SECTIONS OF THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION, FORM 818 AND ADDENDUMS.
- THE PLANS REQUIRE A CONTRACTOR'S WORKING KNOWLEDGE OF LOCAL, MUNICIPAL, WATER AUTHORITY, AND STATE CODES FOR UTILITY SYSTEMS. ANY CONFLICTS BETWEEN MATERIALS AND LOCATIONS SHOWN, AND LOCAL REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE EXECUTION OF WORK. THE ENGINEER WILL NOT BE HELD LIABLE FOR COSTS INCURRED TO IMPLEMENT OR CORRECT WORK WHICH DOES NOT CONFORM TO LOCAL CODE.
- COMPLIANCE WITH THE PERMIT CONDITIONS IS THE RESPONSIBILITY OF BOTH THE CONTRACTOR AND PERMITEE.
- THESE PLANS HAVE BEEN PREPARED FOR REGULATORY APPROVAL ONLY. THEY ARE NOT INTENDED FOR USE DURING CONSTRUCTION.
- THE PROPERTY IS LOCATED IN ZONE X (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AND ZONE X (AREA OF 0.2% ANNUAL CHANCE FLOOD, AREA OF 1% ANNUAL CHANCE FLOOD WITH AVG. DEPTH OF <1 FT.) PER NATIONAL FLOOD INSURANCE PROGRAM FIRM PANEL 165 OF 626, FAIRFIELD COUNTY, CONNECTICUT; MAP NUMBER 09001C0165F, EFFECTIVE DATE: JUNE 18, 2010.

CONSTRUCTION SEQUENCE

- CALL "CALL BEFORE YOU DIG" FOR MARK OUT OF ALL UTILITIES.
- PRIOR TO COMMENCEMENT OF WORK A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH BOROUGH STAFF AND REPRESENTATIVES OF THE CONTRACTOR AND OWNER. AT THIS MEETING, ONE PERSON WILL BE PLACED IN CHARGE OF SEDIMENT AND EROSION CONTROL FOR THE ENTIRE SITE.
- CONTRACTOR TO STAKE OUT LIMIT OF DISTURBANCE AND VEGETATION TO BE RETAINED. NO DISTURBANCE IS TO TAKE PLACE BEYOND THE LIMITS OF WORK SHOWN.
- CONTRACTOR TO ESTABLISH CONSTRUCTION ACCESS ROAD AND STAGING AREA.
- CONTRACTOR TO INSTALL SEDIMENT AND EROSION CONTROLS ALONG THE PERIMETER, AND INSTALL STABILIZED CONSTRUCTION ENTRANCES, AS SHOWN ON THE PLANS.
- CLEAR AND GRUB SITE AND STOCKPILE TOPSOIL. PLACE SEDIMENT FILTER FENCE AND HAY BALES AROUND STOCKPILES.
- CONTRACTOR TO INSTALL DIVERSION BERMS AND TEMPORARY SEDIMENT TRAPS PER THE SEDIMENT AND EROSION CONTROL PLAN.
- INITIATE MASS EARTHWORK OPERATIONS AFTER ALL BASINS, BERMS, SWALES, SILT FENCE & HAY BALES ARE INSTALLED.
- TEMPORARY SEDIMENT TRAPS AND DIVERSION BERMS AND SWALES ARE TO BE CONSTRUCTED PRIOR TO EACH PHASE OF GRADING AND MODIFIED AS NECESSARY TO FUNCTION.
- COMMENCE BUILDING FOUNDATION WORK.
- SLOPES ARE TO BE ESTABLISHED AS SOON AS PRACTICAL BEFORE UTILITY INSTALLATION. STABILIZE ALL SLOPES IMMEDIATELY AFTER THEIR ESTABLISHMENT.
- INSTALL RETAINING WALLS, UTILITIES, CURBS AND ROADS.
- CLEAN TEMPORARY SEDIMENT TRAPS AS NECESSARY.
- CLEAN AND SWEEP ALL PAVED SURFACES TO PREPARE FOR FINAL PAVING.
- INSTALL ALL PAVEMENT MARKINGS, SIGNAGE, LIGHTING, AND SITE FURNITURE. CLEAN ALL STORM STRUCTURES, PIPING, AND REMOVE ALL SEDIMENT FROM TRAP AREAS.
- THE SEDIMENT AND EROSION CONTROL PLAN SHALL BE MODIFIED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER AND DESIGNATED TOWN REPRESENTATIVE AS NECESSARILY CHANGING SITE CONDITIONS.
- ALL DEWATERING WASTE WATERS SHALL BE DISCHARGED IN A MANNER WHICH MINIMIZES THE DISCOLORATION OF THE RECEIVING WATERS.
- THE SITE SHOULD BE KEPT CLEAN OF LOOSE DEBRIS, LITTER, AND BUILDING MATERIALS SUCH THAT NONE OF THE ABOVE ENTER WATERS OR WETLANDS.
- A COPY OF ALL PLANS AND REVISIONS, THE SEDIMENT AND EROSION CONTROL PLAN, AND A COPY OF THE STORM WATER GENERAL PERMIT (IF REQUIRED), SHALL BE MAINTAINED ON-SITE AT ALL TIMES DURING CONSTRUCTION.
- CLEAN OUT STORM WATER MANAGEMENT BASINS AND STORM WATER COLLECTION SYSTEM PRIOR TO CLOSEOUT OF CONSTRUCTION.

OPERATION & MAINTENANCE PLAN (POST-CONSTRUCTION)

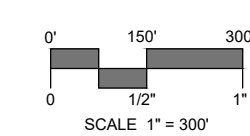
- ALL CATCH-BASIN SUMPS SHOULD BE INSPECTED TWO TIMES PER YEAR AND SEDIMENT REMOVED WHEN IT EXTENDS TO WITHIN SIX INCHES OF THE OUTLET PIPE INVERT, NOT LESS THAN ONCE PER YEAR. THE SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED LOCATION.
- THE FOREBAY OF THE SEDIMENT BASIN SHOULD BE INSPECTED TWICE ANNUALLY AND AFTER ANY SPILLAGE OF OIL, GAS, OR OTHER CONTAMINANT SPILLS IN THE PARKING AREA. SUBSEQUENT TO TO CONTAMINANT SPILLS, THE BASIN SHALL BE CLEANED IMMEDIATELY AND THE CONTENTS DISPOSED OF AT AN APPROVED OFF-SITE LOCATION. THE SEDIMENT FOREBAY SHALL BE CLEANED WHEN SEDIMENT IS ONE FOOT DEEP. ALL MATERIAL SHALL BE DISPOSED OF AT AN OFF-SITE LOCATION.
- PARKING AREAS AND PRIVATE ROADWAYS SHALL BE SWEEPED TWICE ANNUALLY. TYPICALLY, SWEEPING SHOULD OCCUR IN THE SPRING, AFTER WINTER SANDING, AND IN THE FALL, AFTER ALL LEAVES HAVE FALLEN.
- A VEGETATIVE OR IMPROVED COVER SHALL BE MAINTAINED ON ALL EARTH SURFACES TO MINIMIZE SOIL EROSION. USE OF FERTILIZER SHOULD BE MINIMIZED AND APPLIED USING PRUDENT APPLICATION PROCEDURES.
- A LOG OF ALL INSPECTION AND CLEANING SHALL BE MAINTAINED BY THE HOA AND BE AVAILABLE FOR INSPECTION.
- DURING CONSTRUCTION AND FOR THREE MONTHS AFTER PROJECT COMPLETION INSPECTION OF SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MADE ON A WEEKLY BASIS AND AFTER RAINFALL EVENTS OF 1/2" OR GREATER. A LOG OF SUCH INSPECTIONS SHALL BE MAINTAINED AT THE SITE.



HOUSE MODEL NAMES

- THE EASTON - 1
- THE REDDING - 2
- THE WILTON - 3
- THE WESTON - 4
- THE NEWTOWN - 5
- THE FAIRFIELD - 6
- THE WESTPORT - 7
- THE GREENWICH - 8

PROJECT SITE VICINITY MAP



EARTHWORK SUMMARY:

	VOLUME (CY)
CUT	66,810
FILL	54,340
NET	12,470 (CUT)
BASEMENT EXCAVATION VOLUME	34,330 (CUT)
ROAD BASE	13,430 (CUT)
TOTAL EXCAVATION	60,230 (CUT)**

**TOTAL EXCAVATION = NET + BASEMENT EXCAVATION VOLUME + ROAD BASE OF THE 60,230 CY TOTAL CUT, 46,635 CY IS COMMON FILL AND 13,595 CY IS TOPSOIL

ZONING DATA:

R1 ZONING DISTRICT WITHIN NEWTOWN BOROUGH BOUNDARY		
	REQUIRED/ALLOWED	PROVIDED
MIN. LOT AREA	43,560 SF (1 AC.)	5,961,210 SF (136.85 AC.)
MIN. LOT WIDTH	150'	>150'
MIN. SETBACK FROM STREET LINE	200'	>200'
MIN. SIDE SETBACK	100'	>100'
MIN. REAR SETBACK	100'	>100'
MAX. STRUCTURE HEIGHT	30' (3 STORIES)	30'
MIN. GROSS FLOOR AREA	1500 SF	>1500 SF
MIN. DISTANCE BETWEEN BUILDINGS	20'	20'
LOT COVERAGE	---	9.2%
DENSITY CALCULATION*	136 UNITS	117 UNITS
OPEN SPACE**	>50%	61.9%

*THE MAXIMUM NUMBER OF DWELLING UNITS PERMITTED SHALL NOT EXCEED 1.5 TIMES THE DEVELOPABLE ACREAGE, WHICH IS THE TOTAL (GROSS) ACREAGE OF THE PARCEL(S) MINUS ANY LAND HAVING WETLANDS, WATERCOURSES, PONDS, OR STEEP SLOPES OVER 25%. IN ADDITION, THE TOTAL NUMBER OF UNITS CANNOT EXCEED ONE PER ACRE OF THE TOTAL (GROSS) ACREAGE OF THE PARCEL(S).
(DEVELOPABLE ACREAGE = 106.7 ACRES) (106.7 X 1.5 UNITS = 160 UNITS) (136.85 X 1.0 = 136 UNITS)
**A MINIMUM OF 50% OF THE PARCEL MUST BE SET ASIDE AS PRESERVED OPEN SPACE VIA A CONSERVATION EASEMENT IN FAVOR OF THE BOROUGH OF NEWTOWN, RESULTING IN THE PROTECTION OF THE UNIQUE FEATURES OF THE PARCEL. (OPEN SPACE=84.7 ACRES) (84.7AC./136.85AC. = 61.9%)

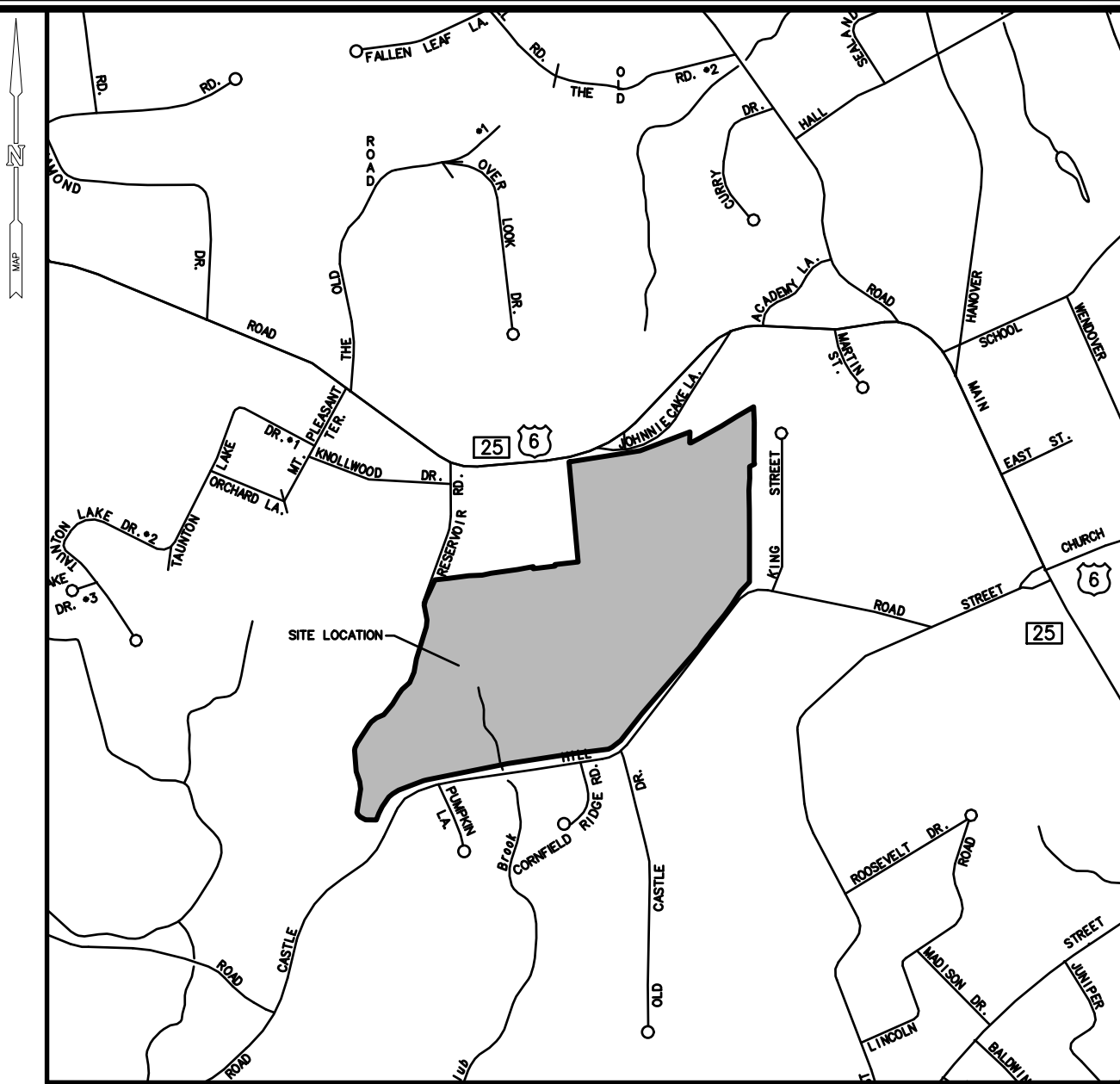
PREPARED BY:



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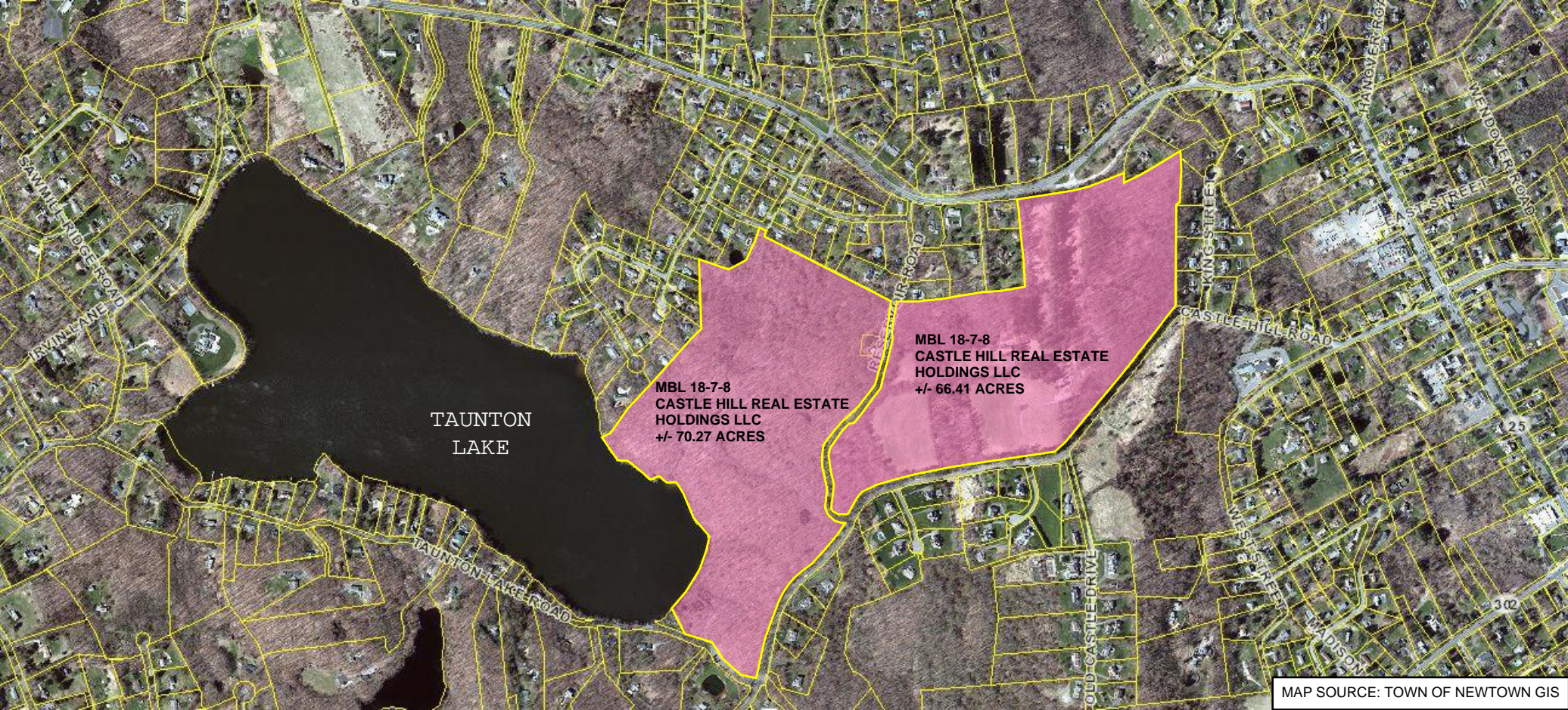
LOCATION MAP

PREPARED FOR:

CASTLE HILL REAL ESTATE HOLDINGS, LLC
48 SOUTH MAIN STREET
NEWTOWN, CT 06470

LIST OF DRAWINGS

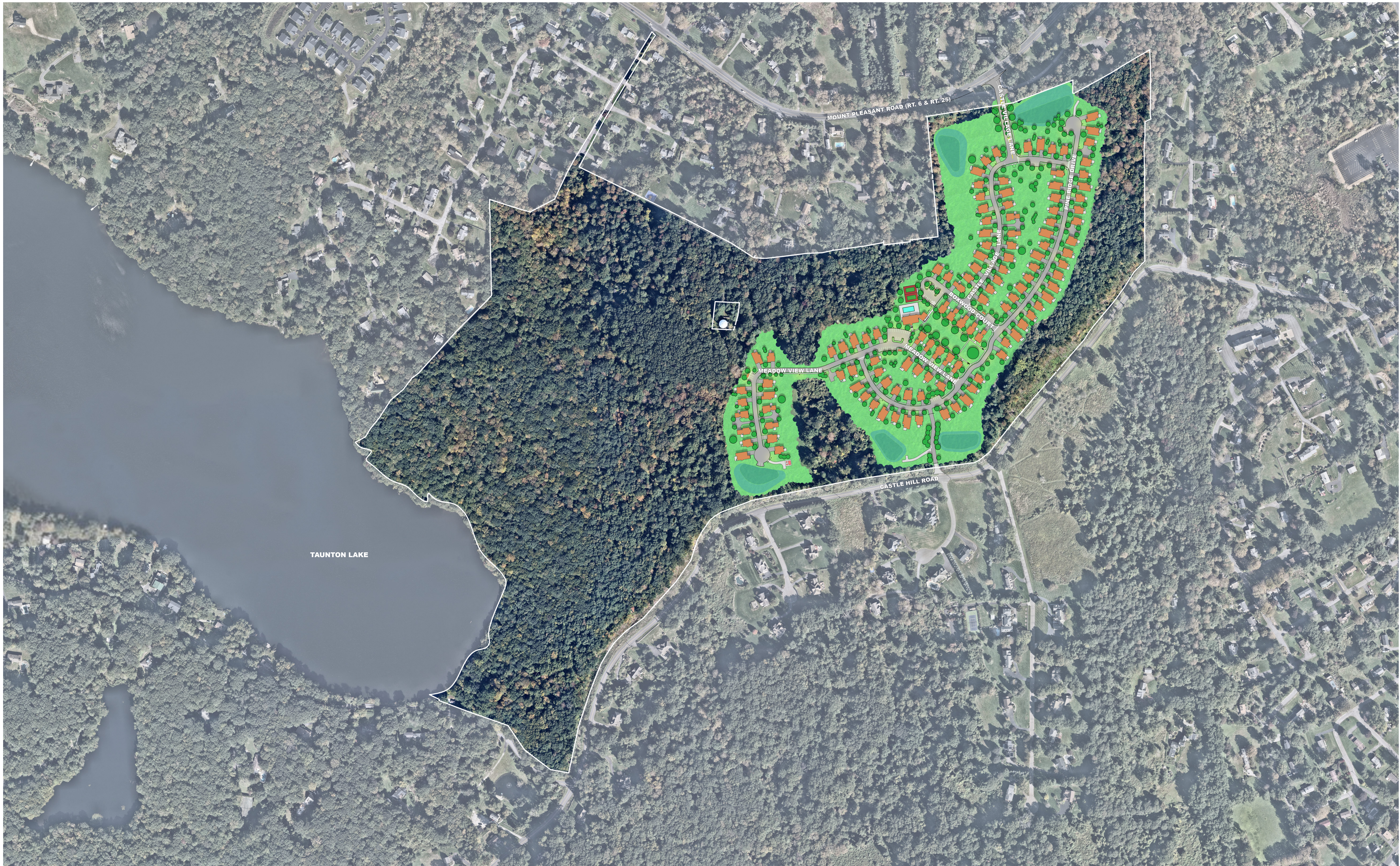
NO.	NAME	TITLE
1	--	TITLE SHEET
2	CP	PROPOSED CONSERVATION AREA PLAN
3	1 OF 1	PROPERTY & TOPOGRAPHIC SURVEY
4	1 OF 1	COMPILATION PLAN (RESERVOIR ROAD ABANDONMENT PLAN)
5	SP	SITE PLAN - OVERALL
6	IN	INDEX PLAN
7-11	LA-1 - LA-5	SITE PLAN - LAYOUT
12-16	LS-1 - LS-5	SITE PLAN - LANDSCAPING
17-21	GR-1 - GR-5	SITE PLAN - GRADING
22-26	UT-1 - UT-5	SITE PLAN - UTILITIES
27	SE	SEDIMENT & EROSION CONTROLS - CONSTRUCTION PHASING
28-32	SE-1 - SE-5	SEDIMENT & EROSION CONTROLS
33	SE-6	SEDIMENT & EROSION CONTROL NOTES & DETAILS
34-41	SD-1 - SD-8	SITE DETAILS



TAUNTON
LAKE

MBL 18-7-8
CASTLE HILL REAL ESTATE
HOLDINGS LLC
+/- 70.27 ACRES

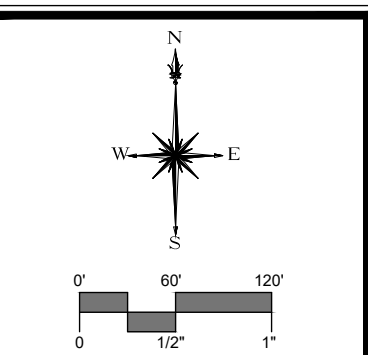
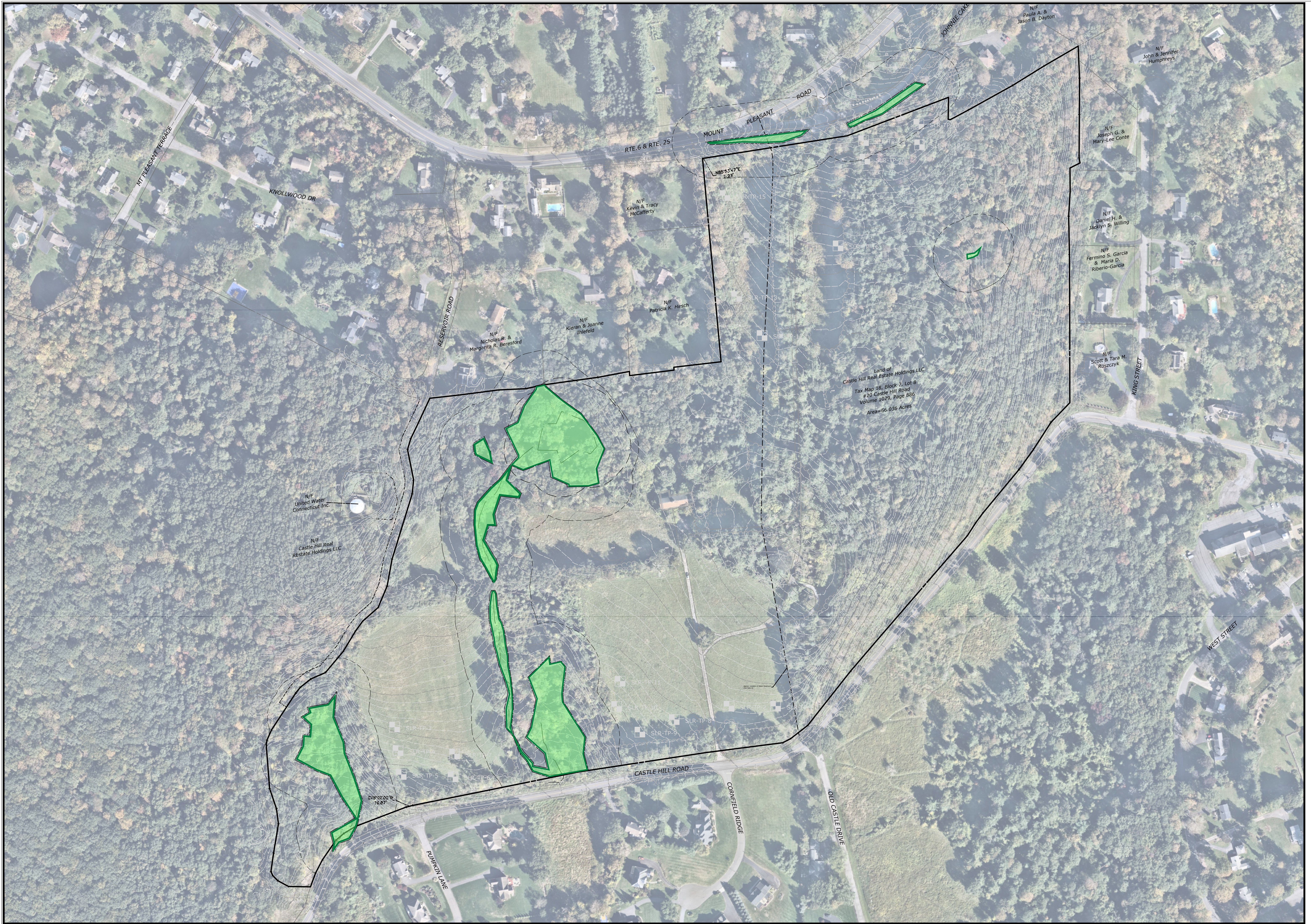
MBL 18-7-8
CASTLE HILL REAL ESTATE
HOLDINGS LLC
+/- 66.41 ACRES



CASTLE HILL VILLAGE - NEWTOWN, CT
*SLR



DATE: 12/13/2023 10:00 AM
PROJECT: 20080.00003
SHEET: 1 OF 1



DATE: _____ BY: _____

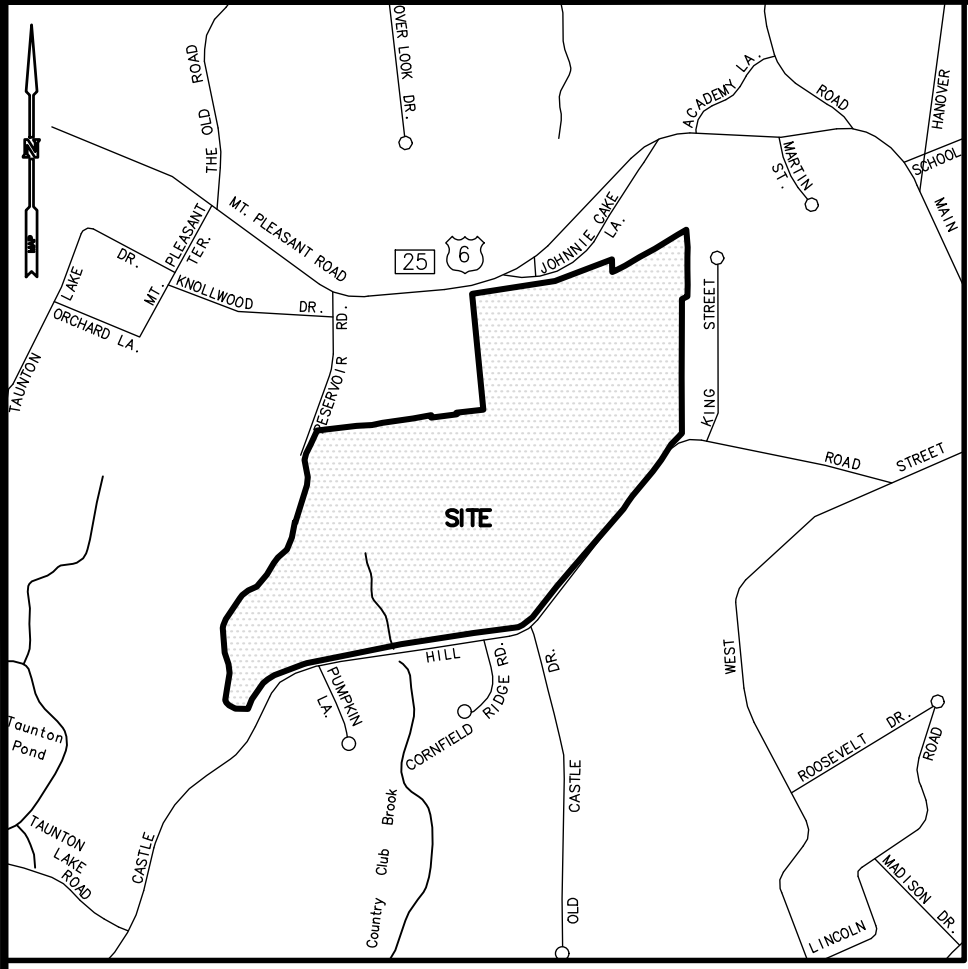
SLR
 99 REALTY DRIVE
 SUITE 100
 WESTPORT, CT 06880
 203.271.1773
 SLRCONSULTING.COM

DESCRIPTION	DATE	BY

EXISTING CONDITIONS - AERIAL

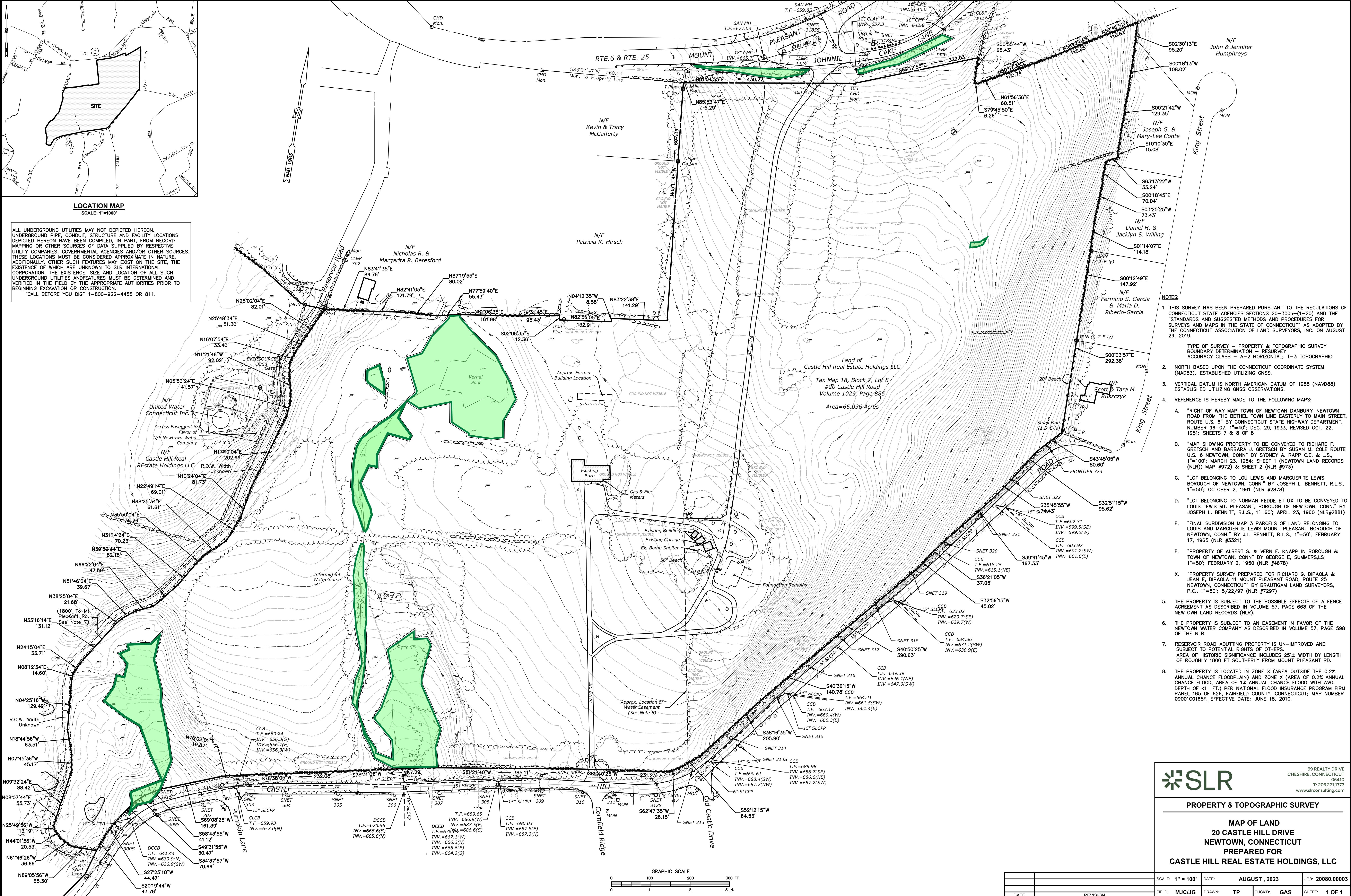
**CASTLE HILL VILLAGE
 RESIDENTIAL OPEN SPACE DEVELOPMENT
 20 & 60 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT**

SMM	SMM	TDR
DESIGNED	DRAWN	CHECKED
SCALE: 1"=120'		
DATE: DECEMBER 13, 2023		
PROJECT NO: 20080.00003		
SHEET NO: 1 OF 1		
EX		



LOCATION MAP
SCALE: 1"=1000'

ALL UNDERGROUND UTILITIES MAY NOT BE DEPICTED HEREON. UNDERGROUND PIPE, CONDUIT, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING OR OTHER SOURCES OF DATA SUPPLIED BY RESPECTIVE UTILITY COMPANIES, GOVERNMENTAL AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO SLR INTERNATIONAL CORPORATION. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH UNDERGROUND UTILITIES AND FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO BEGINNING EXCAVATION OR CONSTRUCTION.
"CALL BEFORE YOU DIG" 1-800-922-4455 OR 811.



- NOTES:**
- THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-(1-20) AND THE "STANDARDS AND SUGGESTED METHODS AND PROCEDURES FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON AUGUST 29, 2019.
 - TYPE OF SURVEY - PROPERTY & TOPOGRAPHIC SURVEY
BOUNDARY DETERMINATION - RESURVEY
ACCURACY CLASS - A-2 HORIZONTAL; T-3 TOPOGRAPHIC
 - NORTH BASED UPON THE CONNECTICUT COORDINATE SYSTEM (NAD83), ESTABLISHED UTILIZING GNSS.
 - VERTICAL DATUM IS NORTH AMERICAN DATUM OF 1988 (NAVD88) ESTABLISHED UTILIZING GNSS OBSERVATIONS.
 - REFERENCE IS HEREBY MADE TO THE FOLLOWING MAPS:
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 - "MAP SHOWING PROPERTY TO BE CONVEYED TO RICHARD F. GRETSCHEK AND BARBARA J. GRETSCHEK BY SUSAN M. COLE ROUTE U.S. 6 NEWTOWN, CONN. BY SYDNEY A. RAPP C.E. & L.S., 1"=100'; MARCH 23, 1954; SHEET 1 (NEWTOWN LAND RECORDS (NLR) MAP #972) & SHEET 2 (NLR #973)
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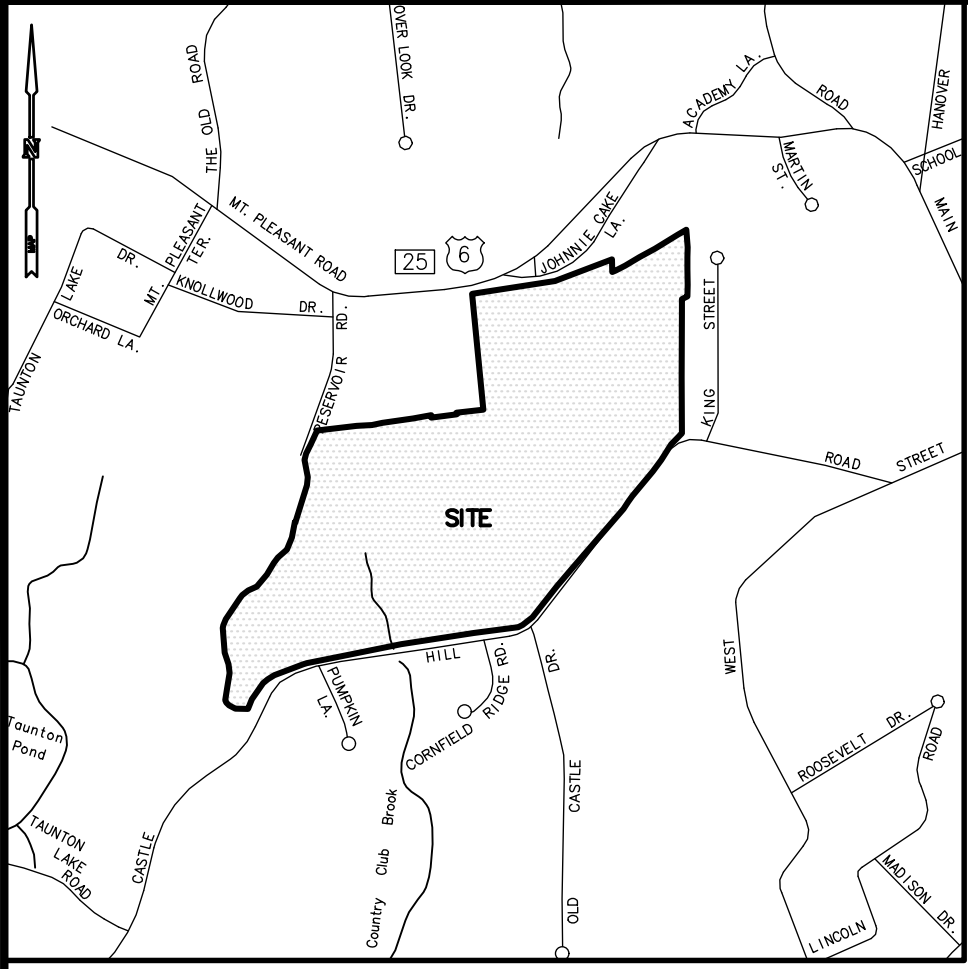


PROPERTY & TOPOGRAPHIC SURVEY

MAP OF LAND
20 CASTLE HILL DRIVE
NEWTOWN, CONNECTICUT
PREPARED FOR
CASTLE HILL REAL ESTATE HOLDINGS, LLC

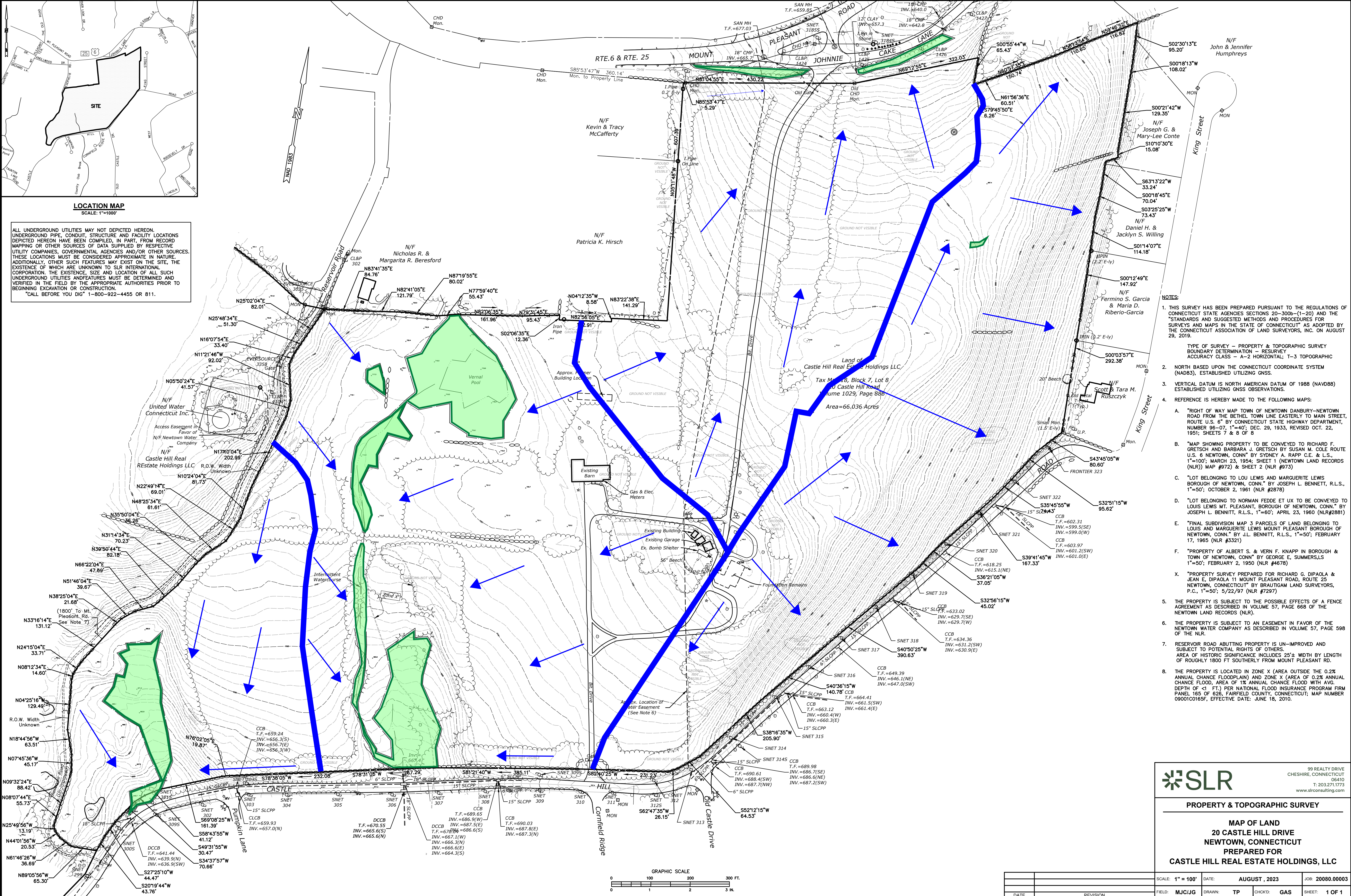
SCALE: 1" = 100'	DATE: AUGUST, 2023	JOB: 20080.00003
FIELD: MJC/JG	DRAWN: TP	CHECKD: GAS
DATE:	REVISION:	SHEET: 1 OF 1

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LOCATION MAP
SCALE: 1"=1000'

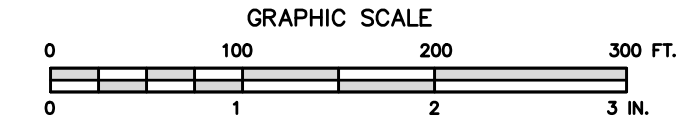
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PROPERTY & TOPOGRAPHIC SURVEY
MAP OF LAND
20 CASTLE HILL DRIVE
NEWTOWN, CONNECTICUT
PREPARED FOR
CASTLE HILL REAL ESTATE HOLDINGS, LLC



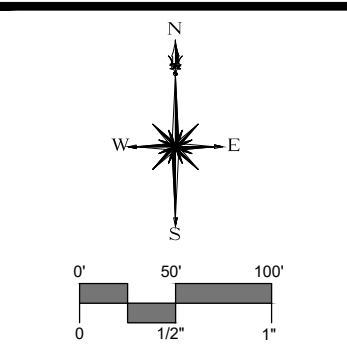
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FIELD: MJC/JG	DRAWN: TP	CHKD: GAS
DATE:	REVISION:	SHEET: 1 OF 1

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CASTLE HILL VILLAGE - NEWTOWN, CT
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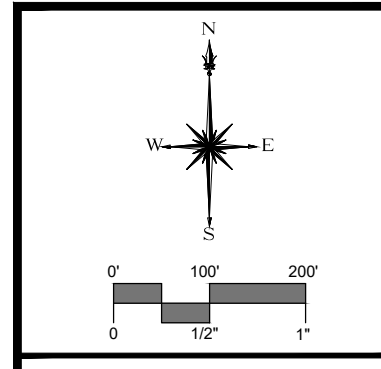
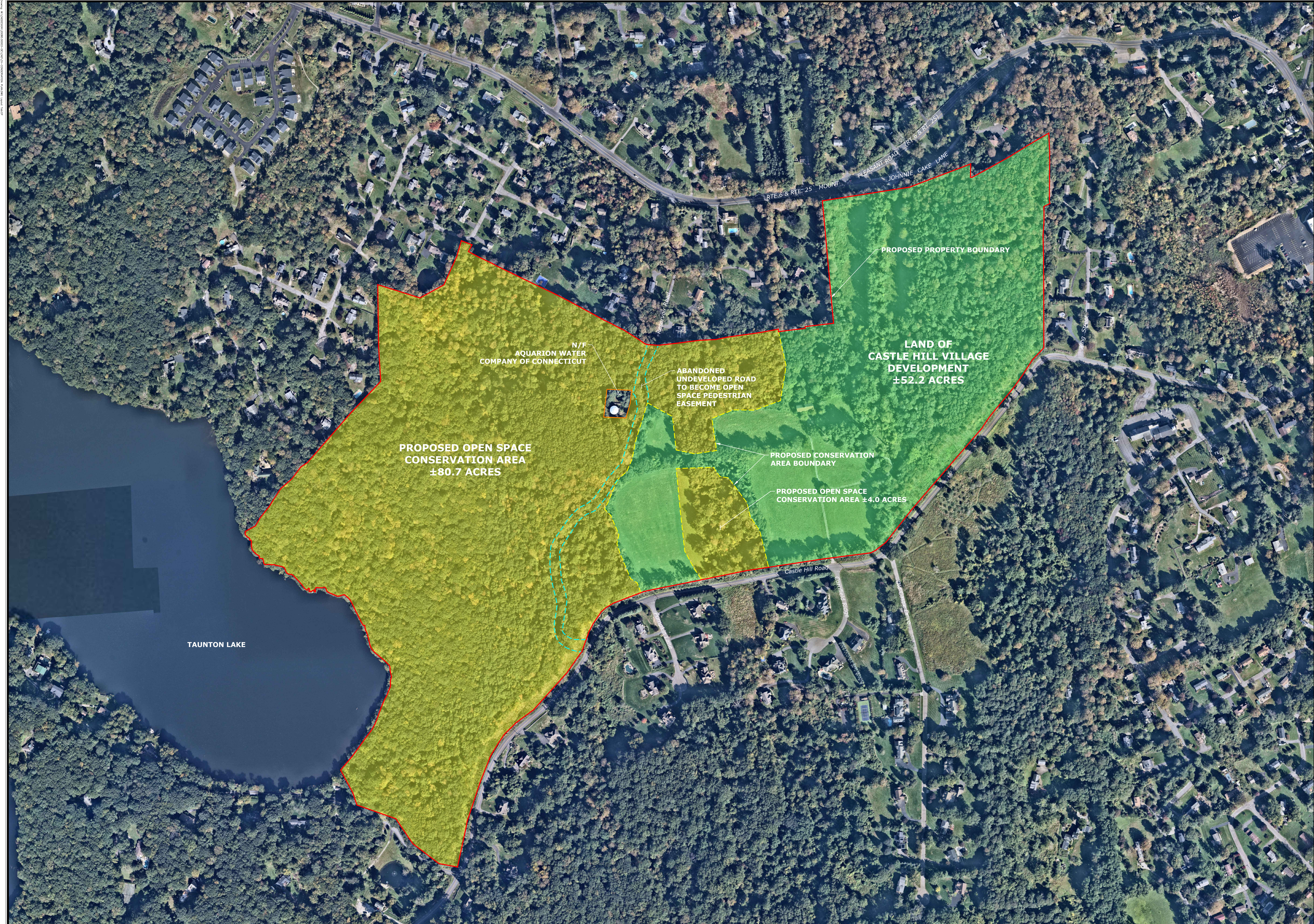




DESCRIPTION	DATE	BY

SITE PLAN - OVERALL
CASTLE HILL VILLAGE
RESIDENTIAL OPEN SPACE DEVELOPMENT
 20 & 60 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT

SMM	SMM	TDR
DESIGNED	DRAWN	CHECKED
SCALE: 1"=100'		
DATE: NOVEMBER 8, 2023		
PROJECT NO: 20080.00003		
SHEET NO: 5 OF 41		
SP		



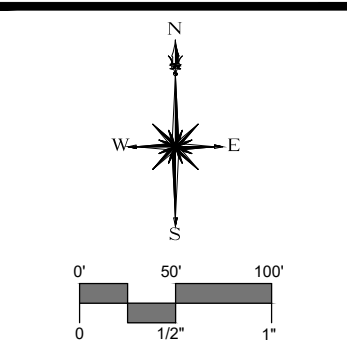
DATE BY

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 SUITE 100
 283.271.1773
 SLRCONSULTING.COM

DESCRIPTION	DATE	BY

PROPOSED OPEN SPACE CONSERVATION AREA PLAN
CASTLE HILL VILLAGE
RESIDENTIAL OPEN SPACE DEVELOPMENT
 20 & 60 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT

SMM	SMM	TDR
DESIGNED	DRAWN	CHECKED
1"=200'		
NOVEMBER 8, 2023		
DATE		
20080.00003		
PROJECT NO.		
2 OF 41		
SHEET NO.		
CP		
SHEET NAME		



SE



DESCRIPTION	DATE	BY

SEDIMENT & EROSION CONTROLS - CONSTRUCTION PHASING
CASTLE HILL VILLAGE
RESIDENTIAL OPEN SPACE DEVELOPMENT
 20 & 60 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT

SMM	SMM	TDR
DESIGNED	DRAWN	CHECKED
SCALE: 1"=100'		
DATE: NOVEMBER 8, 2023		
PROJECT NO.: 20080.00003		
SHEET NO.: 27 OF 41		
SHEET NAME: SE		

SOIL EROSION AND SEDIMENT CONTROL NARRATIVE

SEDIMENT AND EROSION CONTROL MEASURES AS DEPICTED ON THESE PLANS AND DESCRIBED WITHIN THE SEDIMENT AND EROSION CONTROL NARRATIVE SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT COVER AND STABILIZATION IS ESTABLISHED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL CONFORM TO THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, CONNECTICUT - 2002, TOWN OF NEWTOWN REQUIREMENTS, AND IN ALL CASES BEST MANAGEMENT PRACTICES SHALL PREVAIL.

1. PURPOSE AND DESCRIPTION OF PROJECT

A.) THE CONSTRUCTION OF A 117 UNIT RESIDENTIAL DEVELOPMENT WITH COMMON AMENITY AREAS INCLUDING A CLUBHOUSE.
B.) DISTURBED AREA: ±39.2 AC

2. IDENTIFICATION OF EROSION AND SEDIMENT CONTROL CONCERNS

A.) CUTS AND FILLS ASSOCIATED WITH CONSTRUCTION.
B.) PROTECTION OF WETLANDS/WATERCOURSES ON SITE.

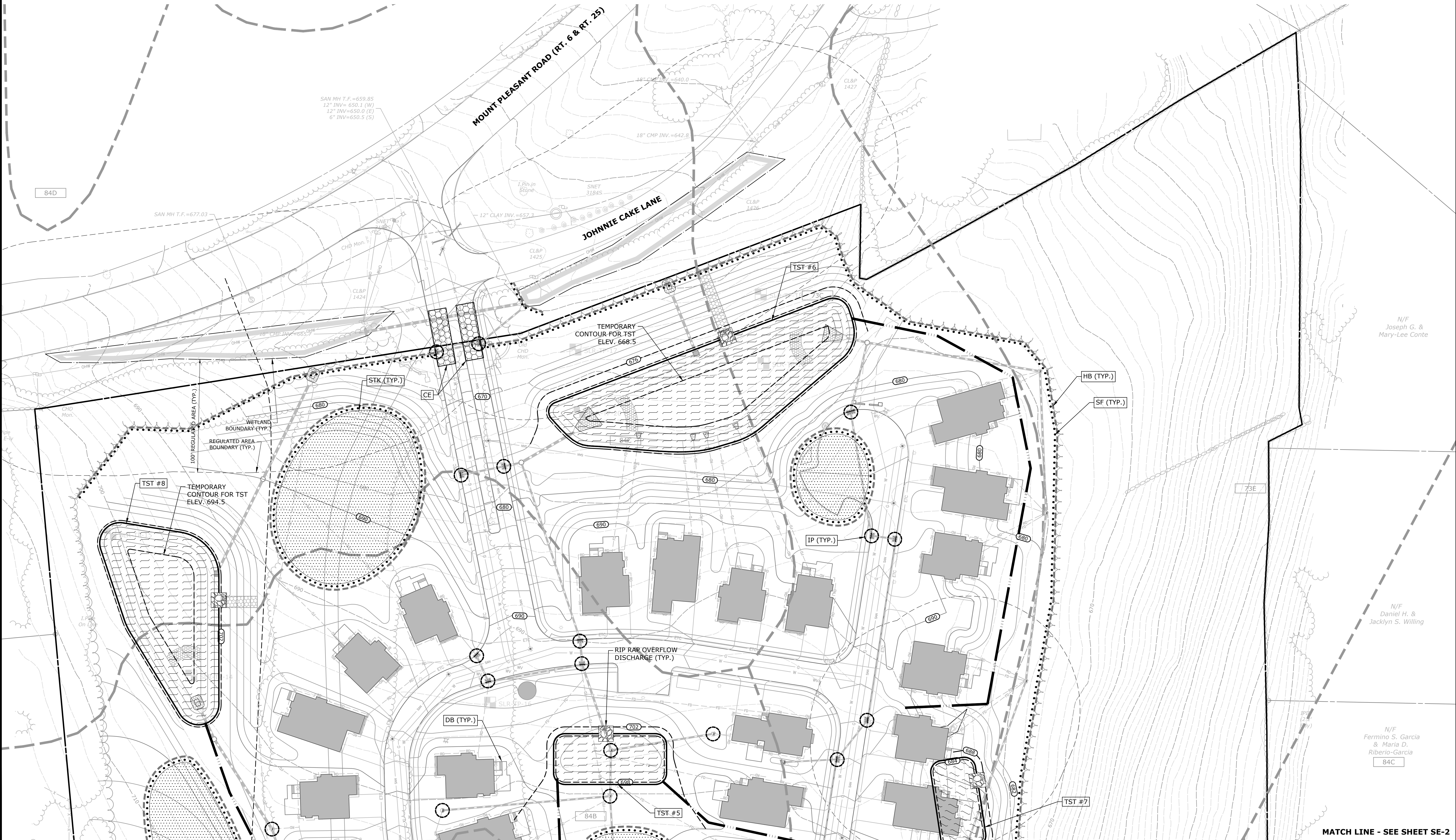
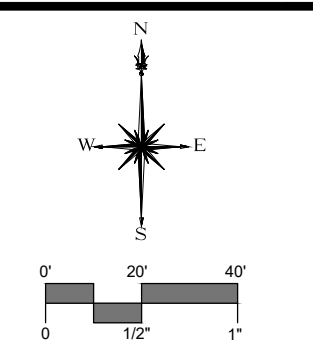
3. IDENTIFICATION OF OTHER POSSIBLE PERMITS

THE PERMITS REQUIRED FOR THE PROJECT ARE LOCAL PLANNING AND ZONING PERMITS, DEEP STORMWATER GENERAL PERMIT, AND POTENTIAL STATE AND/OR FEDERAL WETLAND PERMITTING FOR ROAD CROSSINGS.

4. PARTY RESPONSIBLE FOR SEDIMENT AND EROSION CONTROLS TO BE DETERMINED PRIOR TO CONSTRUCTION

EROSION CONTROL LEGEND

	CE CONSTRUCTION ENTRANCE (50 L.F. MIN.)		IP INLET PROTECTION
	HB HAY BALES		STK SOIL STOCKPILE AREA
	SF SEDIMENT FILTER FENCE		DB TEMPORARY DIVERSION BERM/SWALE WITH CHECK DAMS
	TST TEMPORARY SEDIMENT TRAP		RIP RAR OVERFLOW DISCHARGE
	TEMPORARY CONTOUR FOR TST		ECB EROSION CONTROL BLANKET
	NRCS SOILS BOUNDARY		NRCS SOILS BOUNDARY TYPE



DESCRIPTION	DATE	BY

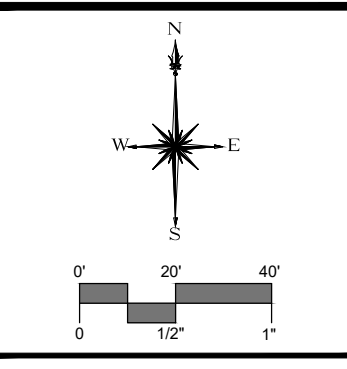
SEDIMENT & EROSION CONTROLS
CASTLE HILL VILLAGE
RESIDENTIAL OPEN SPACE DEVELOPMENT
 20 & 60 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT

SMM DESIGNED	SMM DRAWN	TDR CHECKED
SCALE: 1"=40'		
DATE: NOVEMBER 8, 2023		
PROJECT NO.: 20080.00003		
SHEET NO.: 28 OF 41		
SE-1		
MATCH LINE - SEE SHEET SE-2		



MATCH LINE - SEE SHEET SE-3

MATCH LINE - SEE SHEET SE-1



DESCRIPTION	DATE	BY

SEDIMENT & EROSION CONTROLS
CASTLE HILL VILLAGE
RESIDENTIAL OPEN SPACE DEVELOPMENT
 20 & 60 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT

SMM	SMM	TDR
DESIGNED	DRAWN	CHECKED
SCALE: 1"=40'		
DATE: NOVEMBER 8, 2023		
PROJECT NO.: 20080.00003		
SHEET NO.: 29 OF 41		

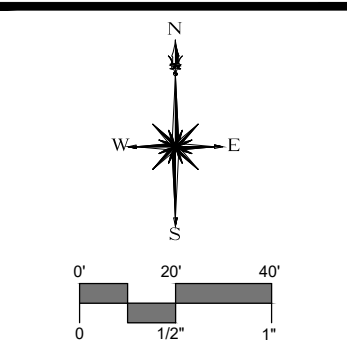
SE-2

MATCH LINE - SEE SHEET SE-5



MATCH LINE - SEE SHEET SE-4

MATCH LINE - SEE SHEET SE-2



DESCRIPTION	DATE	BY

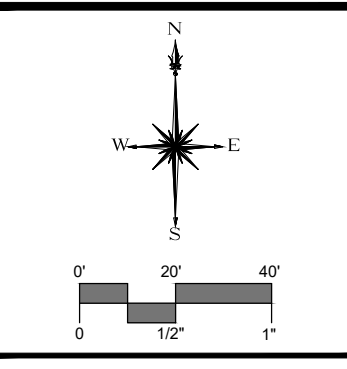
SEDIMENT & EROSION CONTROLS
CASTLE HILL VILLAGE
RESIDENTIAL OPEN SPACE DEVELOPMENT
 20 & 60 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT

SMM DESIGNED	SMM DRAWN	TDR CHECKED
SCALE: 1"=40'		
DATE: NOVEMBER 8, 2023		
PROJECT NO: 20080.0003		
SHEET NO: 30 OF 41		
SE-3		

MATCH LINE - SEE SHEET SE-3



To Mt. Rd. (note 7)



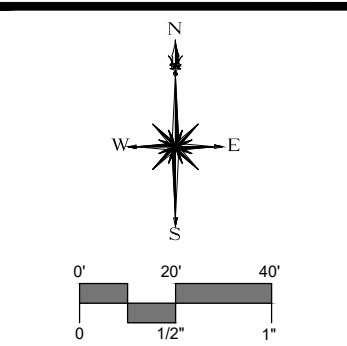
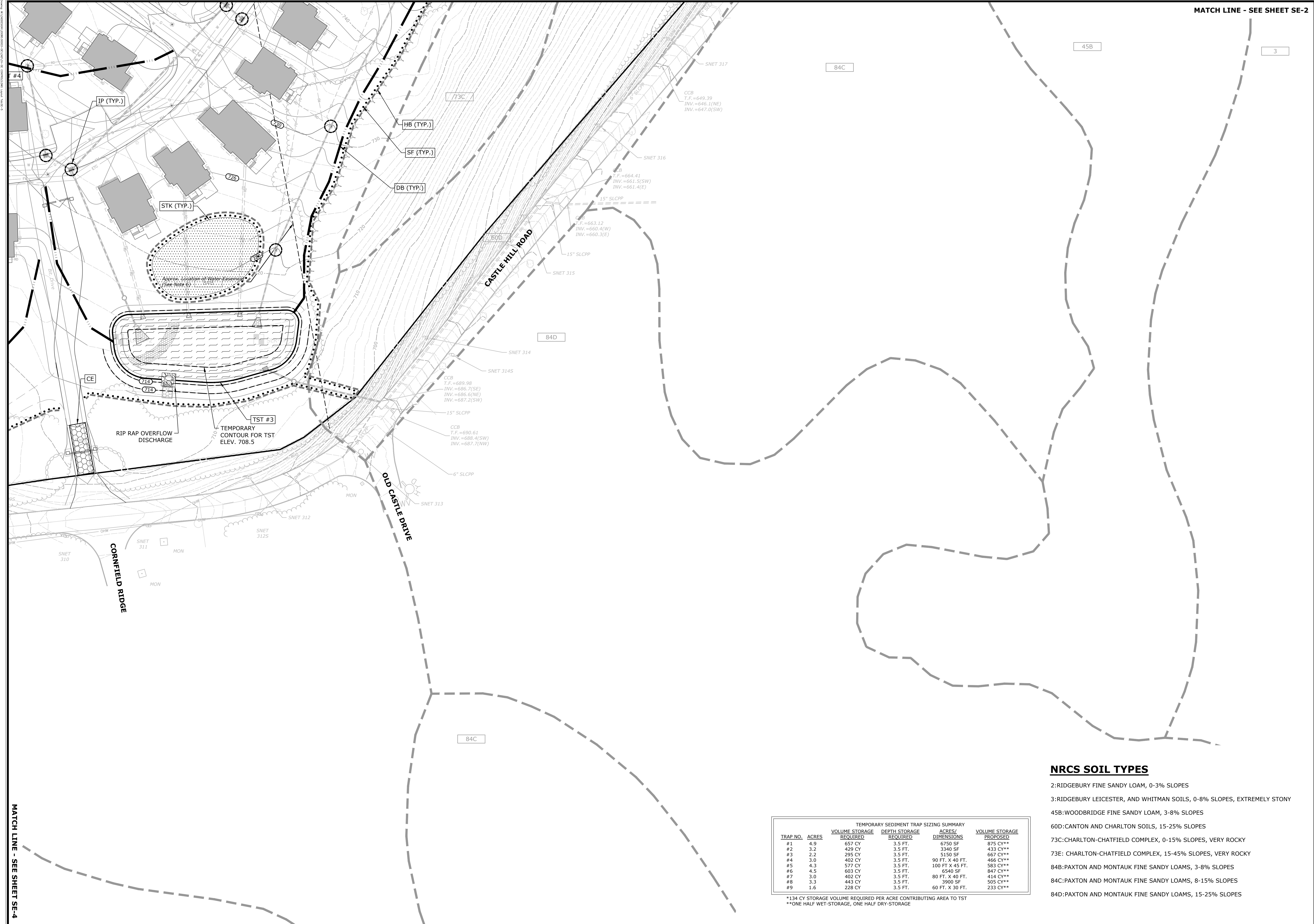
99 REALTY DRIVE
 SUITE 100
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 SLRCONSULTING.COM

DESCRIPTION	DATE	BY

SEDIMENT & EROSION CONTROLS
CASTLE HILL VILLAGE
RESIDENTIAL OPEN SPACE DEVELOPMENT
 20 & 60 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT

SMM	SMM	TDR
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SCALE: 1"=40'		
DATE: NOVEMBER 8, 2023		
PROJECT NO: 20080.00003		
SHEET NO: 31 OF 41		
SE-4		

MATCH LINE - SEE SHEET SE-5



DESCRIPTION	DATE	BY

SEDIMENT & EROSION CONTROLS
 CASTLE HILL VILLAGE
 RESIDENTIAL OPEN SPACE DEVELOPMENT
 20 & 60 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT

SMM	SMM	TDR
DESIGNED	DRAWN	CHECKED

SCALE: 1"=40'
 DATE: **NOVEMBER 8, 2023**
 PROJECT NO.: **20080.00003**
 SHEET NO.: **32 OF 41**
SE-5
 SHEET NAME

NRCS SOIL TYPES

- 2: RIDGEBURY FINE SANDY LOAM, 0-3% SLOPES
- 3: RIDGEBURY LEICESTER, AND WHITMAN SOILS, 0-8% SLOPES, EXTREMELY STONY
- 45B: WOODBRIDGE FINE SANDY LOAM, 3-8% SLOPES
- 60D: CANTON AND CHARLTON SOILS, 15-25% SLOPES
- 73C: CHARLTON-CHATFIELD COMPLEX, 0-15% SLOPES, VERY ROCKY
- 73E: CHARLTON-CHATFIELD COMPLEX, 15-45% SLOPES, VERY ROCKY
- 84B: PAXTON AND MONTAUK FINE SANDY LOAMS, 3-8% SLOPES
- 84C: PAXTON AND MONTAUK FINE SANDY LOAMS, 8-15% SLOPES
- 84D: PAXTON AND MONTAUK FINE SANDY LOAMS, 15-25% SLOPES

TEMPORARY SEDIMENT TRAP SIZING SUMMARY					
TRAP NO.	ACRES	VOLUME STORAGE REQUIRED	DEPTH STORAGE REQUIRED	ACRES/ DIMENSIONS	VOLUME STORAGE PROPOSED
#1	4.9	657 CY	3.5 FT.	6750 SF	875 CY**
#2	3.2	429 CY	3.5 FT.	3340 SF	433 CY**
#3	2.2	295 CY	3.5 FT.	5150 SF	667 CY**
#4	3.0	402 CY	3.5 FT.	90 FT. X 40 FT.	466 CY**
#5	4.3	577 CY	3.5 FT.	100 FT X 45 FT.	583 CY**
#6	4.5	603 CY	3.5 FT.	6540 SF	847 CY**
#7	3.0	402 CY	3.5 FT.	80 FT. X 40 FT.	414 CY**
#8	3.3	443 CY	3.5 FT.	3900 SF	505 CY**
#9	1.6	228 CY	3.5 FT.	60 FT. X 30 FT.	233 CY**

*134 CY STORAGE VOLUME REQUIRED PER ACRE CONTRIBUTING AREA TO TST
 **ONE HALF WET-STORAGE, ONE HALF DRY-STORAGE

MATCH LINE - SEE SHEET SE-4

MATCH LINE - SEE SHEET SE-2



July 6, 2021

Mr. George L. Trudell II
Castle Hill Real Estate Holdings, LLC
48 South Main Street
Newtown, CT 06470

**Re: Wetland Delineation and Assessment
20 Castle Hill Road
Newtown, Connecticut
SLR #141.12500.00005**

Dear Mr. Trudell,

On June 10, 2021, SLR International Corporation (SLR) registered soil scientist Megan Raymond, MS, PWS, CFM, and Wetland Professional in Training Aidan Barry, MS, visited the 68.01-acre property on 20 Castle Hill Road in Newtown, Connecticut to determine the presence or absence of wetlands and/or watercourses, demarcate (flag) boundaries of wetlands and watercourses identified, identify potential vernal pools, and identify on-site soil types. This letter includes the methods and results of the investigation. In summary, 7 wetland systems, occupying 3.72 acres of the site, were delineated and 1 vernal pool was identified. The wetland systems are comprised of forested wetlands that each contain intermittent streams within the wetland boundaries and two scrub shrub wetlands. The vernal pool is located within one of the forested wetlands and was observed to support a wetland obligate amphibian, the wood frog (*Lithobates sylvaticus*), in the 2021 breeding cycle. A description of the field methods and findings follow.

Regulatory Definitions

The Inland Wetlands and Watercourses Act (Connecticut General Statutes §22a-38) defines inland wetlands as "land, including submerged land...which consists of any soil types designated as poorly drained, very poorly drained, alluvial, and floodplain." Watercourses are defined in the act as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." The act defines intermittent watercourses as having a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) evidence of scour or deposits of recent alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation.

The Tidal Wetlands Act (Connecticut General Statutes §22a-28) defines wetlands as "those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marsh, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters and whose surface is at or below an elevation of 1 foot above local extreme high water; and upon which may grow or be capable of growing hydrophytic vegetation as identified in the Statutes."

Regulated Activity, per the Town of Newtown Inland Wetland and Watercourses Commission Regulations, means any area within 200 feet of the ordinary high water mark of Taunton Pond, Lake Zoar, or Lake Lillinonah; and within 100 feet from the boundary of any wetland or watercourse.

Methodology

A second-order soil survey in accordance with the principles and practices noted in the United States Department of Agriculture (USDA) publication *Soil Survey Manual* (1993) was completed at the subject site. The classification system of the National Cooperative Soil Survey was used in this investigation. Soil map units identified at the project site generally correspond to those included in the *Soil Survey of the State of Connecticut* (USDA, 2005).

Wetland determinations were completed based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land (e.g., a pond). Soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, test pits and/or borings (maximum depth of 2 feet) were completed at this site.

Intermittent watercourse determinations were made based on the presence of a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) evidence of scour or deposits of recent alluvium or detritus; (B) the presence of standing or flowing water for a duration longer than a particular storm incident; and (C) the presence of hydrophytic vegetation.

Wetland boundaries were demarcated (flagged) with pink surveyor's tape (hung from vegetation) or small flags (on wire stakes) that are generally spaced at a maximum of every 30 feet. Complete boundaries are located along the lines that connect these sequentially numbered flags. The wetland boundaries are subject to change until adopted by local, state, or federal regulatory agencies. Four forested wetlands and one scrub shrub/emergent wetland were delineated within the project site. The wetland boundaries are depicted by flag series.

Forested Wetlands

- **Wetland 1:** 1e through 18e and 100e through 109e and 107ee
- **Wetland 2:** 1a through 7a and 99a through 111a and 1d through 5d and 100d through 104d
- **Wetland 3:** 1c through 3c and 7c through 9c
- **Wetland 4:** 1b through 23b and 8bb and 100b through 115b
- **Wetland 5:** 1f through 6f

Scrub Shrub Wetlands

- **Wetland 6:** 100g through 106g
- **Wetland 7:** 1g through 8g

On the day of the review, the weather was sunny and temperature was 70° Fahrenheit. The conditions were suitable for wetland delineation.

Site Description and Existing Soils

The project area is comprised of 68.01 acres of forest and agricultural hay fields (Figure 1) surrounding a previous homestead. The property is accessed to the north from Castle Hill Road and contains several

structural remnants and foundations of buildings in the central portion of the property. A barn remains on the site. The property is comprised of upland forest (approximately 26.38 acres) with open fields and meadows (approximately 37.91 acres) and 3.72 acres of wetlands.

The center of the property, adjacent to the existing structures, is located at a topographic high of 730 feet and generally slopes to the northeast and southwest. This area of the property is at the top of three local watersheds. The local watershed draining to the west (within the Deep Brook Subregional Watershed) extends from the central portion of the property and flows southwest draining an area of 0.37 square miles east of Taunton Pond and drains into Deep Brook. The eastern portion of the project area is within a local watershed (within the Deep Brook Subregional Watershed) that drains approximately 0.66 square miles to the east into Hawley Pond, which drains into Deep Brook. The northern portion of the project area is within the top of a local watershed (within the Pootatuck River Subregional Watershed) that drains approximately 1.87 square miles north of Route 6 and drains into Tom Brook. All three local watersheds are within the Housatonic Major Watershed Basin.

The forested uplands on the western portion of the project area are predominantly deciduous hardwood forests with a canopy consisting of black oak (*Quercus velutina*), white oak (*Quercus alba*), sugar maple (*Acer saccharum*), Norway maple (*Acer platanoides*), and American chestnut (*Castanea dentata*). The understory is comprised of a mix of native and nonnative plants such as common wormwood (*Artemisia absinthium*), Virginia creeper (*Parthenocissus quinquefolia*), multiflora rose (*Rosa multiflora*), sensitive fern (*Onoclea sensibilis*), common milkweed (*Asclepias syriaca*), poison ivy (*Toxicodendron radicans*), winged euonymous (*Euonymous alatus*), autumn olive (*Elaegnus umbellata*), Asiatic bittersweet (*Celastrus orbiculatus*), and wineberry (*Rubus phoenicolasius*).

The forested uplands on the eastern portion of the property are comprised of a mix hardwood oak-hickory forest with a canopy consisting of black oak, white oak, American hickory, sugar maple, white pine (*Pinus strobus*) and eastern hemlock (*Tsuga canadensis*). The understory is comprised of Virginia creeper, multiflora rose, sensitive fern, Asiatic bittersweet, wineberry, and Japanese stilt grass (*Microstegium vimineum*).

The fields in the northern portion of the project area were unmowed during the site evaluation in June and comprised of herbaceous species including common milkweed, Japanese stilt grass, multiflora rose, common reed (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*), and poison ivy. Though some hydrophytic vegetation exists within the northern fields, the soils in the fields are not poorly drained. The soil structure is compact, which lends support to a slightly wetter vegetative regime than uncompacted soils. Also, the hydrophytic vegetation present in the fields are all non-native and can thus grow readily in a variety of conditions.

Two wetland and six upland soil map units were identified on the property (Figure 2). Each map unit represents a specific area on the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of each map unit. The mapped units are by name, symbol, and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope) (Table 1). These characteristics are generally the primary characteristics to be considered in land use planning and management. A description of each characteristic can be found in the *Soil Survey of the State of Connecticut* (USDA, 2005) and at https://prod.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_010926.pdf.

Table 1 – Soil Unit Properties

Map Unit		Parent Material	Slope (%)	Drainage Class	High Water Table			Depth to Bedrock (in.)
Sym.	Name				Depth (ft.)	Kind	Mos.	
Wetland Soil								
2	Ridgebury fine sandy loam	Coarse-loamy lodgment till	0-3	Poorly drained	0-0.5	--	--	15-35
3	Ridgebury, Leicester, and Whitman	Coarse-loamy lodgment till	0-8	Poorly drained	0-0.5	--	--	15-35
Upland Soil								
45B	Woodbridge fine sandy loam	Coarse-loamy lodgment till	3-8	Moderately well drained	1.5-3	--	--	20-39
60D	Canton and Charlton	Coarse-loamy over sandy and gravelly melt-out till	15-25	Well drained	> 6	--	--	> 80
73C	Charlton-Chatfield Complex	Coarse-loamy melt-out till	0-15	Well drained	> 6	--	--	> 80
73E	Charlton-Chatfield Complex	Coarse-loamy melt-out till	15-45	Well drained	> 6	--	--	> 80
84B	Paxton and Montauk fine sandy loam	Coarse-loamy lodgment till	3-8	Well drained	1.5-3	--	--	18-39
84C	Paxton and Montauk fine sandy loam	Coarse-loamy lodgment till	8-15	Well drained	1.5-3	--	--	20-39

Parent material is the unconsolidated organic and mineral material in which soil forms. Soil inherits characteristics, such as mineralogy and texture, from its parent material. Glacial till is unsorted while nonstratified glacial drift, consisting of clay, silt, sand, and boulders, is transported by glacial ice. Alluvium is material such as sand, silt, or clay, deposited on land by streams. Organic deposits consist of decomposed plant and animal parts.

A soil's texture affects the ease of digging, filling, and compacting as well as the permeability of a soil. Generally, sand and gravel soils, such as outwash soils, have higher permeability rates than most glacial till soils. Soil permeability affects the cost to design and construct subsurface sanitary disposal facilities and, if too slow or too fast, may preclude its use. Outwash soils are generally excellent sources of natural aggregates (sand and gravel) suitable for commercial use such as construction subbase material. Organic layers in soils can cause movement of structural footings. Compacted glacial till layers make excavating more difficult and may preclude the use of subsurface sanitary disposal systems or increase their design and construction costs if fill material is required.

Generally, soils with steeper slopes increase construction costs, increase the potential for erosion and sedimentation impacts, and reduce the feasibility of locating subsurface sanitary disposal facilities.

Drainage class refers to the frequency and duration of periods of soil saturation or partial saturation during soil formation. There are seven natural drainage classes. They range from excessively drained, where water is removed from the soil very rapidly, to very poorly drained, where water is removed so slowly that free water remains at or near the soil surface during most of the growing season. Soil drainage affects the type and growth of plants found in an area. When landscaping or gardening, drainage class information can be used to assure that proposed plants are adapted to existing drainage conditions or that necessary alterations to drainage conditions (irrigation or drainage systems) are provided to assure plant survival.

The high water table is the highest level of a saturated zone in the soil in most years. The water table can affect the timing of excavations; the ease of excavating, constructing, and grading; and the supporting capacity of the soil. Shallow water tables may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

The depth to bedrock refers to the depth to fixed rock. Bedrock depth affects the ease and cost of construction such as digging, filling, compacting, and planting. Shallow depth bedrock may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

Wetland Delineation

In total, seven wetlands were delineated within the study area and one vernal pool was identified in Wetland 4 (Figure 3). Several of the palustrine forested wetlands (PFO) are associated with intermittent watercourses that flow through the center of each wetland and two palustrine scrub shrub wetlands (PSS) were identified along the northern portion of the property.

Wetlands are influenced by their geomorphic setting. A geomorphic setting includes details such as the landform in which the wetland occurs and its topographic position. Slope and depression wetlands were identified within the property (Table 2). Sloped wetlands are often found with groundwater discharge in steep landforms. Depression wetlands are topographically closed elevations that allow the accumulation of water. Details regarding each wetland are listed below.

Table 2 – Summary of Wetlands within 20 Castle Hill Road in Newtown, Connecticut

Wetland	Area (acres)	Watershed (Local)	Cowardin Classification	Hydrogeomorphic Classification
1	0.76	6019-01	PFO ¹	Slope
2	1.05	6019-01	PFO	Slope
3	0.07	6019-01	PFO	Depression
4	1.58	6019-01	PFO	Slope
5	0.01	6019-03	PFO	Slope
6	0.12	6020-11	PSS ²	Slope
7	0.13	6020-11	PSS	Slope

¹ PFO = Palustrine Forested Wetland Broad Leaved Deciduous, per Cowardin Wetland Classification (1977)

² PSS = Palustrine Scrub Shrub Wetland Broad Leaved Deciduous

Wetland 1

Wetland 1 (0.76 acres) extends from the southwestern portion of the property to a 30-inch plastic drainage pipe off-site of the southwestern portion of the property. In the center of the forested wetland, a ditch (intermittent watercourse) exists. The ditch contains an unconsolidated bottom with approximately 1-foot-deep banks. Vegetation in this portion of the wetland is comprised of red maple (*Acer rubrum*) and yellow birch (*Betula alleghaniensis*) and the understory consists of northern spicebush (*Lindera benzoin*), multiflora rose (*Rosa multiflora*), winterberry (*Ilex verticillata*), common elderberry (*Sambucus canadensis*), sensitive fern, poison ivy, and skunk cabbage (*Symplocarpus foetidus*). Other than the watercourse, no standing water was observed within the wetland. The forest floor was moist to dry and did not display evidence of periodic saturation or inundation.

Wetland 2

Wetland 2 (1.05 acres) is located in a sloped area between two of the agricultural fields in the southern portion of the property. The inner area of the wetland is largely dominated by shrub scrub and herbaceous vegetation including multiflora rose, northern spicebush, tussock sedge (*Carex stricta*), winterberry, sensitive fern, and skunk cabbage. The surrounding canopy is comprised of red maple, yellow birch, and honey locust (*Gleditsia triacanthos*). An offshoot of the main wetland area (wetland flags 1d through 5d and 100d through 104d) surround an intermittent watercourse that flows from the north and hydrologically connects Wetland 2 to Wetland 3. The watercourse is approximately 2 feet wide and the banks are approximately 1 foot deep. During SLR's investigation, no flowing water was present.

Wetland 3

A small, isolated depressional wetland (0.07 acres) is located in the northwest portion of the property. The vegetation is relatively sparse within this wetland and it appears to be isolated from the adjacent Wetland 4 by a stone wall. The canopy is comprised of red maple and yellow birch. The understory consists of northern spicebush, multiflora rose, winterberry, and skunk cabbage. No standing water was observed within the wetland, nor were any morphological indicators observed indicating periodic inundation.

Wetland 4

Wetland 4 (1.58 acres) is located north of the agricultural fields and adjacent to Wetland 2 and 3 and extends north off site. An intermittent watercourse flows through the western portion of this wetland and connects to Wetland 2. No water was present in the stream during SLR's delineation. The wetland is comprised of a similar composition as the aforementioned described forested wetlands with a tree canopy consisting of red maple and yellow birch and an understory comprised of northern spicebush, winterberry, multiflora rose, tussock sedge, highbush blueberry (*Vaccinium corymbosum*), and skunk cabbage.

Special Wetlands – Vernal Pool

A vernal pool, approximately 15,000 square feet, is located within the eastern portion of Wetland 4. Vernal pools, also known as ephemeral pools, autumnal pools, and temporary woodland ponds, are seasonal depressional wetlands, which in the northeast occur in glaciated areas that are covered by shallow water for variable periods from winter to spring but may be completely dry during the summer and fall. These areas provide breeding habitat to wetland obligate amphibians, such as wood frogs and mole salamanders,

as well as facultative invertebrates, such as finger nail clams and caddis flies. Within this portion of Wetland 4, dark stained leaves covered the basin floor and the trees had buttressed roots with moss lines present at the base of the trunks. Clumps of sedges were dispersed within the pool and were mostly inundated by water at the time of the delineation. Breeding habitat for the vernal pool obligate amphibian wood frog was observed through direct observation of over 40 tadpoles during the June 10 delineation. It is possible other vernal pool obligate amphibians are supported by this pool as well. Approximately 3 to 18 inches of water occupied the pool at the time of the site evaluation. Likely, this area is completely dry by the end of July. Fingernail clams, freshwater snails, and caddisfly larvae were also observed.

Wetland 5

A small wetland (0.01 acres) is located in the northeast portion of the site. This area of the project site is steep with slopes between 20 to 40 percent slopes toward the east. An intermittent watercourse, approximately 120 linear feet, extends from a historical foundation downslope before dissipating. The canopy in this forested wetland is comprised of black oak (*Quercus velutina*), red maple, white pine (*Pinus strobus*), with an understory consisting of sensitive fern and Japanese stiltgrass (*Microstegium vimineum*).

Wetland 6













South of Route 6 and Johnnie Cake Lane at the northern portion of the property is a roadside drainage area approximately 0.12 acres. This wetland is dominated by shrub scrub layer and herbaceous plants with scattered canopy trees comprised of red maple; Japanese knotweed and silky dogwood dominate the shrub strata.

Wetland 7

East of Wetland 6 and a small parking area, another roadside drainage area exists. Wetland 7 (0.13 acres) is comprised of a similar vegetative composition as Wetland 6. Wetland 7 drains to Wetland 6 via a culvert.

Two functional evaluations of the on-site forested and on-site scrub shrub wetlands based on SLR field observations are summarized in Tables 3 and 4. The first column lists the functions generally ascribed to wetlands; the second column summarizes the rationale used to determine whether these functions are being performed within the subject wetland.













Table 3 – Functions and Values Assessment – Palustrine Forested Wetlands

	Functions and Values	Comments
	Groundwater Recharge/Discharge	Yes – These wetland systems are supported by groundwater discharge.
	Flood Flow Alteration (Storage and Desynchronization)	Yes – These wetland systems exist at the top of the watershed and displays potential to regulate flood flow.
	Fish and Shellfish Habitat	No – The hydrology of the wetland systems does not support finfish or shellfish habitat.
	Sediment/Toxicant Retention	Yes – The wetlands provide retention of sediment and toxicants.
	Nutrient Removal/Retention/Transformation	Yes – The wetlands provide nutrient retention and transformation.
	Production Export (Nutrient)	Yes – The heterogeneous structure of the wetlands permits potential for production export.
	Sediment/Shoreline/Watercourse Bank Stabilization	Yes – The understory of the wetlands is well vegetated.
	Wildlife Habitat	Yes – This wetland system displays a forested canopy and understory. A vernal pool is located within Wetland 4.
	Recreation (Consumptive and Non-Consumptive)	No – This wetland does not provide recreational opportunities.
	Educational Scientific Value	Yes – The wetland is currently located on private property; however, the parcel is planned to become a housing development. There may be potential for educational value in the future.
	Uniqueness/Heritage	No – This wetland system does not present unique attributes.
	Visual Quality/Aesthetics	No – This wetland system does not contain inherent visual quality or aesthetic value.
ES	Endangered Species	No – The site is not located within a mapped polygon of the latest June 2021 Natural Diversity Database (NDDDB) by the Connecticut Department of Energy & Environmental Protection (CTDEEP).

The principal functions and values of the palustrine forested wetland system within the project site include the following:

- Groundwater discharge/recharge
- Nutrient removal
- Sediment/toxicant retention
- Production export
- Wildlife habitat

Table 4 – Functions and Values Assessment – Palustrine Scrub Shrub Wetland

	Functions and Values	Comments
	Groundwater Recharge/Discharge	Yes – This wetland is not supported by groundwater discharge.
	Flood Flow Alteration (Storage and Desynchronization)	Yes – This wetland system exists at the top of the watershed and displays potential to regulate flood flow.
	Fish and Shellfish Habitat	No – The hydrology of the wetland does not support finfish or shellfish habitat.
	Sediment/Toxicant Retention	Yes – This wetland provides retention of sediment and toxicants.
	Nutrient Removal/Retention/Transformation	Yes – This wetland provides nutrient retention and transformation.
	Production Export (Nutrient)	No – The limited structure of the wetland does not permit potential for production/export.
	Sediment/Shoreline/Watercourse Bank Stabilization	No – The understory of the wetland is sparsely vegetated.
	Wildlife Habitat	No – The landscape position and small size limits potential for wildlife habitat.
	Recreation (Consumptive and Non-Consumptive)	No – This wetland does not provide recreational opportunities.
	Educational Scientific Value	Yes – The wetland is currently located on private property; however, the parcel is planned to become a housing development. There may be potential for educational value in the future.
	Uniqueness/Heritage	No – This wetland system does not present unique attributes.
	Visual Quality/Aesthetics	No – This wetland system does not contain inherent visual quality or aesthetic value.
ES	Endangered Species	No – The site is not located within a mapped polygon of the latest June 2021 NDDDB by CTDEEP.

The principal functions and values of the palustrine scrub shrub/emergent wetland within the project area include the following:

- Nutrient removal
- Sediment/toxicant retention

Conclusions

On June 10, 2021, SLR delineated seven wetlands within the project area of 20 Castle Hill Road in Newtown, Connecticut. Forested wetlands with associated intermittent watercourses exist along the western and eastern portions of the property and scrub shrub wetlands exist along the northern portions of the property. Wetlands comprise 3.72 acres of the 68.01-acre property. A vernal pool study was

conducted during the delineation and one vernal pool was identified within Wetland 4 in the western portion of the property.

Thank you for the opportunity to assist you. If you should have any questions or comments, please do not hesitate to contact me at (203) 344-7887.

Sincerely,

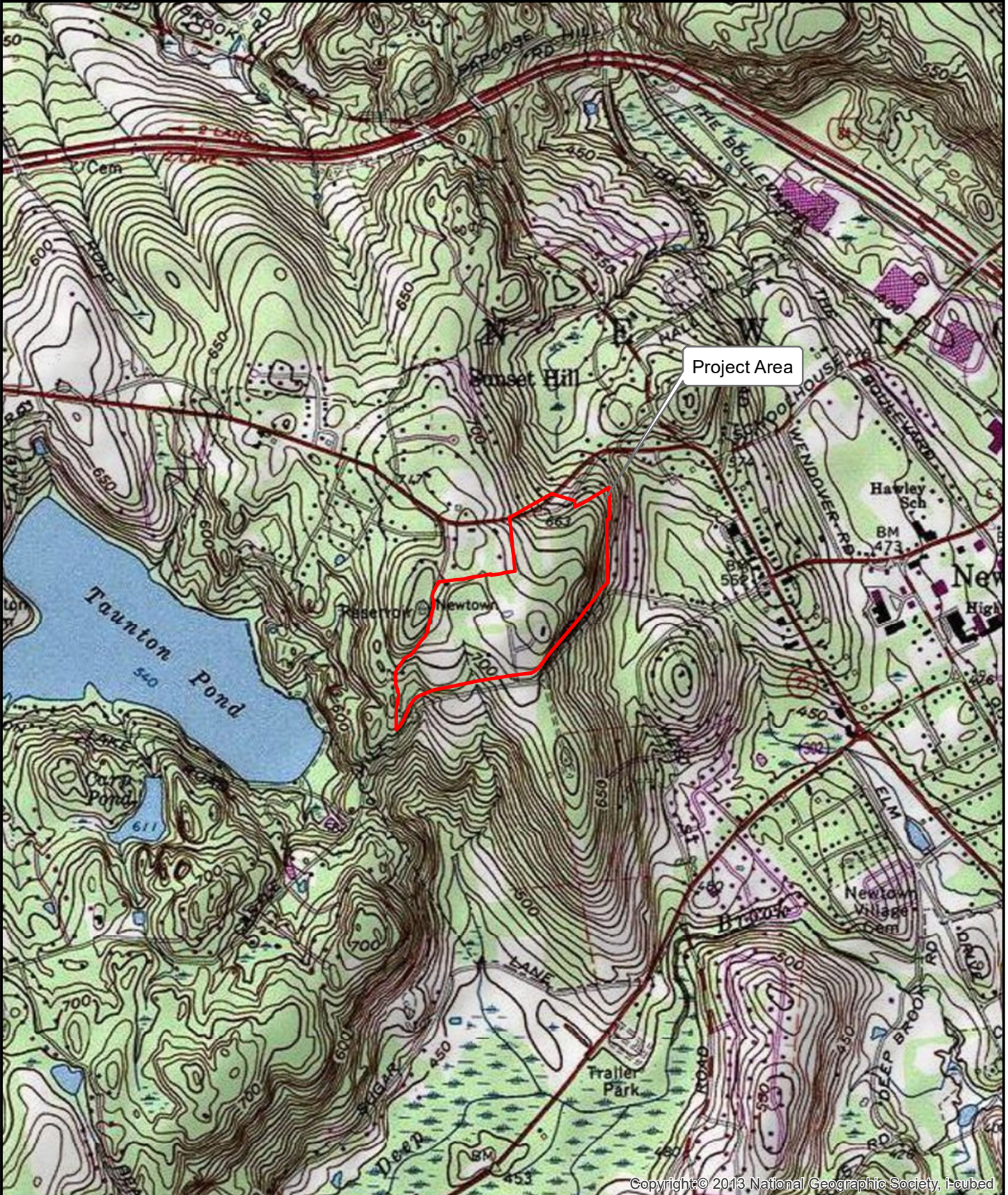
SLR International Corporation



Megan B. Raymond, MS, PWS, CFM
Principal Scientist, Wetlands & Waterways Lead

Enc Supporting Figures

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195 CHURCH STREET
7TH FLOOR
NEW HAVEN, CT 06511
203.344.7887

USGS QUADRANGLE

PROPOSED CLUSTER HOME DEVELOPMENT
CASTLE HILL REAL ESTATE HOLDINGS, LLC
20 CASTLE HILL ROAD
NEWTOWN, CONNECTICUT



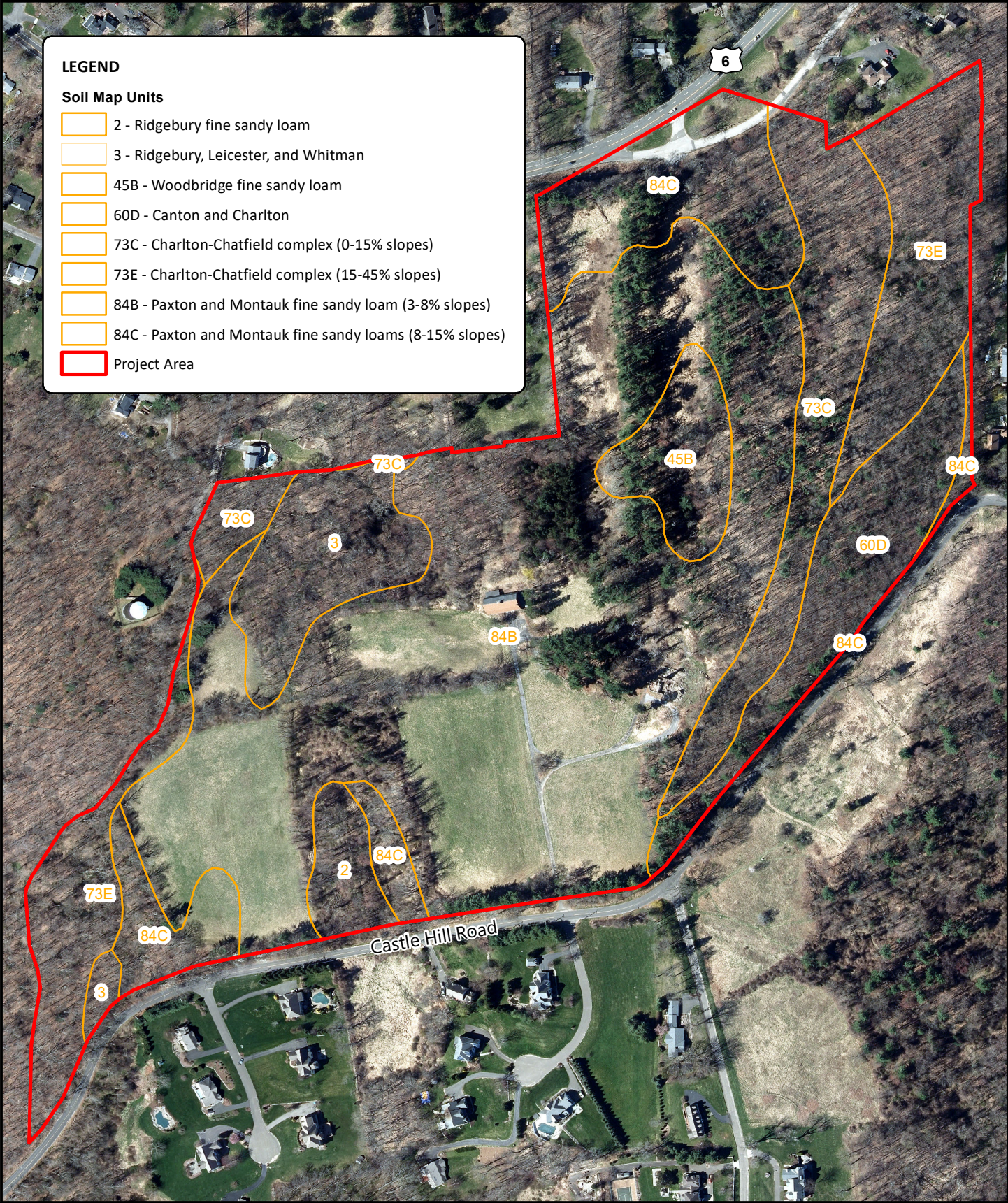
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SCALE 1" = 2,000'

DATE 6/15/2021

141.12500.00005
PROJ. NO.

FIG. 1



LEGEND

Soil Map Units

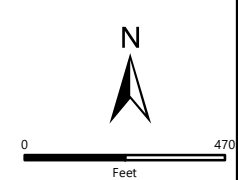
- 2 - Ridgebury fine sandy loam
- 3 - Ridgebury, Leicester, and Whitman
- 45B - Woodbridge fine sandy loam
- 60D - Canton and Charlton
- 73C - Charlton-Chatfield complex (0-15% slopes)
- 73E - Charlton-Chatfield complex (15-45% slopes)
- 84B - Paxton and Montauk fine sandy loam (3-8% slopes)
- 84C - Paxton and Montauk fine sandy loams (8-15% slopes)
- Project Area

SLR

195 CHURCH STREET
7TH FLOOR
NEW HAVEN, CT 06511
203.344.7887

NRCS SOILS

PROPOSED CLUSTER HOME DEVELOPMENT
CASTLE HILL REAL ESTATE HOLDINGS, LLC
20 CASTLE HILL ROAD
NEWTOWN, CONNECTICUT



SCALE 1" = 450'

DATE 6/15/2021

141.12500.00005
PROJ. NO.

FIG. 2

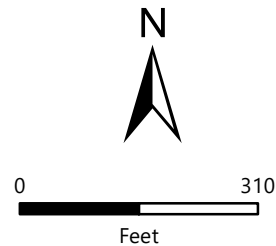


LEGEND

- Intermittent Watercourse
- Vernal Pool Boundary
- Vernal Pool
- 100-Foot Vernal Pool Envelope
- 750-Foot Critical Terrestrial Habitat
- Intermittent Watercourse Flag
- Wetland Flags
- Wetland Boundary
- Wetland
- Newtown 100-Foot Regulated Activity Area
- Project Area
- Newtown Parcels

195 CHURCH STREET
 7TH FLOOR
 NEW HAVEN, CT 06511
 203.344.7887

WETLAND DELINEATION
 PROPOSED CLUSTER HOME DEVELOPMENT
 CASTLE HILL REAL ESTATE HOLDINGS, LLC
 20 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT



SCALE 1" = 250'
 DATE 7/7/2021
 PROJECT NO. 41.12500.00005

FIG. 3



Wetland and Watercourse Impact Assessment

20 and 60 Castle Hill Road, Newtown, Connecticut

Castle Hill Real Estate Holdings, LLC

Prepared by:

SLR International Corporation

SLR Project No.: 141.2080.00003

November 22, 2023

Table of Contents

Acronyms and Abbreviations	iv
1.0 Introduction	1
2.0 Regulatory Definitions	1
3.0 General Site Description	2
4.0 Wetland Delineation Results	3
4.1 Soils	3
4.2 Wetland Descriptions	6
4.3 Wetland Resource Functions and Values	7
5.0 Proposed Project	9
5.1 Stormwater Management and Water Quality Protection	10
5.2 Sediment and Erosion Control Measures	11
5.3 Alternatives	11
5.4 Conservation Measures.....	12
6.0 Conclusion	12

Tables in Text

Table 1: Soil Unit Properties	4
Table 2: Summary of Wetlands within 20 Castle Hill Road in Newtown, Connecticut	5
Table 3: Summary of Wetlands within 20 Castle Hill Road in Newtown, Connecticut	7
Table 4: Functions and Values Assessment – Palustrine Scrub Shrub Wetlands	8
Table 5: 20 Castle Hill Road Proposed Wetland and URA Impacts	9



Appendices

Appendix A Project Mapping

- 1 USGS Quadrangle Locus Map
- 2 NRCS Soil Map
- 3 Wetland Resource Delineation Map
- 4 Proposed Work and Wetland Resource Map

Appendix B Photographic Log



Acronyms and Abbreviations

amsl	Above mean sea level
BMP	Best Management Practices
CAWS	Connecticut Association of Wetland Scientists
CT DEEP	Connecticut Department of Energy & Environmental Protection
FEMA	Federal Emergency Management Agency
GPS	Global Positioning System
GRV	Groundwater Recharge Volume
LF	Linear Feet
NDDB	Natural Diversity Database
NRCS	Natural Resources Conservation Service
PFO	palustrine forested wetlands
PSS/PEM	palustrine scrub shrub/emergent wetlands
S&E	Sedimentation and Erosion
SF	Square Feet
SLR	SLR International Corporation
URA	Upland Review Area
USACE	U.S. Army Corps of Engineers
US EPA	U.S. Environmental Protection Agency
USDA	United States Department of Agriculture
WQF	Water Quality Flow
WQV	Water Quality Volume



1.0 Introduction

On behalf of Castle Hill Real Estate Holdings, LLC, SLR International Corporation (SLR) has prepared the following report to assess existing wetland conditions relative to proposed site improvements at 20 and 60 Castle Hill Road in Newtown, Connecticut (**Figure 1**). The purpose of this report is to evaluate potential impacts to delineated wetland resource that may result from Castle Hill Village, a proposed residential subdivision that includes dwellings and appurtenances, along with significant open space protections. Serviced by public water and sewer, the project proposes a cluster home community consisting of 117 single-family dwellings, paved parking, drives and associated appurtenances on a portion of 20 Castle Hill Road. Recreational amenities are also proposed, including a community center with a pool, two pickleball courts, and a playground.

Two parcels are involved with the project that total 136 acres, with the 20 Castle Hill Road parcel totaling 66.036 acres, and the 60 Castle Hill Road parcel totaling 70.66 acres. The residential development will comprise approximately 52 acres of 20 Castle Hill Road and will largely be in former agricultural fields. The remaining 85 acres of land abutting Taunton Lake will be protected as open space in perpetuity via a conservation easement (**Figure 2**). The conservation easement will comprise the entirety of the 60 Castle Road parcel, and portions of 20 Castle Hill Road which abuts 60 Castle Hill Road to the west. A paper road that bisects the two properties will also be retired.

Direct wetland impacts are limited to an intermittent watercourse crossing and a small slope wetland area [approximately 400 square feet (SF)]. Work in the URA consists primarily of grading and the road crossing, with little impervious area proposed. Wetlands were delineated on 20 Castle Hill Road in 2021 by SLR wetland scientists and comprise approximately 3.72 acres of the 66-acre study area. The project will directly impact 1,510 SF (approximately 0.03-acre) of wetlands. Of the approximately 12.5 acres of URA on the parcel, 3.14 acres will be affected by the proposed work, primarily consisting of grading, with little impervious area proposed in the URA. Mitigation for these impacts will consist of open space preservation, and a robust stormwater management system to protect water quality in the surrounding wetlands and to maintain peak flows from the site while promoting groundwater recharge onsite. The proposed open space easement will protect just under 4 acres of the existing 20 Castle Hill Road wetlands, and a vernal pool as well as the entire western portion of the site that occupies 80.7 acres, for a total proposed conservation area of 84.7 acres. Existing conditions and proposed activities are depicted on the site plans prepared by SLR titled *Castle Hill Village Residential Open Space Development*, dated November 6, 2023.

2.0 Regulatory Definitions

Inland wetlands and watercourses within the project area were evaluated in accordance with the regulations of the Town of Newtown and the State of Connecticut Inland Wetlands and Watercourses Act, Connecticut General Statutes (CGS) 22a-36 through 45 and the Federal Clean Water Act (Section 404).

The Inland Wetlands and Watercourses Act (Connecticut General Statutes §22a-38) defines inland wetlands as "land, including submerged land...which consists of any soil types designated as poorly drained, very poorly drained, alluvial, and floodplain." Watercourses are defined in the Act as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." The Act defines intermittent watercourses as having a defined permanent channel and bank and the



occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation.

URA, per the Town of Newtown Inland Wetlands and Watercourses Regulations, includes any land adjacent to and within 100 feet of a wetland or watercourse.

Federal Wetlands and Watercourses were considered using the U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (USACE, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Northcentral and Northeast Region* (USACE, 2012), and the classification system of the National Cooperative Soil Survey and Field Indicators of Hydric Soils in the United States (USDA, 2017).

3.0 General Site Description

The subject property is comprised of two parcels – 60 Castle Hill Road, an entirely undeveloped, deciduous forested 70-acre parcel comprising the western portion of the site, and 20 Castle Hill Road, a 66-acre parcel to the east comprised of undeveloped forest and agricultural hay fields. The property is accessed to the north from Castle Hill Road and extends north to Route 6 (Mount Pleasant Road) at the northeastern extent. The full property is largely comprised of upland deciduous forest (approximately 96 acres across the two parcels). Over 50 percent of the 20 Castle Hill Road site (approximately 38 acres) consists of former agricultural fields as well as several structural remnants and foundations of buildings in the central portion of the site. An old farm road, lined with evergreen trees, extends north from the center of the property to Mount Pleasant Road. Wetlands, which were only delineated by SLR on the 20 Castle Hill Road site, comprise 3.72 acres of the 66-acre parcel. The center of the property, adjacent to the existing structures, is located on a local high elevation of 730 feet above mean sea level (amsl) and generally slopes to the northeast and southwest, while 60 Castle Hill Road is comprised of gentle rolling hills sloping southwest towards Taunton Lake at an elevation approximately 550 feet amsl.

The forested uplands onsite are predominantly deciduous hardwood forests with a canopy consisting of black oak (*Quercus velutina*), white oak (*Quercus alba*), sugar maple (*Acer saccharum*), Norway maple (*Acer platanoides*), and American chestnut (*Castanea dentata*). The understory is comprised of a mix of native and nonnative plants such as common wormwood (*Artemisia absinthium*), Virginia creeper (*Parthenocissus quinquefolia*), multiflora rose (*Rosa multiflora*), sensitive fern (*Onoclea sensibilis*), common milkweed (*Asclepias syriaca*), poison ivy (*Toxicodendron radicans*), winged euonymous (*Euonymus alatus*), autumn olive (*Elaeagnus umbellata*), Asiatic bittersweet (*Celastrus orbiculatus*), and wineberry (*Rubus phoenicolasius*).

The two fields in the northern portion of the project area are unmowed and are comprised of herbaceous species including common milkweed, Japanese stilt grass, multiflora rose, reed canary grass (*Phalaris arundinacea*), and poison ivy.

The 60 Castle Hill Road parcel is an undeveloped forested parcel which abuts Taunton Lake along the western parcel boundary. Taunton Lake (also referred to as Taunton Pond) is a 125-acre freshwater body rated by the Connecticut Department of Energy and Environmental Protection (CT DEEP) as Class A, supported for aquatic life, recreation, and fish consumption. The parcel is not located inside of any CT DEEP Natural Diversity Data Base (NDDDB) known species polygons, aquifer protection areas, or drinking water watersheds. Please note that extensive field investigations were not performed on the 60 Castle Hill Road property by SLR wetland or environmental scientists, as no direct or adverse impacts are anticipated to the ecological resources of the site because of the proposed project.



Watershed Location

The 20 Castle Hill Road property straddles three local watersheds. The local watershed draining to the west (within the Deep Brook Subregional Watershed and encompassing the 60 Castle Hill Road property) extends from the central portion of the property and flows southwest draining an area of 0.37 square miles east of Taunton Pond and drains into Deep Brook. The eastern portion of the project area is within a local watershed (within the Deep Brook Subregional Watershed) that drains approximately 0.66 square miles to the east into Hawley Pond which drains into Deep Brook. The northern portion of the project area is within the top of a local watershed (within the Pootatuck River Subregional Watershed) that drains approximately 1.87 square miles north of Route 6 and drains into Tom Brook. All three local watersheds are within the Housatonic Major Watershed Basin.

FEMA Mapping

According to the most up to date mapping by the Federal Emergency Management Agency (FEMA) dated June 18, 2010, a small portion of each parcel (buffering the intermittent watercourse draining south between the former farm fields on 20 Castle Hill Road, and bordering Taunton Lake on 60 Castle Hill Road) fall within a 500-year flood plain.

4.0 Wetland Delineation Results

Wetlands were delineated on the 20 Castle Hill Road project study site in June 2021 by SLR Soil Scientist Megan Raymond, MS, PWS, CFM and Wetland Professional in Training Aidan Barry, MS. Ms. Raymond revisited the site in November 2023 to re-hang flags. In summary, seven wetland systems, occupying 3.72 acres of the site, were delineated within the project area and one vernal pool was identified (**Figure 3**). The wetland systems are comprised of five areas of forested wetlands that each contain intermittent streams within the wetland boundaries and two scrub shrub/emergent wetlands in the northeastern portion of the property. The vernal pool is in wetland 4 and supports wetland obligate amphibians, specifically wood frog (*Lithobates sylvaticus*) and spotted salamander (*Ambystoma maculatum*).

The results of the wetland investigation are summarized below. For a detailed report, please see the Wetland Delineation and Assessment letter prepared by SLR dated July 6, 2021, and submitted as part of the wetland permit application.

4.1 Soils

Two wetland and six upland soil map units were identified on the property (**Figure 4**). Each map unit represents a specific area in the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of each map unit. The mapped units are by name, symbol, and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope) (**Table 1**). These characteristics are generally the primary characteristics to be considered in land use planning and management. A description of each characteristic can be found in the *Soil Survey of the State of Connecticut* (USDA, 2005) and at https://prod.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_010926.pdf.



Table 1: Soil Unit Properties

Map Unit		Parent Material	Slope (%)	Drainage Class	High Water Table			Depth To Bedrock (in)
Sym	Name				Depth(ft)	Kind	Mos.	
Wetland Soil								
2	Ridgebury fine sandy loam	Coarse-loamy lodgment till	0 to 3	Poorly drained	0 to 0.5	--	--	15 to 35
3	Ridgebury, Leicester, and Whitman	Coarse-loamy lodgment till	0 to 8	Poorly drained	0 to 0.5	--	--	15 to 35
Upland Soil								
45B	Woodbridge fine sandy loam	Coarse-loamy lodgment till	3 to 8	Moderately well drained	1.5 to 3	--	--	20 to 39
60D	Canton and Charlton	Coarse-loamy over sandy and gravelly melt-out till	15 to 25	Well drained	> 6	--	--	> 80
73C	Charlton-Chatfield Complex	Coarse-loamy melt-out till	0 to 15	Well drained	> 6	--	--	> 80
73E	Charlton-Chatfield Complex	Coarse-loamy melt-out till	15 to 45	Well drained	> 6	--	--	> 80
84B	Paxton and Montauk fine sandy loam	Coarse-loamy lodgment till	3 to 8	Well drained	1.5 to 3	--	--	18 to 39
84C	Paxton and Montauk fine sandy loam	Coarse-loamy lodgment till	8 to 15	Well drained	1.5 to 3	--	--	20 to 39

Soils were examined using a Dutch auger. Field investigations confirmed Natural Resources Conservation Service (NRCS) mapping, with poorly drained soil generally occupying two corridors in the eastern and western portions of the site. Additional hydric soils were encountered in locations outside of NRCS mapped hydric soils.



In total, seven wetlands were delineated throughout the project site and one vernal pool was identified (**Figure 3**).

Forested Wetlands

- **Wetland 1:** 1e through 18e and 100e through 109e and 107ee
- **Wetland 2:** 1a through 7a and 99a through 111a and 1d through 5d and 100d through 104d
- **Wetland 3:** 1c through 3c and 7c through 9c
- **Wetland 4:** 1b through 23b and 8bb and 100b through 115b – vernal pool located within wetland 4.
- **Wetland 5:** 1f through 6f

Scrub Shrub/Emergent Wetlands

- **Wetland 5:** 100g through 106g
- **Wetland 6:** 1g through 8g

Several of the palustrine forested wetlands (PFO) are associated with intermittent watercourses that flow through the wetland and two palustrine scrub shrub/emergent wetlands (PSS/PEM) exist along the northern portion of the property. The wetlands in the northern portion of the site are excavated drainage areas that convey surface water to the east and north. Wetland 6 and Wetland 7 are not natural wetland systems but created through the development of the area. Drainage in the northern portion of the site has been manipulated by farming activity.

Wetlands are influenced by hydrogeomorphic (HGM) setting. A hydrogeomorphic setting includes surficial geologic features such as landform, and topographic position and regional hydrology. On this site, the primary landform is a drumlin. Slope and depression wetlands were identified (**Table 2**). Sloped wetlands are often found with groundwater discharge with topography. Depression wetlands are topographically closed elevations that allow the accumulation of water. In general, bioassimilation in sloped wetlands is limited by residence time. The HGM class informs a wetlands ability to contribute to basic wetland functions. Sloped wetlands do not generally contribute to groundwater recharge, while depression wetlands provide recharge.

Table 2: Summary of Wetlands within 20 Castle Hill Road in Newtown, Connecticut

Wetland	Area (acres)	Watershed (Local)	Cowardin Classification	Hydrogeomorphic Classification
1	0.76	6019-01	PFO	Slope
2	1.05	6019-01	PFO	Slope
3	0.07	6019-01	PFO	Slope
4	1.58	6019-01	PFO	Slope/Depression
5	0.01	6019-03	PFO	Slope
6	0.12	6020-11	PEM/PSS	Slope
7	0.13	6020-11	PEM/PSS	Slope



4.2 Wetland Descriptions

Forested Wetlands

Forested wetlands on 20 Castle Hill Road are in the western portion of the parcel, bordering the former farm fields onsite. Wetland 2 through Wetland 4 are located north of and between the former agricultural fields and are connected hydrologically to one another via intermittent watercourses that flow generally north to south. This wetland corridor spans the height of the parcel and extends off-site to the north. Wetland 1 is separated from the other forested wetlands by the westernmost former farm field and contains an intermittent watercourse which is piped offsite to the southwest. The vegetation within these wetlands generally consists of red maple (*Acer rubrum*) and yellow birch (*Betula alleghaniensis*) with an understory of northern spicebush (*Lindera benzoin*), multiflora rose, winterberry (*Ilex verticillata*), common elderberry (*Sambucus canadensis*), sensitive fern, poison ivy, tussock sedge (*Carex stricta*) and skunk cabbage (*Symplocarpus foetidus*).

A small (0.01-acre) isolated wetland (Wetland 5) is in the northeast portion of the site. This area of the project site is steep with slopes between 20 to 40 percent slopes toward the east. An intermittent watercourse, approximately 30 linear feet (LF), extends from a historical foundation downslope before dissipating. The canopy in this forested wetland is comprised of black oak, red maple, white pine (*Pinus strobus*) and the understory consists of sensitive fern, and Japanese stiltgrass (*Microstegium vimineum*).

Scrub Shrub Wetlands

Two small scrub shrub wetlands (Wetland 6 and Wetland 7) comprised of roadside drainage areas along Johnnie Cake Lane exist near the northeast boundary of 20 Castle Hill Road. Wetland 7 drains to Wetland 6 via a culvert. These wetlands are dominated by shrub scrub layer and herbaceous plants with scattered canopy trees comprised of red maple; Japanese knotweed and silky dogwood dominate the shrub strata.

Special Wetland – Vernal Pool

SLR conducted a vernal pool investigation within targeted wetland systems within the project area. Vernal pools are wetland areas that provide unique habitat attributes beyond basic wetland functions. In Connecticut, the working definition of a vernal pool is as follows:

“Vernal pool means a seasonal watercourse in a defined depression or basin, that lacks a fish population and supports or is capable of supporting breeding and development of amphibian or invertebrate species recognized in such watercourses. These species include spotted salamander, Jefferson salamander complex marbled salamander, wood frog, and fairy shrimp.” (Connecticut Association of Wetland Scientists (CAWS) website).

Site evaluations for vernal pool investigations typically occur within the spring when amphibian breeding and egg masses occur. During SLR’s site investigation on June 11, 2021, vernal pool obligate species were observed within an approximately 15,500-SF area in the northeastern portion of Wetland 4. Water depths from the edge of the pool ranged from 3 to 15 inches. Dark stained leaves covered the basin floor and the trees have buttressed roots with moss lines present at the base of the trunks. Clumps of sedges were dispersed within the pool and were mostly inundated by water at the time of the delineation. Over forty wood frogs (*Lithobates sylvaticus*) tadpoles (obligate vernal pool amphibian species) were identified within this pool. Fingernail slams and freshwater snails were also observed.















SLR wetland scientists returned to the potential vernal pool within Wetland 4 on April 25, 2023. During this visit, SLR staff entered the pool with chest waders to gauge water levels and observe vernal pool species. A maximum water depth of 18 inches was recorded with an average of 12 to 14 inches across the pool. Numerous wood frog tadpoles were observed, as well as six spotted salamander egg masses.

4.3 Wetland Resource Functions and Values

A functional evaluation using the USACE *Highway Methodology Workbook Supplement* and based on SLR’s field observations is provided for each wetland class (**Table 3** and **Table 4**). The principal functions and values of each wetland class are listed below.

Table 3: Summary of Wetlands within 20 Castle Hill Road in Newtown, Connecticut













	Functions and Values	Comments
	Groundwater Recharge/Discharge	Yes – This wetland system is supported by groundwater discharge.
	Flood flow Alteration (Storage & Desynchronization)	Yes – This wetland system exists at the top of the watershed and displays potential to regulate floodflow.
	Fish & Shellfish Habitat	No – The hydrology of the wetland system does not support finfish or shellfish habitat.
	Sediment/Toxicant Retention	Yes – This wetland system provides retention of sediment and toxicants.
	Nutrient Removal/Retention/Transformation	Yes – This wetland system provides nutrient retention and transformation.
	Production Export (Nutrient)	Yes – The heterogeneous structure of the wetland system permits potential for production/export.
	Sediment/Shoreline/Watercourse Bank Stabilization	Yes – the understory of the wetland system is well vegetated.
	Wildlife Habitat	Yes – This wetland system displays a forested canopy and understory. A vernal pool is located within Wetland 4.
	Recreation (Consumptive & Non-Consumptive)	No – This wetland does not provide recreational opportunities.
	Educational Scientific Value	Yes – The wetland is currently located on private property; however, the parcel is planned to become a housing development. There may be potential for educational value in the future.
	Uniqueness/Heritage	Yes – A vernal pool within Wetland 4 supports vernal pool obligate wildlife species.
	Visual Quality/Aesthetics	Yes – The wetlands are visible from residential properties and roadways and will contribute to the natural aesthetic of the development.
ES	Endangered Species	No – The site is not located within a mapped polygon of the latest June 2021 Natural Diversity Database (NDDDB) by Connecticut Department of Energy & Environmental Protection (CTDEEP).



he principal functions and values of the palustrine forested wetland system within the project site include the following:

- Nutrient Removal
- Sediment/Toxicant Retention
- Wildlife Habitat

Table 4: Functions and Values Assessment – Palustrine Scrub Shub Wetlands

	Functions and Values	Comments
	Groundwater Recharge/Discharge	No – This wetland is not supported by groundwater discharge.
	Flood flow Alteration (Storage & Desynchronization)	Yes – This wetland system exists at the top of the watershed and displays potential to regulate floodflow.
	Fish & Shellfish Habitat	No – The hydrology of the wetland does not support finfish or shellfish habitat.
	Sediment/Toxicant Retention	Yes – This wetland provides retention of sediment and toxicants.
	Nutrient Removal/Retention/Transformation	Yes – This wetland provides nutrient retention and transformation.
	Production Export (Nutrient)	No – The limited structure of the wetland does not permit potential for production/export.
	Sediment/Shoreline/Watercourse Bank Stabilization	No – the understory of the wetland is sparsely vegetated.
	Wildlife Habitat	Yes – This wetland displays potential for wildlife habitat, though limited given roadside edge.
	Recreation (Consumptive & Non-Consumptive)	No – This wetland does not provide recreational opportunities.
	Educational Scientific Value	Yes– The wetland is currently located on private property; however, the parcel is planned to become a housing development. There may be potential for educational value in the future.
	Uniqueness/Heritage	No – This wetland system does not present unique attributes.
	Visual Quality/Aesthetics	No – This wetland system does not contain inherent visual quality or aesthetic value.
ES	Endangered Species	No – The site is not located within a mapped polygon of the latest June 2021 Natural Diversity Database (NDDDB) by Connecticut Department of Energy & Environmental Protection (CTDEEP).



The principal functions and values of the palustrine scrub shrub/emergent wetland within the project area include the following:

- Localized floodflow alteration
- Nutrient Removal
- Sediment/Toxicant Retention

5.0 Proposed Project

The project proposes to develop the former farm property at 20 Castle Hill Road, while ceding a forested portion of the parcel and the entirety of the 60 Castle Hill Road parcel to be preserved as open space (**Figure 5**). The project also proposes the ceding of a “paper road” serving as the parcel boundary between 20 and 60 Castle Hill Road as an open space pedestrian easement. The Castle Village residential open space development will consist of a cluster home community of 117 single-family units with paved parking, drives, and a community center with an outdoor swimming pool, two pickleball courts, and a playground. All direct impacts to wetlands and watercourses, as well as new proposed impervious cover will occur on the 20 Castle Hill Road parcel (**Table 5**); no activities are proposed on 60 Castle Hill Road. Over half of the 66-acre property at 20 Castle Hill Road consists of former agricultural lands (fields and pasture), as well as paved drives and several structural remnants including an old barn. The development prioritizes these formerly disturbed portions of the site, maintaining a vegetated buffer of at least 50 feet in all locations other than a portion of Wetland 3.

Table 5: 20 Castle Hill Road Proposed Wetland and URA Impacts

	Existing Wetlands	Direct Wetland Impacts	Existing URA	URA Impacts	Existing Impervious (Total)	Proposed Impervious (Total)	Existing Impervious (in URA)	Proposed Impervious (in URA)
Square Feet	161,000	1,510	547,114	136,750	74,052	576,299	1,675	24,215
Acres	3.72	0.03	12.56	3.14	1.7	13.23	0.04	0.56

The proposed development minimizes the impacts to wetlands and URA to the greatest extent possible; nearly 100 percent of the forested wetland area (and vernal pool) on 20 Castle Hill Road will be permanently protected by the conservation easement. The area of direct wetland impact will consist of a 20-foot-wide road crossing above an intermittent watercourse, necessary to allow internal access between the westernmost portion of the development with the remainder to the east. This crossing was placed within the narrowest portion of the wetland corridor. Wetland 5, an isolated wetland in the eastern extent of the project area occupying 420 SF and consisting of a 2- to 4-foot-wide by 30-foot-long seep, which appears to have been created through former site work, will be filled under proposed conditions.

Activities within the URA will consist of vegetation clearing, grading for stormwater detention basins, and the installation of approximately 225 LF of the internal road in the western portion of the property. Much of the URA disturbance will take place within formerly disturbed areas including agricultural fields and land immediately buffering these fields. No work will take place



within 100 feet of the vernal pool, located within Wetland 4. Work within 250 feet of the vernal pool boundary will include 0.28 acres of tree clearing, and 1.15 acres of total disturbance. Similarly, to the URA, much of the work to occur within the 250-foot vernal pool buffer will take place within areas formerly disturbed for agricultural operations. The old field areas are not preferred overwintering habitat for wetland dependent obligate amphibians.

As outlined below and demonstrated in the project site plans, efforts to avoid and minimize potential indirect impacts to wetlands and water quality in the surrounding watershed will be undertaken as short-term construction-phase measures, as well as a robust stormwater management system to protect water quality in the long-term from the proposed development.

Vernal Pool Protections

Protections to provide long-term maintenance of vernal pool habitat are included in the site design. Specifically, no work is proposed within the vernal pool depression or within 100 feet of a vernal pool. Hydrology to the pool will be maintained by maintaining the natural drainage patterns and allowing roof drains and footing drains to infiltrate close to the point of interception, as opposed to being routed to a stormwater management basin. The site layout largely avoids disturbance to the upland forest that abuts the pool, with tree clearing limited to one small area east of the vernal pool envelope. By prioritizing upland activities in non-preferred overwintering habitat and protecting adjacent forest with a conservation instrument, the presumption is that species using the pool will be protected through their life cycle stages.

5.1 Stormwater Management and Water Quality Protection

The proposed project includes stormwater management that will protect water quality development and maintain the peak rate of flow leaving the site. Water quality treatment in accordance with the CT DEEP requirements for water quality volume (WQV) and water quality flow (WQF) is provided. Existing drainage patterns will be maintained to the maximum extent practicable, and the proposed stormwater treatment train consists of catch basins with 2-foot sumps, detention basins, hydrodynamic separators, groundwater recharge volume and level spreader outlets. The proposed stormwater detention basins were designed to ensure that no increases in the predevelopment peak runoff rates occur from the new development.

Water quality measures or Best Management Practices (BMPs) have been incorporated into the design to maintain water quality to provide protection of the areas downgradient of the proposed development. The proposed stormwater management system will include catch basins with 2-foot sumps, detention basins, hydrodynamic separators, groundwater recharge volume and level spreader outlets.

Five vegetated stormwater basins are proposed along the perimeter of the limit of disturbance and will be sown with a native New England wetland seed mix. Each of the proposed stormwater basins will provide retention volume, thus providing water quality. The basins will serve several purposes, including stormwater renovation and providing groundwater recharge volume (GRV). Providing the GRV maintains the pre-development annual groundwater recharge volumes by capturing and infiltrating stormwater runoff to maintain water table levels, stream baseflow, and wetland moisture levels. Each stormwater basin will discharge via an outlet control structure and riprap dissipator to an adjacent wetland on site after renovation.

Level spreaders will stormwater from the underground detention systems and will also help improve water quality by gradually releasing stormwater as sheet flow rather than a concentrated point discharge that results from typical storm pipe outlets or flared end sections.



5.2 Sediment and Erosion Control Measures

A Sediment and Erosion (S&E) Control Plan has been developed to mitigate any potential short-term impacts of the development during construction. The S&E Control Plan includes descriptive specifications concerning land grading, topsoiling, temporary and permanent vegetative cover, and erosion checks. Details have been provided for all erosion controls with corresponding labels on the S&E Control Plan. All S&E controls provided are in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. The site will be accessed to the north via a temporary construction entrance at Castle Hill Road, as well as to the south via Mount Pleasant Road. The construction site will be bordered by sediment filter fence and hay bales upgradient of wetland areas. Temporary soil stockpile areas will be located upgradient of secondary sediment filter fences. Erosion control blankets and strawbales will be used along slopes downgradient of the proposed development during construction. Inlet protection will be installed to protect proposed inlets across the site. All disturbed slopes will be stabilized and revegetated following construction.

5.3 Alternatives

Alternatives to the preferred action include the no-action alternative, and a conventional subdivision, described below.

No-Action

The no-action alternative would leave the site in its current state as unoccupied former farmland and hardwood forest within the 20 Castle Hill Road parcel. The existing structural remnants including paved drives and the barn are in great disrepair and will continue to degrade. While the former agricultural fields/pasture will eventually return to a more natural state without mowing or maintenance, these types of former disturbance tend to promote succession to a more invasive-species dominated community than the surrounding undeveloped forest. The no-action plan leaves the 60 Castle Hill Road parcel as privately-owned forested land without a permanent conservation easement ensuring its future preservation as an undeveloped area. Finally, the proposed open space easement will not be enacted, limiting public access to this land.

Conventional Subdivision

According to the town of Newtown Zoning Regulations, the total number of units in the Residential 1 (R1) zoning class must not exceed one per acre of the total (gross) acreage of the parcel(s). This equates to a maximum allowed density of 136 units for the subject site. At 117 units, the proposed development will utilize 86 percent of the allowable density. This reduction will lessen the burden of stormwater runoff and utilities on the stormwater management system and surrounding landscape. On the other hand, this type of “cluster development” represents a higher density subdivision than other alternative housing developments, optimizing residential land use while maximizing open space and reducing the strain on surrounding natural resources and habitat including Taunton Lake. A US Environmental Protection Agency (EPA) manual dated January 2006 entitled, *Protecting Water Resources with Higher-Density Development*, “acknowledges that preserving open space is critical to maintaining water quality at the regional level,” *due to the many functions of undeveloped land including reducing and slowing runoff, absorption of sediments, providing flood control, and maintaining aquatic communities*. The concept of the EPA publication is that densification of housing, through a construct such as cluster, minimizes fragments and allows large contiguous areas to remain undisturbed. This design principle has been utilized for the proposed project.



5.4 Conservation Measures

The project has been designed to maximize surrounding open space and will permanently protect nearly 85 acres of contiguous, undeveloped forest (over 60 percent of the full 136-acre site), including 3.5 acres of the 3.72 acres of forested wetland and vernal pool located on 20 Castle Hill Road. The 0.25 acres of scrub shrub wetlands on 20 Castle Hill Road to the north of the proposed project will be avoided and adverse impacts to their functionality will be managed in the short-term with construction-phase BMPs as well as in the long-term through comprehensive stormwater management in the final design. Additionally, the work area and new proposed development will be concentrated in the previously cleared portions of the site, utilizing the existing tree line as the limit of disturbance when at all practicable, and minimizing tree clearing within the 250-foot envelope of the on-site vernal pool. A split rail fence will serve as a permanent demarcation between Wetland 4/the vernal pool, and the development area located to the southeast, to limit future disturbance into this sensitive habitat area. Pedestrian access and low-impact recreation (walking) will be encouraged within the open space area via the proposed pedestrian easement, which will also serve as a demarcation between the development to the east and the preserved open space to the west. Finally, the stormwater management system will incorporate open, vegetated stormwater basins which provide a biologically active interface between impervious areas and the adjacent wetlands. These types of systems mimic the natural functions of wetlands by filtering out sediment and toxins in stormwater runoff before it enters wetlands, as well as reducing the peak rate of flow to wetlands to prevent scour and erosion.

6.0 Conclusion

The impact assessment report has been prepared in support of the proposed multi-family residential development on Castle Hill Road in the town of Newtown. The development will create a single-family residential community with an internal roadway network, parking, sidewalks, recreational amenities and associated site infrastructure on 20 Castle Hill Road property. A portion of this property and the entirety of the abutting parcel to the west, 60 Castle Hill Road, will be protected by a conservation easement. In total, 84.7 acres of the 136.9-acre site will be protected as open space.

The proposed work provides protections to the inland wetlands and watercourse systems in the short and long-term. While the majority of the 3.72 acres of wetlands will be protected, two areas of direct wetland disturbance are proposed. In the short-term, wetland impacts will be managed by S&E control measures. Robust and comprehensive stormwater management will maintain wetland hydrology, protect water quality, and maintain peak flow rates at the property boundaries. The peak flow attenuation will be achieved through a planned stormwater management system with detention provided in five water quality basins. The stormwater treatment train will consist of catch basins with 2-foot sumps, detention basins, hydrodynamic separators, retention storage and level spreader outlets.



The proposed project has been designed to protect on-site wetland resources as well as contribute to regional conservation efforts with the permanent protection of over 85 acres of forest abutting Taunton Lake. To this end, the proposed project will maintain the functionality of wetland resources on and adjacent to the site. If you have any questions regarding this report, please do not hesitate to contact me by email at mraymond@slrconsulting.com or by phone at 203-344-7887.

Sincerely,

SLR International Corporation



Megan B. Raymond, MS, PWS, CFM
Principal Scientist, Wetlands & Waterways Lead



Marlee Antill
Environmental Scientist





Appendix A Project Mapping

Wetland and Watercourse Delineation Impact Assessment

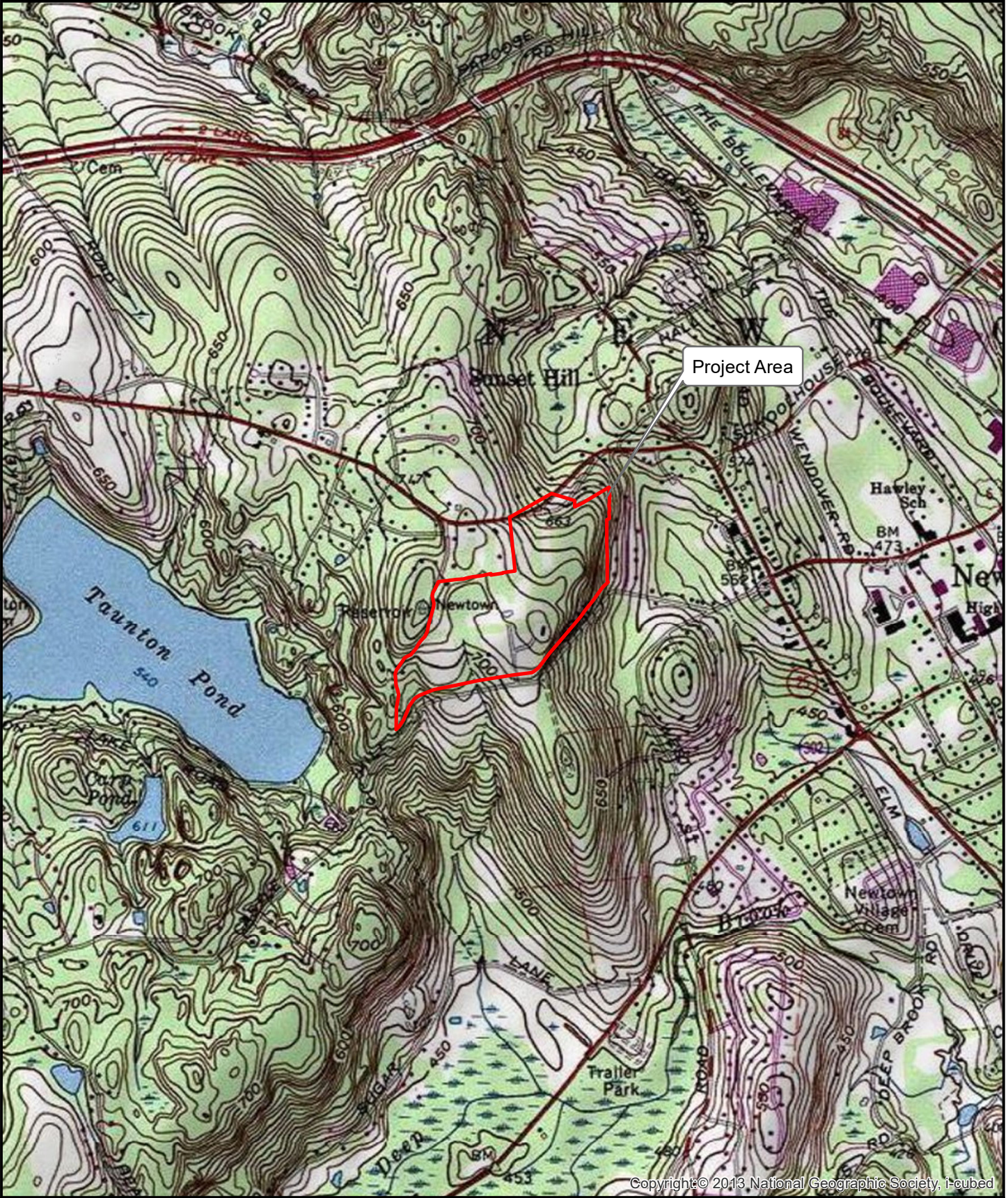
20 and 60 Castle Hill Road, Newtown, Connecticut

Castle Hill Real Estate Holdings, LLC

SLR Project No.: 141.2080.00003

November 22, 2023





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195 CHURCH STREET
7TH FLOOR
NEW HAVEN, CT 06511
203.344.7887

USGS QUADRANGLE

PROPOSED CLUSTER HOME DEVELOPMENT
CASTLE HILL REAL ESTATE HOLDINGS, LLC
20 CASTLE HILL ROAD
NEWTOWN, CONNECTICUT



0 500 1,000
Feet

SCALE 1" = 2,000'

DATE 6/15/2021

141.12500.00005
PROJ. NO.

FIG. 1



LEGEND

- Conservation Boundary
- Conservation Area
- Development Area
- Proposed Layout
- Proposed Grading
- Roadway
- Property Boundary
- Newtown Parcels

PROPOSED OPEN SPACE
CONSERVATION AREA
±80.7 ACRES

N/F
AQUARION WATER
COMPANY OF CONNECTICUT

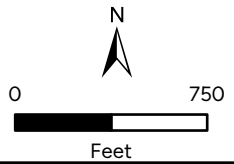
LAND OF
CASTLE HILL VILLAGE
DEVELOPMENT
±52.2 ACRES

OPEN SPACE
PEDESTRIAN EASEMENT

TAUNTON POND

SLR
195 CHURCH STREET
7TH FLOOR
NEW HAVEN, CT 06511
203.344.7887

PROPOSED CONSERVATION AREA PLAN
PROPOSED CLUSTER HOME DEVELOPMENT
CASTLE HILL REAL ESTATE HOLDINGS LLC.
20 CASTLE HILL ROAD
NEWTOWN, CONNECTICUT



SCALE	1" = 750'
DATE	11/10/2023
PROJ. NO.	141.20080.00003

FIG. 2

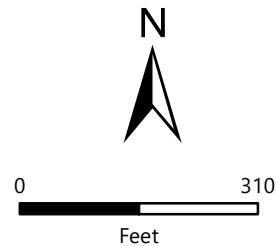


LEGEND

- Intermittent Watercourse
- Vernal Pool Boundary
- Vernal Pool
- 100-Foot Vernal Pool Envelope
- 750-Foot Critical Terrestrial Habitat
- Intermittent Watercourse Flag
- Wetland Flags
- Wetland Boundary
- Wetland
- Newtown 100-Foot Regulated Activity Area
- Project Area
- Newtown Parcels

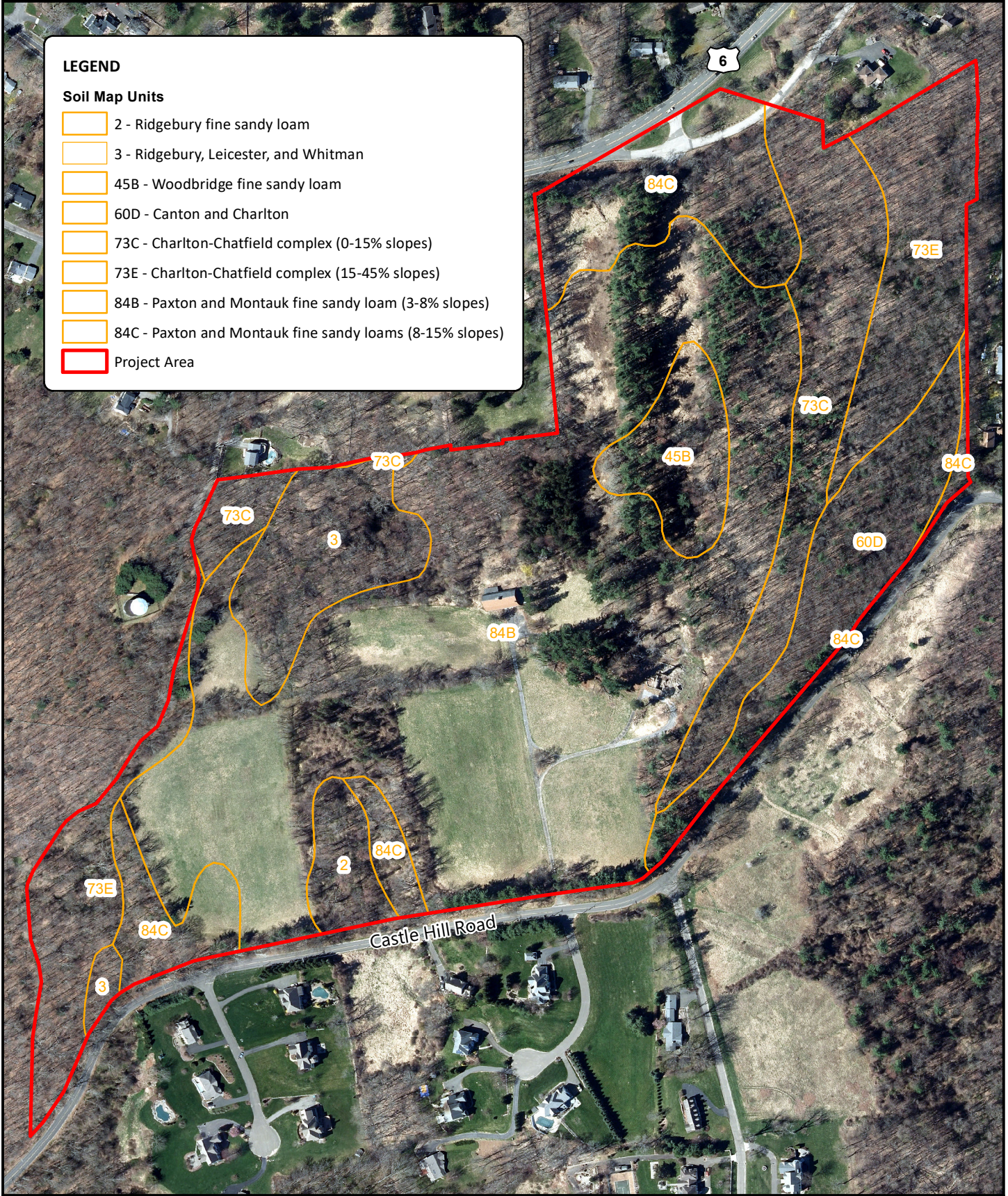
195 CHURCH STREET
 7TH FLOOR
 NEW HAVEN, CT 06511
 203.344.7887

WETLAND DELINEATION
 PROPOSED CLUSTER HOME DEVELOPMENT
 CASTLE HILL REAL ESTATE HOLDINGS, LLC
 20 CASTLE HILL ROAD
 NEWTOWN, CONNECTICUT



SCALE 1" = 250'
 DATE 7/7/2021
 PROJECT NO. 41.12500.00005

FIG. 3



LEGEND

Soil Map Units

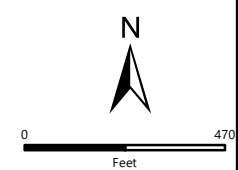
- 2 - Ridgebury fine sandy loam
- 3 - Ridgebury, Leicester, and Whitman
- 45B - Woodbridge fine sandy loam
- 60D - Canton and Charlton
- 73C - Charlton-Chatfield complex (0-15% slopes)
- 73E - Charlton-Chatfield complex (15-45% slopes)
- 84B - Paxton and Montauk fine sandy loam (3-8% slopes)
- 84C - Paxton and Montauk fine sandy loams (8-15% slopes)
- Project Area

SLR

195 CHURCH STREET
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203.344.7887

NRCS SOILS

PROPOSED CLUSTER HOME DEVELOPMENT
CASTLE HILL REAL ESTATE HOLDINGS, LLC
20 CASTLE HILL ROAD
NEWTOWN, CONNECTICUT
















SCALE 1" = 450'

DATE 6/15/2021

141.12500.00005
PROJ. NO.

FIG. 4

LEGEND

-  Intermittent Watercourse
-  Vernal Pool Boundary
-  Vernal Pool
-  Wetland Flag
-  Wetland Boundary
-  Wetland
-  Drainage Feature
-  URA Line
-  Proposed Layout
-  Proposed Grading
-  Conservation Area
-  Subject Parcels
-  Newtown Parcels

PROPOSED CONSERVATION AREA

PROPOSED STORMWATER BASIN

PROPOSED STORMWATER BASIN

PROPOSED STORMWATER BASIN

PROPOSED STORMWATER BASIN

PROPOSED STORMWATER BASIN

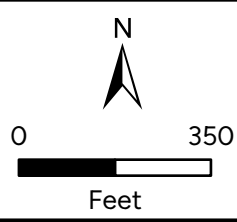
SLR

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NEW HAVEN, CT 06511
203.344.7887

PROPOSED CONDITIONS

PROPOSED CLUSTER HOME DEVELOPMENT
CASTLE HILL REAL ESTATE HOLDINGS LLC.

20 CASTLE HILL ROAD
NEWTOWN, CONNECTICUT



SCALE 1" = 350'

DATE 11/10/2023

PROJ. NO. 141.20080.00003

FIG. 5



Appendix B Photographic Log

Wetland and Watercourse Delineation Impact Assessment

20 and 60 Castle Hill Road, Newtown, Connecticut

Castle Hill Real Estate Holdings, LLC

SLR Project No.: 141.2080.00003

November 22, 2023

Client Name:
Castle Hill Real Estate Holdings LLC.

Site Location:
20 Castle Hill Road, Newtown, Connecticut

Project No.
141.20080.00003

Photo No. 1	Date: 4/25/23
Direction Photo Taken: West	



Description:

Wetland Series 2 –
Palustrine forested broad
leaf deciduous slope
wetland

Photo No. 2	Date: 4/25/23
Direction Photo Taken: North	



Description:

Wetland Series 2 –
Palustrine forested broad
leaf deciduous slope
wetland

Client Name:
Castle Hill Real Estate Holdings LLC.

Site Location:
20 Castle Hill Road, Newtown, Connecticut

Project No.
141.20080.00003

Photo No. 3	Date: 11/9/23
Direction Photo Taken: West	

Description:

Vernal Pool in Wetland Series 4 - Palustrine forested broad leaf deciduous slope wetland



Photo No. 4	Date: 11/9/23
Direction Photo Taken: West	

Description:

Wetland Series 5 - Palustrine forested broad leaf deciduous slope wetland



Client Name:
Castle Hill Real Estate Holdings LLC.

Site Location:
20 Castle Hill Road, Newtown, Connecticut

Project No.
141.20080.00003

Photo No.
5

Date:
11/9/23

Direction Photo Taken:
Southwest

Description:

Wetland Series 6 –
Palustrine
Emergent/Palustrine
Scrub/Shrub depressional
wetland



Photo No.
6

Date:
11/9/23

Direction Photo Taken:

Description:

Drainage feature near
Wetland Series 6



Client Name:
Castle Hill Real Estate Holdings LLC.

Site Location:
20 Castle Hill Road, Newtown, Connecticut

Project No.
141.20080.00003

Photo No. 7	Date: 11/9/23
Direction Photo Taken: Southwest	
Description: Uplands south of Wetland Series 6	



Photo No. 8	Date: 11/9/23
Direction Photo Taken: South	
Description: Uplands in central portion of property	





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