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

October 31, 2023

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

RE: **Application 223-39 -KCI Summer, LLC, 1911 Summer Street, Stamford, CT - Text Change –** Applicant is proposing amendments to Section 7.3 of the Zoning Regulations to facilitate the construction of residential uses located on corner lots and to grant the Zoning Board the authority to reduce setbacks applicable to on-site parking areas.

RE: **Application 223-40 -KCI Summer, LLC, 1911 Summer Street, 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 Critical Reconstruction of a historic house and constructing 4 new townhouses attached to the rear along with landscaping an on-site 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 ***December 5, 2023.***

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

Sincerely,

Vineeta Mathur
Principal Planner

CARMODY
TORRANCE | SANDAK | HENNESSEY LLP

Jason A. Klein
Partner
Phone: 203.252.2669
Fax: 203.325.8608
JKlein@carmodylaw.com

1055 Washington Blvd.
4th Floor
Stamford, CT 06901

October 6, 2023

VIA E-MAIL + HAND DELIVERY

Ms. Vineeta Mathur
Principal Planner
City of Stamford
Land Use Department
888 Washington Boulevard
Stamford, Connecticut 06901

Re: KCI Summer, LLC (the "Applicant")
1911 Summer Street, Stamford, CT (Parcel ID No. 001-5245) (the "Property")
Special Permit, Site Plan, Addition to Critical Resources Inventory and Text Change Applications

Dear Ms. Mathur:

Our firm represents KCI Summer, LLC (the "Applicant"), the owner of the property located at 1911 Summer Street, Stamford, CT (the "Property"). The Property is 0.16± acres and is partially located in both the C-L and C-B Zones. The Property is improved with a historic building (the "Historic Building") originally built in 1914. The Applicant seeks Zoning Board approval for a suite of applications that, collectively, will facilitate the preservation of the Historic Building located on the Property, and permit the construction of an addition to the rear (east) of the Historic Building containing 4 apartment homes.

In connection with the application, please find enclosed the following materials:

- 1 firm check in the amount of $460.00, representing the Special Permit and Site Plan Application fees;
- 1 firm check in the amount of $1,060.00, representing the Text Change Application Fee;
- 1 firm check int eh amount of $1,000.00, representing the Public Hearing Fee;
- 1 firm check in the amount of $65.00, representing the recording fee for the Stamford Land Records;
- 1 Letter of Authority from the Applicant, authorizing the filing of the enclosed application materials
- 21 copies of Special Permit, Site Plan and Addition to Critical Resources Inventory Applications, including the following schedules:
  - Schedule A – 1911 Summer Street Property Description;
  - Schedule B – Project Narrative & Statement of Findings;
  - Schedule C – List of Plans; and
  - Schedule D – Zoning Map
- 21 copies of a Text Change Application, including the following schedules:
  - Schedule A – Proposed Regulation Amendment; and

  - Schedule B – Qualitative Analysis;
- 13 full-size and 8 reduced-size sets of Architectural Plans prepared by Elena Kalman, Architect, titled:
  - "Cover, Code and Notes, A-00," dated February 10, 2023;
  - "Site Plan, A-01," dated September 12, 2023, revised to September 12, 2023;
  - "First Floor Plan, A-101," dated February 10, 2023;
  - "Second Floor Plan, A-102," dated February 10, 2023;
  - Third Floor Plan, A-103," dated February 10, 2023;
  - "Fourth Floor Plan, A-104," dated February 10, 2023;
  - "Roof Plan, A-105," dated February 10, 2023;
  - "Summer Street Façade (Western) and Eastern Façade," A-201, dated February 10, 2023;
  - "Fifth Street Façade (Northern,) A-202," dated February 10, 2023;
  - "Southern Façade, A-203," dated February 10, 2023; and
  - "Building Sections, A-204," dated February 10, 2023;
- 13 full-size and 8 reduced-size copies of a Landscaping Plan prepared by Environmental Land Services, dated September 29, 2023, titled "Landscape Plan, LP.1;
- 13 full-size and 8 reduced-size copies of a survey depicting existing site conditions, prepared by Ahneman Kirby, dated August 18, 2021, titled "Topographic Survey, TP-1;"
- 13 full-size and 8 reduced-size sets of plans prepared by Ahneman Kirby, titled:
  - "Proposed Site Plan, SP-," revised to September 21, 2023;
  - "Proposed Site Details, SP-2;"
- 21 copies of an analysis regarding the historic significance of the building located on the Property, prepared by Nils Kerschus, dated October 2021;
- 21 copies of a Memorandum prepared by Kimberly Horn, dated July 26, 2023, titled "Traffic and Parking Memorandum, 1911 Summer Street Redevelopment, Stamford, Connecticut,"
- 21 copies of a Stormwater Management Report prepared by Ahneman Kirby, LLC dated July 24, 2023, titled "Stormwater Management Report;" and
- 21 copies of an Operations and Maintenance Plan prepared by Ahneman Kirby, LLC dated July 24, 2023.
- 21 copies of a Zoning Data Chart.

As always, thank you for your time and attention regarding this matter. We look forward to advice as to when the Zoning Board will hold a public hearing on thee enclosed applications.

Sincerely,

Jason A. Klein

Jason A. Klein

Enclosures.

City of Stamford
Zoning Board · Land Use Bureau
Government Center · 888 Washington Boulevard · Stamford, CT 06904-2152
Phone: 203.977.4719 · Fax: 203.977.4100

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): KCI Summer LLC

APPLICANT ADDRESS: c/o Agent: Jason Klein, Carmody Law, 1055 Washington Blvd, Stamford, CT 06901

APPLICANT PHONE c/o Agent: 203-252-2669

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

LOCATION OF PROPERTY IN STAMFORD OWNED BY APPLICANT (S): 1911 Summer Street

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 27 DAY OF September 20 23

SIGNED: [signature]

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 September 27, 20 23
COUNTY OF FAIRFIELD

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

Daniel Chapple
~~Notary Public~~ - Commissioner of the Superior Court Daniel Chapple

FOR OFFICE USE ONLY

APPL. #: 223-39 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) in order to facilitate the provision of on-site parking. All parking spaces or areas encroaching within the setbacks specified in Table 12.5 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.]*

7.3.C.4. Development Standards

Historic Structures or *Sites* or lots where *Historic Structures* or *Sites* are located must meet the requirements for the underlying Zoning District. The Zoning Board may modify the development standards as follows:

a. **Density (no changes proposed)**

b. Setbacks

1) Rear and Side Yard setbacks may be reduced by up to fifty percent (50%) of the required setbacks, but to no less than the Light and Air requirement, as set forth in Subsection 7.3.C.4.e below. Front yard setbacks may be reduced by up to the setback of existing adjacent *Historic Buildings*. [*A Corner Lot* where *Historic Structures or Sites are located and utilized for residential purposes shall comply with the Front Yard setback standard on all Streets, but may reduce the setback on one (1) frontage to no less than 5' in a commercial district, or no less than 10' in a multifamily residential district, and shall comply with the Side Yard setback standard (as may be modified by this subsection) for all other yards. There shall be no Rear Yard requirement.]*

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. 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 by Table 12.5 will be required to be treated with pervious pavers.

   It should also be noted that many historic buildings, including the structure located at 1911 Summer Street (the "Property") were built prior to the widespread use of automobiles as a means of transportation. As such, these sites are not well suited to meet the layered parking standards found in many zoning regulations.

b. *Grant the Zoning Board the authority to reduce setbacks for corner lots for residential 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. This flexibility avoids requiring a property owner to make a choice between preserving a historic structure and building additional, necessary site improvements.

   Corner lots present a challenge from a development perspective in that they must comply with 2 Front Yard Setbacks, whereas most properties only have 1 Front Yard Setback to maintain. Multiple Front Yard Setbacks limit the amount of buildable area

on a corner lot. This buildable area is reduced even further when a property owner intends to preserve and maintain a historic building or structure. The proposed Text Amendment recognizes this unique set of circumstances, and allows the Zoning Board to modify setback standards for historic preservation developments that will result in the construction of residential uses. The Text Amendment also clarifies that residential developments including a historic preservation component will maintain a Side Yard Setback on any yard that is not a street frontage.

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 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.

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[1] Master Plan, pg. 133.

[2] Master Plan, pg. 134.

Schools and Community Facilities

The proposed changes should have a positive impact on community facilities and schools in particular. 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 and every 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

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.

City of Stamford
Zoning Board · Land Use Bureau
Government Center · 888 Washington Boulevard · Stamford, CT 06904-2152
Phone: 203.977.4719 · Fax: 203.977.4100

APPLICATION FOR SPECIAL PERMIT

Complete, notorize, 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 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): KCI Summer LLC

APPLICANT ADDRESS: c/o Agent: Jason Klein, Carmody Law, 1055 Washington Blvd, Stamford, CT 06901

APPLICANT PHONE #: c/o Agent: 203-252-2669

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

LOCATION OF PROPERTY IN STAMFORD OWNED BY APPLICANT (S): 1911 Summer Street

ADDRESS OF SUBJECT PROPERTY: 1911 Summer Street, Stamford, CT

PRESENT ZONING DISTRICT: C-L and C-B Zones

TITLE OF SITE PLANS & ARCHITECTURAL PLANS: See enclosed List of Plans

REQUESTED SPECIAL PERMIT: (Attach written statement describing request)

See enclosed Project Narrative and Statement of Findings

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

See enclosed Property Description

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

NAME & ADDRESS	LOCATION
KCI Summer LLC 1911 Summer Street Stamford, CT	1911 Summer Street, Stamford, CT

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? No (If yes, then complete the Stamford Sustainability Scorecard per Section 15.F).

City of Stamford
Zoning Board · Land Use Bureau
Government Center · 888 Washington Boulevard · Stamford, CT 06904-2152
Phone: 203.977.4719 · Fax: 203.977.4100

DATED AT STAMFORD, CONNECTICUT, THIS 27 DAY OF September 20 23

SIGNED: _____

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 September 27, 20 23
COUNTY OF FAIRFIELD

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

Daniel Chapple
~~Notary Public~~ Commissioner of the Superior Court Daniel Chapple

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FOR OFFICE USE ONLY

APPL. #: 223-40 Received in the office of the Zoning Board: *Date:* _____

By: _____

Revised 09/02/2020

City of Stamford
Zoning Board · Land Use Bureau
Government Center · 888 Washington Boulevard · Stamford, CT 06904-2152
Phone: 203.977.4719 · Fax: 203.977.4100

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

Complete, notorize, 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 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 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): KCI Summer LLC

APPLICANT ADDRESS: c/o Agent: Jason Klein, Carmody Law, 1055 Washington Blvd, Stamford, CT 06901

APPLICANT PHONE #: c/o Agent: 203-252-2669

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

LOCATION OF PROPERTY IN STAMFORD OWNED BY APPLICANT (S): 1911 Summer Street

ADDRESS OF SUBJECT PROPERTY: 1911 Summer Street, Stamford, CT

PRESENT ZONING DISTRICT: C-L and C-B Zones

TITLE OF SITE PLANS & ARCHITECTURAL PLANS: See enclosed List of Plans

REQUESTED USE: See enclosed Project Narrative and Statement of Findings

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

See enclosed Property Description

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

NAME & ADDRESS	**LOCATION**
KCI Summer LLC 1911 Summer Street, Stamford, CT	1911 Summer Street, Stamford, CT

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? No *(If yes, then complete the Stamford Sustainability Scorecard per Section 15.F).*

City of Stamford
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Phone: 203.977.4719 · Fax: 203.977.4100

DATED AT STAMFORD, CONNECTICUT, THIS 27 DAY OF September 20 23

SIGNED: [signature]

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 September 27, 20 23
COUNTY OF FAIRFIELD

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

Daniel Chapple
~~Notary Public~~ - Commissioner of the Superior Court Daniel Chapple

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FOR OFFICE USE ONLY

APPL. #: 223-40 Received in the office of the Zoning Board: *Date:* _____

By: _____

Revised 9/02/20

City of Stamford
Zoning Board · Land Use Bureau
Government Center · 888 Washington Boulevard · Stamford, CT 06904-2152
Phone: 203.977.4719 Email: stamfordlanduse@stamfordct.gov

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

Complete, notorize, 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).

[X] 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): KCI Summer LLC

APPLICANT ADDRESS: c/o Agent: Jason Klein, Carmody Law, 1055 Washington Boulevard, Stamford, CT 06901

APPLICANT PHONE #: c/o Agent: 203-252-2669 APPLICANT EMAIL: c/o Agent: JKlein@CarmodyLaw.com

ADDRESS OF SUBJECT PROPERTY(S): 1911 Summer Street, Stamford, CT

PRESENT ZONING DISTRICT: C-L and C-B Zones

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): 1914

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 enclosed Property Description

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.

[x] B. PROPERTY IS ASSOCIATED WITH THE LIVES OF PERSONS SIGNIFICANT IN STAMFORD'S PAST.

[x] 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 and Statement of Findings

City of Stamford
Zoning Board · Land Use Bureau
Government Center · 888 Washington Boulevard · Stamford, CT 06904-2152
Phone: 203.977.4719 Email: stamfordlanduse@stamfordct.gov

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

KCI Summer LLC
1911 Summer
Street
Stamford, CT

ADDRESS OF PROPERTIES IN CRI REQUEST

1911 Summer Street, Stamford, CT

DATED AT STAMFORD, CONNECTICUT, THIS 27 DAY OF September 20 23

SIGNED: _____

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 September 27, 20 23
COUNTY OF FAIRFIELD

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

Daniel Chapple
~~Notary Public~~ - Commissioner of the Superior Court Daniel Chapple

FOR OFFICE USE ONLY

APPL. #: CRI 223-40 Received in the office of the Zoning Board: *Date:* _____

Referred to Historic Preservation Advisory Commission *Date:* _____

By: _____

☐ Fee collected for CRI listing in conjunction with Section 7.3.C bonuses

☐ No Fee required for CRI listing only

03/03/21

Schedule A - 1911 Summer Street Property Description

All that certain piece, parcel, or tract of land situate in the City of Stamford, County of Fairfield, and State of Connecticut, with the buildings and improvements thereon, bounded and described as follows:

NORTHERLY: 138.9 feet, more or less, by Fifth Street;

EASTERLY: 50 feet by land now or formerly of the Union Baptist Church;

SOUTHERLY: 138.6 feet, more or less, by land now or formerly of Elizabeth L. Lindsay, et al; and

WESTERLY: 51.5 feet, more or less, by Summer Street as laid out by the City of Stamford.

Said premises are a portion of Lot No. 1 as shown and designated on a certain map entitled "Map of Building Property of Ayres Brothers and Holt in Stamford, Conn.", which map is on file in the Office of the Town and City Clerk of the City of Stamford as Map No. 64.

Schedule B – Project Narrative & Statement of Findings

Introduction

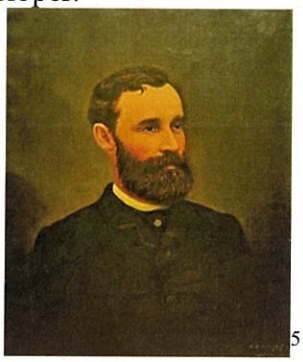
The City of Stamford (the "City") has seen growth envied by peer communities across the State of Connecticut. The City has endeavored to ensure growth is complimented by the preservation of historic buildings and features within the community. Towards that end, the City has recognized that "it is now more important than ever…to maintain the character of historic districts and structures and ensure that new development is in keeping with the City's historic character."[1] One well-tested method of facilitating the preservation of historic buildings is using zoning incentives to "encourage preservation and rehabilitation of significant historic structures through special use permits and density incentives."[2]

The City is also invested in building a safe and diverse housing stock. A diversity of housing options ensures current and future residents from various backgrounds are able to make Stamford their home. In 2022, the City adopted a comprehensive a comprehensive Housing Affordability Plan (the "Affordability Plan"). In July 2023, Mayor Caroline Simmons issued an Executive Order addressing the housing crisis, which, among other things, calls for the "creation of more family size units (2 bedrooms and larger)" and a reduction of "barriers to developing a diverse typology of rental and homeownership units for families at all income levels."[3]

In 2021, KCI Summer Street, LLC (the "Applicant") purchased the Property located at 1911 Summer Street, Stamford, Connecticut (the "Property"), highlighted in the below aerial image.[4] The Property is located on the corners of Fifth Street and Summer Street.

[1] Stamford Master Plan 2015 – 2025 (the "Master Plan"), pg. 159.
[2] Master Plan, pg. 163.
[3] See Executive Order – Stamford Housing Affordability Initiative, pgs. 2 & 3.
[4] Aerial image obtained from Google Maps Services.

The Applicant was drawn to the Property by the historic nature of the existing structure, which was constructed in 1914 (the "Historic Structure"). The Historic Structure features a porch with Tuscan columns, several bays, hip roofs, dormers, and a decorative cornice under the roof. Despite its age, there have been minimal renovations to the Historic Structure, which maintains many original interior and exterior features. The Historic Structure was commissioned by Edward B. Hoit. Mr. Hoit was a pioneer in the City's business community, as the founder of the Grand Central Market and local real estate developer.

 [5]

Other improvements to the Property include a paved surface parking lot that takes up the remainder of the Fifth Street frontage. This paved parking lot detracts from the streetscape. Given the centralized location of the Property, the paved parking area provides an opportunity for infill development that is in keeping with the historic structure located on the Property, and that will help achieve the City's historic preservation and housing goals.

History

The Historic Structure was first built in 1914.[6] The Property has been utilized for both commercial (office) and residential purposes. As stated above, the Historic Structure was built by Mr. Hoit, a leader in the City's business community in the late 19th and early 20th centuries. Mr. Hoit was one of the partners in the Ayres Brothers & Hoit subdivision in 1890, which resulted in the creation of 96 residential lots between Summer Street and Bedford Street. The Property was one of the 96 lots created as part of this subdivision. Mr. Hoit was careful to make sure that that the Historic Structure was architecturally cohesive with the surrounding community.

Project Area and Development Site

In total, the Property is 7,038.7 sf. Approximately 5,164.6 sf of the Property is located in the C-L Zone, and the remaining 1,874.1 sf is located in the C-B Zone. The Property is a corner lot, fronting on both Summer Street and Fifth Street. The Property is surrounded by residential and commercial uses, including a Webster Bank branch at 1959 Summer Street, the Greenbriar Condominium (27 units) at 1900 Summer Street, and Brighton Court Condominium (37 units) at 1864 Summer Street. The Property is also within walking distance to the Ridgeway Shopping Center, Scalzi Park, the businesses and restaurants on both Summer Street and Bedford Street, and

[5] A portrait of Mr. Hoit obtained from the Stamford Historical Society.

[6] A copy of a Field Card obtained from the Stamford Tax Assessor,

Downtown Stamford. The Property is designated as Category 4 (Residential – Medium Density Multifamily).

Description of Proposed Development

The Applicant proposes to preserve and maintain the Historic Structure located on the Property for residential use and construct a 4-story addition over the existing parking lot containing 4 townhome style apartments. Each home will contain 3 bedrooms. The proposed addition will feature bays like those found on the Historic Structure. There will be a continuous decorative trim band running along the entire façade of the proposed addition. This band will line up with the decorative cornice on the Historic Structure. The windows will be wood with vinyl exterior double hung type. The proportions and character of these windows will be like the existing windows of the Historic Structure. The Proposed addition will also have a stone base matching the stone base at the existing house, cementations siding (Hardie Plank) which is similar in appearance to cedar siding, and architectural grade composite roofing with shadow lines. Enhanced site landscaping, storm water systems and onsite parking are also proposed. The proposal is depicted in the below rendering.

Approval of the proposal will ensure that the Historic Structure remains a part of the streetscape it has anchored for over a 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.

Approval of the project will also result in the preservation of 1 apartment home and the construction of 4 apartment homes in the midst of a housing crisis impacting City residents from

all walks of life. The Applicant intends to market all 5 apartment homes for rent. These apartments will add to the diversity of housing choices available to current and future City residents and present a unique living opportunity for those looking for a "missing middle" housing opportunity in between a single family home and a studio or 1 bedroom apartment in the heart of Downtown Stamford. Residents who will one day call the Property home will also likely support local businesses conveniently located within walking distance of the Property. It is noteworthy that many desirable amenities are within walking distance of the Property, including the Stop and Shop and LA Fitness at the Ridgeway Shopping Center, Scalzi Park and the several businesses and restaurants along Summer Street, Bedford Street, and those within the Downtown. This centralized location will likely encourage pedestrian, rather than vehicular travel to and from the Property. 6 parking spaces are also proposed in accordance with Section 7.3 of the Zoning Regulations/ According to the enclosed Traffic Analysis prepared by Kimley-Horn (the "Traffic Analysis"), a maximum of 5 parking spaces are required to support the proposed multifamily community.[7]

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 amendments to Section 7.3 of the Zoning Regulations. The proposed amendments will facilitate the construction of residential uses located on corner lots, and to 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.

(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.d of the Zoning Regulations to permit Building Coverage of 3,849 sf in lieu of 3,331.94 sf.
ii. Special Permit Approval pursuant to Sec. 7.3.C.3.a. of the Zoning Regulations to permit 1 parking space per proposed dwelling unit.
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 (Minimum Distances of Parking Areas from Lot Lines and Buildings) of the Zoning Regulations.

[7] Pursuant to Section 7.3 of the Zoning Regulations, no more than 1 parking space is required for each proposed apartment home.

iv. Special Permit Approval pursuant to Sec. 7.3.C.4.b (as proposed in the Text Amendment Application) to permit the proposed addition to be located 5' from the Front Lot Line located along Fifth Street.
v. Special Permit Approval pursuant to Sec. 7.3.C.4.b and 7.3.C.3.c (as proposed in the Text Amendment Application) to permit a Side Yard Setback from the southerly lot line of 10' in lieu of 15' in the C-L Zone (note 6' Side Yard required in the C-L Zone).
vi. 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 20'.

(5) Administrative Approval from the Zoning Board pursuant to Sec. 12.K.5 to maintain the existing 5' wide sidewalk and 2.6' planted buffer located along the Fifth Street Frontage of the Property.

(6) Administrative Approval from the Zoning Board pursuant to Sec. 12,J,4,a(5) and 12.K.5. to maintain a 5.5' sidewalk along the Summer Street Frontage of the Property, and the locate all required street trees along said frontage along the easterly side of the proposed sidewalk.

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 5 parking spaces for the 5 apartment homes proposed. A total of 6 parking spaces are provided on the Property, 1 more than required by the Zoning Regulations. 4 parking spaces will be located within enclosed garages below the proposed addition. 2 additional parking spaces will be located to the south of the proposed addition. As stated in the enclosed Traffic Analysis a maximum of 5 parking spaces are required to support the proposed multifamily community.

(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 the Property will be provided along Fifth Street 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.

As stated in the enclosed Traffic Analysis, the proposed multifamily use of the Property will generate fewer trips than office uses that previously occupied the Property, and could occupy the Property in the future.

The Property is located in walking distance to several desirable amenities, including the Stop and Shop and LA Fitness located at the Ridgeway Shopping Center. This convenient location will allow future residents of the Property to walk, rather than drive, to shop for groceries and other daily necessities. The Property is also within walking distance of the myriad of businesses and restaurants along Bedford Street, Summer Street and within the Downtown. These nearby amenities and destinations will encourage pedestrian travel, rather than vehicular travel, to and from the Property.

No bike parking spaces are required by the Zoning Regulations. However, future residents of the new units will have the ability to park bikes within the proposed parking level of each dwelling unit. A bike rack will also be provided to accommodate residents of the Historic Structure, who may also store bikes within said structure.

The surrounding streets can adequately accommodate the traffic associated with the proposal. For a more complete discussion of the traffic impact please see the enclosed Traffic Analysis.

(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.

903+/- sf of at grade open space is proposed. In addition, roof terraces (approx.. 333 sf) will be located above the 4 apartment homes in the proposed addition. Street trees and other pedestrian level improvements are in compliance with the applicable provisions of the Zoning Regulations, and are appropriate for the general character of the surrounding neighborhood.

(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 Ahneman Kirby 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 1914.

(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.

The proposed addition is designed to be cohesive with and respectful of the existing Historic Structure to be preserved and maintained. The addition will feature a blend of high-quality materials, including facing stone, Hardie plank siding, Azak trim, double hung wood windows with vinyl exterior, architectural grade roofing shingles. As depicted on the enclosed architectural plans, the proposed addition will include points of interest such as bay windows, pitched roofs and a stone base along the Fifth Street frontage 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 Structure will remain in its current location, anchoring the corner of Summer Street and Fifth Street. The Applicant proposes maintaining robust landscaping throughout the Property.

(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.

5 apartment homes are proposed for the Property, approximately 55% of the residential density permitted under the Zoning Regulations.[8] The proposed addition complies with the underlying Building Height standards of the C-L and C-B Zones. Proposed setbacks will not adversely impact neighboring uses and facilitate the preservation of the Historic Structure and the construction of an addition will enhance the Fifth Street streetscape, especially when compared to the existing, underused paved parking area.

[8] A maximum of 9 units are permitted under the Zoning Regulations.

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 to and preservation of the Historic Building 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 located in walking distance to several desirable amenities, including Sclazi Park and the Stop and Shop and LA Fitness located at the Ridgeway Shopping Center. This convenient location will allow future residents of the Property to walk, rather than drive, to shop for groceries and other daily necessities. The Property is also within walking distance to the myriad of businesses and restaurants along Bedford Street, Summer Street and within the Downtown. As such, it is anticipated that a substantial number of future residents will utilize alternative modes of transportation.

No bike parking spaces are required by the Zoning Regulations. However, future residents of the new units will have the ability to park bikes within the proposed parking level of each dwelling unit.

The surrounding streets can adequately accommodate the traffic associated with the proposal. For a more complete discussion of the traffic impact please see the enclosed Traffic Analysis.

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 surrounding area is home to commercial and residential uses alike. Notable neighboring properties include the Ridgeway Shopping Center, the Greenbriar Condominium (27 units) at 1900 Summer Street, and Brighton Court Condominium (37 units) at 1864 Summer Street. The proposed preservation of the Historic Building, combined with the construction of the proposed addition, will result in the creation of 5 apartment homes that will be a welcome addition to the neighborhood, and will encourage, rather than impair, present and future development within the surrounding area.

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 4 (Residential – Medium Density Multi-Family). Category 4 is "intended to provide for and protect medium-density multifamily development...in areas characterized by a mixture of apartment, condominium, attached row house or detached residential mid-rise structures" and other non-residential uses supportive of such communities.[9] The proposal is in keeping with the goals and purposes of Category 4. 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.

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:

a. *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 4 (Residential – Medium Density Multi-Family). Category 4 is "intended to provide for and protect medium-density multifamily development...in areas characterized by a mixture of apartment, condominium, attached row house or detached residential mid-rise structures" and other non-residential uses supportive of such communities.[10] The proposal is in keeping with the goals and purposes of Category 4. 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.

b. *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 standards of the underlying C-L and C-B Zones would prevent the construction of an addition that is architecturally cohesive with the Historic Structure. In fact, the relief from the underlying setback and coverage standards is modest when compared to the alternative, which would be to seek a Historic Preservation Bonus from the underlying Building Height standards, which could result in a building up to 5 stories/60' tall. Adequate Light & Air will be provided and will further facilitate the preservation of the Historic Structure and construction of additional housing to serve City residents.

The underlying parking standards would similarly prevent the construction of an addition that will increase the diversity of the City's housing stock in the midst of a national housing crisis. As noted in the enclosed Traffic Analysis, the proposed 5 apartment homes will only

[9] Master Plan, pg. 193.
[10] Master Plan, pg. 193.

require 5 parking spaces, and 6 onsite parking spaces are provided. Adherence to the underlying parking standards found in the Zoning Regulations will require the construction of unneeded parking and prevent the construction of desperately needed homes.

c. *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 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 Structure 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.

d. *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 Historic Structure has anchored the corner of Summer Street and Fifth Street for over 100 years. The Historic Structure retains many original interior and exterior elements, and was commissioned by a significant figure in the City's history. Given the nature of the underlying zoning districts, the loss of the Historic Structure would likely make way for a 4-story, rectangular office building over a paved parking area, which is less desirable than the preservation of a historic structure, and the construction of housing opportunities for current and future City residents.

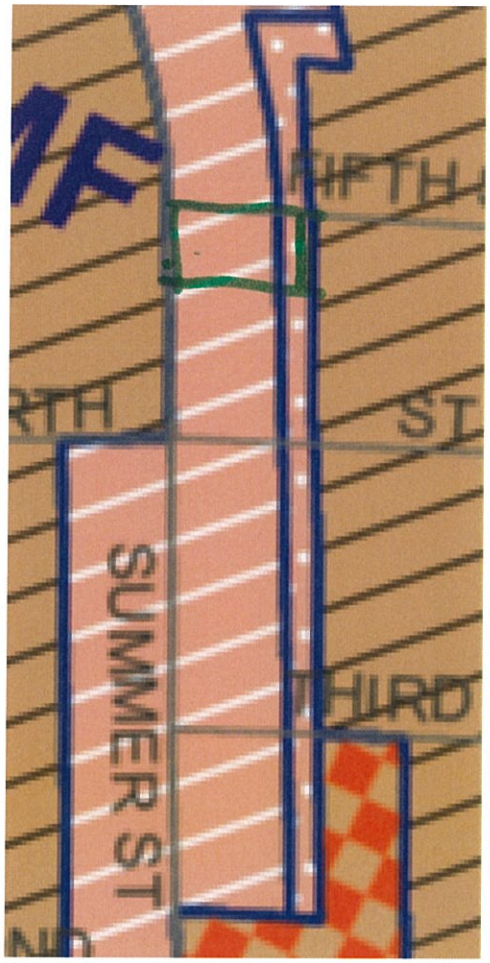
Conclusion

The proposed preservation of the Historic Structure and construction of the proposed addition are in furtherance of the City's preservation and housing goals. If approved, the proposed residential community will preserve a building that has been part of the fabric of the streetscape for over 100 years.

Schedule C – List of Plans

- Architectural Plans prepared by Elena Kalman, Architect, titled:
  - "Cover, Code and Notes, A-00," dated February 10, 2023;
  - "Site Plan, A-01," dated September 12, 2023;
  - "First Floor Plan, A-101," dated February 10, 2023;
  - "Second Floor Plan, A-102," dated February 10, 2023;
  - Third Floor Plan, A-103," dated February 10, 2023;
  - "Fourth Floor Plan, A-104," dated February 10, 2023;
  - "Roof Plan, A-105," dated February 10, 2023;
  - "Summer Street Façade (Western) and Eastern Façade," A-201, dated February 10, 2023;
  - "Fifth Street Façade (Northern,) A-202," dated February 10, 2023;
  - "Southern Façade, A-203," dated February 10, 2023; and
  - "Building Sections, A-204," dated February 10, 2023;
- A Landscaping Plan prepared by Environmental Land Services, dated September 29, 2023, titled "Landscape Plan, LP.1;"
- A survey depicting existing site conditions, prepared by Ahneman Kirby, dated August 18, 2021, titled "Topographic Survey, TP-1;"
- Plans prepared by Ahneman Kirby, titled:
  - "Proposed Site Plan, SP-," revised to September 21, 2023;
  - "Proposed Site Details, SP-2;"
- An analysis regarding the historic significance of the building located on the Property, prepared by Nils Kerschus, dated October 2021;
- A Memorandum prepared by Kimberly Horn, dated July 26, 2023, titled "Traffic and Parking Memorandum, 1911 Summer Street Redevelopment, Stamford, Connecticut,"
- A Stormwater Management Report prepared by Ahneman Kirby, LLC dated July 24, 2023, titled "Stormwater Management Report;" and
- An Operations and Maintenance Plan prepared by Ahneman Kirby, LLC dated July 24, 2023.

Schedule D – Zoning Map



Zoning Data Chart

Project Name:

1911 Summer Street,

Application number:

Address: 1911 Summer Street, Stamford, CT

Zoning District(s): C-L and C-B Zones

Zoning Section		Required/ Permitted	Existing Conditions	Proposed	Notes (Indicate compliance or Zoning Section for Special Permit if applicable)
	Lot Size	C-L=4,000 sf C-B=5,000 sf	C-L=5,164.6 sf C-B=1,874.1 sf Total = 7,038.7 sf	No Change	
	Gross Floor Area	N/A	2,571 +/- sf	9,468 +/- sf	
	Zoning Floor Area				
	Residential	N/A	2,571 +/- sf	9,468 +/- sf	
	Commercial	N/A	0	0	
	Community Facility	N/A	0	0	
	Parking Levels	N/A	0	1,288 +/- sf	
	Total		0	10,774 +/- sf	
	F.A.R.	C-L = 1.0 C-B = .5	N/A (residential use)	N/A (residential use proposed)	
	Residential	9 apartments	1 family home	5 apartments	9 apartments permitted by right pursuant to "Permitted Density, Residential" standard contained in Section 3 of the Zoning Regulations.
	Commercial	C-L = 1.0 C-B = .5.3	0	0	
	Community Facility	N/A	0	0	
	Industrial	N/A	0	0	
	Total	C-L = 1.0 C-B = .5	0	0	
	Number of units	9 apartments	1 family home	5 apartments	9 apartments permitted by right pursuant to "Permitted Density, Residential" standard contained in Section 3 of the Zoning Regulations.
	Below Market Rate Units (# and %)	0	0	0	
	Number of seats/ beds / employees if Applicable	N/A	0	N/A	
	Density(Units/Acre)	9 apartments	1 family home	5 apartments	9 apartments permitted by right pursuant to "Permitted Density, Residential" standard contained in Section 3 of the

					Zoning Regulations.
	Street Frontage	C-L = 40′ C-B = 50′	Summer Street= 51.5-‘ 5th Street= 139.81′	No Change	
	Building Coverage (Area and %)	C-L=50% (2,582.3 sf) C-B=40% (749.64 sf) Subtotal= 3,331.94 sf Additional 25% (832.985 sf) Building Coverage permitted via 7.3.C.4.d Total = 4,164.925 sf	1,208 sf	3,849 sf	
	Lot coverage (Area and %)	N/A	3,975 sf (56.5%)	4,313 sf (61.3%)	
	Building Height (Feet)	C-L=45′ by right. 60′ per Sec. 7.3.C.4,c C-B=50′ by right. 65′ per 7.3.C.4.c.	30.5′	39.5′	
	Number of floors	C-L=4 stories by right. 5 stories per 7.3.C.4.c. C-B 4 stories by right. 5 stories per 7.3.C.4.c.	3 stories	4 stories	
	Active ground floor (sq.ft. and %) if Applicable	N/A	N/A	N/A	
	Yards				
	Front yard)	C-L=15’ from street line/35’ from center line C-B=10’ from street line/35’ from center line	Summer St Frontage=14.3’ 5th St Frontage=16.51’	C-L/5th St Frontage =5.0’ C-B/5th St Frontage=5.35’ Summer St Frontage = No Change	Pursuant to companion Text Change.
	Rear yard	N/A	N/A	N/A	No Rear Yard required pursuant to companion Text Change.
	Side yard	C-L (southerly Lot Line)=15’ by right. 7.5’ pursuant to Sec. 7.3.C.4.b. C-B (southerly and easterly Lot Lines)=6’ by right. 3’ pursuant to Sec. 7.3.C.4.b.	3’-8” existing building setback from Southerly lot line	10’ from Southerly Lot Line. 10.13’ from Easterly Lot Line.	
	Parking				
	Residential parking	1 parking space		6 parking	

		per apartment permitted pursuant to Sec. 7.3.C.3.a.		spaces.	
	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	N/A	0	Bike parking provided within garages.	No bike perking required for developments with fewer than 10 apartments.
	# of levels of parking garage (if applicable)	N/A	0	1 parking level	
	Square footage of parking area	N/A	0	152+/ - sf	
	Parking setback	N/A	0	N/A	Parking level integrated into proposed buildings.
	Open space (Area and %)	75 sf per unit (500sf)	N/A	903 +/- sf at grade 333 +/- sf provided in roof terraces 1,236 +/- sf Total	

updated 4/30/2020

MEMORANDUM

To:	Daniel Kolich Kolich Capital Investments LLC
From:	John Canning, P.E. Veronica Prezioso, P.E. Kimley-Horn and Associates, Inc.
Date:	July 26, 2023
Subject:	Traffic and Parking Memorandum 1911 Summer Street Redevelopment Stamford, Connecticut

This memorandum summarizes Kimley-Horn's evaluation of existing and future traffic and parking demand for the proposed redevelopment of 1911 Summer Street, Stamford, Connecticut (the "Property"). The existing structure on the Property will be preserved and maintained as a dwelling unit, and a 4-story addition containing four (4) residential townhouses (the "Project") is also proposed. A total of five (5) dwelling units are proposed.

Project Description

The subject property is located on the southeast corner at the intersection of Summer Street and 5th Street. The site is currently developed as an approximately 2,600 square foot (SF) building, historically used for office/commercial purposes, with ten (10) parking spaces accessed via a full-movement driveway on 5th Street.

The Client wishes to rehabilitate the existing structure located on the Property to be utilized as a dwelling unit, and to add four (4) residential units over the existing parking lot. The proposed redevelopment will have six (6) parking spaces and the site will continue to be accessed from the same general location on 5th Street.

Trip Generation

The Property has historically been utilized for commercial/office purposes and is located in two (2) commercial zones. Given these conditions, the trip generation for the proposed multifamily use has been compared to 2,600+/- SF of office use. To determine the net difference in trips on the site associated with the change in use to a multifamily development, the trip generations for office use and proposed residential use were calculated and compared. A review of the Institute of Transportation Engineers' (ITE) publication, *Trip Generation Manual,* 11th Edition, revealed similar Land Use Code's (LUC) to the site's current and proposed uses: Small Office Building (LUC 712) and Multifamily Housing (Mid-Rise; LUC 221), respectively.

As indicated in Table 1 below, based on ITE trip rates, the existing building is calculated to generate a total of four (4) trips during the weekday morning (AM) peak hour, six (6) trips during the weekday evening (PM) peak hour, and one (1) trip during the Saturday midday (SAT) peak hour, when used as a 2,600 SF office building. The proposed residential development is projected to generate a total of two (2) trips during each of the three (3) peak hours. Compared to the office use on the site, the residential development is projected to generate a total of two (2) fewer trips than the current use during the AM peak hour, four (4) fewer trips during the PM peak hour, and one (1) additional trip during the SAT peak hour. In short, the proposed multifamily use is calculated to generate less peak-hour traffic than the use of the Property for office purposes.

Table 1 – Peak-Hour Trip Generations								
2,600 SF Office								
AM Peak Hour			PM Peak Hour			SAT Peak Hour		
Total	In	Out	Total	In	Out	Total	In	Out
4	3	1	6	2	4	1	1	0
Proposed Multifamily Residential								
Total	In	Out	Total	In	Out	Total	In	Out
2	0	2	2	1	1	2	1	1
Total Net Project Trips								
Total	In	Out	Total	In	Out	Total	In	Out
-2	-3	1	-4	-1	-3	1	0	1

Source: ITE Trip Generation Manual, 11th Edition

If the Property were to be redeveloped to its maximum capacity under the existing regulations, it could be constructed as an approximately 6,101 SF office building. As indicated in Table 2 below, based on ITE trip rates, this 6,101 SF office building is calculated to generate a total of ten (10) trips during the AM peak hour, thirteen (13) trips during the weekday PM peak hour, and three (3) trips during the SAT peak hour. The residential development will, therefore, generate considerably less peak-hour traffic than the maximum potential use of the existing Property for office purposes.

Table 2 – Peak-Hour Trip Generations								
6,101 SF Office								
AM Peak Hour			PM Peak Hour			SAT Peak Hour		
Total	In	Out	Total	In	Out	Total	In	Out
10	8	2	13	4	9	3	2	1
Proposed Multifamily Residential								
Total	In	Out	Total	In	Out	Total	In	Out
2	0	2	2	1	1	2	1	1
Total Net Project Trips								
Total	In	Out	Total	In	Out	Total	In	Out
-8	-8	0	-11	-3	-8	-1	-1	0

Source: ITE Trip Generation Manual, 11th Edition

Parking

To determine the peak parking demand for the proposed multifamily use, the parking demand was calculated based on the ITE publication, *Parking Generation Manual,* 5th Edition.

Based on ITE parking rates for LUC 221, the proposed residential units are projected to generate five (5) parked vehicles during the overnight period on a typical weekday. As six (6) parking spaces are proposed to be provided for the residential development (with access via 5th Street) the site is expected to have sufficient parking for the maximum parking demand.

Conclusions

The proposed redevelopment of the Property into a multifamily residential community containing five (5) dwelling units is not expected to significantly impact traffic operating conditions on the surrounding

roadway network, as it will generate two (2) fewer trips during the AM peak hour, four (4) fewer trips during the PM peak hour, and one (1) additional trip during the SAT peak hour, as compared to a 2,600 SF office. When compared to a 6,101 SF office building, the maximum capacity under the existing regulations, the proposed multifamily redevelopment is expected to generate a total of eight (8) fewer trips than the maximum office use during the AM peak hour, eleven (11) fewer trips during the PM peak hour, and one (1) fewer trip during the SAT peak hour. As such, the surrounding roadway network is expected to have adequate capacity to service the site without causing undue congestion or hazardous conditions. In addition, the six (6) proposed parking spaces for the residential development are expected to sufficiently accommodate the maximum projected parking demand of five (5) parked vehicles.

Stormwater Management Report

Prepared for:

Daniel Kolich

1911 Summer St

Stamford, CT 06905

July 24, 2023

Prepared by:

Ahneman Kirby, LLC

1171 East Putnam Avenue

Riverside, Connecticut

Project Narrative

Property of Daniel Kolich
1911 Summer St, Stamford, CT 06903
July 24, 2023

A. GEOGRAPHICAL LOCATION AND DESCRIPTION

The subject parcel is located on the East side of Summer St, it is a corner lot located at the intersection of Summer St and 5th Street and has a lot area of 0.16 Acres. The topographic nature of the lot is sloped from South to North. The property contains an existing dwelling, porch, parking lot, stone and asphalt walkways, with trees.

B. PURPOSE AND DESCRIPTION

This application package proposes a new 4 story building addition, surrounding and new parking area on the parcel. The proposed building with the addition footprint is 3,658 ft^2. The parking area footprint is 890 ft^2. (See Appendix A). The regrading of the lot keeps the topography of the site going from South to North at a rate of approximately 1% in the front and rear yards.

Drainage design was performed in accordance with the City of Stamford's Stormwater Drainage Manual, with a net zero increase in the rate of runoff for all events up to the 50 year storm. We proposed collecting runoff from the proposed building and parking area and treating it with Stamford's Stormwater Best Management Practices (BMP).

The area of the site being collected is in the rear yard. The stormwater will be collected by three (3) proposed catch basins in the proposed parking area. The storm drain piping conveys the stormwater to twelve (12) Cultec 330XL recharger basins located under the proposed parking area. The outlet from the Cultecs will then be routed to a control outlet structure to control the discharge rate. From the controlled outlet the runoff is directed to an existing Stamford catch basin located at the Southeast corner of the intersection of Summer St and 5th Street (See Plans).

C. SOIL EVALUATION

The soils within the site below the surface are 100% Type D per the USDA Natural Resource Conservation Service and are depicted on the soils map located in Appendix B of this report as follows:

- Urban land (map unit symbol 307)

Refer to Appendix B for USDA Soils Engineering Properties.

D. PRE & POST DEVELOPMENT SITE HYDROLOGY COMPARISON

The proposed development increases the impervious coverage for the watershed but will decrease peak flows to all points of concern. A series of roof leader downspouts and catch basins will pick up the runoff from the newly introduced impervious surfaces. The proposed grades slope towards the same location as the existing grades making for a straight forward comparison of pre and post development hydrology at the common Points of Interest.

Refer to Table 1 & 2 for a comparison of peak flow rates for the existing and proposed site conditions at point of interest A and point of interest B, respectively. The peak runoff to all points of concern has a zero increase for the 1, 2, 5, 10, 25, and 50 year storms. The 100 year storm will be safely overflowed. 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.

Table 1: Comparison of Existing and Proposed Peak Flow Rates for Point of Interest A

1911 Summer St, Stamford, CT - P.O.I "A"						
Existing / Proposed Stormwater Runoff Data Comparison Chart						
STORM EVENT	POINT OF INTEREST	Flow/Volume	EXISTING	PROPOSED	Δ	Δ (%)
1 YEAR	TOTAL FLOW P.O.I. A	q(ft^3/s)	0.15	0.13	-0.02	-13.33%
2 YEAR		q(ft^3/s)	0.19	0.16	-0.03	-15.79%
5 YEAR		q(ft^3/s)	0.25	0.22	-0.03	-12.00%
10 YEAR		q(ft^3/s)	0.32	0.28	-0.04	-12.50%
25 YEAR		q(ft^3/s)	0.41	0.36	-0.05	-12.20%
50 YEAR		q(ft^3/s)	0.51	0.44	-0.07	-13.73%
100 YEAR		q(ft^3/s)	0.62	0.54	-0.08	-12.90%

Table 2: Comparison of Existing and Proposed Peak Flow Rates for Point of Interest B

1911 Summer St, Stamford, CT - P.O.I "B"						
Existing / Proposed Stormwater Runoff Data Comparison Chart						
STORM EVENT	POINT OF INTEREST	Flow/Volume	EXISTING	PROPOSED	Δ	Δ (%)
1 YEAR	TOTAL FLOW P.O.I. B	q(ft^3/s)	0.19	0.03	-0.16	-84.21%
2 YEAR		q(ft^3/s)	0.22	0.04	-0.18	-81.82%
5 YEAR		q(ft^3/s)	0.28	0.05	-0.23	-82.14%
10 YEAR		q(ft^3/s)	0.34	0.10	-0.24	-70.59%
25 YEAR		q(ft^3/s)	0.42	0.19	-0.23	-54.76%
50 YEAR		q(ft^3/s)	0.50	0.36	-0.14	-28.00%
100 YEAR		q(ft^3/s)	0.60	0.81	0.21	35.00%

E. ALTERNATIVES CONSIDERED

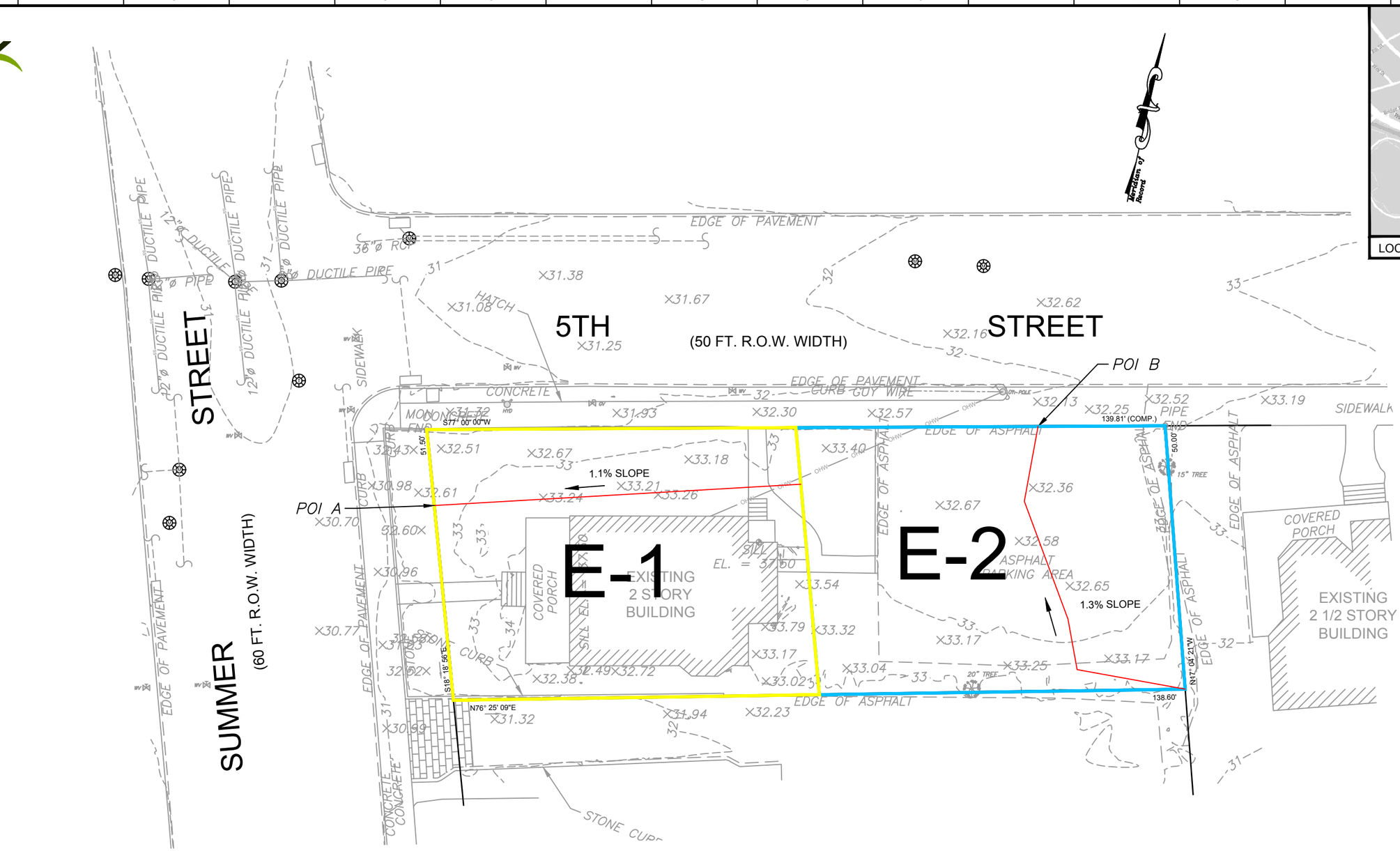
The alternatives considered included drywells collecting runoff from catch basins in the driveway and Cultecs installed under the lawn in the front yard collecting the front portion of the existing building. A level spreader discharge point was also considered.

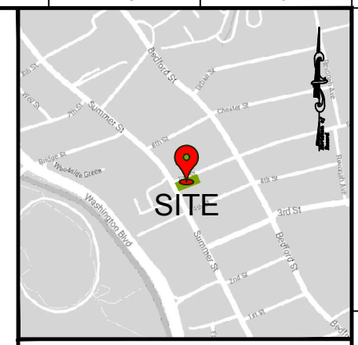
The drywells were discarded due to their limited capacity.

The Cultecs in the front yard were discarded due to limiting the area of disturbance to the rear yard where the other work will be taking place.

The level spreader was discarded due to space limitations on site and it would introduce a concentrated surface discharge point.

Appendix A Impervious Coverage Pre & Post Development





Part of LOT No. 1 (R.M. No. 64 SLR)

Lot Area = 7043.27 Sq. Ft. (0.16 Ac.)

GRAPHIC SCALE :

20 0 20

FEET

REV. #:	REV. DESCRIPTION:	DATE:

AHNEMAN KIRBY
ENGINEERS•SURVEYORS•PLANNERS
SINCE 1871

1171 East Putnam Avenue, Riverside, CT 06878
Tel: 203.869.7707 • Fax: 203.869.4606
www.ahnemankirby.com

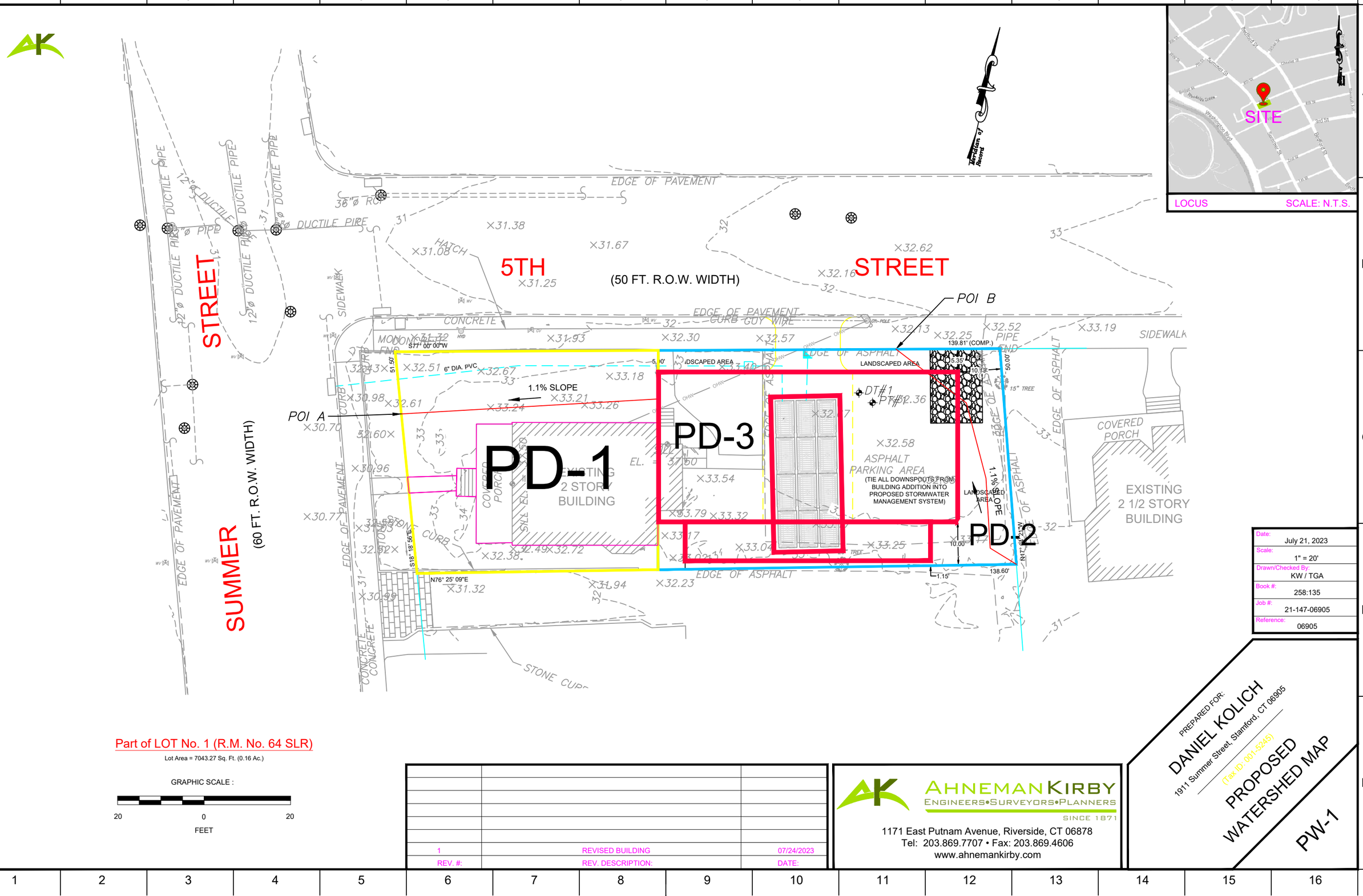
Date:	March 28, 2022
Scale:	1" = 20'
Drawn/Checked By:	KW / TGA
Book #:	258:135
Job #:	21-147-06905
Reference:	06905

PREPARED FOR:
DANIEL KOLICH
1911 Summer Street, Stamford, CT 06905
(Tax ID: 001-5245)

EXISTING
WATERSHED MAP

EW-1

C:\Users\keithwerner\Ahneman Kirby Dropbox\Keith Werner\gshare\AKL_project\1911 Summer St 06905 Kolich 21-147-06905\EngineeringHydrology\1911 Summer St Existing Watershed.dwg 03/28/22 - 2:07pm keithwerner



Part of LOT No. 1 (R.M. No. 64 SLR)

Lot Area = 7043.27 Sq. Ft. (0.16 Ac.)

GRAPHIC SCALE :

20 0 20

FEET

REV. #:	REV. DESCRIPTION:	DATE:
1	REVISED BUILDING	07/24/2023

Date:	July 21, 2023
Scale:	1" = 20'
Drawn/Checked By:	KW / TGA
Book #:	258:135
Job #:	21-147-06905
Reference:	06905

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PREPARED FOR:
DANIEL KOLICH
1911 Summer Street, Stamford, CT 06905
(Tax ID: 001-5245)

PROPOSED WATERSHED MAP

PW-1

C:\Users\keithwerner\Ahneman Kirby Dropbox\Keith Werner\gshare\AKL_project\1911 Summer St 06905 Kolich 21-147-06905\Engineering\Hydrology\1911 Summer St Proposed Watershed.dwg 07/24/23 - 10:34am keithwerner

Appendix B USDA Soils Engineering Properties

Hydrologic Soil Group—State of Connecticut
(1911 Summer St)

Map Scale: 1:262 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 3 7 14 21

Feet
0 10 20 40 60

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

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

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

Date(s) aerial images were photographed: 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
307	Urban land	D	0.2	100.0%
Totals for Area of Interest			**0.2**	**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.

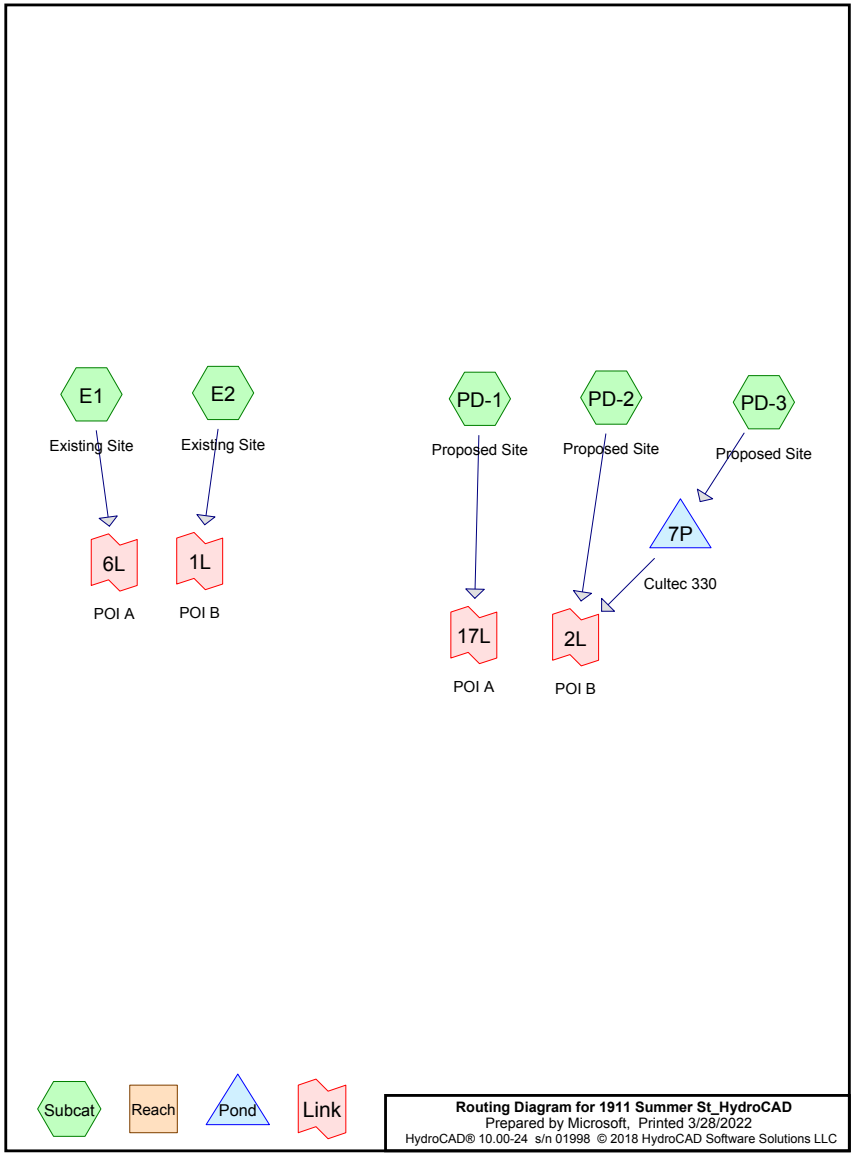
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Appendix C HydroCAD Pre & Post Development Calculations



Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
4,468	80	>75% Grass cover, Good, HSG D (E1, PD-1, PD-2)
2,457	98	Existing Dwelling (E1, PD-1)
2,413	98	Existing Partial Driveway (E2)
358	98	Existing Walkways (E1, E2, PD-1)
890	98	Proposed Driveway (PD-3)
2,473	98	Proposed Partial Building (PD-3)
13,059	**92**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
4,468	HSG D	E1, PD-1, PD-2
8,591	Other	E1, E2, PD-1, PD-3
13,059		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
0	0	0	4,468	0	4,468	>75% Grass cover, Good	
0	0	0	0	2,457	2,457	Existing Dwelling	
0	0	0	0	2,413	2,413	Existing Partial Driveway	
0	0	0	0	358	358	Existing Walkways	
0	0	0	0	890	890	Proposed Driveway	
0	0	0	0	2,473	2,473	Proposed Partial Building	
0	**0**	**0**	**4,468**	**8,591**	**13,059**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Existing Site Runoff Area=3,546 sf 42.41% Impervious Runoff Depth>1.73"
Flow Length=70' Slope=0.0110 '/' Tc=9.1 min CN=88 Runoff=0.15 cfs 510 cf

Subcatchment E2: Existing Site Runoff Area=2,470 sf 100.00% Impervious Runoff Depth>2.67"
Flow Length=69' Slope=0.0130 '/' Tc=1.0 min CN=98 Runoff=0.19 cfs 549 cf

Subcatchment PD-1: Proposed Site Runoff Area=2,972 sf 42.19% Impervious Runoff Depth>1.73"
Flow Length=59' Slope=0.0110 '/' Tc=7.9 min CN=88 Runoff=0.13 cfs 428 cf

Subcatchment PD-2: Proposed Site Runoff Area=708 sf 0.00% Impervious Runoff Depth>1.18"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=80 Runoff=0.03 cfs 69 cf

Subcatchment PD-3: Proposed Site Runoff Area=3,363 sf 100.00% Impervious Runoff Depth>2.67"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=98 Runoff=0.26 cfs 748 cf

Pond 7P: Cultec 330 Peak Elev=29.91' Storage=748 cf Inflow=0.26 cfs 748 cf
Outflow=0.00 cfs 0 cf

Link 1L: POI B Inflow=0.19 cfs 549 cf
Primary=0.19 cfs 549 cf

Link 2L: POI B Inflow=0.03 cfs 69 cf
Primary=0.03 cfs 69 cf

Link 6L: POI A Inflow=0.15 cfs 510 cf
Primary=0.15 cfs 510 cf

Link 17L: POI A Inflow=0.13 cfs 428 cf
Primary=0.13 cfs 428 cf

Total Runoff Area = 13,059 sf Runoff Volume = 2,304 cf Average Runoff Depth = 2.12"
34.21% Pervious = 4,468 sf 65.79% Impervious = 8,591 sf

Summary for Subcatchment E1: Existing Site

Runoff = 0.15 cfs @ 12.13 hrs, Volume= 510 cf, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Year Rainfall=2.90"

	Area (sf)	CN	Description
*	1,273	98	Existing Dwelling
*	231	98	Existing Walkways
	2,042	80	>75% Grass cover, Good, HSG D
	3,546	88	Weighted Average
	2,042		57.59% Pervious Area
	1,504		42.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	70	0.0110	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment E2: Existing Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.19 cfs @ 12.01 hrs, Volume= 549 cf, Depth> 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Year Rainfall=2.90"

	Area (sf)	CN	Description
*	2,413	98	Existing Partial Driveway
*	57	98	Existing Walkways
	2,470	98	Weighted Average
	2,470		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0130	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-1: Proposed Site

Runoff = 0.13 cfs @ 12.11 hrs, Volume= 428 cf, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Year Rainfall=2.90"

	Area (sf)	CN	Description
*	1,184	98	Existing Dwelling
*	70	98	Existing Walkways
	1,718	80	>75% Grass cover, Good, HSG D
	2,972	88	Weighted Average
	1,718		57.81% Pervious Area
	1,254		42.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	59	0.0110	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment PD-2: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.03 cfs @ 12.02 hrs, Volume= 69 cf, Depth> 1.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
708	80	>75% Grass cover, Good, HSG D
708		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-3: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.26 cfs @ 12.01 hrs, Volume= 748 cf, Depth> 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Year Rainfall=2.90"

	Area (sf)	CN	Description
*	2,473	98	Proposed Partial Building
*	890	98	Proposed Driveway
	3,363	98	Weighted Average
	3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Pond 7P: Cultec 330

Inflow Area = 3,363 sf,100.00% Impervious, Inflow Depth > 2.67" for 1-Year event
Inflow = 0.26 cfs @ 12.01 hrs, Volume= 748 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 Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.91' @ 24.00 hrs Surf.Area= 508 sf Storage= 748 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	27.76'	460 cf	**11.17'W x 45.50'L x 3.54'H Field A** 1,799 cf Overall - 648 cf Embedded = 1,151 cf x 40.0% Voids
#2A	28.26'	648 cf	**Cultec R-330XLHD** x 12 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
		1,109 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	30.00'	**6.0" Vert. 6" Outlet** C= 0.600
#2	Device 1	30.00'	**3.0" Vert. 3" Orifice** C= 0.600
#3	Device 1	31.00'	**6.0" Horiz. 6" Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=27.76' (Free Discharge)
└**1=6" Outlet** (Controls 0.00 cfs)
  └**2=3" Orifice** (Controls 0.00 cfs)
  └**3=6" Overflow** (Controls 0.00 cfs)

Pond 7P: Cultec 330 - 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 2 rows

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

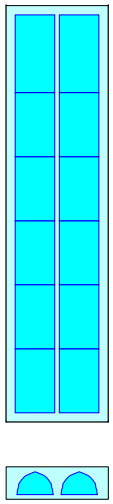
6 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 43.50' Row Length +12.0" End Stone x 2 = 45.50' Base Length
2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.17' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

12 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 2 Rows = 648.2 cf Chamber Storage

1,799.5 cf Field - 648.2 cf Chambers = 1,151.2 cf Stone x 40.0% Voids = 460.5 cf Stone Storage

Chamber Storage + Stone Storage = 1,108.7 cf = 0.025 af
Overall Storage Efficiency = 61.6%
Overall System Size = 45.50' x 11.17' x 3.54'

12 Chambers
66.6 cy Field
42.6 cy Stone



Stage-Area-Storage for Pond 7P: Cultec 330

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
27.76	0	30.36	897
27.81	10	30.41	912
27.86	20	30.46	926
27.91	30	30.51	940
27.96	41	30.56	953
28.01	51	30.61	965
28.06	61	30.66	977
28.11	71	30.71	988
28.16	81	30.76	999
28.21	91	30.81	1,009
28.26	102	30.86	1,019
28.31	122	30.91	1,029
28.36	143	30.96	1,039
28.41	163	31.01	1,049
28.46	183	31.06	1,060
28.51	204	31.11	1,070
28.56	224	31.16	1,080
28.61	244	31.21	1,090
28.66	265	31.26	**1,100**
28.71	285		
28.76	305		
28.81	325		
28.86	345		
28.91	365		
28.96	385		
29.01	405		
29.06	425		
29.11	444		
29.16	464		
29.21	484		
29.26	503		
29.31	523		
29.36	542		
29.41	562		
29.46	581		
29.51	600		
29.56	619		
29.61	638		
29.66	657		
29.71	676		
29.76	694		
29.81	712		
29.86	730		
29.91	748		
29.96	765		
30.01	783		
30.06	800		
30.11	817		
30.16	833		
30.21	850		
30.26	866		
30.31	882		

Summary for Link 1L: POI B

Inflow Area = 2,470 sf,100.00% Impervious, Inflow Depth > 2.67" for 1-Year event
Inflow = 0.19 cfs @ 12.01 hrs, Volume= 549 cf
Primary = 0.19 cfs @ 12.01 hrs, Volume= 549 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 2L: POI B

Inflow Area = 4,071 sf, 82.61% Impervious, Inflow Depth > 0.20" for 1-Year event
Inflow = 0.03 cfs @ 12.02 hrs, Volume= 69 cf
Primary = 0.03 cfs @ 12.02 hrs, Volume= 69 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 6L: POI A

Inflow Area = 3,546 sf, 42.41% Impervious, Inflow Depth > 1.73" for 1-Year event
Inflow = 0.15 cfs @ 12.13 hrs, Volume= 510 cf
Primary = 0.15 cfs @ 12.13 hrs, Volume= 510 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 17L: POI A

Inflow Area = 2,972 sf, 42.19% Impervious, Inflow Depth > 1.73" for 1-Year event
Inflow = 0.13 cfs @ 12.11 hrs, Volume= 428 cf
Primary = 0.13 cfs @ 12.11 hrs, Volume= 428 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Existing Site Runoff Area=3,546 sf 42.41% Impervious Runoff Depth>2.17"
Flow Length=70' Slope=0.0110 '/' Tc=9.1 min CN=88 Runoff=0.19 cfs 642 cf

Subcatchment E2: Existing Site Runoff Area=2,470 sf 100.00% Impervious Runoff Depth>3.17"
Flow Length=69' Slope=0.0130 '/' Tc=1.0 min CN=98 Runoff=0.22 cfs 652 cf

Subcatchment PD-1: Proposed Site Runoff Area=2,972 sf 42.19% Impervious Runoff Depth>2.17"
Flow Length=59' Slope=0.0110 '/' Tc=7.9 min CN=88 Runoff=0.16 cfs 539 cf

Subcatchment PD-2: Proposed Site Runoff Area=708 sf 0.00% Impervious Runoff Depth>1.56"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=80 Runoff=0.04 cfs 92 cf

Subcatchment PD-3: Proposed Site Runoff Area=3,363 sf 100.00% Impervious Runoff Depth>3.17"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=98 Runoff=0.30 cfs 887 cf

Pond 7P: Cultec 330 Peak Elev=30.04' Storage=795 cf Inflow=0.30 cfs 887 cf
Outflow=0.00 cfs 97 cf

Link 1L: POI B Inflow=0.22 cfs 652 cf
Primary=0.22 cfs 652 cf

Link 2L: POI B Inflow=0.04 cfs 189 cf
Primary=0.04 cfs 189 cf

Link 6L: POI A Inflow=0.19 cfs 642 cf
Primary=0.19 cfs 642 cf

Link 17L: POI A Inflow=0.16 cfs 539 cf
Primary=0.16 cfs 539 cf

Total Runoff Area = 13,059 sf Runoff Volume = 2,812 cf Average Runoff Depth = 2.58"
34.21% Pervious = 4,468 sf 65.79% Impervious = 8,591 sf

Summary for Subcatchment E1: Existing Site

Runoff = 0.19 cfs @ 12.13 hrs, Volume= 642 cf, Depth> 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,273	98	Existing Dwelling
*	231	98	Existing Walkways
	2,042	80	>75% Grass cover, Good, HSG D
	3,546	88	Weighted Average
	2,042		57.59% Pervious Area
	1,504		42.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	70	0.0110	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment E2: Existing Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.22 cfs @ 12.01 hrs, Volume= 652 cf, Depth> 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description
*	2,413	98	Existing Partial Driveway
*	57	98	Existing Walkways
	2,470	98	Weighted Average
	2,470		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0130	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-1: Proposed Site

Runoff = 0.16 cfs @ 12.11 hrs, Volume= 539 cf, Depth> 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,184	98	Existing Dwelling
*	70	98	Existing Walkways
	1,718	80	>75% Grass cover, Good, HSG D
	2,972	88	Weighted Average
	1,718		57.81% Pervious Area
	1,254		42.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	59	0.0110	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment PD-2: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.04 cfs @ 12.02 hrs, Volume= 92 cf, Depth> 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
708	80	>75% Grass cover, Good, HSG D
708		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-3: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.30 cfs @ 12.01 hrs, Volume= 887 cf, Depth> 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description
*	2,473	98	Proposed Partial Building
*	890	98	Proposed Driveway
	3,363	98	Weighted Average
	3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Pond 7P: Cultec 330

Inflow Area = 3,363 sf,100.00% Impervious, Inflow Depth > 3.17" for 2-Year event
Inflow = 0.30 cfs @ 12.01 hrs, Volume= 887 cf
Outflow = 0.00 cfs @ 17.52 hrs, Volume= 97 cf, Atten= 98%, Lag= 330.4 min
Primary = 0.00 cfs @ 17.52 hrs, Volume= 97 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.04' @ 17.52 hrs Surf.Area= 508 sf Storage= 795 cf

Plug-Flow detention time= 775.0 min calculated for 97 cf (11% of inflow)
Center-of-Mass det. time= 438.9 min (1,189.4 - 750.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	27.76'	460 cf	**11.17'W x 45.50'L x 3.54'H Field A** 1,799 cf Overall - 648 cf Embedded = 1,151 cf x 40.0% Voids
#2A	28.26'	648 cf	**Cultec R-330XLHD** x 12 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
		1,109 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	30.00'	**6.0" Vert. 6" Outlet** C= 0.600
#2	Device 1	30.00'	**3.0" Vert. 3" Orifice** C= 0.600
#3	Device 1	31.00'	**6.0" Horiz. 6" Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 17.52 hrs HW=30.04' (Free Discharge)
└**1=6" Outlet** (Passes 0.00 cfs of 0.01 cfs potential flow)
└**2=3" Orifice** (Orifice Controls 0.00 cfs @ 0.72 fps)
└**3=6" Overflow** (Controls 0.00 cfs)

Pond 7P: Cultec 330 - 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 2 rows

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

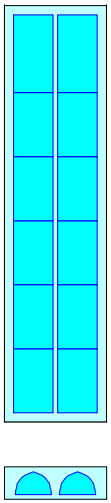
6 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 43.50' Row Length +12.0" End Stone x 2 = 45.50' Base Length
2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.17' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

12 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 2 Rows = 648.2 cf Chamber Storage

1,799.5 cf Field - 648.2 cf Chambers = 1,151.2 cf Stone x 40.0% Voids = 460.5 cf Stone Storage

Chamber Storage + Stone Storage = 1,108.7 cf = 0.025 af
Overall Storage Efficiency = 61.6%
Overall System Size = 45.50' x 11.17' x 3.54'

12 Chambers
66.6 cy Field
42.6 cy Stone



Stage-Area-Storage for Pond 7P: Cultec 330

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
27.76	0	30.36	897
27.81	10	30.41	912
27.86	20	30.46	926
27.91	30	30.51	940
27.96	41	30.56	953
28.01	51	30.61	965
28.06	61	30.66	977
28.11	71	30.71	988
28.16	81	30.76	999
28.21	91	30.81	1,009
28.26	102	30.86	1,019
28.31	122	30.91	1,029
28.36	143	30.96	1,039
28.41	163	31.01	1,049
28.46	183	31.06	1,060
28.51	204	31.11	1,070
28.56	224	31.16	1,080
28.61	244	31.21	1,090
28.66	265	31.26	**1,100**
28.71	285		
28.76	305		
28.81	325		
28.86	345		
28.91	365		
28.96	385		
29.01	405		
29.06	425		
29.11	444		
29.16	464		
29.21	484		
29.26	503		
29.31	523		
29.36	542		
29.41	562		
29.46	581		
29.51	600		
29.56	619		
29.61	638		
29.66	657		
29.71	676		
29.76	694		
29.81	712		
29.86	730		
29.91	748		
29.96	765		
30.01	783		
30.06	800		
30.11	817		
30.16	833		
30.21	850		
30.26	866		
30.31	882		

Summary for Link 1L: POI B

Inflow Area = 2,470 sf,100.00% Impervious, Inflow Depth > 3.17" for 2-Year event
Inflow = 0.22 cfs @ 12.01 hrs, Volume= 652 cf
Primary = 0.22 cfs @ 12.01 hrs, Volume= 652 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 2L: POI B

Inflow Area = 4,071 sf, 82.61% Impervious, Inflow Depth > 0.56" for 2-Year event
Inflow = 0.04 cfs @ 12.02 hrs, Volume= 189 cf
Primary = 0.04 cfs @ 12.02 hrs, Volume= 189 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 6L: POI A

Inflow Area = 3,546 sf, 42.41% Impervious, Inflow Depth > 2.17" for 2-Year event
Inflow = 0.19 cfs @ 12.13 hrs, Volume= 642 cf
Primary = 0.19 cfs @ 12.13 hrs, Volume= 642 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 17L: POI A

Inflow Area = 2,972 sf, 42.19% Impervious, Inflow Depth > 2.17" for 2-Year event
Inflow = 0.16 cfs @ 12.11 hrs, Volume= 539 cf
Primary = 0.16 cfs @ 12.11 hrs, Volume= 539 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Existing Site Runoff Area=3,546 sf 42.41% Impervious Runoff Depth>3.00"
Flow Length=70' Slope=0.0110 '/' Tc=9.1 min CN=88 Runoff=0.25 cfs 888 cf

Subcatchment E2: Existing Site Runoff Area=2,470 sf 100.00% Impervious Runoff Depth>4.06"
Flow Length=69' Slope=0.0130 '/' Tc=1.0 min CN=98 Runoff=0.28 cfs 837 cf

Subcatchment PD-1: Proposed Site Runoff Area=2,972 sf 42.19% Impervious Runoff Depth>3.00"
Flow Length=59' Slope=0.0110 '/' Tc=7.9 min CN=88 Runoff=0.22 cfs 744 cf

Subcatchment PD-2: Proposed Site Runoff Area=708 sf 0.00% Impervious Runoff Depth>2.29"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=80 Runoff=0.05 cfs 135 cf

Subcatchment PD-3: Proposed Site Runoff Area=3,363 sf 100.00% Impervious Runoff Depth>4.06"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=98 Runoff=0.39 cfs 1,139 cf

Pond 7P: Cultec 330 Peak Elev=30.11' Storage=816 cf Inflow=0.39 cfs 1,139 cf
Outflow=0.02 cfs 348 cf

Link 1L: POI B Inflow=0.28 cfs 837 cf
Primary=0.28 cfs 837 cf

Link 2L: POI B Inflow=0.05 cfs 483 cf
Primary=0.05 cfs 483 cf

Link 6L: POI A Inflow=0.25 cfs 888 cf
Primary=0.25 cfs 888 cf

Link 17L: POI A Inflow=0.22 cfs 744 cf
Primary=0.22 cfs 744 cf

Total Runoff Area = 13,059 sf Runoff Volume = 3,742 cf Average Runoff Depth = 3.44"
34.21% Pervious = 4,468 sf 65.79% Impervious = 8,591 sf

Summary for Subcatchment E1: Existing Site

Runoff = 0.25 cfs @ 12.12 hrs, Volume= 888 cf, Depth> 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-Year Rainfall=4.30"

	Area (sf)	CN	Description
*	1,273	98	Existing Dwelling
*	231	98	Existing Walkways
	2,042	80	>75% Grass cover, Good, HSG D
	3,546	88	Weighted Average
	2,042		57.59% Pervious Area
	1,504		42.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	70	0.0110	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment E2: Existing Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.28 cfs @ 12.01 hrs, Volume= 837 cf, Depth> 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-Year Rainfall=4.30"

	Area (sf)	CN	Description
*	2,413	98	Existing Partial Driveway
*	57	98	Existing Walkways
	2,470	98	Weighted Average
	2,470		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0130	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-1: Proposed Site

Runoff = 0.22 cfs @ 12.11 hrs, Volume= 744 cf, Depth> 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-Year Rainfall=4.30"

	Area (sf)	CN	Description
*	1,184	98	Existing Dwelling
*	70	98	Existing Walkways
	1,718	80	>75% Grass cover, Good, HSG D
	2,972	88	Weighted Average
	1,718		57.81% Pervious Area
	1,254		42.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	59	0.0110	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment PD-2: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.05 cfs @ 12.02 hrs, Volume= 135 cf, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-Year Rainfall=4.30"

Area (sf)	CN	Description
708	80	>75% Grass cover, Good, HSG D
708		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-3: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.39 cfs @ 12.01 hrs, Volume= 1,139 cf, Depth> 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-Year Rainfall=4.30"

	Area (sf)	CN	Description
*	2,473	98	Proposed Partial Building
*	890	98	Proposed Driveway
	3,363	98	Weighted Average
	3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Pond 7P: Cultec 330

Inflow Area = 3,363 sf,100.00% Impervious, Inflow Depth > 4.06" for 5-Year event
Inflow = 0.39 cfs @ 12.01 hrs, Volume= 1,139 cf
Outflow = 0.02 cfs @ 13.18 hrs, Volume= 348 cf, Atten= 94%, Lag= 70.1 min
Primary = 0.02 cfs @ 13.18 hrs, Volume= 348 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.11' @ 13.18 hrs Surf.Area= 508 sf Storage= 816 cf

Plug-Flow detention time= 423.3 min calculated for 348 cf (31% of inflow)
Center-of-Mass det. time= 233.6 min (979.5 - 745.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	27.76'	460 cf	**11.17'W x 45.50'L x 3.54'H Field A** 1,799 cf Overall - 648 cf Embedded = 1,151 cf x 40.0% Voids
#2A	28.26'	648 cf	**Cultec R-330XLHD** x 12 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
		1,109 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	30.00'	**6.0" Vert. 6" Outlet** C= 0.600
#2	Device 1	30.00'	**3.0" Vert. 3" Orifice** C= 0.600
#3	Device 1	31.00'	**6.0" Horiz. 6" Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 13.18 hrs HW=30.11' (Free Discharge)
└**1=6" Outlet** (Passes 0.02 cfs of 0.03 cfs potential flow)
  └**2=3" Orifice** (Orifice Controls 0.02 cfs @ 1.12 fps)
  └**3=6" Overflow** (Controls 0.00 cfs)

Pond 7P: Cultec 330 - 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 2 rows

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

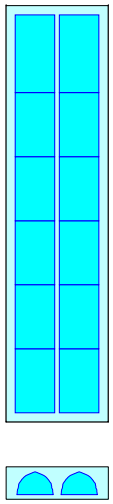
6 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 43.50' Row Length +12.0" End Stone x 2 = 45.50' Base Length
2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.17' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

12 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 2 Rows = 648.2 cf Chamber Storage

1,799.5 cf Field - 648.2 cf Chambers = 1,151.2 cf Stone x 40.0% Voids = 460.5 cf Stone Storage

Chamber Storage + Stone Storage = 1,108.7 cf = 0.025 af
Overall Storage Efficiency = 61.6%
Overall System Size = 45.50' x 11.17' x 3.54'

12 Chambers
66.6 cy Field
42.6 cy Stone



Stage-Area-Storage for Pond 7P: Cultec 330

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
27.76	0	30.36	897
27.81	10	30.41	912
27.86	20	30.46	926
27.91	30	30.51	940
27.96	41	30.56	953
28.01	51	30.61	965
28.06	61	30.66	977
28.11	71	30.71	988
28.16	81	30.76	999
28.21	91	30.81	1,009
28.26	102	30.86	1,019
28.31	122	30.91	1,029
28.36	143	30.96	1,039
28.41	163	31.01	1,049
28.46	183	31.06	1,060
28.51	204	31.11	1,070
28.56	224	31.16	1,080
28.61	244	31.21	1,090
28.66	265	31.26	**1,100**
28.71	285		
28.76	305		
28.81	325		
28.86	345		
28.91	365		
28.96	385		
29.01	405		
29.06	425		
29.11	444		
29.16	464		
29.21	484		
29.26	503		
29.31	523		
29.36	542		
29.41	562		
29.46	581		
29.51	600		
29.56	619		
29.61	638		
29.66	657		
29.71	676		
29.76	694		
29.81	712		
29.86	730		
29.91	748		
29.96	765		
30.01	783		
30.06	800		
30.11	817		
30.16	833		
30.21	850		
30.26	866		
30.31	882		

Summary for Link 1L: POI B

Inflow Area = 2,470 sf,100.00% Impervious, Inflow Depth > 4.06" for 5-Year event
Inflow = 0.28 cfs @ 12.01 hrs, Volume= 837 cf
Primary = 0.28 cfs @ 12.01 hrs, Volume= 837 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 2L: POI B

Inflow Area = 4,071 sf, 82.61% Impervious, Inflow Depth > 1.42" for 5-Year event
Inflow = 0.05 cfs @ 12.02 hrs, Volume= 483 cf
Primary = 0.05 cfs @ 12.02 hrs, Volume= 483 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 6L: POI A

Inflow Area = 3,546 sf, 42.41% Impervious, Inflow Depth > 3.00" for 5-Year event
Inflow = 0.25 cfs @ 12.12 hrs, Volume= 888 cf
Primary = 0.25 cfs @ 12.12 hrs, Volume= 888 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 17L: POI A

Inflow Area = 2,972 sf, 42.19% Impervious, Inflow Depth > 3.00" for 5-Year event
Inflow = 0.22 cfs @ 12.11 hrs, Volume= 744 cf
Primary = 0.22 cfs @ 12.11 hrs, Volume= 744 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Existing Site Runoff Area=3,546 sf 42.41% Impervious Runoff Depth>3.76"
Flow Length=70' Slope=0.0110 '/' Tc=9.1 min CN=88 Runoff=0.32 cfs 1,111 cf

Subcatchment E2: Existing Site Runoff Area=2,470 sf 100.00% Impervious Runoff Depth>4.86"
Flow Length=69' Slope=0.0130 '/' Tc=1.0 min CN=98 Runoff=0.34 cfs 1,001 cf

Subcatchment PD-1: Proposed Site Runoff Area=2,972 sf 42.19% Impervious Runoff Depth>3.76"
Flow Length=59' Slope=0.0110 '/' Tc=7.9 min CN=88 Runoff=0.28 cfs 931 cf

Subcatchment PD-2: Proposed Site Runoff Area=708 sf 0.00% Impervious Runoff Depth>2.98"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=80 Runoff=0.07 cfs 176 cf

Subcatchment PD-3: Proposed Site Runoff Area=3,363 sf 100.00% Impervious Runoff Depth>4.86"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=98 Runoff=0.46 cfs 1,363 cf

Pond 7P: Cultec 330 Peak Elev=30.24' Storage=861 cf Inflow=0.46 cfs 1,363 cf
Outflow=0.08 cfs 570 cf

Link 1L: POI B Inflow=0.34 cfs 1,001 cf
Primary=0.34 cfs 1,001 cf

Link 2L: POI B Inflow=0.10 cfs 746 cf
Primary=0.10 cfs 746 cf

Link 6L: POI A Inflow=0.32 cfs 1,111 cf
Primary=0.32 cfs 1,111 cf

Link 17L: POI A Inflow=0.28 cfs 931 cf
Primary=0.28 cfs 931 cf

Total Runoff Area = 13,059 sf Runoff Volume = 4,581 cf Average Runoff Depth = 4.21"
34.21% Pervious = 4,468 sf 65.79% Impervious = 8,591 sf

Summary for Subcatchment E1: Existing Site

Runoff = 0.32 cfs @ 12.12 hrs, Volume= 1,111 cf, Depth> 3.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.10"

	Area (sf)	CN	Description
*	1,273	98	Existing Dwelling
*	231	98	Existing Walkways
	2,042	80	>75% Grass cover, Good, HSG D
	3,546	88	Weighted Average
	2,042		57.59% Pervious Area
	1,504		42.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	70	0.0110	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment E2: Existing Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.34 cfs @ 12.01 hrs, Volume= 1,001 cf, Depth> 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.10"

	Area (sf)	CN	Description
*	2,413	98	Existing Partial Driveway
*	57	98	Existing Walkways
	2,470	98	Weighted Average
	2,470		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0130	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-1: Proposed Site

Runoff = 0.28 cfs @ 12.11 hrs, Volume= 931 cf, Depth> 3.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.10"

	Area (sf)	CN	Description
*	1,184	98	Existing Dwelling
*	70	98	Existing Walkways
	1,718	80	>75% Grass cover, Good, HSG D
	2,972	88	Weighted Average
	1,718		57.81% Pervious Area
	1,254		42.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	59	0.0110	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment PD-2: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.07 cfs @ 12.02 hrs, Volume= 176 cf, Depth> 2.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
708	80	>75% Grass cover, Good, HSG D
708		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-3: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.46 cfs @ 12.01 hrs, Volume= 1,363 cf, Depth> 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.10"

	Area (sf)	CN	Description
*	2,473	98	Proposed Partial Building
*	890	98	Proposed Driveway
	3,363	98	Weighted Average
	3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Pond 7P: Cultec 330

Inflow Area = 3,363 sf,100.00% Impervious, Inflow Depth > 4.86" for 10-Year event
Inflow = 0.46 cfs @ 12.01 hrs, Volume= 1,363 cf
Outflow = 0.08 cfs @ 12.41 hrs, Volume= 570 cf, Atten= 82%, Lag= 24.0 min
Primary = 0.08 cfs @ 12.41 hrs, Volume= 570 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.24' @ 12.41 hrs Surf.Area= 508 sf Storage= 861 cf

Plug-Flow detention time= 323.3 min calculated for 570 cf (42% of inflow)
Center-of-Mass det. time= 173.2 min (916.2 - 743.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	27.76'	460 cf	**11.17'W x 45.50'L x 3.54'H Field A** 1,799 cf Overall - 648 cf Embedded = 1,151 cf x 40.0% Voids
#2A	28.26'	648 cf	**Cultec R-330XLHD** x 12 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
		1,109 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	30.00'	**6.0" Vert. 6" Outlet** C= 0.600
#2	Device 1	30.00'	**3.0" Vert. 3" Orifice** C= 0.600
#3	Device 1	31.00'	**6.0" Horiz. 6" Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 12.41 hrs HW=30.24' (Free Discharge)
└**1=6" Outlet** (Passes 0.08 cfs of 0.16 cfs potential flow)
└**2=3" Orifice** (Orifice Controls 0.08 cfs @ 1.68 fps)
└**3=6" Overflow** (Controls 0.00 cfs)

Pond 7P: Cultec 330 - 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 2 rows

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

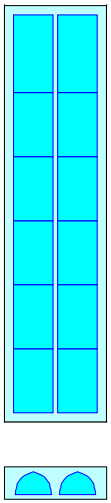
6 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 43.50' Row Length +12.0" End Stone x 2 = 45.50' Base Length
2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.17' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

12 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 2 Rows = 648.2 cf Chamber Storage

1,799.5 cf Field - 648.2 cf Chambers = 1,151.2 cf Stone x 40.0% Voids = 460.5 cf Stone Storage

Chamber Storage + Stone Storage = 1,108.7 cf = 0.025 af
Overall Storage Efficiency = 61.6%
Overall System Size = 45.50' x 11.17' x 3.54'

12 Chambers
66.6 cy Field
42.6 cy Stone



Stage-Area-Storage for Pond 7P: Cultec 330

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
27.76	0	30.36	897
27.81	10	30.41	912
27.86	20	30.46	926
27.91	30	30.51	940
27.96	41	30.56	953
28.01	51	30.61	965
28.06	61	30.66	977
28.11	71	30.71	988
28.16	81	30.76	999
28.21	91	30.81	1,009
28.26	102	30.86	1,019
28.31	122	30.91	1,029
28.36	143	30.96	1,039
28.41	163	31.01	1,049
28.46	183	31.06	1,060
28.51	204	31.11	1,070
28.56	224	31.16	1,080
28.61	244	31.21	1,090
28.66	265	31.26	**1,100**
28.71	285		
28.76	305		
28.81	325		
28.86	345		
28.91	365		
28.96	385		
29.01	405		
29.06	425		
29.11	444		
29.16	464		
29.21	484		
29.26	503		
29.31	523		
29.36	542		
29.41	562		
29.46	581		
29.51	600		
29.56	619		
29.61	638		
29.66	657		
29.71	676		
29.76	694		
29.81	712		
29.86	730		
29.91	748		
29.96	765		
30.01	783		
30.06	800		
30.11	817		
30.16	833		
30.21	850		
30.26	866		
30.31	882		

Summary for Link 1L: POI B

Inflow Area = 2,470 sf,100.00% Impervious, Inflow Depth > 4.86" for 10-Year event
Inflow = 0.34 cfs @ 12.01 hrs, Volume= 1,001 cf
Primary = 0.34 cfs @ 12.01 hrs, Volume= 1,001 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 2L: POI B

Inflow Area = 4,071 sf, 82.61% Impervious, Inflow Depth > 2.20" for 10-Year event
Inflow = 0.10 cfs @ 12.37 hrs, Volume= 746 cf
Primary = 0.10 cfs @ 12.37 hrs, Volume= 746 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 6L: POI A

Inflow Area = 3,546 sf, 42.41% Impervious, Inflow Depth > 3.76" for 10-Year event
Inflow = 0.32 cfs @ 12.12 hrs, Volume= 1,111 cf
Primary = 0.32 cfs @ 12.12 hrs, Volume= 1,111 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 17L: POI A

Inflow Area = 2,972 sf, 42.19% Impervious, Inflow Depth > 3.76" for 10-Year event
Inflow = 0.28 cfs @ 12.11 hrs, Volume= 931 cf
Primary = 0.28 cfs @ 12.11 hrs, Volume= 931 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Existing Site Runoff Area=3,546 sf 42.41% Impervious Runoff Depth>5.00"
Flow Length=70' Slope=0.0110 '/' Tc=9.1 min CN=88 Runoff=0.41 cfs 1,479 cf

Subcatchment E2: Existing Site Runoff Area=2,470 sf 100.00% Impervious Runoff Depth>6.16"
Flow Length=69' Slope=0.0130 '/' Tc=1.0 min CN=98 Runoff=0.42 cfs 1,268 cf

Subcatchment PD-1: Proposed Site Runoff Area=2,972 sf 42.19% Impervious Runoff Depth>5.01"
Flow Length=59' Slope=0.0110 '/' Tc=7.9 min CN=88 Runoff=0.36 cfs 1,240 cf

Subcatchment PD-2: Proposed Site Runoff Area=708 sf 0.00% Impervious Runoff Depth>4.14"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=80 Runoff=0.09 cfs 244 cf

Subcatchment PD-3: Proposed Site Runoff Area=3,363 sf 100.00% Impervious Runoff Depth>6.16"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=98 Runoff=0.58 cfs 1,727 cf

Pond 7P: Cultec 330 Peak Elev=30.60' Storage=963 cf Inflow=0.58 cfs 1,727 cf
Outflow=0.16 cfs 933 cf

Link 1L: POI B Inflow=0.42 cfs 1,268 cf
Primary=0.42 cfs 1,268 cf

Link 2L: POI B Inflow=0.19 cfs 1,177 cf
Primary=0.19 cfs 1,177 cf

Link 6L: POI A Inflow=0.41 cfs 1,479 cf
Primary=0.41 cfs 1,479 cf

Link 17L: POI A Inflow=0.36 cfs 1,240 cf
Primary=0.36 cfs 1,240 cf

Total Runoff Area = 13,059 sf Runoff Volume = 5,958 cf Average Runoff Depth = 5.47"
34.21% Pervious = 4,468 sf 65.79% Impervious = 8,591 sf

Summary for Subcatchment E1: Existing Site

Runoff = 0.41 cfs @ 12.12 hrs, Volume= 1,479 cf, Depth> 5.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

	Area (sf)	CN	Description
*	1,273	98	Existing Dwelling
*	231	98	Existing Walkways
	2,042	80	>75% Grass cover, Good, HSG D
	3,546	88	Weighted Average
	2,042		57.59% Pervious Area
	1,504		42.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	70	0.0110	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment E2: Existing Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.42 cfs @ 12.01 hrs, Volume= 1,268 cf, Depth> 6.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

	Area (sf)	CN	Description
*	2,413	98	Existing Partial Driveway
*	57	98	Existing Walkways
	2,470	98	Weighted Average
	2,470		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0130	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-1: Proposed Site

Runoff = 0.36 cfs @ 12.11 hrs, Volume= 1,240 cf, Depth> 5.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

	Area (sf)	CN	Description
*	1,184	98	Existing Dwelling
*	70	98	Existing Walkways
	1,718	80	>75% Grass cover, Good, HSG D
	2,972	88	Weighted Average
	1,718		57.81% Pervious Area
	1,254		42.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	59	0.0110	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment PD-2: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.09 cfs @ 12.02 hrs, Volume= 244 cf, Depth> 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

Area (sf)	CN	Description
708	80	>75% Grass cover, Good, HSG D
708		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-3: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.58 cfs @ 12.01 hrs, Volume= 1,727 cf, Depth> 6.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

	Area (sf)	CN	Description
*	2,473	98	Proposed Partial Building
*	890	98	Proposed Driveway
	3,363	98	Weighted Average
	3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Pond 7P: Cultec 330

Inflow Area = 3,363 sf,100.00% Impervious, Inflow Depth > 6.16" for 25-Year event
Inflow = 0.58 cfs @ 12.01 hrs, Volume= 1,727 cf
Outflow = 0.16 cfs @ 12.28 hrs, Volume= 933 cf, Atten= 72%, Lag= 15.8 min
Primary = 0.16 cfs @ 12.28 hrs, Volume= 933 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.60' @ 12.28 hrs Surf.Area= 508 sf Storage= 963 cf

Plug-Flow detention time= 258.2 min calculated for 932 cf (54% of inflow)
Center-of-Mass det. time= 135.3 min (874.8 - 739.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	27.76'	460 cf	**11.17'W x 45.50'L x 3.54'H Field A** 1,799 cf Overall - 648 cf Embedded = 1,151 cf x 40.0% Voids
#2A	28.26'	648 cf	**Cultec R-330XLHD** x 12 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
		1,109 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	30.00'	**6.0" Vert. 6" Outlet** C= 0.600
#2	Device 1	30.00'	**3.0" Vert. 3" Orifice** C= 0.600
#3	Device 1	31.00'	**6.0" Horiz. 6" Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 12.28 hrs HW=30.60' (Free Discharge)
└**1=6" Outlet** (Passes 0.16 cfs of 0.56 cfs potential flow)
└**2=3" Orifice** (Orifice Controls 0.16 cfs @ 3.33 fps)
└**3=6" Overflow** (Controls 0.00 cfs)

Pond 7P: Cultec 330 - 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 2 rows

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

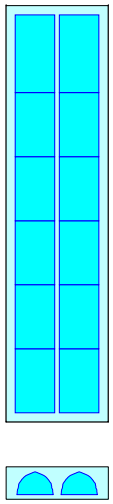
6 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 43.50' Row Length +12.0" End Stone x 2 = 45.50' Base Length
2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.17' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

12 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 2 Rows = 648.2 cf Chamber Storage

1,799.5 cf Field - 648.2 cf Chambers = 1,151.2 cf Stone x 40.0% Voids = 460.5 cf Stone Storage

Chamber Storage + Stone Storage = 1,108.7 cf = 0.025 af
Overall Storage Efficiency = 61.6%
Overall System Size = 45.50' x 11.17' x 3.54'

12 Chambers
66.6 cy Field
42.6 cy Stone



Stage-Area-Storage for Pond 7P: Cultec 330

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
27.76	0	30.36	897
27.81	10	30.41	912
27.86	20	30.46	926
27.91	30	30.51	940
27.96	41	30.56	953
28.01	51	30.61	965
28.06	61	30.66	977
28.11	71	30.71	988
28.16	81	30.76	999
28.21	91	30.81	1,009
28.26	102	30.86	1,019
28.31	122	30.91	1,029
28.36	143	30.96	1,039
28.41	163	31.01	1,049
28.46	183	31.06	1,060
28.51	204	31.11	1,070
28.56	224	31.16	1,080
28.61	244	31.21	1,090
28.66	265	31.26	**1,100**
28.71	285		
28.76	305		
28.81	325		
28.86	345		
28.91	365		
28.96	385		
29.01	405		
29.06	425		
29.11	444		
29.16	464		
29.21	484		
29.26	503		
29.31	523		
29.36	542		
29.41	562		
29.46	581		
29.51	600		
29.56	619		
29.61	638		
29.66	657		
29.71	676		
29.76	694		
29.81	712		
29.86	730		
29.91	748		
29.96	765		
30.01	783		
30.06	800		
30.11	817		
30.16	833		
30.21	850		
30.26	866		
30.31	882		

Summary for Link 1L: POI B

Inflow Area = 2,470 sf,100.00% Impervious, Inflow Depth > 6.16" for 25-Year event
Inflow = 0.42 cfs @ 12.01 hrs, Volume= 1,268 cf
Primary = 0.42 cfs @ 12.01 hrs, Volume= 1,268 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 2L: POI B

Inflow Area = 4,071 sf, 82.61% Impervious, Inflow Depth > 3.47" for 25-Year event
Inflow = 0.19 cfs @ 12.22 hrs, Volume= 1,177 cf
Primary = 0.19 cfs @ 12.22 hrs, Volume= 1,177 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 6L: POI A

Inflow Area = 3,546 sf, 42.41% Impervious, Inflow Depth > 5.00" for 25-Year event
Inflow = 0.41 cfs @ 12.12 hrs, Volume= 1,479 cf
Primary = 0.41 cfs @ 12.12 hrs, Volume= 1,479 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 17L: POI A

Inflow Area = 2,972 sf, 42.19% Impervious, Inflow Depth > 5.01" for 25-Year event
Inflow = 0.36 cfs @ 12.11 hrs, Volume= 1,240 cf
Primary = 0.36 cfs @ 12.11 hrs, Volume= 1,240 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Existing Site Runoff Area=3,546 sf 42.41% Impervious Runoff Depth>6.17"
Flow Length=70' Slope=0.0110 '/' Tc=9.1 min CN=88 Runoff=0.51 cfs 1,823 cf

Subcatchment E2: Existing Site Runoff Area=2,470 sf 100.00% Impervious Runoff Depth>7.36"
Flow Length=69' Slope=0.0130 '/' Tc=1.0 min CN=98 Runoff=0.50 cfs 1,515 cf

Subcatchment PD-1: Proposed Site Runoff Area=2,972 sf 42.19% Impervious Runoff Depth>6.17"
Flow Length=59' Slope=0.0110 '/' Tc=7.9 min CN=88 Runoff=0.44 cfs 1,528 cf

Subcatchment PD-2: Proposed Site Runoff Area=708 sf 0.00% Impervious Runoff Depth>5.25"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=80 Runoff=0.12 cfs 310 cf

Subcatchment PD-3: Proposed Site Runoff Area=3,363 sf 100.00% Impervious Runoff Depth>7.36"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=98 Runoff=0.69 cfs 2,063 cf

Pond 7P: Cultec 330 Peak Elev=31.06' Storage=1,059 cf Inflow=0.69 cfs 2,063 cf
Outflow=0.30 cfs 1,267 cf

Link 1L: POI B Inflow=0.50 cfs 1,515 cf
Primary=0.50 cfs 1,515 cf

Link 2L: POI B Inflow=0.36 cfs 1,577 cf
Primary=0.36 cfs 1,577 cf

Link 6L: POI A Inflow=0.51 cfs 1,823 cf
Primary=0.51 cfs 1,823 cf

Link 17L: POI A Inflow=0.44 cfs 1,528 cf
Primary=0.44 cfs 1,528 cf

Total Runoff Area = 13,059 sf Runoff Volume = 7,238 cf Average Runoff Depth = 6.65"
34.21% Pervious = 4,468 sf 65.79% Impervious = 8,591 sf

Summary for Subcatchment E1: Existing Site

Runoff = 0.51 cfs @ 12.12 hrs, Volume= 1,823 cf, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.60"

	Area (sf)	CN	Description
*	1,273	98	Existing Dwelling
*	231	98	Existing Walkways
	2,042	80	>75% Grass cover, Good, HSG D
	3,546	88	Weighted Average
	2,042		57.59% Pervious Area
	1,504		42.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	70	0.0110	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment E2: Existing Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.50 cfs @ 12.01 hrs, Volume= 1,515 cf, Depth> 7.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.60"

	Area (sf)	CN	Description
*	2,413	98	Existing Partial Driveway
*	57	98	Existing Walkways
	2,470	98	Weighted Average
	2,470		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0130	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-1: Proposed Site

Runoff = 0.44 cfs @ 12.11 hrs, Volume= 1,528 cf, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.60"

	Area (sf)	CN	Description
*	1,184	98	Existing Dwelling
*	70	98	Existing Walkways
	1,718	80	>75% Grass cover, Good, HSG D
	2,972	88	Weighted Average
	1,718		57.81% Pervious Area
	1,254		42.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	59	0.0110	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment PD-2: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.12 cfs @ 12.02 hrs, Volume= 310 cf, Depth> 5.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.60"

Area (sf)	CN	Description
708	80	>75% Grass cover, Good, HSG D
708		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-3: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.69 cfs @ 12.01 hrs, Volume= 2,063 cf, Depth> 7.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.60"

	Area (sf)	CN	Description
*	2,473	98	Proposed Partial Building
*	890	98	Proposed Driveway
	3,363	98	Weighted Average
	3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Pond 7P: Cultec 330

Inflow Area = 3,363 sf,100.00% Impervious, Inflow Depth > 7.36" for 50-Year event
Inflow = 0.69 cfs @ 12.01 hrs, Volume= 2,063 cf
Outflow = 0.30 cfs @ 12.11 hrs, Volume= 1,267 cf, Atten= 56%, Lag= 5.9 min
Primary = 0.30 cfs @ 12.11 hrs, Volume= 1,267 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 31.06' @ 12.11 hrs Surf.Area= 508 sf Storage= 1,059 cf

Plug-Flow detention time= 230.2 min calculated for 1,267 cf (61% of inflow)
Center-of-Mass det. time= 119.8 min (856.9 - 737.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	27.76'	460 cf	**11.17'W x 45.50'L x 3.54'H Field A** 1,799 cf Overall - 648 cf Embedded = 1,151 cf x 40.0% Voids
#2A	28.26'	648 cf	**Cultec R-330XLHD** x 12 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
		1,109 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	30.00'	**6.0" Vert. 6" Outlet** C= 0.600
#2	Device 1	30.00'	**3.0" Vert. 3" Orifice** C= 0.600
#3	Device 1	31.00'	**6.0" Horiz. 6" Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.30 cfs @ 12.11 hrs HW=31.06' (Free Discharge)
└**1=6" Outlet** (Passes 0.30 cfs of 0.85 cfs potential flow)
└**2=3" Orifice** (Orifice Controls 0.23 cfs @ 4.65 fps)
└**3=6" Overflow** (Weir Controls 0.07 cfs @ 0.79 fps)

Pond 7P: Cultec 330 - 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 2 rows

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

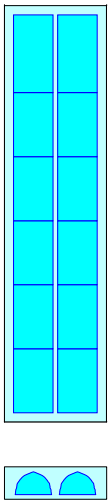
6 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 43.50' Row Length +12.0" End Stone x 2 = 45.50' Base Length
2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.17' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

12 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 2 Rows = 648.2 cf Chamber Storage

1,799.5 cf Field - 648.2 cf Chambers = 1,151.2 cf Stone x 40.0% Voids = 460.5 cf Stone Storage

Chamber Storage + Stone Storage = 1,108.7 cf = 0.025 af
Overall Storage Efficiency = 61.6%
Overall System Size = 45.50' x 11.17' x 3.54'

12 Chambers
66.6 cy Field
42.6 cy Stone



Stage-Area-Storage for Pond 7P: Cultec 330

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
27.76	0	30.36	897
27.81	10	30.41	912
27.86	20	30.46	926
27.91	30	30.51	940
27.96	41	30.56	953
28.01	51	30.61	965
28.06	61	30.66	977
28.11	71	30.71	988
28.16	81	30.76	999
28.21	91	30.81	1,009
28.26	102	30.86	1,019
28.31	122	30.91	1,029
28.36	143	30.96	1,039
28.41	163	31.01	1,049
28.46	183	31.06	1,060
28.51	204	31.11	1,070
28.56	224	31.16	1,080
28.61	244	31.21	1,090
28.66	265	31.26	**1,100**
28.71	285		
28.76	305		
28.81	325		
28.86	345		
28.91	365		
28.96	385		
29.01	405		
29.06	425		
29.11	444		
29.16	464		
29.21	484		
29.26	503		
29.31	523		
29.36	542		
29.41	562		
29.46	581		
29.51	600		
29.56	619		
29.61	638		
29.66	657		
29.71	676		
29.76	694		
29.81	712		
29.86	730		
29.91	748		
29.96	765		
30.01	783		
30.06	800		
30.11	817		
30.16	833		
30.21	850		
30.26	866		
30.31	882		

Summary for Link 1L: POI B

Inflow Area = 2,470 sf,100.00% Impervious, Inflow Depth > 7.36" for 50-Year event
Inflow = 0.50 cfs @ 12.01 hrs, Volume= 1,515 cf
Primary = 0.50 cfs @ 12.01 hrs, Volume= 1,515 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 2L: POI B

Inflow Area = 4,071 sf, 82.61% Impervious, Inflow Depth > 4.65" for 50-Year event
Inflow = 0.36 cfs @ 12.11 hrs, Volume= 1,577 cf
Primary = 0.36 cfs @ 12.11 hrs, Volume= 1,577 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 6L: POI A

Inflow Area = 3,546 sf, 42.41% Impervious, Inflow Depth > 6.17" for 50-Year event
Inflow = 0.51 cfs @ 12.12 hrs, Volume= 1,823 cf
Primary = 0.51 cfs @ 12.12 hrs, Volume= 1,823 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 17L: POI A

Inflow Area = 2,972 sf, 42.19% Impervious, Inflow Depth > 6.17" for 50-Year event
Inflow = 0.44 cfs @ 12.11 hrs, Volume= 1,528 cf
Primary = 0.44 cfs @ 12.11 hrs, Volume= 1,528 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Existing Site Runoff Area=3,546 sf 42.41% Impervious Runoff Depth>7.64"
Flow Length=70' Slope=0.0110 '/' Tc=9.1 min CN=88 Runoff=0.62 cfs 2,256 cf

Subcatchment E2: Existing Site Runoff Area=2,470 sf 100.00% Impervious Runoff Depth>8.86"
Flow Length=69' Slope=0.0130 '/' Tc=1.0 min CN=98 Runoff=0.60 cfs 1,823 cf

Subcatchment PD-1: Proposed Site Runoff Area=2,972 sf 42.19% Impervious Runoff Depth>7.64"
Flow Length=59' Slope=0.0110 '/' Tc=7.9 min CN=88 Runoff=0.54 cfs 1,891 cf

Subcatchment PD-2: Proposed Site Runoff Area=708 sf 0.00% Impervious Runoff Depth>6.66"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=80 Runoff=0.15 cfs 393 cf

Subcatchment PD-3: Proposed Site Runoff Area=3,363 sf 100.00% Impervious Runoff Depth>8.86"
Flow Length=62' Slope=0.0110 '/' Tc=1.0 min CN=98 Runoff=0.82 cfs 2,483 cf

Pond 7P: Cultec 330 Peak Elev=31.21' Storage=1,090 cf Inflow=0.82 cfs 2,483 cf
Outflow=0.68 cfs 1,685 cf

Link 1L: POI B Inflow=0.60 cfs 1,823 cf
Primary=0.60 cfs 1,823 cf

Link 2L: POI B Inflow=0.81 cfs 2,078 cf
Primary=0.81 cfs 2,078 cf

Link 6L: POI A Inflow=0.62 cfs 2,256 cf
Primary=0.62 cfs 2,256 cf

Link 17L: POI A Inflow=0.54 cfs 1,891 cf
Primary=0.54 cfs 1,891 cf

Total Runoff Area = 13,059 sf Runoff Volume = 8,847 cf Average Runoff Depth = 8.13"
34.21% Pervious = 4,468 sf 65.79% Impervious = 8,591 sf

Summary for Subcatchment E1: Existing Site

Runoff = 0.62 cfs @ 12.12 hrs, Volume= 2,256 cf, Depth> 7.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=9.10"

	Area (sf)	CN	Description
*	1,273	98	Existing Dwelling
*	231	98	Existing Walkways
	2,042	80	>75% Grass cover, Good, HSG D
	3,546	88	Weighted Average
	2,042		57.59% Pervious Area
	1,504		42.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	70	0.0110	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment E2: Existing Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.60 cfs @ 12.01 hrs, Volume= 1,823 cf, Depth> 8.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=9.10"

	Area (sf)	CN	Description
*	2,413	98	Existing Partial Driveway
*	57	98	Existing Walkways
	2,470	98	Weighted Average
	2,470		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0130	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-1: Proposed Site

Runoff = 0.54 cfs @ 12.11 hrs, Volume= 1,891 cf, Depth> 7.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=9.10"

	Area (sf)	CN	Description
*	1,184	98	Existing Dwelling
*	70	98	Existing Walkways
	1,718	80	>75% Grass cover, Good, HSG D
	2,972	88	Weighted Average
	1,718		57.81% Pervious Area
	1,254		42.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	59	0.0110	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"

Summary for Subcatchment PD-2: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.15 cfs @ 12.02 hrs, Volume= 393 cf, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
708	80	>75% Grass cover, Good, HSG D
708		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Subcatchment PD-3: Proposed Site

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.82 cfs @ 12.01 hrs, Volume= 2,483 cf, Depth> 8.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=9.10"

	Area (sf)	CN	Description
*	2,473	98	Proposed Partial Building
*	890	98	Proposed Driveway
	3,363	98	Weighted Average
	3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	62	0.0110	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.40"

Summary for Pond 7P: Cultec 330

Inflow Area = 3,363 sf,100.00% Impervious, Inflow Depth > 8.86" for 100-Year event
Inflow = 0.82 cfs @ 12.01 hrs, Volume= 2,483 cf
Outflow = 0.68 cfs @ 12.05 hrs, Volume= 1,685 cf, Atten= 17%, Lag= 2.1 min
Primary = 0.68 cfs @ 12.05 hrs, Volume= 1,685 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 31.21' @ 12.05 hrs Surf.Area= 508 sf Storage= 1,090 cf

Plug-Flow detention time= 207.0 min calculated for 1,684 cf (68% of inflow)
Center-of-Mass det. time= 106.9 min (841.8 - 735.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	27.76'	460 cf	**11.17'W x 45.50'L x 3.54'H Field A** 1,799 cf Overall - 648 cf Embedded = 1,151 cf x 40.0% Voids
#2A	28.26'	648 cf	**Cultec R-330XLHD** x 12 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
		1,109 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	30.00'	**6.0" Vert. 6" Outlet** C= 0.600
#2	Device 1	30.00'	**3.0" Vert. 3" Orifice** C= 0.600
#3	Device 1	31.00'	**6.0" Horiz. 6" Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 12.05 hrs HW=31.21' (Free Discharge)
↑└─**1=6" Outlet** (Passes 0.68 cfs of 0.93 cfs potential flow)
↑ └─**2=3" Orifice** (Orifice Controls 0.25 cfs @ 5.02 fps)
└─**3=6" Overflow** (Orifice Controls 0.43 cfs @ 2.21 fps)

Pond 7P: Cultec 330 - 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 2 rows

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

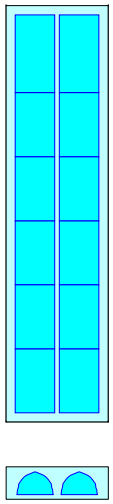
6 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 43.50' Row Length +12.0" End Stone x 2 = 45.50' Base Length
2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.17' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

12 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 2 Rows = 648.2 cf Chamber Storage

1,799.5 cf Field - 648.2 cf Chambers = 1,151.2 cf Stone x 40.0% Voids = 460.5 cf Stone Storage

Chamber Storage + Stone Storage = 1,108.7 cf = 0.025 af
Overall Storage Efficiency = 61.6%
Overall System Size = 45.50' x 11.17' x 3.54'

12 Chambers
66.6 cy Field
42.6 cy Stone



Stage-Area-Storage for Pond 7P: Cultec 330

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
27.76	0	30.36	897
27.81	10	30.41	912
27.86	20	30.46	926
27.91	30	30.51	940
27.96	41	30.56	953
28.01	51	30.61	965
28.06	61	30.66	977
28.11	71	30.71	988
28.16	81	30.76	999
28.21	91	30.81	1,009
28.26	102	30.86	1,019
28.31	122	30.91	1,029
28.36	143	30.96	1,039
28.41	163	31.01	1,049
28.46	183	31.06	1,060
28.51	204	31.11	1,070
28.56	224	31.16	1,080
28.61	244	31.21	1,090
28.66	265	31.26	**1,100**
28.71	285		
28.76	305		
28.81	325		
28.86	345		
28.91	365		
28.96	385		
29.01	405		
29.06	425		
29.11	444		
29.16	464		
29.21	484		
29.26	503		
29.31	523		
29.36	542		
29.41	562		
29.46	581		
29.51	600		
29.56	619		
29.61	638		
29.66	657		
29.71	676		
29.76	694		
29.81	712		
29.86	730		
29.91	748		
29.96	765		
30.01	783		
30.06	800		
30.11	817		
30.16	833		
30.21	850		
30.26	866		
30.31	882		

Summary for Link 1L: POI B

Inflow Area = 2,470 sf,100.00% Impervious, Inflow Depth > 8.86" for 100-Year event
Inflow = 0.60 cfs @ 12.01 hrs, Volume= 1,823 cf
Primary = 0.60 cfs @ 12.01 hrs, Volume= 1,823 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 2L: POI B

Inflow Area = 4,071 sf, 82.61% Impervious, Inflow Depth > 6.13" for 100-Year event
Inflow = 0.81 cfs @ 12.04 hrs, Volume= 2,078 cf
Primary = 0.81 cfs @ 12.04 hrs, Volume= 2,078 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 6L: POI A

Inflow Area = 3,546 sf, 42.41% Impervious, Inflow Depth > 7.64" for 100-Year event
Inflow = 0.62 cfs @ 12.12 hrs, Volume= 2,256 cf
Primary = 0.62 cfs @ 12.12 hrs, Volume= 2,256 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 17L: POI A

Inflow Area = 2,972 sf, 42.19% Impervious, Inflow Depth > 7.64" for 100-Year event
Inflow = 0.54 cfs @ 12.11 hrs, Volume= 1,891 cf
Primary = 0.54 cfs @ 12.11 hrs, Volume= 1,891 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Appendix D DCIA Tracking Worksheet

Directly Connected Impervious Area Tracking Worksheet
City of Stamford Drainage Manual

Note to user: complete all cells of this color only, as indicated by section headings

Part 1: General Information (All Projects)	
Project Name	Kolich Property
Project Address	1911 Summer St, Stamford, CT
Project Applicant	Ahneman Kirby
Title of Plan	Proposed Site Plan
Revision Date of Plan	11/15/2022
Tax Account Number	001-5245

Part 2: Project Details (All Projects)		
1. What type of development is this? (choose from dropdown)	Redevelopment	
2. What is the total area of the project site?	7043	ft^2
3. What is the total area of land disturbance for this project?	4000	ft^2
4. Does project site drain to High Quality Waters, a Direct Waterfront, or within 500 ft. of Tidal Wetlands? (Yes/No)	No	
Does Standard 1 apply based on information above?	No	

Part 3: Water Quality Target Total (Only for Standard 1 Projects)		
5. What is the current (pre-development) ***DCIA*** for the site?	N/A	ft^2
6. Will the proposed development increase ***DCIA*** (without consideration of proposed stormwater management)? (Yes/No)	N/A	
7. What is the proposed-development ***total impervious area*** for the site?	N/A	ft^2
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	N/A	ft^3

Part 4: Proposed DCIA Tracking (Only for Standard 1 Projects)		
Pre-development ***total impervious area***	N/A	ft^2
Current ***DCIA***	N/A	ft^2
Proposed-development ***total impervious area***	N/A	ft^2
Proposed-development ***DCIA*** (after stormwater management)	N/A	ft^2
Net change in ***DCIA*** from current to proposed-development	N/A	ft^2

Part 5: Post-Development (As-Built Certified) DCIA Tracking (Only for Standard 1 Projects)		
Post-development (per as-built) ***total impervious area***	**N/A**	ft^2
Post-development (per as-built) ***DCIA*** (after stormwater management)	N/A	ft^2
Net change in ***DCIA*** from current to post-development	N/A	ft^2

Certification Statement

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

Engineer's Signature Keith Werner Date 7/24/2023 Engineer's Seal

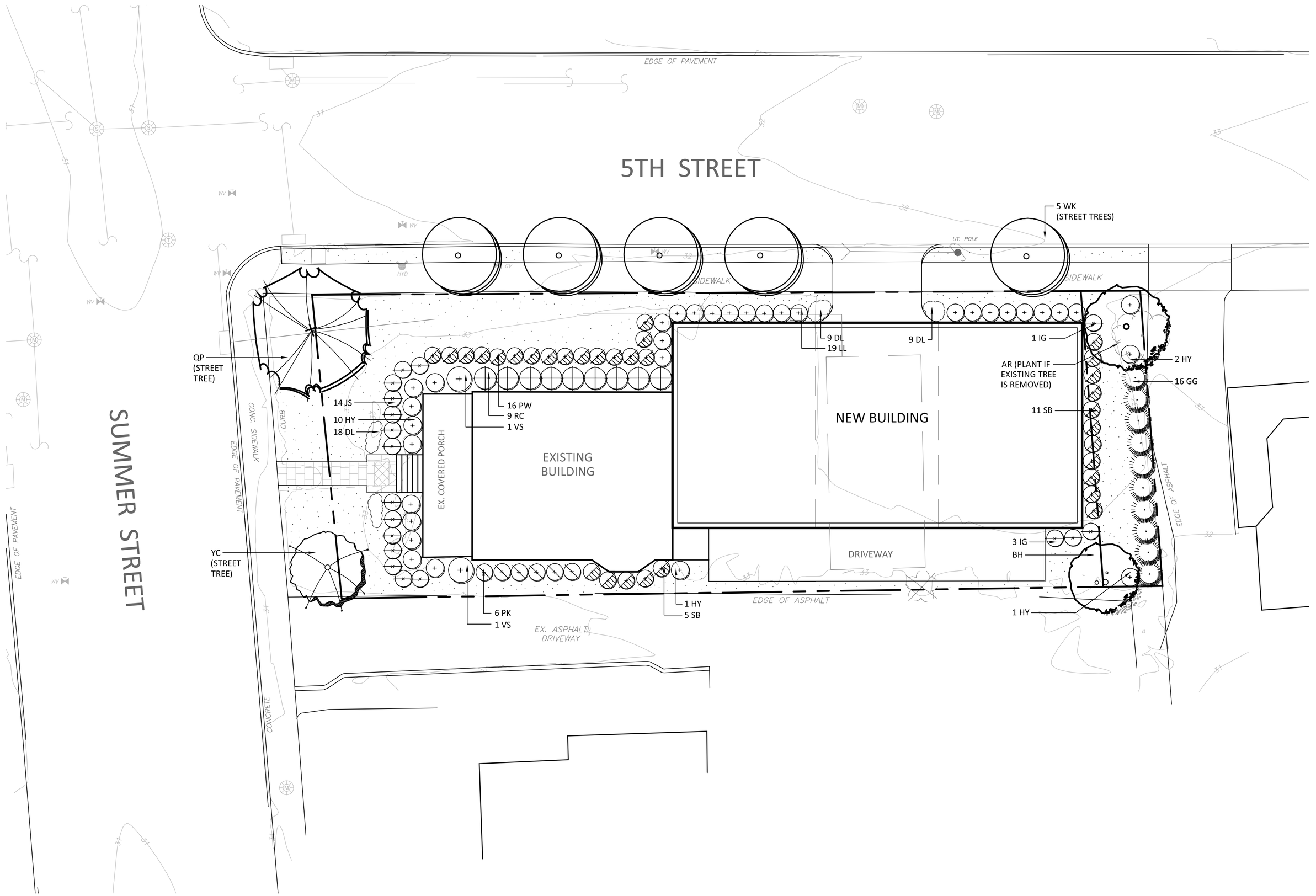
Appendix E Drawdown Calculations

1911 Summer St, Stamford, CT

Drawdown Calculations

Drawdown Cultec System C-1

$Time_{drawdown}$	=	$\frac{DV}{(K)\,(A)}$	=	**3.8**	**hours**	**OK < 72 hours**
DV	=	Design Volume	=	779	cf	= stored volume water below outlet pipe, see HydroCAD calculations
$K_{Soil\ Goup\ C}$	=	Infiltration Rate	=	4.84	inches/hour	Soil Group B
A	=	Bottom Area	=	508	ft^2	



LEGEND

- PROPERTY LINE
- UPLAND REVIEW LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- TREE LINE TO REMAIN (APPROX.)
- NEW / EX. LAWN AREA
- EX. DECIDUOUS / EVERGREEN TREE TO REMAIN
- EX. TREE TO BE REMOVED
- NEW DECIDUOUS SHADE TREE
- NEW DECIDUOUS SMALL TREE
- NEW EVERGREEN TREE
- NEW SHRUB

NOTES:

1. CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 TO HAVE UNDERGROUND UTILITY LINES MARKED BY THEM PRIOR TO START OF ANY EXCAVATION WORK.
2. EXACT LOCATION OF PROPOSED PLANTINGS AND SPECIES TYPES MAY VARY FROM THIS PLAN BASED ON SITE PLAN REVISIONS AND/OR ACTUAL FIELD CONDITIONS.
3. SEED LAWN AREAS WITH A HIGH QUALITY FESCUE AND BLUEGRASS SEED MIXTURE. APPLY SOIL AMENDMENTS AND SEED AREAS AT THE METHODS AND RATE RECOMMENDED BY THE MANUFACTURER. LIGHTLY MULCH SEEDED AREA WITH WEED-FREE CLEAN HAY. A NURSE CROP SHALL BE ADDED TO THE SEED MIX ON SLOPES OF EXCESS OF 10% AND AS SPECIFIED. LIGHTLY RAKE OR ROLL GROUND SURFACE AFTER SOWING. MAINTAIN LAWN AREAS PER THE MANUFACTURER'S RECOMMENDATIONS.
4. PLANT SPECIES SUBSTITUTIONS MAY BE MADE WITH THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PLANTING. SUBSTITUTED PLANTS SHALL BE AT AN EQUAL OR GREATER SIZE AS NOTED USING A SIMILAR TYPE PLANT.
5. PLANTING METHODS SHALL BE IN ACCORDANCE WITH THE "AMERICAN STANDARDS FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
6. THE CONTRACTOR SHALL VERIFY WITH THE PROJECT ENGINEER THAT THE NEW PLANTINGS DO NOT INTERFERE WITH EXISTING AND/OR PROPOSED UTILITIES, SIGHT LINES, AND/OR STRUCTURES.
7. THIS PLAN FOR PLANTING PURPOSES ONLY. SEE PLANS BY OTHERS FOR ADDITIONAL INFORMATION.

STREET TREE CHART

STREETSCAPE AREA	TOTAL STREET FRONTAGE (LF)	REQUIRED STREET TREES (FRONTAGE/25)	STREET TREES PROPOSED	NUMBER OF STREET CORNERS	TREES SUBJECT TO FEE PAYMENT (STREET TREES REQUIRED - STREET TREES PROPOSED - CORNERS)	FEE IN LIEU REQUIRED ($2500 PER TREE SUBJECT TO FEE PAYMENT)
SUMMER STREET	51.50'	2.06	2	1	0 (2.06 - 2 - 1 = -0.94)	$0
5TH STREET	139.81'	5.59	5	1	0 (5.59 - 5 - 1 = -0.41)	$0
SUBTOTAL:						$0

PLANT LIST

QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	STREET TREE / TYPE	REMARKS	PLANTING HEIGHT	MATURE HEIGHT
1	AR	ACER RUBRUM 'ARMSTONG'	ARMSTRONG RED MAPLE	2 1/2-3" CAL.	B&B	NO	COLUMNAR, RED FALL FOLIAGE	14-15' HT.	45-50' HT.
1	BH	BETULA NIGRA 'DURA HEAT'	DURA HEAT BIRCH	9-10' HT.	B&B	NO	MULTISTEM, EXFOLIATING BARK	9-10' HT.	35' HT.
1	QR	QUERCUS RUBRA	RED OAK	2 1/2-3" CAL.	B&B	YES / LARGE	DECIDUOUS	13-14' HT.	50-60' HT.
5	WK	CRATAEGUS 'WINTER KING'	WINTER KING HAWTHORN	2 1/2-3" CAL.	B&B	YES / SMALL	WHITE FLOWER, RED BERRIES	13-14' HT.	18-20' HT.
1	YC	PRUNUS X YEDOENSIS	YOSHINO CHERRY	2 1/2-3" CAL.	B&B	YES / SMALL	LIGHT PINK FLOWER	10-12' HT.	20-24' HT.
16	GG	THUJA 'GREEN GIANT'	GREEN GIANT ARBORVITAE	5-6' HT.	B&B		EVERGREEN	5-6' HT.	30-35' HT.
16	PW	AZALEA 'PLEASANT WHITE'	PLEASANT WHITE AZALEA	18-24" HT.	CONT.		WHITE FLOWER	2' HT.	3' HT.
14	HY	HYDRANGEA 'THE ORIGINAL'	THE ORIGINAL HYDRANGEA	2-3' HT.	CONT.		BLUE FLOWER	2.5' HT.	4' HT.
19	LL	HYDRANGEA 'LIME LIGHT'	LIME LIGHT HYDRAGEA	30-36" HT.	CONT.		WHITE FLOWER	2.5' HT.	4' HT.
2	VS	HYDRANGEA PAN. 'VANILLA STRAWBERRY'	VANILLA STRAWBERRY	3-4' HT.	B&B		PINK FLOWEER	3.5' HT.	6-7' HT.
4	IG	ILEX 'SHAMROCK'	SHAMROCK INKBERRY	2-3' HT.	CONT.		EVERGREEN	2' HT.	3' HT.
7	JS	JUNIPERUS CHINENSIS VAR. 'SARGENTII'	SARGENT JUNIPER	2-3' SPR.	CONT.		EVERGREEN	18" HT.	2' HT.
9	RC	RHODODENDRON 'CHIONOIDES'	CHIONOIDES RHODODENDRON	3-4' HT.	B&B		EVERGREEN, WHITE FLOWER	3' HT.	5' HT.
6	PK	ROSA 'PINK KNOWOUT'	PINK KNOCKOUT ROSE	2-3' HT'	CONT.		PINE FLOWERS	2' HT.	4' HT.
16	SB	SPRIAEA 'SHIROBANA'	SHIROBANA SPIREA	18-24" HT.	CONT.		WHITE AND PINK FLOWERS	18" HT.	3' HT.
36	DL	HEMEROCALLIS 'HYPERION'	HYPERION DAYLILY		1 GAL.		YELLOW FLOWER, PERENNIAL	15" HT.	18" HT.

GRAPHIC SCALE
0' 5' 10' 20'

PROJECT NORTH

REVISIONS:		
3	9.29.23	REVISED SITE PLAN
2	8.29.23	REVISED SITE PLAN
1	10.27.22	REVISED SITE PLAN

DRAWING TITLE: LANDSCAPE PLAN

PROJECT:
1911 SUMMER STREET
STAMFORD, CONNECTICUT

ENVIRONMENTAL LAND SOLUTIONS, LLC
Landscape Architecture and Environmental Planning
8 KNIGHT STREET, SUITE 203
NORWALK, CONNECTICUT 06851
Tel: (203) 855-7879 Fax: (203) 855-7836
info@elsllc.net www.elsllc.net

SEAL:

DATE: 12.20.21
SCALE: 1"=10'
DRAWING NO.: LP.1

SITE STATISTICS:

EXISTING HISTORIC HOUSE – RESIDENTIAL DWELLING UNIT
TOTAL GROSS AREA: 1930 S.F.

BASEMENT AND ATTIC ARE NOT INCLUDED IN AREA ABOVE
BASEMENT GROSS AREA IS: 998 S.F
ATTIC GROSS AREA IS 572 S.F.

NEW CONSTRICTION: 2 TWO–FAMILY DWELLINGS: 4 DWELLING UNITS

EACH DWELLING UNIT LIVING AREAS	GROSS	NET
FIRST FLOOR (GARAGE NOT INCLUDED):	81 S.F.	67 S.F.
SECOND FLOOR:	568 S.F.	517 S.F.
THIRD FLOOR:	568 S.F.	517 S.F.
FOURTH FLOOR:	568 S.F.	517 S.F.
BULKHEAD – STAIR TO ROOF TERRACE	104 S.F.	78 S.F.
TOTAL LIVING AREA PER UNIT	1889 S.F.	1696 S.F.
GARAGE AREA:	322 S.F.	285 S.F.
ROOF TERRACE AREA:		333 S.F.

APPLICABLE CODES:

Adopted and Referenced Publications

2021 International Existing Building Code
2021 International Plumbing Code
2021 International Mechanical Code
2021 International Energy Conservation Code
2020 NFPA 70, National Electrical Code, of the National Fire Protection Association Inc.
2021 International Residential Code

ELENA KALMAN
ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06903
TEL. (203) 329–3074
FAX (203) 329–7149

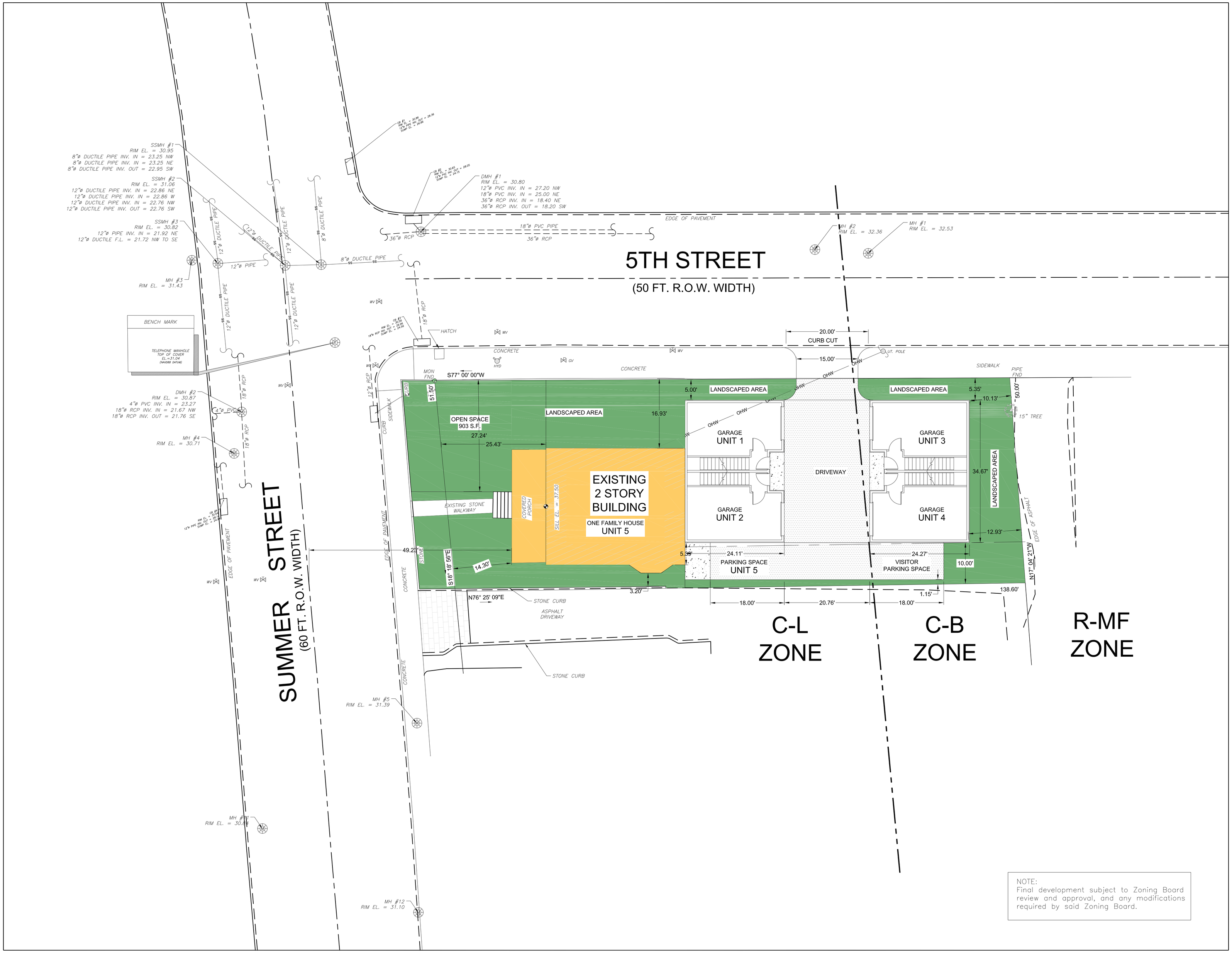
STATE OF CONNECTICUT
ELENA L. KALMAN
No. 4113
LICENSED ARCHITECT

DRAWING TITLE

COVER, CODE AND NOTES

DRAWN BY	EK
CHECKED BY	EK
DATE	2–10–23
SCALE	1/4" = 1'–0"
PROJECT NAME	11911 SUMMER ST
DRAWING NUMBER	

A-00



NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

NOTE:

WRITTEN DIMENSIONS ON THIS DRAWING SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS MUST BE SUBMITTED TO THIS OFFICE FOR REVIEW BEFORE PROCEEDING WITH FABRICATION.

No.	Date	Revision
	Date	Issue

1911 SUMMER STREET, STAMFORD, CT

ELENA KALMAN
ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06903
TEL. (203) 329-3074
FAX (203) 329-7149

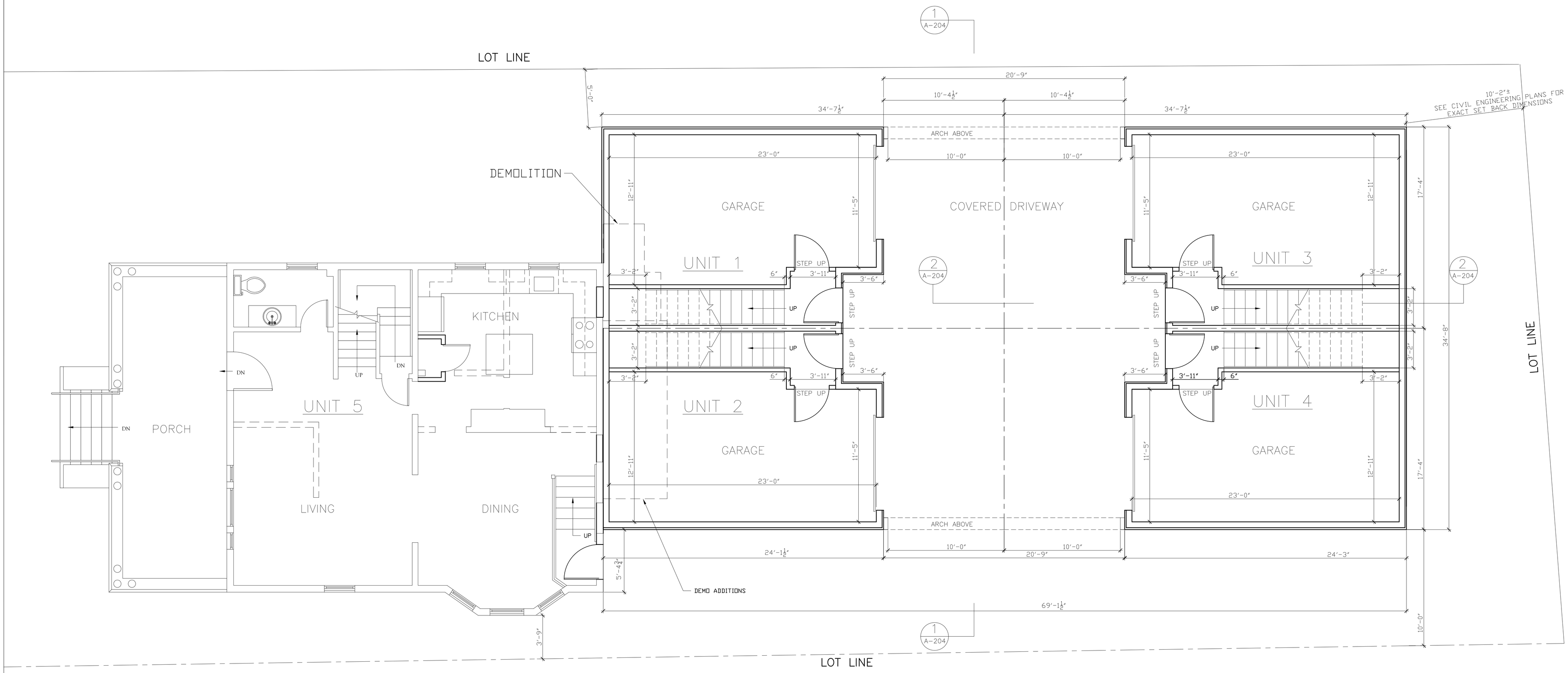
STATE OF CONNECTICUT
ELENA L. KALMAN
No. 4112
LICENSED ARCHITECT

DRAWING TITLE

SITE PLAN

DRAWN BY	EK
CHECKED BY	EK
DATE:	9-12-23
SCALE	1"=20'
PROJECT NAME	EK 11911 SITE
DRAWING NUMBER	DRAWING NUMBER

A-01



NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

NOTE:

ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING ARE OWNED BY, AND ARE THE PROPERTY OF ELENA KALMAN ARCHITECT WERE CREATED, EVOLVED AND DEVELOPED FOR USE ON, AND IN CONNECTION WITH THE SPECIFIED PROJECT, NONE OF SUCH IDEAS, DESIGNS, ARRANGEMENTS OR PLANS SHALL BE USED BY OR DISCLOSED TO ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF ELENA KALMAN ARCHITECT

WRITTEN DIMENSIONS ON THIS DRAWING SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS MUST BE SUBMITTED TO THIS OFFICE FOR REVIEW BEFORE PROCEEDING WITH FABRICATION.

No.	Date	Issue

No.	Date	Revision

1911 SUMMER STREET,
STAMFORD, CT

ELENA KALMAN ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06903
TEL. (203) 329-3074
FAX (203) 329-7149

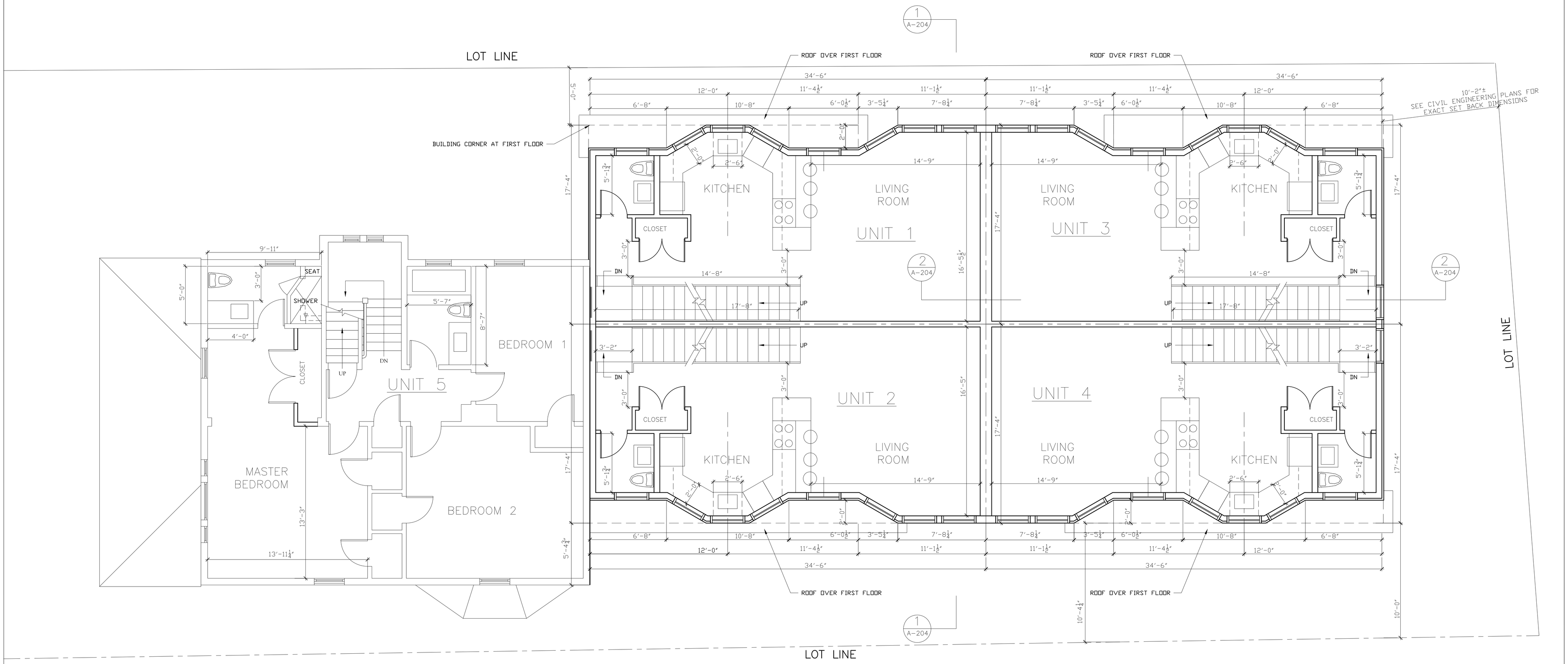
STATE OF CONNECTICUT
ELENA KALMAN
No. 4113
LICENSED ARCHITECT

DRAWING TITLE

FIRST FLOOR PLAN

DRAWN BY	EK
CHECKED BY	EK
DATE	2-10-23
SCALE	1/4" = 1'-0"
PROJECT NAME	11911 SUMMER ST
DRAWING NUMBER	

A-101



NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

NOTE:

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WRITTEN DIMENSIONS ON THIS DRAWING SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS MUST BE SUBMITTED TO THIS OFFICE FOR REVIEW BEFORE PROCEEDING WITH FABRICATION.

No.	Date	Issue

No.	Date	Revision

1911 SUMMER
STREET,
STAMFORD, CT

ELENA
KALMAN
ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06903
TEL. (203) 329-3074
FAX (203) 329-7149

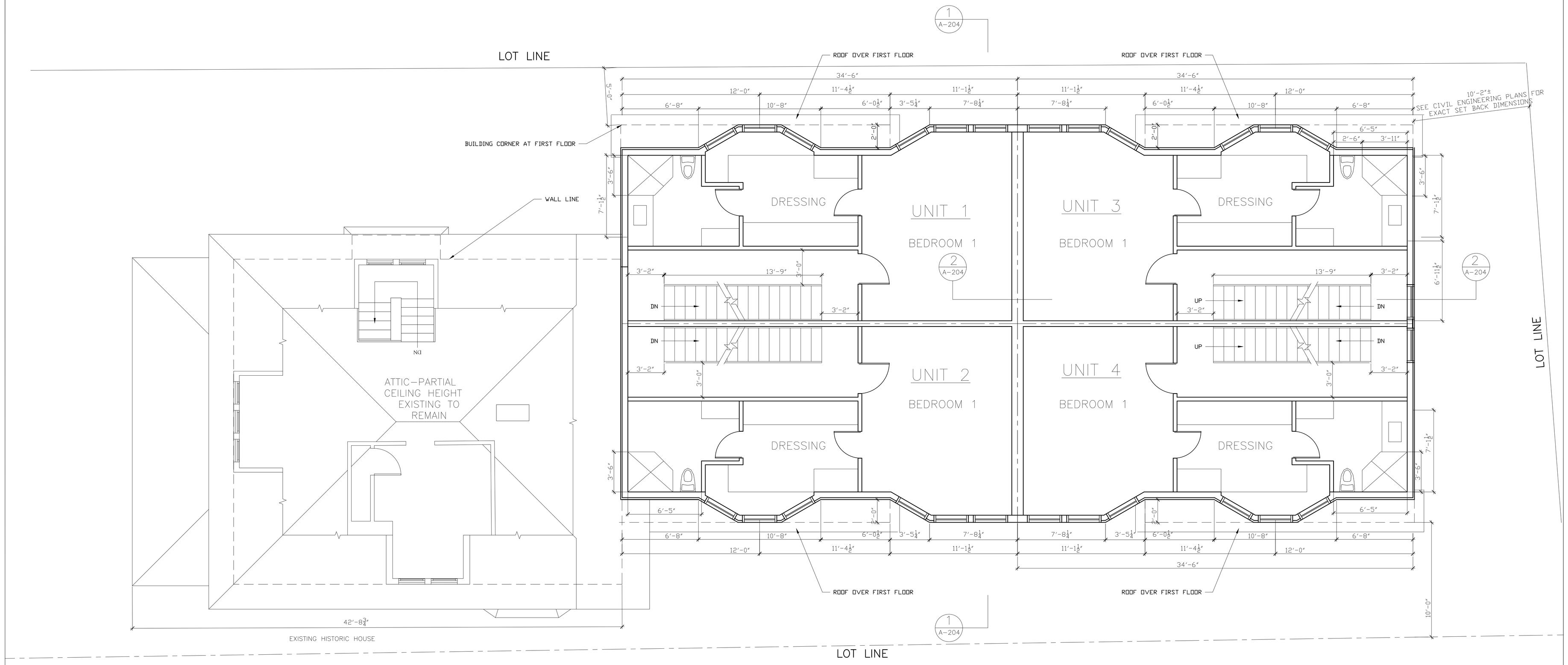
STATE OF CONNECTICUT
ELENA KALMAN
No. 4113
LICENSED ARCHITECT

DRAWING TITLE

SECOND FLOOR PLAN

DRAWN BY	EK
CHECKED BY	EK
DATE	2-10-23
SCALE	1/4" = 1'-0"
PROJECT NAME	11911 SUMMER ST
DRAWING NUMBER	

A-102



NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

WRITTEN DIMENSIONS ON THIS DRAWING SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS MUST BE SUBMITTED TO THIS OFFICE FOR REVIEW BEFORE PROCEEDING WITH FABRICATION.

No.	Date	Revision
	Date	Issue

1911 SUMMER STREET,
STAMFORD, CT

ELENA KALMAN
ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06903
TEL. (203) 329-3074
FAX (203) 329-7149

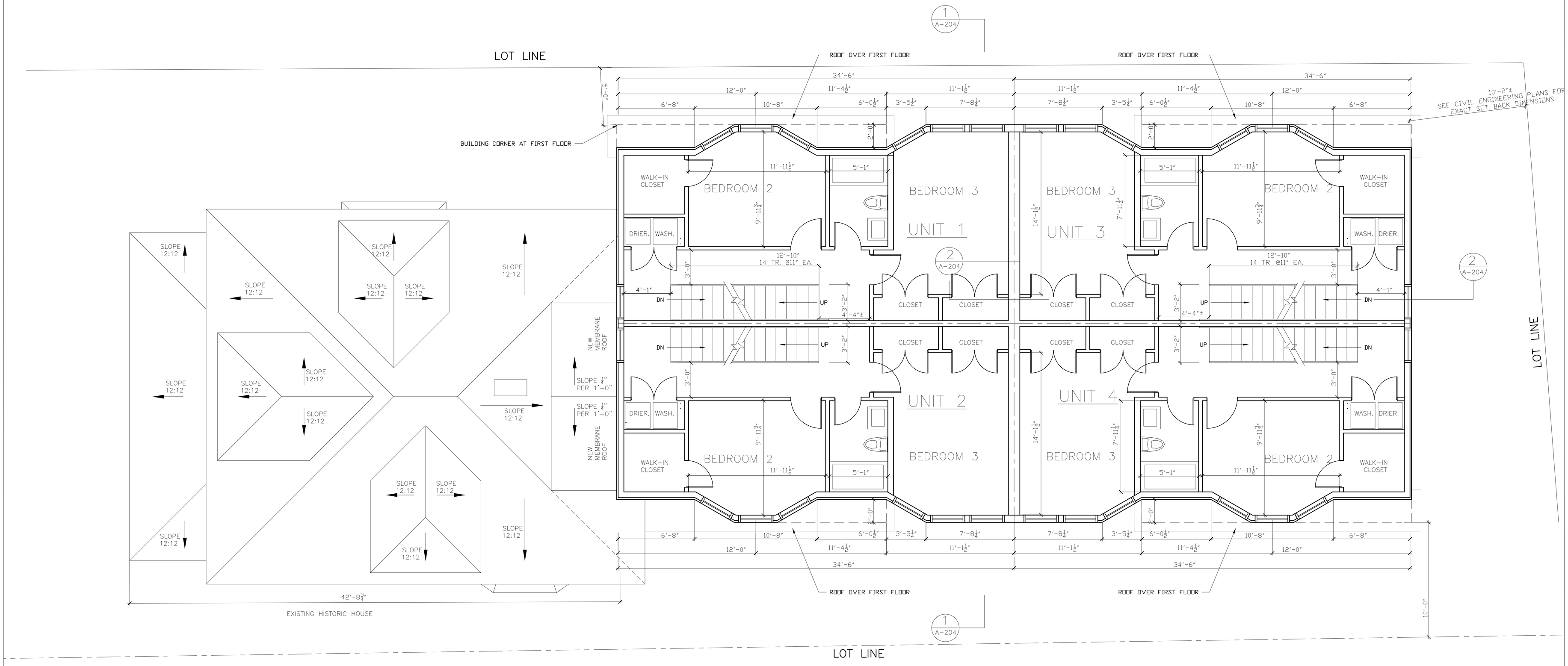
STATE OF CONNECTICUT
ELENA L. KALMAN
No. 4113
LICENSED ARCHITECT

DRAWING TITLE

THIRD FLOOR PLAN

DRAWN BY	EK
CHECKED BY	EK
DATE	2-10-23
SCALE	1/4" = 1'-0"
PROJECT NAME	1911 SUMMER ST
DRAWING NUMBER	

A-103



NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

NOTE:

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No.	Date	Issue

No.	Date	Revision

1911 SUMMER STREET,
STAMFORD, CT

ELENA KALMAN
ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06903
TEL. (203) 329-3074
FAX (203) 329-7149

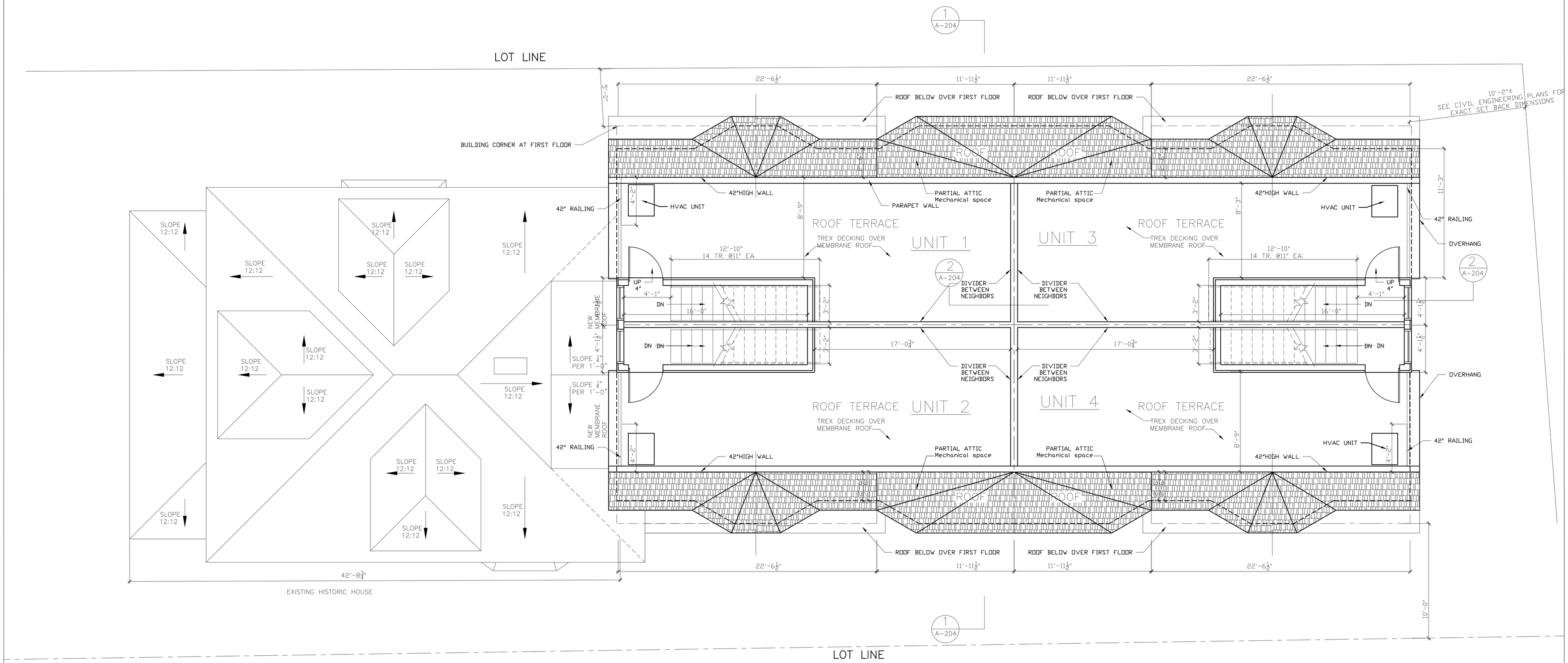
STATE OF CONNECTICUT
ELENA L. KALMAN
No. 4113
LICENSED ARCHITECT

DRAWING TITLE

FOURTH FLOOR PLAN

DRAWN BY	EK
CHECKED BY	EK
DATE	2-10-23
SCALE	1/4" = 1'-0"
PROJECT NAME	1911 SUMMER ST
DRAWING NUMBER	

A-104



NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

NOTE:

ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING ARE OWNED BY, AND ARE THE PROPERTY OF ELENA KALMAN ARCHITECT WERE CREATED, EVOLVED AND DEVELOPED FOR USE ON, AND IN CONNECTION WITH THE SPECIFIED PROJECT. NONE OF SUCH IDEAS, DESIGNS, ARRANGEMENTS OR PLANS SHALL BE USED BY OR DISCLOSED TO ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF ELENA KALMAN ARCHITECT

WRITTEN DIMENSIONS ON THIS DRAWING SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS MUST BE SUBMITTED TO THIS OFFICE FOR REVIEW BEFORE PROCEEDING WITH FABRICATION.

No.	Date	Issue

No.	Date	Revision

1911 SUMMER STREET, STAMFORD, CT

ELENA KALMAN ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06903
TEL. (203) 329-3074
FAX (203) 329-7149

STATE OF CONNECTICUT
ELENA L. KALMAN
No. 4118
LICENSED ARCHITECT

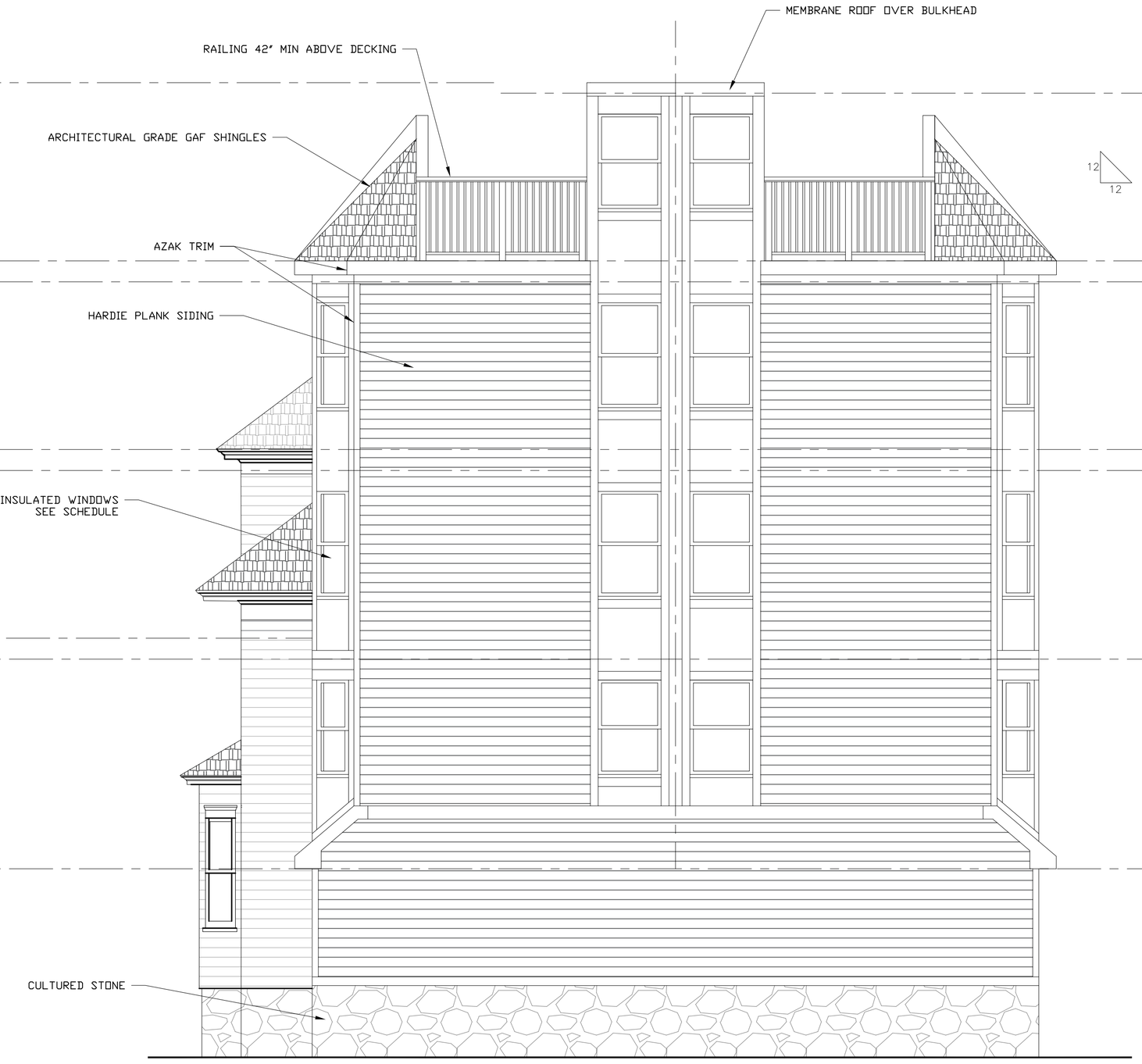
DRAWING TITLE

ROOF PLAN

DRAWN BY	EK
CHECKED BY	EK
DATE	2-10-23
SCALE	1/4" = 1'-0"
PROJECT NAME	1911 SUMMER ST
DRAWING NUMBER	

A-105

SUMMER STREET FACADE
(WESTERN)



EASTERN FACADE

NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

No.	Date	Revision
	Date	Issue

ELENA KALMAN
ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06903
TEL. (203) 329-3074
WWW.KALMANDESIGN.COM

STATE OF CONNECTICUT
ELENA L. KALMAN
No. 4112
LICENSED ARCHITECT

PROJECT NAME

1911 SUMMER STREET,
STAMFORD, CT

DRAWING TITLE

SUMMER STREET FACADE (WESTERN) AND EASTERN FACADE

DRAWN BY	EK
CHECKED BY	EK
DATE	2-10-23
SCALE	1/4" = 1'-0"
PROJECT NAME	1911 SUMMER ST
DRAWING NUMBER	

A-201

FIFTH STREET ELEVATION

NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

No.	Date	Revision
	Date	Issue

ELENA KALMAN
ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06902
TEL. (203) 329-3072
WWW.KALMANDESIGN.COM

STATE OF CONNECTICUT
ELENA L. KALMAN
No. 4112
LICENSED ARCHITECT

PROJECT NAME

1911 SUMMER STREET, STAMFORD, CT

DRAWING TITLE

FIFTH STREET FACADE (NORTHERN)

DRAWN BY	EK
CHECKED BY	EK
DATE	2-10-23
SCALE	1/4" = 1'-0"
PROJECT NAME	11911 SUMMER ST
DRAWING NUMBER	

A-202

SOUTHERN ELEVATION

NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

No.	Date	Revision
	Date	Issue

ELENA KALMAN ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06903
TEL. (203) 329-3074
WWW.KALMANDESIGN.COM

STATE OF CONNECTICUT
ELENA L. KALMAN
No. 4112
LICENSED ARCHITECT

PROJECT NAME

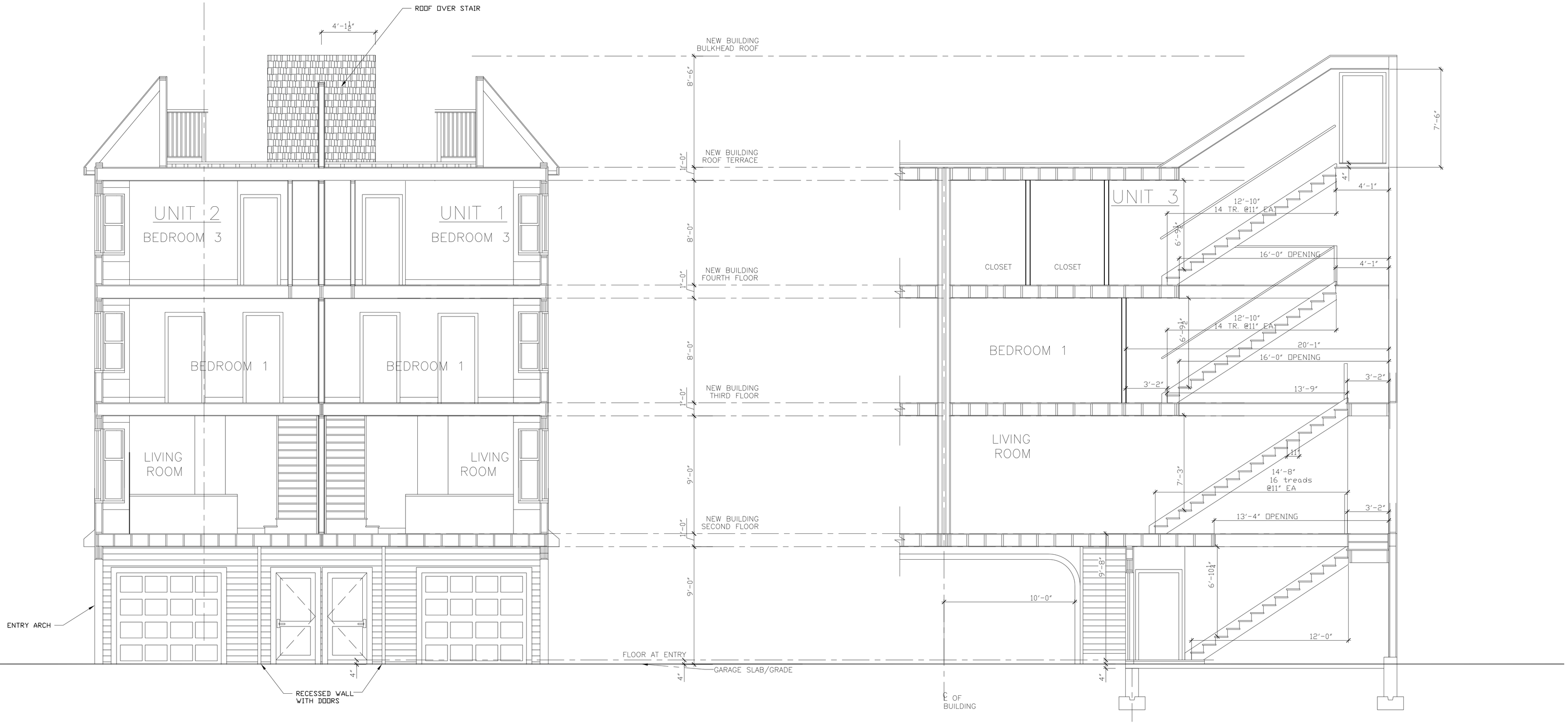
1911 SUMMER STREET, STAMFORD, CT

DRAWING TITLE

SOUTHERN FACADE

DRAWN BY	EK
CHECKED BY	EK
DATE	2-10-23
SCALE	1/4" = 1'-0"
PROJECT NAME	1911 SUMMER ST
DRAWING NUMBER	

A-203



1 A-204 BUILDING CROSS SECTION AND ENTRY ELEVATION

2 A-204 BUILDING LONGITUDINAL SECTION

NOTE:
Final development subject to Zoning Board review and approval, and any modifications required by said Zoning Board.

No.	Date	Revision
	Date	Issue

ELENA KALMAN ARCHITECT
AIA
99 WILD DUCK ROAD
STAMFORD, CT. 06902
TEL. (203) 329-3074
WWW.KALMANDESIGN.COM

STATE OF CONNECTICUT · ELENA KALMAN · No. 4112 · LICENSED ARCHITECT

PROJECT NAME

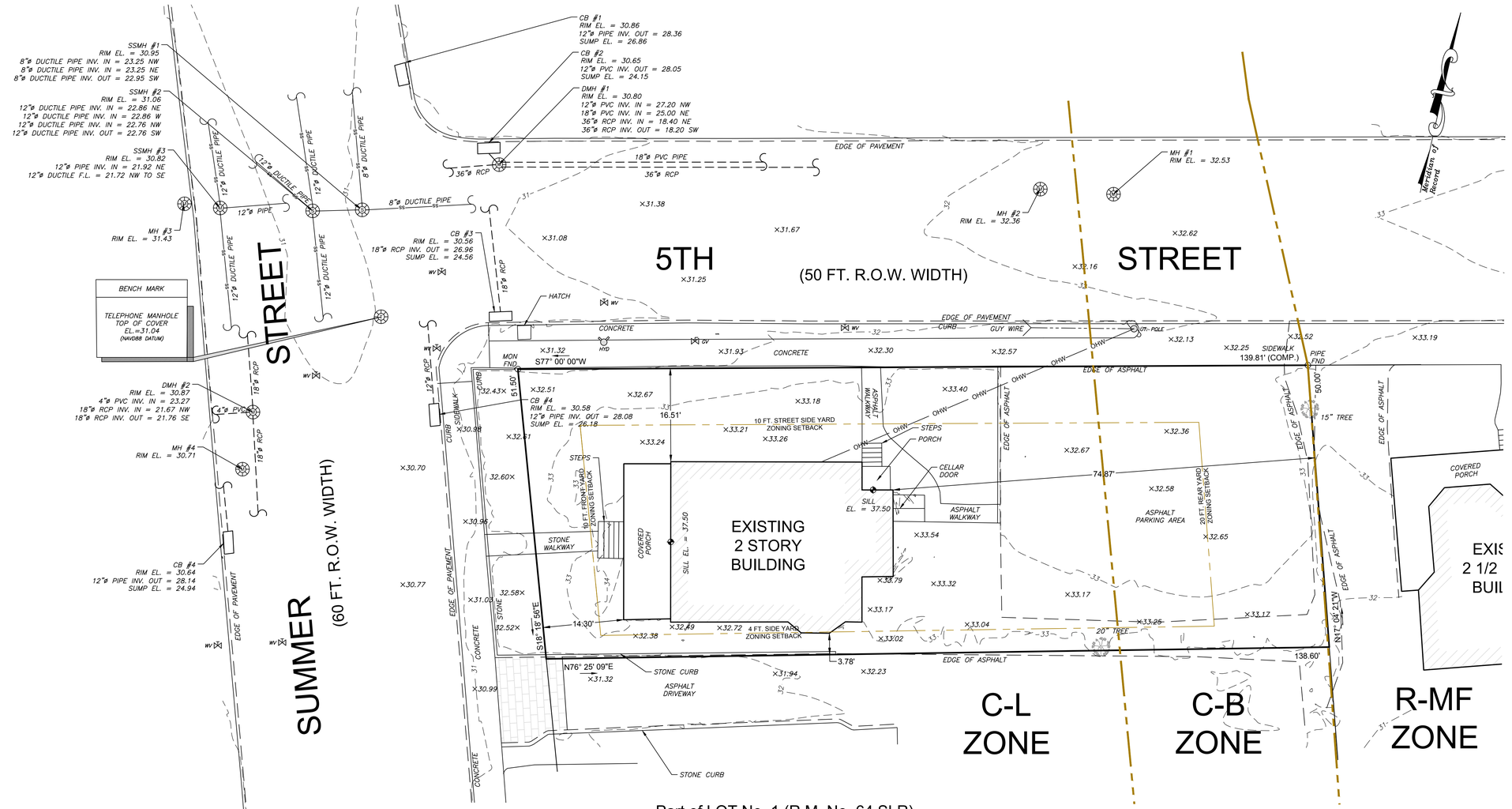
1911 SUMMER STREET, STAMFORD, CT

DRAWING TITLE

BUILDING SECTIONS AND ENTRY ELEVATION

DRAWN BY	EK
CHECKED BY	EK
DATE	2-10-23
SCALE	1/4" = 1'-0"
PROJECT NAME	11911 SUMMER ST
DRAWING NUMBER	

A-204



LEGEND

95	EXISTING MAJOR CONTOURS
96	EXISTING MINOR CONTOURS
× 94.37	SPOT ELEVATIONS
OHW	OVERHEAD WIRE
	MANHOLE
HYD	HYDRANT
WV	WATER VALVE
GV	GAS VALVE
UT. POLE	UTILITY POLE

ABBREVIATIONS

INV.	INVERT ELEVATION
EL.	ELEVATION
N/F	NOW OR FORMERLY
R.O.W.	RIGHT OF WAY
DMH	DRAINAGE MANHOLE
SSMH	SANITARY SEWER MANHOLE
RCP	REINFORCED CONCRETE PIPE
F.L.	FLOW LINE
COMP.	COMPUTED

SURVEY NOTES:

This survey has been prepared in accordance with sections 20-300b-1 thru 20-300b-20 of the regulations of Connecticut state agencies and the "Standards for Surveys and Maps in the State of Connecticut" as adopted by the Connecticut Association of Land Surveyors, Inc. as a Zoning Location Survey the boundary determination category of which is a dependent resurvey conforming to horizontal accuracy class A-2, vertical accuracy class T-2.

Reference is made to book 3743 at page 245 and designated as part of Lot No. 1 on a certain map entitled "Map of Building Property of Ayres Brothers and Hoit in Stamford, Conn." filed in the office of City Clerk of City of Stamford as Map No. 64.

Property subject to any and all public or private restrictive covenants, declarations and/ or easements of record, if any.

This map is based on a field survey conducted by Ahneman Kirby, LLC on August 4, 2021.

Contours and elevation shown are based on North American Vertical Datum of 1988 (NAVD88).

Underground utilities, facilities and structures are not shown hereon. The locations of any underground utilities shown hereon are approximate only. Additionally there are underground utilities the locations of which are currently unknown. Any party utilizing the utility information and data depicted on this survey shall contact the "CALL BEFORE YOU DIG" phone number at 800-922-4455 a minimum of forty eight (48) hours prior to any construction activities to verify the location of any and all underground utilities.

Dimensions shown from structures to property lines are not intended to be used for construction of fences, structures or other site improvements.

It is the requirement of the owner and/or/his/her legal representative to advise Ahneman Kirby, LLC of any and/or all deed restrictions on the subject property that may preclude further development and/or construction thereon.

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

Thomas G. Ahneman, P.E., L.S. #14634 — DATE 08/16/2021

Part of LOT No. 1 (R.M. No. 64 SLR)

Lot Area = 7043.27 Sq. Ft. (0.16 Ac.)

GRAPHIC SCALE :
10 0 10
FEET

PRINT INVALID WITHOUT SEAL AND ORIGINAL SIGNATURE

STATE OF CONNECTICUT · THOMAS G. AHNEMAN · #14634 · LICENSED · LAND SURVEYOR

REV. #	REV. DESCRIPTION:	DATE:

AHNEMAN KIRBY
ENGINEERS•SURVEYORS•PLANNERS
SINCE 1871
1171 East Putnam Avenue, Riverside, CT 06878
Tel: 203.869.7707 • Fax: 203.869.4606
www.ahnemankirby.com

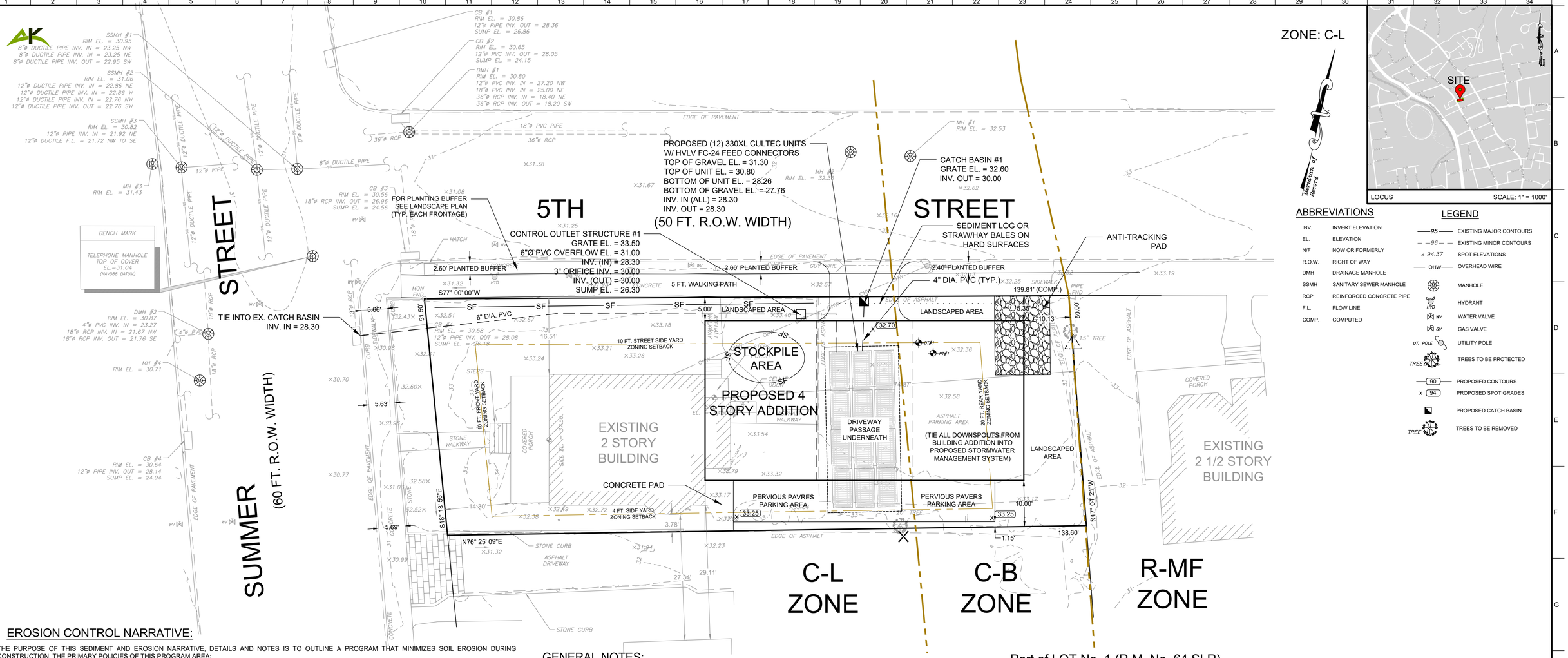
Date:	August 16, 2021
Scale:	1" = 10'
Drawn/Checked By:	KBF,NKM / TGA
Book #:	258:135
Job #:	21-147-06905
Reference:	06905

PREPARED FOR:
DANIEL KOLICH
1911 Summer Street, Stamford, CT 06905
(Tax ID: 001-5245)

TOPOGRAPHY SURVEY

TP-1

C:\Users\keithwerner\Ahneman Kirby Dropbox\Keith Werner\gis\work\AKL_project\1911 Summer St 06905 Kolich 21-147-06905\Dwg\2021-08-16 1911 Summer St Kolich TP-1.dwg 03/31/22 1:41pm keithwerner



ZONE: C-L

Meridian of Record

ABBREVIATIONS

INV.	INVERT ELEVATION
EL.	ELEVATION
N/F	NOW OR FORMERLY
R.O.W.	RIGHT OF WAY
DMH	DRAINAGE MANHOLE
SSMH	SANITARY SEWER MANHOLE
RCP	REINFORCED CONCRETE PIPE
F.L.	FLOW LINE
COMP.	COMPUTED

LEGEND

- 95 — EXISTING MAJOR CONTOURS
- 96 — EXISTING MINOR CONTOURS
- x 94.37 — SPOT ELEVATIONS
- OHW — OVERHEAD WIRE
- MANHOLE
- HYDRANT
- WATER VALVE
- GAS VALVE
- UTILITY POLE
- TREES TO BE PROTECTED
- 90 — PROPOSED CONTOURS
- x 94 — PROPOSED SPOT GRADES
- PROPOSED CATCH BASIN
- TREES TO BE REMOVED

EROSION CONTROL NARRATIVE:

THE PURPOSE OF THIS SEDIMENT AND EROSION NARRATIVE, DETAILS AND NOTES IS TO OUTLINE A PROGRAM THAT MINIMIZES SOIL EROSION DURING CONSTRUCTION. THE PRIMARY POLICIES OF THIS PROGRAM AREA:

a) AVOID CONTAMINATION OF ADJACENT NEIGHBORING PROPERTIES AND DOWN GRADIENT MUNICIPAL ROADWAYS.
b) TRAPPING PARTICLES AT THEIR SOURCE BY PROMPTLY STABILIZING DISTURBED AREAS.
c) AVOID CONCENTRATION OF WATER OR STORM WATER RUNOFF.
d) AVOID CONTAMINATION OF EXISTING STORM DRAIN STRUCTURES AND DRAINAGE PIPES.
e) MAINTENANCE SHALL BE WEEKLY AND AFTER EVERY STORM EVENT FOR ALL CONTROLS TO ENSURE THEY ARE FUNCTIONING PROPERLY.

1. PROPOSED EROSION CONTROLS SHALL BE INSTALLED TO THE LOCATIONS AND DETAILS SHOWN ON THESE PLANS PRIOR TO CONSTRUCTION AS APPROVED IN THE FIELD BY THE APPROPRIATE MUNICIPAL AGENCY PERSONNEL. PROPOSED CONSTRUCTION PHASING TO BE DETERMINED IN CONSULTATION WITH THE APPROPRIATE MUNICIPAL AGENCY PRIOR TO THE START OF CONSTRUCTION.
2. LAND DISTURBANCE WILL BE KEPT TO A MINIMUM. RESTABILIZATION WILL BE SCHEDULED AS SOON AS POSSIBLE WITH A MINIMUM OF 4 INCHES TOPSOIL, SEED AND MULCH. "HYDRO-SEED" MAY BE REQUIRED BASED ON FIELD CONDITIONS FOR TEMPORARY GRASS GERMINATION DURING SEASONAL PLANTING PERIODS TO INSURE MINIMAL SEDIMENTATION AND EROSION.
3. HAY BALES AND SNOW FENCE AND/OR SILT CURTAIN BARRIERS WILL BE INSTALLED AT THE LOCATIONS INDICATED ON THESE PLANS AND, IF NEEDED, ALONG THE TOE OF ALL CUT AND FILL SLOPES. ALL EROSION CONTROLS SHALL BE REVIEWED WITH AND APPROVED BY THE APPROPRIATE MUNICIPAL AGENCY PERSONNEL PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
4. ALL CONTROL MEASURES WILL BE MAINTAINED DURING THE CONSTRUCTION PERIOD.
5. ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF NECESSARY OR REQUIRED.
6. SEDIMENT REMOVED FROM CONTROL STRUCTURES WILL BE DISPOSED OF IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THESE PLANS AND/OR AS DIRECTED BY THE MUNICIPAL STAFF.
7. IT IS THE RESPONSIBILITY OF THE OWNER/DEVELOPER TO INCLUDE THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, NOTIFYING THE MUNICIPAL STAFF OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THESE PLANS IF THE TITLE TO THE LAND IS TRANSFERRED.
8. THE EROSION CONTROLS (WHICH WILL BE INSTALLED IMMEDIATELY DOWNSTREAM OF THE PROPOSED CONSTRUCTED AREAS) SHALL BE INSPECTED PERIODICALLY AND ESPECIALLY FOLLOWING ANY PERIODS OF EXTENDED PRECIPITATION. ANY SILTATION WHICH WAS ACCUMULATED UPSLOPE OF THE PROPOSED EROSION BARRIERS IF GREATER THAN 6 INCHES IN DEPTH SHALL BE REMOVED AND THE EROSION CONTROLS CHECKED AND REPAIRED AS NECESSARY TO INSURE THAT NO BREACHING OCCURRED. ALL LAWN AND PROPOSED PLANTED AREAS SHALL BE CHECKED TO INSURE THAT GERMINATION HAS OCCURRED AND ANY REQUIRED ADJUSTMENTS PERFORMED AS NECESSARY PRIOR TO REMOVE OF TEMPORARY CONSTRUCTION EROSION CONTROLS.
9. TREES TO BE CUT, FALLEN TREES OR BUSH WITHIN DESIGNATED PROPOSED CONSTRUCTION AREAS SHALL BE CUT TO FIREPLACE LENGTHS AND STACKED OUTSIDE OF THOSE AREAS, FEED SMALLER BRANCHES AND TWIGS THROUGH CHIPPER AND STOCKPILE. ALL STOCKPILES SHALL BE OUTSIDE OF DRIP LINES OF PROTECTED TREES.
10. TREES TO BE SAVED SHALL BE BANDED WITH A BRIGHT-COLORED SURVEYOR'S RIBBON LOCATED AT A HEIGHT VISIBLE TO EQUIPMENT OPERATORS. TREE ARMORING PROTECTION MEASURES SHALL BE USED AS SHOWN IN THE DETAIL ON THIS PLAN.
11. INDIVIDUAL TREES OR STANDS TO BE SAVED WITHIN DESIGNATED AREAS OF PROPOSED STRUCTURES SHALL BE PROTECTED BY FENCING WHICH CIRCUMSCRIBES THE DRIP LINE OF THE INDIVIDUAL GROUP PER THE DETAIL ON THIS DRAWING.

GENERAL NOTES:

1. THIS PLAN IS FOR A BUILDING DEPARTMENT APPLICATION FOR A 4 STORY ATTACHED ADDITION TO THE EXISTING HOUSE AND RECONFIGURED DRIVEWAY, AS INDICATED HEREON. THIS PLAN IS NOT TO BE USED AS A FINAL CONSTRUCTION PLAN. ADDITIONAL DETAILS MAY BE REQUIRED PRIOR TO ANY ACTUAL CONSTRUCTION.
2. THE PROPOSED BUILDING ADDITION WILL BE SERVED BY THE EXISTING CITY OF STAMFORD SEWER SYSTEM.
3. THE SUBJECT PROPERTY IS CURRENTLY SERVED BY MUNICIPAL WATER SERVICE AND OTHER UTILITY CONNECTIONS AND WILL REMAIN AS IS FOR THIS PROPOSAL. THE PROPOSED ADDITION SERVICES SHALL CONNECT TO THE EXISTING SERVICE LINE LOCATIONS WITHIN THE DWELLING.
4. THE PROPOSED ADDITION INDICATED HEREON WAS OBTAINED FROM PLANS PREPARED BY ELENA KALMAN ARCHITECTS, ARCHITECT FOR THE HOMEOWNER. FOR FINISHED FLOOR ELEVATIONS OF THE PROPOSED DWELLING SEE ARCHITECTURAL PLANS.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS AND SEQUENCES OF CONSTRUCTION AND FOR THE SAFETY OF WORKERS AND OTHERS ON THE CONSTRUCTION SITE. THE CONTRACTOR SHALL ALSO LOCATE AND VERIFY THE SIZE, LOCATION, DEPTH AND INVERTS OF ANY AND ALL EXISTING UTILITIES PRIOR TO COMMENCING OPERATIONS. THE CONTRACTOR SHALL ALSO BE REQUIRED TO CONTACT THE TOLL FREE "CALL-BEFORE-YOU-DIG" PHONE NUMBER AT 1-800-992-4455.
6. THE EXISTING DRIVEWAY WILL SERVE AS THE MACHINERY ACCESS ROUTE.
7. SUGGESTED LOCATIONS AND DETAILS OF EROSION CONTROL MEASURES ARE INDICATED HEREON. TREE PROTECTION MEASURES ARE ALSO INDICATED HEREON AND SHALL BE IMPLEMENTED AS REQUIRED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. EXACT LOCATIONS EROSION CONTROL MEASURES TO BE DETERMINED AT THE SITE BASED ON FIELD CONDITIONS BY THE CERTIFYING ENGINEER IN CONSULTATION WITH THE APPROPRIATE TOWN AGENCY STAFF.
8. RESTORE ALL DISTURBED AREAS WITH A MINIMUM OF FOUR (4") INCHES OF TOPSOIL, SEED, AND HAY MULCH UPON COMPLETION OF CONSTRUCTION.
9. EXACT SETBACK LINES AND PROPERTY LINES TO BE STAKED BY A LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION (NOT PART OF THIS CONTRACT).
10. EXCAVATED SOILS SHALL BE TEMPORARILY STORED OR STOCKPILED UPGRADE OF THE EROSION CONTROL MEASURES.

Part of LOT No. 1 (R.M. No. 64 SLR)

Lot Area = 7043.27 Sq. Ft. (0.16 Ac.)

GRAPHIC SCALE :

10 0 10

FEET

PRINT INVALID WITHOUT SEAL AND ORIGINAL SIGNATURE

STATE OF CONNECTICUT · KEITH WERNER · 31178 · LICENSED PROFESSIONAL ENGINEER

REV. #:	REV. DESCRIPTION:	DATE:
4	PLANTING BUFFER DIMENSION	09/21/2023
3	SIDEWALK & PLANTING BUFFER	09/08/2023
2	PERVIOUS PAVERS	08/04/2023
1	REVISED BUILDING FOOTPRINT	11/15/2022
----	ISSUED TO CLIENT	3/31/2022

AHNEMAN KIRBY
ENGINEERS•SURVEYORS•PLANNERS
SINCE 1871
1171 East Putnam Avenue, Riverside, CT 06878
Tel: 203.869.7707 • Fax: 203.869.4606
www.ahnemankirby.com

Date:	August 16, 2021
Scale:	1" = 10'
Drawn/Checked By:	KBF, KAW / TGA
Book #:	258:135
Job #:	21-147-06905
Reference:	06905

PREPARED FOR:
DANIEL KOLICH
1911 Summer Street, Stamford, CT 06905
(Tax ID: 001-5245)

PROPOSED SITE PLAN

SP-1

C:\Users\keithwerner\Ahneman Kirby Dropbox\Keith Werner\github\AKEL_projects\1911 Summer St 06905 Kolich 21-147-06905\Dwg\1911 Summer St Kolich SP-1 & SP-2.dwg 09/21/23 - 3:22pm kwerner

DEEP TESTS PERFORMED BY AKL 3/8/2022

Test Pit or Soil Boring #: 1	Ground Elevation: 32.4	
Elevation	Soil Texture (Percent Sand, Silt and Clay)	Depth Range in Inches
32.40	Asphalt	0-2
32.23	Dark Sandy Loam	2-38
29.07	Brown Sandy Loam w/ Gravel & Cobbles	38-84

Elevation		Depth in Inches
NA	Mottling (Seasonally High Groundwater)	NA
NA	Groundwater	NA
NA	Ledge	NA

PEROLCATION TEST RESULTS			
Date: March 8, 2022			
AKL Witness: Ida Gheibi			
Note: Test holes were presoaked			
Perc. Test: 1		**Hole Depth = 30.0"**	
Time	**Depth to Water (in)**	**Difference (in)**	**Perc. Rate (min/in)**
11:21 AM	7	-	-
11:26 AM	8.5	1.5	3.3
11:31 AM	9.5	1.0	5.0
11:36 AM	10.5	1.0	5.0
11:41 AM	11.5	1.0	5.0
11:46 AM	12	2.5	2.0
11:56 AM	13	1.0	10.0
12:06 PM	14	2.5	4.0
12:16 PM	15	1.0	10.0
	Average 1 =	6.20	min/in
		9.68	**in/hr**

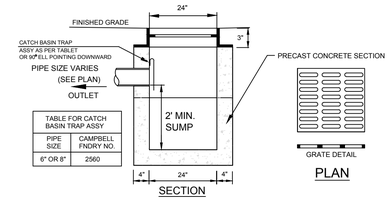


TABLE FOR CATCH BASIN TRAP ASSY	
PIPE SIZE	CAMPBELL FNDRY NO
6" OR 8"	2560

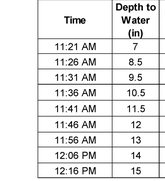
SECTION

PLAN

FOR USE WITHIN SUBJECT PROPERTY ONLY AND AS MANUFACTURED BY CONNECTICUT PRECAST CO., INC., MONROE, CT., OR APPROVED EQUIVALENT.
1. REINFORCED 6 x 6 x 10 GAUGE MESH OR TO SPECIFICATIONS.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH: 4,000 PSI @ 28 DAYS.

PRECAST CONCRETE CATCH BASIN (CB)

N.T.S.



SILT FENCE NOTES

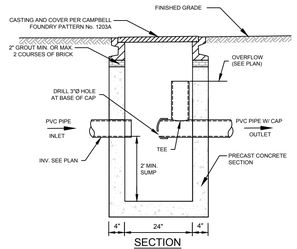
1. DIG A 6" DEEP TRENCH ALONG THE INTENDED FENCE LINE.
2. EXCEPT FOR THE END POST, DRIVE ALL POSTS INTO THE GROUND AT BACK SIDE OF TRENCH 10' O.C. MAX.
3. LAY OUT FILTER FABRIC ON THE UPHILL SIDE ALONG THE FENCE LINE.
4. SLIP POCKET IN END OF FILTER FABRIC OVER THE FIRST POST INSURING THAT THE BOTTOM RED GAUGE LINE IS AT GROUND LEVEL.
5. DRAPE BOTTOM 6" OF FILTER FABRIC BELOW RED GAUGE LINE IN TRENCH, BACK FILL WITH SOIL AND COMPACT.

EROSION CONTROL SILT FENCE DETAIL

N.T.S.

Standard City of Stamford Notes:

1. A Street Opening Permit is required for all work within the City of Stamford Right-of-Way.
2. 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.
3. The Engineering Bureau of the City of Stamford shall be notified three days prior to any commencement of construction or work within the City of Stamford Right-of-Way.
4. Trees within the City of Stamford Right-of-Way to be removed shall be posted in accordance with the Tree Ordinance.
5. 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.
6. 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.
7. 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.
8. A Final Improvement Location Survey will be required by a professional land surveyor licensed in the State of Connecticut.
9. 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.
10. 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.
11. Sediment and erosion controls shall be maintained and repaired as necessary throughout construction until the site is stabilized.
12. To obtain a Certificate of Occupancy, submittal must include all items outlined in the Checklist for Certificate of Occupancy (Appendix D of the City of Stamford Drainage Manual).
13. Reference EPB Permit #, Zoning Permit #, Zoning Board of Appeals #, Subdivision #, if applicable.

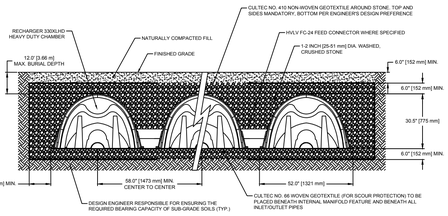


SECTION

FOR USE WITHIN SUBJECT PROPERTY ONLY AND AS MANUFACTURED BY CONNECTICUT PRECAST Co., INC., MONROE, CT., OR APPROVED EQUIVALENT.
1. REINFORCED 6 x 6 x 10 GAUGE MESH OR TO SPECIFICATIONS.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH: 4,000 PSI @ 28 DAYS.

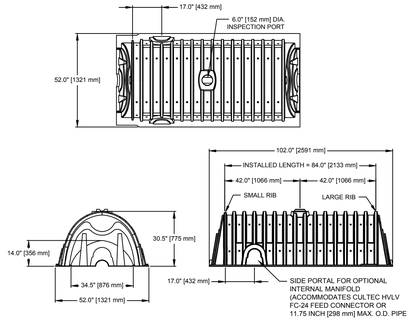
CONTROL OUTLET STRUCTURE DETAIL

N.T.S.



GENERAL NOTES
RECHARGER 330XL HD BY CULTEC, INC. OF BROOKFIELD, CT. STORAGE PROVIDED = 11.32 CF/FT [1.05 m³/m] PER DESIGN UNIT. REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS

ALL RECHARGER 330XL HD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
ALL RECHARGER 330XL HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS



CULTEC RECHARGER 330XLHD CHAMBER STORAGE = 7.459 CF/FT [0.693 m³/m]
INSTALLED LENGTH ADJUSTMENT = 1.5' [0.46 m]
SIDE PORTAL ACCEPTS CULTEC HVLV FC-24 FEED CONNECTOR

CULTEC RECHARGER 330XLHD

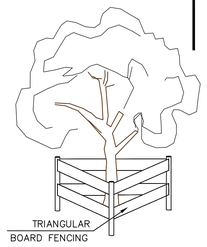
N.T.S.

DRAINAGE NOTES:

1. CONTRACTOR TO PROBE AND EXCAVATE WHERE POTENTIAL CONFLICTS MAY EXIST PRIOR TO DRAINAGE INSTALLATION. ALL KNOWN OR POTENTIAL CONFLICTS SHOULD BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
2. ALL NEW AND EXISTING AND FINISHED GRADES SHALL SLOPE TO DRAIN AWAY FROM THE PROPOSED AND EXISTING BUILDINGS.
3. ALL PVC PIPE TO BE SCHEDULE 40, OR EQUAL. MINIMUM PIPE PITCH SHALL BE 1-PERCENT.
4. ALL RETAINING WALLS GREATER THAN THREE FEET REQUIRE COMPUTATIONS SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT TO BE SUBMITTED FOR ENGINEERING DIVISIONS RECORDS, PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY. THE DESIGN ENGINEER ASSUMES ALL RESPONSIBILITY OF THE RETAINING WALL DESIGN.
5. ALL DETENTION/RETENTION SYSTEMS SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS. ALL SYSTEMS SHALL USE A MANIFOLD SYSTEM TO DISTRIBUTE RUNOFF EVENLY INTO EACH ROW OF INFILTRATORS. THE MANIFOLD SHALL BE INSTALLED ON THE INLET AND OVERFLOW SIDES WHEN NOT HANDLING THE FIRST FLUSH AND ONLY ON THE INLET SIDE WHEN A FIRST FLUSH SYSTEM IS BEING INSTALLED.
6. THERE MUST BE AT LEAST A 1-FOOT SEPARATION DISTANCE FROM THE BOTTOM OF STONE BELOW THE INFILTRATION STRUCTURE TO THE SEASONAL HIGH GROUNDWATER OR BEDROCK/LEDGE. PRIOR TO THE INSTALLATION OF THE INFILTRATORS THE ENGINEER SHALL VERIFY THE INFILTRATION STRUCTURE IS BEING INSTALLED IN THE APPROVED LOCATION AND IF THE LOCATION HAS BEEN CHANGED ADDITIONAL SOIL TESTING SHALL BE PERFORMED AND THE ENGINEER SHALL APPROVE THE REVISED LOCATION. A REVIEW BY THE APPROVING AUTHORITY WILL BE REQUIRED.
7. EACH BMP TO BE INSTALLED SHALL HAVE THE SOILS BENEATH THE BMP SCARIFIED OR TILLED TO IMPROVE INFILTRATION.
8. ALL AREAS THAT ARE USED BY CONSTRUCTION EQUIPMENT AND USED FOR CONTRACTOR PARKING MUST HAVE THE SOIL TILLED 12 TO 16 INCHES AND AMENDED WITH SMALL AMOUNTS OF ORGANIC MATERIAL IF NEEDED. THE AREA TO BE RESTORED SHALL BE DETERMINED BY THE SITE ENGINEER.
9. A LETTER OF CERTIFICATION FROM A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT AND AN "IMPROVEMENT LOCATION SURVEY MAP" THAT DEPICTS ALL NEW "AS-BUILT" CONDITIONS FROM A SURVEYOR REGISTERED IN THE STATE OF CONNECTICUT SHALL BE SUBMITTED TO THE TOWN UPON COMPLETION OF WORK AND PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE BUILDING DEPARTMENT.

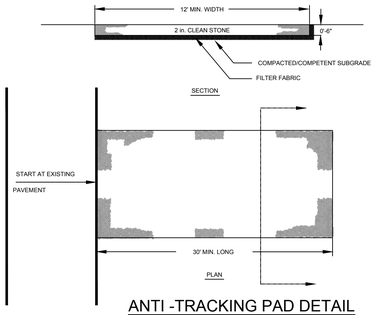
GENERAL CONSTRUCTION STAGING:

1. INSTALL EROSION & SEDIMENT CONTROLS.
2. INSTALL TREE PROTECTION AS REQUIRED.
3. MARK AND CUT TREES TO BE REMOVED.
4. STRIP TOPSOIL AND STOCKPILE IT WITH APPROPRIATE SEDIMENTATION CONTROL MEASURES.
5. ROUGH IN PROPOSED FOUNDATION AND CONSTRUCTION ACCESS.
6. EXCAVATE FOR PROPOSED FOUNDATION.
7. CONSTRUCT PROPOSED FOUNDATION.
8. BACKFILL AND ROUGH GRADE AROUND FOUNDATION.
9. INSTALL STORM DRAINAGE SYSTEM, AND UTILITIES AS REQUIRED.
10. CONSTRUCT PROPOSED ADDITION.
11. CONSTRUCT STEPS AND WALKWAYS.
12. FINE GRADE AND STABILIZE ALL SLOPES.
13. LANDSCAPE AS REQUIRED.
14. REMOVE EROSION AND SEDIMENT CONTROLS.



TREE PROTECTION DETAIL

(AS REQUIRED FOR ALL TREES TO BE SAVED)
SCALE: N.T.S.

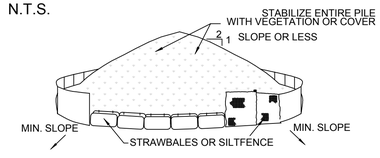


ANTI -TRACKING PAD DETAIL

N.T.S.

INSTALLATION NOTES

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 15' FEET.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES
4. WIDTH - 10 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR.
5. FILTER FABRIC - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPARTIAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE DETAIL THIS SHEET FOR INSTALLATION OF SILT FENCE.
5. PROVIDE PLASTIC BELOW STOCK PILE + PROTECT UNDERSIDE.

STOCKPILE DETAIL

Date:	March 28, 2022
Scale:	AS SHOWN
Drawn/Checked By:	KW / TGA
Book #:	258:135
Job #:	21-147-06905
Reference:	06905

PRINT INVALID WITHOUT SEAL AND ORIGINAL SIGNATURE

STATE OF CONNECTICUT · KEITH WERNER · 31179 · LICENSED PROFESSIONAL ENGINEER

REV. #:	REV. DESCRIPTION:	DATE:

AHNEMAN KIRBY
ENGINEERS•SURVEYORS•PLANNERS
SINCE 1871
1171 East Putnam Avenue, Riverside, CT 06878
Tel: 203.869.7707 • Fax: 203.869.4606
www.ahnemankirby.com

PREPARED FOR:
DANIEL KOLICH
1911 Summer Street, Stamford, CT 06905
(Tax ID: 001-5245)

PROPOSED SITE DETAILS

SP-2

OPERATIONS AND MAINTENANCE PLAN REPORT

Prepared for:

Daniel Kolich
1911 Summer St, Stamford, CT 06905

Prepared by:

Ahneman Kirby, LLC
1171 East Putnam Avenue
Riverside, Connecticut 06878

July 24, 2023

Operations and Maintenance Plan

1911 Summer St. Stamford. CT 06905
July 24, 2023

Scope:

The purpose of the Operations and Maintenance Plan is to ensure that the existing and proposed stormwater components installed at *1911 Summer St, Stamford, CT 06905* are maintained in operational condition throughout the life of the project. The service procedures associated with this plan shall be performed as required by the parties legally responsible for their maintenance.

Recommended Frequency of Service:

As further defined below, all stormwater components should be checked on a periodic basis and kept in full working order. Ultimately, the required frequency of inspection and service will depend on runoff quantities, pollutant loading, and clogging due to debris. At a minimum, we recommend that all stormwater components be inspected and serviced twice per year, once before winter begins and once during spring cleanup.

Qualified Inspector:

The inspections must be completed by an individual experienced in the construction and maintenance of stormwater drainage systems. Once every five years the inspections must be completed by a professional engineer.

Service Procedures:

1. Catch Basins & Drainage Inlets:

    a. Catch basins and drainage inlets shall be completely cleaned of accumulated debris and sediments at the completion of construction.
    b. For the first year, catch basins and drainage inlets shall be inspected on a quarterly basis.
    c. Any accumulated debris within the catch basins/inlets shall be removed and any repairs as required.
    d. From the second year onward, visual inspections shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
    e. Accumulated debris within the catch basins/inlets shall be removed and repairs made as required.
    f. Accumulated sediments shall be removed at which time they are within 12 inches of the invert of the outlet pipe.
    g. Any additional maintenance required per the manufacturer's specifications shall also be completed.

2. Storm Drainage Piping and Manholes/Junction Boxes:

    a. All storm drainage piping shall be completely flushed of debris and accumulated sediment at the completion of construction.
    b. Manholes/Junction Boxes shall be inspected and repaired on an annual basis.

c. Unless system performance indicates degradation of piping, comprehensive video inspection of storm drainage piping shall occur once every ten years.
d. Any additional maintenance required per the manufacturer's specifications shall also be completed.

3. Stormwater Control Structures:

a. All control structures (orifice, weir, etc.) shall be completely cleaned of accumulated debris and sediments at the completion of construction. Any repairs shall be performed.
b. For the first year, control structures (orifice, weir, etc.) shall be inspected on a quarterly basis.
c. Any accumulated debris shall be removed and any repairs made to the control structures (orifice, weir, etc.) as required.
d. From the second year onward, visual inspections shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
e. Accumulated debris shall be removed and repairs made as required.
f. Any additional maintenance required per the manufacturer's specifications shall also be completed.

7. Drywells and Infiltration Systems:

a. All drywells/infiltrators shall be completely cleaned of accumulated debris and sediments upon the completion of construction.
b. For the first year, the drywells/infiltrators shall be inspected on a quarterly basis.
c. Any accumulated debris within the drywells/infiltrators shall be removed and any repairs made to the units as required.
d. From the second year onward, visual inspection shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
e. Accumulated debris within the units shall be removed and repairs made as required.
f. Any additional maintenance required per the manufacturer's specifications shall also be completed.

11. Roof Gutters:

a. Remove accumulated debris and inspect for damage. Any damage should be repaired as required.

Disposal of Debris and Sediment:

All debris and sediment removed from the stormwater structures and bioretention/biofiltration basins shall be disposed of legally. There shall be no dumping of silt or debris into or in proximity to any inland or tidal wetlands.

Maintenance Records:

The Owners(s) must maintain all records (logs, invoices, reports, data, etc.) and have them readily available for inspection at all times.

Operations and Maintenance Log (Page 1 of 5)

1911 Summer St. Stamford. CT 06905
July 24, 2023

Type of Inspection: ☐ Spring ☐ Fall ☐ Other

Inspector's Name:_____ Date of Inspection:_____

Affiliation:_____ Phone #:_____

Catch Basins & Drainage Inlets:

- Has accumulated debris been removed from grates? ☐ Yes ☐ No ☐ N/A
- Do any basins require additional repair? (identify below): ☐ Yes ☐ No ☐ N/A
- Have sumps been cleaned of sediment? ☐ Yes ☐ No ☐ N/A

Notes:

Storm Drainage Piping and Manholes/Junction Boxes:

- Has accumulated debris been removed? ☐ Yes ☐ No ☐ N/A
- Do any manholes require additional repair? (identify below): ☐ Yes ☐ No ☐ N/A
- Is there any evidence of stormwater piping failure? ☐ Yes ☐ No ☐ N/A
- Has a comprehensive video inspection been completed? ☐ Yes ☐ No ☐ N/A

Notes:

Stormwater Control Structures:

- Has accumulated debris been removed? ☐ Yes ☐ No ☐ N/A
- Are any repairs required? (identify below): ☐ Yes ☐ No ☐ N/A
- Have orifices and weirs been cleaned of debris? ☐ Yes ☐ No ☐ N/A

Notes:

Operations and Maintenance Log (Page 2 of 5)

1911 Summer St. Stamford. CT 06905
July 24, 2023

Hydrodynamic Separators:

- Has accumulated debris been removed? ☐ Yes ☐ No ☐ N/A
- Does unit require additional repair? (identify below): ☐ Yes ☐ No ☐ N/A
- Has unit been cleaned of sediment? ☐ Yes ☐ No ☐ N/A

Notes:

Drainage Outfalls/Splash Pads/Scour Holes/Level Spreaders:

- Have all drainage outlets been cleared of debris? ☐ Yes ☐ No ☐ N/A
- Have all outlet protections been inspected/repaired? ☐ Yes ☐ No ☐ N/A
- Have all erosion issues been repaired? ☐ Yes ☐ No ☐ N/A

Notes:

Bioretention/Biofiltration Basins/Rain Gardens:

- Have basins been cleared of debris/sediments? ☐ Yes ☐ No ☐ N/A
- Have draining times of basins been verified? ☐ Yes ☐ No ☐ N/A
- Has vegetation been mowed (twice/year max.)? ☐ Yes ☐ No ☐ N/A
- Has plantings and mulch been replaced (twice/year)? ☐ Yes ☐ No ☐ N/A

Notes:

Operations and Maintenance Log (Page 3 of 5)

1911 Summer St. Stamford. CT 06905
July 24, 2023

Drywells and Infiltration Systems:

- Have units been cleared of debris/sediments? ☐ Yes ☐ No ☐ N/A
- Do units require additional repair? (identify below): ☐ Yes ☐ No ☐ N/A
- Has draining times of system been verified? ☐ Yes ☐ No ☐ N/A

Notes:

Porous Pavement:

- Has pavement been vacuumed? ☐ Yes ☐ No ☐ N/A
- Has draining times been verified? ☐ Yes ☐ No ☐ N/A

Notes:

Gravel Pavement:

- Has pavement been graded and additional gravel added? ☐ Yes ☐ No ☐ N/A
- Has draining times been verified? ☐ Yes ☐ No ☐ N/A

Notes:

Operations and Maintenance Log (Page 4 of 5)

1911 Summer St. Stamford. CT 06905
July 24, 2023

Vegetative Roof:

- Have trays been cleared of debris/sediments? ☐ Yes ☐ No ☐ N/A
- Have draining times of trays been verified? ☐ Yes ☐ No ☐ N/A
- Has vegetation been weeded (bi-weekly) ☐ Yes ☐ No ☐ N/A
- Have roof drains been inspected and cleared of debris ☐ Yes ☐ No ☐ N/A

Notes:

Roof Gutters:

- Has accumulated debris been removed from gutters? ☐ Yes ☐ No ☐ N/A
- Do any gutters require additional repair? (identify below): ☐ Yes ☐ No ☐ N/A

Notes:

Groundwater Pump System:

- Has the electrical connections been inspected? ☐ Yes ☐ No ☐ N/A
- Has the electrical connections for the generator been inspected? ☐ Yes ☐ No ☐ N/A
- Has the generator been exercised? ☐ Yes ☐ No ☐ N/A
- Has the sump been cleaned? (identify below): ☐ Yes ☐ No ☐ N/A

Notes:

Operations and Maintenance Log (Page 5 of 5)

1911 Summer St, Stamford, CT 06905

July 24, 2023

Stormwater Pump System:

- Has the electrical connections been inspected? ☐ Yes ☐ No ☐ N/A
- Has the electrical connections for the generator been inspected? ☐ Yes ☐ No ☐ N/A
- Has the generator been exercised? ☐ Yes ☐ No ☐ N/A
- Has the sump been cleaned? (identify below): ☐ Yes ☐ No ☐ N/A

Notes:

Please make additional notes/observations and particular concerns below. Also record any additional maintenance that has been performed:

_____ _____

Signature of Inspector: **Date**