

MAYOR
Caroline Simmons



**CITY OF STAMFORD
ZONING BOARD
LAND USE BUREAU**
888 WASHINGTON BOULEVARD
STAMFORD, CT 06904 -2152

DIRECTOR OF OPERATIONS
Matthew Quiñones

Land Use Bureau Chief
Ralph Blessing

Principal Planner
Vineeta Mathur
(203) 977-4716
vmathur@stamfordct.gov

Associate Planner
Lindsey Cohen
(203) 977-4388
lcohen@stamfordct.gov

RECEIVED

January 16, 2024

Ms. Theresa Dell, Chair, Planning Board
Land Use Bureau, City of Stamford
888 Washington Blvd.
Stamford, CT 06904

JAN 16 2024

PLANNING BOARD

- RE: Application 224-01 – 31 Maple Tree, LLC, 31 Maple Tree Avenue, Stamford, CT- Text Change** – Applicant is proposing to amend Section 7.3.C.3. Parking Standards to add a provision to allow the Zoning Board to reduce or waive the distance of parking areas from *Lot Lines* and *Buildings* and modify the dimensions of *Parking Spaces* used for residential use based on certain findings.
- RE: Application 224-02 – 31 Maple Tree LLC, 31 Maple Tree Avenue, Stamford, CT – Site and Architectural Plans and/or Requested Uses, Special Permit and an application for approval for addition to the Stamford Cultural Resources Inventory (CRI)** – Applicant is proposing the reconstruction of a historic house and construct four (4) new townhouses to the rear along with landscaping and parking.

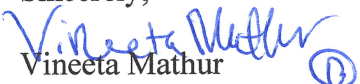
Dear Ms. Dell:

In accordance with Section C6-40-10 of the Charter of the City of Stamford, the above captioned Applications for a Text Change, Site and Architectural Plans and/or Requested Uses, Special Permit and an Application for approval for addition to the Stamford Cultural Resources Inventory (CRI) are hereby referred to the Planning Board of the City of Stamford for its advisory report.

A public hearing has not yet been scheduled. Referral comments should be filed with the Zoning Board Office by **February 20, 2024**.

If you have any questions, please feel free to contact me at (203) 977-4716.

Sincerely,


Vineeta Mathur
Principal Planner

January 5, 2024

VIA E-MAIL AND HAND DELIVERY

Ms. Vineeta Mathur
Principal Planner, Land Use Bureau
888 Washington Boulevard
Stamford, Connecticut 06901

**Re: 31 Maple Tree, LLC
31 Maple Tree Avenue, Stamford, CT (Parcel ID No. 000-6827)
Special Permit, Site Plan, Addition to Critical Resources Inventory, and Text Change
Applications**

Dear Ms. Mathur:

Our firm represents 31 Maple Tree, LLC (the “Applicant”), the owner of the Property located at 31 Maple Tree Avenue, Stamford, CT (the “Property”). The Property is 0.32± acres and located in the Multiple Family Medium Density Design (R-5) Zone. The Property is improved with a historic home (the “Historic Home”) originally built between 1921 and 1922. The Applicant seeks Zoning Board approval for a suite of applications that, collectively, will facilitate the preservation of the Historic Home located on the Property, and permit the construction of an addition to the rear of the Historic Home containing four (4) townhomes.

Enclosed please find the following in connection with the application:

- Letter of Authority from 31 Maple Tree, LLC;
- Application fees in the amount of \$3,020 (\$460 Special Permit application fee, \$1,060 Text Change application fee, \$1,000 Public Hearing fee, and \$500 Cultural Resources Inventory application fee);
- Twenty-one (21) copies of the following application forms and associated schedules:
 - Application for Site Plan Approval;
 - Application for Special Permit Approval;
 - Application for Addition to Cultural Resources Inventory;
 - Schedule A – List of Plans;
 - Schedule B – Project Narrative and Statement of Findings;
 - Schedule C – Legal Description of Property;

- Schedule D – Zoning Data Chart;
- Schedule E – Existing Zoning Map and Aerial Photo of Property;
- Twenty-one (21) copies of the document entitled “Historic Assessment of 31 Maple Tree Avenue, Stamford, CT,” prepared by Daryn Reyman-Lock, PhD;
- Twenty-one (21) copies of a Text Change Application, including the following schedules:
 - Schedule A – Proposed Regulation Amendment; and
 - Schedule B – Qualitative Analysis;
- Eight (8) full-size and thirteen (13) reduced-size copies of the following plans:
 - Architectural Plans prepared by AWA Design Group, P.C., dated March 1, 2022, revised to December 6, 2023, with the plan titles listed on Schedule A;
 - Civil Plans prepared by D’Andrea Surveying & Engineering, P.C., with the plan titles and dates listed on Schedule A;
 - Zoning Location Survey prepared by D’Andrea Surveying & Engineering, P.C., dated February 1, 2023, revised to January 2, 2024, entitled “Zoning Location Survey;”
 - Vehicle Turning Plan prepared by D’Andrea Surveying & Engineering, P.C., dated September 27, 2023, entitled “Turning Movement Plan;” and
 - Landscape Plan prepared by Environmental Land Solutions, LLC, dated February 9, 2023, revised to November 21, 2023, entitled “Landscape Plan;”
- Three (3) copies of the Drainage Study prepared by D’Andrea Surveying & Engineering, P.C., dated January 26, 2023, revised to September 27, 2023, entitled “Drainage Summary Report ‘Lite.’”¹

Please let me know if you have any questions or require additional materials. As always, thank you for your time and attention to this matter.

Sincerely,

Jason A. Klein

Jason A. Klein

Enclosures.

¹The first submission of the Stamford Sustainability Scorecard will follow under separate cover.

November 6, 2023

Vineeta Mathur
Principal Planner, Land Use Bureau
City of Stamford
888 Washington Blvd.
Stamford, CT 06901

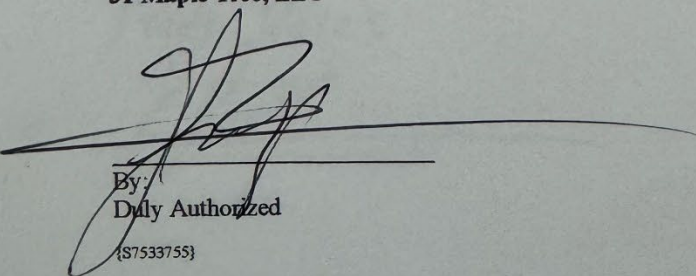
**Re: 31 Maple Tree, LLC
Land Use Applications
31 Maple Tree Avenue (the "Property")**

Dear Ms. Mathur:

31 Maple Tree, LLC is the owner of the above-captioned Property. Please consider this letter as written confirmation that the undersigned has authorized the attorneys of Carmody Torrance Sandak & Hennessey, LLP, with offices located at 1055 Washington Boulevard, Stamford, Connecticut 06901, to file the enclosed land use applications with the City of Stamford on its behalf in connection with the Property. Thank you for your acknowledgement of said authority.

Sincerely,

31 Maple Tree, LLC


By: _____
Duly Authorized

{87533755}

Fredy Reyes



APPLICATION FOR APPROVAL OF SITE & ARCHITECTURAL PLANS AND / OR REQUESTED USES

Complete, notarize, and forward **thirteen (13) hard copies and one (1) electronic copy in PDF format** to Clerk of the Zoning Board with a **\$1,000.00 Public Hearing Fee** and the required application filing fee (see **Fee Schedule below**), payable to the City of Stamford.

NOTE: Cost of required Public Hearing advertisements are payable by the Applicant and performance of required mailing to surrounding property owners is the sole responsibility of the applicant. **LAND RECORDS RECORDING FEE:** \$60.00 for First page - \$5.00 for each additional page)

Fee Schedule –WITHOUT GDP

Site Plans 20,000 sq. ft. or less of building area application fee –without GDP	\$460.00
Site Plans more than 20,000 sq. ft. of building area-application Fee –without GDP	\$460.00 + \$30 per 1,000 sq. ft. or portion thereof in excess of 20,000 sq. ft.

Fee Schedule –WITH GDP

Site Plans 20,000 sq. ft. or less of building area application fee –with GDP.	\$260.00
Site Plans more than 20,000 sq. ft. of building area-application Fee –with GDP.	\$260.00 + \$10 per 1,000 sq. ft. or portion thereof in excess of 20,000 sq. ft.

APPLICANT NAME (S): 31 Maple Tree, LLC
 c/o Agent: Jason A. Klein, Carmody Torrance Sandak & Hennessey LLP, 1055 Washington Blvd., 4th Fl., Stamford, CT 06901
 APPLICANT ADDRESS: _____
 APPLICANT PHONE #: c/o Agent: Jason A. Klein, Carmody Torrance Sandak & Hennessey LLP, (203) 425-4200

IS APPLICANT AN OWNER OF PROPERTY IN THE CITY OF STAMFORD? Yes
 LOCATION OF PROPERTY IN STAMFORD OWNED BY APPLICANT (S): 31 Maple Tree Avenue

ADDRESS OF SUBJECT PROPERTY: 31 Maple Tree Avenue (000-6827)
 PRESENT ZONING DISTRICT: Multiple Family Medium Density Design (R-5)
 TITLE OF SITE PLANS & ARCHITECTURAL PLANS: See Schedule A

REQUESTED USE: See Schedule B

LOCATION: (Give boundaries of land affected, distance from nearest intersecting streets, lot depths and Town Clerk's Block Number)
See Schedule C

NAME AND ADDRESS OF OWNERS OF ALL PROPERTY INVOLVED IN REQUEST:

<u>NAME & ADDRESS</u>	<u>LOCATION</u>
31 Maple Tree, LLC	31 Maple Tree Avenue
31 Maple Tree Avenue	
Stamford, CT 06906	

DOES ANY PORTION OF THE PREMISES AFFECTED BY THIS APPLICATION LIE WITHIN 500 FEET OF THE BORDER LINE WITH GREENWICH, DARIEN OR NEW CANAAN? No (If yes, notification must be sent to Town Clerk of neighboring community by registered mail within 7 days of receipt of application – PA 87-307).

DOES THE PROJECT RESULT IN THE CREATION OF 10 OR MORE UNITS OR 10,000 SF OR MORE IN FLOOR AREA OR DISTURBANCE OF 20,000 SF OR MORE IN LAND AREA, THROUGH NEW DEVELOPMENT, RECONSTRUCTION, ENLARGEMENT OR SUBSTANTIAL ALTERATIONS? Yes (If yes, then complete the Stamford Sustainability Scorecard per Section 15.F).



DATED AT STAMFORD, CONNECTICUT, THIS 5th DAY OF January 2024

SIGNED: Daniel Chapple

NOTE: The application cannot be scheduled for public hearing until 35 days have elapsed from the date of referral to the Stamford Planning Board. If applicant wishes to withdraw the application, this must be done in writing, and be received by the Zoning Board at least three (3) working days prior to public hearing in order to provide sufficient time to publicize the withdrawal. Applications withdrawn less than three (3) days prior to a schedule hearing date will not be rescheduled within 90 days.

STATE OF CONNECTICUT ss STAMFORD Jan 5 2024

COUNTY OF FAIRFIELD

Personally appeared Daniel Chapple, signer of the foregoing application, who made oath to the truth of the contents thereof, before me.

[Signature]
 Notary Public - Commissioner of the Superior Court

FOR OFFICE USE ONLY

APPL. #: 224-02 Received in the office of the Zoning Board: Date: _____

By: _____



APPLICATION FOR SPECIAL PERMIT

Complete, notarize, and forward **thirteen (13) hard copies and (1) electronic copy in PDF format** to Clerk of the Zoning Board with a **\$1,000.00 Public Hearing Fee** and the required application filing fee (see **Fee Schedule below**), payable to the City of Stamford.

NOTE: Cost of required advertisements are payable by the Applicant and performance of required mailing to surrounding property owners is the sole responsibility of the applicant. **LAND RECORDS RECORDING FEE:** \$60.00 for First page - \$5.00 for each additional page)

Fee Schedule

Special Permit 20,000 sq. ft. or less	\$460.00
Special Permit more than 20,000 sq. ft.	\$460.00 + \$30 per 1,000 sq. ft. or portion thereof in excess of 20,000 sq. ft.

APPLICANT NAME (S): 31 Maple Tree, LLC
 c/o Agent: Jason A. Klein, Carmody Torrance Sandak & Hennessey LLP, 1055 Washington Blvd., 4th Fl., Stamford, CT 06901

APPLICANT ADDRESS: _____

APPLICANT PHONE #: c/o Agent: Jason A. Klein, Carmody Torrance Sandak & Hennessey LLP, (203) 425-4200

IS APPLICANT AN OWNER OF PROPERTY IN THE CITY OF STAMFORD? Yes

LOCATION OF PROPERTY IN STAMFORD OWNED BY APPLICANT (S): 31 Maple Tree Avenue

ADDRESS OF SUBJECT PROPERTY: 31 Maple Tree Avenue (000-6827)

PRESENT ZONING DISTRICT: Multiple Family Medium Density Design (R-5)

TITLE OF SITE PLANS & ARCHITECTURAL PLANS: See Schedule A

REQUESTED SPECIAL PERMIT: (Attach written statement describing request)
See Schedule B

LOCATION: (Give boundaries of land affected, distance from nearest intersecting streets, lot depths and Town Clerk's Block Number)

See Schedule C

NAME AND ADDRESS OF OWNERS OF ALL PROPERTY INVOLVED IN REQUEST:

<u>NAME & ADDRESS</u>	<u>LOCATION</u>
31 Maple Tree, LLC	31 Maple Tree Avenue
31 Maple Tree Avenue	
Stamford, CT 06906	

DOES ANY PORTION OF THE PREMISES AFFECTED BY THIS APPLICATION LIE WITHIN 500 FEET OF THE BORDER LINE WITH GREENWICH, DARIEN OR NEW CANAAN? No (If yes, notification must be sent to Town Clerk of neighboring community by registered mail within 7 days of receipt of application – PA 87-307).

DOES THE PROJECT RESULT IN THE CREATION OF 10 OR MORE UNITS OR 10,000 SF OR MORE IN FLOOR AREA OR DISTURBANCE OF 20,000 SF OR MORE IN LAND AREA, THROUGH NEW DEVELOPMENT, RECONSTRUCTION, ENLARGEMENT OR SUBSTANTIAL ALTERATIONS? Yes (If yes, then complete the Stamford Sustainability Scorecard per Section 15.F).



DATED AT STAMFORD, CONNECTICUT, THIS 5th DAY OF January 20 24

SIGNED: Daniel Chapple

NOTE: Application cannot be scheduled for Public Hearing until 35 days have elapsed from the date of referral to the Stamford Planning Board. If applicant wishes to withdraw application, please notify the Zoning Board at least three (3) days prior to Public Hearing so that the Board may have sufficient time to publicize the withdrawal.

STATE OF CONNECTICUT
 ss STAMFORD 5th Jan, 20 24
 COUNTY OF FAIRFIELD

Personally appeared Daniel Chapple, signer of the foregoing application, who made oath to the truth of the contents thereof, before me.

[Signature]
 Notary Public - Commissioner of the Superior Court

FOR OFFICE USE ONLY

APPL. #: 224-02 Received in the office of the Zoning Board: Date: _____

By: _____



APPLICATION FOR APPROVAL OF ADDITIONS TO THE STAMFORD CULTURAL RESOURCES INVENTORY (CRI)

Complete, notarize, and forward **nine (9) hard copies and one (1) electronic copy in PDF format** to Clerk of the Zoning Board.

NOTE: For Applicants requesting bonuses pursuant to Section 7.3.C shall be required to pay a \$500 per property for enlistment on the Cultural Resources Inventory pursuant to Sec. 29-6.2. of the Stamford Code. No fee required if no bonuses are sought at the time of application for enlistment on the Cultural Resources Inventory. **LAND RECORDS RECORDING FEE:** \$60.00 for First page - \$5.00 for each additional page)

- THIS APPLICATION IS FOR LISTING OF PROPERTIES ON THE CRI ONLY (No bonuses sought).
- THIS APPLICATION IS FOR LISTING OF PROPERTIES ON THE CRI IN CONJUNCTION WITH BONUSES SOUGHT UNDER SECTION 7.3.C (Please attach letter supporting the listing written by a Qualified Historic Preservation Expert.)

APPLICANT NAME (S): 31 Maple Tree, LLC
 c/o Agent: Jason A. Klein, Carmody Torrance Sandak & Hennessey LLP, 1055 Washington Blvd., 4th Fl., Stamford, CT 06901
 APPLICANT ADDRESS: _____
 APPLICANT PHONE #: c/o Agent: (203) 425-4200 APPLICANT EMAIL: c/o Agent: jklein@carmodylaw.com
 ADDRESS OF SUBJECT PROPERTY(S): 31 Maple Tree Avenue (000-6827)
 PRESENT ZONING DISTRICT: Multiple Family Medium Density Design (R-5)
 PRESENT HISTORIC DESIGNATION: NATIONAL N/A STATE N/A LOCAL N/A
 REQUESTED HISTORIC DESIGNATION ON CRI: SITE _____ STRUCTURE X DISTRICT _____
 YEAR OF CONSTRUCTION OF SITE/BUILDING(S): 1921-1922
 CURRENT USE OF SITE/BUILDING Residential
 LOCATION: (Attach legal description of property obtained from the Tax Assessor's office including block and lot information)
See Schedule C

STATEMENT OF SIGNIFICANCE & APPLICABLE CULTURAL RESOURCES INVENTORY CRITERIA

(Mark "x" in one or more boxes for the criteria qualifying the property for Cultural Resources Inventory listing.)

- A. PROPERTY IS ASSOCIATED WITH EVENTS THAT HAVE MADE A SIGNIFICANT CONTRIBUTION TO THE BROAD PATTERNS OF STAMFORD'S HISTORY.
- B. PROPERTY IS ASSOCIATED WITH THE LIVES OF PERSONS SIGNIFICANT IN STAMFORD'S PAST.
- C. PROPERTY EMBODIES THE DISTINCTIVE CHARACTERISTICS OF A TYPE, PERIOD, OR METHOD OF CONSTRUCTION OR REPRESENTS THE WORK OF A MASTER, OR POSSESSES HIGH ARTISTIC VALUES, OR REPRESENTS A SIGNIFICANT AND DISTINGUISHABLE ENTITY WHOSE COMPONENTS LACK INDIVIDUAL DISTINCTION.
- D. PROPERTY HAS YIELDED, OR IS LIKELY TO YIELD, INFORMATION IMPORTANT IN PREHISTORY OR HISTORY.

NARRATIVE STATEMENT OF SIGNIFICANCE (Please include/attach a Statement with at least one paragraph for each area of significance. Attach additional sheets, if necessary)

See enclosed Project Narrative, Statement of Findings, and Historic Assessment



ATTACH THE FOLLOWING IN SUPPORT OF THE CRI DESIGNATION:

1. Site survey
2. Site and building photographs along with a key map and description/title of photographs
3. National/State/Local historic register documentation if applicable
4. Other documents supporting architectural/cultural significance such as journal articles or news/book references if applicable.
5. Letter from Qualified Historic Preservation Expert (For CRI listing in conjunction with Section 7.3.C bonuses).

NAME AND ADDRESS OF OWNERS OF ALL PROPERTIES INVOLVED IN REQUEST:

NAME & ADDRESS OF OWNER

ADDRESS OF PROPERTIES IN CRI REQUEST

31 Maple Tree, LLC
 31 Maple Tree Avenue
 Stamford, CT 06906

31 Maple Tree Avenue

DATED AT STAMFORD, CONNECTICUT, THIS 5th DAY OF January 20 24

SIGNED: Daniel Chapple

NOTE: If applicant wishes to withdraw the application, this must be done in writing, and be received by the Land Use Bureau at least three (3) working days prior to public hearing in order to provide sufficient time to publicize the withdrawal. Applications withdrawn less than three (3) days prior to a scheduled hearing date will not be rescheduled within 90 days.

STATE OF CONNECTICUT ss STAMFORD JAN 5 20 24

COUNTY OF FAIRFIELD

Personally appeared Daniel Chapple, signer of the foregoing application, who made oath to the truth of the contents thereof, before me.

[Signature]
 Notary Public, Commissioner of the Superior Court

FOR OFFICE USE ONLY

APPL. #: CRI _____ Received in the office of the Zoning Board: Date: _____
 Referred to Historic Preservation Advisory Commission Date: January 16, 2024

By: _____

- Fee collected for CRI listing in conjunction with Section 7.3.C bonuses
- No Fee required for CRI listing only

Schedule A
List of Plans

- Architectural Plans prepared by AWA Design Group, P.C., dated March 1, 2022, revised to December 6, 2023, entitled:
 - “A.000: Title Sheet;”
 - “A.001: Site Plans;”
 - “A.101: Floor Plans – Bldg. #1;”
 - “A.102: Elevations – Bldg. #1;”
 - “A.103: Floor Plans – Bldg. #2;”
 - “A.104: Floor Plans – Bldg. #2;”
 - “A.105: Elevations – Bldg. #2;”
 - “A.106: Elevations – Bldg. #2;” and
 - “Ex.001: Existing Floor Plans, Elevations;”
- Civil Plans prepared by D’Andrea Surveying & Engineering, P.C., entitled:
 - “Existing Conditions ‘Topographic Survey,’” dated January 26, 2023;
 - “1 of 4: Grading Plan,” dated February 9, 2023, revised to September 27, 2023;
 - “2 of 4: Utility Plan,” dated February 9, 2023, revised to September 27, 2023;
 - “3 of 4: Sedimentation & Erosion Control Plan,” dated February 9, 2023, revised to September 27, 2023;” and
 - “4 of 4: Notes & Details,” dated February 9, 2023, revised to September 27, 2023;
- Zoning Location Survey prepared by D’Andrea Surveying & Engineering, P.C., dated February 1, 2023, revised to January 2, 2024, entitled “Zoning Location Survey;”
- Vehicle Turning Plan prepared by D’Andrea Surveying & Engineering, P.C., dated September 27, 2023, entitled “Turning Movement Plan;”
- Landscape Plan prepared by Environmental Land Solutions, LLC, dated February 9, 2023, revised to November 21, 2023, entitled “Landscape Plan;” and
- Drainage Study prepared by D’Andrea Surveying & Engineering, P.C., dated January 26, 2023, revised to September 27, 2023, entitled “Drainage Summary Report ‘Lite.’”

Schedule B – Project Narrative & Statement of Findings

Introduction & Site History

At the start of the 20th century, Glenbrook was a “decidedly middle class” neighborhood.¹ Many homes in existence at that time were rented by employees of the manufacturing or public utility industries. Maple Tree Avenue was emblematic of these demographics. In 1911, Francis A. Bartlett (pictured below) purchased the property located at 31 Maple Tree Avenue, Stamford, Connecticut (the “Property”), a few years after founding the Stamford-based company Bartlett Tree Experts.



Mr. Bartlett later sold the Property to Edward Irvine Rudd, a local engineer and public utilities employee. Mr. Rudd was an active member of the Stamford community, serving as chair of the Stamford Town Plan Commission for ten years. Mr. Rudd constructed a single-family residence on the Property sometime between 1921 and 1922 (the “Historic Home”) depicted below.



Since the construction of the Historic Home, Maple Tree Avenue has developed into a multifamily neighborhood. Neighboring properties include:

1. Maple Court Condos at 9 Maple Tree Avenue (20 units)

¹“The History of Glenbrook,” pg. 5.

²Bartlett Tree Experts, “Bartlett’s History,” available at <https://www.bartlett.com/bartlett-history.cfm> (last visited December 1, 2023).

2. Olde Glenbrook Mews at 21 Maple Tree Avenue (7 units)
3. Maple Manor Estates at 27 Maple Tree Avenue (7 units); and
4. Gray Stone Court at 35 Maple Tree Avenue (6 units).

In 2021, 31 Maple Tree LLC (the “Applicant”) purchased the Property. The Applicant was drawn to the Property by the historic nature of the Historic Home, which features many of its original, exterior features, such as its siding and general arrangement.³ Other improvements to the Property include a paved driveway that effectively extends through the length of the Property, and associated off-street parking areas.

Project Area and Development Site

In total, the Property is 14,125 sf and is within the R-5 Zone. The Property is surrounded by several parcels utilized for multifamily purposes as noted above. The Property is designated as Category 3 (Residential – Low Density Multifamily) and is bounded in yellow in the aerial image below.



Description of Proposed Development

The Applicant proposes to rehabilitate the Historic Home located on the Property into a two-family structure. The Applicant also proposes constructing 4 3-bedroom townhomes behind the Historic Structure (the “Proposed Addition”). Each townhome will include a private, enclosed

³See Historic Assessment of 31 Maple Tree Avenue, Stamford, CT prepared by Daryn Reyman-Lock, Ph.D (the “Historic Assessment”).

garage with enough room to accommodate 2 vehicles. Two 2-bedroom homes are proposed to be located within the Historic Home. The Proposed Addition will be comprised of an asphalt shingle roof, vinyl siding, and a stone base along its westerly (front) facade. As noted in the enclosed Historic Assessment, the Proposed Addition will feature windows and doors that match those found on the Historic Home. The Proposed Addition is depicted in the below elevation.



Enhanced site landscaping and storm water systems are also proposed.

Approval of the proposal will ensure that the Historic Home remains a part of the Maple Tree Avenue streetscape as it has for the past 100 years. In accordance with Section 7.3 of the Zoning Regulations of the City of Stamford (the “Zoning Regulations”), the Applicant will execute a Historic Preservation Façade Agreement ensuring the preservation and maintenance of the Historic Structure.

The Property is within walking distance of the Glenbrook Metro North Train Station, providing easy access to public transport for future residents of the proposed redevelopment. The Property is also close to the businesses and restaurants located along Glenbrook Road and Crescent Street. This centralized location will likely encourage pedestrian, rather than vehicular travel to and from the Property.

Requested Approvals

To facilitate this proposal, the Applicant seeks approval of the following applications:

- (1) An application to include the Historic Structure located on the Property on the Cultural Resources Inventory pursuant to Sec. 7.3.B.2.c of the Zoning Regulations of the City of Stamford (the “Zoning Regulations”);

- (2) A Text Amendment Application proposing an amendment to Section 7.3 of the Zoning Regulations. The proposed amendment will grant the Stamford Zoning Board the authority to reduce setbacks applicable to onsite parking areas;
- (3) A Site Plan Application pursuant to Sections 7.3 and 19.D to permit the construction of the proposal; and
- (4) A Special Permit Application pursuant to Section 7.3 and 19.C seeking the following Special Permit requests:
 - i. Special Permit Approval pursuant to Sec. 7.3.C.4.a.2.a. of the Zoning Regulations to permit a total of 6 homes on the Property in lieu of the 4 homes permitted by right;
 - ii. Special Permit Approval pursuant to Sec. 7.3.C.3.a. of the Zoning Regulations to permit 1 parking space per proposed home;
 - iii. Special Permit Approval pursuant to Sec. 7.3.C.3.c. (as proposed in the Text Amendment Application) to permit the location of onsite parking within the setbacks established by Table 12.5 and Table 12.6 (Minimum Distances of Parking Areas from lot Lines and Buildings) of the Zoning Regulations.
 - iv. Special Permit Approval pursuant to Sec. 7.3.C.4.c(2) of the Zoning Regulations to permit total Building Height of 4 stories in lieu of the 3 stories typically permitted;
 - v. Special Permit Approval pursuant to Sec. 7.3.C.4.a.4.b. of the Zoning Regulations to permit a Rear Yard Setback of 26.3' in lieu of the 30' typically permitted;
 - vi. Special Permit Approval pursuant to Sec. 7.3.C.4.a.4.b. of the Zoning Regulations to permit a Side Yard Setback (southerly) of 10.1' in lieu of the 15' typically permitted;
 - vii. Special Permit Approval pursuant to Sec. 7.3.C.4.e. to permit Light and Air along the south side of the Property of no less than 10.1' for the Proposed Addition and 15.8' for the Historic Home.

Statement of Findings

1. Site Plan Standards

The proposal is consistent with the Site Plan standards (Section 19.D) and of the Zoning Regulations as follows:

a. Site Plan Standards

In reviewing site plans the Zoning Board shall take into consideration the purpose of these Regulations, including the purpose of the applicable zoning district and the goals and policies of the Stamford Master Plan, the public health, safety and general welfare and convenience of the general public and the maintenance of property values. In its review the Board may modify a site plan or condition an approval to the extent necessary to conform the site plan to the following standards and objectives:

(1) Safe, adequate and convenient vehicular traffic circulation, operation, parking and loading, and pedestrian circulation, both within and without the site.

(a) The number, locations and dimensions of all vehicular and pedestrian access drives and walkways, parking spaces, drop-off and loading areas, and provisions for handicapped access shall conform to the standards of Section 12 of these Regulations, to the adopted design criteria and engineering practices of the Dept. of Traffic and Parking, and all other applicable standards. Such areas shall be constructed of suitable hard surface materials and maintained in good condition.

The number, locations and dimensions of all vehicular and pedestrian access drives and walkways, parking spaces, drop-off areas, loading areas, and handicapped access areas conform to the applicable provisions of Sections 7.3 and 12 of the Zoning Regulations.

The proposal has been designed in accordance with Section 7.3 of the Zoning Regulations, which requires 1 parking space for each dwelling unit associated with a historic preservation redevelopment. This ratio would require 6 parking spaces for the 6 apartment homes proposed. A total of 12 parking spaces are provided on the Property. As such, each home will have access to 2 designated parking spaces. Additionally, all parking areas are setback at least 5' from the property line, but Spaces 2 and 3 will be within 5' of Proposed Units 3 and 6, respectively. In accordance with the Applicant's proposed text change, these spaces will contain pervious pavers. The configuration of these spaces is appropriate because it will allow for additional parking while preserving the Historic Home and providing new housing opportunities for current and future Stamford residents.

(b) The number of vehicle access drives shall be minimized and shall be located and designed to provide safe and convenient turning movements and safe sightline as determined in accordance with the Geometric Highway Design Standards of the Conn. Dept. of Transportation.

Vehicular access to the Property will be provided along Maple Tree Avenue as shown on the enclosed plans. The width and location of the curb cut is in accordance with the applicable standards of the Zoning Regulations.

- (c) *Area streets and traffic controls shall be determined to have adequate capacity to service the site without causing undue congestion or hazardous conditions.*

The Property is in walking distance to the Glenbrook Metro North Train Station, and the shops and businesses in the heart of the Glenbrook neighborhood. This convenient location will encourage pedestrian, rather than vehicular travel, in many instances. As such, it is unlikely that this modest proposal will have any perceivable impact on traffic conditions.

- (2) *The protection of environmental quality, landscaping of open space and harmony with existing development. The Board shall take into consideration the following features and standards:*

- (a) *The location, height, design and materials of walls, fences, hedges and plantings shall be appropriate to the vicinity and shall suitably screen parking, loading, garbage collection facilities, outside storage areas, accessway drives, utility installations and other such features; such landscaping shall be appropriate to the general character of the vicinity and consider the proximity and nature of abutting uses and the level of use of adjoining public streets and walkways.*

900+/- sf of at grade open space is proposed. In addition, each home in the Proposed Addition will have access to a 55 sf balcony. The 2 homes within the Historic Home will each have access to a private deck.

- (b) *All open space areas, exclusive of undisturbed natural areas, shall be suitably landscaped to the satisfaction of the Board. Site landscaping shall be performed at a minimum dollar value equivalent to one shade tree of 2.5 inch caliper for every two hundred (200) square feet of landscaped area. In multi-family developments, open space shall be designed to provide functional outdoor living and play areas meeting the needs of intended residents.*

The Applicant proposes maintaining onsite landscaping in accordance with the standards of the Zoning Regulations as further detailed within the enclosed Landscape Plan.

- (c) *Soil erosion, sediment and the release of excessive dust shall be controlled through implementation of suitable short term and long term controls in accordance with the standards and procedures of Section 15-B.*

Comprehensive Civil Plans depicting storm water, soil erosion and sediment control features prepared by D'Andrea Surveying & Engineering, PC are enclosed with this

application. These plans ensure the standards and procedures of Section 15-B of the Regulations are satisfied.

- (d) *Site development shall seek to preserve existing specimen trees, historic structures and other significant natural features of the site. Accordingly, the premature demolition and site clearance of prospective development sites is specifically discouraged and may be taken into consideration in subsequent site plan reviews.*

Approval of the application will result in the preservation of the Historic Structure that has been located on the Property since 1922.

- (e) *Artificial lighting, and site generated noise, odors, particles and other disturbances shall be controlled to avoid interference with the use and enjoyment of neighboring properties. The location, height, design and arrangement of outside lighting shall be consistent with safety such as to avoid glare on any other lot and to avoid hazards to traffic on any street.*

All artificial lighting and site generated noise and other disturbance shall be controlled and will not interfere with the use and enjoyment of the neighboring properties. Furthermore, the location, height, design and arrangement of outside lighting shall be consistent with safety to avoid glare on any other lot and to avoid hazards to traffic on adjacent roadways.

- (f) *Available public utilities shall be adequate in capacity to safely service the requirements of the site. Surface water drainage facilities shall be adequate to safely drain the site while minimizing the risk of downstream flooding and erosion. Where infrastructure capacity is judged not to be adequate the Board may accept a binding agreement to perform suitable improvements.*

A comprehensive drainage plan and drainage report is submitted with the enclosed materials. The plans illustrate the adequacy and availability of public utilities for the site. Additionally, the drainage report shows surface water drainage facilities will sufficiently and safely drain the Property while minimizing the risk of downstream flooding and erosion and adverse impacts.

- (g) *Adequate provision shall be made for emergency vehicle access, fire lanes, and safe fire flows, upon the recommendation of the Fire Marshall and the public water utility.*

Emergency first responders will be able to access the Property safely and conveniently.

- (h) *The arrangement, location, apparent bulk, architectural features, materials, texture and color of proposed buildings and structures shall establish an architectural character and overall site design compatible with the scale and general character of the vicinity.*

As stated in the enclosed Historic Assessment, the Proposed Addition is “sympathetic” to the Historic Home. Notably, the Proposed Addition will feature windows and doors to match those found on the Historic Home. Points of articulation along the façade of the Proposed Addition further ensure the proposal is compatible with the scale and general character of other multifamily uses within the vicinity of the Property.

- (i) *Building setbacks and the configuration of open space shall be appropriate to the existing structures on adjoining properties and established patterns of use of side and rear yard areas, and to the existing physical conditions of the site.*

The Historic Home will remain in its current location. The proposed multifamily use is appropriate and consistent with surrounding multifamily uses.

- (j) *No use shall be permitted that will cause or result in:
-dissemination of dust, smoke, observable gas or fumes, odor, noise or vibration beyond the immediate site of the building in which such use is conducted, or
-unusual hazard of fire or explosion or other physical hazard to any adjacent buildings, or
-harmful discharge of liquid materials, or
-unusual traffic hazard or congestion due to the type of vehicles required in the use or due to the manner in which traffic enters or leaves the site of the use.*

No nuisance or hazardous conditions are anticipated, consistent with the engineering materials provided herein.

- (k) *All buildings and grounds and other structures shall be maintained in good repair and in safe, clean and sanitary condition. All landscaping required pursuant to an approved site plan shall be installed to the satisfaction of the Director of Parks and Recreation and shall thereafter be maintained in accordance with an agreement to be made part of the application of record, which agreement shall be enforced by the Zoning Enforcement Officer, upon advice of the Director.*

The Applicants are amenable to a condition of approval requiring the execution of a Landscape Maintenance Agreement and a Drainage Maintenance Agreement prior to the issuance of a Certificate of Occupancy.

2. Special Permit Standards

The Application complies with Section 19-3.2 of the Zoning Regulations as follows:

Special Permits shall be granted by the reviewing board only upon a finding that the proposed use or structure or the proposed extension or alteration of an existing use or structure is in accord with the public convenience and welfare after taking into account, where appropriate:

- 1) *The location and nature of the proposed site including its size and configuration, the proposed size, scale and arrangement of structures, drives and parking areas and the proximity of existing dwellings and other structures.*

The 4 homes within the Proposed Addition are in keeping with the adjacent multifamily residential use, which also maintains 4 “townhome” style dwellings immediately to the east of the Property. It should be noted that the proposal complies with the underlying Building Coverage standards of the R-5 Zone. Proposed setbacks will not adversely impact neighboring uses, will facilitate the preservation of the Historic Home and are greater than the minimum setbacks achievable under Section 7.3 of the Zoning Regulations. Specifically, the Applicant proposes maintaining a Side Yard Setback of 10.1’ even though Section 7.3 permits a Side Yard Setback of 7.5’. Similarly, the proposed Rear Yard Setback of 26.3’ is substantially larger than the 15’ achievable under Section 7.3. The location of all parking areas is similarly appropriate given the preservation of the Historic Home and the construction of additional housing opportunities for current and future Stamford residents.

- 2) *The nature and intensity of the proposed use in relation to its site and the surrounding area. Operations in connection with special permit uses shall not be injurious to the neighborhood, shall be in harmony with the general purpose and intent of these Regulations, and shall not be more objectionable to nearby properties by reason of noise, fumes, vibration, artificial lighting or other potential disturbances to the health, safety or peaceful enjoyment of property than the public necessity demands.*

The proposed multifamily community will have no adverse impact whatsoever on the surrounding community by reason of noise, fumes, vibration, artificial lighting or other potential disturbance to the health, safety or peaceful enjoyment of property that the public necessity demands. The Proposed Addition and rehabilitated Historic Home will enhance the neighborhood.

- 3) *The resulting traffic patterns, the adequacy of existing streets to accommodate the traffic associated with the proposed use, the adequacy of proposed off-street parking and loading, and the extent to which proposed driveways may cause a safety hazard, or traffic nuisance.*

The Property is in walking distance to the Glenbrook Metro North Train Station, and the shops and businesses in the heart of the Glenbrook neighborhood. This convenient location will encourage pedestrian, rather than vehicular travel, in many instances. As such, it is unlikely that this modest proposal will have any perceivable impact on traffic conditions.

- 4) *The nature of the surrounding area and the extent to which the proposed use or feature might impair its present and future development.*

The proposal is consistent with neighboring multifamily residential uses along Maple Tree Avenue.

- 5) *The Master Plan of the City of Stamford and all statements of the purpose and intent of these regulations.*

The Property is within Master Plan Category 3 (Residential – Low Density Multi-Family). Category 3 is “intended to provide for and protect single-family dwellings and the least intensive of multifamily developments (i.e., garden apartments or similar condominium-type units”⁴ The proposal, which will result in a multifamily community consisting of 6 homes, is in keeping with the overall goals of Category 3. The proposal will also further the City’s larger policy goals of preserving historic structures, and providing a diverse housing stock for City residents from at various life stages.

The proposal is also in keeping with the following goals and policies found in the Master Plan:

- **6.3 – Historic Preservation:** “Encourage [the] preservation and rehabilitation of significant historic structures through special use permits and density incentives.”⁵

The proposal utilizes the incentives contained in Section 7.3 of the Zoning Regulations to facilitate the rehabilitation of the Historic Home.

- **6A.1:** Balance new development with preservation of existing residential communities.⁶

The proposal balances the development of new homes with the rehabilitation of a residential structure originally constructed 100 years ago.

- **6.C.2:** Promote development of a variety of housing types. Create a mix of housing units that 1) includes housing suitable for families with children; 2) promotes housing prototypes that respect and complement the existing character of the surrounding neighborhood; 3) maximizes the use of cost-effective construction methods; and 4) promotes flexible housing models for the elderly in locations that are accessible to transit.⁷

The proposed development will result in the construction of 4 3-bedroom homes and the rehabilitation of the Historic Home into 2 2-bedroom homes. All 6 proposed homes are in keeping with the variety of residential uses along Maple Tree Avenue, are appropriate for families with children and will add to the diversity of Stamford’s housing stock.

- **“Policy BGS1:** Create vibrant, mixed-use centers that are pedestrian and transit-friendly” in the Glenbrook neighborhood.

The Property is within walking distance of the Glenbrook Metro North Station and the various commercial uses in the heart of the Glenbrook community. As such,

⁴Master Plan, pg. 192.

⁵Master Plan, pg. 163.

⁶Master Plan, pg. 133.

⁷Master Plan, pg. 134.

future residents will have ample opportunity to utilize pedestrian (rather than vehicular) modes of transportation.

- **“Policy BGS3:** Preserve and protect neighborhood character and quality-of-life”⁸ in Glenbrook.

The rehabilitation of the Historic Home is in furtherance of protecting the character of the surrounding neighborhood.

3. Sec. 7.3 Standards

The Application complies with Section 7.3.C.1 of the Zoning Regulations as follows:

An application for Special Permit under this Subsection shall be required to meet the criteria of Section 19.C.2 and the following findings and conditions:

- b. Proposed use and site plan are compatible with and implement the objectives and policies of Stamford's Master Plan;*

The Property is within Master Plan Category 3 (Residential – Low Density Multi-Family). Category 3 is “intended to provide for and protect single-family dwellings and the least intensive of multifamily developments (i.e., garden apartments or similar condominium-type units...”⁹ The proposal, which will result in a multifamily community consisting of 6 homes, is in keeping with the overall goals of Category 3. The proposal will also further the City’s larger policy goals of preserving historic structures, and providing a diverse housing stock for City residents from at various life stages. The proposal furthers other goals and policies of the Master Plan as analyzed above.

- c. Proposed use and site plan are superior to a plan conforming to the standard dimensional requirements and use standards of the underlying zoning district and will not impair the future development of the surrounding area;*

The setback, height and density standards of the R-5 Zone would prevent the construction of an addition that is both sympathetic to the Historic Home and provides a right-sized amount of homes on the Property. Adequate Light & Air will be provided and will further facilitate the preservation of the Historic Home. Section 7.3 will allow the Applicant to provide each proposed home with 2 parking spaces, while at the same time constructing additional housing to serve City residents.

- d. Proposed use and site and architectural plans serve to rehabilitate, restore, Critically Reconstruct, or preserve Historic Structures or Sites, and meet the HPAC guidelines for Historic Preservation (once they are recommended by HPAC and adopted by the Zoning Board), or the appropriate Standards and Guidelines of the Secretary of the Interior, as*

⁸Master Plan, pg. 147.

⁹Master Plan, pg. 192.

amended from time to time and published on the National Park Service website, as applied by HPAC and the Zoning Board; and

The proposal will result in the preservation of the Historic Home located on the Property. As a condition of approval, the Applicant will execute a Historic Façade Easement in accordance with Section 7.3 of the Zoning Regulations.

- e. The loss of said Historic Structure or Historic Site would be detrimental to the neighborhood character, Local Historic District or the cultural and historical heritage and identity of the City of Stamford.*

The 100+/- year old Historic Home is tied to meaningful individuals who have contributed to the history of the City of Stamford. According to the enclosed Historic Assessment, the Historic Home “retains much of its original architectural character on the exterior.”

Conclusion

The proposed preservation of the Historic Home and construction of the proposed addition are in furtherance of the City’s preservation and housing goals.

Schedule C
Property Description

ALL THAT CERTAIN tract of land, with the buildings thereon, situated at Glenbrook, City of Stamford, County of Fairfield and State of Connecticut, and bounded:

NORTHERLY: 55 feet by Maple Avenue;
EASTERLY: 256 feet, more or less, by land now or formerly of William F. Schaefer;
SOUTHERLY: 55 feet by land now or formerly of The New York, New Haven and Hartford Railroad Company; and
WESTERLY: 256 feet, more or less, by land now or formerly of Ethel S. Heyer.

END OF PROPERTY DESCRIPTION

Schedule D
R-5 Zoning Data Chart

Project Name:

31 Maple Tree Avenue

Application number:

Address: 31 Maple Tree

Avenue, Stamford, CT

Zoning District(s): R-5 Zone

Zoning Section		Required/ Permitted	Existing Conditions	Proposed	Notes (Indicate compliance or Zoning Section for Special Permit if applicable)
	Lot Size	R-5: 9,000 sf	14,125 sf	No Change	Complies
	Gross Floor Area	N/A	1,798 sf	9,046 sf	
	Zoning Floor Area				
	Residential	N/A	1,798 sf	9,046 sf	
	Commercial	N/A	0	0	
	Community Facility	N/A	0	0	
	Parking Levels	N/A	0	1,752 sf	
	Total				
	F.A.R.	N/A	N/A	N/A	
	Residential	N/A	N/A	N/A	
	Commercial	N/A	0	0	
	Community Facility	N/A	0	0	
	Industrial	N/A	0	0	
	Total	N/A	N/A	N/A	
	Number of units	4 residences by right; 6 permitted per § 7.3.C.4.a.2.a.	1 family home	6 residences	Special Permit requested pursuant to § 7.3.C.4.a.2.a.
	Below Market Rate Units (# and %)	0	0	0	Complies
	Number of seats/ beds / employees if Applicable	N/A	N/A	N/A	
	Density(Units/Acre)	3,000 sf per family by right; 2,354 sf per family permitted per § 7.3.C.4.a.2.a.	1 family home on 14,125 sf	6 residences at 2,354 sf per family	Special Permit requested pursuant to § 7.3.C.4.a.2.a.
	Street Frontage	60'	55'	No Change	Legal nonconformity
	Building Coverage (Area and %)	30% / 4,238 sf	6.2% / 882 sf	26.7% / (3,770 sf)	Complies
	Lot coverage (Area and %)	N/A	N/A	N/A	
	Building Height (Feet)	40'	27'-11.5"	34'-10"	Complies
	Number of floors	3 stories 4 stories permitted per § 7.3.C.4.c(2)	2 stories	4 stories	Special Permit requested pursuant to § 7.3.C.4.c(2)
	Active ground floor (sq.ft. and %) if Applicable	N/A	N/A	N/A	
	Yards				
	Front yard	20' to street line 45' to street center	> 20' > 45'	No change	Complies
	Rear yard	30'; 15' permitted per §	30'	24.4'	Special Permit requested pursuant

		7.3.C.4.a.4.b.			to § 7.3.C.4.a.4.b.
	Side yard	6' + 6" for each foot of length of an individual building over 45', not to exceed 15'; 7.5' permitted per § 7.3	15'	10.1'	Special Permit requested pursuant to § 7.3.C.4.a.4.b.
	Parking				
	Residential parking	2 spaces per unit and one guest space per 4 units; 1 space per unit and no guest spaces permitted per § 7.3.C.3.a.	Complies	12 parking spaces	Special Permit requested pursuant to § 7.3.C.3.a. to permit one space per residence
	Commercial parking	N/A	N/A	N/A	
	Community Facility parking	N/A	N/A	N/A	
	Industrial parking	N/A	N/A	N/A	
	Public open space parking	N/A	N/A	N/A	
	Bike parking	0 if fewer than 10 units	0	0	Complies
	# of levels of parking garage (if applicable)	N/A	N/A	N/A	
	Square footage of parking area	N/A	N/A	N/A	
	Parking setback	5'	3.1'	2'	All parking areas are at least 5' from property lines, but Special Permit is requested pursuant to § 7.3.C.3.c. to permit two of the proposed spaces to be within 5' of the proposed building.
	Open space (Area and %)	150 sf per unit (900 sf)	>900 sf	>900 sf	Complies
	Light and Air	12 sf window in each room with at least 20' of unobstructed space	Complies	Each room has minimum of 30 sf of windows and at least 10'-1" of unobstructed space to property line	Special Permit requested pursuant to § 7.3.C.4.e. to permit Light and Air of no less than 10.1' for the Proposed Addition and 15.8' for the Historic Home.

updated 4/30/2020





Historic Assessment of 31 Maple Tree Avenue, Stamford, CT

The house at 31 Maple Tree Avenue, built between 1921 and 1922, has an interesting history that very much tells the story of the development of the street during the early 20th century.

Maple Tree Avenue did not exist until the late-19th century. In 1867, the street had yet to be organized. Two families – Wilmarth and Flinn – seem to have owned most of the land lying to the north of the New York & New Haven Railroad, while J. H. Slawson and E. Hounslow owned property to the south. By 1872, several streets including Oak Street, Maple Avenue in Glenbrook (the present Oakdale Road and Maple Tree Avenue, respectively), and Glen Terrace had been arranged. The area was platted and, by 1900, several parcels developed with houses. By the time the 1910 census was taken, much of the area had been built with single family residences although several lots lay empty and ready for construction.

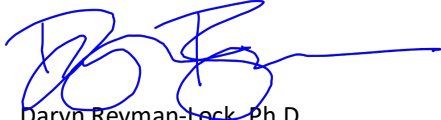
During this first quarter of the 20th century, this area of Glenbrook was dynamic, and was primarily home to working- and middle-class people and families. While some homes were owned or mortgaged, many in the area were rented by people working in either manufacturing or public utilities, although there were a number leased to proprietors of small, independent concerns and shops. A few households were able to afford housekeepers, cooks, and nurses, and provided board to their associated family members, but the vast majority were traditional family-units composed of two parents and their children, many of whom were unmarried adults with jobs of their own. Young children were also present, however. Likewise, Maple Avenue and the neighboring Oak Street, was home to a mix of Connecticut-natives and transplants from other regions of the United States including Kentucky, Illinois, Virginia, and New York, with several immigrant families from England, Ireland, Canada, and Germany. When Levy W. Slawson, the local postmaster, sold an undeveloped parcel of land to Francis A. Bartlett in 1911, this was the landscape of the neighborhood. Bartlett, the founder of Stamford-based company Bartlett Tree Experts, built a house on the property within the next few years. Never living there himself, he instead seems to have used the home as an income-generating entity. It is not clear to whom the house was rented over the next nine years, although when Bartlett decided to sell the property in 1920, it was purchased by a neighbor, Albert Emery, Jr. Emery retained ownership of the property for a little over a year and a half, selling it finally to Edward Irvine Rudd, an engineer for a public utilities company. Rudd had been living in a rented house on Maple Avenue since 1916 according to directories and census records. While it is possible that he was renting the property from Bartlett, no number was provided in these historic records.

When Rudd purchased the property, many of the surrounding parcels were likely undeveloped. Directories between 1921 and 1922 do not list any houses between 7 and 15 on the right side of the street, suggesting these parcels were empty or in the process of being developed. By 1923, however, number 9 is listed, and E. Irvine Rudd marked as owner.

The Rudd family retained ownership for the next 41 years and maintained the property as a single-family house with a small garage. The subsequent owners, the Evanchiks, purchased the home in 1962 from the estate of E. Irvine Rudd's wife, Louise. It remained in that family until 2021.

When Rudd built the home in the early 1920s, it was a two-story dwelling with a front and rear entrance overhung by shed roof porticos, and a small open porch on the western elevation. The building retains much of its original architectural character on the exterior, including the semi-circular window in the gable end, its siding and general arrangement. The only significant alteration appears to be the two-story bay windows with semi-conical roof in the rear, which is not viewable from a public street.

The exterior changes to 31 Maple Tree Avenue, as proposed by AWA Design Group, appear to be sympathetic alterations. The rear addition does not change the appearance of the building from the street and removes a previous addition which was asynchronous with the original structure. The addition will have matching windows and doors (on the left elevation in particular). The one change will be the addition of the double deck, the view of which will be softened with landscaping.



Daryn Reyman-Lock, Ph.D.
Principal, Sawdust and Strata



APPLICATION FOR TEXT CHANGE OF THE STAMFORD ZONING REGULATIONS

Complete, notarize, and forward **thirteen (13) hard copies and (1) electronic copy in PDF format** to Clerk of the Zoning Board with a **\$1,000.00 Public Hearing Fee** and the required application filling fee (see **Fee Schedule below**), payable to the City of Stamford.

NOTE: Cost of required Public Hearing advertisements are payable by the Applicant and performance of mailing of required property owners is the sole responsibility of the applicant. **LAND RECORDS RECORDING FEE:** \$60.00 for First page - \$5.00 for each additional page)

Fee Schedule

Minor Text Change	\$1,060.00
Major Text Change	\$5,060.00

APPLICANT NAME (S): 31 Maple Tree, LLC
 c/o Agent: Jason A. Klein, Carmody Torrance Sandak & Hennessey LLP, 1055 Washington Blvd., 4th Fl., Stamford, CT 06901
 APPLICANT ADDRESS: _____
 APPLICANT PHONE c/o Agent: Jason A. Klein, Carmody Torrance Sandak & Hennessey LLP, (203) 425-4200

IS APPLICANT AN OWNER OF PROPERTY IN THE CITY OF STAMFORD? Yes
 LOCATION OF PROPERTY IN STAMFORD OWNED BY APPLICANT (S): 31 Maple Tree Avenue

PROPOSED TEXT CHANGE: See enclosed application materials.

DOES ANY PORTION OF THE PREMISES AFFECTED BY THIS APPLICATION LIE WITHIN 500 FEET OF THE BORDER LINE WITH GREENWICH, DARIEN OR NEW CANAAN? Yes (If yes, notification must be sent to Town Clerk of neighboring community by registered mail within 7 days of receipt of application – PA 87-307).

DATED AT STAMFORD, CONNECTICUT, THIS 5th DAY OF January 20 24

SIGNED: Daniel Chappell

NOTE: Application cannot be scheduled for Public Hearing until 35 days have elapsed from the date of referral to the Stamford Planning Board. If applicant wishes to withdraw application, please notify the Zoning Board at least three (3) days prior to Public Hearing so that the Board may have sufficient time to publicize the withdrawal.

STATE OF CONNECTICUT
 COUNTY OF FAIRFIELD ss STAMFORD Jan 5 20 24

Personally appeared Daniel Chappell, signer of the foregoing application, who made oath to the truth of the contents thereof, before me.

[Signature]
 Notary Public - Commissioner of the Superior Court

FOR OFFICE USE ONLY

APPL. #: 224-01 Received in the office of the Zoning Board: Date: _____

By: _____

Schedule A – Proposed Regulation Amendment

Proposed text in *[bracketed, red italics]*.

7.3.C.3. Parking Standards

Parking for *Historic Structures* to be preserved shall be subject to approval by the Zoning Board based on the proposed use, the available information, and a determination that the proposed plan provides for adequate parking in the vicinity and that no adverse impact will be created. Notwithstanding the other applicable parking standards of these Regulations, the Zoning Board, in its sole discretion, may approve the following minimum parking standards:

- a. No less than 0.5 *Parking Spaces* per Dwelling Unit within *Master Plan* Categories 9, 11, and 16, or less where permitted by these Regulations, and no less than 1.0 *Parking Spaces* per Dwelling Unit in all other *Master Plan Categories*, or less where permitted; provided, however, that no on-site parking shall be required if the *Building* is within 1,000 feet of a public parking garage, as measured from the entrance of the *Building* to the garage entrance, as the crow flies, or if sufficient on-street parking is available, as determined by the City of Stamford Transportation, Traffic and Parking Bureau;
- b. No less than 0.5 *Parking Spaces* per 1,000 sf of *Gross Floor Area* for non-residential uses within *Master Plan Categories* 9, 11, and 16, or less where permitted by these Regulations, and no less than 1.0 *Parking Spaces* per 1,000 sf of *Gross Floor Area* for non-residential uses in all other *Master Plan Categories*, or less where permitted; provided, however, that no on-site parking shall be required for non-residential uses with a *Gross Floor Area* of 2,000 sf or less per establishment or if located within 1,000 feet of a public parking garage, as measured from the entrance of the *Building* to the garage entrance, as the crow flies, or if sufficient on-street parking is available, as determined by the City of Stamford Transportation, Traffic and Parking Bureau; and
- c. *[The Zoning Board may reduce or waive the development standards of Table 12.5 (Minimum Distances of Parking Areas from Lot Lines and Buildings) and Table 12.6 (Location of Parking Areas and Loading Spaces in Yards) in order to facilitate the provision of on-site parking. All parking spaces or areas encroaching within the setbacks specified shall be constructed with pervious pavers. The Zoning Board may modify the dimensions of Parking Spaces exclusively used for residential uses, as defined by Section 12.A of these Regulations where the Transportation, Traffic and Parking Bureau finds that such modification would not reduce circulation or affect maneuverability of parking operations.]*

Schedule B - Qualitative Analysis

The proposed Text Change to Section 7.3 of the Zoning Regulations of the City of Stamford (the “Zoning Regulations”), serves to further the overall purpose of incentivizing the preservation, restoration, rehabilitation and adaptive reuse of historic buildings in the City of Stamford (the “City”), and will facilitate the construction of additional housing in the midst of a housing crisis. Proposed changes include:

- a. *Grant the Stamford Zoning Board (the “Zoning Board”) the authority to reduce or waive the setback standards applicable to parking areas pursuant to Table 12.5 (Minimum Distances of Parking Areas from Lot Lines and Buildings) of the Zoning Regulations for developments that include the preservation of a historic building..*

Flexibility in various Area & Bulk Standards is often required to facilitate the preservation and/or rehabilitation of historic structure. Historic preservation requires building around an existing site feature, rather than constructing on undeveloped land. As such, relief from setback, height and other standards is often required to allow for both the preservation of a historic structure, and the construction of needed additional features (such as housing, parking or other site improvements). This avoids requiring a property owner to make a choice between preserving a historic structure and building additional, necessary site improvements.

The proposed Text Change will build upon the flexibility currently contained in Section 7.3 of the Zoning Regulations by granting the Zoning Board the authority to reduce or waive the setback standards applicable to parking areas contained in Table 12.5 and Table 12.6. The Zoning Board will retain Special Permit review over requests to reduce or waive these standards pursuant to Section 7.3 of the Zoning Regulations. Notably, any parking area within a setback prescribed will be required to be treated with pervious pavers.

Applicable Areas

The proposed Text Changes will only impact developments seeking Special Permit approval from the Zoning Board pursuant to Section 7.3 of the Zoning Regulations.

Conformance with the Master Plan Objectives

The proposed changes promote many policies and objectives of the Master Plan, including:

- **4D.3:** Continue to evaluate opportunities to reduce parking ratios for developments in close proximity to transit.
- **4.E:** Promote Transit-Oriented Development.
- **6D.3:** Support regulations that preserve Stamford’s historic character.
- **6.3 – Historic Preservation:** Encourage [the] preservation and rehabilitation of significant historic structures through special use permits and density incentives.
- **6.3 – Historic Preservation:** Ensure that “new development respects the established traditions of scale, massing, setbacks and pedestrian friendly streetscapes and plazas.”

- **6A.1:** Balance new development with preservation of existing residential communities.¹
- **6.C.2:** Promote development of a variety of housing types. Create a mix of housing units that 1) includes housing suitable for families with children; 2) promotes housing prototypes that respect and complement the existing character of the surrounding neighborhood; 3) maximizes the use of cost-effective construction methods; and 4) promotes flexible housing models for the elderly in locations that are accessible to transit.²

Mobility

All proposals seeking to utilize the proposed changes must go through the Special Permit and Site Plan review process, including traffic studies and impact reviews which are reviewed and approved by both the Transportation, Traffic and Parking (“TTP”) and Land Use Bureaus.

Housing

The proposed Text Change will enable the preservation of historic buildings and facilitate the construction of needed housing. Redevelopment of 31 Maple Tree Ave (the “Property”) illustrates the challenges setback and parking standards can have on developments that include historic preservation and new construction. The proposed amendments will provide needed flexibility in these standards, while providing the Zoning Board with Site Plan and Special Permit review over any request sought under the proposed regulations.

Schools and Community Facilities

The proposed changes should have a positive impact on community facilities. Redevelopment will provide increases in property and other taxes, on underutilized properties or sites that have fallen into disrepair.

Infrastructure

The proposed Text Change will have no adverse impact on infrastructure. Each development will go through the Special Permit and Site Plan review process, including full analyses of impacts (and associated mitigation measures) on City streets, drainage, sewer, and utility systems by the Engineering, EPB, Transportation, Health, WPCA, and Fire departments.

Public Safety

The proposed changes should have a positive impact on public safety, with redevelopments giving new life to potentially blighted properties, activating street fronts and enabling the reuse of historic structures for years to come.

Parks and Open Space

No adverse impacts to parks and open spaces are anticipated. Granting the Zoning Board the flexibility to reduce or waive certain standards allows the Board to weigh several planning goals on a case by case basis, and ensure that overregulation does not prevent the preservation of a historic building, or the construction of needed housing.

Environmentally Sensitive Area

¹Master Plan, pg. 133.

²Master Plan, pg. 134.

The proposed changes should have a positive effect on environmentally sensitive areas by encouraging redevelopment of and reinvestment in historic buildings. Redevelopment in general may also include the remediation of existing contamination, best management practices, and water quality enhancements of existing surface lots.

Historic Resources

The proposed Text Change will encourage the adaptive reuse of historic buildings in the City of Stamford.

Quality of Life

The proposed regulation changes will help to improve the quality of life in Stamford by encouraging the preservation of historic resources significant to the City. What's more, the proposal will encourage future economic growth and help add to the diversity of the City's housing stock. According to the Master Plan, only 4.2% of the City's housing stock is found in multifamily communities containing 5-9 homes. The proposed Text Amendment will facilitate the construction of these "missing middle" housing opportunities, while increasing the number of historic structures preserved and maintained in the City.

Development Benefits

- Preservation of historic buildings and structures
- Construction of housing that will increase the diversity of the City's housing stock;
- Permits, WPCA, and other fees;
- Increased property taxes;
- Revitalized historic buildings and sites; and
- Improved Streetscape.



PROPOSED RESIDENTIAL DEVELOPMENT

31 MAPLE TREE AVE., STAMFORD, CT

FOR

31 MAPLE TREE LLC

DRAWING INDEX

These Drawings are the property of the Architect. Architect shall retain all rights including copy right. No part thereof shall be copied or used in connection with any other project without written consent of the architect.
Copyright 2022 AWA Design Group P.C.

ARCHITECTURAL DRAWINGS:

- A.000 TITLE SHEET
- A.001 SITE PLANS
- EX.001 EXISTING FLOOR PLANS
- EX.002 EXISTING ELEVATION
- A.101 FLOOR PLANS - BLDG #1
- A.102 ELEVATIONS - BLDG #1
- A.103 FLOOR PLANS - BLDG #2
- A.104 FLOOR PLANS - BLDG #2
- A.105 ELEVATIONS - BLDG #2
- A.106 ELEVATIONS - BLDG #2

NO	DATE	ISSUE/REVISION
1	11.20.23	ZONING SUBMISSION
2	12.06.23	SITE REVISION
3		
4		

PROPOSED RESIDENTIAL DEVELOPMENT
 31 MAPLE TREE AVE., STAMFORD, CT
 FOR
 31 MAPLE TREE, LLC

Consultant:

SEAL:	
-------	--

RAVI AHUJA, ARCHITECT
AWA DESIGN GROUP P.C.
ARCHITECTURE DESIGN PLANNING
401 Shippan Ave., Suite 202 Stamford, CT 06902
Phone: 203-325-4121 Fax: 203-325-4123
Web Site: AWADsg.com Email: awa@AWADsg.com

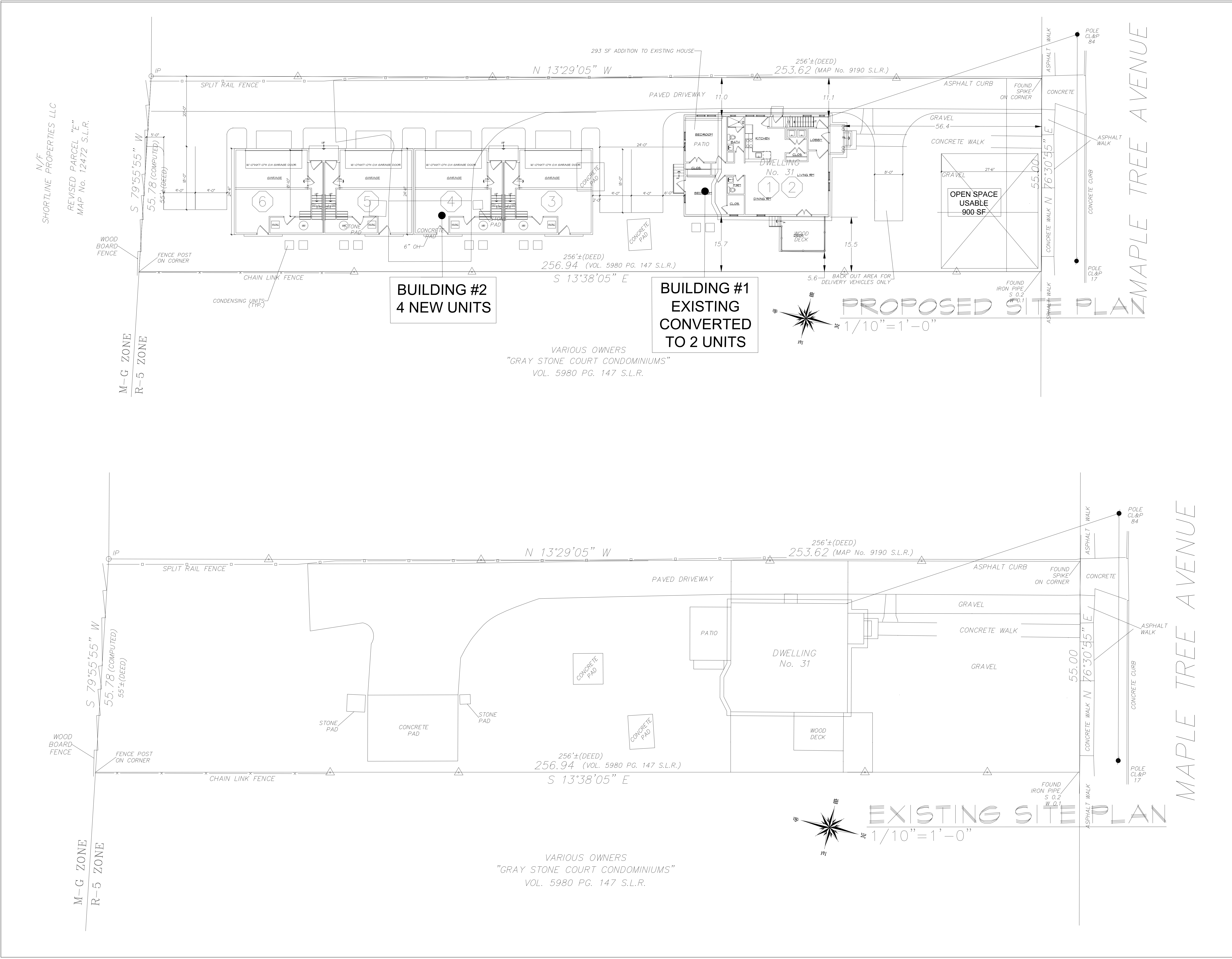
PROJECT DIRECTORY

DEVELOPER 31MAPLE TREE,LLC	LAND USE ATTORNEY CARMODY TORRANCE SANDAK & HENNESSEY LLP 105 WASHINGTON BLVD., STAMFORD, CT 203-252-2669	CIVIL ENGINEER ROCCO V D'ANDREA INC. 6 NEIL LN, RIVERSIDE, CT 203-637-1779	LANDSCAPE ARCHITECT ENVIRONMENTAL LAND SOLUTION INC 8 KNIGHT STREET #203 NORWALK, CT 06851 203-855-7879	ARCHITECT AWA DESIGN GROUP, P.C. 401 SHIPPAN AVE., ST. 202 STAMFORD, CT 06902 203.325.4121
-------------------------------	--	---	---	--

PROJECT NO.	2204	A.000
DRAWN BY:	Me	
ISSUED:	03.01.22	
SCALE AS NOTED	DWG. NO.	
DRAWING TITLE: TITLE SHEET		

These Drawings are the property of the Architect. Architect shall retain all rights including copy right. No part thereof shall be copied or used in connection with any other project without written consent of the architect.
Copyright 2022 AWA Design Group P.C.

NO	DATE	ISSUE/REVISION
1	11.20.23	ZONING SUBMISSION
2	12.06.23	SITE REVISION
3		
4		



MAPLE TREE AVENUE

PROPOSED RESIDENTIAL DEVELOPMENT
31 MAPLE TREE AVE., STAMFORD, CT
FOR
31 MAPLE TREE, LLC

Consultant:

SEAL:

A.001

RAVI AHUJA, ARCHITECT
AWA DESIGN GROUP PC
ARCHITECTURE DESIGN PLANNING
401 Shippan Ave., Suite-202 Stamford, CT 06902
Phone: 203-325-4121 Fax: 203-325-4123
Web Site: AWAAG.com Email: awa@AWAG.com

PROJECT NO.	2204
DRAWN BY:	MS
ISSUED:	03.01.22
SCALE AS NOTED	DWG. NO.

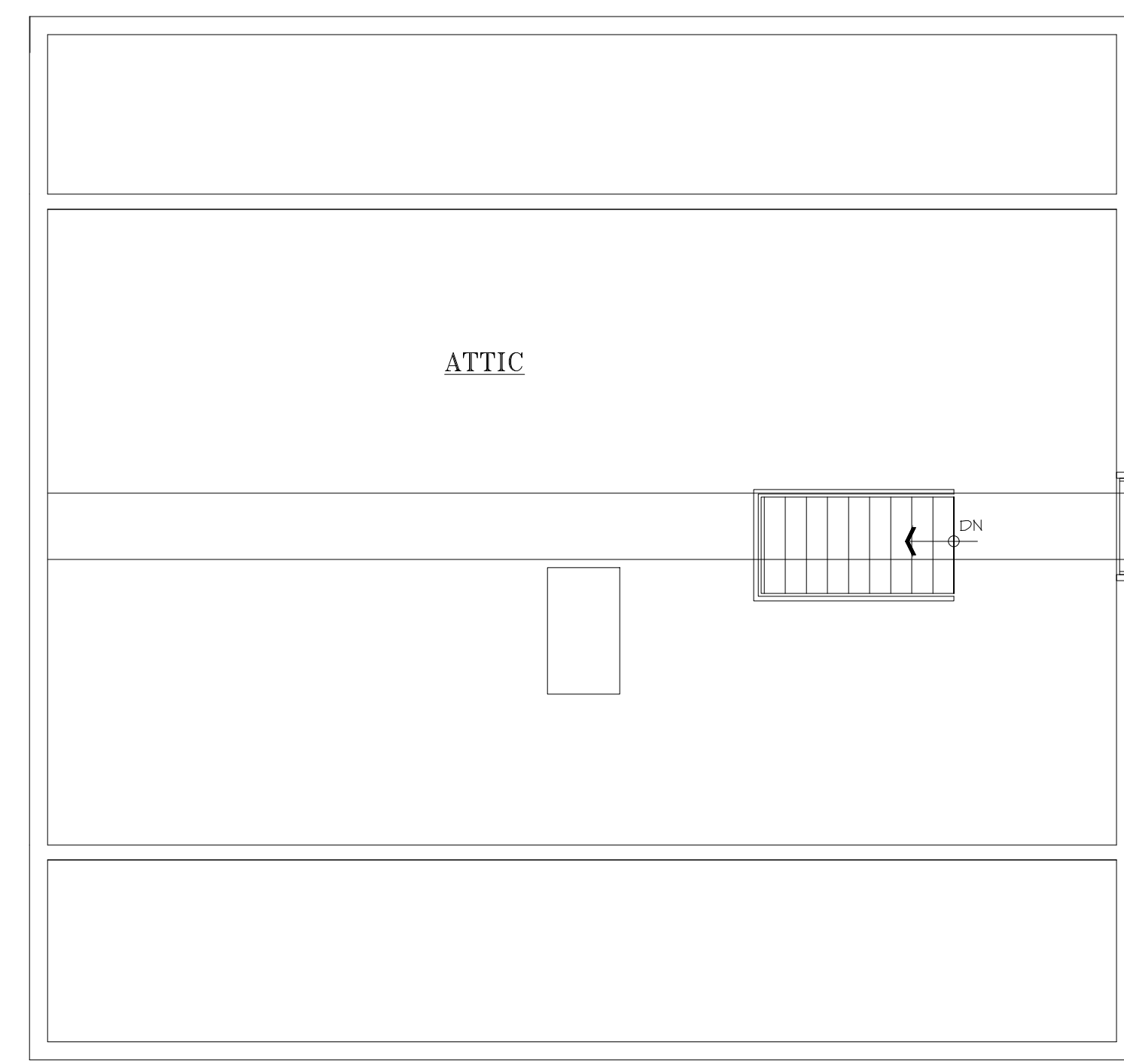
DRAWING TITLE:
SITE PLANS EXISTING & PROPOSED

These Drawings are the property of the Architect. Architect shall retain all rights including copy right. No part thereof shall be copied or used in connection with any other project without written consent of the architect.
Copyright 2022 AWA Design Group P.C.

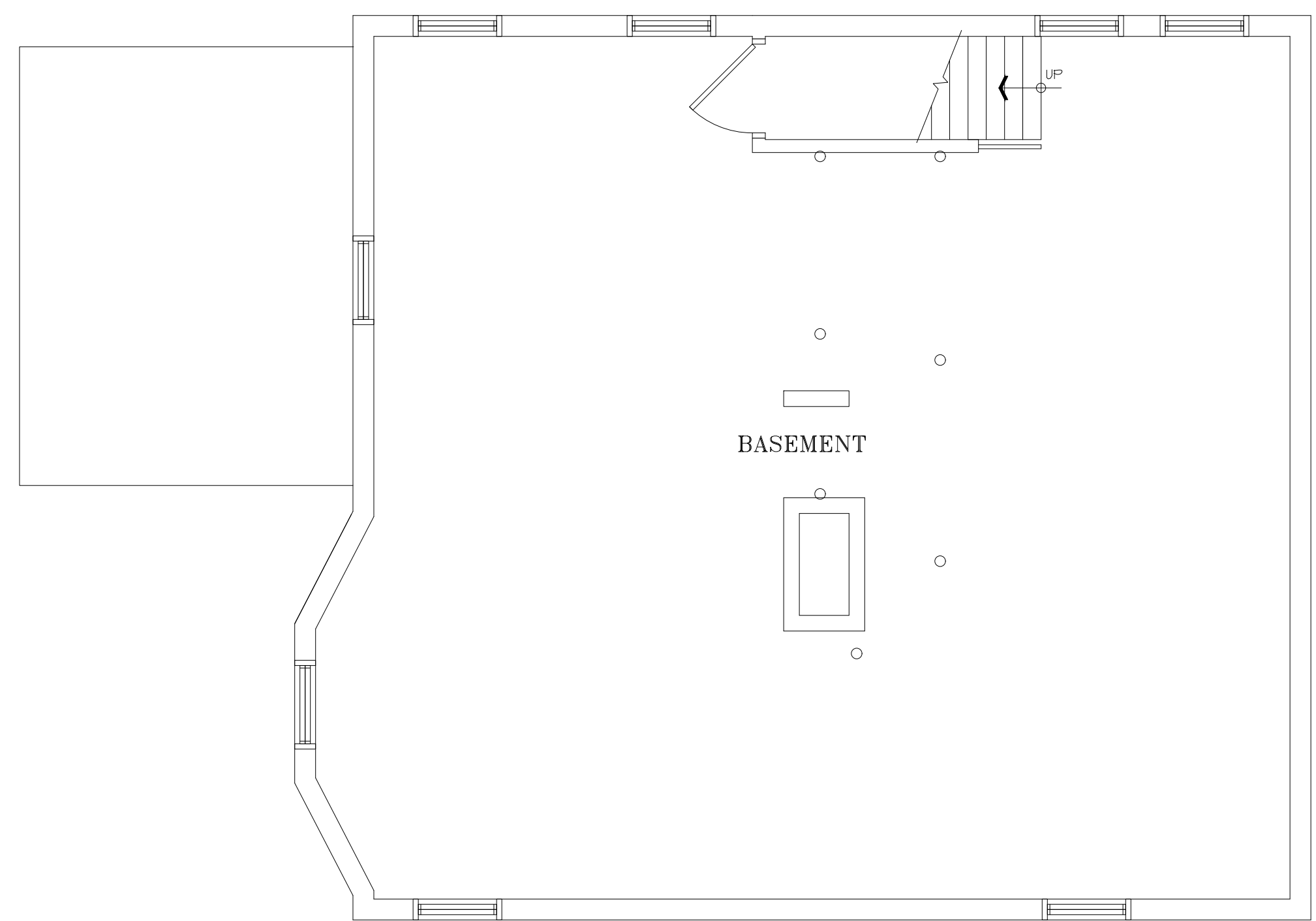
NO	DATE	ISSUE/REVISION
1	11.20.23	ZONING SUBMISSION
2	12.06.23	SITE REVISION
3		
4		



3 EXISTING SECOND FLOOR PLAN
1/4"=1'-0"



4 EXISTING ATTIC FLOOR PLAN
1/4"=1'-0"



1 EXISTING BASEMENT PLAN
1/4"=1'-0"



2 EXISTING FIRST FLOOR PLAN
1/4"=1'-0"

PROPOSED RESIDENTIAL DEVELOPMENT
31 MAPLE TREE AVE., STAMFORD, CT
FOR
31 MAPLE TREE, LLC

Consultant:

SEAL:

RAVI AHUJA, ARCHITECT
AWA DESIGN GROUP P.C.
ARCHITECTURE DESIGN PLANNING
401 Shippan Ave., Suite 202 Stamford, CT 06902
Phone: 203-325-4121 Fax: 203-325-4123
Web Site: AWAAG.com Email: awa@AWAG.com

PROJECT NO.	2204	EX.001
DRAWN BY:	MS	
ISSUED:	03.01.22	
SCALE AS NOTED	DWG. NO.	

DRAWING TITLE:
EXISTING FLOOR PLANS

These Drawings are the property of the Architect. Architect shall retain all rights including copyright. No part thereof shall be copied or used in connection with any other project without written consent of the architect.
Copyright 2022 AWA Design Group P.C.

NO	DATE	ISSUE/REVISION
1	11.20.23	ZONING SUBMISSION
2	12.06.23	SITE REVISION
3		
4		



5 SOUTH ELEVATION
1/4"=1'-0"



6 WEST ELEVATION
1/4"=1'-0"



7 NORTH ELEVATION
1/4"=1'-0"



8 EAST ELEVATION
1/4"=1'-0"

PROPOSED RESIDENTIAL DEVELOPMENT
31 MAPLE TREE AVE., STAMFORD, CT
FOR
31 MAPLE TREE, LLC

Consultant:

SEAL:

AWA DESIGN GROUP P.C.
ARCHITECTURE DESIGN PLANNING
401 Shippagan Ave., Suite 202 Stamford, CT 06902
Phone: 203-325-4121 Fax: 203-325-4123
Web Site: AWAAG.com Email: awa@AWAAG.com

PROJECT NO.	2204	EX.002
DRAWN BY:	MS	
ISSUED:	03.01.22	
SCALE AS NOTED	DWG. NO.	

DRAWING TITLE:
EXISTING ELEVATIONS

These Drawings are the property of the Architect. Architect shall retain all rights including copy right. No part thereof shall be copied or used in connection with any other project without written consent of the architect.
Copyright 2022 AWA Design Group P.C.

NO	DATE	ISSUE/REVISION
1	11.20.23	ZONING SUBMISSION
2	12.06.23	SITE REVISION
3		
4		

PROPOSED RESIDENTIAL DEVELOPMENT
31 MAPLE TREE AVE., STAMFORD, CT
FOR
31 MAPLE TREE, LLC

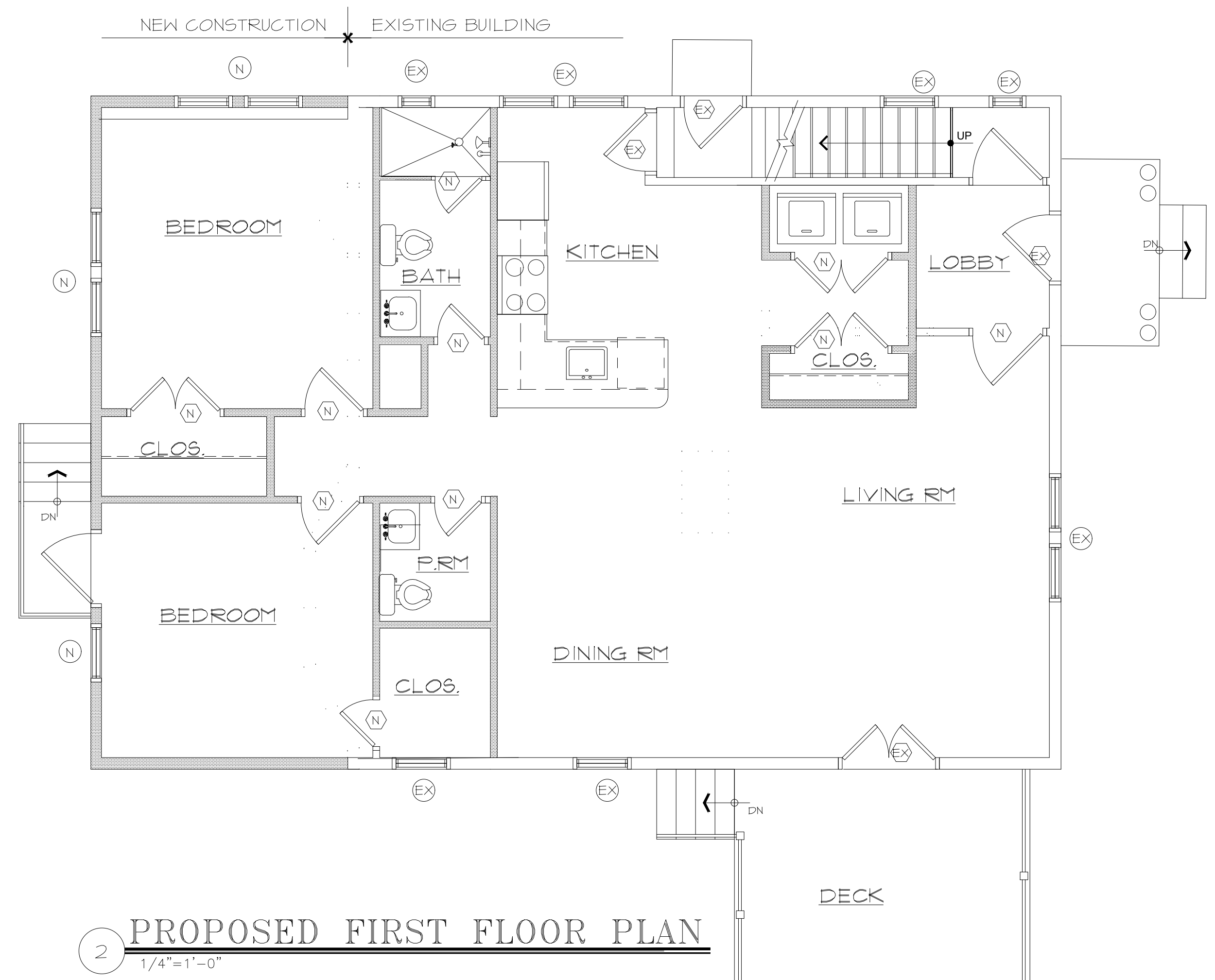
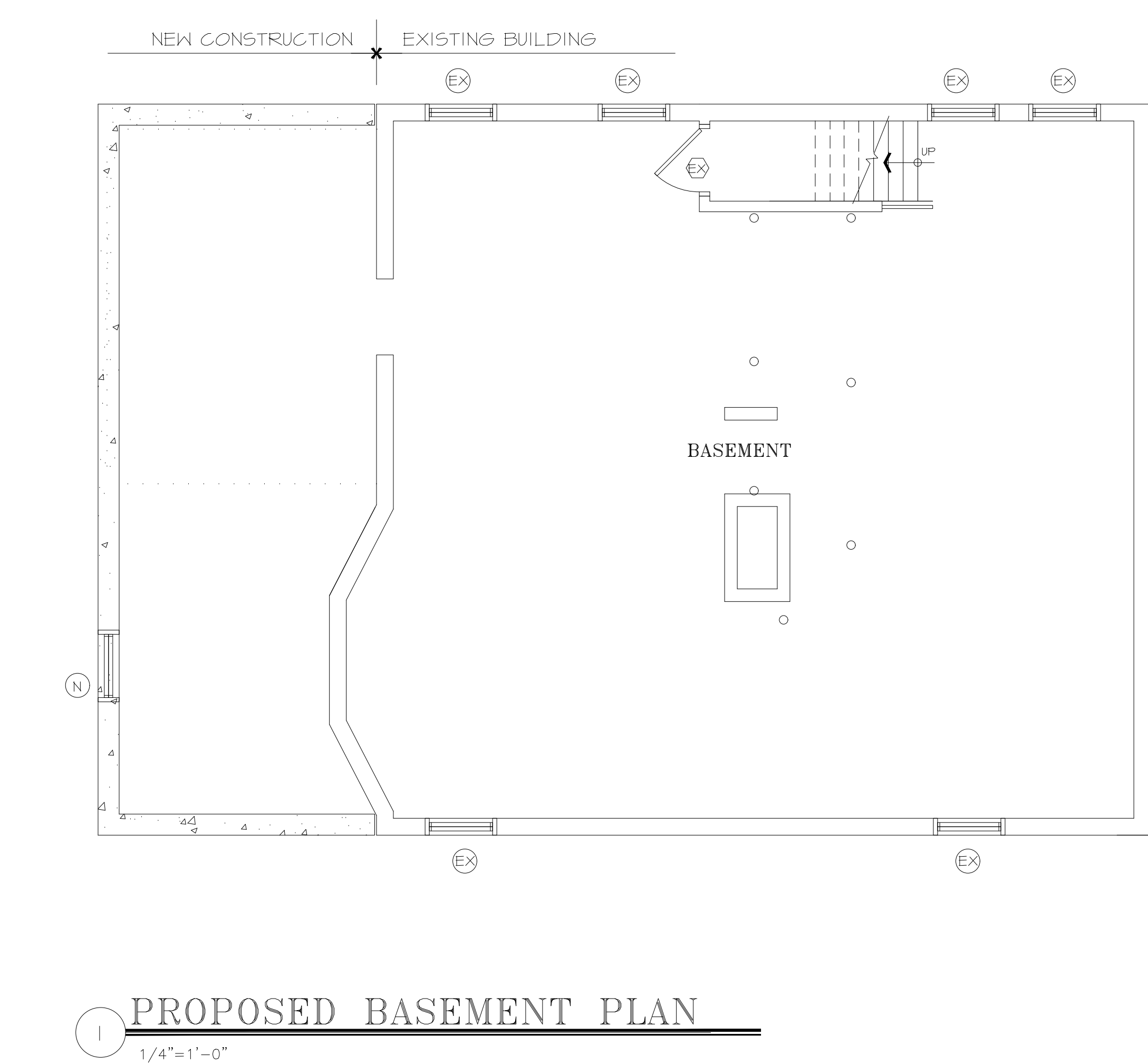
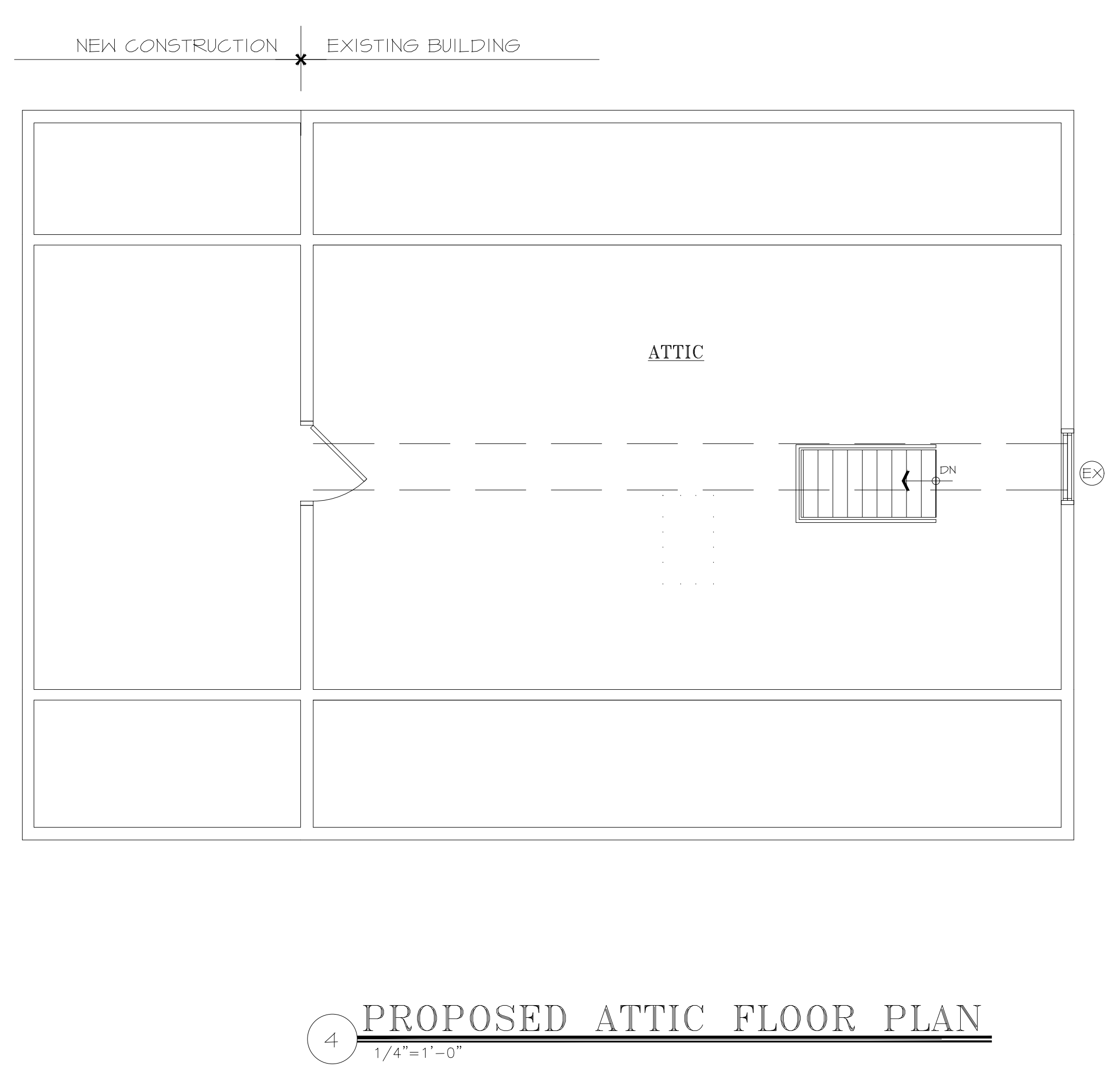
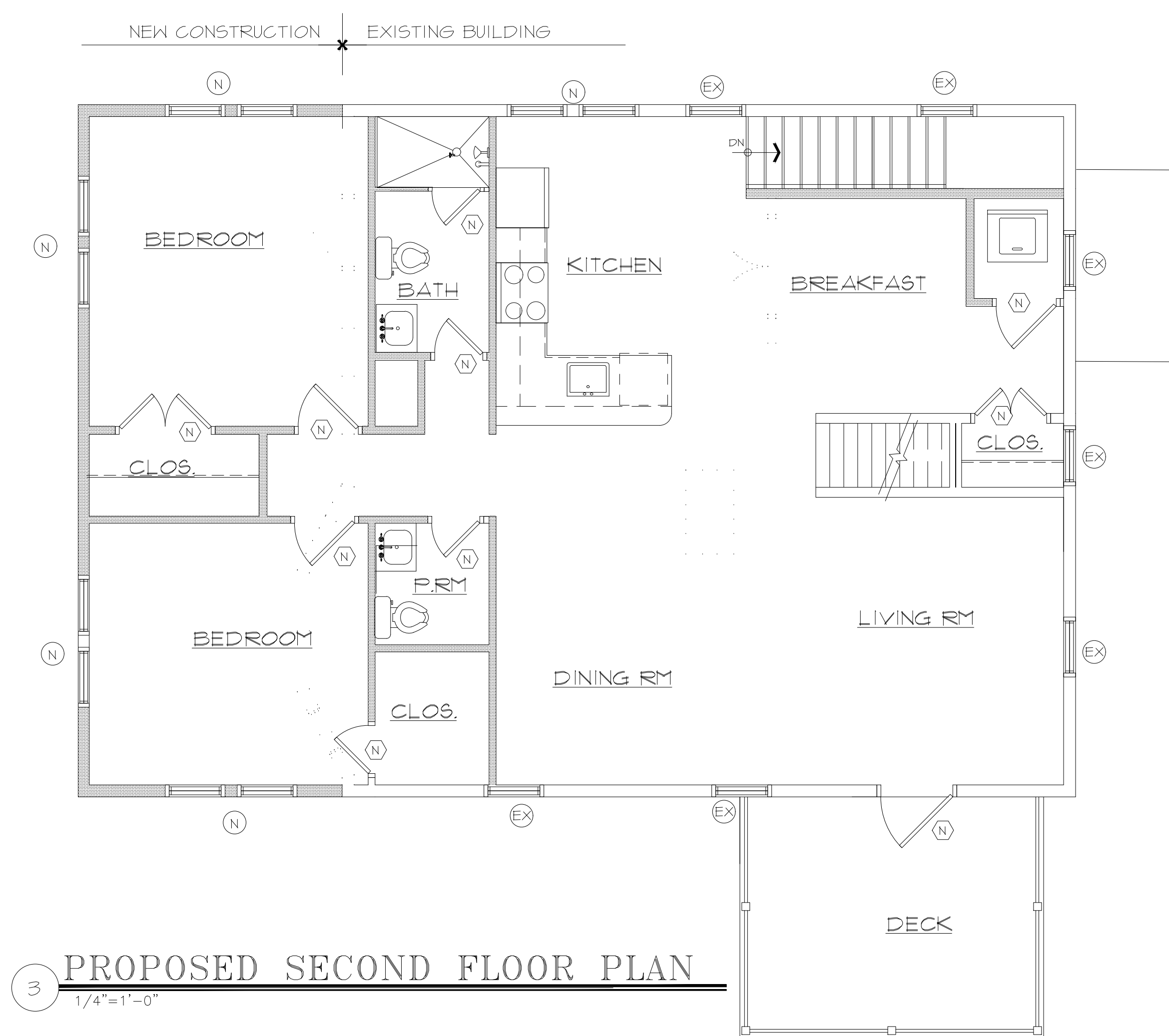
Consultant:

SEAL:

RAVI AHUJA, ARCHITECT
AWA DESIGN GROUP PC
ARCHITECTURE DESIGN PLANNING
401 Shippan Ave., Suite-202 Stamford, CT 06902
Phone: 203-325-4121 Fax: 203-325-4123
Web Site: AWAAG.com Email: awa@AWAG.com

PROJECT NO.	2204	A.101
DRAWN BY:	MS	
ISSUED:	03.01.22	DWG. NO.
SCALE AS NOTED		

DRAWING TITLE:
FLOOR PLANS-BUILDING #1



NOTES :

- DO NOT SCALE THE DRAWINGS USE ONLY COMPUTED NUMERICAL DIMENSIONS SHOWN ON THE DRAWINGS.
- CERTAIN DIMENSIONS SHOWN ARE RELATIVE TO ANOTHER TO BE MATCHED WITH EXISTING DIMENSIONS AND MUST BE VERIFIED IN THE FIELD BY THE CONTRACTORS PRIOR TO COMMENCEMENT OF WORK.
- SEE FRAMING DRAWINGS FOR STRUCTURAL ELEMENTS, RAFTER, JOISTS, BEAMS, POSTS ETC.

WALL LEGEND

- EXIST. WALL TO REMAIN
- EXIST. WALL TO BE REMOVED
- NEW STUD WALLS
- EXISTING WINDOW TO REMAIN
- NEW WINDOW
- EXISTING DOOR TO REMAIN
- NEW DOOR

These Drawings are the property of the Architect. Architect shall retain all rights including copy right. No part thereof shall be copied or used in connection with any other project without written consent of the architect.
Copyright 2022 AWA Design Group P.C.

NO	DATE	ISSUE/REVISION
1	11.20.23	ZONING SUBMISSION
2	12.06.23	SITE REVISION
3		
4		

EXTERIOR FINISH MATERIALS LIST

NO.	MATERIAL
①	ASPHALT SHINGLE ROOFING
②	EXIST'G SIDING TO BE RESTORED.
③	EXIST'G WINDOWS TO BE RESTORED.
④	AZEK TRIM
⑤	WOOD COLUMN



5 **PROPOSED SOUTH ELEVATION**
1/4"=1'-0"



6 **PROPOSED WEST ELEVATION**
1/4"=1'-0"



7 **PROPOSED NORTH ELEVATION**
1/4"=1'-0"



8 **PROPOSED EAST ELEVATION**
1/4"=1'-0"

RESTORATION OF EXISTING HISTORIC BUILDING

- * RETAIN WOODEN MATERIALS AND FEATURES SUCH AS SIDING, CORNICES, BRACKETS, SOFFITS, FACIA, WINDOW ARCHITRAVE, AND DOORWAY PEDIMENTS WHEREVER POSSIBLE.
- * REPAIR TRIM AND SIDING BEFORE APPLYING PAINT. SEAL HOLES, CAULK CRACKS AND TREAT FOR WOOD FUNGUS REMOVE LOOSE PAINT USING COMMERCIAL STRIPPERS, ELECTRIC HEAT GUNS OR PLATES, WIRE BRUSHES AND SCRAPERS. HAND SAND TO REDUCE LAYER DIFFERENTIAL.
- * RETAIN, REPAIR AS NEEDED OR REPLACE HISTORIC FOUNDATIONS WITH MATCHING MATERIALS
- * RETAIN PORCHES AND STEPS APPROPRIATE TO BUILDING. REPAIR AND REPLACE, WHERE NECESSARY, DETERIORATED ARCHITECTURAL FEATURES OF WOOD, TERRA COTTA, TILE, BRICK AND OTHER HISTORIC MATERIALS.
- * RETAIN AND REPAIR DOOR OPENINGS, DOORS, SCREEN DOORS, TRIM AND DETAILS SUCH AS TRANSOM AND SIDE LIGHTS, AND HARDWARE WHERE THEY CONTRIBUTE TO THE ARCHITECTURAL AND HISTORIC CHARACTER OF THE BUILDING.
- * RETAIN AND REPAIR WINDOW OPENINGS, FRAMES, SASH, GLASS, LINTELS, SILLS PEDIMENTS, ARCHITRAVES, HARDWARE, AWNINGS AND SHUTTERS WHERE THEY CONTRIBUTE TO THE ARCHITECTURAL AND HISTORIC CHARACTER OF THE BUILDING.
- * PRESERVE THE ORIGINAL ROOF FORM IN THE COURSE OF REHABILITATION. RETAIN OR REPLACE WHERE NECESSARY DORMER WINDOWS, CORNICES, BRACKETS CHIMNEYS, AND OTHER ARCHITECTURAL FEATURES THAT GIVES THE ROOF ITS ESSENTIAL CHARACTER.
- * EXISTING WINDOWS SHALL BE RESTORED. ALL RESTORATION OF HISTORICAL HOUSE SHALL BE WITH ADVICE OF HISTORICAL NEIGHBORHOOD PRESERVATION STAFF.
- * RESTORE ALL ORIGINAL EXTERIOR CLADDING WITH COLLABORATION FROM HISTORIC NEIGHBORHOOD PRESERVATION.
- * PROVIDE NEW WOOD RAILING AND BRACKETS AS SHOWN.

PROPOSED RESIDENTIAL DEVELOPMENT
31 MAPLE TREE AVE., STAMFORD, CT
FOR
31 MAPLE TREE, LLC

Consultant:

SEAL:

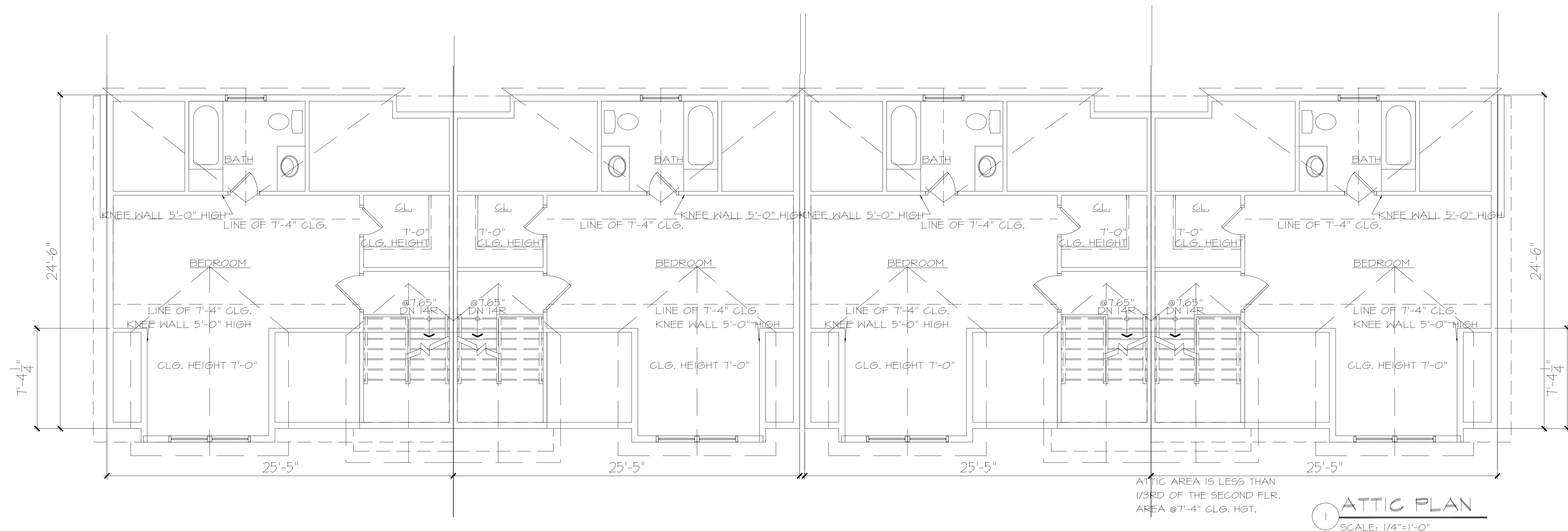
RAVI AHUJA, ARCHITECT
AWA DESIGN GROUP PC
ARCHITECTURE DESIGN PLANNING
401 Shippan Ave., Suite-202 Stamford, CT 06902
Phone: 203-325-4121 Fax: 203-325-4123
Web Site: AWAAdg.com Email: awa@AWAdg.com

PROJECT NO.	2204	A.102
DRAWN BY:	MG	
ISSUED:	03.01.22	
SCALE AS NOTED	DWG. NO.	

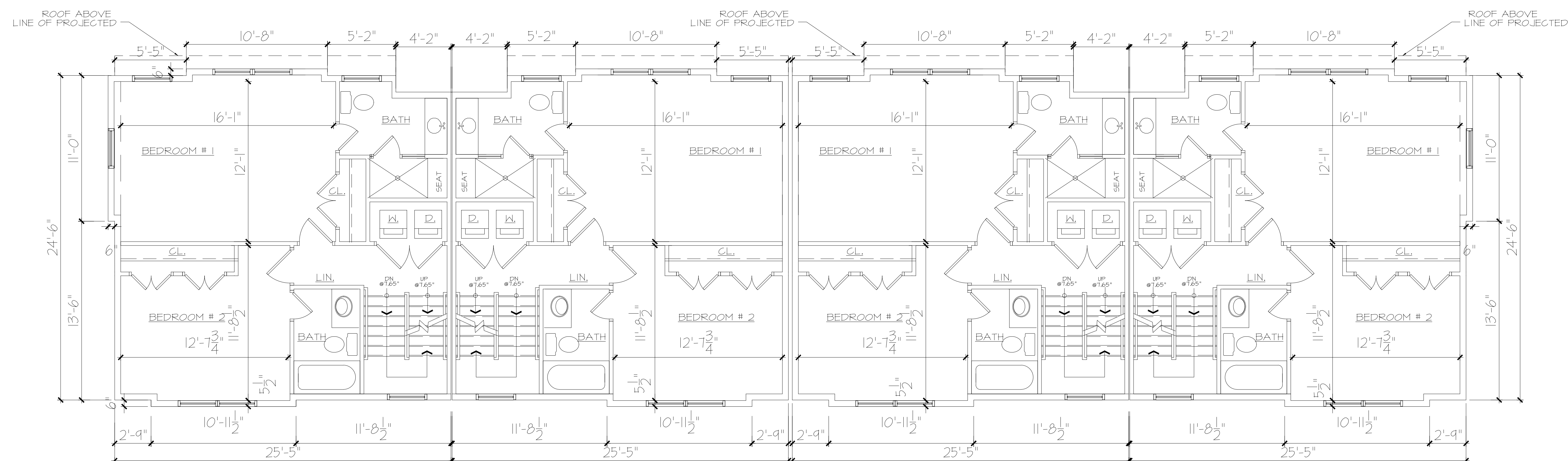
DRAWING TITLE:
ELEVATIONS BUILDING # 1

These Drawings are the property of the Architect. Architect shall retain all rights including copy right. No part thereof shall be copied or used in connection with any other project without written consent of the architect.
Copyright 2022 AWA Design Group P.C.

NO	DATE	ISSUE/REVISION
1	11.20.23	ZONING SUBMISSION
2	12.06.23	SITE REVISION
3		
4		



1 ATTIC PLAN
SCALE: 1/4"=1'-0"



1 SECOND FLOOR PLAN
SCALE: 1/4"=1'-0"

PROPOSED RESIDENTIAL DEVELOPMENT
31 MAPLE TREE AVE., STAMFORD, CT
FOR
31 MAPLE TREE, LLC

Consultant:

SEAL:

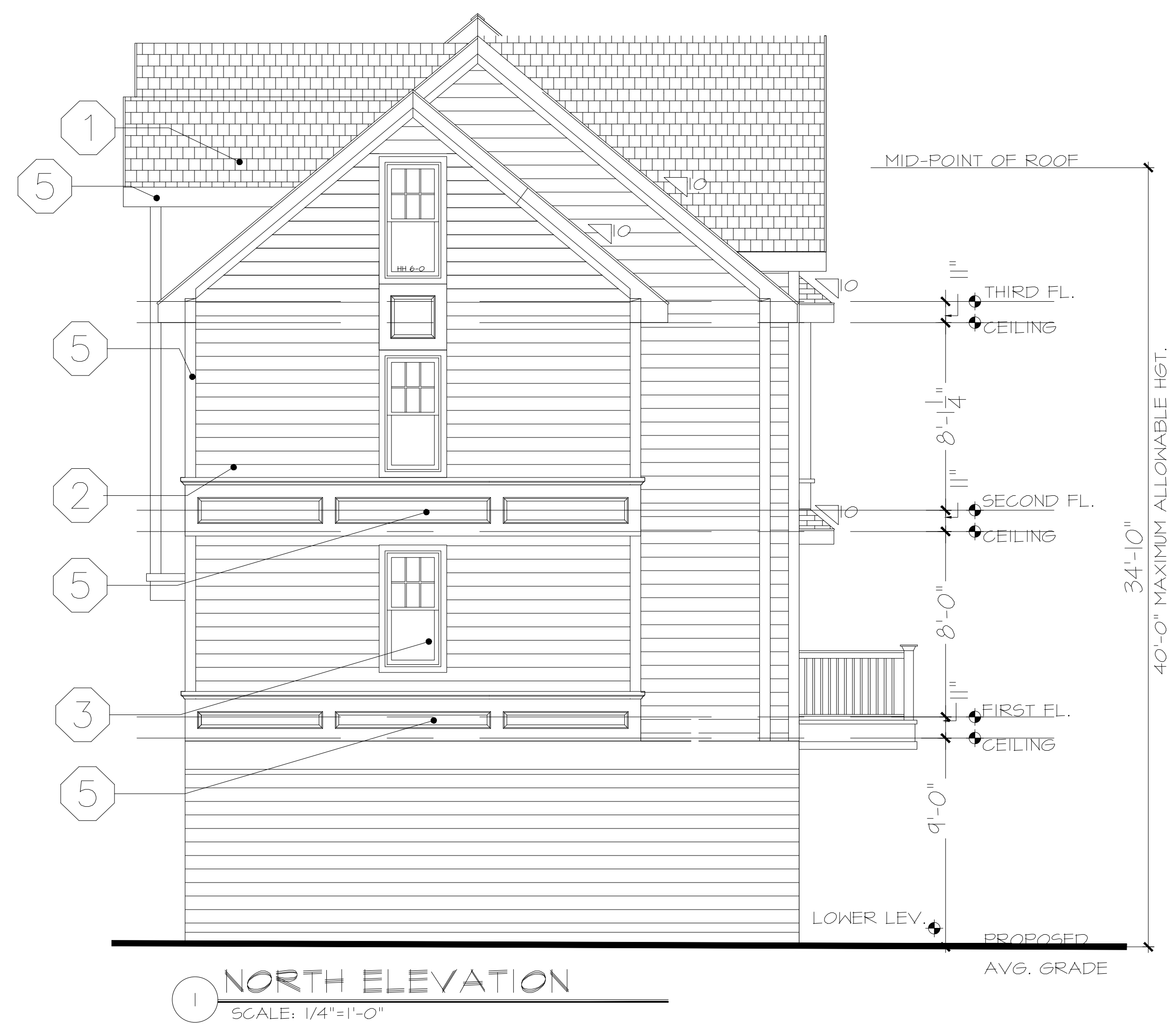
RAVI AHUJA, ARCHITECT
AWA DESIGN GROUP PC
ARCHITECTURE DESIGN PLANNING
401 Shippan Ave., Suite 202 Stamford, CT 06902
Phone: 203-325-4121 Fax: 203-325-4123
Web Site: AWAsg.com Email: awa@AWAsg.com

PROJECT NO.	2204	A.104
DRAWN BY:	MG	
ISSUED:	03.01.22	
SCALE AS NOTED	DWG. NO.	

DRAWING TITLE:
FLOOR PLANS BUILDING # 2

These Drawings are the property of the Architect. Architect shall retain all rights including copy right. No part thereof shall be copied or used in connection with any other project without written consent of the architect.
Copyright 2022 AWA Design Group P.C.

NO	DATE	ISSUE/REVISION
1	11.20.23	ZONING SUBMISSION
2	12.06.23	SITE REVISION
3		
4		



EXTERIOR FINISH MATERIALS LIST

NO.	MATERIAL
①	ASPHALT SHINGLE ROOFING
②	VINYL SIDING
③	VINYL CLAD D.H. WINDOWS
④	VINYL RAILING
⑤	AZEK TRIM
⑥	2" THIN BRICK VENEER



PROPOSED RESIDENTIAL DEVELOPMENT
31 MAPLE TREE AVE., STAMFORD, CT
FOR
31 MAPLE TREE, LLC

Consultant:

SEAL:

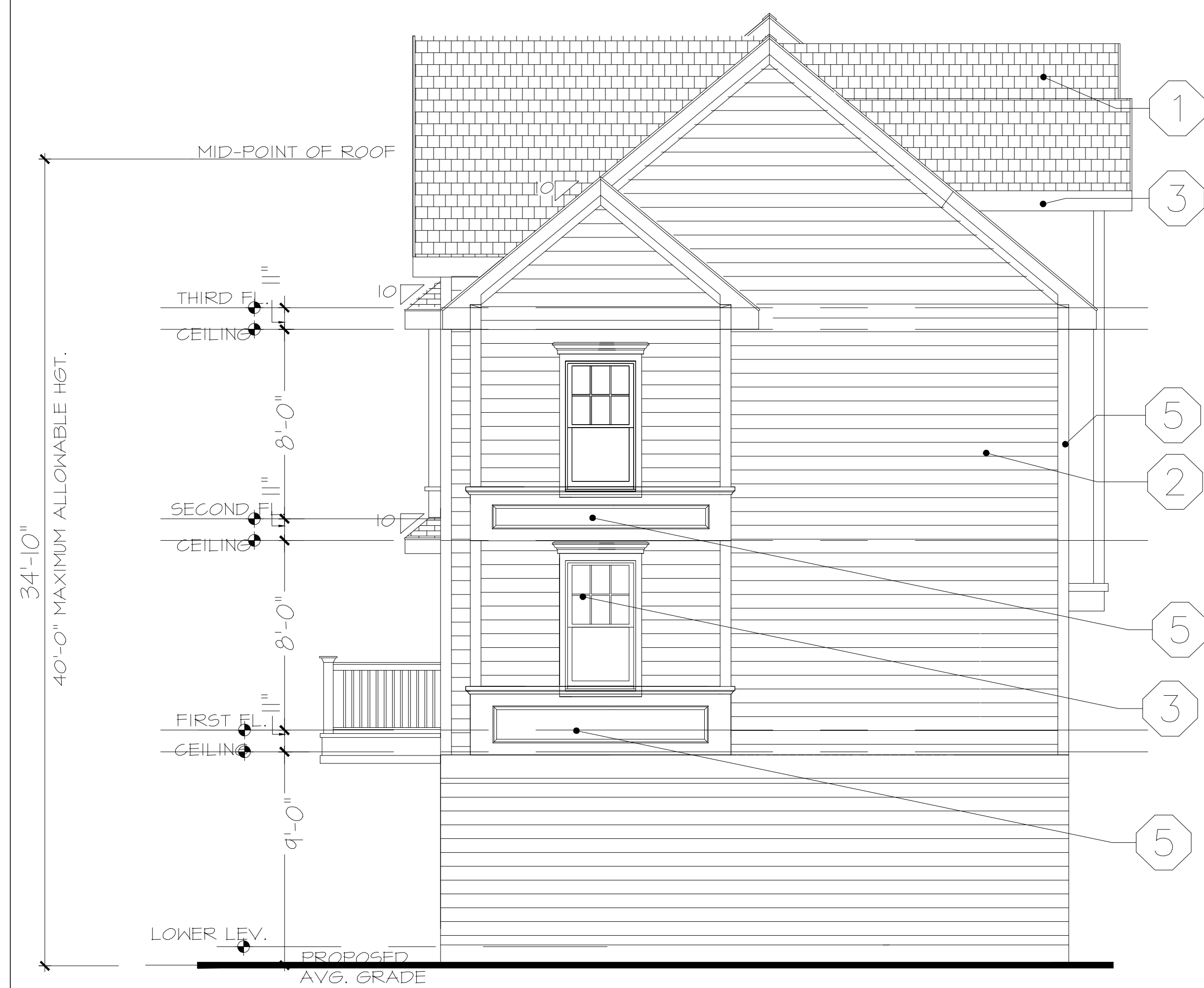
RAVI AHUJA, ARCHITECT
AWA DESIGN GROUP PC
ARCHITECTURE DESIGN PLANNING
401 Shippan Ave., Suite-202 Stamford, CT 06902
Phone: 203-325-4121 Fax: 203-325-4123
Web Site: AWAAdg.com Email: awa@AWAAdg.com

PROJECT NO.	2204	A.105
DRAWN BY:	MG	
ISSUED:	03.01.22	
SCALE AS NOTED		DWG. NO.

DRAWING TITLE:
ELEVATIONS BUILDING # 2

These Drawings are the property of the Architect. Architect shall retain all rights including copy right. No part thereof shall be copied or used in connection with any other project without written consent of the architect.
Copyright 2022 AWA Design Group P.C.

NO	DATE	ISSUE/REVISION
1	11.20.23	ZONING SUBMISSION
2	12.06.23	SITE REVISION
3		
4		



EXTERIOR FINISH MATERIALS LIST

NO.	MATERIAL
①	ASPHALT SHINGLE ROOFING
②	VINYL SIDING
③	VINYL CLAD WINDOWS/SLIDERS
④	VINYL RAILING
⑤	AZEK TRIM

① SOUTH ELEVATION
SCALE: 1/4"=1'-0"



① EAST ELEVATION
SCALE: 1/4"=1'-0"

PROPOSED RESIDENTIAL DEVELOPMENT
31 MAPLE TREE AVE., STAMFORD, CT
FOR
31 MAPLE TREE, LLC

Consultant:

SEAL:

RAVI AHUJA, ARCHITECT
AWA DESIGN GROUP PC
ARCHITECTURE DESIGN PLANNING
401 Shippin Ave., Suite-202 Stamford, CT 06902
Phone: 203-325-4121 Fax: 203-325-4123
Web Site: AWADg.com Email: awa@AWADg.com

PROJECT NO.	2204	A.106
DRAWN BY:	MG	
ISSUED:	03.01.22	
SCALE AS NOTED		DWG. NO.

DRAWING TITLE:
ELEVATIONS BUILDING # 2

FINAL SITE PLAN REVIEW SET

" RESIDENTIAL DEVELOPMENT "

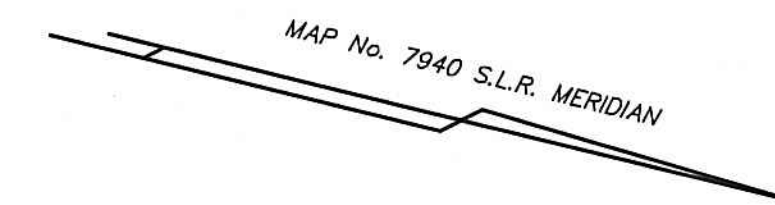
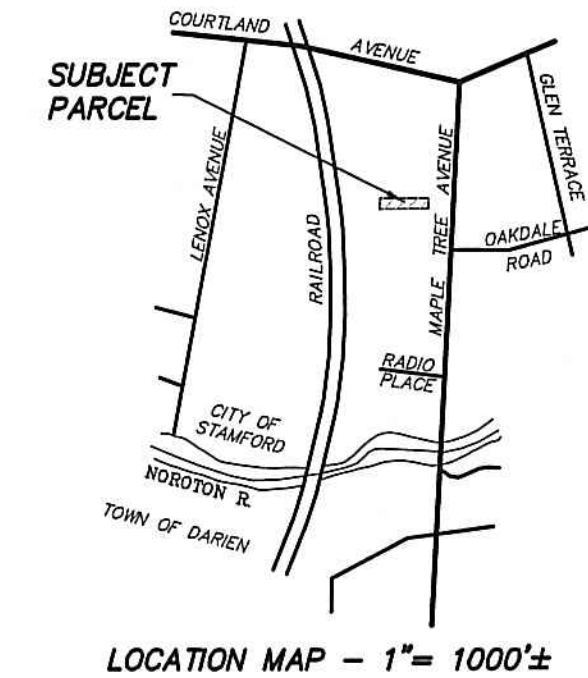
LOCATION

31 MAPLE TREE AVENUE
STAMFORD, CONNECTICUT

PREPARED FOR

31 MAPLE TREE LLC

BLOCK NO. 308
AREA = 14,125 S.F.
"R-5" ZONING DISTRICT
REFER TO MAPS No. 7940 & 9190 S.L.R.
DEED VOL. 12839 PG. 108 S.L.R.



SHEET INDEX

SHEET	TITLE	REVISION	DATE
-	EXISTING CONDITIONS "TOPOGRAPHIC SURVEY"	0	1-26-23
1 OF 4	GRADING PLAN	1	11-20-23
2 OF 4	UTILITY PLAN	1	11-20-23
3 OF 4	SEDIMENTATION & EROSION CONTROL PLAN	1	11-20-23
4 OF 4	NOTES & DETAILS	1	11-20-23

PARCEL ID
000-6827

D'ANDREA SURVEYING & ENGINEERING, P.C.
LAND PLANNERS
ENGINEERS
SURVEYORS
P.O. BOX 549
RIVERSIDE, CT 06878
6 NEIL LANE
TEL. 637-1779

PROJECT	RESIDENTIAL DEVELOPMENT
PREPARED FOR	31 MAPLE TREE LLC
LOCATION	31 MAPLE TREE AVENUE STAMFORD, CONNECTICUT

PLAN SET PREPARED BY:

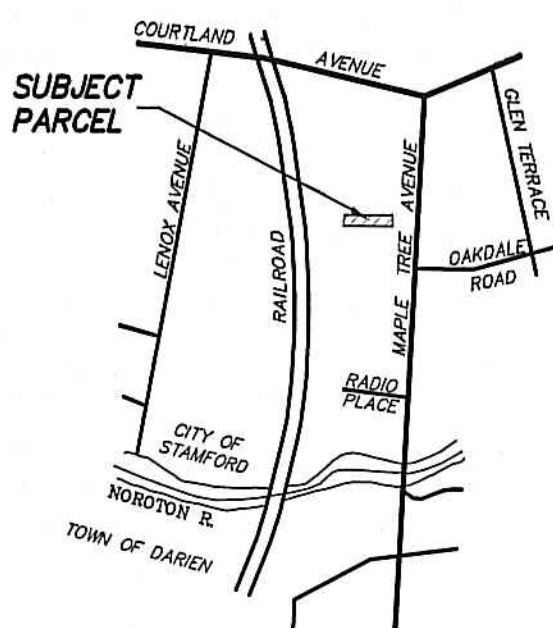
(Signature) 11-20-23
D'ANDREA SURVEYING & ENGINEERING, P.C. DATE
MATTHEW M. KIWJARY, CT. PE No. 36982

ONLY COPIES OF THIS SET, BEARING AN ORIGINAL IMPRINT OF THE ENGINEER'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE TRUE, VALID COPIES.

REV.	DATE	DESCRIPTION
1	11-20-23	MINOR SITE PLAN REVISIONS
0	2-9-23	INITIAL SUBMISSION

MAP No. 7940 S.L.R. MERIDIAN

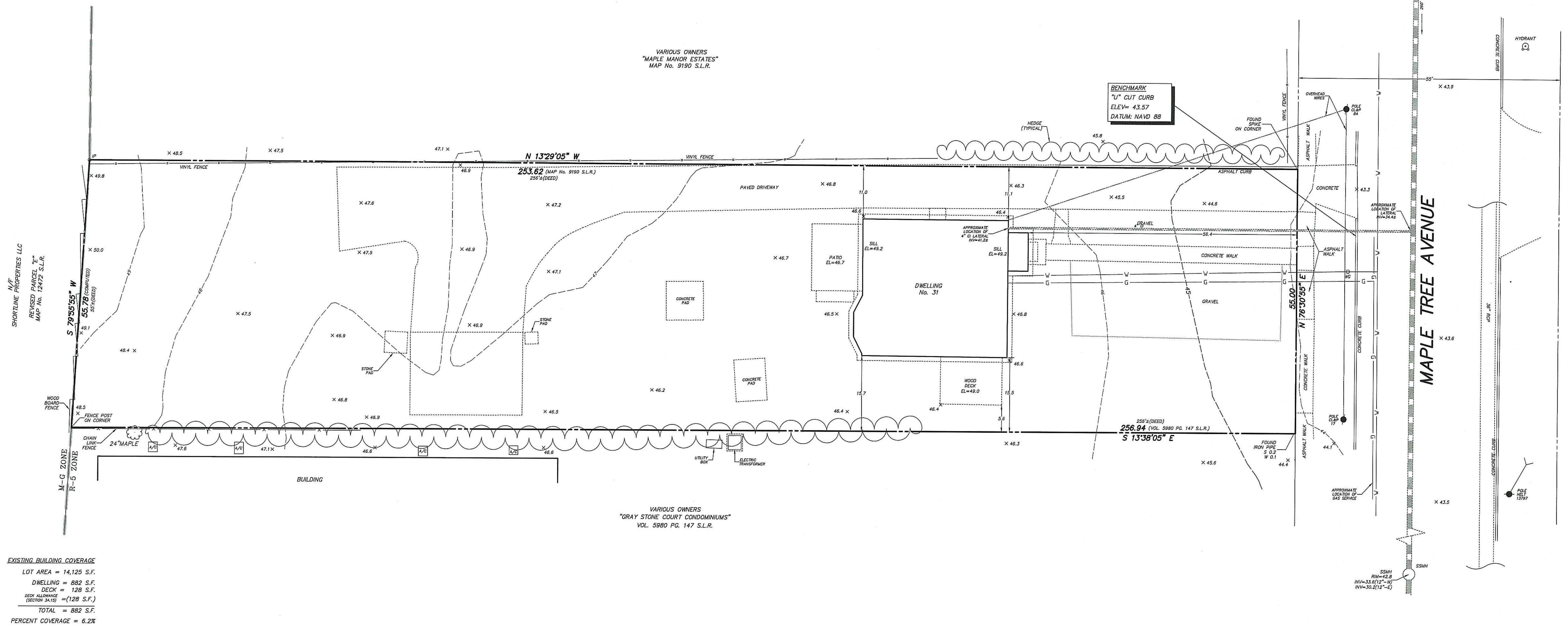
SSMH
RIM=44.5
FLOW=14.85



LOCATION MAP - 1"= 1000'±

VARIOUS OWNERS
"MAPLE MANOR ESTATES"
MAP No. 9190 S.L.R.

BENCHMARK
"U" CUT CURB
ELEV= 43.57
DATUM: NAVD 88



EXISTING BUILDING COVERAGE
LOT AREA = 14,125 S.F.
DWELLING = 882 S.F.
DECK = 128 S.F.
DECK ALLOWANCE (SECTION 3A.13) = (128 S.F.)
TOTAL = 882 S.F.
PERCENT COVERAGE = 6.2%

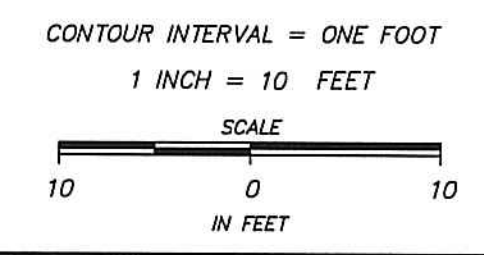
CONTOURS AND ELEVATIONS DEPICTED HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
THIS MAP IS A TOPOGRAPHIC SURVEY. TOPOGRAPHIC DATA IS IN ACCORDANCE WITH CLASS "T-2" TOPOGRAPHIC ACCURACY. BOUNDARY INFORMATION IS BASED ON A RESURVEY CONDUCTED IN ACCORDANCE WITH HORIZONTAL ACCURACY CLASS "A-2" AS DEFINED IN THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH SEC. 20-300b-20.

ONLY COPIES OF THIS MAP, BEARING AN ORIGINAL IMPRINT OF THE SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE TRUE, VALID COPIES.
AREA = 14,125 S.F.
REFER TO MAPS No. 7940 & 9190 S.L.R. DEED VOL. 12839 PG. 108 S.L.R.
LAND LIES IN "R-5" ZONING DISTRICT
TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

D'ANDREA SURVEYING & ENGINEERING, P.C.
SURVEYOR
ROBERT L. LIJDEL, JR., CT LS No. 15775
RIVERSIDE, CONNECTICUT JANUARY 26, 2023

SYMBOL LEGEND

- 1' --- ELEVATION CONTOURS
- x 46.1 EXISTING SPOT ELEVATION
- DECIDUOUS TREE
- UTILITY POLE
- UTILITY POLE W/ GUY
- SANITARY SEWER MANHOLE
- FIRE HYDRANT
- IRON PIN SET



TOPOGRAPHIC SURVEY
OF PROPERTY AT
31 MAPLE TREE AVENUE
IN
STAMFORD, CONNECTICUT
PREPARED FOR
31 MAPLE TREE LLC

GENERAL NOTES:

- Refer to a map entitled "Topographic Survey" of property at 31 Maple Tree Avenue in Stamford, Connecticut, as prepared by D'Andrea Surveying & Engineering, P.C. Dated January 26, 2023.
- Contours and elevations depicted hereon are based on the North American Vertical Datum of 1988 (NAVD 88).
- In accordance with Connecticut Public Act 87-71 and Connecticut General Statutes (CGS) Sections 16-345 through 16-359, the contractor shall verify the depth and location of all utilities prior to commencing construction, and shall contact "Call Before You Dig, Inc." at 1.800.922.4455, 48 hours prior to commencing construction.
- The locations of subsurface structures and utilities as depicted hereon indicate only that the structures exist, and no responsibility is assumed by the engineer or surveyor for the accuracy of the locations shown. All existing utilities shall remain.
- The contractor shall be responsible for securing all required permits from the City of Stamford for completion of the project.
- The contractor shall be responsible for securing all required permits from the City of Stamford for completion of the project.
- The locations and elevations of the proposed storm drainage system depicted hereon may be modified with the approval of the project engineer to meet field conditions.
- All construction shall comply with applicable sections of the State of Connecticut, Local, and International Building codes, and those criteria shall take precedent over these plans.
- Certification will be required by a Professional Engineer licensed in the State of Connecticut that work has been completed in compliance with the approved drawings. A Final Location Plan, prepared by a Licensed Land Surveyor in the State of Connecticut, will be required for submission.
- All work within the City of Stamford Right-of-Way shall be constructed to City of Stamford requirements, the State of Connecticut Basic Building Code, and the Connecticut Guidelines for Soil Erosion and Sedimentation Control.
- THE ENGINEERING BUREAU OF THE CITY OF STAMFORD SHALL BE NOTIFIED THREE DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AFFECTING THE CITY RIGHT-OF-WAY.
- The project engineer shall be notified a minimum of three working days prior to the commencement of construction.

- Appropriate measure shall be taken to control any sedimentation and erosion which may result during construction.
- All material excavated during construction must be disposed of legally off site.
- Pavement replacement shall be bituminous concrete, placed in accordance with the City of Stamford standards and/or Connecticut State Highway specifications.
- Shoulders and disturbed areas shall receive four inches of topsoil, fine graded and seeded as soon as practical to prevent erosion.
- Existing inverts on sanitary sewer lateral and utility services shall be field verified where appropriate, before commencing construction. The contractor shall excavate test pits wherever design conflicts may occur. The contractor shall notify the project engineer of the test pit schedule. Design conflicts if any, shall be brought to the immediate attention of the project engineer. Patch or backfill and patch test pits as directed by the project engineer.
- All PVC pipe shall conform to ASTM D-3034 "standard specification for type PSM-Poly Vinyl Chloride (PVC) sewer pipe and fitting", or engineer approved equivalent (SDR-35).
- Bedding and backfill material shall conform to ASTM D2321 specification "standard recommended practice for underground installations of flexible thermoplastic sewer pipe (PVC)".
- The contractor shall provide all the equipment, tools, labor and materials necessary to satisfactorily clean and remove all visible obstructions, dirt, sand, sludge, roots, gravel, stones, etc., from the designated drains and manholes.
- Processed aggregate shall be in accordance with the City of Stamford standards and/or Connecticut State Highway specifications.
- A 6" layer of crushed stone shall be placed under any exterior decks and/or open stairways.
- Refer to architectural plans prepared by AWA Design Group P.C., latest revision.

CITY OF STAMFORD NOTES:

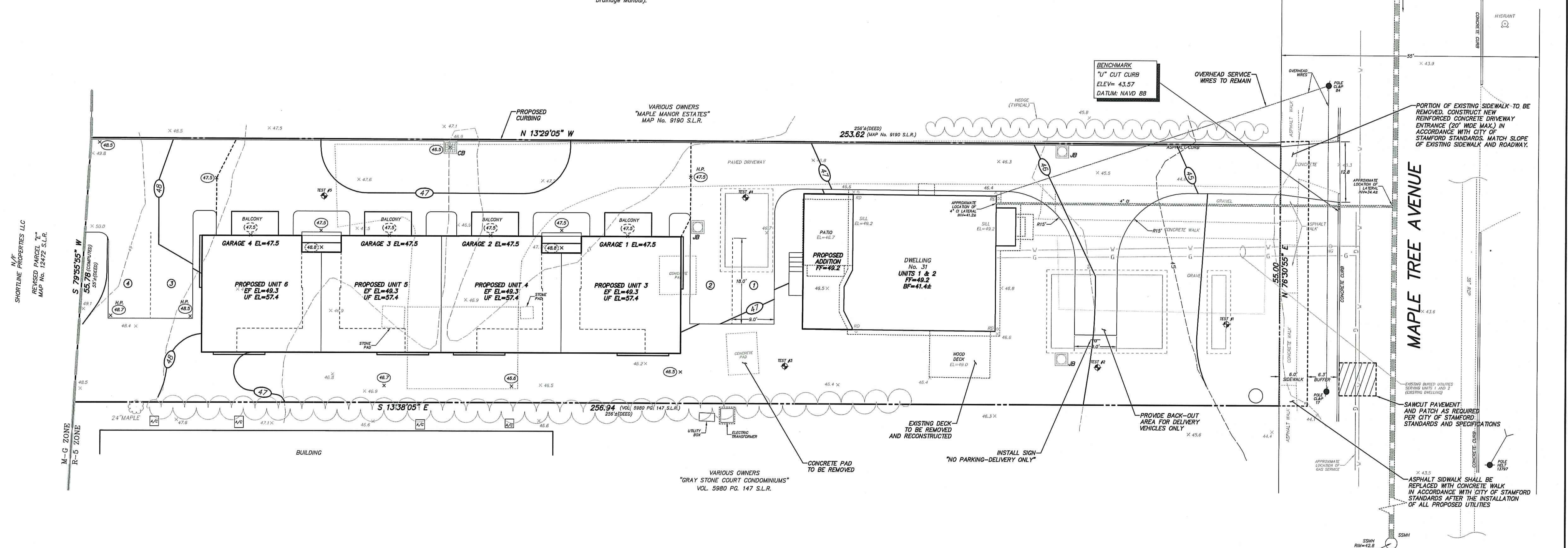
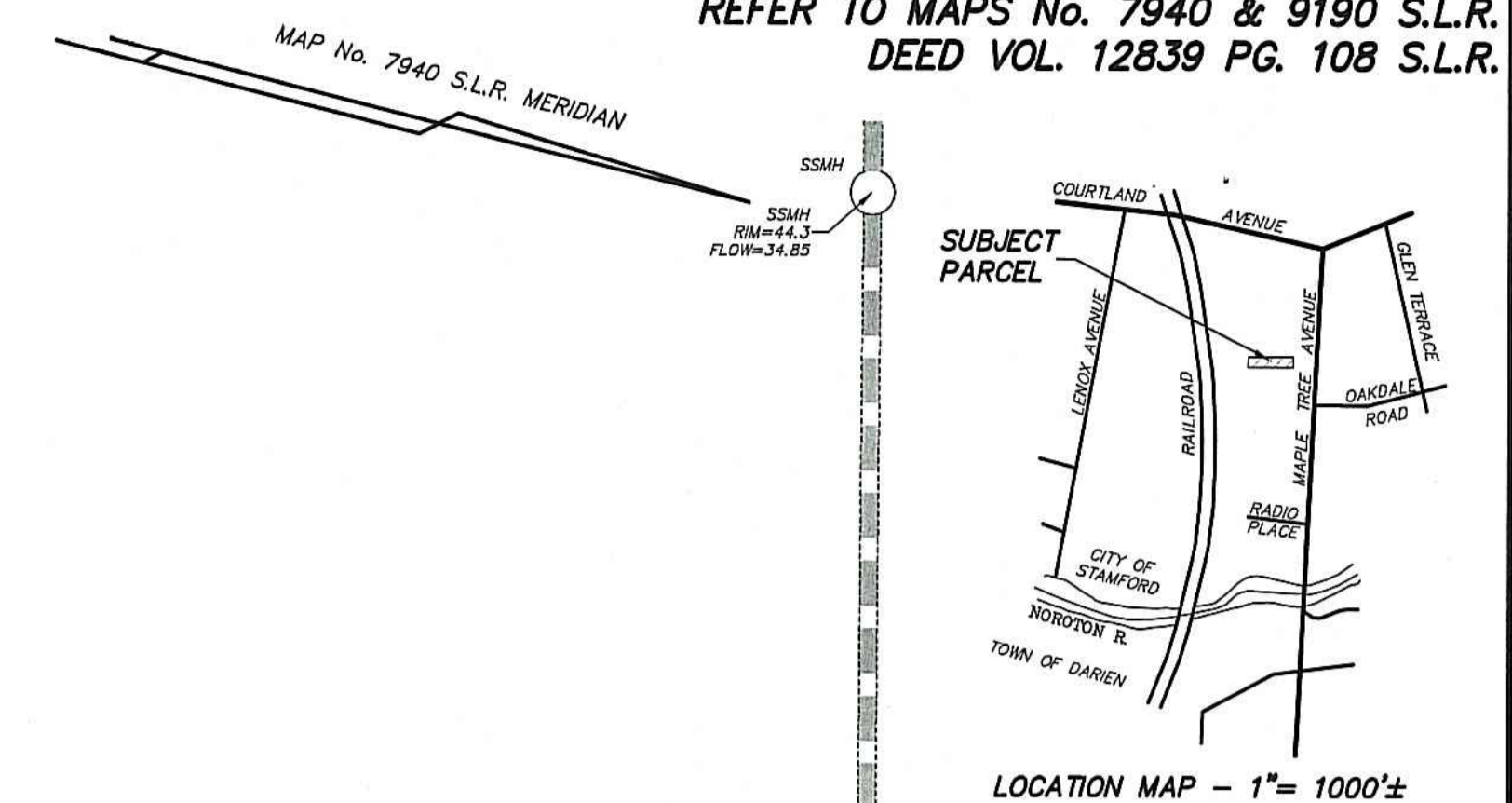
- A Street Opening Permit is required for all work within the City of Stamford Right-of-Way.
- All work within the City of Stamford Right-of-Way shall be constructed to City of Stamford requirements, the State of Connecticut Basic Building Code, and the Connecticut Guidelines for Soil Erosion and Sedimentation Control.
- The City of Stamford Engineering Bureau shall be notified three days prior to the commencement of any construction within the City of Stamford Right-of-Way.
- Trees within the City of Stamford Right-of-Way, designated to be removed, shall be posted in accordance with the Tree Ordinance.
- Prior to any excavation the Contractor and/or Applicant/Owner, in accordance with Public Act 77-350, shall be required to contact "Call Before You Dig" at 1-800-922-4455 for mark out of underground utilities.
- All retaining walls three (3) feet or higher measured from finished grade at the bottom of the wall to finished grade at the top of the wall and retaining walls supporting a surcharge or impounding Class I, II or III-A liquids are required to have a Building Permit. Retaining walls shall be designed and inspected during construction by a Professional Engineer licensed in the State of Connecticut. Prior to the issuance of a Certificate of Occupancy, retaining walls shall be certified by a Professional Engineer licensed in the State of Connecticut.
- Certification will be required by a professional engineer licensed in the State of Connecticut that work has been completed in compliance with the approved drawings.
- A Final Survey Map depicting "As-built" site conditions shall be prepared by a professional land surveyor licensed in the State of Connecticut and submitted to the Engineering Bureau.
- Connection to a city-owned storm sewer shall require the Waiver Covering Storm Sewer Connection to be filed with the City of Stamford Engineering Bureau.
- Granite block or other decorative stone or brick, depressed curb, driveway apron, and curbing within the City of Stamford Right-of-Way shall require the Waiver Covering Granite Block Depressed Curb and Driveway Aprons to be filed with the City of Stamford Engineering Bureau.
- Sedimentation and erosion controls shall be maintained and repaired as necessary throughout construction until the site is stabilized.
- To obtain a Certificate of Occupancy, submit must include all items outlined in the Checklist for Certificate of Occupancy (Appendix D of the City of Stamford Drainage Manual).

TEST PIT DATA
31 Maple Tree Avenue, Stamford, Connecticut
Test Pits TP#1-5 by D'Andrea Surveying & Engineering, P.C., on November 16, 2022

Test Pit: TP#1	Test Pit: TP#3	Test Pit: TP#5
0" Topsoil	0" Topsoil	0" Topsoil
17" Brown Sandy Loam	8" Light Brown Loam	10" Light Brown Loam
32" Sandy Gravel w/ cobbles	30" Sandy Gravel w/ cobbles	37" Sandy Silty w/ cobbles
95" No Moles	93" No Moles	94" No Moles
No Water	No Water	No Water
No Lege	No Lege	No Lege

Test Pit: TP#2	Test Pit: TP#4
0" Topsoil	0" Topsoil
11" Dark Brown Sandy Loam	5" Light Brown Loam
33" Light Brown Silty Sand w/ cobbles	32" Sandy Gravel w/ cobbles
60" No Moles	95" No Moles
90" No Water	No Water
No Lege	No Lege

BLOCK NO. 308
AREA = 14,125 S.F.
LAND LIES IN "R-5" ZONING DISTRICT
REFER TO MAPS No. 7940 & 9190 S.L.R.
DEED VOL. 12839 PG. 108 S.L.R.



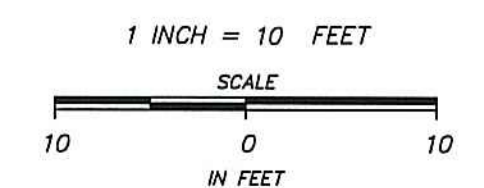
STAMFORD DRAINAGE MAINTENANCE REQUIREMENTS AND SCHEDULE:

NOTE: THE FOLLOWING IS A BEST PRACTICE MAINTENANCE SCHEDULE FOR THE STORMWATER MANAGEMENT STRUCTURES DESIGNED HEREIN ON THIS PLAN SET FOR THE OWNERS OF THE SUBJECT PARCEL TO FOLLOW. IT IS NOT INTENDED TO DESCRIBE OR SUPERSEDE THE MAINTENANCE AGREEMENT COVENANT OF THE SUBJECT PARCEL, AS REQUIRED BY THE CITY OF STAMFORD UPON COMPLETION OF WORK AND PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY. REFER TO THE CITY OF STAMFORD DRAINAGE MAINTENANCE AGREEMENT COVENANT REGARDING LONG-TERM MAINTENANCE REQUIREMENTS, CITY APPROVAL, CITY RIGHTS TO INSPECTION, AND PENALTY AND LEGAL ACTION FOR FAILURE OF COMPLIANCE TO SAID AGREEMENT COVENANT.

- OWNER shall clean the drainage facilities or cause such facilities to be cleaned by periodic removal of accumulated sediment and debris in a good and workman-like manner, at least two (2) times during every twelve (12) month period, which times shall be in the period between April and June and between October and December and more often as the City may determine to be necessary.
- OWNER shall sweep, or cause to be swept, garage facilities, driveways and roadway surfaces located on the Property at least once per calendar quarter.
- OWNER shall utilize only sand or calcium chloride in connection with the de-icing of areas within the Property meaning and intending that road salt (Sodium Chloride) shall not be used for said purpose.
- OWNER shall repair or replace any defects or defective drainage facilities so as to maintain the drainage facilities, at all times, in a fully functional capacity.
- OWNER shall file as-built drainage plans with the EPB immediately upon the completion of work. Said plans shall be prepared by a professional engineer/surveyor registered in the State of Connecticut.

EXISTING BUILDING COVERAGE	PROPOSED BUILDING COVERAGE
LOT AREA = 14,125 S.F.	LOT AREA = 14,125 S.F.
DWELLING = 882 S.F.	HISTORIC DWELLING = 1166 S.F.
DECK = 128 S.F.	DECK = 128 S.F.
DECK ALLOWANCE (SECTION 34.16) = (128 S.F.)	DECK ALLOWANCE (SECTION 34.16) = (128 S.F.)
TOTAL = 882 S.F.	UNIT 1 = 607 S.F.
PERCENT COVERAGE = 6.2%	UNIT 2 = 618 S.F.
	UNIT 3 = 618 S.F.
	UNIT 4 = 607 S.F.
	TOTAL = 3724 S.F.
	PERCENT COVERAGE = 26.4%

PARKING SUMMARY - PROVIDED	
GARAGE	= 8 SPACES
UNCOVERED PARKING	= 4 SPACES
TOTAL PROVIDED	= 12 SPACES



LEGEND:

EXISTING CONTOUR	A.O.B.E.	AS ORDERED BY ENGINEER
EXISTING SPOT ELEVATION	V.I.F.	VERIFY IN FIELD
PROPOSED CONTOUR	H.P.	HIGH POINT
PROPOSED SPOT ELEVATION	RD	ROOF DRAIN
TREE TO REMAIN	RS	RETENTION SYSTEM
CONIFEROUS TREE	FD	FIRE HYDRANT
STONE WALL	UP	UTILITY POLE
CB	SIGN	SIGN
C.O.	CLEAN OUT	CLEAN OUT
JB	JUNCTION BOX	WATER GATE
YD	YARD DRAIN	SANITARY SEWER MANHOLE
DCB	DRIVEWAY CATCH BASIN	CATCH BASIN
PVC	POLYVINYL CHLORIDE	TEST PIT
CPP	CORRUGATED PLASTIC PIPE	UNDERGROUND UTILITY SERVICE:
TW	TOP OF WALL	W=WATER, G=GAS, E=ELECTRIC
RCP	REINFORCED CONCRETE PIPE	C=COMMUNICATIONS
EF	ENTRY FLOOR	
UF	UPPER FLOOR	

D'ANDREA SURVEYING & ENGINEERING, PC
LAND PLANNERS
ENGINEERS
SURVEYORS
P.O. BOX 549
RIVERSIDE, CT 06878
6 NEIL LANE
TEL. 637-1779

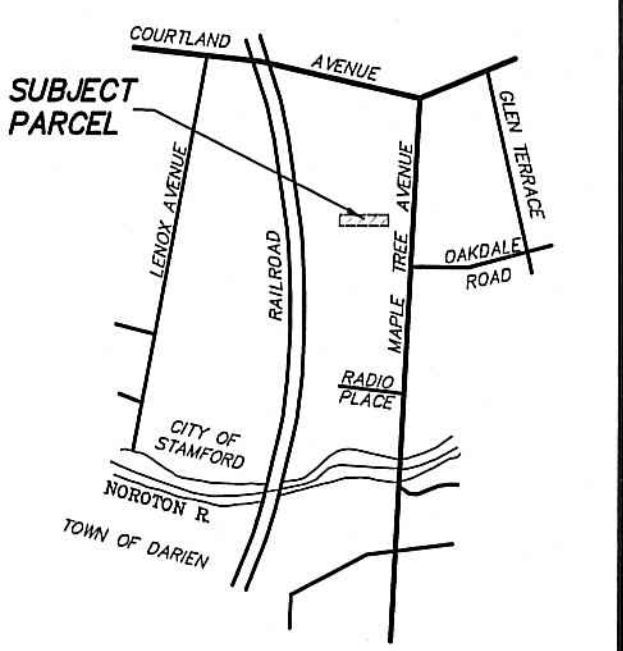
PROJECT	RESIDENTIAL DEVELOPMENT
PREPARED FOR	31 MAPLE TREE LLC
LOCATION	31 MAPLE TREE AVENUE STAMFORD, CONNECTICUT
1 OF 4	GRADING PLAN

REV.	DATE	DESCRIPTION
1	11-20-23	MINOR SITE PLAN REVISIONS
0	2-9-23	INITIAL SUBMISSION

MATTHEW M. KIVJARV, CT. PE No. 36982
ENGINEER
DATE 11-20-23

ONLY COPIES OF THIS PLAN BEARING AN ORIGINAL IMPRINT OF THE ENGINEER'S EMBOSSED SEAL ARE TRUE, VALID COPIES.

MAP No. 7940 S.L.R. MERIDIAN



LOCATION MAP - 1" = 1000'

TEST PIT DATA
31 Maple Tree Avenue, Stamford, Connecticut
Test Pits TP#1-5 by D'Andrea Surveying & Engineering, P.C., on November 16, 2022

Table with 3 columns: Test Pit ID, Soil Profile, and Observations. Includes data for TP#1, TP#2, TP#3, TP#4, TP#5, TP#6, TP#7, TP#8, TP#9, TP#10, TP#11, TP#12, TP#13, TP#14, TP#15, TP#16, TP#17, TP#18, TP#19, TP#20.

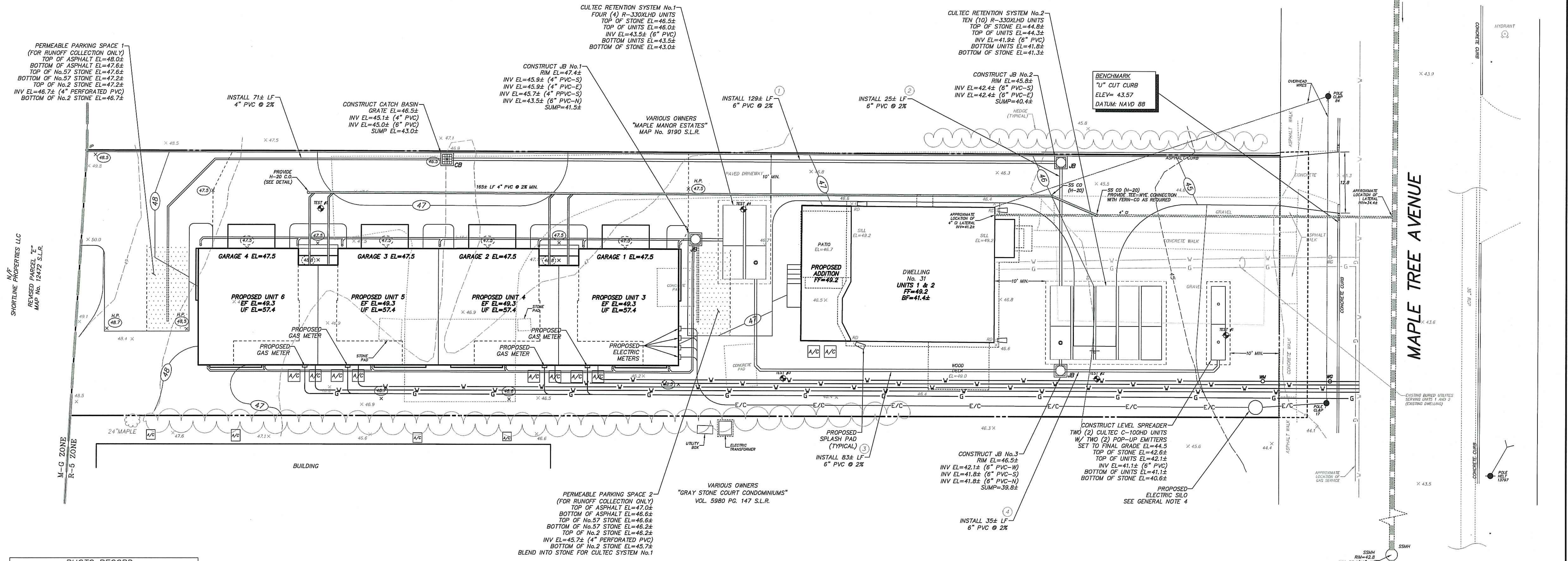
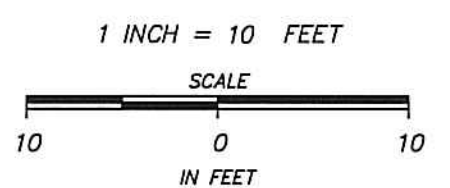


PHOTO RECORD (CONTRACTOR TAKE NOTICE)

THE SITE CONTRACTOR SHALL BE RESPONSIBLE TO TAKE SITE PICTURES OF ALL THE FOLLOWING MILESTONES AND TO NOTIFY THE PROJECT ENGINEER OF EACH MILESTONE BEING REACHED.

PROJECT MILESTONES table with 2 columns: Milestone Number and Description. Lists 8 milestones from E & S Controls to Final site inspection.

LEGEND table with 3 columns: Symbol, Description, and Abbreviation. Lists symbols for contours, elevations, trees, walls, catch basins, etc.



D'ANDREA SURVEYING & ENGINEERING, PC
LAND PLANNERS
ENGINEERS
SURVEYORS

Project information table with columns: PROJECT, PREPARED FOR, LOCATION, and page number. Includes 'RESIDENTIAL DEVELOPMENT', '31 MAPLE TREE LLC', and '31 MAPLE TREE AVENUE STAMFORD, CONNECTICUT'.

Revision table with columns: REV. DATE, DESCRIPTION, and DATE. Shows revisions for minor site plan revisions and initial submission.

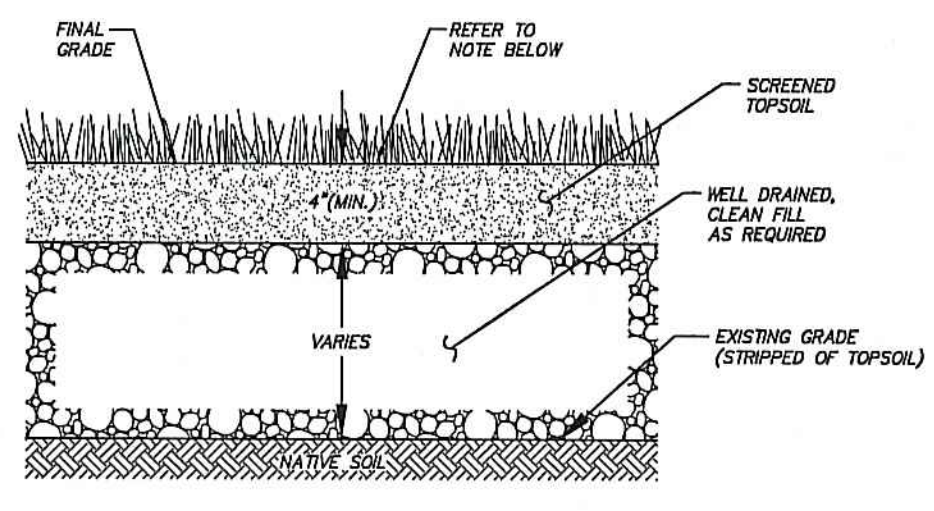
ONLY COPIES OF THIS PLAN BEARING AN ORIGINAL IMPRINT OF THE ENGINEER'S EMBOSSED SEAL ARE TRUE, VALID COPIES.

SEDIMENTATION AND EROSION CONTROL NOTES

- Temporary soil and erosion control measures, inclusive of filter barriers, water breaks, check dams, and anti-tracking areas, shall remain in place for as long as necessary to permanently stabilize developed areas.
- Erosion and sediment control devices shall be installed in their proper sequence. No clearing or grading may be done in any area until the erosion control devices for that area, as shown on the plan, are in place and functional.
- Natural vegetation shall be maintained and protected where practical.
- All sediment and erosion control devices and provisions shall be maintained in operational condition by the contractor until final acceptance of the project.
- No changes of this soil erosion and sediment control plan may be made without prior approval of the supervising engineer.
- Land disturbance is to be kept to a minimum. Reestablishment and/or stabilization of disturbed areas shall be scheduled as soon as practical.
- Erosion controls shall be monitored periodically to verify that they are maintained in effective working order. If, during construction, additional control measures are necessary, they shall be installed by that contractor.
- Sediment or debris shall be removed from the drainage pipes and structures as it accumulates during construction. It shall be disposed of in a manner which is consistent with the intent of this plan.
- The contractor may provide alternate means of sediment control, but he may not eliminate placement of protection in the areas indicated herein.
- Sediment fencing shall be installed where required prior to commencing construction, and shall remain in place for the duration of the project. Fencing shall be Proplex Silt Stop (TM) as manufactured by Amoco, or engineer approved equivalent.
- The contractor shall re-grade, topsoil, and seed all disturbed areas immediately after construction has been completed.
- Refer to Connecticut Guidelines for Soil Erosion and Sediment Control (2002) for additional details and specifications.
- Additional protection measures shall be implemented should site conditions warrant them.
- All designated trees shall be protected during the construction period, except those designated to be removed. Tree protection shall be in accordance with generally accepted standards. (Refer to the Connecticut Guidelines for Soil Erosion and Sediment Control (2002) for details and specifications).

CONSTRUCTION STAGING:

- Install sedimentation and erosion controls.
- Rough in proposed driveway and construction access.
- Strip topsoil and stockpile it with appropriate sedimentation and erosion control measures.
- Excavate for proposed multi-family foundation.
- Construct proposed multi-family foundation.
- Install storm drainage system, sanitary sewer system, and underground utilities.
- Backfill and rough grade around dwelling foundations, stabilize all slopes.
- Construct proposed multi-family units.
- Construct driveway and curbing.
- Construct steps and walkways.
- Fine grade and stabilize all slopes.
- Landscape as required.
- Remove sedimentation and erosion controls.

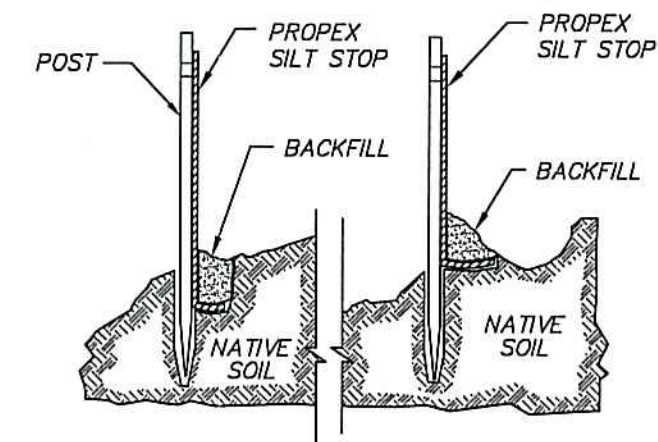


LAWN RESTORATION DETAIL
N.T.S.

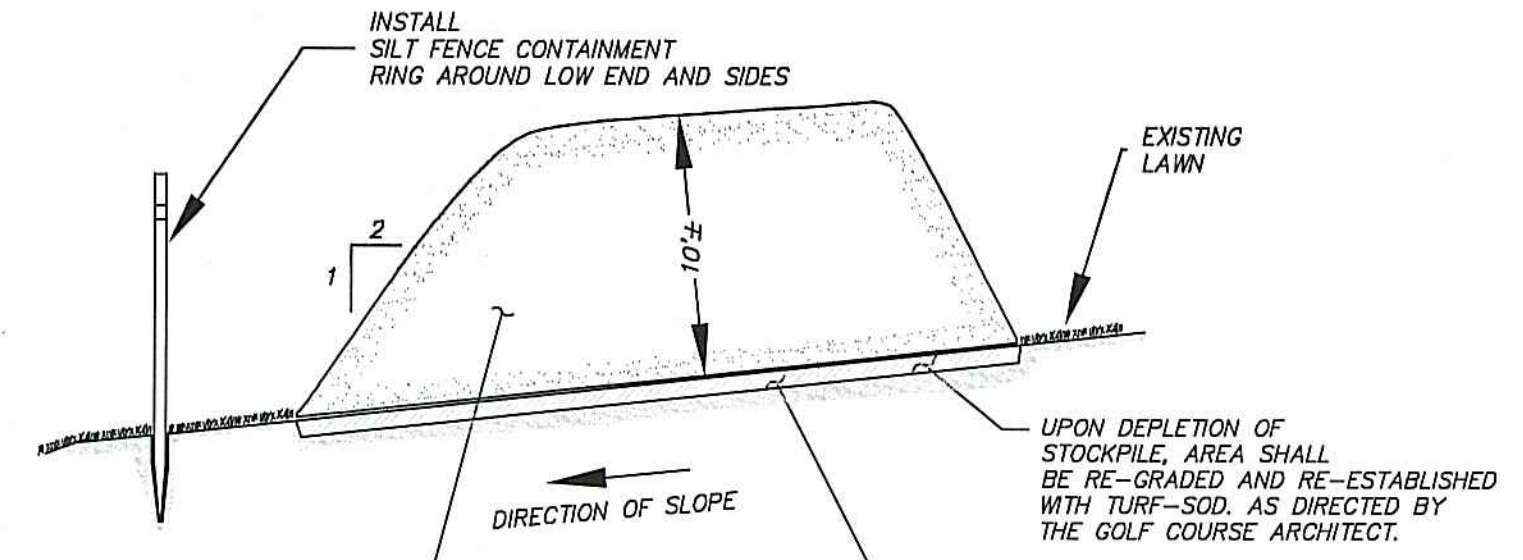
NOTE:
1. Land disturbance shall be kept to a minimum. All disturbed areas shall be planted in where permanent plantings are called for as soon as practicable. Seed and mulch disturbed areas with grass seed where permanent plantings are not called for, as soon as practicable. Prepare seeded (4" thick minimum) with topsoil. Seed, rake, roll, water and mulch areas according to mixes below. Water as often as necessary (up to 3 times per day) to establish cover. Mulch seeded areas at 1 to 2 tons/acre with salt hay. Maintain mulch and watering until grass is 3" high with 85% cover. Reseed or overseed if necessary.

Temporary Seed Mix:
Perennial ryegrass 40 lbs./ac.
Permanent Lawns:
Kentucky Bluegrass 20 lbs./ac.
Creeping red fescue 20 lbs./ac.
Perennial ryegrass 5 lbs./ac.
(1 lb./1000 sq. ft.)
Optimum Seeding Dates:
April 15 through June 15
August 15 through October 1 45 lbs./ac.
(1 lb./1000 sq. ft.)

NOTE:
POSTS SHOULD NOT BE SPACED MORE THAN 10' APART

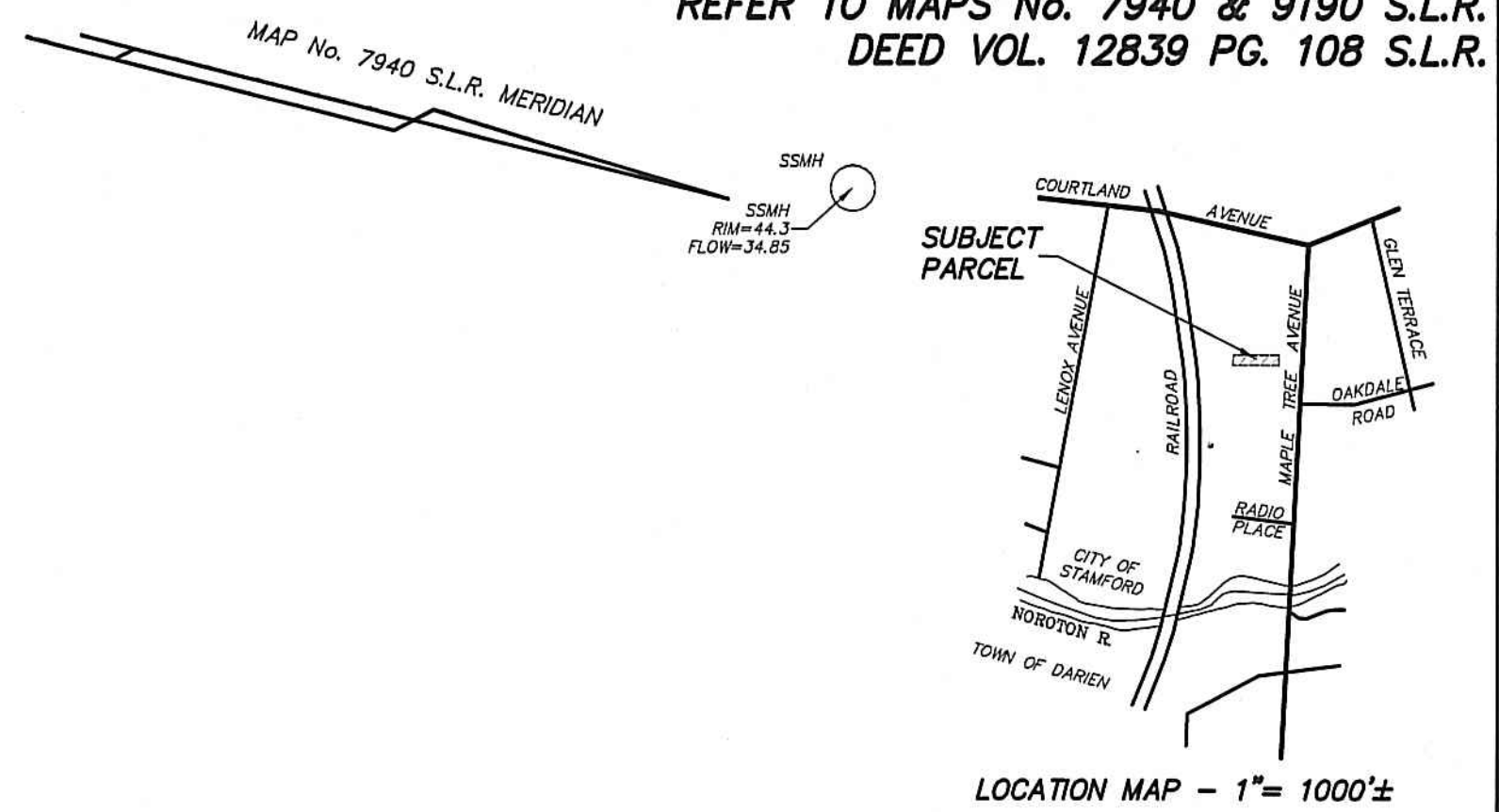


**INSTALLATION DETAIL
SEDIMENT CONTROL FABRIC**
N.T.S.

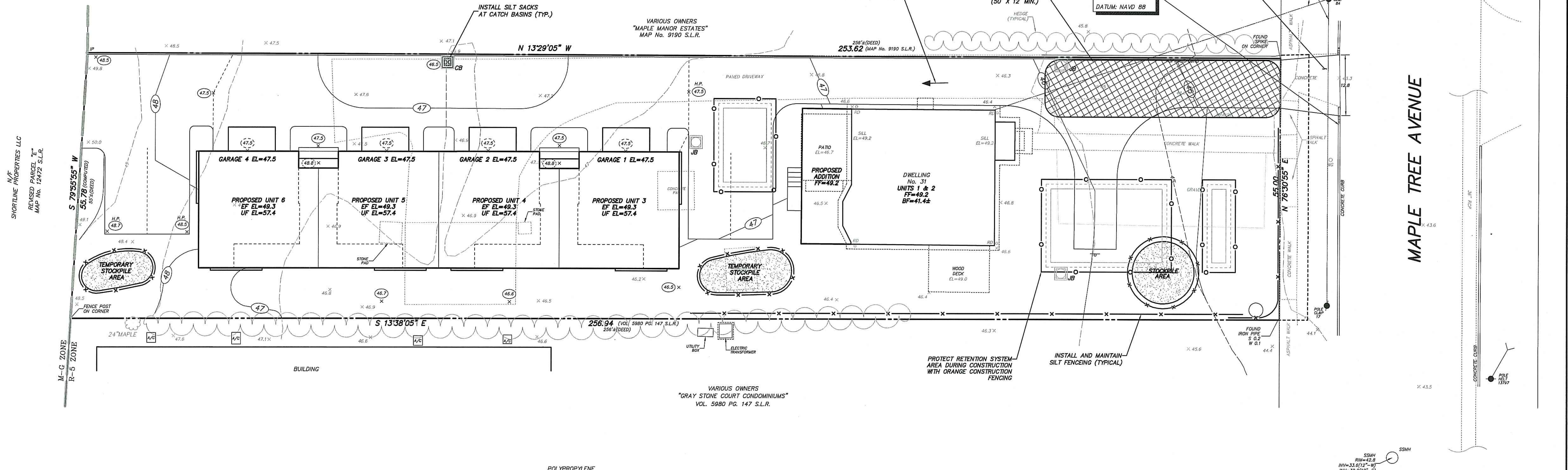


TEMPORARY STOCKPILE DETAIL
N.T.S.

NOTE: STOCKPILES SHALL NOT BE PLACED OVER ANY INFILTRATION SYSTEM.



LOCATION MAP - 1"=1000'±



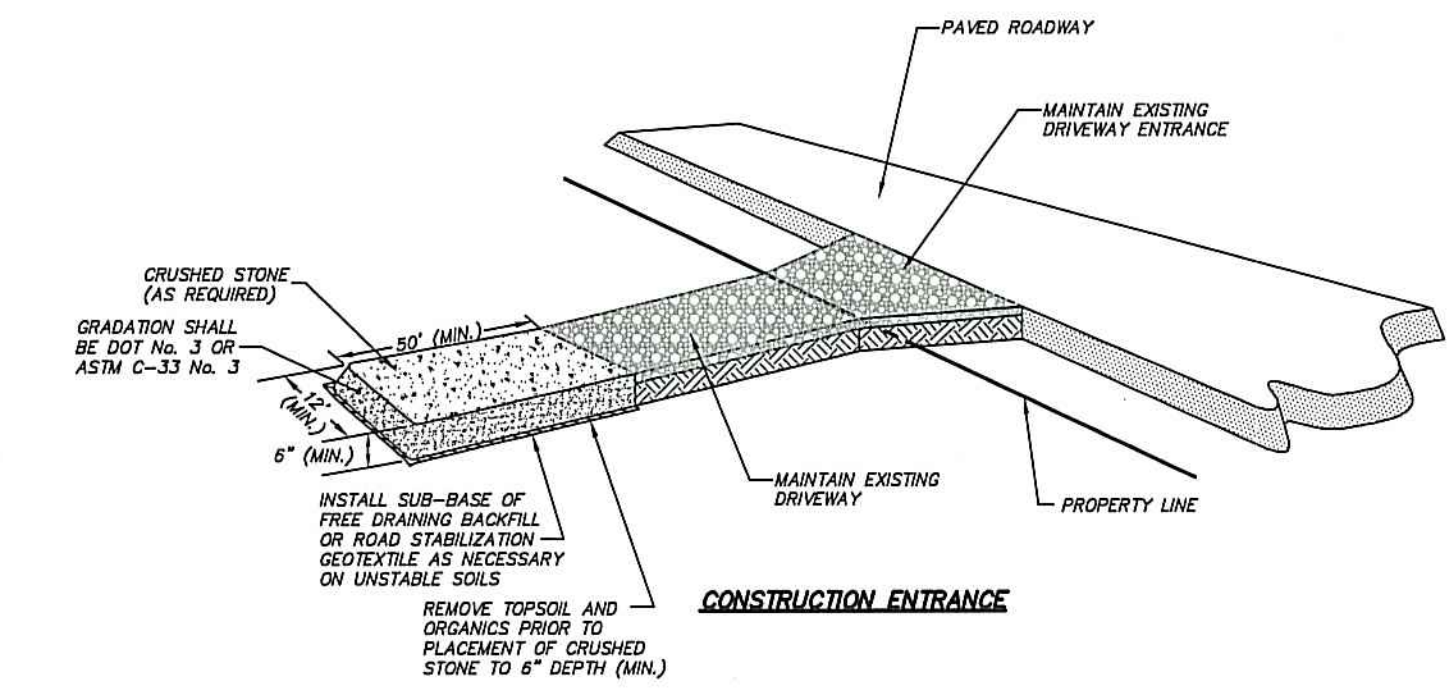
N.F. SHORTLINE PROPERTIES LLC
REVISED PARCEL MAP
MAP No. 12472 S.L.R.

S 79°55'55" W
55.78 (COMPUTED)
55.8 (DEED)

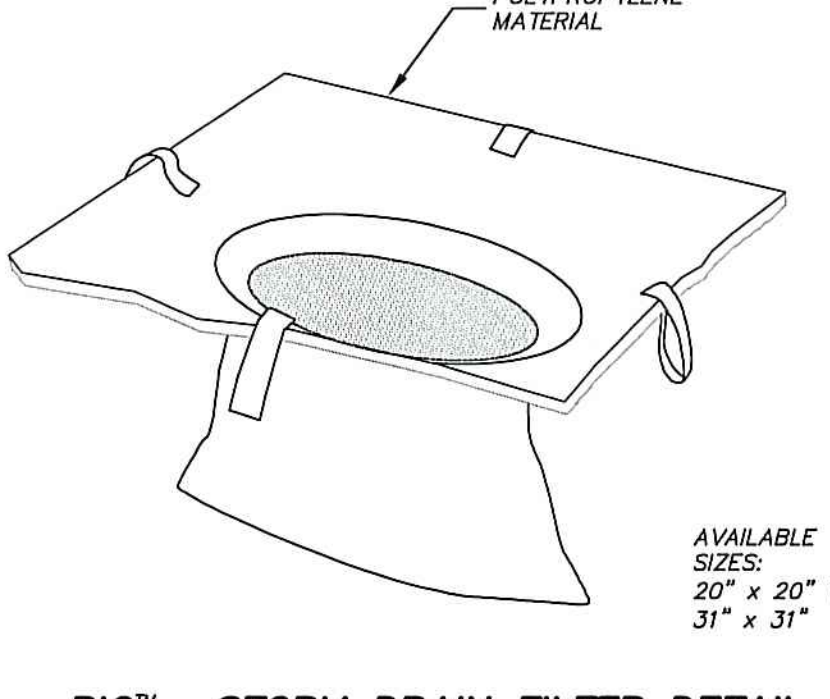
M-C ZONE
R-5 ZONE

VARIOUS OWNERS
"GRAY STONE COURT CONDOMINIUMS"
VOL. 5980 PG. 147 S.L.R.

SSMH
RIM=42.8
HW=33.6(12'-0")
INV=30.2(12'-0")



ANTI-TRACKING PAD DETAIL
N.T.S.

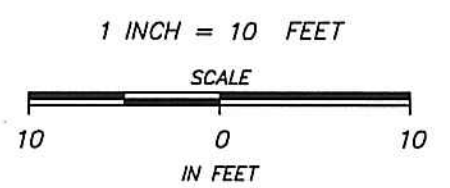


PIG™ - STORM DRAIN FILTER DETAIL
N.T.S. www.nseppig.com

AVAILABLE SIZES:
20" x 20" TO
31" x 31"

LEGEND:

---	EXISTING CONTOUR	A.O.B.E.	AS ORDERED BY ENGINEER
•	EXISTING SPOT ELEVATION	V.I.F.	VERIFY IN FIELD
○	PROPOSED CONTOUR	H.P.	HIGH POINT
○	PROPOSED SPOT ELEVATION	RD	ROOF DRAIN
☼	TREE TO REMAIN	RS	RETENTION SYSTEM
☼	CONIFEROUS TREE	⊕	FIRE HYDRANT
⊕	STONE WALL	⊕	UTILITY POLE
CB	CATCH BASIN	⊕	SIGN
C.O.	CLEAN OUT	○	CLEAN OUT
JB	JUNCTION BOX	○	WATER GATE
YD	YARD DRAIN	○	SANITARY SEWER MANHOLE
DCB	DRIVEWAY CATCH BASIN	○	CATCH BASIN
PVC	POLYVINYL CHLORIDE	○	TEST PIT
CPP	CORRUGATED PLASTIC PIPE	○	UNDERGROUND UTILITY SERVICE: W=WATER, G=GAS
TW	TOP OF WALL	○	
RCP	REINFORCED CONCRETE PIPE	○	



D'ANDREA SURVEYING & ENGINEERING, PC
LAND PLANNERS
ENGINEERS
SURVEYORS
P.O. BOX 548
RIVERSIDE, CT 06878
6 NEIL LANE
TEL. 637-1779

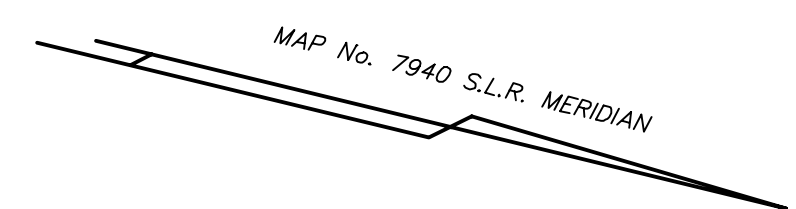
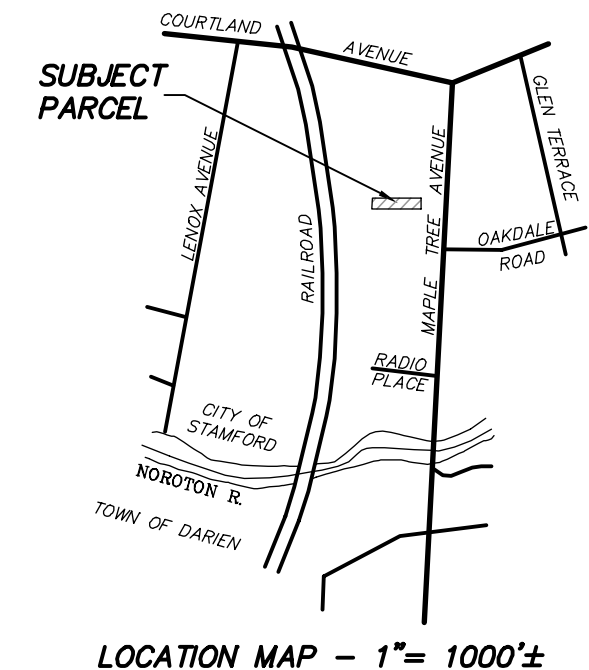
PROJECT	RESIDENTIAL DEVELOPMENT
PREPARED FOR	31 MAPLE TREE LLC
LOCATION	31 MAPLE TREE AVENUE STAMFORD, CONNECTICUT
3 OF 4	SEDIMENTATION & EROSION CONTROL PLAN

REV.	DATE	DESCRIPTION
1	11-20-23	MINOR SITE PLAN REVISIONS
0	2-9-23	INITIAL SUBMISSION
MATTHEW M. KIVILARY, CT. PE No. 36982 ENGINEER		11-20-23 DATE

ONLY COPIES OF THIS PLAN BEARING AN ORIGINAL IMPRINT OF THE ENGINEER'S EMBOSSED SEAL ARE TRUE, VALID COPIES.

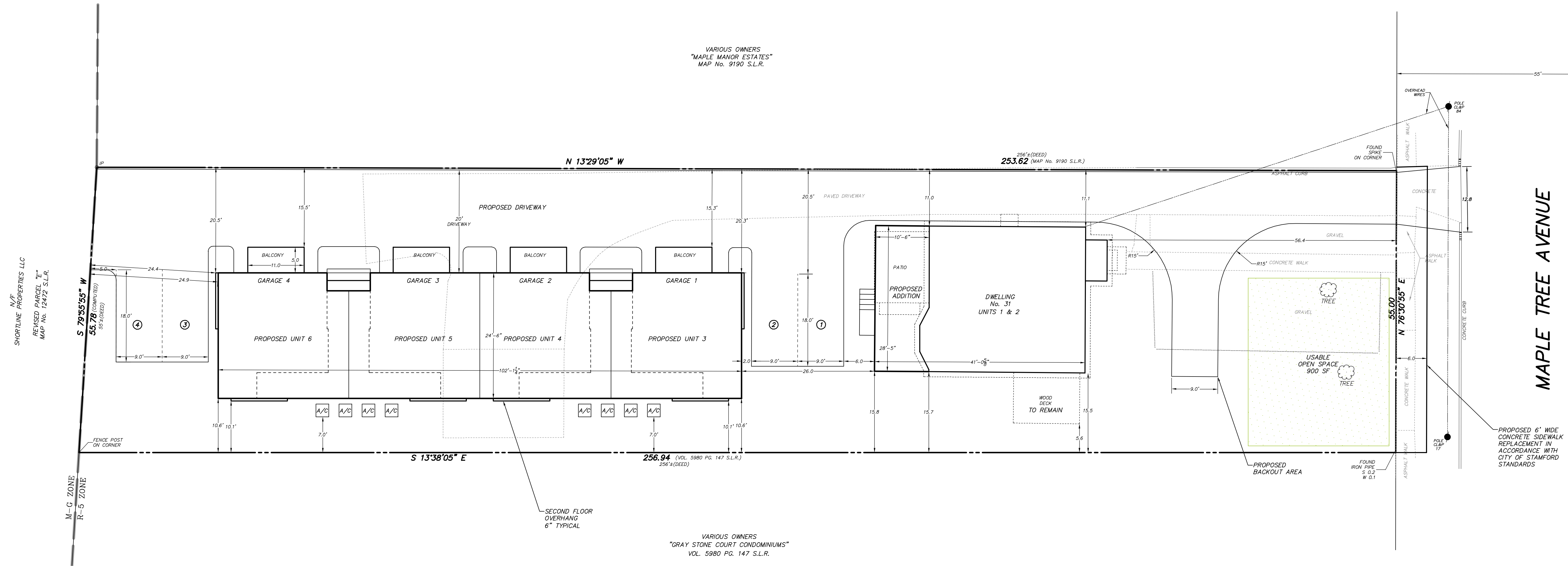
RADIOPLOA_21UC_SmmE_02_REV1.DWG

21UC



VARIOUS OWNERS
"MAPLE MANOR ESTATES"
MAP No. 9190 S.L.R.

VARIOUS OWNERS
"GRAY STONE COURT CONDOMINIUMS"
VOL. 5980 PG. 147 S.L.R.



EXISTING BUILDING COVERAGE	PROPOSED BUILDING COVERAGE	EXISTING SITE COVERAGE	PROPOSED SITE COVERAGE
LOT AREA = 14,125 S.F.	LOT AREA = 14,125 S.F.	LOT AREA = 14,125 S.F.	LOT AREA = 14,125 S.F.
DWELLING = 882 S.F.	HISTORIC DWELLING = 1166 S.F.	DWELLING = 882 S.F.	HISTORIC DWELLING = 1,166 S.F.
DECK = 128 S.F.	DECK = 128 S.F.	DECK = 128 S.F.	DECK = 128 S.F.
DECK ALLOWANCE (SECTION 301) = (128 S.F.)	DECK ALLOWANCE (SECTION 301) = (128 S.F.)	DECK ALLOWANCE (SECTION 301) = (128 S.F.)	DECK ALLOWANCE (SECTION 301) = (128 S.F.)
TOTAL = 882 S.F.	UNIT 3 = 620 S.F.	DRIVEWAY = 3,867 S.F.	UNIT 3 = 620 S.F.
PERCENT COVERAGE = 6.2%	UNIT 4 = 618 S.F.	PORCH = 34 S.F.	UNIT 4 = 618 S.F.
	UNIT 5 = 618 S.F.	PATIOS = 659 S.F.	UNIT 5 = 618 S.F.
	UNIT 6 = 620 S.F.	STEPS = 28 S.F.	UNIT 6 = 620 S.F.
	TOTAL = 3770 S.F.	TOTAL = 5,470 S.F.	DRIVEWAY = 4,813 S.F.
	PERCENT COVERAGE = 26.7%	TOTAL = 8,455 S.F.	TOTAL = 8,455 S.F.
	BALCONIES HAVE NOT BEEN INCLUDED IN COVERAGE CALCULATIONS.	PERCENT COVERAGE = 59.9%	BALCONIES HAVE NOT BEEN INCLUDED IN COVERAGE CALCULATIONS.

THIS MAP IS A ZONING LOCATION SURVEY. BOUNDARY INFORMATION IS BASED ON A RESURVEY CONDUCTED IN ACCORDANCE WITH HORIZONTAL ACCURACY CLASS "A-2" AS DEFINED IN THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THROUGH 20-300b-20.

ONLY COPIES OF THIS MAP, BEARING AN ORIGINAL IMPRINT OF THE SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE TRUE, VALID COPIES.

AREA = 14,125 S.F.

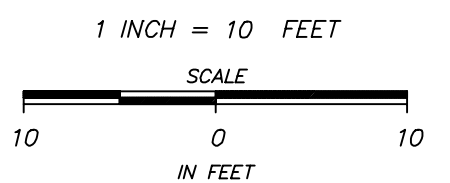
REFER TO MAPS No. 7940 & 9190 S.L.R.
DEED VOL. 12839 PG. 108 S.L.R.

LAND LIES IN "R-5" ZONING DISTRICT

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

D'ANDREA SURVEYING & ENGINEERING, P.C.

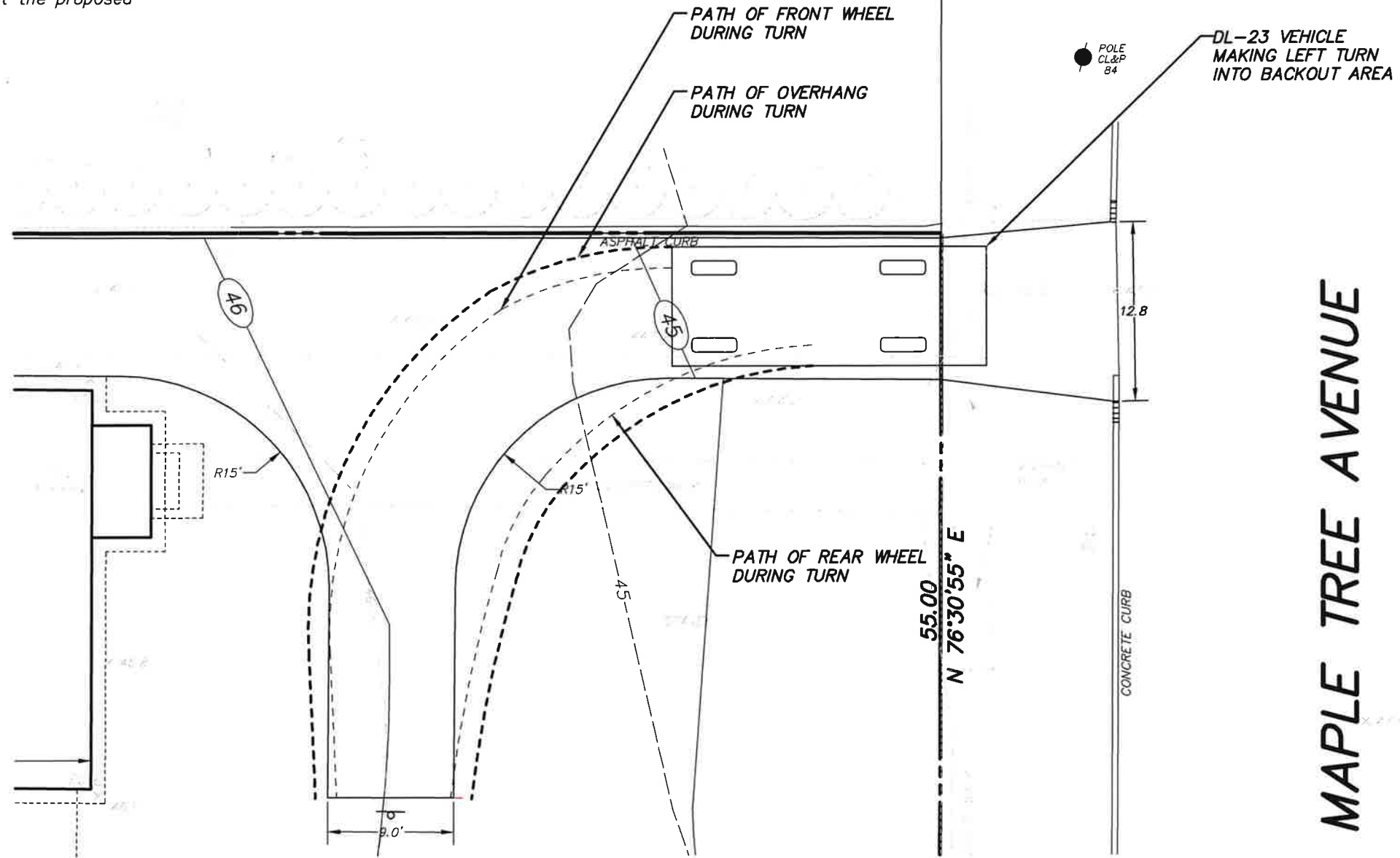
ROBERT L. LIDDEL JR., SURVEYOR
ROBERT L. LIDDEL JR., CT LS No. 15775
RIVERSIDE, CONNECTICUT
FEBRUARY 1, 2023 NOVEMBER 20, 2023 JANUARY 2, 2024



ZONING LOCATION SURVEY
OF PROPERTY AT
31 MAPLE AVENUE
IN
STAMFORD, CONNECTICUT
PREPARED FOR
31 MAPLE TREE LLC

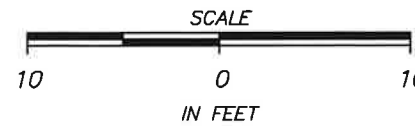
NOTES:

1. The purpose of this plan is only to depict the turning movements of vehicles at the proposed backout area.



MAPLE TREE AVENUE

1 INCH = 10 FEET



MAP No. 7940 S.L.R. MERIDIAN

D'ANDREA SURVEYING & ENGINEERING, P.C.

- LAND PLANNERS
- ENGINEERS
- SURVEYORS

P.O. BOX 549
RIVERSIDE, CT 06878

6 NEIL LANE
TEL. 637-1779

REV.	DATE	DESCRIPTION
0	9-27-23	SPECIAL PERMIT & CULTURAL RESOURCES INVENTORY APPLICATION
LEONARD C. D'ANDREA, CT. PE No. 14869		
	9-27-23	ENGINEER DATE

ONLY COPIES OF THIS PLAN BEARING AN ORIGINAL IMPRINT OF THE ENGINEER'S EMBOSSED SEAL ARE TRUE, VALID COPIES.

PROJECT	RESIDENTIAL DEVELOPMENT
PREPARED FOR	31 MAPLE TREE LLC
LOCATION	31 MAPLE TREE AVENUE STAMFORD, CONNECTICUT
1 OF 1	TURNING MOVEMENT PLAN

DRAINAGE SUMMARY REPORT "LITE"

For

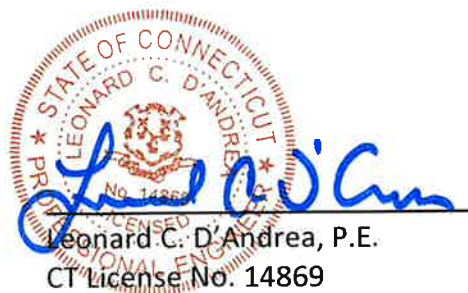
**31 Maple Tree Avenue
Stamford, Connecticut**

Prepared For

31 Maple Tree LLC

January 26, 2023

Revised: September 27, 2023



21UC_DSR_01

Table of Contents

1. Stormwater Management Standards	3
1.1. Runoff and Pollution Reduction	3
1.2. Peak Flow Control	3
1.3. Construction Erosion and Sediment Control	3
1.4. Operations and Maintenance	3
1.5. Stormwater Management Report	3
2. HydroCAD Summary Table	4

Exhibits

Watershed Map – Existing Conditions	Exhibit A
Watershed Map – Proposed Conditions	Exhibit B
USDA Soil Delineation Map	Exhibit C
Site Vicinity Map	Exhibit D

Appendices

Runoff Volume & Retention System Design Calculations	Appendix A
HydroCAD Analysis – Existing Conditions	Appendix B
HydroCAD Analysis – Proposed Conditions	Appendix C
Pipe Conveyance Calculations	Appendix D
Directly Connected Impervious Area Tracking Worksheet	Appendix E
Soil Results Forms	Appendix F

1. Stormwater Management Standards

1.1. Runoff and Pollution Reduction

Standard 1: Runoff and Pollutant Reduction is not applicable to this project as determined by the Runoff and Pollutant Reduction Requirements Flowchart.

Refer to Appendix "E" for Directly Connected Impervious Area Tracking Worksheet

1.2. Peak Flow Control

The proposed development will decrease peak runoff flow rates to less than pre-construction conditions to all points of concern. Refer to Appendices "B" and "C" for Existing and Proposed HydroCAD results, and to the HydroCAD Summary Table at the end of this introduction. The decrease in peak runoff flow rates meets the standard of reduction for all storms up to the 50-year storm.

Refer to Appendix "D" for Pipe Conveyance Calculations and refer to Appendix "A" for 72-Hour Drawdown Calculations.

1.3. Construction Erosion and Sediment Control

During the construction phase of the project, treatment of storm water runoff will be provided by temporary sedimentation and other erosion control measures as outlined within the Final Site Plan Review Set. This includes the installation of silt fencing, an anti-tracking pad, and hay bales around catch basins. Periodic on-site inspections will be performed to ensure that these measures are maintained in effective working order. Once construction is complete and all disturbed areas are properly graded, seeded and stabilized, the proposed sedimentation and erosion control measures will be removed.

1.4. Operations and Maintenance

Refer to Appendix "G" of the City of Stamford Stormwater Drainage Manual for a Standard City of Stamford Drainage Maintenance Agreement.

1.5. Stormwater Management Report

The applicant is proposing to conduct site improvements on the subject property. Currently, the parcel supports a historic dwelling, garage, and a driveway. Vegetative cover at the property is primarily lawn with other ornamental plantings. The proposed improvements will include the construction of a multi-family building and parking improvements. Improvements also include the installation of a storm drainage system, site grading, and associated landscaping.

For a depiction of existing and proposed conditions, refer to a plan set prepared by D'Andrea Surveying and Engineering, P.C., entitled "Residential Development depicting property at 31 Maple Tree Avenue, Stamford, Connecticut, prepared for 31 Maple Tree LLC".

The subject parcel is 14,125 square feet in size and is located approximately 400 feet east of the intersection of Maple Tree Avenue and Courtland Avenue. The proposed redevelopment of the parcel will increase the impervious coverage by approximately 3,544 square feet.

Based on the above information, the proposed improvements are designed in accordance with the City of Stamford Stormwater Drainage Manual and will not adversely impact adjacent or downstream properties or City-owned drainage facilities.

HydroCAD Summary
31 Maple Tree LLC
31 Maple Tree Avenue, Stamford, CT
Project ID: 21UC

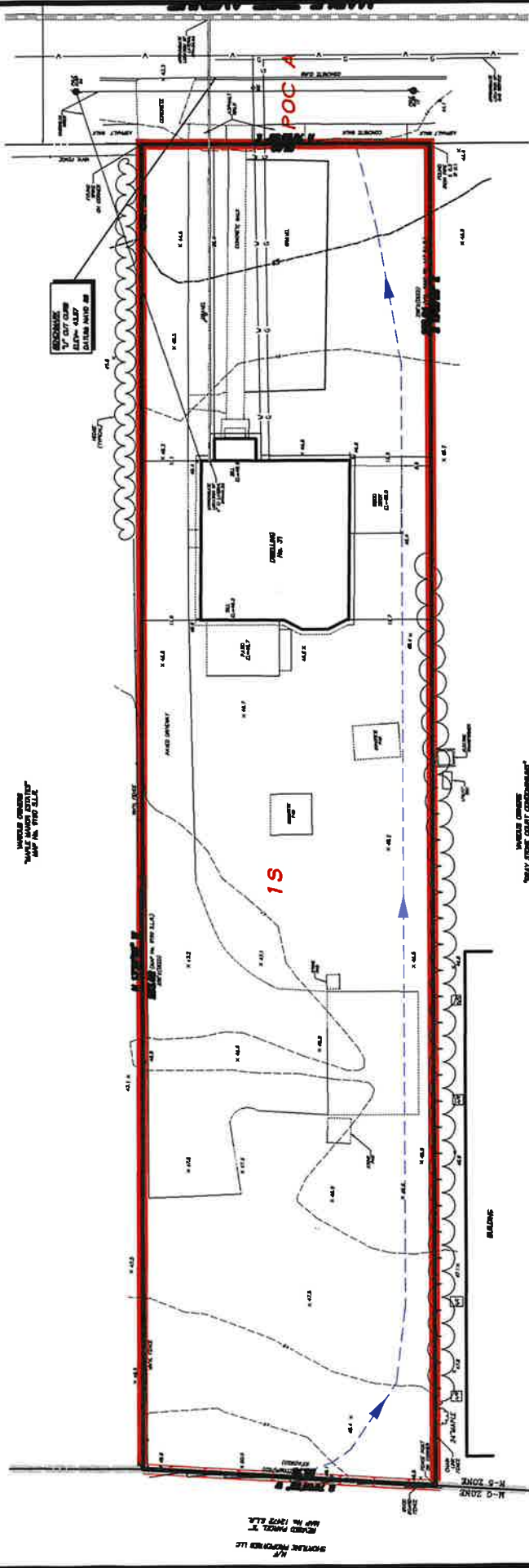
POC	1 Year Storm				2 Year Storm				5 Year Storm				10 Year Storm				25 Year Storm				50 Year Storm				100 Year Storm			
	q _{ex} (ft ³ /s)	q _p (ft ³ /s)	Δq (ft ³ /s)	%Δq (ft ³ /s)	q _{ex} (ft ³ /s)	q _p (ft ³ /s)	Δq (ft ³ /s)	%Δq (ft ³ /s)	q _{ex} (ft ³ /s)	q _p (ft ³ /s)	Δq (ft ³ /s)	%Δq (ft ³ /s)	q _{ex} (ft ³ /s)	q _p (ft ³ /s)	Δq (ft ³ /s)	%Δq (ft ³ /s)	q _{ex} (ft ³ /s)	q _p (ft ³ /s)	Δq (ft ³ /s)	%Δq (ft ³ /s)	q _{ex} (ft ³ /s)	q _p (ft ³ /s)	Δq (ft ³ /s)	%Δq (ft ³ /s)	q _{ex} (ft ³ /s)	q _p (ft ³ /s)	Δq (ft ³ /s)	%Δq (ft ³ /s)
A	0.50	0.45	-0.05	-10%	0.68	0.59	-0.09	-13%	0.98	0.82	-0.16	-16%	1.19	0.98	-0.21	-18%	1.40	1.15	-0.25	-18%	1.61	1.31	-0.30	-19%	1.85	1.50	-0.35	-19%

Table 1: Comparison of Existing and Proposed Peak Flow Rates for all Points of Concern.

POC	1 Year Storm				2 Year Storm				5 Year Storm				10 Year Storm				25 Year Storm				50 Year Storm				100 Year Storm			
	v _{ex} (cf)	v _p (cf)	Δv (cf)	%Δv (cf)	v _{ex} (cf)	v _p (cf)	Δv (cf)	%Δv (cf)	v _{ex} (cf)	v _p (cf)	Δv (cf)	%Δv (cf)	v _{ex} (cf)	v _p (cf)	Δv (cf)	%Δv (cf)	v _{ex} (cf)	v _p (cf)	Δv (cf)	%Δv (cf)	v _{ex} (cf)	v _p (cf)	Δv (cf)	%Δv (cf)	v _{ex} (cf)	v _p (cf)	Δv (cf)	%Δv (cf)
A	1,742	1,406	-336	-19%	2,358	1,906	-452	-19%	3,429	2,835	-594	-17%	4,199	3,627	-572	-14%	4,980	4,426	-554	-11%	5,769	5,229	-540	-9%	6,677	6,152	-525	-8%

Table 2: Comparison of Existing and Proposed Runoff Volumes for all Points of Concern.

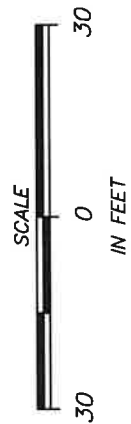
Exhibits “A & B”
Existing and Proposed
Watershed Maps



SHORLINE PROPERTY LLC
 100 N. 1200 S.W.
 SUITE 100
 WEST PALM BEACH, FL 33411

SHAW STORE FRONT CONTIGUOUS
 100 N. 1200 S.W.
 SUITE 100
 WEST PALM BEACH, FL 33411

1 INCH = 30 FEET



D'ANDREA SURVEYING & ENGINEERING, P.C.
 • LAND PLANNERS
 • ENGINEERS
 • SURVEYORS

P.O. BOX 549
 RIVERSIDE, CT 06878

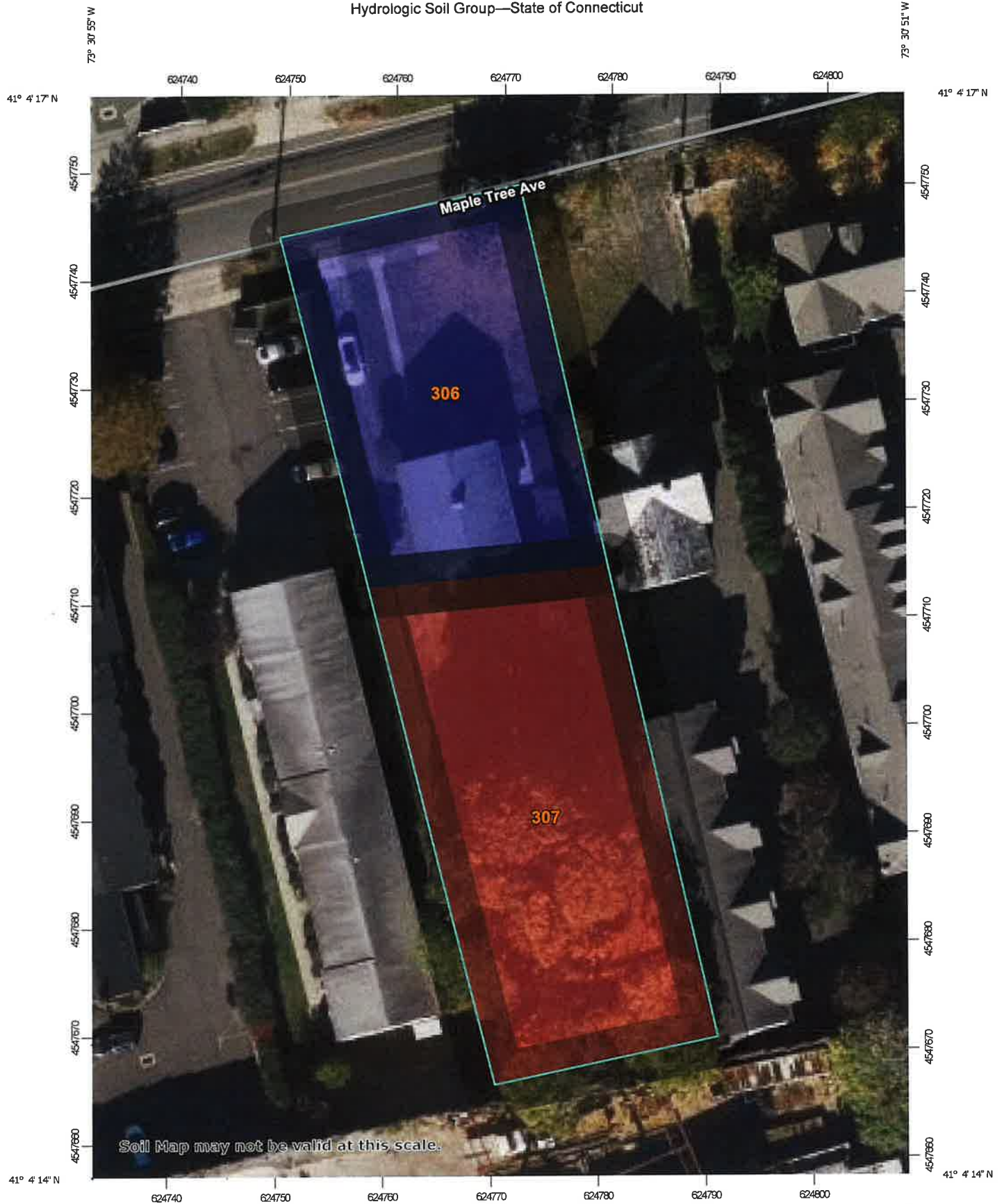
6 NEIL LANE
 TEL. 637-1779

EXHIBIT "A"
EXISTING CONDITIONS

Exhibit "C"

NRCS Web Soil Survey

Hydrologic Soil Group—State of Connecticut



Soil Map may not be valid at this scale.

Map Scale: 1:488 if printed on A portrait (8.5" x 11") sheet.




















0 5 10 20 30 Meters

0 20 40 80 120 Feet

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



MAP LEGEND

Area of Interest (AOI)	 C
Area of Interest (AOI)	 C/D
Soils	 D
Soil Rating Polygons	 Not rated or not available
Water Features	 Streams and Canals
Transportation	 Rails
	 Interstate Highways
	 US Routes
	 Major Roads
	 Local Roads
Soil Rating Lines	 Aerial Photography
	 A
	 A/D
	 B
	 B/D
	 C
	 C/D
	 D
	 Not rated or not available
Soil Rating Points	A
	A/D
	B
	B/D

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

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

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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

Soil Survey Area: State of Connecticut
 Survey Area Data: Version 22, Sep 12, 2022

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

Date(s) aerial images were photographed: Oct 4, 2020—Oct 31, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
306	Udorthents-Urban land complex	B	0.2	43.9%
307	Urban land	D	0.2	56.1%
Totals for Area of Interest			0.4	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Exhibit “D”
Site Vicinity Map

Google Maps 31 Maple Tree Ave



Appendix "A"
**Runoff Volume
And
Retention System Sizing
Calculations**

BMP Drawdown Calculations:

Infiltration structures must be able to drain fully within 72 hours.

Retention System #1: Cultecs No.1

$$t_{\text{drawdown}} = DV/kA$$

Where:

DV = Design Volume	=	188 ft ³
k = Infiltration Rate	=	0.52 inches/hr
A = Bottom Area	=	196 ft ²

$$t_{\text{drawdown}} = 22.1 \text{ hours} \quad \text{Drawdown Requirement Satisfied}$$

Retention System #2: Cultecs No.2

$$t_{\text{drawdown}} = DV/kA$$

Where:

DV = Design Volume	=	921 ft ³
k = Infiltration Rate	=	0.52 inches/hr
A = Bottom Area	=	449 ft ²

$$t_{\text{drawdown}} = 47.3 \text{ hours} \quad \text{Drawdown Requirement Satisfied}$$

Appendix “B”
HydroCAD Analysis –
Existing Conditions

21UC_Appendix_B&C_hydrocad template

Prepared by RVDI
HydroCAD® 10.00-26 s/n 08481 © 2020 HydroCAD Software Solutions LLC

Printed 1/25/2023
Page 2

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
8,647	80.0	>75% Grass cover, Good, HSG D (1S)
3,895	98.0	Paved parking, HSG D (1S)
1,323	98.0	Roofs, HSG D (1S)
260	98.0	Unconnected pavement, HSG D (1S)
14,125	87.0	TOTAL AREA

31 Maple Tree Avenue
- Existing



Existing Watershed 1S



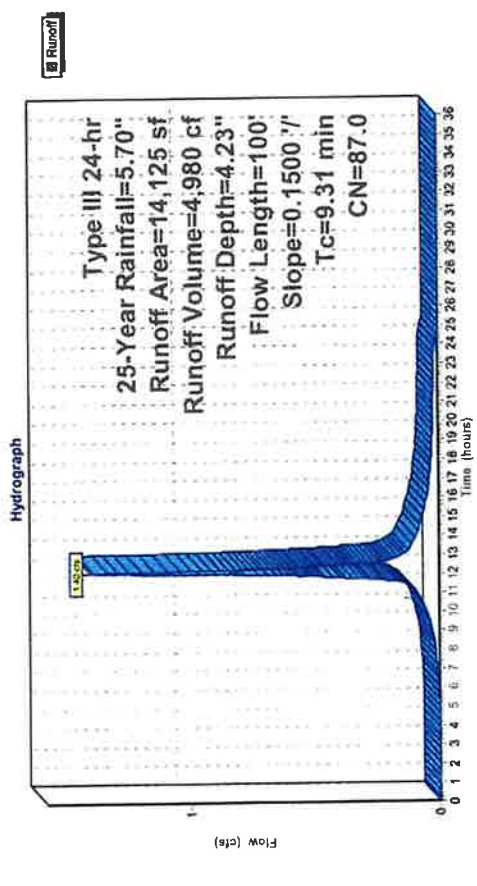
Summary for Subcatchment 1S: Existing Watershed 1S

Runoff = 1.40 cfs @ 12.13 hrs, Volume= 4,980 cf, Depth= 4.23"
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=5.70"

Area (sf)	CN	Description
3,895	98.0	Paved parking, HSG D
1,323	98.0	Roofs, HSG D
260	98.0	Unconnected pavement, HSG D
8,647	80.0	>75% Grass cover, Good, HSG D
14,125	87.0	Weighted Average
8,647		61.22% Pervious Area
5,478		38.78% Impervious Area
260		4.75% Unconnected

Tc (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00				Direct Entry,
4.31	100	0.1500	0.39	Sheet Flow,
				Grass: Short n= 0.150 P2= 3.30"
9.31				Total

Subcatchment 1S: Existing Watershed 1S



Summary for Subcatchment 1S: Existing Watershed 1S

Runoff = 0.50 cfs @ 12.13 hrs, Volume= 1,742 cf, Depth= 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1-Year Rainfall=2.70"

Area (sf)	CN	Description
3,895	98.0	Paved parking, HSG D
1,323	98.0	Roofs, HSG D
260	98.0	Unconnected pavement, HSG D
8,647	80.0	>75% Grass cover, Good, HSG D
14,125	87.0	Weighted Average
8,647		61.22% Pervious Area
5,478		38.78% Impervious Area
260		4.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					Direct Entry,
4.31	100	0.1500	0.39		Sheet Flow,
					Grass: Short n=0.150 P2= 3.30"
9.31	100	Total			

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Watershed 1S Runoff Area=14,125 sf 38.78% Impervious Runoff Depth=1.48"
 Flow Length=100' Slope=0.1500 7' Tc=9.31 min CN=87.0 Runoff=0.50 cfs 1,742 cf

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Watershed 1S Runoff Area=14,125 sf Runoff Depth=2.00"
Flow Length=100' Slope=0.1500 7' Tc=9.31 min CN=87.0 Runoff=0.68 cfs 2,358 cf

Summary for Subcatchment 1S: Existing Watershed 1S

Runoff = 0.68 cfs @ 12.13 hrs, Volume= 2,358 cf, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
3,895	98.0	Paved parking, HSG D
1,323	98.0	Roofs, HSG D
260	98.0	Unconnected pavement, HSG D
8,647	80.0	>75% Grass cover, Good, HSG D
14,125	87.0	Weighted Average
8,647		61.22% Pervious Area
5,478		38.78% Impervious Area
260		4.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					
4.31	100	0.1500	0.39		Direct Entry, Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Watershed 1S Runoff Area=14,125 sf 38.78% Impervious Runoff Depth=2.91"
Flow Length=100' Slope=0.1500 % Tc=9.31 min CN=87.0 Runoff=0.98 cfs 3,429 cf

Summary for Subcatchment 1S: Existing Watershed 1S

Runoff = 0.98 cfs @ 12.13 hrs, Volume= 3,429 cf, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-Year Rainfall=4.30"

Area (sf)	CN	Description
3,895	98.0	Paved parking, HSG D
1,323	98.0	Roofs, HSG D
260	98.0	Unconnected pavement, HSG D
8,647	80.0	>75% Grass cover, Good, HSG D
14,125	87.0	Weighted Average
8,647		61.22% Pervious Area
5,478		38.78% Impervious Area
260		4.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					Direct Entry,
4.31	100	0.1500	0.39		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Watershed 1S Runoff Area=14,125 sf 38.78% Impervious Runoff Depth=3.57"
Flow Length=100' Slope=0.1500 % Tc=9.31 min CN=87.0 Runoff=1.19 cfs 4,199 cf

Summary for Subcatchment 1S: Existing Watershed 1S

Runoff = 1.19 cfs @ 12.13 hrs, Volume= 4,199 cf, Depth= 3.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
3,895	98.0	Paved parking, HSG D
1,323	98.0	Roofs, HSG D
260	98.0	Unconnected pavement, HSG D
8,647	80.0	>75% Grass cover, Good, HSG D
14,125	87.0	Weighted Average
8,647		61.22% Pervious Area
5,478		38.78% Impervious Area
260		4.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					Direct Entry, Sheet Flow,
4.31	100	0.1500	0.39		Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Watershed 1S Runoff Area=14,125 sf 38.78% Impervious Runoff Depth=4.23"
 Flow Length=100' Slope=0.1500' Tc=9.31 min CN=87.0 Runoff=1.40 cfs 4,980 cf

Summary for Subcatchment 1S: Existing Watershed 1S

Runoff = 1.40 cfs @ 12.13 hrs, Volume= 4,980 cf, Depth= 4.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=5.70"

Area (sf)	CN	Description
3,895	98.0	Paved parking, HSG D
1,323	98.0	Roofs, HSG D
260	98.0	Unconnected pavement, HSG D
8,647	80.0	>75% Grass cover, Good, HSG D
14,125	87.0	Weighted Average
8,647		61.22% Pervious Area
5,478		38.78% Impervious Area
260		4.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					
4.31	100	0.1500	0.39		Direct Entry, Sheet Flow,
					Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Watershed 1S Runoff Area=14,125 sf Runoff=1.61 cfs
Flow Length=100' Slope=0.1500' Tc=9.31 min CN=87.0 Runoff=1.61 cfs 5,769 cf

Summary for Subcatchment 1S: Existing Watershed 1S

Runoff = 1.61 cfs @ 12.13 hrs, Volume= 5,769 cf, Depth= 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.40"

Area (sf)	CN	Description
3,895	98.0	Paved parking, HSG D
1,323	98.0	Roofs, HSG D
260	98.0	Unconnected pavement, HSG D
8,647	80.0	>75% Grass cover, Good, HSG D
14,125	87.0	Weighted Average
8,647		61.22% Pervious Area
5,478		38.78% Impervious Area
260		4.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00	100	0.1500	0.39		Direct Entry,
4.31	100	0.1500	0.39		Sheet Flow,
9.31	100	Total			Grass: Short n= 0.150 P2= 3.30"

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Watershed 1S Runoff Area=14,125 sf, 38.78% Impervious Runoff Depth=5.87"
 Flow Length=100' Slope=0.1500 7' Tc=9.31 min CN=87.0 Runoff=1.85 cfs 6,877 cf

Summary for Subcatchment 1S: Existing Watershed 1S

Runoff = 1.85 cfs @ 12.13 hrs, Volume= 6,877 cf, Depth= 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=7.20"

Area (sf)	CN	Description
3,895	98.0	Paved parking, HSG D
1,323	98.0	Roofs, HSG D
260	98.0	Unconnected pavement, HSG D
8,647	80.0	>75% Grass cover, Good, HSG D
14,125	87.0	Weighted Average
8,647		61.22% Pervious Area
5,478		38.78% Impervious Area
260		4.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					
4.31	100	0.1500	0.39		Direct Entry, Sheet Flow, Grass: Short n= 0.150 P2= 3.30"

9.31	100	Total			
------	-----	-------	--	--	--

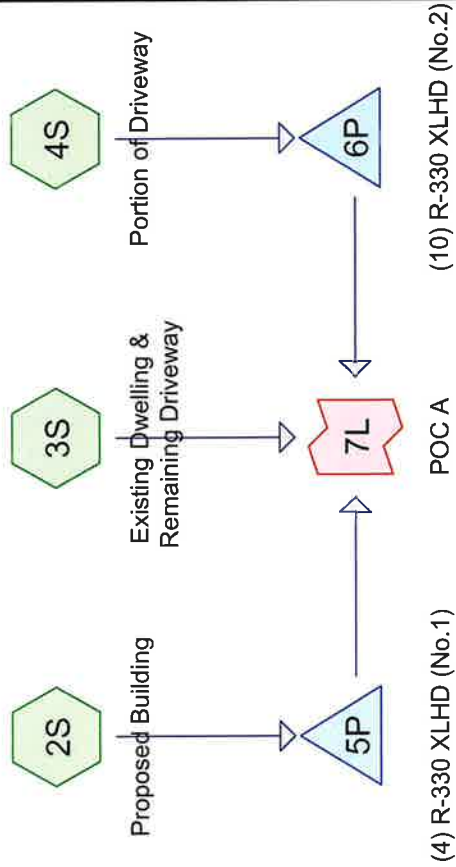
Appendix “C”
HydroCAD Analysis –
Proposed Conditions

21UC_Appendix_B&C_01

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
5,298	80.0	>75% Grass cover, Good, HSG D (3S, 4S)
5,118	98.0	Paved parking, HSG D (3S, 4S)
3,709	98.0	Roofs, HSG D (2S, 3S)
14,125	91.2	TOTAL AREA

**31 Maple Tree Avenue
 - Proposed**



Legend for routing diagram symbols:

- Subcat (Green hexagon)
- Reach (Yellow rectangle)
- Pond (Blue triangle)
- Link (Red pentagon)

Routing Diagram for 21UC_Appendix_B&C_01
 Prepared by RVDI, Printed 9/28/2023
 HydroCAD® 10.00-26 s/n 08481 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment 2S: Proposed Building

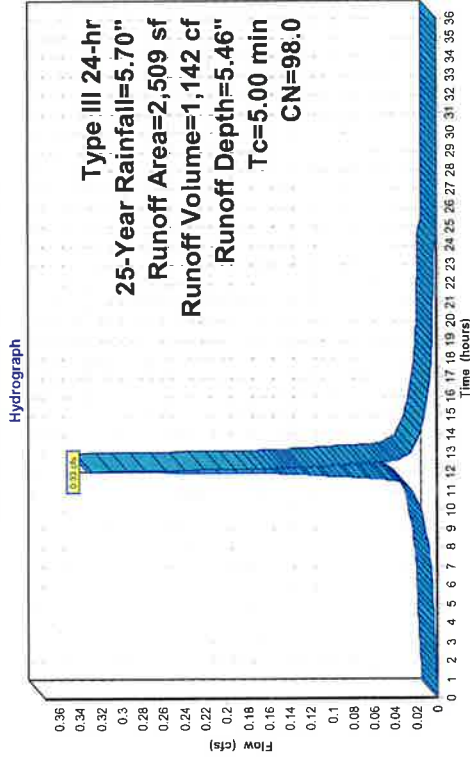
Runoff = 0.33 cfs @ 12.07 hrs, Volume= 1,142 cf, Depth= 5.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=5.70"

Area (sf)	CN	Description
0	98.0	Paved parking, HSG D
2,509	98.0	Roofs, HSG D
0	80.0	>75% Grass cover, Good, HSG D
2,509	98.0	Weighted Average
2,509	100.00%	Impervious Area

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

Subcatchment 2S: Proposed Building



Summary for Subcatchment 3S: Existing Dwelling & Remaining Driveway

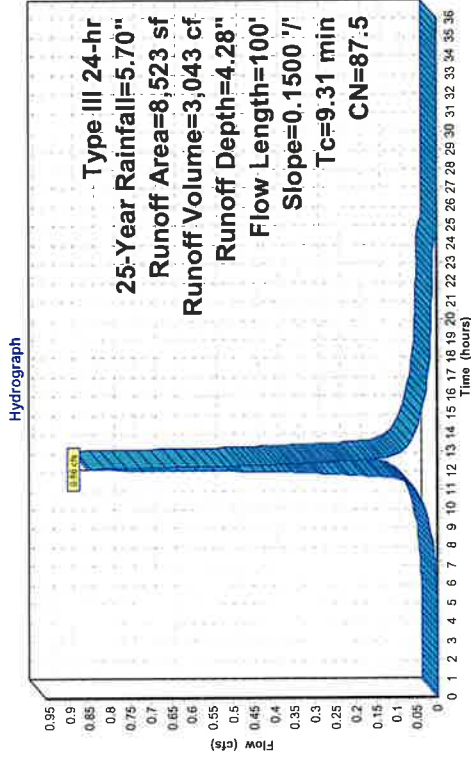
Runoff = 0.86 cfs @ 12.13 hrs, Volume= 3,043 cf, Depth= 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=5.70"

Area (sf)	CN	Description
2,344	98.0	Paved parking, HSG D
1,200	98.0	Roofs, HSG D
4,979	80.0	>75% Grass cover, Good, HSG D
8,523	87.5	Weighted Average
4,979	58.42%	Pervious Area
3,544	41.58%	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					Direct Entry,
4.31	100	0.1500	0.39		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Subcatchment 3S: Existing Dwelling & Remaining Driveway



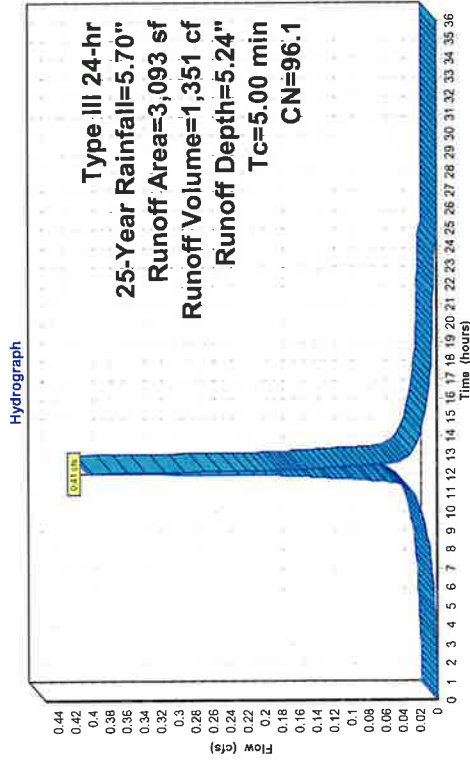
Summary for Subcatchment 4S: Portion of Driveway

Runoff = 0.41 cfs @ 12.07 hrs, Volume= 1,351 cf, Depth= 5.24"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.70"

Area (sf)	CN	Description
2,774	98.0	Paved parking, HSG D
0	98.0	Roofs, HSG D
319	80.0	>75% Grass cover, Good, HSG D
3,093	96.1	Weighted Average
319		10.31% Pervious Area
2,774		89.69% Impervious Area

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

Subcatchment 4S: Portion of Driveway



Summary for Pond 5P: (4) R-330 XLHD (No.1)

Inflow Area = 2,509 sf, 100.00% impervious, Inflow Depth = 5.46" for 25-Year event
Inflow = 0.33 cfs @ 12.07 hrs, Volume= 1,142 cf
Outflow = 0.33 cfs @ 12.08 hrs, Volume= 954 cf, Atten= 1%, Lag= 0.5 min
Primary = 0.33 cfs @ 12.08 hrs, Volume= 954 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 44.60' @ 12.08 hrs Surf.Area= 195 sf Storage= 203 cf

Plug-Flow detention time= 129.9 min calculated for 954 cf (84% of inflow)
Center-of-Mass det. time= 60.8 min (805.8 - 745.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	43.00'	184 cf	11.17'W x 17.50'L x 3.54'H Field A
#2A	43.50'	231 cf	692 cf Overall - 231 cf Embedded = 461 cf x 40.0% Voids Cultec R-330XLHD x 4 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		415 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Horiz. Pop-up emitters X 2.00 C= 0.600 Limited to weir flow at low heads

Primary Outflow Max=0.33 cfs @ 12.08 hrs HW=44.60' TW=0.00' (Dynamic Tailwater)
1=Pop-up emitters (Weir Controls 0.33 cfs @ 1.04 fps)

Pond 5P: (4) R-330 XLHD (No.1) - Chamber Wizard Field A

Chamber Model = Cuitec R-330XLHD (Cuitec Recharger® 330XLHD)

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
Row Length Adjustment= +1.50' x 7.45 sf x 2 rows

52.0" Wide + 6.0" Spacing = 58.0" C-C Row Spacing

2 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 15.50' Row Length +12.0" End Stone x 2 = 17.50'

Base Length

2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.17' Base Width

6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

4 Chambers x 52.2 cf + 1.50' Row Adjustment x 7.45 sf x 2 Rows = 231.0 cf Chamber Storage

692.1 cf Field - 231.0 cf Chambers = 461.1 cf Stone x 40.0% Voids = 184.4 cf Stone Storage

Chamber Storage + Stone Storage = 415.4 cf = 0.010 af

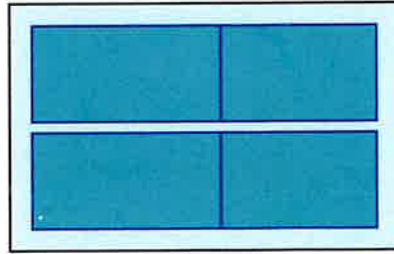
Overall Storage Efficiency = 60.0%

Overall System Size = 17.50' x 11.17' x 3.54'

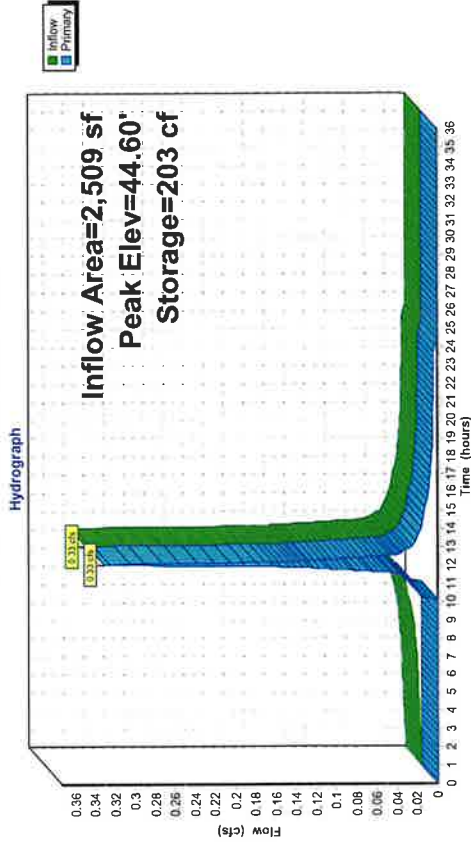
4 Chambers

25.6 cy Field

17.1 cy Stone



Pond 5P: (4) R-330 XLHD (No.1)



Summary for Pond 6P: (10) R-330 XLHD (No.2)

Inflow Area = 3,093 sf, 89.69% Impervious, Inflow Depth = 5.24" for 25-Year event
 Inflow = 0.41 cfs @ 12.07 hrs, Volume= 1,351 cf
 Outflow = 0.04 cfs @ 12.83 hrs, Volume= 429 cf, Atten= 90%, Lag= 45.7 min
 Primary = 0.04 cfs @ 12.83 hrs, Volume= 429 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.58' @ 12.83 hrs Surf.Area= 449 sf Storage= 936 cf

Plug-Flow detention time= 390.9 min calculated for 429 cf (32% of inflow)
 Center-of-Mass det. time= 217.7 min (975.5 - 757.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	41.30'	405 cf	25.67'W x 17.50'L x 3.54'H Field A 1,591 cf Overall - 577 cf Embedded = 1,013 cf x 40.0% Voids
#2A	41.80'	577 cf	Cultec R-330XLHD x 10 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 5 rows
			983 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device #1	Routing	Invert	Outlet Devices
	Primary	44.50'	6.0" Vert. Pop-up emitters X 2.00 C=0.600

Primary OutFlow Max=0.04 cfs @ 12.83 hrs HW=44.58' TW=0.00' (Dynamic Tailwater)
 1=Pop-up emitters (Orifice Controls 0.04 cfs @ 0.96 fps)

Pond 6P: (10) R-330 XLHD (No.2) - Chamber Wizard Field A

Chamber Model = Cultec R-330XLHD (Cultec Recharger@330XLHD)

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
 Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
 Row Length Adjustment= +1.50' x 7.45 sf x 5 rows

52.0" Wide + 6.0" Spacing = 58.0" C-C Row Spacing

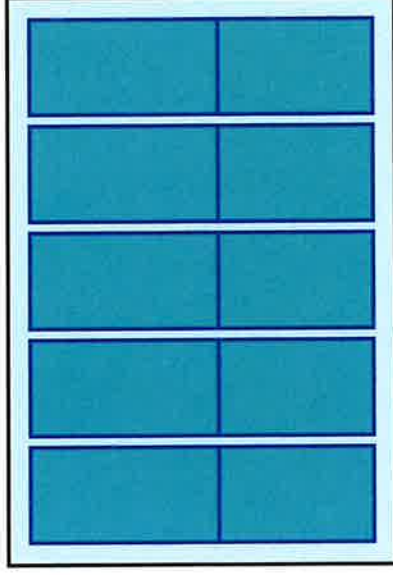
2 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 15.50' Row Length +12.0" End Stone x 2 = 17.50' Base Length

5 Rows x 52.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.67' Base Width
 6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

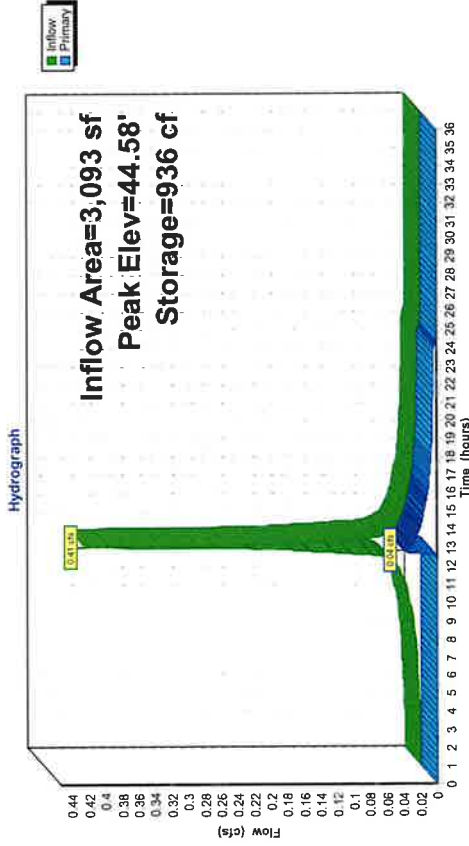
10 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 5 Rows = 577.5 cf Chamber Storage
 1,590.8 cf Field - 577.5 cf Chambers = 1,013.3 cf Stone x 40.0% Voids = 405.3 cf Stone Storage

Chamber Storage + Stone Storage = 982.8 cf = 0.023 af
 Overall Storage Efficiency = 61.8%
 Overall System Size = 17.50' x 25.67' x 3.54'

10 Chambers
 58.9 cy Field
 37.5 cy Stone



Pond 6P: (10) R-330 XLHD (No.2)

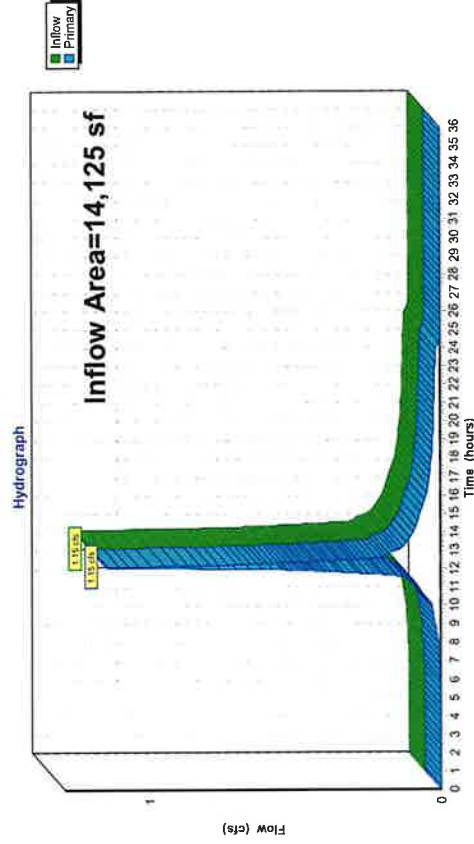


Summary for Link 7L: POC A

Inflow Area = 14,125 sf, 62.49% Impervious, Inflow Depth = 3.76" for 25-Year event
 Inflow = 1.15 cfs @ 12.11 hrs, Volume= 4,426 cf
 Primary = 1.15 cfs @ 12.11 hrs, Volume= 4,426 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link 7L: POC A



Summary for Subcatchment 2S: Proposed Building

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 516 cf, Depth= 2.47"
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1-Year Rainfall=2.70"

Area (sf)	CN	Description
0	98.0	Paved parking, HSG D
2,509	98.0	Roofs, HSG D
0	80.0	>75% Grass cover, Good, HSG D
2,509	98.0	Weighted Average
2,509	100.00%	Impervious Area

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

Summary for Subcatchment 3S: Existing Dwelling & Remaining Driveway

Runoff = 0.31 cfs @ 12.13 hrs, Volume= 1,077 cf, Depth= 1.52"
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1-Year Rainfall=2.70"

Area (sf)	CN	Description
2,344	98.0	Paved parking, HSG D
1,200	98.0	Roofs, HSG D
4,979	80.0	>75% Grass cover, Good, HSG D
8,523	87.5	Weighted Average
4,979	58.42%	Pervious Area
3,544	41.58%	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					Direct Entry,
4.31	100	0.1500	0.39		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Summary for Subcatchment 4S: Portion of Driveway

Runoff = 0.18 cfs @ 12.07 hrs, Volume= 584 cf, Depth= 2.27"
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1-Year Rainfall=2.70"

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method

Subcatchment 2S: Proposed Building Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=2.47"
 Tc=5.00 min CN=98.0 Runoff=0.16 cfs 516 cf

Subcatchment 3S: Existing Dwelling & Remaining Driveway Runoff Area=8,523 sf 41.58% Impervious Runoff Depth=1.52"
 Flow Length=100' Slope=0.1500 Tc=9.31 min CN=87.5 Runoff=0.31 cfs 1,077 cf

Subcatchment 4S: Portion of Driveway Runoff Area=3,093 sf 89.69% Impervious Runoff Depth=2.27"
 Tc=5.00 min CN=96.1 Runoff=0.18 cfs 584 cf

Pond 5P: (4) R-330 XLHD (No. 1) Peak Elev=44.56' Storage=197 cf Inflow=0.16 cfs 516 cf
 Outflow=0.15 cfs 328 cf

Pond 6P: (10) R-330 XLHD (No. 2) Peak Elev=43.21' Storage=584 cf Inflow=0.18 cfs 584 cf
 Outflow=0.00 cfs 0 cf

Link 7L: POC A Inflow=0.45 cfs 1,406 cf
 Primary=0.45 cfs 1,406 cf

Area (sf)	CN	Description
2,774	98.0	Paved parking, HSG D
0	98.0	Roofs, HSG D
319	80.0	>75% Grass cover, Good, HSG D
3,093	96.1	Weighted Average
319	10.31%	Pervious Area
2,774	89.69%	Impervious Area

Tc (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00				Direct Entry,

Summary for Pond 5P: (4) R-330 XLHD (No.1)

Inflow Area = 2,509 sf, 100.00% Impervious, Inflow Depth = 2.47" for 1-Year event
 Inflow = 0.16 cfs @ 12.07 hrs, Volume= 516 cf
 Outflow = 0.15 cfs @ 12.08 hrs, Volume= 328 cf, Atten= 1%, Lag= 0.7 min
 Primary = 0.15 cfs @ 12.08 hrs, Volume= 328 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.56' @ 12.08 hrs Surf.Area= 195 sf Storage= 197 cf

Plug-Flow detention time= 193.2 min calculated for 328 cf (64% of inflow)
 Center-of-Mass det. time= 91.1 min (850.3 - 759.2)

Volume #	Invert	Avail.Storage	Storage Description
#1A	43.00'	184 cf	11.17"W x 17.50"L x 3.54"H Field A 692 cf Overall - 231 cf Embedded = 461 cf x 40.0% Voids
#2A	43.50'	231 cf	Cultec R-330XLHD x 4 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
			415 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device #	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Horiz. Pop-up emitters X 2.00 C= 0.600 Limited to weir flow at low heads

Primary Outflow Max=0.15 cfs @ 12.08 hrs HW=44.56' TW=0.00' (Dynamic Tailwater)
 1=Pop-up emitters (Weir Controls 0.15 cfs @ 0.81 fps)

Summary for Pond 6P: (10) R-330 XLHD (No.2)

Inflow Area = 3,093 sf, 89.69% Impervious, Inflow Depth = 2.27" for 1-Year event
 Inflow = 0.18 cfs @ 12.07 hrs, Volume= 584 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 43.21' @ 24.29 hrs Surf.Area= 449 sf Storage= 584 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume #	Invert	Avail.Storage	Storage Description
#1A	41.30'	405 cf	25.67"W x 17.50"L x 3.54"H Field A 1,591 cf Overall - 577 cf Embedded = 1,013 cf x 40.0% Voids
#2A	41.80'	577 cf	Cultec R-330XLHD x 10 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 5 rows
			983 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device #	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Vert. Pop-up emitters X 2.00 C= 0.600

Primary Outflow Max=0.00 cfs @ 0.00 hrs HW=41.30' TW=0.00' (Dynamic Tailwater)
 1=Pop-up emitters (Controls 0.00 cfs)

Summary for Link 7L: POC A

Inflow Area = 14,125 sf, 62.49% Impervious, Inflow Depth = 1.19" for 1-Year event
 Inflow = 0.45 cfs @ 12.11 hrs, Volume= 1,406 cf
 Primary = 0.45 cfs @ 12.11 hrs, Volume= 1,406 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 2S: Proposed Building Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=3.07"
 Tc=5.00 min CN=98.0 Runoff=0.19 cfs 641 cf

Subcatchment 3S: Existing Dwelling &
 Flow Length=100' Runoff Area=8,523 sf 41.58% Impervious Runoff Depth=2.05"
 Slope=0.1500 7' Tc=9.31 min CN=87.5 Runoff=0.42 cfs 1,453 cf

Subcatchment 4S: Portion of Driveway Runoff Area=3,093 sf 89.69% Impervious Runoff Depth=2.86"
 Tc=5.00 min CN=96.1 Runoff=0.23 cfs 737 cf

Pond 5P: (4) R-330 XLHD (No.1) Peak Elev=44.57' Storage=198 cf Inflow=0.19 cfs 641 cf
 Outflow=0.19 cfs 453 cf

Pond 6P: (10) R-330 XLHD (No.2) Peak Elev=43.69' Storage=737 cf Inflow=0.23 cfs 737 cf
 Outflow=0.00 cfs 0 cf

Link 7L: POC A Inflow=0.59 cfs 1,906 cf
 Primary=0.59 cfs 1,906 cf

Summary for Subcatchment 2S: Proposed Building

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 641 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
0	98.0	Paved parking, HSG D
2,509	98.0	Roofs, HSG D
0	80.0	>75% Grass cover, Good, HSG D
2,509	98.0	Weighted Average
2,509	100.00%	Impervious Area

Tc (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00				Direct Entry,

Summary for Subcatchment 3S: Existing Dwelling & Remaining Driveway

Runoff = 0.42 cfs @ 12.13 hrs, Volume= 1,453 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
2,344	98.0	Paved parking, HSG D
1,200	98.0	Roofs, HSG D
4,979	80.0	>75% Grass cover, Good, HSG D
8,523	87.5	Weighted Average
4,979	58.42%	Pervious Area
3,544	41.58%	Impervious Area

Tc (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00				Direct Entry,
4.31	100	0.1500	0.39	Sheet Flow,
				Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total		

Summary for Subcatchment 4S: Portion of Driveway

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 737 cf, Depth= 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-Year Rainfall=3.30"

21UC_Appendix_B&C_01

21UC_Appendix_B&C_01

Area (sf)	CN	Description
2,774	98.0	Paved parking, HSG D
0	98.0	Roofs, HSG D
319	80.0	>75% Grass cover, Good, HSG D
3,093	96.1	Weighted Average
319	10.31%	Pervious Area
2,774	89.69%	Impervious Area

Tc (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00				Direct Entry,

Summary for Pond 5P: (4) R-330 XLHD (No.1)

Inflow Area = 2,509 sf, 100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 641 cf
 Outflow = 0.19 cfs @ 12.08 hrs, Volume= 453 cf, Atten= 1%, Lag= 0.6 min
 Primary = 0.19 cfs @ 12.08 hrs, Volume= 453 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.57' @ 12.08 hrs Surf.Area= 195 sf Storage= 198 cf

Plug-Flow detention time= 172.7 min calculated for 453 cf (71% of inflow)
 Center-of-Mass det. time= 79.9 min (834.8 - 754.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	43.00'	184 cf	11.17'W x 17.50'L x 3.54'H Field A 692 cf Overall - 231 cf Embedded = 461 cf x 40.0% Voids
#2A	43.50'	231 cf	Cultec R-330XLHD x 4 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
			415 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Horiz. Pop-up emitters X 2.00 C= 0.600 Limited to weir flow at low heads

Primary Outflow Max=0.19 cfs @ 12.08 hrs HW=44.57' TW=0.00' (Dynamic Tailwater)
1=Pop-up emitters (Weir Controls 0.19 cfs @ 0.86 fps)

Summary for Pond 6P: (10) R-330 XLHD (No.2)

Inflow Area = 3,093 sf, 89.69% Impervious, Inflow Depth = 2.86" for 2-Year event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 737 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 43.69' @ 24.29 hrs Surf.Area= 449 sf Storage= 737 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1A	41.30'	405 cf	25.67'W x 17.50'L x 3.54'H Field A 1,591 cf Overall - 577 cf Embedded = 1,013 cf x 40.0% Voids
#2A	41.80'	577 cf	Cultec R-330XLHD x 10 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 5 rows
			983 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Vert. Pop-up emitters X 2.00 C= 0.600

Primary Outflow Max=0.00 cfs @ 0.00 hrs HW=41.30' TW=0.00' (Dynamic Tailwater)
1=Pop-up emitters (Controls 0.00 cfs)

Summary for Link 7L: POC A

Inflow Area = 14,125 sf, 62.49% Impervious, Inflow Depth = 1.62" for 2-Year event
 Inflow = 0.59 cfs @ 12.11 hrs, Volume= 1,906 cf
 Primary = 0.59 cfs @ 12.11 hrs, Volume= 1,906 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 2S: Proposed Building Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=4.06"
 Tc=5.00 min CN=98.0 Runoff=0.25 cfs 850 cf

Subcatchment 3S: Existing Dwelling & Flow Length=100' Runoff Area=8,523 sf 41.58% Impervious Runoff Depth=2.96"
 Slope=0.1500 1/ Tc=9.31 min CN=87.5 Runoff=0.60 cfs 2,103 cf

Subcatchment 4S: Portion of Driveway Runoff Area=3,093 sf 89.69% Impervious Runoff Depth=3.65"
 Tc=5.00 min CN=96.1 Runoff=0.30 cfs 992 cf

Pond 5P: (4) R-330 XLHD (No.1) Peak Elev=44.58' Storage=200 cf Inflow=0.25 cfs 850 cf
 Outflow=0.25 cfs 662 cf

Pond 6P: (10) R-330 XLHD (No.2) Peak Elev=44.53' Storage=926 cf Inflow=0.30 cfs 992 cf
 Outflow=0.00 cfs 70 cf

Link 7L: POC A Inflow=0.82 cfs 2,835 cf
 Primary=0.82 cfs 2,835 cf

Summary for Subcatchment 2S: Proposed Building

Runoff = 0.25 cfs @ 12.07 hrs, Volume= 850 cf, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 5-Year Rainfall=4.30"

Area (sf)	CN	Description
0	98.0	Paved parking, HSG D
2,509	98.0	Roofs, HSG D
0	80.0	>75% Grass cover, Good, HSG D
2,509	98.0	Weighted Average
2,509	100.00%	Impervious Area

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

Summary for Subcatchment 3S: Existing Dwelling & Remaining Driveway

Runoff = 0.60 cfs @ 12.13 hrs, Volume= 2,103 cf, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 5-Year Rainfall=4.30"

Area (sf)	CN	Description
2,344	98.0	Paved parking, HSG D
1,200	98.0	Roofs, HSG D
4,979	80.0	>75% Grass cover, Good, HSG D
8,523	87.5	Weighted Average
4,979	58.42%	Pervious Area
3,544	41.58%	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					Direct Entry, Sheet Flow,
4.31	100	0.1500	0.39		Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Summary for Subcatchment 4S: Portion of Driveway

Runoff = 0.30 cfs @ 12.07 hrs, Volume= 992 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 5-Year Rainfall=4.30"

21UC_Appendix_B&C_01

Area (sf)	CN	Description
2,774	98.0	Paved parking, HSG D
0	98.0	Roofs, HSG D
319	80.0	>75% Grass cover, Good, HSG D
3,093	96.1	Weighted Average
319	10.31%	Pervious Area
2,774	89.69%	Impervious Area

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

Summary for Pond 5P: (4) R-330 XLHD (No.1)

Inflow Area = 2,509 sf, 100.00% Impervious, Inflow Depth = 4.06" for 5-Year event
 Inflow = 0.25 cfs @ 12.07 hrs, Volume= 850 cf
 Outflow = 0.25 cfs @ 12.08 hrs, Volume= 662 cf, Atten= 1%, Lag= 0.6 min
 Primary = 0.25 cfs @ 12.08 hrs, Volume= 662 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.58' @ 12.08 hrs Surf.Area= 195 sf Storage= 200 cf

Plug-Flow detention time= 151.1 min calculated for 662 cf (78% of inflow)
 Center-of-Mass det. time= 70.0 min (819.7 - 749.7)

Volume #	Invert	Avail.Storage	Storage Description
#1A	43.00'	184 cf	11.17"W x 17.50'L x 3.54'H Field A 692 cf Overall - 231 cf Embedded = 461 cf x 40.0% Voids
#2A	43.50'	231 cf	Cultec R-330XLHD x 4 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
			415 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device #	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Horiz. Pop-up emitters X 2.00 C= 0.600 Limited to weir flow at low heads

Primary Outflow Max=0.25 cfs @ 12.08 hrs HW=44.58' TW=0.00' (Dynamic Tailwater)
1=Pop-up emitters (Weir Controls 0.25 cfs @ 0.95 fps)

Summary for Pond 6P: (10) R-330 XLHD (No.2)

Inflow Area = 3,093 sf, 89.69% Impervious, Inflow Depth = 3.85" for 5-Year event
 Inflow = 0.30 cfs @ 12.07 hrs, Volume= 992 cf
 Outflow = 0.00 cfs @ 19.40 hrs, Volume= 70 cf, Atten= 99%, Lag= 439.9 min
 Primary = 0.00 cfs @ 19.40 hrs, Volume= 70 cf

21UC_Appendix_B&C_01

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.53' @ 19.40 hrs Surf.Area= 449 sf Storage= 926 cf

Plug-Flow detention time= 880.2 min calculated for 70 cf (7% of inflow)
 Center-of-Mass det. time= 521.7 min (1,286.2 - 764.5)

Volume #	Invert	Avail.Storage	Storage Description
#1A	41.30'	405 cf	25.67"W x 17.50'L x 3.54'H Field A 1,591 cf Overall - 577 cf Embedded = 1,013 cf x 40.0% Voids
#2A	41.80'	577 cf	Cultec R-330XLHD x 10 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 5 rows
			983 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device #	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Vert. Pop-up emitters X 2.00 C= 0.600

Primary Outflow Max=0.00 cfs @ 19.40 hrs HW=44.53' TW=0.00' (Dynamic Tailwater)
1=Pop-up emitters (Orifice Controls 0.00 cfs @ 0.55 fps)

Summary for Link 7L: POC A

Inflow Area = 14,125 sf, 62.49% Impervious, Inflow Depth = 2.41" for 5-Year event
 Inflow = 0.82 cfs @ 12.11 hrs, Volume= 2,835 cf
 Primary = 0.82 cfs @ 12.11 hrs, Volume= 2,835 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 2S: Proposed Building

Runoff = 0.29 cfs @ 12.07 hrs, Volume= 996 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98.0	Paved parking, HSG D
2,509	98.0	Roofs, HSG D
0	80.0	>75% Grass cover, Good, HSG D
2,509	98.0	Weighted Average
2,509	100.00%	Impervious Area

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

Summary for Subcatchment 3S: Existing Dwelling & Remaining Driveway

Runoff = 0.73 cfs @ 12.13 hrs, Volume= 2,570 cf, Depth= 3.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
2,344	98.0	Paved parking, HSG D
1,200	98.0	Roofs, HSG D
4,979	80.0	>75% Grass cover, Good, HSG D
8,523	87.5	Weighted Average
4,979	58.42%	Pervious Area
3,544	41.58%	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00	100	0.1500	0.39		Direct Entry, Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Summary for Subcatchment 4S: Portion of Driveway

Runoff = 0.35 cfs @ 12.07 hrs, Volume= 1,171 cf, Depth= 4.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=5.00"

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 2S: Proposed Building Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=4.76"
 Tc=5.00 min CN=98.0 Runoff=0.29 cfs 996 cf

Subcatchment 3S: Existing Dwelling & Remaining Driveway Runoff Area=8,523 sf 41.58% Impervious Runoff Depth=3.62"
 Flow Length=100' Slope=0.1500 Tc=9.31 min CN=87.5 Runoff=0.73 cfs 2,570 cf

Subcatchment 4S: Portion of Driveway Runoff Area=3,093 sf 89.69% Impervious Runoff Depth=4.54"
 Tc=5.00 min CN=96.1 Runoff=0.35 cfs 1,171 cf

Pond 5P: (4) R-330 XLHD (No.1) Peak Elev=44.59' Storage=201 cf Inflow=0.29 cfs 996 cf
 Outflow=0.29 cfs 808 cf

Pond 6P: (10) R-330 XLHD (No.2) Peak Elev=44.55' Storage=931 cf Inflow=0.35 cfs 1,171 cf
 Outflow=0.02 cfs 250 cf

Link 7L: POC A Inflow=0.98 cfs 3,627 cf
 Primary=0.98 cfs 3,627 cf

Area (sf)	CN	Description
2,774	98.0	Paved parking, HSG D
0	98.0	Roofs, HSG D
319	80.0	>75% Grass cover, Good, HSG D
3,093	96.1	Weighted Average
319	10.31%	Pervious Area
2,774	89.69%	Impervious Area

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

Summary for Pond 5P: (4) R-330 XLHD (No.1)

Inflow Area = 2,509 sf, 100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
 Inflow = 0.29 cfs @ 12.07 hrs, Volume= 996 cf
 Outflow = 0.29 cfs @ 12.08 hrs, Volume= 808 cf, Atten= 1%, Lag= 0.5 min
 Primary = 0.29 cfs @ 12.08 hrs, Volume= 808 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.59' @ 12.08 hrs Surf.Area= 195 sf Storage= 201 cf

Plug-Flow detention time= 139.5 min calculated for 808 cf (81% of inflow)
 Center-of-Mass det. time= 65.0 min (812.1 - 747.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	43.00'	184 cf	11.17'W x 17.50'L x 3.54'H Field A 692 cf Overall - 231 cf Embedded = 461 cf x 40.0% Voids
#2A	43.50'	231 cf	Cultec R-330XLHD x 4 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		415 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Horiz. Pop-up emitters X 2.00 C= 0.600 Limited to weir flow at low heads

Primary Outflow Max=0.29 cfs @ 12.08 hrs HW=44.59' TW=0.00' (Dynamic Tailwater)
1=Pop-up emitters (Weir Controls 0.29 cfs @ 1.00 fps)

Summary for Pond 6P: (10) R-330 XLHD (No.2)

Inflow Area = 3,093 sf, 89.69% Impervious, Inflow Depth = 4.54" for 10-Year event
 Inflow = 0.35 cfs @ 12.07 hrs, Volume= 1,171 cf
 Outflow = 0.02 cfs @ 14.36 hrs, Volume= 250 cf, Atten= 95%, Lag= 137.6 min
 Primary = 0.02 cfs @ 14.36 hrs, Volume= 250 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.55' @ 14.36 hrs Surf.Area= 449 sf Storage= 931 cf
 Plug-Flow detention time= 527.7 min calculated for 250 cf (21% of inflow)
 Center-of-Mass det. time= 304.9 min (1,065.8 - 760.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	41.30'	405 cf	25.67'W x 17.50'L x 3.54'H Field A 1,591 cf Overall - 577 cf Embedded = 1,013 cf x 40.0% Voids
#2A	41.80'	577 cf	Cultec R-330XLHD x 10 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 5 rows
		983 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Vert. Pop-up emitters X 2.00 C= 0.600

Primary Outflow Max=0.02 cfs @ 14.36 hrs HW=44.55' TW=0.00' (Dynamic Tailwater)
1=Pop-up emitters (Orifice Controls 0.02 cfs @ 0.77 fps)

Summary for Link 7L: POC A

Inflow Area = 14,125 sf, 62.49% Impervious, Inflow Depth = 3.08" for 10-Year event
 Inflow = 0.98 cfs @ 12.11 hrs, Volume= 3,627 cf
 Primary = 0.98 cfs @ 12.11 hrs, Volume= 3,627 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 2S: Proposed Building Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=5.46"
 Tc=5.00 min CN=98.0 Runoff=0.33 cfs 1,142 cf

Subcatchment 3S: Existing Dwelling & Flow Length=100' Runoff Area=8,523 sf 41.58% Impervious Runoff Depth=4.28"
 Slope=0.1500 7' Tc=9.31 min CN=87.5 Runoff=0.86 cfs 3,043 cf

Subcatchment 4S: Portion of Driveway Runoff Area=3,093 sf 89.69% Impervious Runoff Depth=5.24"
 Tc=5.00 min CN=96.1 Runoff=0.41 cfs 1,351 cf

Pond 5P: (4) R-330 XLHD (No.1) Peak Elev=44.60' Storage=203 cf Inflow=0.33 cfs 1,142 cf
 Outflow=0.33 cfs 954 cf

Pond 6P: (10) R-330 XLHD (No.2) Peak Elev=44.58' Storage=936 cf Inflow=0.41 cfs 1,351 cf
 Outflow=0.04 cfs 429 cf

Link 7L: POC A Inflow=1.15 cfs 4,426 cf
 Primary=1.15 cfs 4,426 cf

Summary for Subcatchment 2S: Proposed Building

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 1,142 cf, Depth= 5.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=5.70"

Area (sf)	CN	Description
0	98.0	Paved parking, HSG D
2,509	98.0	Roofs, HSG D
0	80.0	>75% Grass cover, Good, HSG D
2,509	98.0	Weighted Average
2,509	100.00%	Impervious Area

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

Summary for Subcatchment 3S: Existing Dwelling & Remaining Driveway

Runoff = 0.86 cfs @ 12.13 hrs, Volume= 3,043 cf, Depth= 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=5.70"

Area (sf)	CN	Description
2,344	98.0	Paved parking, HSG D
1,200	98.0	Roofs, HSG D
4,979	80.0	>75% Grass cover, Good, HSG D
8,523	87.5	Weighted Average
4,979	58.42%	Pervious Area
3,544	41.58%	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					Direct Entry, Sheet Flow,
4.31	100	0.1500	0.39		Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Summary for Subcatchment 4S: Portion of Driveway

Runoff = 0.41 cfs @ 12.07 hrs, Volume= 1,351 cf, Depth= 5.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=5.70"

Area (sf)	CN	Description
2,774	98.0	Paved parking, HSG D
0	98.0	Roofs, HSG D
319	80.0	>75% Grass cover, Good, HSG D
3,093	96.1	Weighted Average
319		10.31% Pervious Area
2,774		89.69% Impervious Area

Tc (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00				Direct Entry,

Summary for Pond 5P: (4) R-330 XLHD (No.1)

Inflow Area = 2,509 sf, 100.00% Impervious, Inflow Depth = 5.46" for 25-Year event
 Inflow = 0.33 cfs @ 12.07 hrs, Volume= 1,142 cf
 Outflow = 0.33 cfs @ 12.08 hrs, Volume= 954 cf, Atten= 1%, Lag= 0.5 min
 Primary = 0.33 cfs @ 12.08 hrs, Volume= 954 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.60' @ 12.08 hrs Surf.Area= 195 sf Storage= 203 cf

Plug-Flow detention time= 129.9 min calculated for 954 cf (84% of inflow)
 Center-of-Mass det. time= 60.8 min (805.8 - 745.0)

Volume	Invert	Avail.Storage	Storage	Description
#1A	43.00'	184 cf	11.17'W x 17.50'L x 3.54'H Field A	692 cf Overall - 231 cf Embedded = 461 cf x 40.0% Voids
#2A	43.50'	231 cf	Cultec R-330XLHD x 4 Inside #1	Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
			415 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Horiz. Pop-up emitters X 2.00 C= 0.600 Limited to weir flow at low heads

Primary Outflow Max=0.33 cfs @ 12.08 hrs HW=44.60' TW=0.00' (Dynamic Tailwater)
 1-1=Pop-up emitters (Weir Controls 0.33 cfs @ 1.04 fps)

Summary for Pond 6P: (10) R-330 XLHD (No.2)

Inflow Area = 3,093 sf, 89.69% Impervious, Inflow Depth = 5.24" for 25-Year event
 Inflow = 0.41 cfs @ 12.07 hrs, Volume= 1,351 cf
 Outflow = 0.04 cfs @ 12.83 hrs, Volume= 429 cf, Atten= 90%, Lag= 45.7 min
 Primary = 0.04 cfs @ 12.83 hrs, Volume= 429 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.58' @ 12.83 hrs Surf.Area= 449 sf Storage= 936 cf
 Plug-Flow detention time= 390.9 min calculated for 429 cf (32% of inflow)
 Center-of-Mass det. time= 217.7 min (975.5 - 757.8)

Volume	Invert	Avail.Storage	Storage	Description
#1A	41.30'	405 cf	25.67'W x 17.50'L x 3.54'H Field A	1,591 cf Overall - 577 cf Embedded = 1,013 cf x 40.0% Voids
#2A	41.80'	577 cf	Cultec R-330XLHD x 10 Inside #1	Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 5 rows
			983 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Vert. Pop-up emitters X 2.00 C= 0.600

Primary Outflow Max=0.04 cfs @ 12.83 hrs HW=44.58' TW=0.00' (Dynamic Tailwater)
 1-1=Pop-up emitters (Orifice Controls 0.04 cfs @ 0.96 fps)

Summary for Link 7L: POC A

Inflow Area = 14,125 sf, 62.49% Impervious, Inflow Depth = 3.76" for 25-Year event
 Inflow = 1.15 cfs @ 12.11 hrs, Volume= 4,426 cf
 Primary = 1.15 cfs @ 12.11 hrs, Volume= 4,426 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-lnd method - Pond routing by Dyn-Stor-lnd method

Subcatchment 2S: Proposed Building Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=6.16"
Tc=5.00 min CN=98.0 Runoff=0.37 cfs 1,288 cf

Subcatchment 3S: Existing Dwelling & Remaining Driveway Runoff Area=8,523 sf 41.58% Impervious Runoff Depth=4.96"
Slope=0.15000 % Tc=9.31 min CN=87.5 Runoff=0.98 cfs 3,520 cf

Subcatchment 4S: Portion of Driveway Runoff Area=3,093 sf 89.69% Impervious Runoff Depth=5.94"
Tc=5.00 min CN=96.1 Runoff=0.46 cfs 1,530 cf

Pond 5P: (4) R-330 XLHD (No.1) Peak Elev=44.61' Storage=204 cf Inflow=0.37 cfs 1,288 cf
Outflow=0.37 cfs 1,100 cf

Pond 6P: (10) R-330 XLHD (No.2) Peak Elev=44.65' Storage=948 cf Inflow=0.46 cfs 1,530 cf
Outflow=0.13 cfs 609 cf

Link 7L: POC A Inflow=1.31 cfs 5,229 cf
Primary=1.31 cfs 5,229 cf

Summary for Subcatchment 2S: Proposed Building

Runoff = 0.37 cfs @ 12.07 hrs, Volume= 1,288 cf, Depth= 6.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.40"

Area (sf)	CN	Description
0	98.0	Paved parking, HSG D
2,509	98.0	Roofs, HSG D
0	80.0	>75% Grass cover, Good, HSG D
2,509	98.0	Weighted Average
2,509	100.00%	Impervious Area

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

Summary for Subcatchment 3S: Existing Dwelling & Remaining Driveway

Runoff = 0.98 cfs @ 12.13 hrs, Volume= 3,520 cf, Depth= 4.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.40"

Area (sf)	CN	Description
2,344	98.0	Paved parking, HSG D
1,200	98.0	Roofs, HSG D
4,979	80.0	>75% Grass cover, Good, HSG D
8,523	87.5	Weighted Average
4,979		58.42% Pervious Area
3,544		41.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					Direct Entry,
4.31	100	0.1500	0.39		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Summary for Subcatchment 4S: Portion of Driveway

Runoff = 0.46 cfs @ 12.07 hrs, Volume= 1,530 cf, Depth= 5.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.40"

Area (sf)	CN	Description
2,774	98.0	Paved parking, HSG D
0	98.0	Roofs, HSG D
319	80.0	>75% Grass cover, Good, HSG D
3,093	96.1	Weighted Average
319		10.31% Pervious Area
2,774		89.69% Impervious Area

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

Summary for Pond 5P: (4) R-330 XLHD (No.1)

Inflow Area = 2,509 sf, 100.00% Impervious, Inflow Depth = 6.16" for 50-Year event
 Inflow = 0.37 cfs @ 12.07 hrs, Volume= 1,288 cf
 Outflow = 0.37 cfs @ 12.08 hrs, Volume= 1,100 cf, Atten= 1%, Lag= 0.5 min
 Primary = 0.37 cfs @ 12.08 hrs, Volume= 1,100 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.61' @ 12.08 hrs Surf.Area= 195 sf Storage= 204 cf

Plug-Flow detention time= 121.5 min calculated for 1,100 cf (85% of inflow)
 Center-of-Mass det. time= 57.2 min (800.5 - 743.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	43.00'	184 cf	11.17'W x 17.50'L x 3.54'H Field A 692 cf Overall - 231 cf Embedded = 461 cf x 40.0% Voids
#2A	43.50'	231 cf	Cultec R-330XLHD x 4 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
			415 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Horiz. Pop-up emitters X 2.00 C= 0.600 Limited to weir flow at low heads

Primary Outflow Max=0.37 cfs @ 12.08 hrs HW=44.61' TW=0.00' (Dynamic Tailwater)
1=Pop-up emitters (Weir Controls 0.37 cfs @ 1.08 fps)

Summary for Pond 6P: (10) R-330 XLHD (No.2)

Inflow Area = 3,093 sf, 89.69% Impervious, Inflow Depth = 5.94" for 50-Year event
 Inflow = 0.46 cfs @ 12.07 hrs, Volume= 1,530 cf
 Outflow = 0.13 cfs @ 12.39 hrs, Volume= 609 cf, Atten= 72%, Lag= 19.3 min
 Primary = 0.13 cfs @ 12.39 hrs, Volume= 609 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.65' @ 12.39 hrs Surf.Area= 449 sf Storage= 948 cf
 Plug-Flow detention time= 321.4 min calculated for 609 cf (40% of inflow)
 Center-of-Mass det. time= 172.6 min (927.9 - 755.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	41.30'	405 cf	25.67'W x 17.50'L x 3.54'H Field A 1,591 cf Overall - 577 cf Embedded = 1,013 cf x 40.0% Voids
#2A	41.80'	577 cf	Cultec R-330XLHD x 10 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 5 rows
			983 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Vert. Pop-up emitters X 2.00 C= 0.600

Primary Outflow Max=0.13 cfs @ 12.39 hrs HW=44.65' TW=0.00' (Dynamic Tailwater)
1=Pop-up emitters (Orifice Controls 0.13 cfs @ 1.31 fps)

Summary for Link 7L: POC A

Inflow Area = 14,125 sf, 62.49% Impervious, Inflow Depth = 4.44" for 50-Year event
 Inflow = 1.31 cfs @ 12.11 hrs, Volume= 5,229 cf
 Primary = 1.31 cfs @ 12.11 hrs, Volume= 5,229 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 2S: Proposed Building Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=6.96"
Tc=5.00 min CN=98.0 Runoff=0.42 cfs 1,455 cf

Subcatchment 3S: Existing Dwelling & Flow Length=100' Runoff Area=8,523 sf 41.58% Impervious Runoff Depth=5.73"
Slope=0.1500 7' Tc=9.31 min CN=87.5 Runoff=1.13 cfs 4,070 cf

Subcatchment 4S: Portion of Driveway Runoff Area=3,093 sf 89.69% Impervious Runoff Depth=6.73"
Tc=5.00 min CN=96.1 Runoff=0.52 cfs 1,736 cf

Pond 5P: (4) R-330 XLHD (No.1) Peak Elev=44.62' Storage=205 cf Inflow=0.42 cfs 1,455 cf
Outflow=0.42 cfs 1,267 cf

Pond 6P: (10) R-330 XLHD (No.2) Peak Elev=44.71' Storage=958 cf Inflow=0.52 cfs 1,736 cf
Outflow=0.23 cfs 814 cf

Link 7L: POC A Inflow=1.50 cfs 6,152 cf
Primary=1.50 cfs 6,152 cf

Summary for Subcatchment 2S: Proposed Building

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 1,455 cf, Depth= 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.20"

Area (sf)	CN	Description
0	98.0	Paved parking, HSG D
2,509	98.0	Roofs, HSG D
0	80.0	>75% Grass cover, Good, HSG D
2,509	98.0	Weighted Average
2,509	100.00%	Impervious Area

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

Summary for Subcatchment 3S: Existing Dwelling & Remaining Driveway

Runoff = 1.13 cfs @ 12.13 hrs, Volume= 4,070 cf, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.20"

Area (sf)	CN	Description
2,344	98.0	Paved parking, HSG D
1,200	98.0	Roofs, HSG D
4,979	80.0	>75% Grass cover, Good, HSG D
8,523	87.5	Weighted Average
4,979	58.42%	Pervious Area
3,544	41.58%	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.00					Direct Entry, Sheet Flow,
4.31	100	0.1500	0.39		Grass: Short n= 0.150 P2= 3.30"
9.31	100	Total			

Summary for Subcatchment 4S: Portion of Driveway

Runoff = 0.52 cfs @ 12.07 hrs, Volume= 1,736 cf, Depth= 6.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.20"

Area (sf)	CN	Description
2,774	98.0	Paved parking, HSG D
0	98.0	Roofs, HSG D
319	80.0	>75% Grass cover, Good, HSG D
3,093	96.1	Weighted Average
319		10.31% Pervious Area
2,774		89.69% Impervious Area

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

Summary for Pond 5P: (4) R-330 XLHD (No.1)

Inflow Area = 2,509 sf, 100.00% Impervious, Inflow Depth = 6.96" for 100-Year event
 Inflow = 0.42 cfs @ 12.07 hrs, Volume= 1,455 cf
 Outflow = 0.42 cfs @ 12.08 hrs, Volume= 1,267 cf, Atten= 1%, Lag= 0.5 min
 Primary = 0.42 cfs @ 12.08 hrs, Volume= 1,267 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.62' @ 12.08 hrs Surf.Area= 195 sf Storage= 205 cf

Plug-Flow detention time= 113.3 min calculated for 1,267 cf (87% of inflow)
 Center-of-Mass det. time= 53.6 min (795.3 - 741.6)

Volume	Invert	Avail.Storage	Storage	Description
#1A	43.00'	184 cf	11.17'W x 17.50'L x 3.54'H Field A	
		692 cf Overall - 231 cf Embedded = 461 cf	x 40.0% Voids	
#2A	43.50'	231 cf	Cultec R-330XLHD x 4 Inside #1	
		Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf		
		Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap		
		Row Length Adjustment= +1.50' x 7.45 sf x 2 rows		
		415 cf	Total Available Storage	

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Horiz. Pop-up emitters X 2.00 C= 0.600 Limited to weir flow at low heads

Primary Outflow Max=0.42 cfs @ 12.08 hrs HW=44.62' TW=0.00' (Dynamic Tailwater)
 1=Pop-up emitters (Weir Controls 0.42 cfs @ 1.13 fps)

Summary for Pond 6P: (10) R-330 XLHD (No.2)

Inflow Area = 3,093 sf, 89.69% Impervious, Inflow Depth = 6.73" for 100-Year event
 Inflow = 0.52 cfs @ 12.07 hrs, Volume= 1,736 cf
 Outflow = 0.23 cfs @ 12.22 hrs, Volume= 814 cf, Atten= 55%, Lag= 9.0 min
 Primary = 0.23 cfs @ 12.22 hrs, Volume= 814 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.71' @ 12.22 hrs Surf.Area= 449 sf Storage= 958 cf

Plug-Flow detention time= 276.7 min calculated for 814 cf (47% of inflow)
 Center-of-Mass det. time= 144.0 min (897.0 - 753.0)

Volume	Invert	Avail.Storage	Storage	Description
#1A	41.30'	405 cf	25.67'W x 17.50'L x 3.54'H Field A	
		1,591 cf Overall - 577 cf Embedded = 1,013 cf	x 40.0% Voids	
#2A	41.80'	577 cf	Cultec R-330XLHD x 10 Inside #1	
		Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf		
		Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap		
		Row Length Adjustment= +1.50' x 7.45 sf x 5 rows		
		983 cf	Total Available Storage	

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	6.0" Vert. Pop-up emitters X 2.00 C= 0.600

Primary Outflow Max=0.23 cfs @ 12.22 hrs HW=44.71' TW=0.00' (Dynamic Tailwater)
 1=Pop-up emitters (Orifice Controls 0.23 cfs @ 1.54 fps)

Summary for Link 7L: POC A

Inflow Area = 14,125 sf, 62.49% Impervious, Inflow Depth = 5.23" for 100-Year event
 Inflow = 1.50 cfs @ 12.11 hrs, Volume= 6,152 cf
 Primary = 1.50 cfs @ 12.11 hrs, Volume= 6,152 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Stage-Area-Storage for Pond 5P: (4) R-330 XLHD (No.1)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
43.00	0	45.60	334
43.05	4	45.65	340
43.10	8	45.70	345
43.15	12	45.75	351
43.20	16	45.80	356
43.25	20	45.85	360
43.30	23	45.90	365
43.35	27	45.95	369
43.40	31	46.00	373
43.45	35	46.05	377
43.50	39	46.10	381
43.55	47	46.15	385
43.60	54	46.20	389
43.65	62	46.25	393
43.70	69	46.30	397
43.75	77	46.35	400
43.80	84	46.40	404
43.85	92	46.45	408
43.90	99	46.50	412
43.95	107		
44.00	114		
44.05	122		
44.10	129		
44.15	137		
44.20	144		
44.25	152		
44.30	159		
44.35	166		
44.40	173		
44.45	181		
44.50	188		
44.55	195		
44.60	202		
44.65	210		
44.70	217		
44.75	224		
44.80	231		
44.85	238		
44.90	245		
44.95	252		
45.00	259		
45.05	266		
45.10	272		
45.15	279		
45.20	285		
45.25	292		
45.30	298		
45.35	305		
45.40	311		
45.45	317		
45.50	323		
45.55	329		

OUT

Stage-Area-Storage for Pond 6P: (10) R-330 XLHD (No.2)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
41.30	0	43.90	795
41.35	9	43.95	808
41.40	18	44.00	821
41.45	27	44.05	833
41.50	36	44.10	845
41.55	45	44.15	856
41.60	54	44.20	866
41.65	63	44.25	876
41.70	72	44.30	885
41.75	81	44.35	894
41.80	90	44.40	903
41.85	108	44.45	912
41.90	126	44.50	921 <i>OUT</i>
41.95	144	44.55	930
42.00	162	44.60	939
42.05	180	44.65	948
42.10	199	44.70	957
42.15	217	44.75	966
42.20	235	44.80	975
42.25	253	44.85	983
42.30	270	44.90	983
42.35	288	44.95	983
42.40	306	45.00	983
42.45	324		
42.50	342		
42.55	359		
42.60	377		
42.65	394		
42.70	411		
42.75	429		
42.80	446		
42.85	464		
42.90	481		
42.95	498		
43.00	515		
43.05	532		
43.10	549		
43.15	566		
43.20	583		
43.25	599		
43.30	615		
43.35	631		
43.40	647		
43.45	663		
43.50	679		
43.55	694		
43.60	709		
43.65	724		
43.70	739		
43.75	754		
43.80	768		
43.85	782		

Appendix “D”
Pipe Conveyance
Calculations

Project ID: 21UC_Appendix_D_Conveyance_&_Outlet_Protection_01.xlsx

Date: 9/27/2023

The following is a summary of the computations performed to design the proposed storm drainage system drain sizes. The proposed watershed flows were taken from the results of the HydroCAD storm drainage analysis performed on the site. Refer to Appendix "C" for HydroCAD model input data, computations, and results. Refer to Exhibit "B" for a depiction of the proposed on-site watershed areas. HydroCAD runoff computations are based on the 25-year design storm frequency event. Culvert conveyance computations are based on the Manning's Equation.

Watershed Analysis Results

Drainage Area	Area (S.F.)	Impervious Area (S.F.)	CN	25-Year Peak Flow Rate (cfs)
2S	2,509	2,509	98.0	0.33
3S	8,523	3,544	87.5	0.86
4S	3,093	2,774	96.1	0.41
5P	-	-	-	0.33
6P	-	-	-	0.04

Culvert Capacity Summary Table

Maximum pipe capacities were calculated using the Manning equation for full flow conditions. The proposed pipe information, 25-year peak design flows, and corresponding maximum capacities are summarized in the following table. Refer to the Development Plan for pipe and structure locations. All pipes have been sized to convey the flow rates for at least the 25-year design storm frequency event.

Pipe #	Diameter (inches)	Roughness (n)	Slope (%)	Contributing Watershed	25-Year Peak Design Flow (cfs)	Max Capacity (cfs)
1	6	0.011	2.0%	4S	0.41	0.94
2	6	0.011	2.0%	4S	0.41	0.94
3	6	0.011	2.0%	5P	0.33	0.94
4	6	0.011	2.0%	5P + 6P	0.37	0.94

Appendix “E”
DCIA Worksheet



Note to user: complete all cells of this color *only*

Part 1: General Information	
Project Name	Residential Development
Project Address	31 Maple Tree Avenue
Project Applicant	31 Maple Tree LLC
Date of Submittal	9/27/2023
Tax Account Number	000-6827

Part 2: Project Details	
1. What type of development is this? (choose from dropdown)	Redevelopment
2. What is the total area of the project site?	14,125 ft ²
3. What is the total area of land disturbance for this project?	14,125 ft ²
4. Does project site drain to High Quality Waters, a Direct Waterfront, or within 500 ft. of Tidal Wetlands? (Yes/No)	No
5. What is the <u>current DCIA</u> for the site?	5,478 ft ²
6. Will the proposed development increase DCIA (without consideration of proposed stormwater management)? (Yes/No)	Yes
7. What is the <u>proposed-development total impervious area</u> for the site?	8,827 ft ²



Part 3: Water Quality Target Total	
Does Standard 1 apply based on information above?	No, Skip to Part 4
Water Quality Volume (WQV)	N/A ft ³
Standard 1 requirement	N/A
Required treatment/retention volume	N/A ft ³
Provided treatment/retention volume for proposed development	ft ³

Part 4: Proposed DCIA Tracking	
Pre-development <u>total impervious area</u>	5,478 ft ²
<u>Current DCIA</u>	5,478 ft ²
<u>Proposed-development total impervious area</u>	8,827 ft ²
<u>Proposed-development DCIA</u> (after stormwater management)	3,544 ft ²
Net change in DCIA from <u>pre-development</u> to <u>proposed-development</u>	-1,934 ft ²

Part 5: Post-Development (As-Built Certified) DCIA Tracking	
<u>Post-development</u> (per as-built) total impervious area	ft ²
<u>Post-development</u> (per as-built) DCIA (after stormwater management)	ft ²
Net change in DCIA from <u>pre-development</u> to <u>post-development</u>	ft ²

Certification Statement

I hereby certify that the information contained in this worksheet is true and correct.

Engineer's Signature:  Date: 9/27/23 Engineer's Seal: 

Appendix “F”
Soil Results Forms

SOIL EVALUATION TEST RESULTS

Project Name: Residential Development Engineering Firm's Name: D'Andrea Surveying & Engineering, P.C.
 Project Address: 31 Maple Tree Avenue Engineer's Name: Leonard C. D'Andrea

Test Pit or Soil Boring #:	1	Ground Elevation:	44.6
Elevation		Depth Range in Inches	0
	Soil Texture (Percent Sand, Silt and Clay)		
	Topsoil		17
	Brown Sandy Loam		32
	Sandy Gravel w/ Cobbles		95

Saturated Hydraulic Conductivity Test Location #: _____

Ground Elevation: _____

Top Elevation of Proposed Infiltration System: _____

Bottom Elevation of Proposed Infiltration System: _____

Elevation of Test*: _____

Test Method (check one of the following acceptable methods**):

_____ Borchole infiltration test (NHDES, 2008)

_____ Guelph permeameter - ASTM D5126-90 Method

_____ Falling head permeameter - ASTM D5126-90 Method

_____ Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods

_____ Amoozegar or Amoozegar (constant head) permeameter - Amoozegar 1992

Attach field data forms for the respective infiltration test method. _____

Calculated Saturated Hydraulic Conductivity Rate: _____

Elevation	Depth in Inches
N/A	Mottling (Seasonally High Groundwater) N/A
N/A	Groundwater N/A
N/A	Ledgce N/A

* All test pits or soil borings shall be excavated to an elevation four feet below the proposed bottom elevation of the infiltration system.

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.

* All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.

TEST CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

Matthew M. Kivijarvi
 Name of Test Conductor

1/5/2023
 Date


 Signature of Test Conductor

Project Name: **Residential Development** Engineering Firm's Name: **D'Andrea Surveying & Engineering, P.C.**
 Project Address: **31 Maple Tree Avenue** Engineer's Name: **Leonard C. D'Andrea**

Test Pit or Soil Boring #:	2	Ground Elevation:	45.9	Depth Range in Inches
Elevation	45.9	Soil Texture (Percent Sand, Silt and Clay)		0
	45.0	Topsoil		11
	43.2	Dark Brown Sandy Loam		33
	40.9	Light Brown Silty Sand w/ Cobbles		60
	38.4	Tan Sandy Gravel		90

Saturated Hydraulic Conductivity Test Location #: _____

Ground Elevation: _____

Top Elevation of Proposed Infiltration System: _____

Bottom Elevation of Proposed Infiltration System: _____

Elevation of Test*: _____

Test Method (check one of the following acceptable methods**):
 Borehole infiltration test (NHDES, 2008) _____
 Guelph permeameter - ASTM D5126-90 Method _____
 Falling head permeameter - ASTM D5126-90 Method _____
 Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods _____
 Amoozegar or Amoozegar (constant head) permeameter - Amoozegar 1992 _____

Attach field data forms for the respective infiltration test method. _____

Calculated Saturated Hydraulic Conductivity Rate: _____

Elevation	Depth in Inches
N/A	Mottling (Seasonally High Groundwater) N/A
N/A	Groundwater N/A
N/A	Ledge N/A

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.

* All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.

TEST CERTIFICATION
 I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.


 Signature of Test Conductor

1/5/2023
 Date

Matthew M. Kivijary
 Name of Test Conductor

Project Name: Residential Development Engineering Firm's Name: D'Andrea Surveying & Engineering, P.C.
 Project Address: 31 Maple Tree Avenue Engineer's Name: Leonard C. D'Andrea

Test Pit or Soil Boring #:	4	Ground Elevation:	46.7
Elevation	46.7	Soil Texture (Percent Sand, Silt and Clay)	Depth Range in Inches
		Topsoil	0
	46.3	Light Brown Loam	5
	44.0	Sandy Gravel w/ Cobbles	32
	38.8		95

Saturated Hydraulic Conductivity Test Location #: _____

Ground Elevation: _____

Top Elevation of Proposed Infiltration System: _____

Bottom Elevation of Proposed Infiltration System: _____

Elevation of Test*: _____

Test Method (check one of the following acceptable methods**):
 Borchole infiltration test (NHDES, 2008)
 Guelph permeameter - ASTM D5126-90 Method
 Falling head permeameter - ASTM D5126-90 Method
 Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods
 Amoozegar or Amoozegar (constant head) permeameter - Amoozegar 1992

Attach field data forms for the respective infiltration test method. _____

Calculated Saturated Hydraulic Conductivity Rate: _____

Elevation		Depth in Inches
N/A	Mottling (Seasonally High Groundwater)	N/A
N/A	Groundwater	N/A
N/A	Ledge	N/A

* All test pits or soil borings shall be excavated to an elevation four feet below the proposed bottom elevation of the infiltration system.

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.

* All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

TEST CERTIFICATION

Matthew M. Kivijary
 Name of Test Conductor


 Signature of Test Conductor

1/5/2023
 Date

January 5, 2024

VIA E-MAIL AND HAND DELIVERY

Ms. Lindsey Cohen
Associate Planner, Land Use Bureau
888 Washington Boulevard
Stamford, Connecticut 06901
LCohen@StamfordCT.gov

**Re: 31 Maple Tree, LLC
31 Maple Tree Avenue, Stamford, CT (Parcel ID No. 000-6827)
Special Permit, Site Plan, Addition to Critical Resources Inventory, and Text Change
Applications**

Dear Ms. Cohen:

Our firm represents 31 Maple Tree, LLC (the “Applicant”), the owner of the Property located at 31 Maple Tree Avenue, Stamford, CT (the “Property”). The Property is 0.32± acres and located in the Multiple Family Medium Density Design (R-5) Zone. The Property is improved with a historic home (the “Historic Home”) originally built between 1921 and 1922. The Applicant seeks Zoning Board approval for a suite of applications that, collectively, will facilitate the preservation of the Historic Home located on the Property, and permit the construction of an addition to the rear of the Historic Home containing four (4) townhomes.

Enclosed please find additional copies of the following application materials to provide to the Planning Board:

- Eight (8) copies of the following application forms and associated schedules:
 - Application for Site Plan Approval;
 - Application for Special Permit Approval;
 - Application for Addition to Cultural Resources Inventory;
 - Schedule A – List of Plans;
 - Schedule B – Project Narrative and Statement of Findings;
 - Schedule C – Legal Description of Property;
 - Schedule D – Zoning Data Chart; and
 - Schedule E – Existing Zoning Map and Aerial Photo of Property;

- Eight (8) copies of the document entitled “Historic Assessment of 31 Maple Tree Avenue, Stamford, CT,” prepared by Daryn Reyman-Lock, PhD;
- Eight (8) copies of a Text Change Application, including the following schedules:
 - Schedule A – Proposed Regulation Amendment; and
 - Schedule B – Qualitative Analysis;
- Eight (8) reduced-size copies of the following plans:
 - Architectural Plans prepared by AWA Design Group, P.C., dated March 1, 2022, revised to December 6, 2023, with the plan titles listed on Schedule A;
 - Civil Plans prepared by D’Andrea Surveying & Engineering, P.C., with the plan titles and dates listed on Schedule A;
 - Zoning Location Survey prepared by D’Andrea Surveying & Engineering, P.C., dated February 1, 2023, revised to January 2, 2024, entitled “Zoning Location Survey;”
 - Vehicle Turning Plan prepared by D’Andrea Surveying & Engineering, P.C., dated September 27, 2023, entitled “Turning Movement Plan;” and
 - Landscape Plan prepared by Environmental Land Solutions, LLC, dated February 9, 2023, revised to November 21, 2023, entitled “Landscape Plan;”

I have also submitted an electronic copy of the following:

- The Drainage Study prepared by D’Andrea Surveying & Engineering, P.C., dated January 26, 2023, revised to September 27, 2023, entitled “Drainage Summary Report ‘Lite.’”¹

We look forward to advice as to when the Planning Board will consider this proposal. At that time, I kindly ask that members of our development team and I be given an opportunity to briefly describe the proposal. Please contact me should you have any questions. As always, thank you for your time and attention regarding this matter.

Sincerely,

Jason A. Klein

Jason A. Klein

Enclosures.

¹The first submission of the Stamford Sustainability Scorecard will follow under separate cover.