510 Hopper Lane | Certificate of Appropriateness

Version 2.0 – Issued 10th June 2021

510 Hooper Lane

Project Overview

The purpose of this presentation is to provide clarification on the necessity of performing minor and major works on the property situated at 510 Hooper Lane, located within the boundaries of the Franklin-Rosemary Historic District of the Town of Chapel Hill, to preserve the structural integrity of the building allowing it to be maintained and preserved as an important historical asset to the local community and to its residents.

The scope of the works proposed in this presentation are summarized below:

A – Change of grading of the front yard.
B – Provision of a retaining structure to allow a change of slope in the front yard, including new steps.
C – Provision of a new entrance walkway, with access to existing driveway and north-west side of building.
D – Reintroduction of landscaping features of the front yard to fit with the overall character of the Franklin-Rosemary Historic District and specific site characteristics.

This presentation will provide evidential documentation on existing conditions of the property, discussion and documentation regarding drainage problems regarding the site and its consequences in the structural stability and safety of the property and provide explanation and documentation on the proposed changes to address the mentioned issues.

The scope of the works proposed in this application are summarized below:

A – Change of grading of the front yard.

B – Provision of a retaining structure to allow a change of slope in the front yard, including new steps.

C – Provision of a new entrance walkway, with access to existing driveway and north-west side of building.

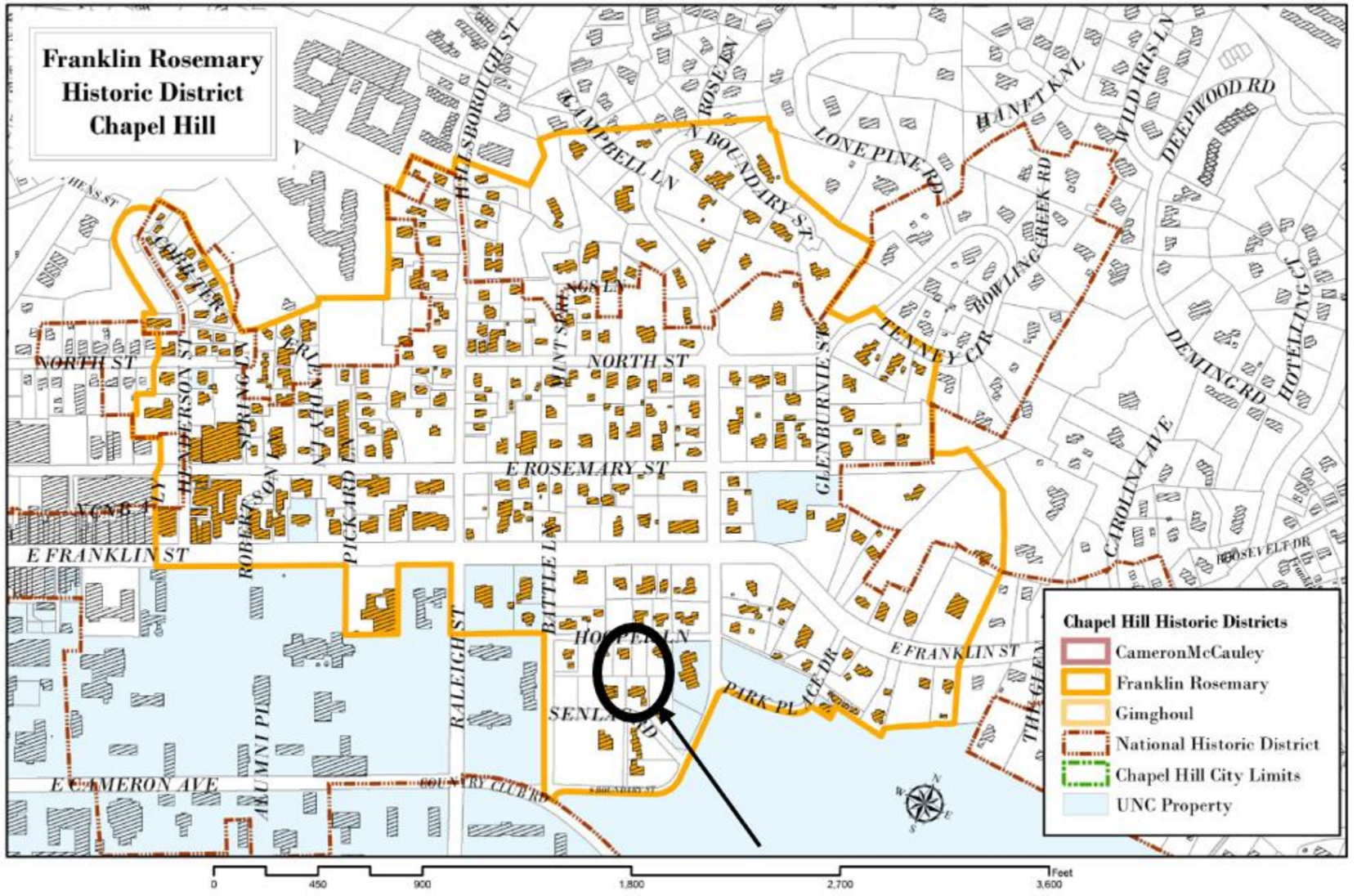
D – Reintroduction of landscaping features of the front yard to fit with the overall character of the Franklin-Rosemary Historic District and specific site characteristics.

Work Breakdown Structure (WSB):

1. Removal of existing Parking Pad.
2. Removal of two 2" caliper dogwood trees.
3. Removal of existing stone walkway.
4. Regrading of the front yard.
5. Installation of retaining wall with new steps.
6. Installation of new walkway system on the front yard.
7. Reintroduction of fieldstone wall on the front of the property.
8. Reintroduction of two Dogwood Trees on the front yard.

510 Hooper Lane

Site Context - Location



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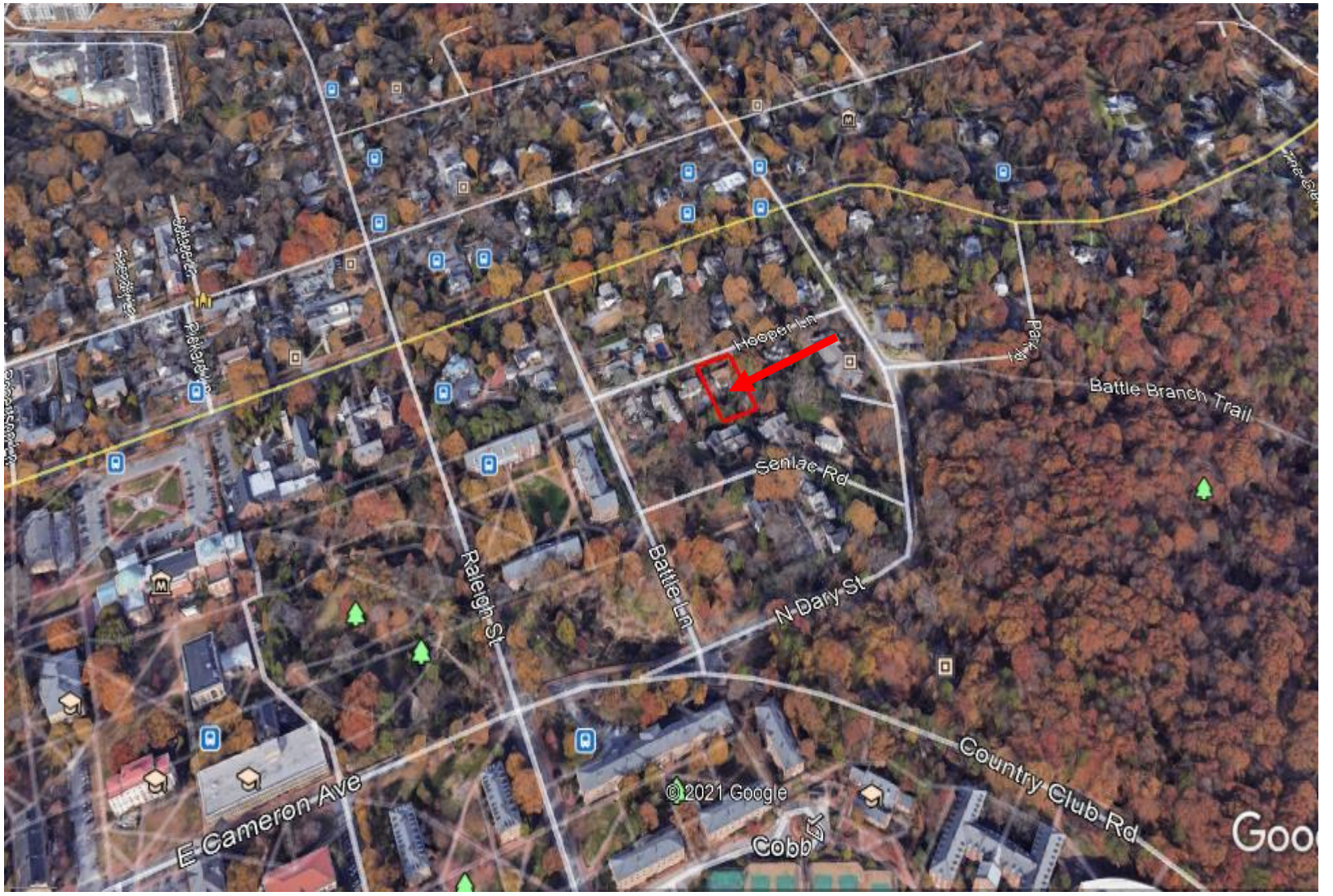
Site Context - Location



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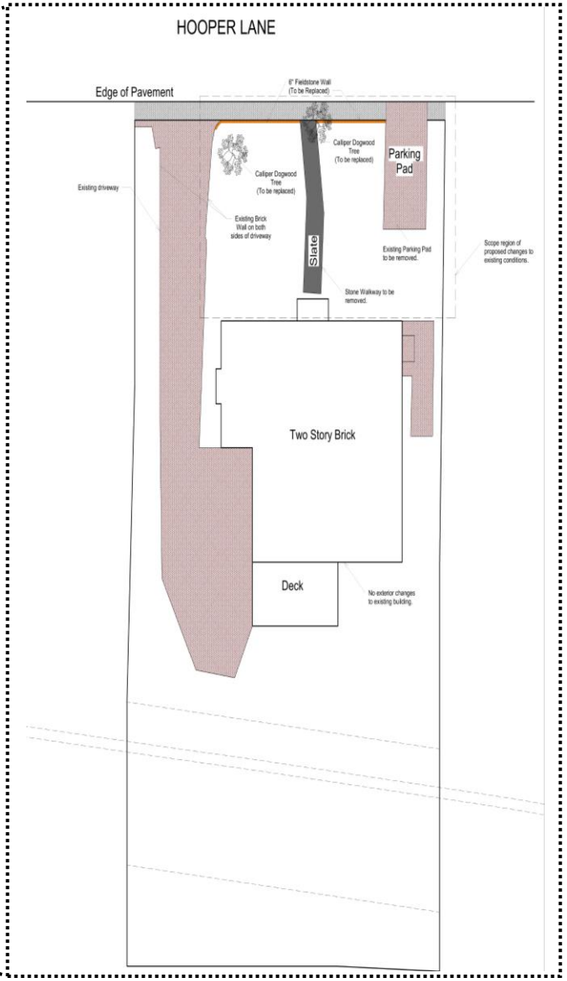
Site Location



SITE | 510 Hooper Lane, Chapel Hill, NC

Site Plan

Site Location

510 Hooper Lane

Site Plan - Existing Conditions

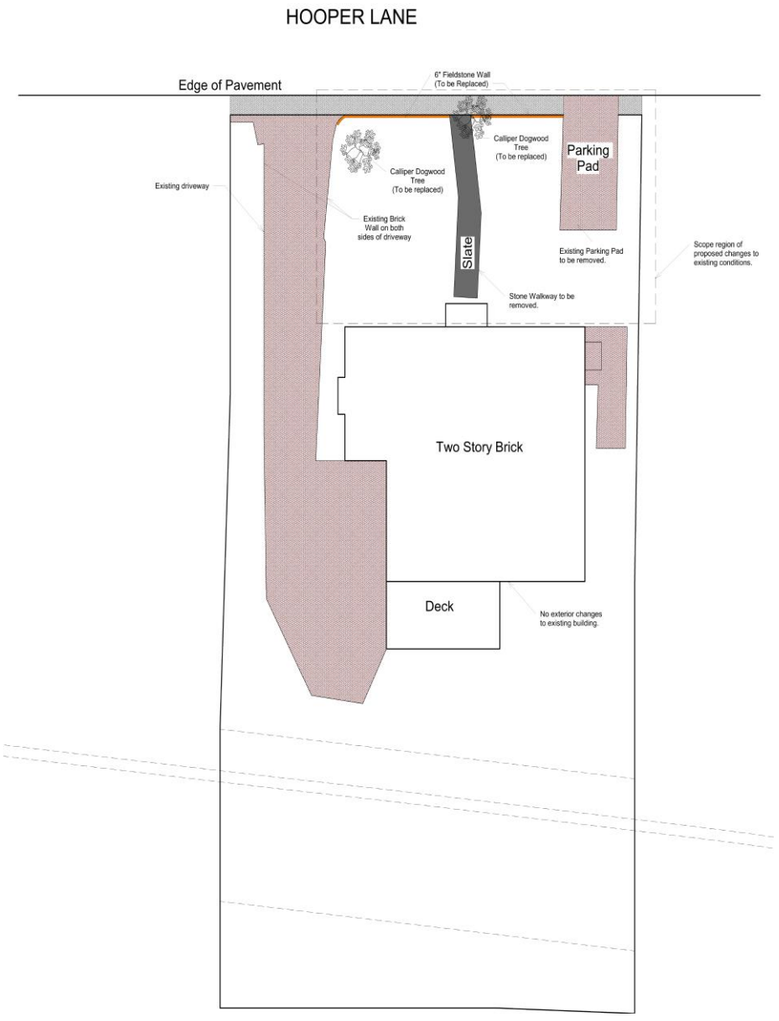


Image 1 | Front View

Image 2 | Front View

Image 3 | Front View

Image 4 | Front View

510 Hooper Lane

Historical Imagery - Satellite

Image 1 | 2008

Image 2 | 2010

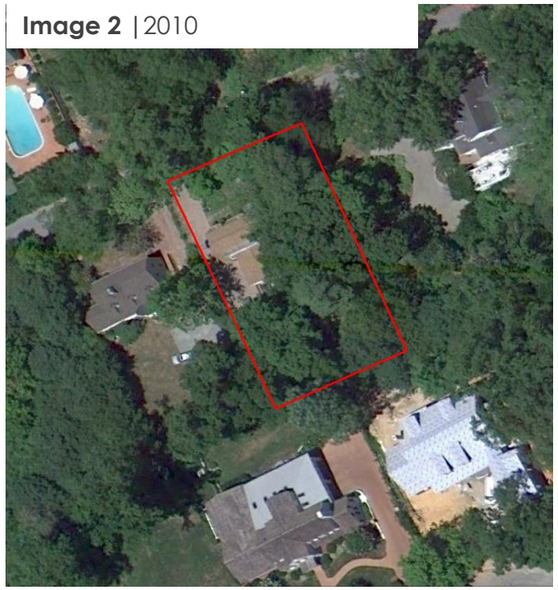


Image 3 | 2014

Image 4 | 2016

Image 5 | 2018

Image 6 | 2019

Image 7 | 2021

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Satellite Imagery Comparison – 2008 versus 2013

Image 1 | Satellite Image - 2008

Image 2 | Satellite Image 2013

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Historical Imagery – Street View 2012

Image 1 | Front View – Parking Pad

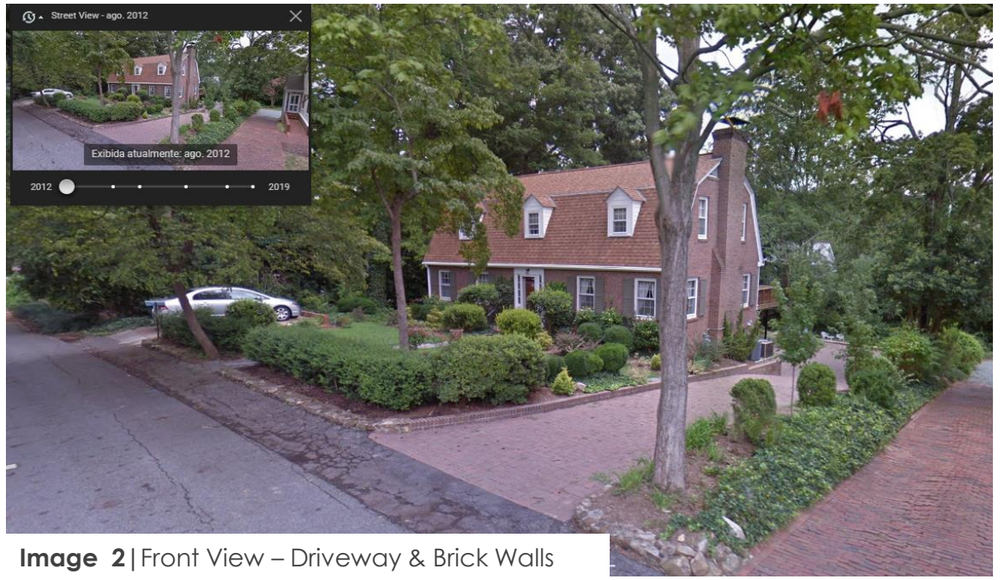

Image 2 | Front View – Driveway & Brick Walls

Image 3 | Front View - Driveway

Image 4 | Front View – Stone Walkway

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Historical Imagery – Street View 2019

Image 1 | Front View – Parking Pad

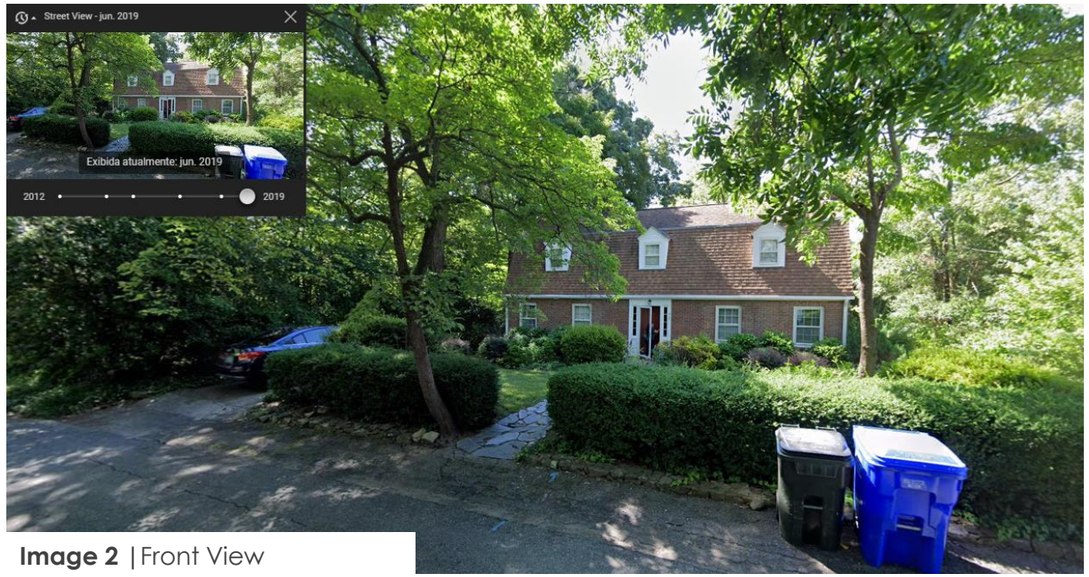

Image 2 | Front View

Image 3 | Front View – Stone Walkway

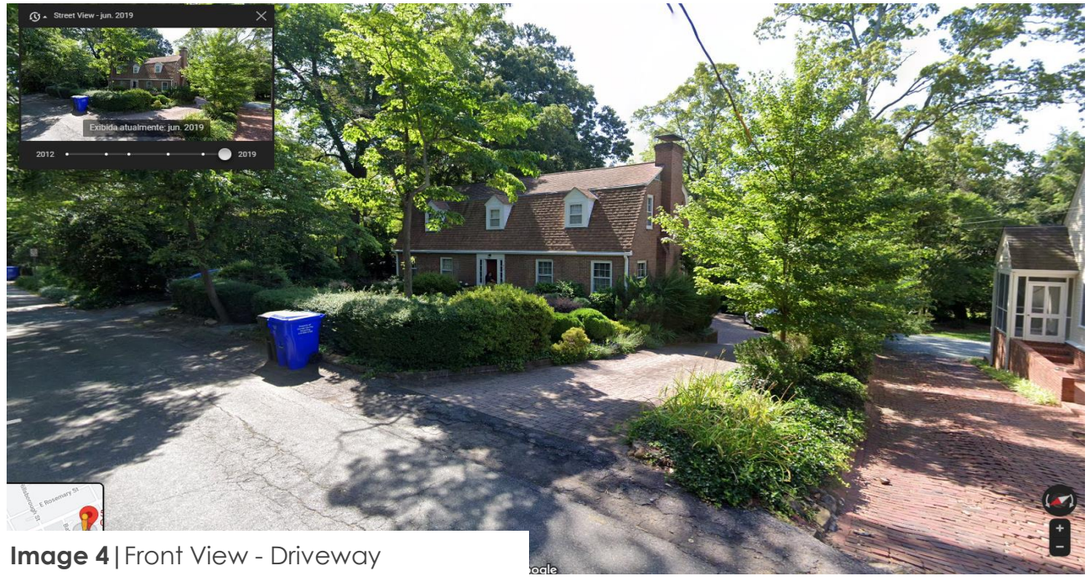

Image 4 | Front View - Driveway

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Site Context – Neighbouring Buildings












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Site Context – Natural Contours

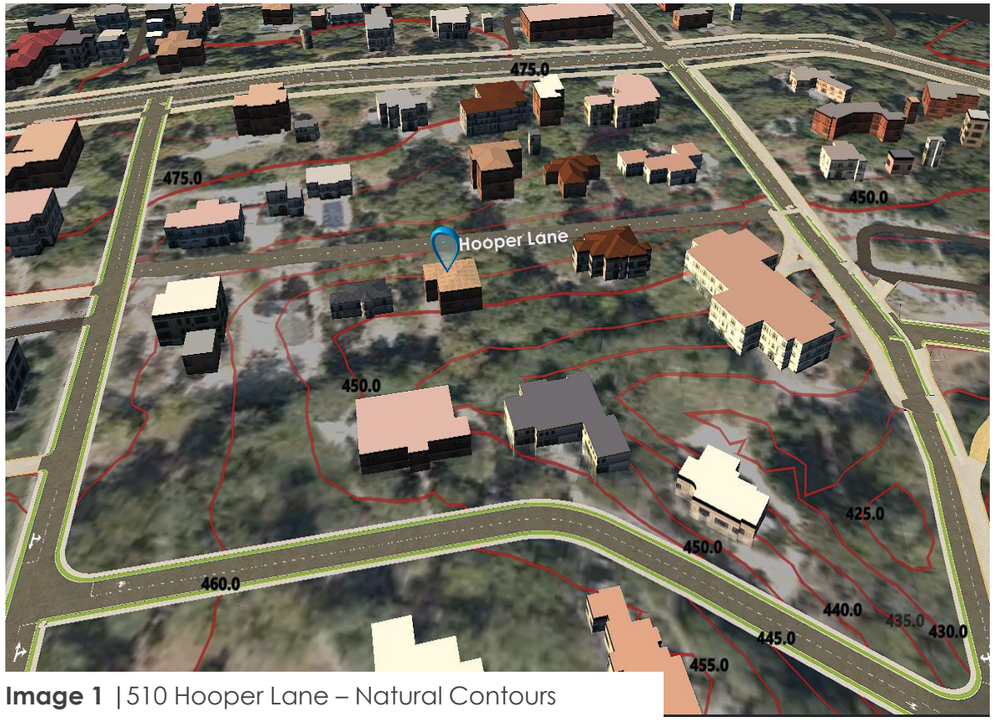

Image 1 |510 Hooper Lane – Natural Contours

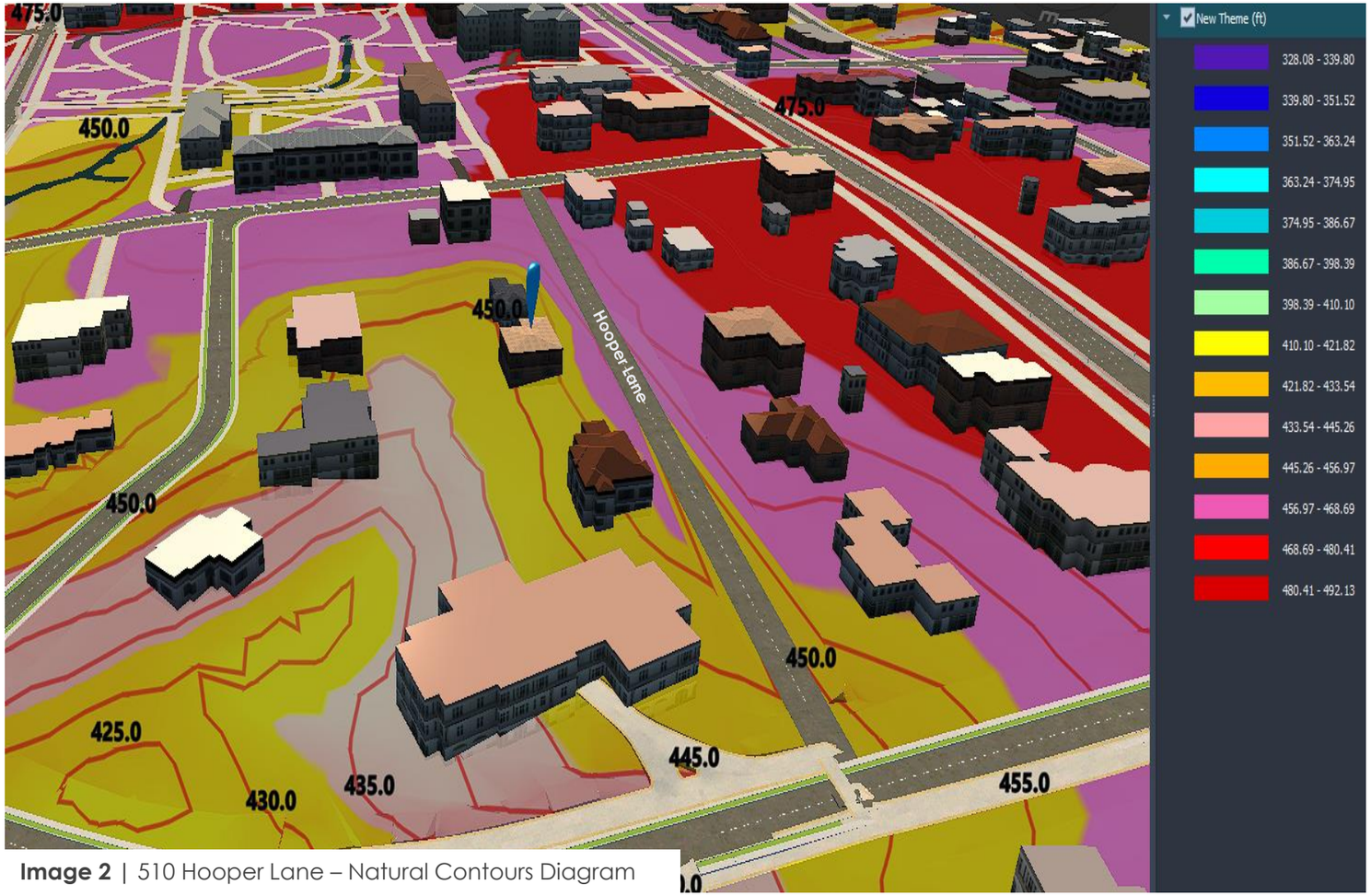

Image 2 | 510 Hooper Lane – Natural Contours Diagram

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Stormwater Flow and Aggravation Conditions

Image 1 | Stormwater Drainage Flow

Image 2 | Evidence of Debris

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Location and Aggravation Conditions

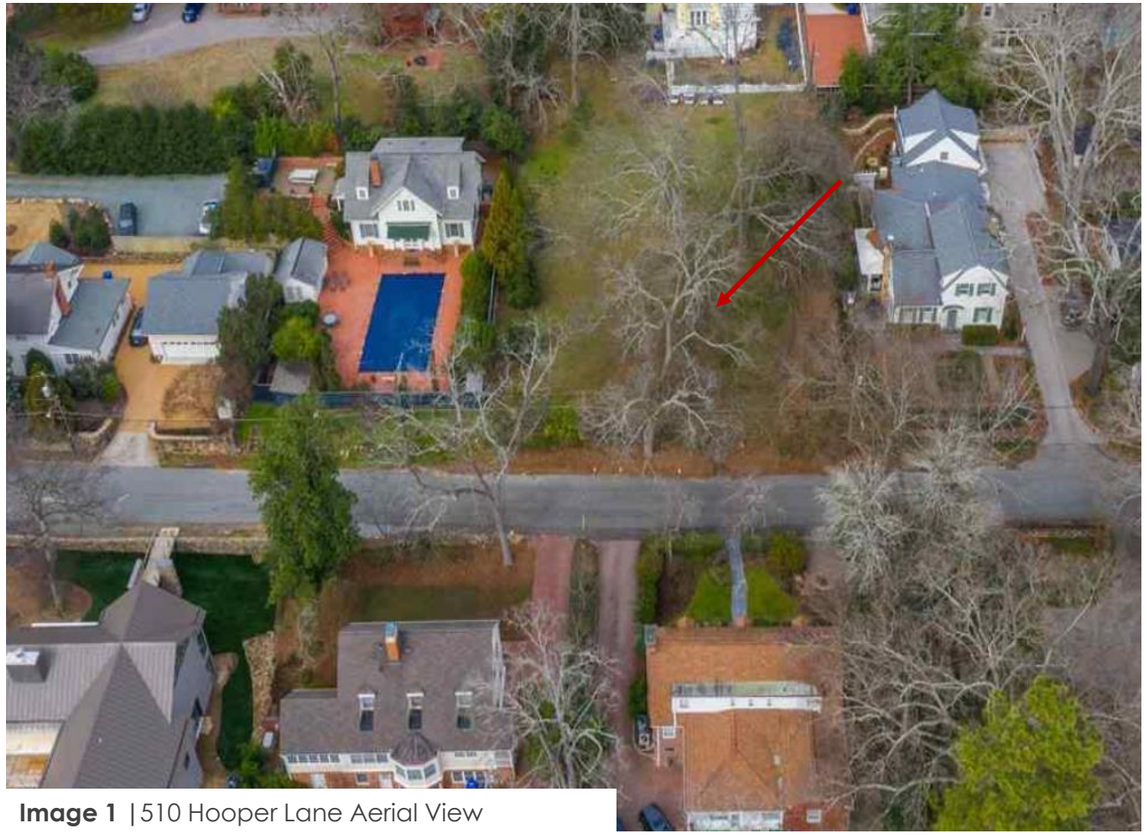

Image 1 | 510 Hooper Lane Aerial View

Image 2 | Empty Lot Directly Opposed to 510 Hooper Lane

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Existing Conditions Report – Basement Vents

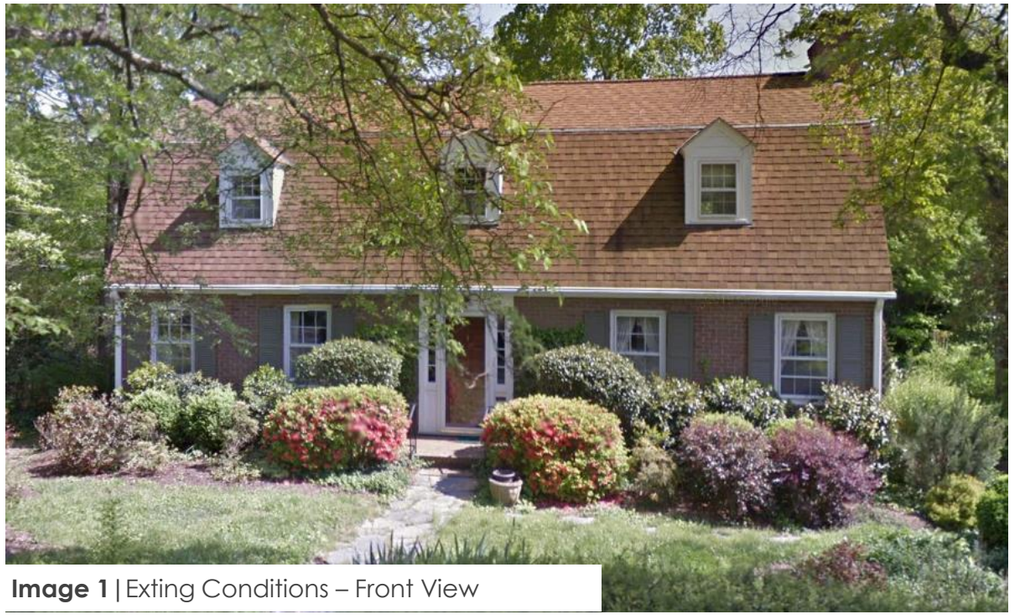

Image 1 | Exting Conditions – Front View

Image 2 | Cleared Front Yard – Basement Vents

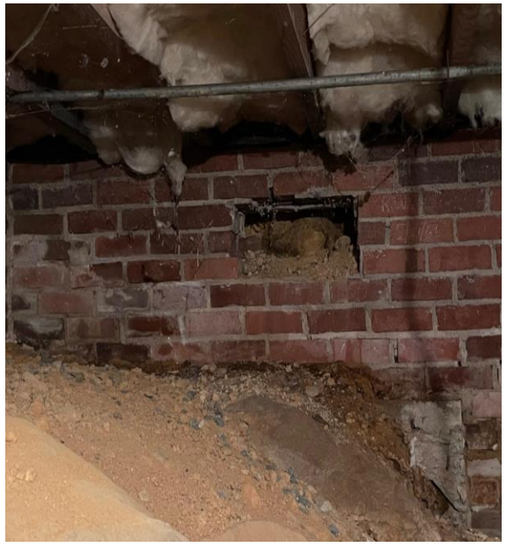

Image 3 | Inside View Basement Vents

Image 4 | Basement Vent Close up

- Plantings and Landscaping Blocking Vents;
- Soil washing through vents;
- Previous Measures taken;
- Current Conditions: Excess Humidity, Efflorescence, Soil Slide & Mold Growth.

Principles and Standards:

- Ensure that landscaping and shrubbery are at least 24 inches from foundation walls to prevent excessive moisture and cracking. Prune or relocate landscaping that is closer than this measure.
- Assess the property for run-off, soil erosion, and standing water, and correct drainage problems.

Image 1 | Northeast side of the building

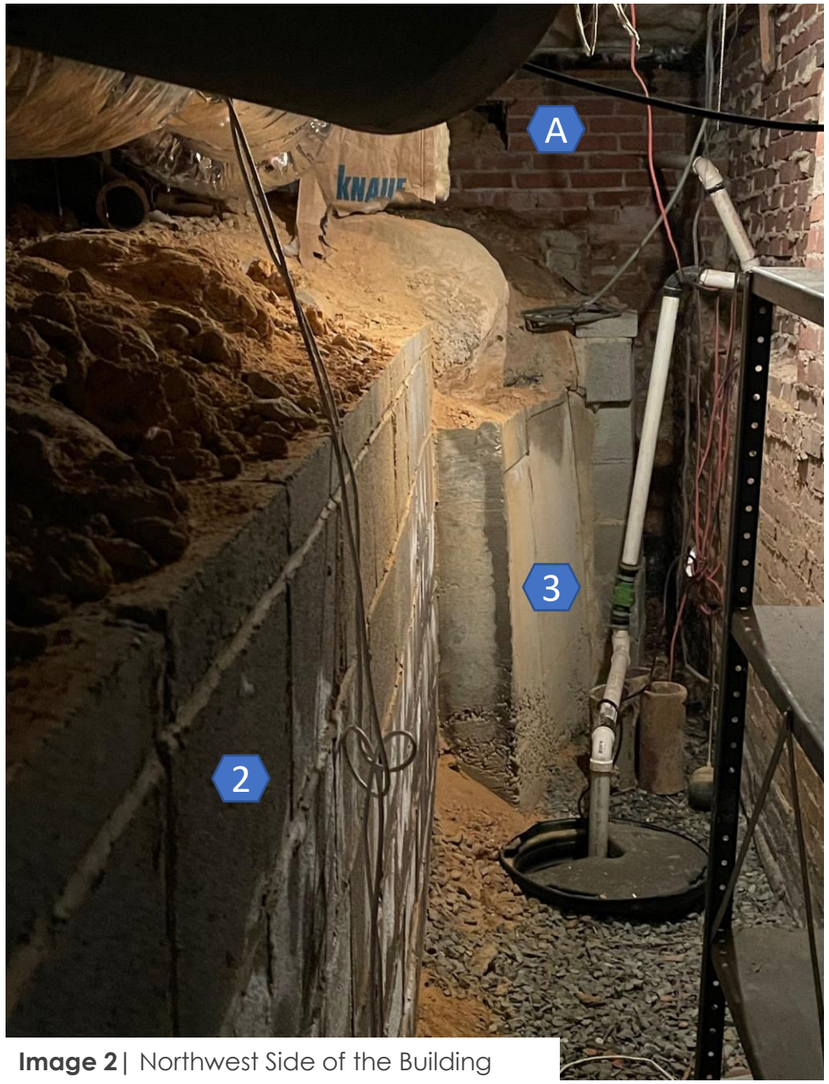

Image 2 | Northwest Side of the Building

Image 3 | Basement – Contained Soil

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Existing Conditions Report - Basement Conditions & Pathologies

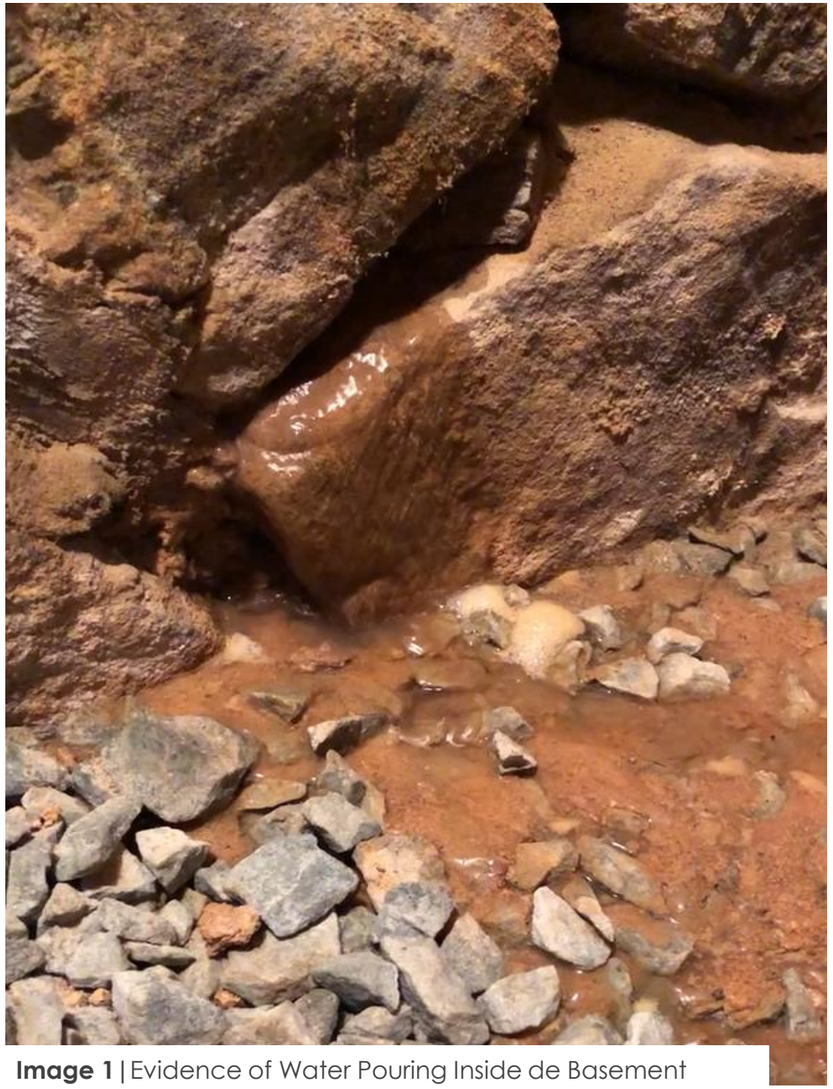

Image 1 | Evidence of Water Pouring Inside de Basement

Image 2 | Sump Pump & Poured Concrete Wall

Image 3 | Concrete Block Wall (*Efflorescence**)

Image 4 | Timber Structure (Dark Colored Section in Contact with Brick Wall)

**** Efflorescence*** *(which means "to flower out" in French) is the dissolved salts deposited on the surface of a porous material (such as concrete or brick) that are visible after the evaporation of the water in which it was transported. The moisture that creates efflorescence often comes from groundwater, but rainwater can also be the source. Efflorescence alone does not pose a major problem, but it can be an indication of moisture intrusion, which may compromise the structural material.*

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Discussion for Proposed Changes

- Break continuity of streetscape and front yard → Item A: Change of grading.
- Intercept & Direct stormwater from major contribution area before it reaches the building → Item B: Retaining Wall and Steps.
- Create open catchment area to direct stormwater from roof and front yard to the backyard → Item C: New Walkway System
- Rehabilitation of the front yard by reintroducing important historical elements → Item D: Reintroduction of removed trees and fieldstone wall. Place plantings away from building's façade and keep basement vents cleared.

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Discussion for Proposed Changes – HDC Standards and Principles Review

- **1.2 Public Rights-of-way:**

  Standards (Page 65):

  1.2.1. Retain and preserve the topography, materials, site features, and street patterns of the rights-of-way and the dimensions of the streets, alleys, sidewalks, and planting strips, that are important in defining the overall historic character of the districts.

  1.2.2. Protect and maintain the details, features, and material surfaces of the historic streetscape—including, but not limited to, red brick and Chapel Hill grit walkways, fieldstone walls, and brick gutters—through a program of regular maintenance and repair using accepted preservation methods.

- **Masonry (Page 67)**

  Principles:

  • Ensure water does not collect on masonry surfaces and that water drains away from foundations, walls, and piers.

  • Ensure masonry is free of vegetation.

- **Foundation (Page 83)**

  Principles:

  • Inspect foundations regularly for signs of moisture, insect infestation, vegetation, or structural damage.

  • Ensure that mortar joints in masonry foundations are intact.

  • Investigate any unusual settling, broken masonry units, or cracking along mortar joints.

  • Maintain adequate drainage around foundations, ensuring that gutters and downspouts drain away from the building and that the ground itself slopes away from the foundation.

  • Maintain adequate ventilation under foundations.

- **Disaster Preparedness & Planning: (Page 109)**

  Principles:

  • Assess the property for run-off, soil erosion, and standing water, and correct drainage problems.

  • Ensure that landscaping and shrubbery are at least 24 inches from foundation walls to prevent excessive moisture and cracking. Prune or relocate landscaping that is closer than this measure.

  • Check foundations, basements, and crawl spaces for cracks or evidence of water infiltration. Stabilize foundations where needed and consider installing a sump pump for basements and crawl spaces if there is potential for water accumulation.

  Standards:

  3.10.3. When retention of materials and features is not possible, replacement materials and features must meet the Design Standards.

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Item A: Change Grading of the Front Yard

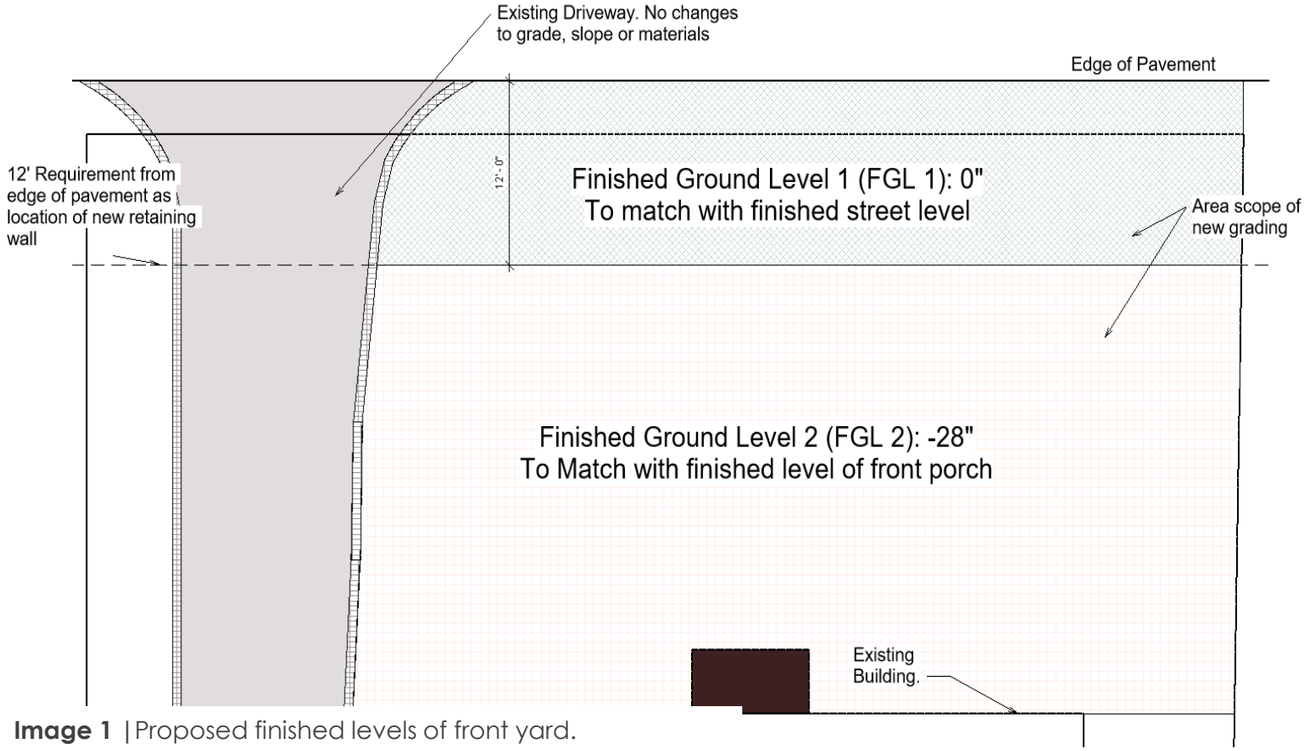

Image 1 | Proposed finished levels of front yard.

To provide a sound drainage system to the front yard, a break of continuity of streetscape with the front yard was required, which would prevent water from washing down into the building,

It is proposed to maintain the finished street level (FGL 1) from the edge of the pavement to 12 feet towards the building, then installing a retaining wall, and finally dropping the finished ground level (FGL 2) 28" from the street level (FGL 1) matching with finished level of the front step of the existing porch.

Image 1 | Existing 2" Calliper Dogwood Trees

Image 2 | Existing Parking Pad

Design Considerations:

- Retaining wall to be placed at least 12' from the edge of pavement.
- Finished Ground Level of the front yard to be slightly bellow basement vents.
- With the change of slope, two trees were clashing with new retaining wall position and front access.
- Existing parking pad would need removal.
- A set of steps would be needed.

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Item B: Proposed Retaining Structure and New Steps – Comments and Review

1.3 Walls & Fences: Standards (Page 48)

- 1.3.7. Construct new walls using traditional materials and designs that are compatible in configuration, height, material, scale, and detail with the character of the building, site, and district.

  a. Walls in front and side yards should generally not exceed 30" and should be constructed of red brick or fieldstone.
  b. Walls constructed of cut stone, bare concrete block, or with thin stone veneers applied to concrete or other structural block are not appropriate in locations visible from the street.

- The design and features of the new retaining wall were conceptualized to fit with all elements relevant to the site and its surroundings while at the same time to not jeopardize the external look of the property and its historical character.

- The new retaining wall is not meant to be visible from the street and its main function is to retain the soil providing a way to change the slope of the front yard.

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Item B: Proposed Retaining Structure and New Steps

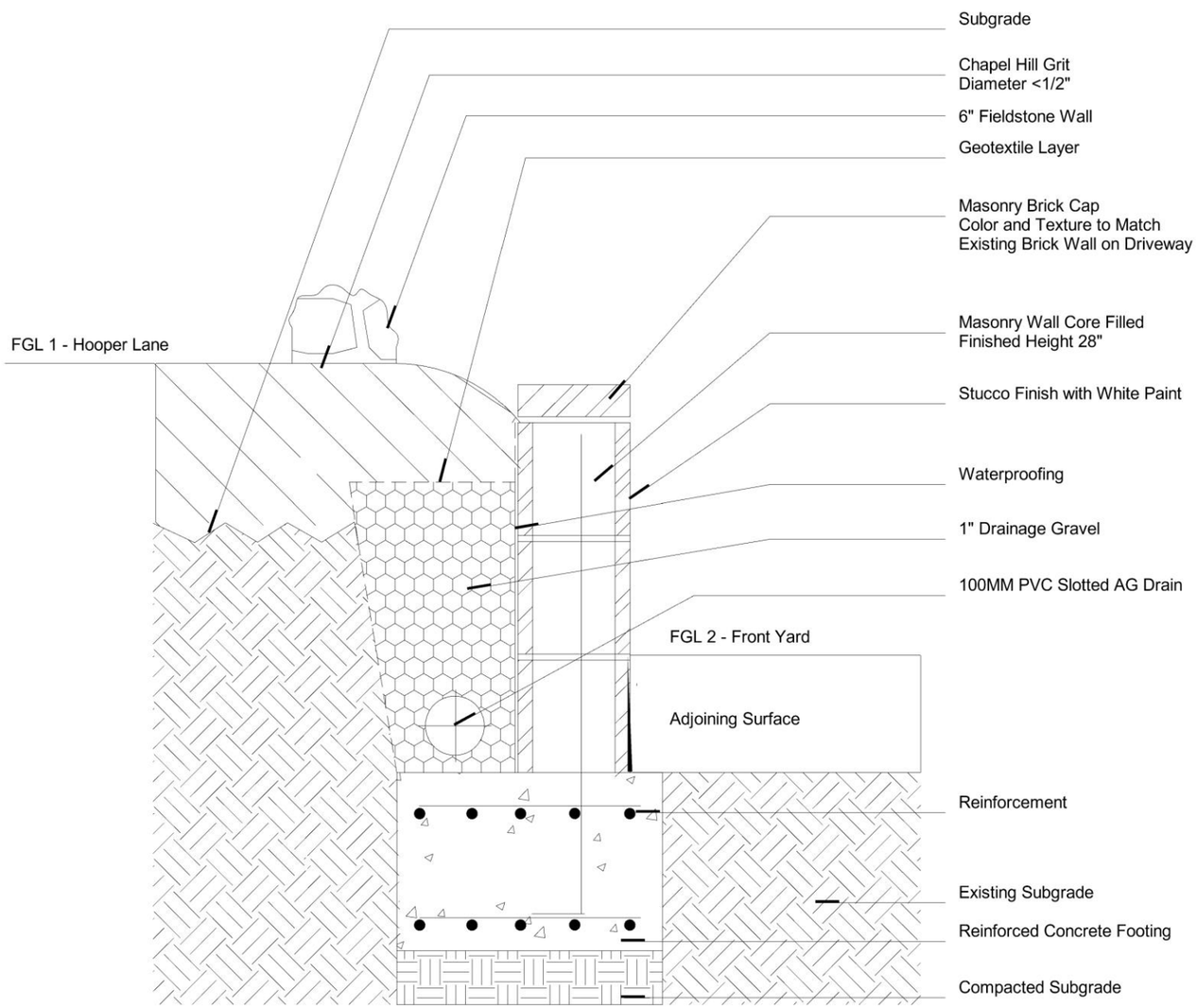

Image 1 | Retaining Wall – Cross Section

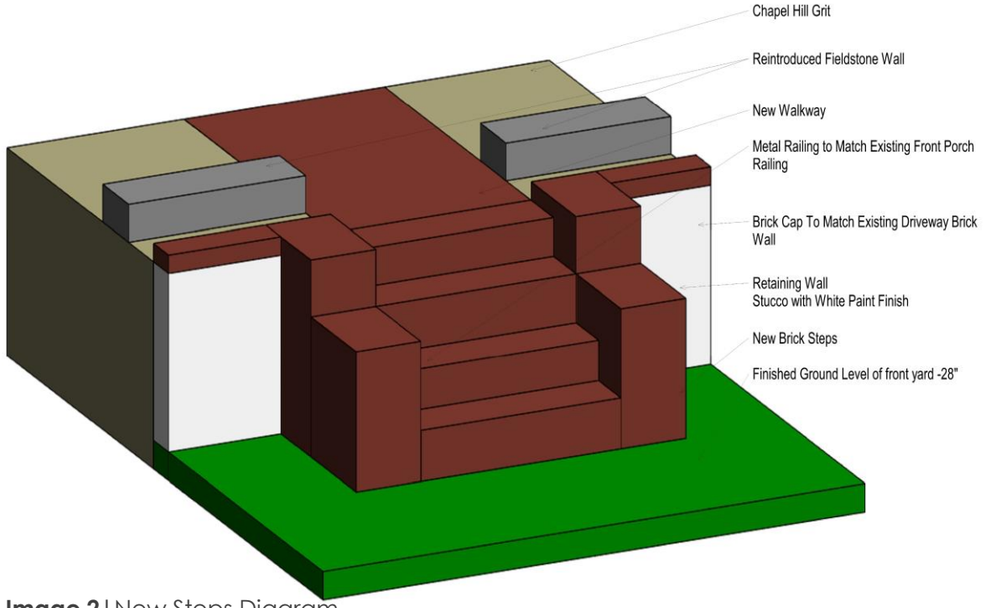

Image 2 | New Steps Diagram

Design Considerations:

- Finished level of first 12' from the edge of the pavement to be maintained.
- Installation of a reinforced masonry wall with core filled with concrete and rebar, with a poured reinforced concrete footing.
- Finished Level of the front yard to be 28' bellow street level.
- Structure to provide drainage for excess storm water coming from the street and surrounding properties.
- The new steps were located on the center of the site to match a straight route from the street to the existing front porch of the house.

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Item B: New Brick wall & Brick Stairs – Additional Evidence

Image 1 | Brick Color and Pattern

Image 2 | White Siding

Image 3 | White Trim And Wall

Image 4 | 3D Model

- The brick cap on the new wall was designed to match with the brick wall of the driveway to make it seem part of the property and not just a new element that does not fit.
- The brick cap will also not be visible from the street and any sign of the wall will be covered by the reintroduction of a fieldstone wall.
- The wall received a stucco treatment and white paint on its interior side). The white paint was relevant to the site as it matches with overall colors of the property, and it is not visible from any angle outside the property.
- The new steps are constructed with same brick of brick cap to match with existing driveway and brick wall on its edges.

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Item C: Proposed New Walkway System

Image 1 | Existing Stone Walkway

- The previously installed stone walkway (Figure 70), as previously suggested, was installed sometime between 2008/2010.
- The stone walkway was deteriorated and presented a safety risk because of its configuration, setting and roughness.
- The walkway did not match with any finish or color of other walkways in the site or adjoining properties and did not provide a safe or pleasant walk, which is required as functionality for the main and only path with access to the front door.

1.4 Walkways, Driveways, & Off-street Parking: Standards (Page 52)

1.4.4. If a historic walkway, driveway, or off-street parking area is completely missing, or if deterioration necessitates its replacement, replace it to match the original in material, design, dimension, configuration, detail, texture, and pattern, based upon physical and documentary evidence. Otherwise, replace it with a new feature that is compatible in material, design, scale, and detail with the overall historic character of the site and district.

1.4.5. Design new walkways, driveways, and off-street parking to conform with the spacing, width, configuration, and materials of character-defining walkways, driveways, and off-street parking areas in the district.

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Item C: Proposed New Walkway System – Neighbouring Properties

Image 1 | 521 Hopper Lane - Driveway Finish

Image 2 | 520 Hooper Lane – Walkway Finish

Image 3 | Brick Driveway Reference - 517 Hooper Lane

Image 4 | Brick Finishes and Patterns - 521 Hooper Lane

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Item C: Proposed New Walkway System Layout and Functionality

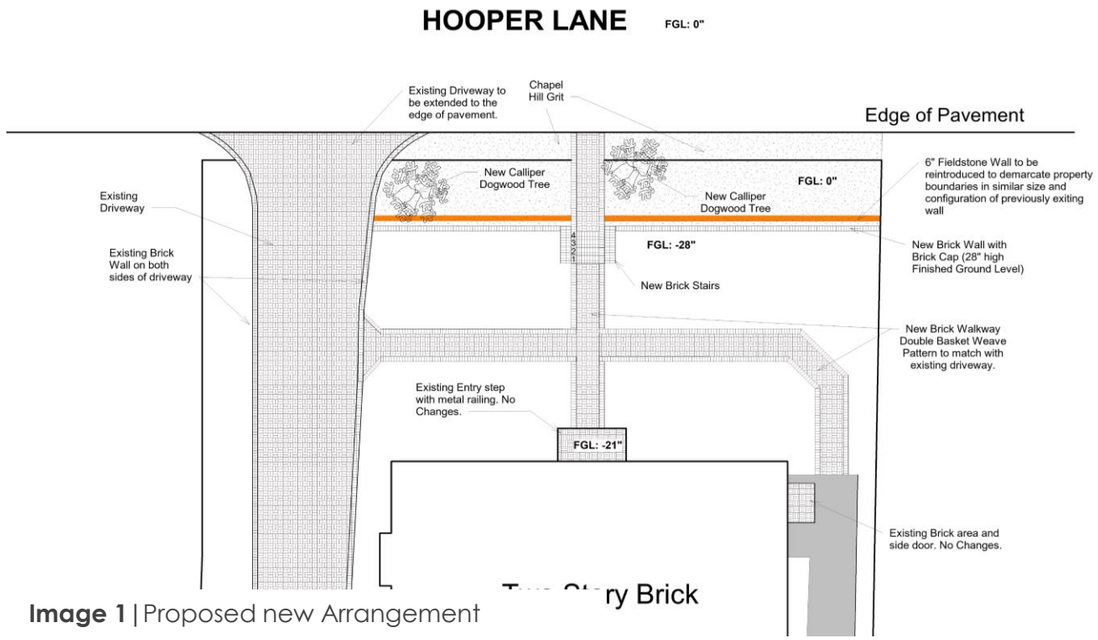

Image 1 | Proposed new Arrangement

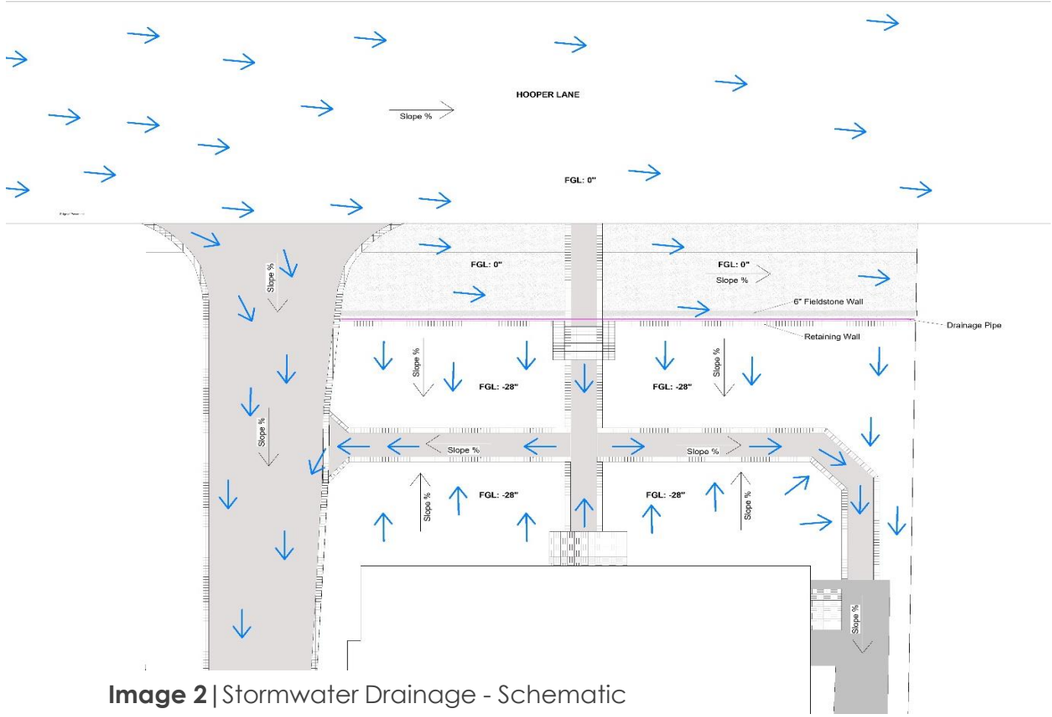

Image 2 | Stormwater Drainage - Schematic

- The new walkways were proposed to be constructed of brick pavers that match existing driveway in color and pattern and are consistent with surrounding properties within the historic district in its current state.

- In the previous existing configuration, the site had no access steps or footpath to the driveway or the side of the building where the side porch is located. This meant having to walk across the landscape damaging grass and surround plants or around the entire property.

- The new Walkway System acts as an open drainage path for stormwater to flow away from the building structure and foundations.

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Item D: Fieldstone Wall

Image 1 | Fieldstone Wall Northeast Side

Image 2 | Fieldstone Wall Northwest Side

Image 3 | Fieldstone Wall Northwest Side – Connection with Brick Wall

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Item D: Reintroduction of Fieldstone Wall

Image 1 | Fieldstone Wall Northwest Side

- With the change of slope of the front yard the original 6” high fieldstone wall had to be removed.

- Similar material will be used to replicate the original look of the wall, size and shape as well as covering any signs of newly installed retaining wall and its brick cap.

o 1.3 Walls & Fences: Standards

1.3.5. If a historic wall or fence is completely missing, or if deterioration necessitates its replacement, replace it to match the original in material, design, dimension, pattern, detail, texture, and color, based upon physical and documentary evidence. Otherwise, replace it with a new feature that is compatible in material, design, scale, and detail with the building, site, and district.

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Item D: Existing Railing Details & Proposed Railing for New Steps

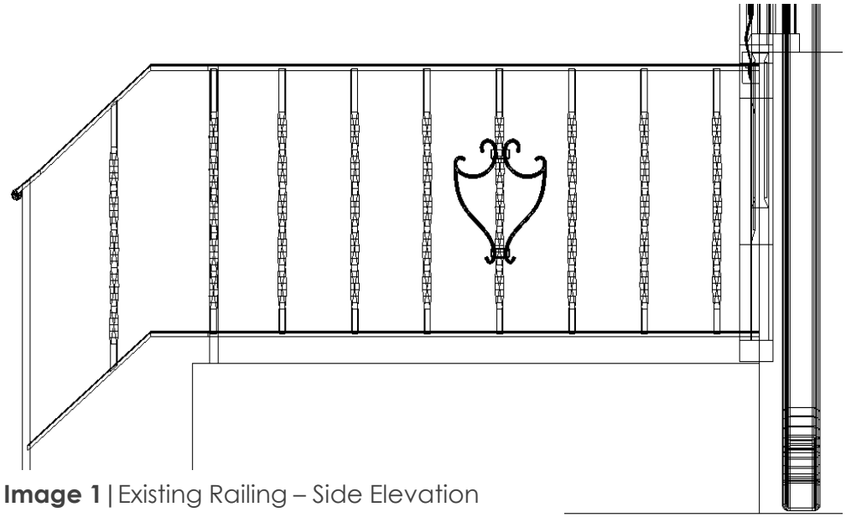

Image 1 | Existing Railing – Side Elevation

Image 3 | Existing Railing – Front View

Image 4 | Top View

Image 5 | Side View - Detail

Image 2 | 3D Model New Proposed Railing

- New railing is proposed to be installed on newly introduced steps.
- Single railing on the northeast side of the steps.

2.3 Architectural Metals: Standards (Page 74)

2.3.1. Retain and preserve architectural metal features and surfaces that are important in defining the overall historic character of buildings or site features within the historic districts. These include, but are not limited to, metal roofing and flashing, gutters and downspouts, cornices, railings and porch posts, windows and hardware, light fixtures, and fences and gates.

2.3.7. If an architectural metal feature is completely missing, replace it to match the original feature, based upon physical and documentary evidence. Otherwise, replace it with a new feature that is compatible in material, design, size, and scale with the building or site.

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Item D: Reintroduction of Trees and Landscaping Features

- In the process of changing the landscaping of the front yard, two trees had to be removed. These trees will be replaced with the same species and be placed in very similar locations to their original positions. In its maturity the trees will have very similar look and size to the original trees.

- Plantings will be replaced for similar species taking into consideration the Design Principles and Standards recommendations of specimens on pages 175 to 178 to restore the appearance of the site.

Image 1 | Fieldstone Wall Northeast Side

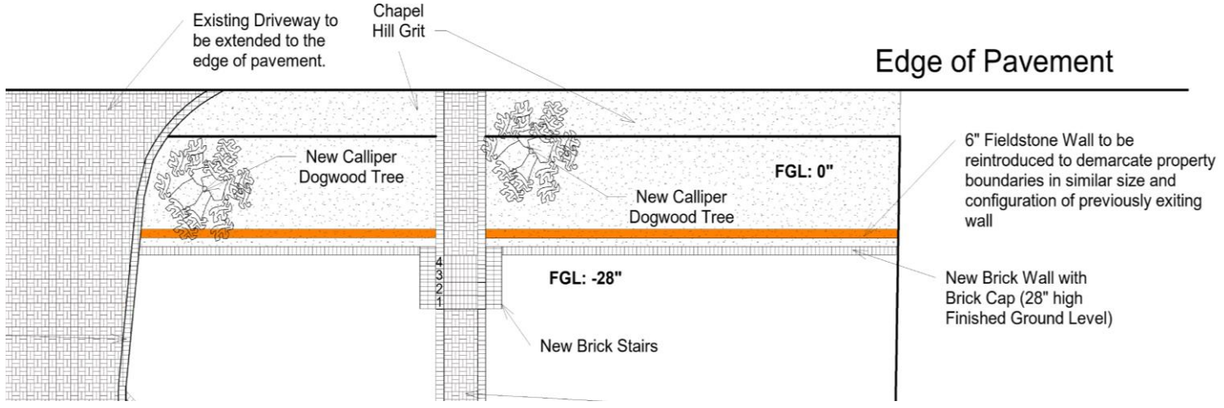

Image 2 | Proposed location for new dogwood trees.

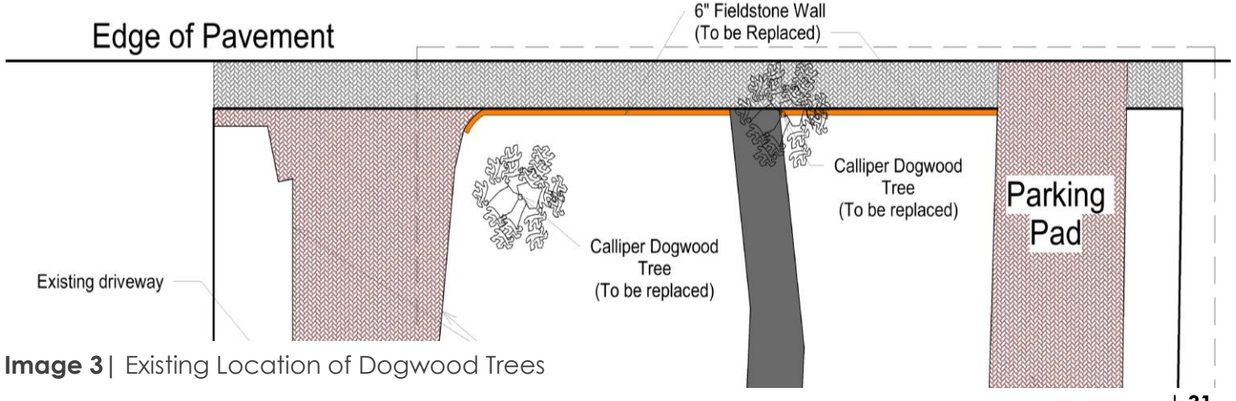

Image 3 | Existing Location of Dogwood Trees

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Final Discussion - Existing and Proposed New Arrangement

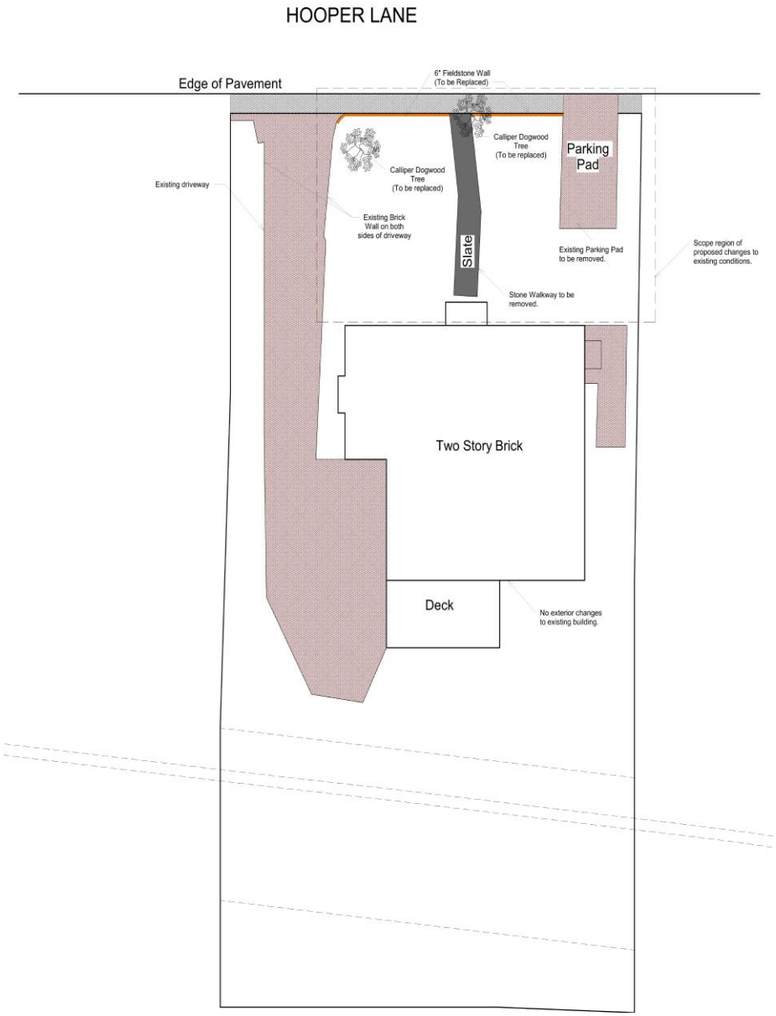

Image 1 | Existing Conditions

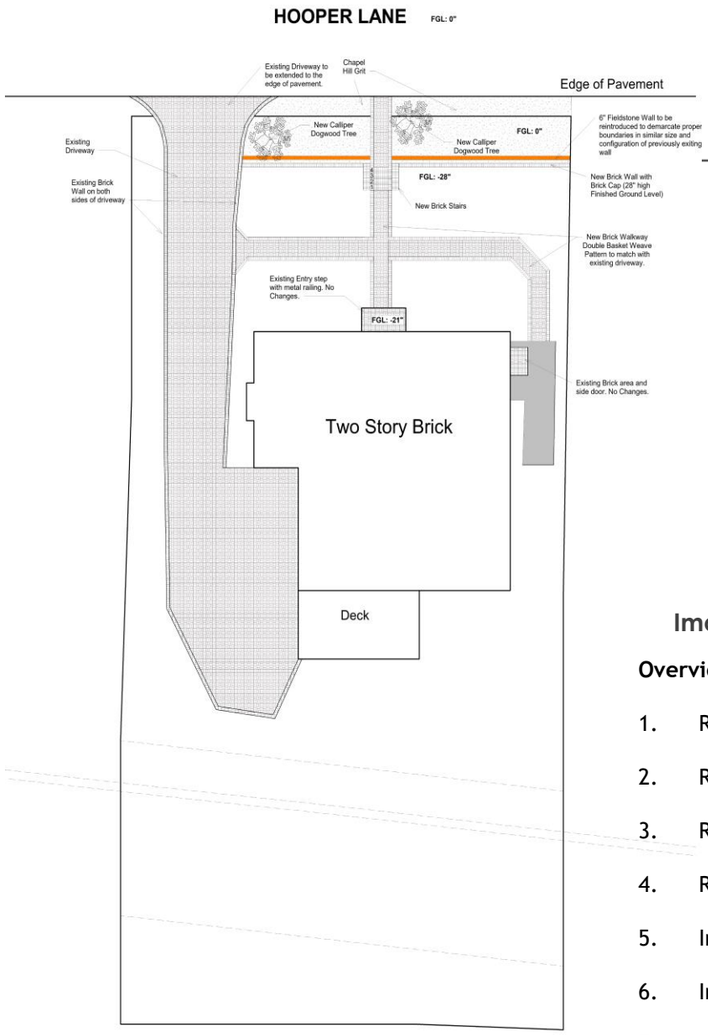

Image 2 | Proposed New Arrangement

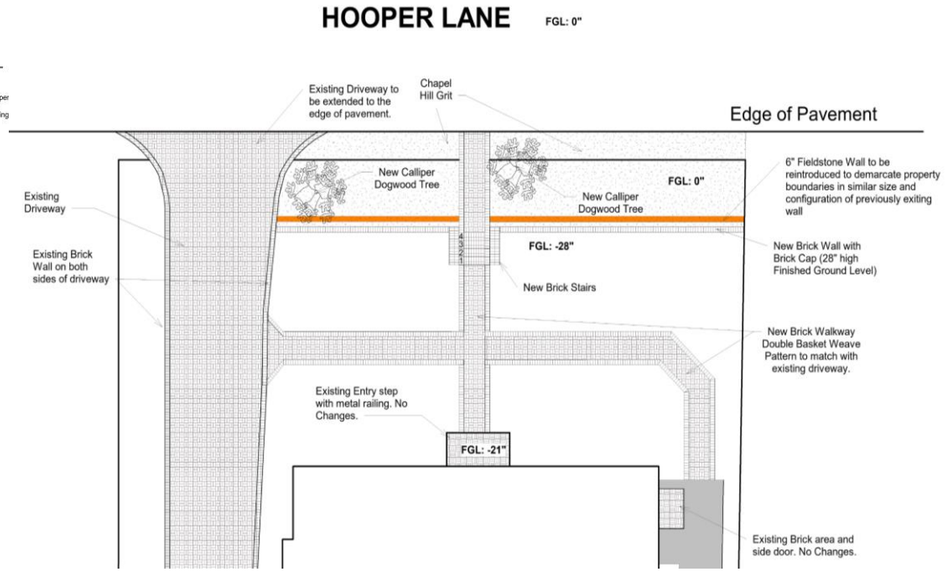

Image 3 | Close up Front Yard

Overview:

1. Removal of existing Parking Pad.
2. Removal of two calliper dogwood trees.
3. Removal of existing stone walkway.
4. Regrading of the front yard.
5. Installation of retaining wall with new steps.
6. Installation of new walkway system on the front yard.
7. Reintroduction of fieldstone wall on the front of the property on the property line.
8. Reintroduction of two Calliper Dogwood Trees on the front yard.

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3D Model Presentation