



81 Arnold Road

Included:

- 1-2 Statement of Intent
- 3-4 Large House Review Application
- 5-6 TLAG Affidavit

Index of Drawings:

- Title Page & Rendering
- Existing Conditions- Plot Plan
- TLAG TLAG Calculation
- EX 0.0 Photos of Existing
- EX1.0 Existing Basement Plan
- EX1.1 Existing 1st Floor Plan
- EX1.2 Existing 2nd Floor Plan
- EX1.3 Existing Attic Plan
- EX2.0 Existing Elevations
- N1.0 Neighborhood Delineation Plan
- N1.1 Neighborhood Delineation Plan
- L1.0 Landscape Plan
- A3.0 Material Key
- A3.1 Rendering Perspective
- A3.2 Rendering Perspective
- A3.3 Rendering Perspective
- A3.4 Rendering Perspective
- A1.0 Foundation plan
- A1.1 First Floor plan
- A1.2 Second Floor plan
- A2.0 Elevations
- A2.1 Elevations
- L-1 Tree Removal Plan
- Tree Removal & Replacement table
- Letter from the arborist
- Maintenance plan from arborist
- TRAQ forms for 10 trees
- L-3 Planting Plan
- E1.0 Exterior Lighting Plan
- Cut sheets
- Photometric plan
- 10 pages House Lighting cut sheets

Wellesley Planning Board Large House Review Application
Applicant: D. Michael Collins
Land Owner: Greta & Matthew Fruhan
Address: 81 Arnold Road

Statement of Intent

Assessor's parcel ID# 96-13

Lot area:51,836sf

Zoning District SR20

Allowable building coverage 15%

New home will be compliant with all zoning setback requirements

Proposed TLAG is 9298 sf

First floor living area proposed 3610sf

Second floor living area proposed 3220sf

The building ridge height is an average of 32 ft and generally consistent with the neighboring structures. All of the surrounding homes within this Arnold Road neighborhood (as shown on the delineation plan), are generally in the colonial revival style with similar materials and details.

Scale and Aesthetic of Building: The new home at 81 Arnold Road has been designed in the traditional vernacular of the classic Wellesley Cliff Estate homes of the 1930's and 1940's. The white painted clapboard siding, board and batten siding, stone foundations, large double hung windows with traditional shutters, asphalt and copper roofing will weave the structure into the fabric of the existing neighborhood. The simple colonial form with two flanking wings that are set back from the main body of the building establish a hierarchy of massing. The garage/carriage house element is connected by a recessed family entry porch which is mimicked on the opposite side of the house to minimize the massing. The new home, much like to existing home, sits higher than most of the other homes on the street which gives the structure a very stately presence and we plan to continue this condition while still lowering the overall grade.

Preservation of Landscape and Open Space: The existing house sits at a high point on the lot (+/-241), with moderately sloping (6-10%) front and rear yards. The grade in the street is at 233 and the middle of the rear yard is approximately 234. There is a ravine along the northern property line that dips down to 228 and there are very steep slopes (greater than 20%) at the rear southeast corner of the lot. The new house will be settled down approximately 3.5' lower than the current house at an elevation of 237.5 in order to provide a stronger connection to the landscape without towering over it. This will also allow a stronger connection between the rear patio and lawn area, without the need for many stairs. There is an existing ledge outcropping in the front yard which will be primarily preserved and incorporated into the yard, helping to ground the project into the native landscape. Likewise, many of the existing trees in the front of the home will be preserved and underplanted with shrubs and ornamental trees to improve the

buffer and frame the house from the street. The strategic planting and large trees will create an image of an established home and landscape within the neighborhood that will complement the visual quality of the immediate environment.

A new turnaround driveway is proposed to help with the arrival to the front door, but it has been woven between the ledge and existing trees so as to be as unobtrusive as possible. In the rear, a new patio space and lawn are the only landscape elements. The yard will be minimally graded to avoid the ravines and steep hillside while still creating usable landscape space for the homeowners. The steepest portion of the yard will be preserved.

Lighting: The driveway will be lit on either side of the entry by wall wash lights on stone piers. Front walkways will be illuminated by low path lights that lead up to main access points that are illuminated with building-mounted sconces. Garage doors will also have similar sconce fixtures. In the rear yard, garden wall wash lights will illuminate patio areas, and low path lights will light grade changes and walkways. Each entry point will also have consistent sconce fixtures as the front facade. There are no uplights or accent lights proposed in order to reduce unnecessary light pollution. All path lighting and wall wash lighting will be low voltage and dark sky rated to illuminate the ground plane only.

Trees and Planting: A total of 33 trees are proposed to be removed as part of this project, but only 10 of these are located within the tree yard. 17 trees are located in the rear yard, outside the tree yard, and are primarily scrubby 8-10" conifers and poorly maintained Oaks. 6 trees are either within the new foundation of the home or are too close to be preserved, and these are also outside the tree yard. Of the 10 trees within the tree yard, 1 triple Oak failed during a March storm and the remainder had to be removed for safety (the Town was notified) and 1 Red Maple along the southern property line is dead. 4 large trees that would not be impacted by construction and were originally slated to be saved have been identified by our arborist as at-risk and recommended for removal. These include 3 Oak and 1 Elm. The final 4 requested removals are primarily smaller conifers and Oaks that would, if removed, allow two larger Oak trees to thrive along the southern property line. As mitigation, 3 overstory canopy trees, 8 overstory conifers and 4 deciduous ornamental trees are proposed to be replanted, as well as 17 Arborvitae to help buffer views off the property. The trees to be preserved include mature Oaks, Maples and Pines, all of which will help provide a green foreground and backdrop to the proposed home. New plantings in the front yard will provide a lush buffer to frame some limited views to the house, and new plantings along the sides and rear are situated so as to screen views off-site and to provide proper buffer for abutters. An extensive arborist report is being included as part of this application, with images, dates and detailed notes on health, structure and recommendations.

Storm Water Management: The accompanying storm water plan and report will show the mitigation measures to control and manage any new storm water flow created by this new development. The design will meet the MA DEP Storm Water Management Standards and the Town of Wellesley rules and regulations.



**Town of Wellesley
Planning Department**
Lower Level - Town Hall
525 Washington Street
Wellesley, MA
781-431-1019 x2232

**Wellesley Planning
Board
LARGE HOUSE
REVIEW APPLICATION**

Applicant, please complete this form and include it with your application for Large House Review. Please read the LHR Rules and Regulations and consult with Planning Department for application requirements.

Application Information:

Property Address: 81 Arnold Road

Area District: 20,000 Project type (check one): New House Addition

Proposed TLAG (sq. ft.): New House: 9298

Addition: Existing: _____ Proposed: _____ % Increase: _____

Property Owner Name: Matthew Fruhan

Owner Mailing Address: _____

Email Address: David@swhlawoffice.com (agent) Phone: 781-237-8180 (Agent)

Applicant Name: Matthew Fruhan

Applicant Mailing Address: _____

Email Address: David@swhlawoffice.com (agent) Phone: 781-237-8180 (Agent)

Fee: \$3000 New House: \$2,000 for TLAG less than 5,900 sq. ft.; \$3,000 for TLAG of 5,900 sq. ft. or greater. Additions: total TLAG less than 5,900 sq. ft., % TLAG increase x \$2,000, not to exceed \$2,000; total TLAG of 5,900 sq. ft. or greater, % TLAG increase x \$3,000, not to exceed \$3,000.

Application Authorization:

I give permission for Planning Department Staff to enter upon my land for purposes related to this application during regular business hours:

Signature of Property Owner: *Matthew Fruhan* Date: 5/13/20

For Town Use Only

Submission Date: _____ Case Number: LHR- _____

Action Required By: _____ DRB Review Date(s): _____

Planning Board Review Date(s): _____ Planning Board Action: _____

Design Professionals (if applicable):

Name, Phone # and Email of Land Surveyor:	The Jillson Company, Inc. Kevin O'Leary (781) 400-5946 koleary@jillsoncompany.com
Name, Phone # and Email of Engineer:	The Jillson Company, Inc. Kevin O'Leary (781) 400-5946 koleary@jillsoncompany.com
Name, Phone # and Email of Architect:	D. Michael Collins Architects Michael Collins (508) 651-7099 Mike@dmcarch.com
Name, Phone # and Email of Landscape Architect:	K.D. Turner Design Kim Turner (781) 632-6004 kdt@kdturnerdesing.com
Name, Phone # and Email of General Contractor:	



Town of Wellesley
Planning Department/Building Department
 Lower Level - Town Hall
 525 Washington Street
 Wellesley, MA
 781-431-1019 x2232

Large House Review
TLAG AFFIDAVIT

*Attachment 1 to the Large House
 Review Rules and Regulations
 Adopted 6/27/17; Effective 7/1/17*

Instructions:

This Affidavit and the Directions on pages 3 thru 5 are used to determine the "Total Living Area plus Garage Space" or "TLAG" of single family dwellings and associated accessory structures. TLAG is a defined term in Section XVID, *Large House Review*, of the Zoning Bylaw, by which the floor area of single family dwellings and associated accessory structures is calculated. **This Affidavit is required to be completed and submitted (pgs 1 & 2 only; use additional sheets if necessary) for review by the Building Department for all new single-family dwellings and additions to single-family dwellings, all new accessory structures over 100 square feet in area and additions to such structures, and any other project for which the Inspector of Buildings deems submission of the form necessary.**

Please complete this Affidavit in full and provide the following materials:

- Complete and accurate dimensioned plans, including floor plans, elevations of the entire structure (alterations of existing buildings that add 5% or less of TLAG are not required to submit plans for the entire structure).
- A separate plan providing calculations for determining the TLAG of the proposed structure.

This information will be used by the Building Department to determine whether a project is subject to review by the Planning Board under Section XVID, *Large House Review*, of the Zoning Bylaw. Large House Review ("LHR") is required for:

- New single-family homes and associated accessory structures which exceed the area calculation threshold established in the LHR section (XVID) of the Zoning Bylaw; or
- Additions to single-family homes and associated accessory structures when the addition increases the existing calculated area of the dwelling by more than 10% **and** the resulting area of the dwelling exceeds the same established threshold.

Application Information:

Property Address: 81 Arnold Road

Single Residence Area District (Circle One):	10,000	15,000	20,000	30,000/40,000
TLAG Threshold:	3,600	4,300	5,900	7,200

Applicant Name: Matthew Fichen Phone #: 781-690-2872
 (Builder or Record of Permit Application)

I do hereby certify under the pains and penalties of perjury that the information provided within this Affidavit is true and correct and these calculations are for zoning purposes only.

Applicant's Signature Matthew Fichen Date 5/13/20

For Town Use Only

Affidavit: Approved Denied Notes:
 Large House Review: Required Not Required

Building Inspector _____ Date _____

LARGE HOUSE REVIEW - TLAG AFFIDAVIT

Property Address: 81 Arnold Road
Applicant Name: Matthew Fruhan

CHECK ONE:

For New Single Family Dwelling (including accessory structure(s)):

Proposed TLAG (a+b+c+d+e+f from calculations below) = 9,298

For Additions to Single Family Dwellings/Accessory Structures:

TLAG of Existing Dwelling/Accessory Structures (subtract any areas to be removed):	
TLAG of Proposed Addition(s):	
Proposed Total TLAG of Existing Dwelling/Accessory Structures plus Addition(s):	
% Increase of TLAG: $\frac{\text{Total TLAG} - \text{Existing TLAG}}{\text{Existing TLAG}} \times 100 =$	

BASEMENT TLAG CALCULATION - refer to Basements on pages 4 and 5

Basement Area 1

Height of basement wall: 10'; Average height of basement wall above grade: 1.3'

% of basement wall above grade: 13%; If 25% or greater a portion counts as TLAG

Entire basement area (sq. ft.): 3,427 S.F.; Basement area that counts toward TLAG (sq. ft.): 0 SQ.FT.
(a)

Basement Area 2(if applicable; if basement-ceiling heights are not the same height in different portions of the basement, please calculate those sections separately.)

Height of basement wall: _____; Average height of basement wall above grade: _____

% of basement wall above grade: _____; If 25% or greater a portion counts as TLAG

Entire basement area (sq. ft.): _____; Basement area that counts toward TLAG (sq. ft.): 0
(a)

ABOVE-GRADE TLAG CALCULATION - refer to Above-Grade Floors on page 3

First floor area (sq. ft.) 4,778 Second floor area (sq. ft.) 3,220
(b) (c)

ATTIC TLAG CALCULATION - refer to Attics on page 3

Attic area (sq. ft.): 1,300
(d)

ACCESSORY STRUCTURE TLAG CALCULATION

Number of detached accessory structures greater than 100 sq. ft. in area: 0

First floor area (sq. ft.) 0 Second floor area (sq. ft.) 0
(e) (f)



81 ARNOLD ROAD WELLESLEY, MA

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

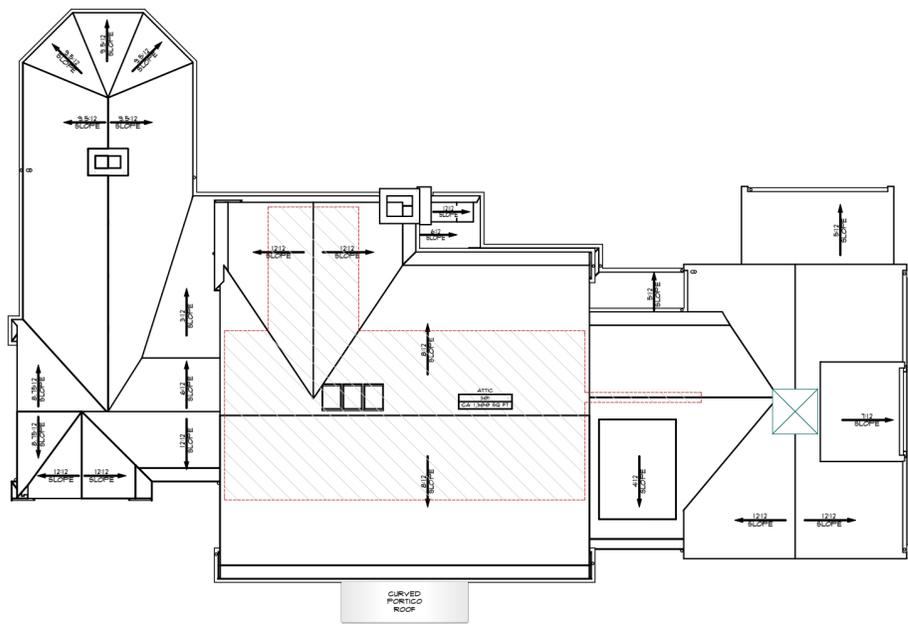
FRUHAN RESIDENCE

81 ARNOLD ROAD
 WELLESLEY, MA

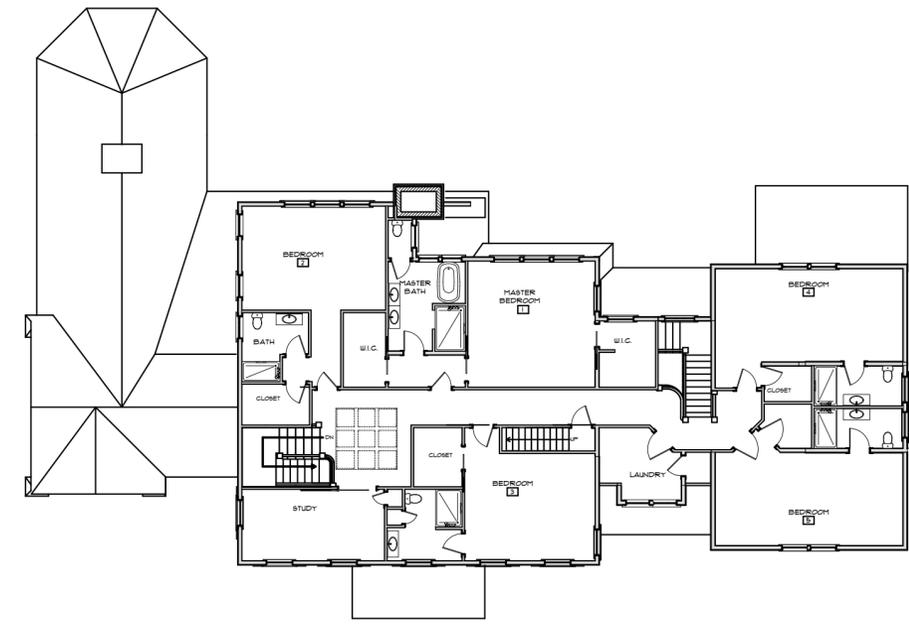
DRAWN BY:
 DATE: 5.11.2020

DESCRIPTION:
 TLAG ATTIC PLAN

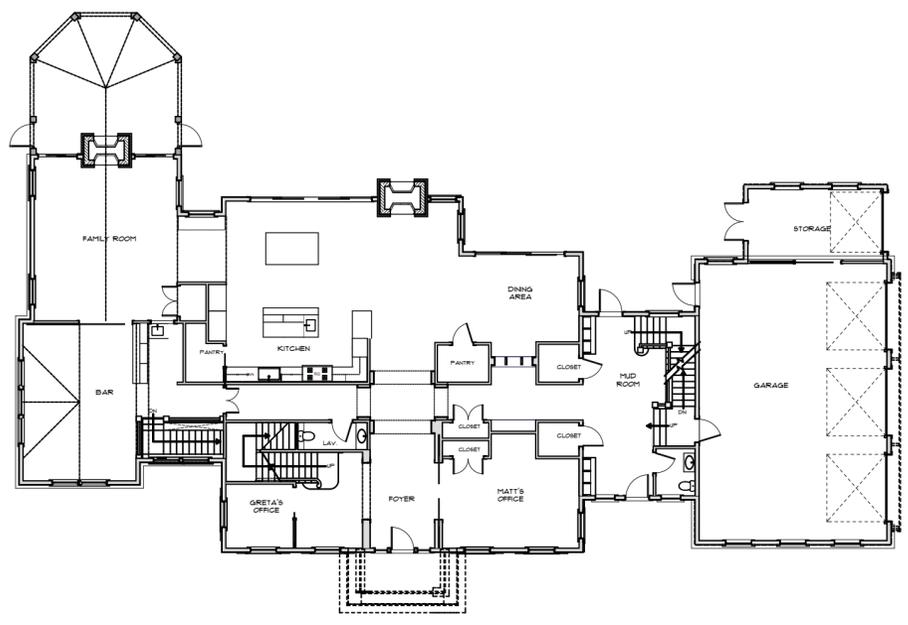
DWG. #
TLAG



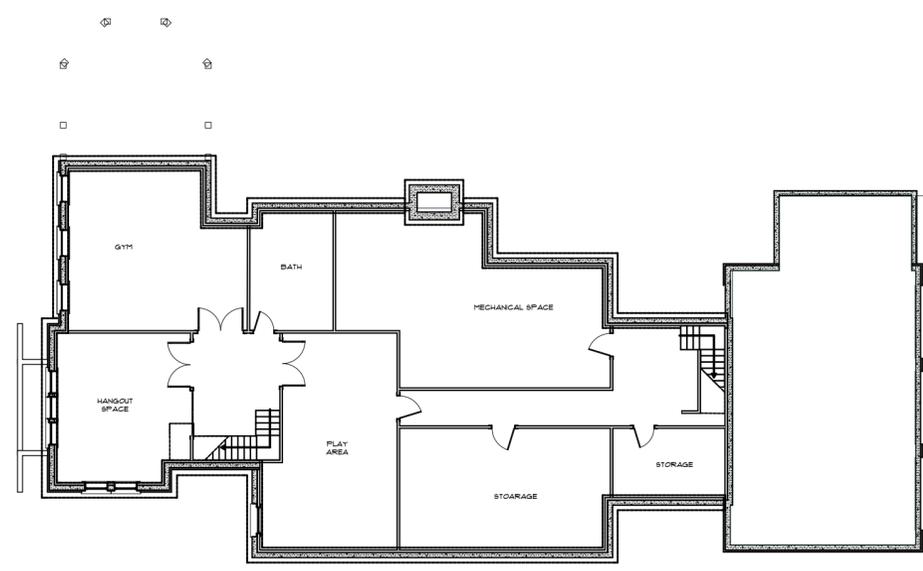
1 ROOF PLAN W/ ATTIC AREA 1,300 SQ.FT.
 SCALE: 1/16" = 1'-0"
 0 8' 16' 32'



2 2ND FLOOR AREA 3,220 SQ.FT.
 SCALE: 1/16" = 1'-0"
 0 8' 16' 32'



3 1ST FLOOR AREA PLUS GRAGE 4,788 SQ.FT.
 SCALE: 1/16" = 1'-0"
 0 8' 16' 32'



4 BASEMENT TLAG 3,421 SQ.FT.
 SCALE: 1/16" = 1'-0"
 0 8' 16' 32'

AREA	
PROPOSED FOUNDATION	3,421 SQ.FT.
PROPOSED FIRST FLOOR	4,788 SQ.FT.
PROPOSED SECOND FLOOR	3,220 SQ.FT.
PROPOSED ATTIC SPACE	1,300 SQ.FT.
PROPOSED TOTAL	12735 SQ.FT.

TLAG	
PROPOSED FOUNDATION TLAG	0 SQ.FT.
PROPOSED FIRST FLOOR TLAG	4,788 SQ.FT.
PROPOSED SECOND FLOOR TLAG	3,220 SQ.FT.
PROPOSED ATTIC SPACE TLAG	1,300 SQ.FT.
PROPOSED TOTAL	9,308 SQ.FT.



FRONT AND SIDE



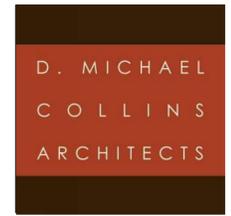
BACK

GENERAL NOTES:
These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
DMCARCH.COM P+F 508.651.7099

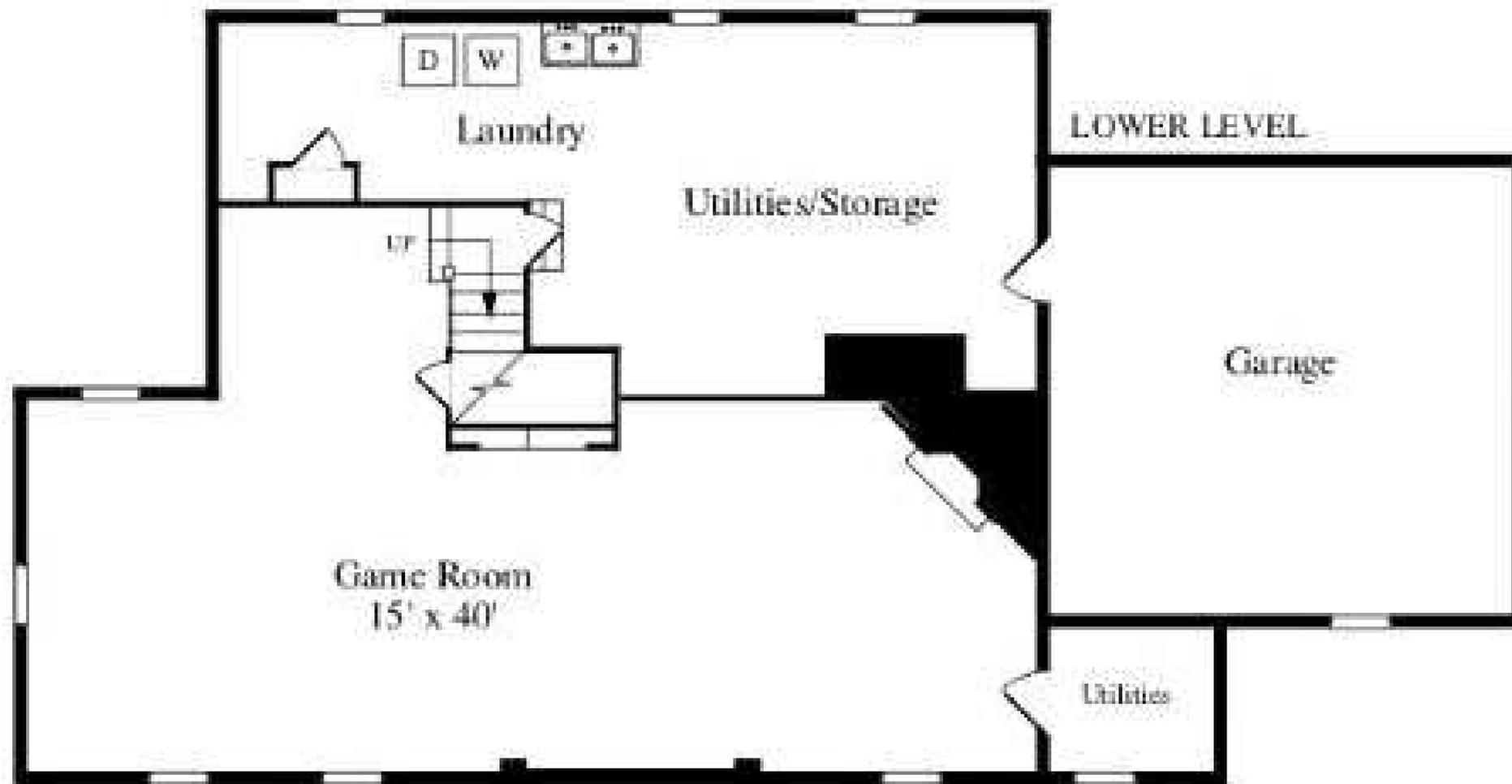
**FRUHAN
RESIDENCE**

81 ARNOLD ROAD
WELLESLEY, MA

DRAWN BY:
DATE: 5.11.2019

DESCRIPTION:
**PHOTOGRAPHS
EXISTING HOUSE**

DWG. #
EX 0.0



EXISTING BASEMENT PLAN
SCALE: 1/8" = 1'-0"

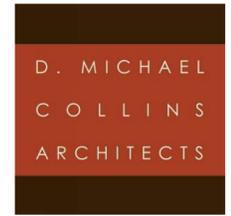
TLA- 802 SF

GENERAL NOTES:
These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
DMCARCH.COM P+F 508.651.7099

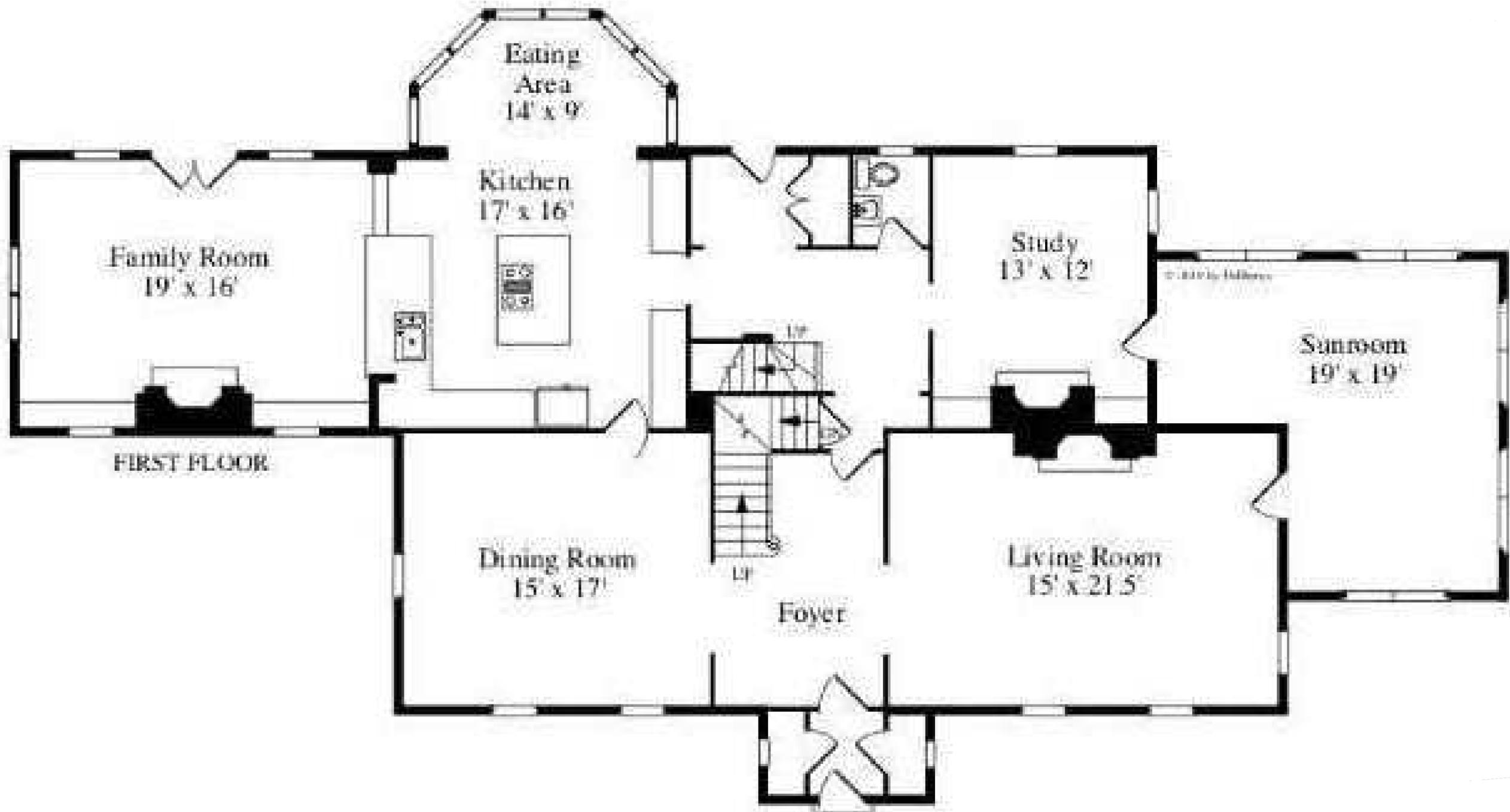
FRUHAN RESIDENCE

81 ARNOLD ROAD
WELLESLEY, MA

DRAWN BY:
DATE: 5.11.2020

DESCRIPTION:
Existing Basement Plan

DWG. #
EX-1.0



EXISTING FIRST FLOOR PLAN
 SCALE: 1/8" = 1'-0"

TLA 2,276 SF

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



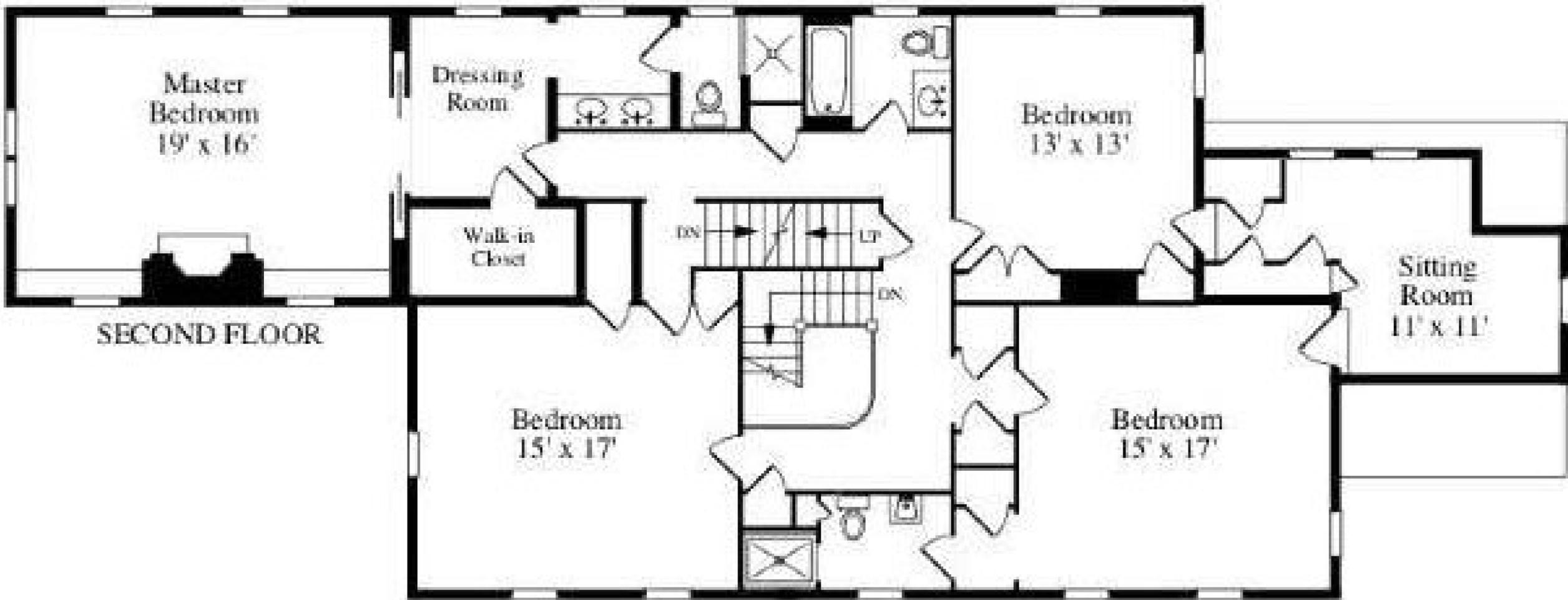
21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

FRUHAN RESIDENCE
 81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:
DATE: 5.11.2020

DESCRIPTION:
 Existing First Floor Plan

DWG. #
EX-1.1



SECOND FLOOR

EXISTING SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

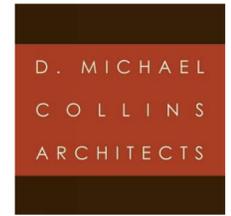
TLA -2,003 SF

GENERAL NOTES:
These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
DMCARCH.COM P+F 508.651.7099

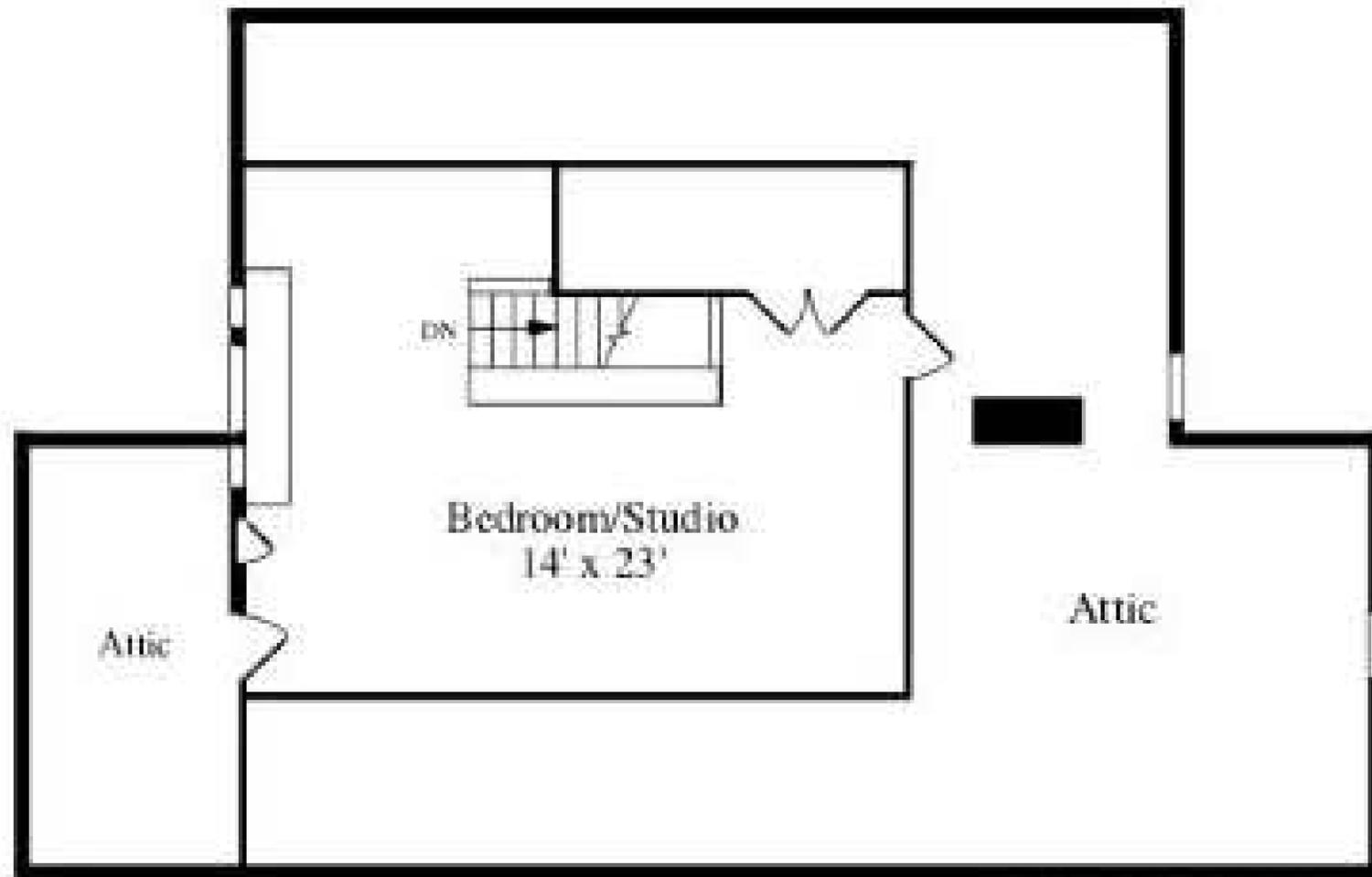
FRUHAN
RESIDENCE

81 ARNOLD ROAD
WELLESLEY, MA

DRAWN BY:
DATE: 5.11.2020

DESCRIPTION:
Existing Second
Floor Plan

DWG. #
EX-1.2



EXISTING ATTIC PLAN
 SCALE: 1/8" = 1'-0"

TLA - 429 SF

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

FRUHAN RESIDENCE
 81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:
 DATE: 5.11.2020

DESCRIPTION:
 Existing Attic Plan

DWG. #
EX-1.3

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

FRUHAN RESIDENCE

81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:
 DATE: 5.11.2020

DESCRIPTION:
EXISTING ELEVATIONS

DWG. #

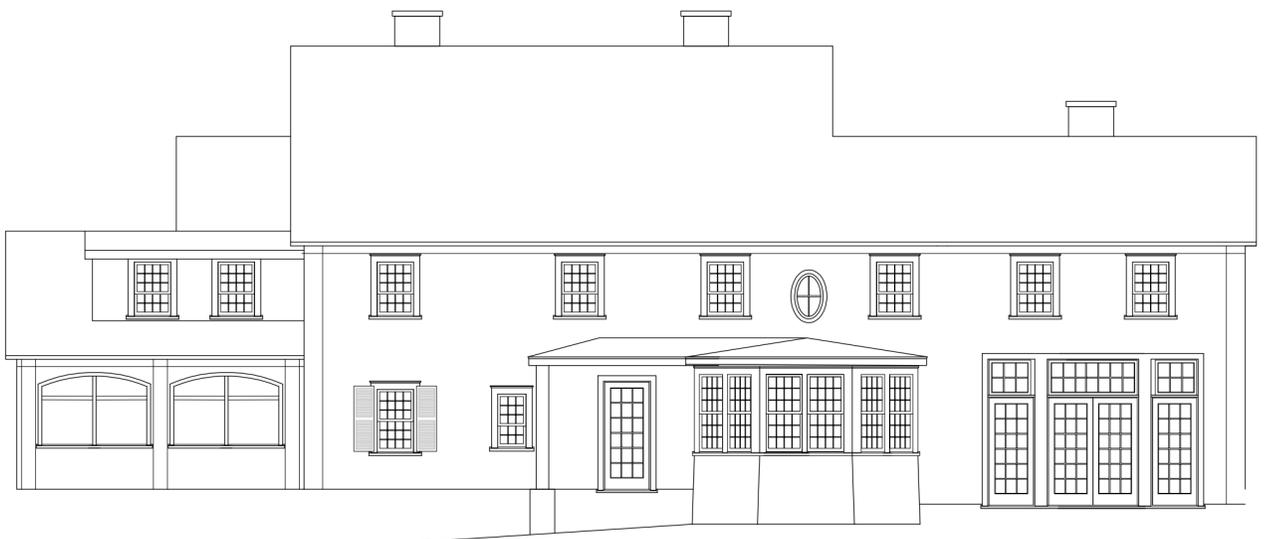
EX-2.0



EXISTING FRONT ELEVATION
 SCALE 1/8" = 1'-0"



EXISTING RIGHT SIDE ELEVATION
 SCALE 1/8" = 1'-0"



EXISTING REAR ELEVATION
 SCALE 1/8" = 1'-0"



EXISTING LEFT SIDE ELEVATION
 SCALE 1/8" = 1'-0"



66 Arnold Road - TLA 6,935 Lot 26,965
35' Grade to Ridge



71 Arnold Road - TLA 3,715 Lot 46,555
28' Grade to Ridge



77 Arnold Road - TLA 3,266 Lot 51,052
27' Grade to Ridge



78 Arnold Road - TLA 2,754 Lot 29,624
28' Grade to Ridge



82 Arnold Road - TLA 5,509 Lot 18,865
29' Grade to Ridge



86 Arnold Road - TLA 5,951 Lot 22,852
29' Grade to Ridge



90 Arnold Road - TLA 6,638 Lot 27,535
28' Grade to Ridge



91 Arnold Road - TLA 4,519 Lot 35,765
27' Grade to Ridge



97 Arnold Road - TLA 4,425 Lot 22,745
30' Grade to Ridge

GENERAL NOTES:
These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.



ISSUE DATES:

D. MICHAEL
COLLINS
ARCHITECTS

21 ELIOT STREET NATICK, MA 01760
DMCARCH.COM P+F 508.651.7099

FRUHAN
RESIDENCE

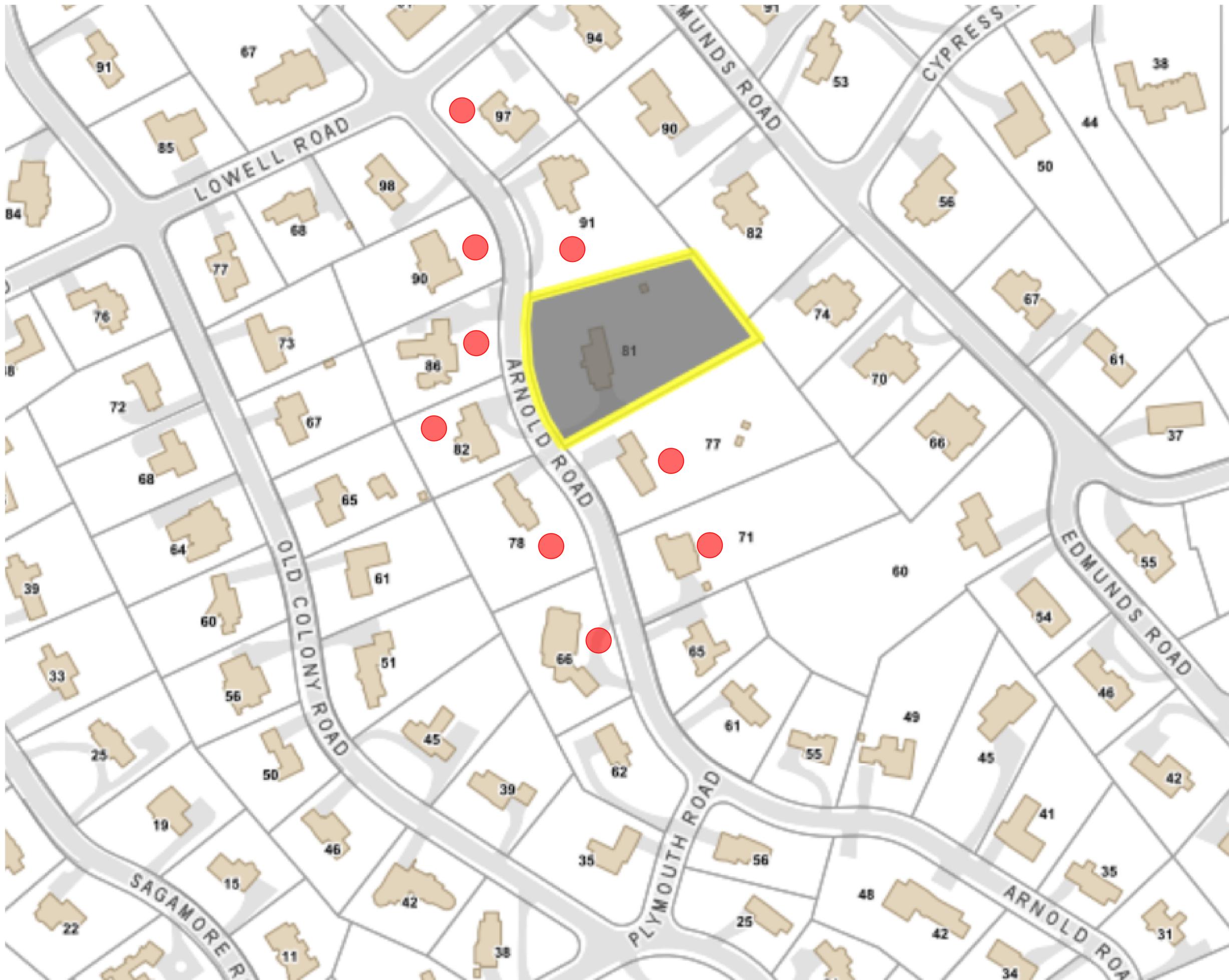
81 ARNOLD ROAD
WELLESLEY, MA

DRAWN BY:
DATE: 5.11.2020

DESCRIPTION:
NEIGHBORHOOD
DELINEATION

DWG. #

N1.0



GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

FRUHAN RESIDENCE

81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:
 DATE: 5.11.2020

DESCRIPTION:
 NEIGHBORHOOD DELINEATION

DWG. #
N1.1

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.



REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

**FRUHAN
 RESIDENCE**

81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:
 DATE: 5.11.2020

DESCRIPTION:

MATERIALS

DWG. #

A3.0



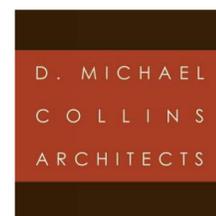
PERSPECTIVE

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

**FRUHAN
 RESIDENCE**

81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:

DATE: 5.11.2020

DESCRIPTION:

Front
 Perspective

DWG. #

A3.1



PERSPECTIVE

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:

D. MICHAEL
 COLLINS
 ARCHITECTS

21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

**FRUHAN
 RESIDENCE**

81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:

DATE: 5.11.2020

DESCRIPTION:

Front
 Perspective

DWG. #

A3.2



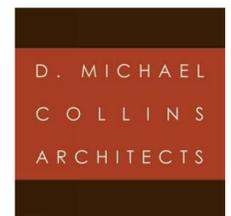
PERSPECTIVE

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

**FRUHAN
 RESIDENCE**

81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:

DATE: 5.11.2020

DESCRIPTION:

Rear
 Perspective

DWG. #

A3.3



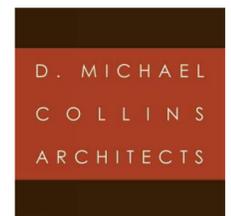
PERSPECTIVE

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

**FRUHAN
 RESIDENCE**

81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:

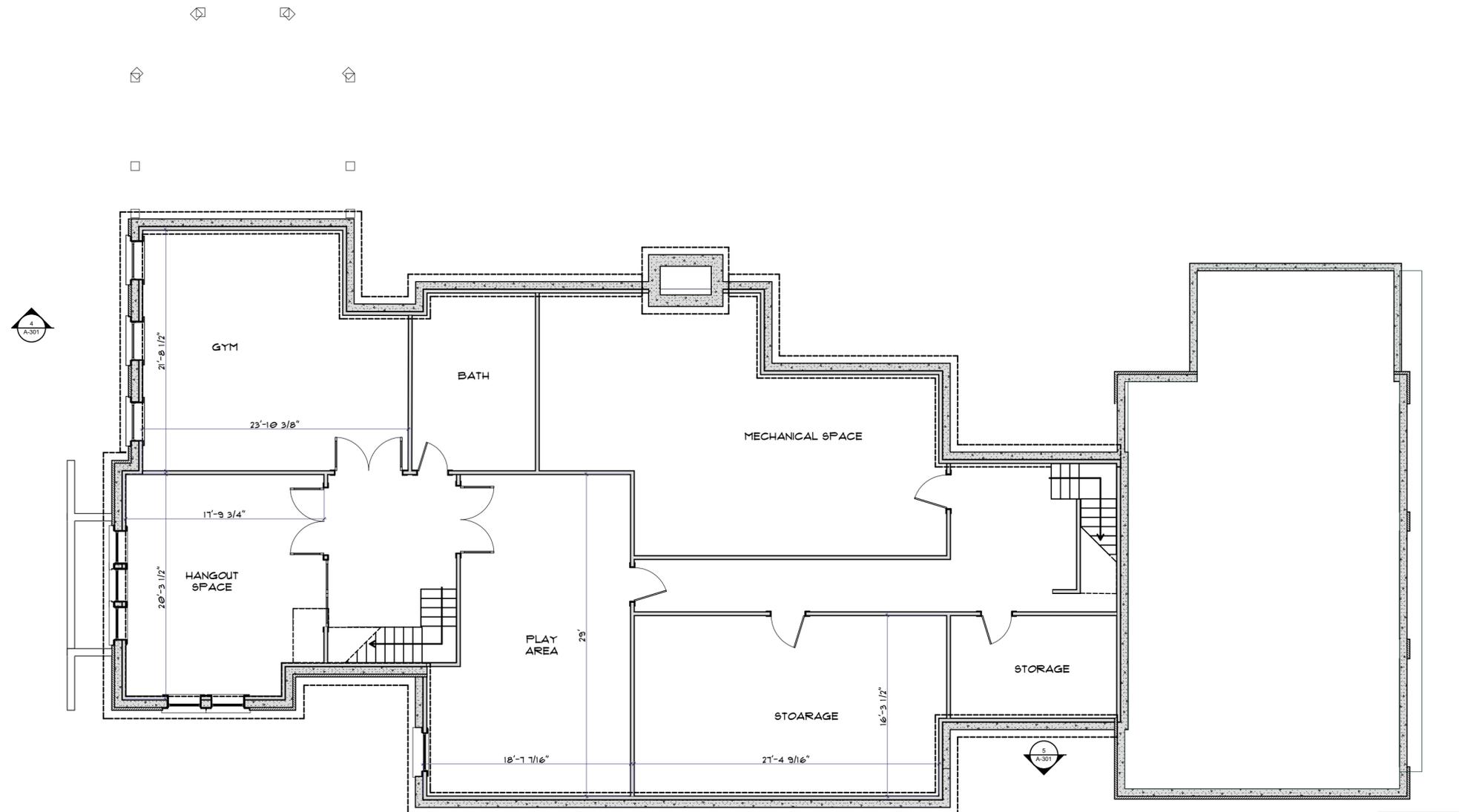
DATE: 5.11.2020

DESCRIPTION:

Rear
 Perspective

DWG. #

A3.4



FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

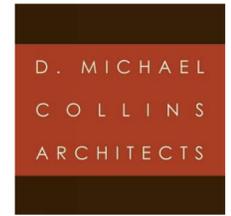


GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

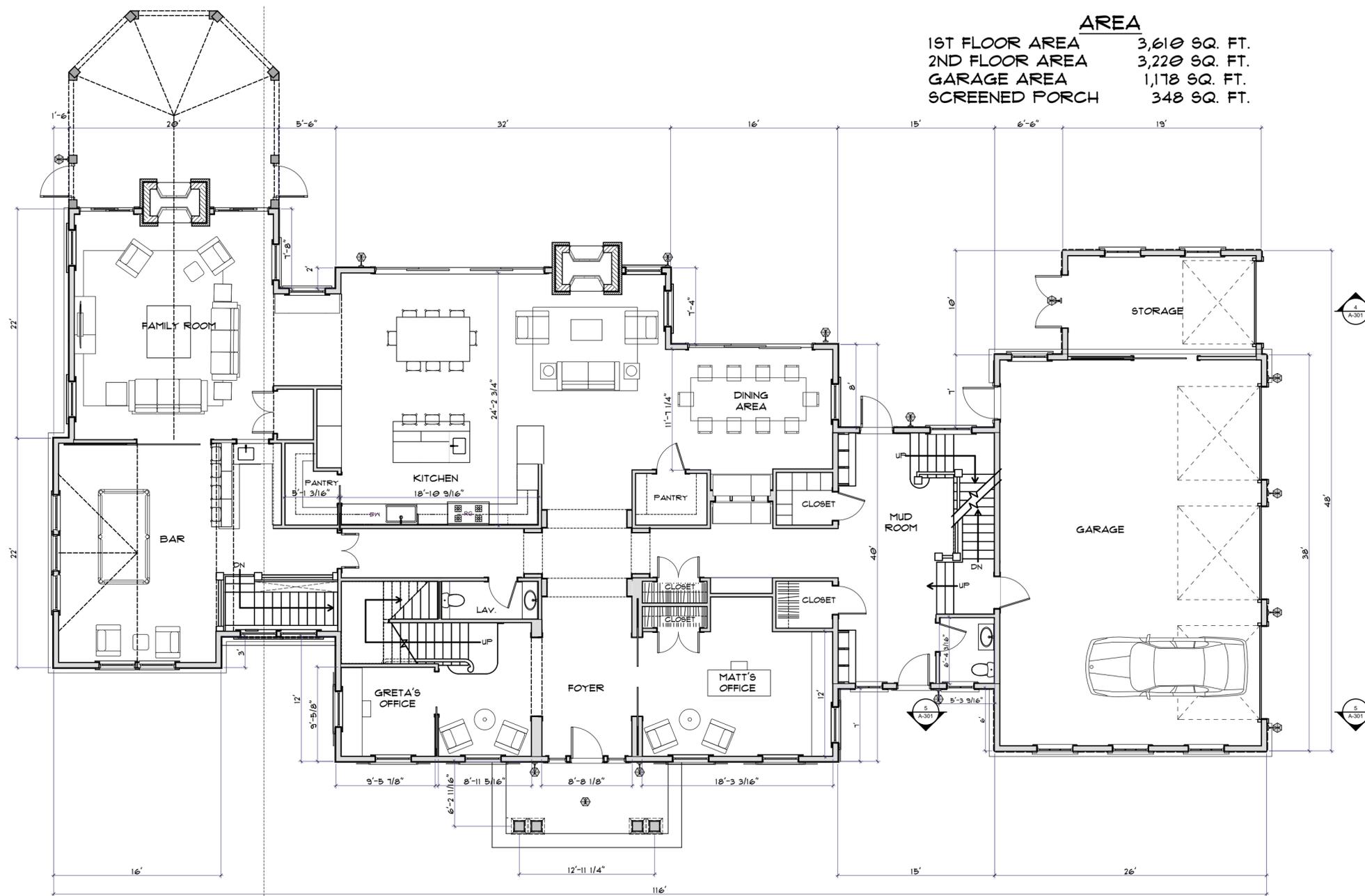
**FRUHAN
 RESIDENCE**

81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:
 DATE: 5.11.2020

DESCRIPTION:
**Proposed Foundation
 Plan**

DWG. #
A1.0



AREA	
1ST FLOOR AREA	3,610 SQ. FT.
2ND FLOOR AREA	3,220 SQ. FT.
GARAGE AREA	1,178 SQ. FT.
SCREENED PORCH	348 SQ. FT.

FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



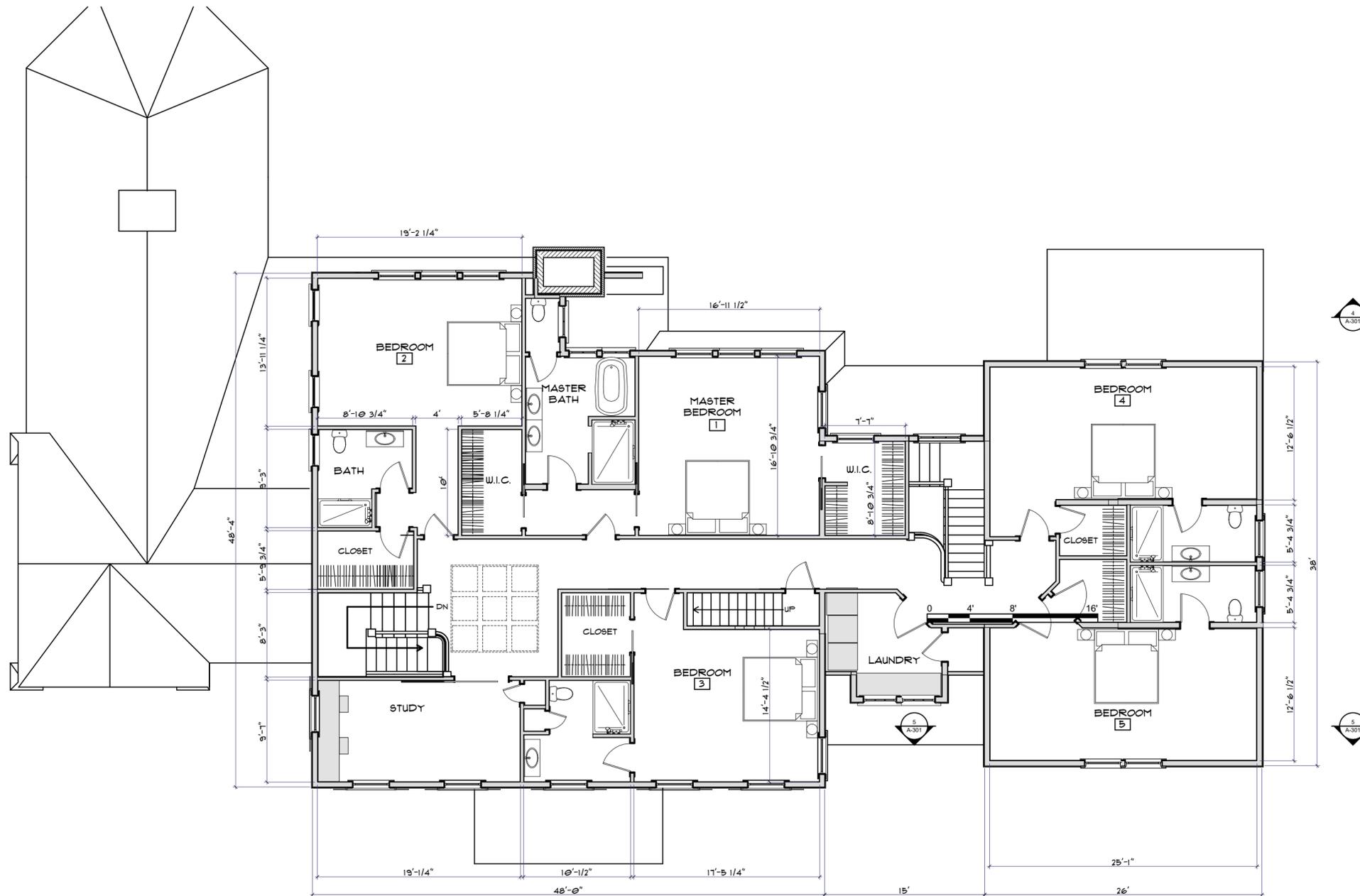
21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

FRUHAN RESIDENCE
 81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:
DATE: 5.11.2020

DESCRIPTION:
 Proposed First Floor Plan

DWG. #
A1.1



SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

3,220 S.F.

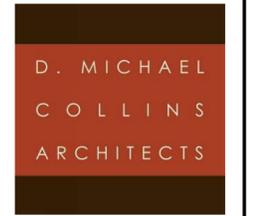


GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

FRUHAN RESIDENCE
 81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:
DATE: 5.11.2020
DESCRIPTION:
 Proposed Second Floor Plan

DWG. #
A1.2



FRONT ELEVATION
SCALE: 1/8" = 1'-0"



REAR ELEVATION
SCALE: 1/8" = 1'-0"

GENERAL NOTES:
These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:

D. MICHAEL
COLLINS
ARCHITECTS

21 ELIOT STREET NATICK, MA 01760
DMCARCH.COM P+F 508.651.7099

**FRUHAN
RESIDENCE**

81 ARNOLD ROAD
WELLESLEY, MA

DRAWN BY:
DATE: 5.11.2020

DESCRIPTION:

Proposed Front & Rear
Elevations

DWG. #

A2.1



SIDE ELEVATION
SCALE: 1/8" = 1'-0"



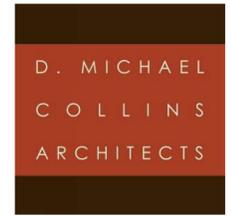
SIDE ELEVATION
SCALE: 1/8" = 1'-0"

GENERAL NOTES:
These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
DMCARCH.COM P+F 508.651.7099

FRUHAN RESIDENCE

81 ARNOLD ROAD
WELLESLEY, MA

DRAWN BY:
DATE: 5.11.2020

DESCRIPTION:
Proposed Side Elevations

DWG. #
A2.2

Fruhan Residence Tree Removal Table

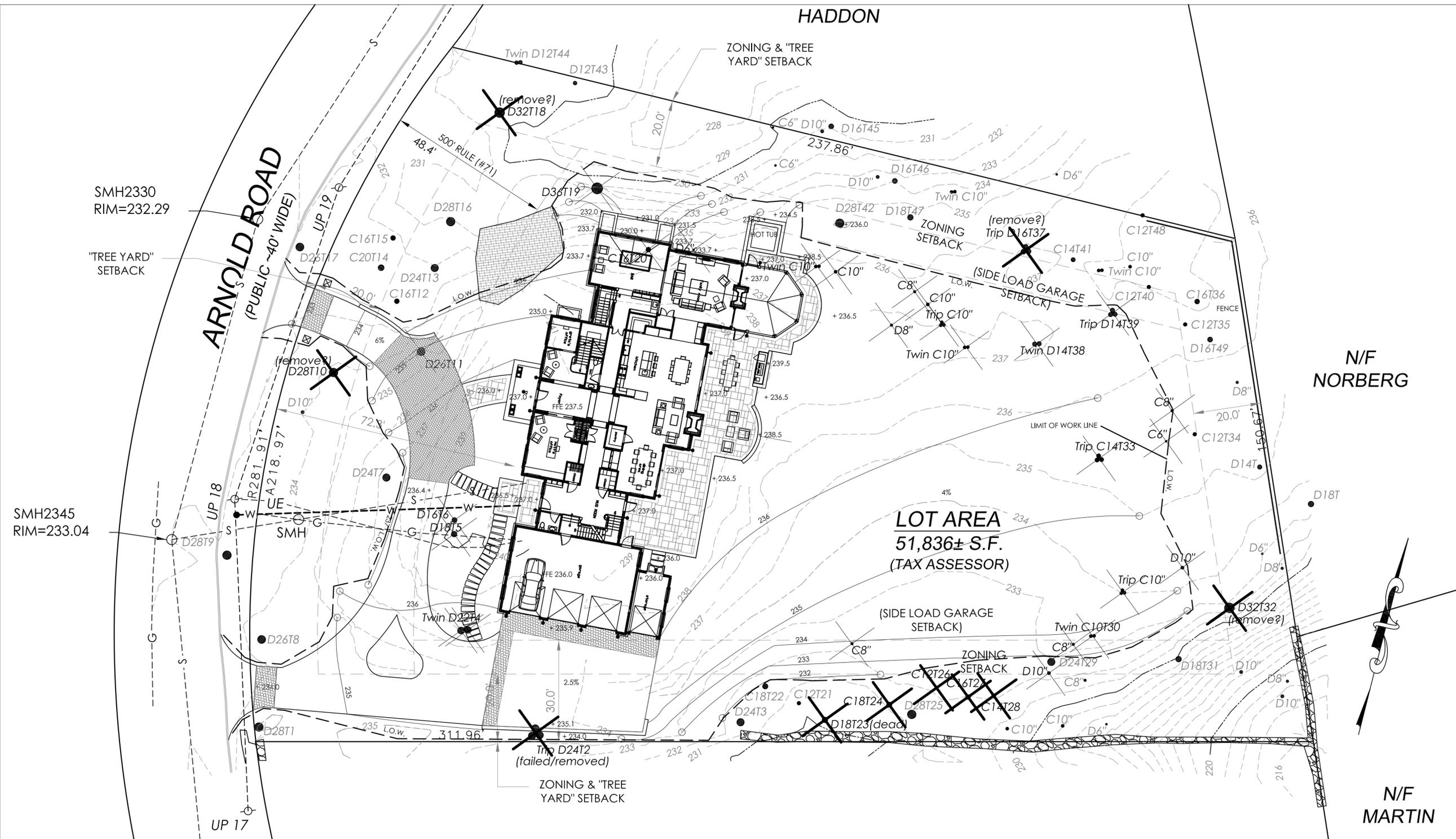
Protected Trees to be Removed			
Site Key	Tree Species	Note	DBH
T2	Red Oak, triple leader	Failed during 3/17 storm, removed	24"
T10	Red Oak	Advised to be removed, poor structure	28"
T18	Elm	Advised to be removed, poor health	32"
T23	Red Maple	Dead	18"
T24	Pine	Remove to improve health of neighboring Oak	18"
T26	Pine	Remove to improve health of neighboring Oak	12"
T27	Pine	Remove to improve health of neighboring Oak	16"
T28	Pine	Remove to improve health of neighboring Oak	14"
T32	Red Oak	Advised to be removed, poor structure	32"
T37	Red Oak, triple leader	Advised to be remove, poor structure	16"

KD Turner Design
 landscape architecture
 27 High St.
 Newburyport, MA 01950
 ph) 781.632.6004

FRUHAN RESIDENCE
 81 Arnold Rd.
 Wellesley, MA

Tree Removal Plan
 Scale: 1"=20'-0"

Issued:	1	4-20-20	For review
	2	4-27-20	For review
	3	4-29-20	For review
	4		
	5		
	6		



N/F MARTIN

Fruhan Residence Tree Removal and Replacement Table

Protected Trees to be Removed

Site Key	Tree Species	Note	DBH
T2	Red Oak, triple leader (Decid)	Failed during 3/17 storm, removed	24"
T10	Red Oak (Decid)	Advised to be removed, poor structure	28"
T18	Elm (Decid)	Advised to be removed, poor health	32"
T23	Red Maple (Decid)	Dead	18"
T24	Pine (Conif)	Remove to improve health of neighboring Oak	18"
T26	Pine (Conif)	Remove to improve health of neighboring Oak	12"
T27	Pine (Conif)	Remove to improve health of neighboring Oak	16"
T28	Pine (Conif)	Remove to improve health of neighboring Oak	14"
T32	Red Oak (Decid)	Advised to be removed, poor structure	32"
T37	Red Oak, triple leader (Decid)	Advised to be remove, poor structure	16"

Replacement Trees

Qty	Tree Species	Note	size
3	Red Maple	Deciduous overstory	4" cal.
1	Redbud	Deciduous understory	2.5" cal.
3	Dogwood	Deciduous understory	2.5" cal.
8	Norway Spruce	Evergreen overstory	16' ht.
17	Arborvitae	Evergreen understory	12' ht.



MARQUIS TREE SERVICE INC.,
10 Republic Road, N. Billerica, MA 01862
Tel: 781-860-9618 978-657-5633 781-272-6662

March 29, 2020

Town of Wellesley
Tree Protection Plan

To Natural Resource Commission:

Matthew Fruhan, of 81 Arnold Road, Wellesley, Ma. is Seeking permission from the board to remove 8 trees at 81 Arnold Road, Wellesley, Ma. that are within the 20 foot "tree yard". The trees are plotted on the plan #L-0.3, supplied by KD Turner Design, Landscape Architect, 27 High Street, Newburyport, Ma. and are known as tree #2, #10, #18, #23, #32, and #37.

A visual level 2 assessment was performed on these trees and the recommendation for removal of these trees is based on the current health and/or structural stability of the trees.

- **Tree #2 *Quercus rubra* (Red Oak)** This tree failed during a wind storm and has been removed for safety reasons.
- **Tree #10 *Quercus rubra* (Red Oak)** This tree is in good health and fair to poor structural condition. The base of the tree shows signs of damage, abnormal growth and abnormal bark patterns. There is included bark in the main bifurcation of the trunk. Recommend removal of tree.
- **Tree #18 *Ulmus* (Elm)** This tree is in fair to poor health and fair to good structural condition. There is some tip dieback evident and there is a cavity at the base of the tree.
- **Tree #23 *Acer rubrum* (Red Maple)** This tree is dead. Recommend removal.
- **Tree #32 *Quercus rubra* (Red Oak)** This tree is in fair to poor health and fair to poor structural condition. This tree is very large and leans heavily to one side there is a large cavity on the trunk. Recommend Removal.
- **Tree #37 *Quercus rubra* (Red Oak)** This tree is in fair to good health and fair to poor structural condition. This triple leader oak tree has included bark between the leaders and signs of unidentified mushrooms growing on the trunk flare. Recommend removal.

If you have any questions, please feel free to call me at 978-877-8755

Respectfully,

MARQUIS TREE SERVICE, INC

Jay Webster
Arborist
ISA #NE-6330BUT



MARQUIS TREE SERVICE INC.,
10 Republic Road, N. Billerica, MA 01862
Tel: 781-860-9618 978-657-5633 781-272-6662

March 29, 2020

Town of Wellesley
Tree Protection Plan

To Natural Resource Commission:

I have been hired by Matthew Fruhan to provide a tree maintenance plan for the trees at 81 Arnold Road, Wellesley, Ma. as required by Rules and Regulations, Town of Wellsley, Section XVIIE, Tree preservation and Protection. The trees are plotted on the plan #L-0.3, supplied by KDTurner Design, Landscape Architect, 27 High Street, Newburyport, Ma. and are known as tree #1, #8.

- Tree #1 *Quercus rubra* (Red Oak)
 - ◇ DBH: 28 inch
 - ◇ Proposed: Retain tree
 - ◇ CRZ: 42 feet
- Tree #8 *Quercus rubra* (Red Oak)
 - ◇ DBH: 26 inch
 - ◇ Proposed: Retain tree
 - ◇ CRZ: 39 feet

There will be a minimal amount of work taking place in the CRZ of trees #1 and #8. The existing driveway will be resurfaced and a cobble stone apron will be installed. There will be no excavation and the intrusion into the root zone of the trees will be minimized as much as possible. A fence will be installed around the tree save area to prevent intrusion into the CRZ. The trees will be monitored before, during, and after construction and supplemental water will be added as needed to minimize drought stress.

If you have any questions, please feel free to call me at 978-877-8755

Respectfully,

MARQUIS TREE SERVICE, INC

Jay Webster
Arborist
ISA #NE-6330BUT



MARQUIS TREE SERVICE INC.,
10 Republic Road, N. Billerica, MA 01862
Tel: 781-860-9618 978-657-5633 781-272-6662

March 29, 2020

Town of Wellesley
Tree Protection Plan

To Natural Resource Commission:

Tree Number two on the tree protection plan for 81 Arnold Road, Wellesley, Ma. is a triple leader red oak tree located on the south side of the driveway within the 20 foot "tree yard" set back area.

This assessment was started and the TRAQ form was generated prior to the failure of the tree. As a result of the failure it is clear that the extent of the decay is significant. It is likely that the remaining two trunks of the oak tree are in similar structural condition and represent a high likelihood of failure.

It is my opinion that this oak tree represents an unacceptable risk and should be removed as soon as possible.

If you have any questions, please feel free to call me at 978-877-8755

Respectfully,

MARQUIS TREE SERVICE, INC

Jay Webster
Arborist
ISA #NE-6330BUT

ISA Basic Tree Risk Assessment Form

Client Matt Fruhan Date 2-26-2020 Time 1:14pm
 Address/Tree location 81 Arnold Road, Wellesley, Ma. Tree no. 2 Sheet of
 Tree species Red Oak (Quercus rubra) dbh 24", 27", 23" Height 75 Feet Crown spread dia. 63 Feet
 Assessor(s) Jay Webster Time frame 5 Years Tools used Tape Measure, Laser

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1-rare 2-occasional 3-frequent 4-constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1	House	<input checked="" type="checkbox"/>			4	no	no
2	Car	<input checked="" type="checkbox"/>			1	yes	yes
3	Pedestrian	<input checked="" type="checkbox"/>			1	yes	yes
4							

Site Factors

History of failures Yes, History of limb failure on site Topography Flat Slope % Aspect
 Site changes None Grade change Site clearing Changed soil hydrology Root cuts Describe Installation of driveway in CRZ
 Soil conditions Limited volume Saturated Shallow Compacted Pavement over roots 40 % Describe Driveway 12" from trunk
 Prevailing wind direction Common weather Strong winds Ice Snow Heavy rain Describe Heavy seasonal weather

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal % Chlorotic % Necrotic %
 Pests Abiotic Driveway installation and landscaping
 Species failure profile Branches Trunk Roots Describe Red oak is a fairly failure-resistant. Root disease in old age is primary concern.

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large
 Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss
 Recent or planned change in load factors

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown LCR 33 % Cracks Lightning damage
 Dead twigs/branches 5 % overall Max. dia. 6-8" Codominant Large leader with bark inclusion Included bark
 Broken/Hangers Number Max. dia. Weak attachments Cavity/Nest hole % circ.
 Over-extended branches Previous branch failures Similar branches present
Pruning history
 Crown cleaned Thinned Raised Dead/Missing bark Cankers/Galls/Burls Sapwood damage/decay
 Reduced Topped Lion-tailed Conks Heartwood decay
 Flush cuts Other Response growth
 Main concern(s)

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Trunk —

Dead/Missing bark Abnormal bark texture/color
 Codominant stems Included bark Cracks
 Sapwood damage/decay Cankers/Galls/Burls Sap ooze
 Lightning damage Heartwood decay Conks/Mushrooms
 Cavity/Nest hole 8 % circ. Depth 1 inch Poor taper
 Lean 20 ° Corrected? yes
 Response growth Yes
 Main concern(s) Codominant leaders poor attachment
Tree leans heavily towards the house.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Roots and Root Collar —

Collar buried/Not visible Depth Stem girdling
 Dead Decay Conks/Mushrooms
 Ooze Cavity % circ.
 Cracks Cut/Damaged roots Distance from trunk
 Root plate lifting Soil weakness

Response growth
 Main concern(s) Trunk flare buried, impact of driveway and construction damage.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent



Picture above: taken Thursday, March 26, 2020, 1:51:23 PM

The picture shows one of the leaders of the triple leader oak leaning over the driveway toward the house. The tree is located in the planting bed between the driveways of the two houses and has been impacted by the installation of the driveways, construction, and maintenance. One leader is leaning at approximately 18 to 20 degrees. According to Dr. Kim Coder, University of Georgia. Trees with a lean of 15-20 degrees should be considered for removal and as lean angle passes 20 degrees, structural failure risks are compounded geometrically. These recommendations **do not** take into consideration complications such as cut, damaged, or decayed roots, different soil types, the impacts of construction damage, or fill. All of these things can greatly affect the likelihood of failure.

Pictures below: Taken Monday, April 20, 2020, 12:42:24 PM

Show the leader that was leaning over the driveway toward the house after failure during the wind storm. It is clear from the pictures that the tree has been negatively impacted by the driveway, prior construction, and maintenance. The failure revealed the extent of the decay present in the base of the tree. It is likely that the other two leaders are in similar structural condition.



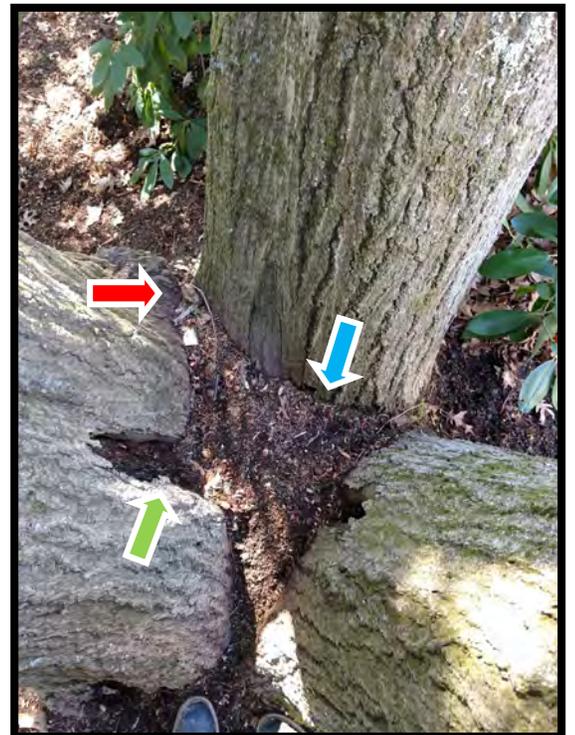


Picture top left: taken Thursday, March 26, 2020, 1:49:14 PM. Yellow arrow is pointing to the lack of trunk flare indicating that the grade was raised around this tree at some point in the past. The red arrow is indicating the proximity of the cobble stones and the edge of the driveway to the base of the tree. It is very likely that the root system of the tree has been damaged and is compromised in some way.

Picture top right: taken Thursday, March 26, 2020, 1:50:36 PM. Yellow arrow is pointing to the lack of trunk flare. The Green arrow is pointing to the trunk of the tree indicating past mechanical damage.

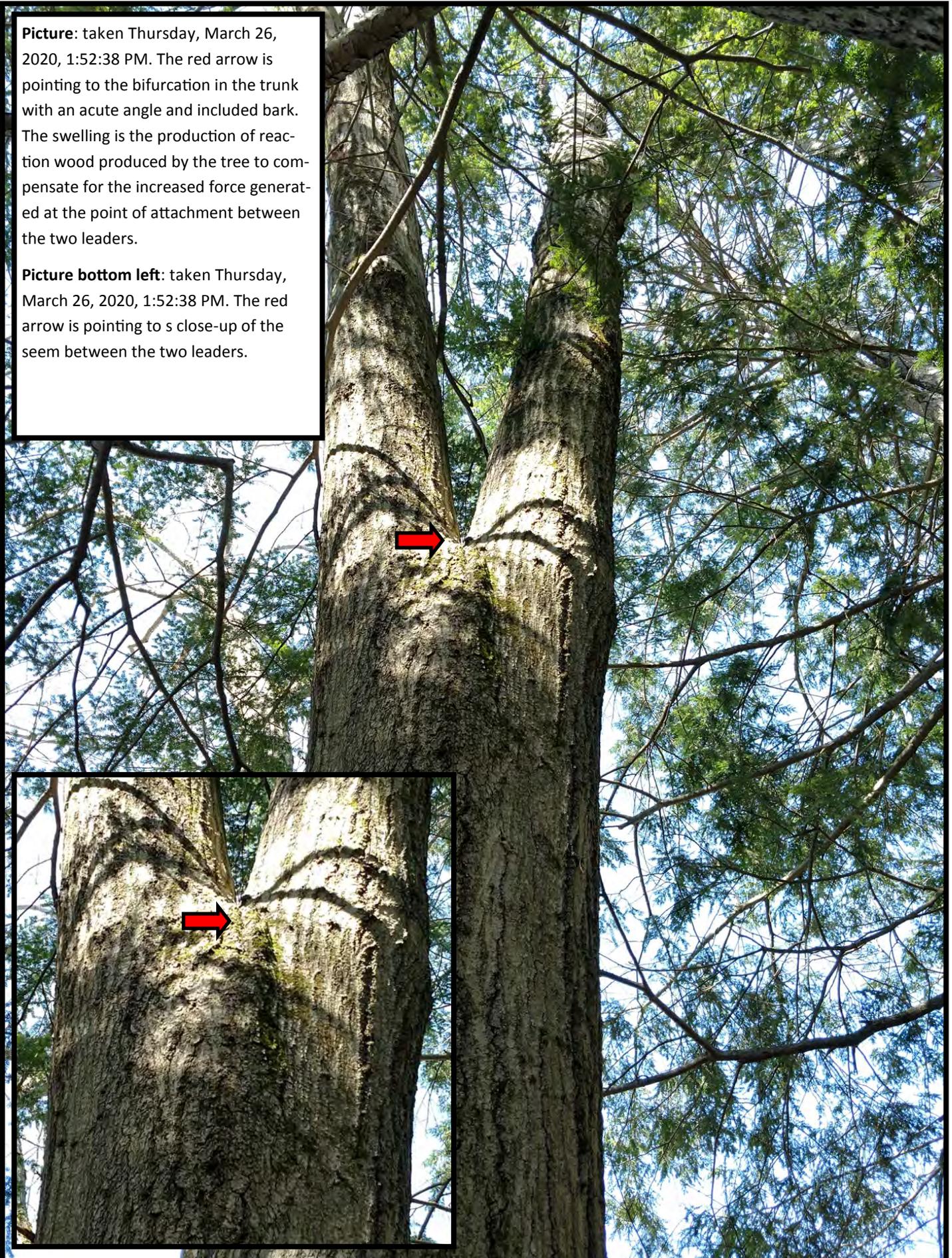
Picture bottom left: taken Thursday, March 26, 2020, 1:49:52 PM. The red arrow is indicating the seem with included bark between the leaders.

Picture bottom left: taken Thursday, March 26, 2020, 1:49:32 PM. Red arrow pointing to the included bark between the two leaders. Blue arrow indicating the mulch and composted material built up in the area between the leaders. This material holds moisture against the trunk of the tree. The green arrow is indicating mechanical damage to the trunk of the tree where there is an open cavity. The mulch and decomposing material between the trunks of the tree holds moisture against the trunk and any damage on the trunk providing a good environment for the decay fungi.



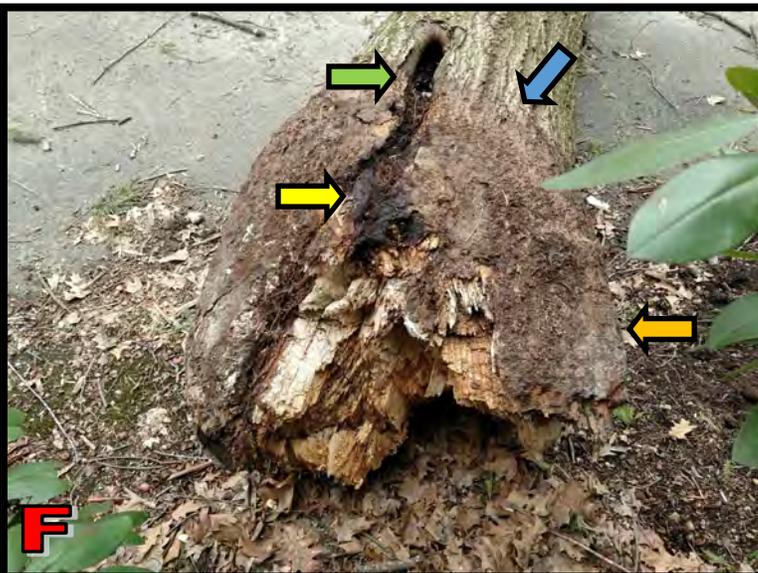
Picture: taken Thursday, March 26, 2020, 1:52:38 PM. The red arrow is pointing to the bifurcation in the trunk with an acute angle and included bark. The swelling is the production of reaction wood produced by the tree to compensate for the increased force generated at the point of attachment between the two leaders.

Picture bottom left: taken Thursday, March 26, 2020, 1:52:38 PM. The red arrow is pointing to a close-up of the seam between the two leaders.





Picture: taken Monday, April 20, 2020, 12:39:20 PM Shows the leaning leader that failed during the wind storm and hit the house.



A. Picture taken: Monday, April 20, 2020: Picture of the base of the tree showing the decay where the trunk failed. Notice there is no fiber tear or roots pulled out of the ground. The decay is quite extensive.

B. Picture taken: Monday, April 20, 2020: The red arrow is indicating the soil line on the trunk of the tree. The soil line is an indication of the amount of grade change around the tree. Notice there are no roots attached to the trunk.

C. Picture taken: Monday, April 20, 2020: Shows the trunk snapped off and the hole in the soil where the trunk was attached.

D. Picture taken: Monday, April 20, 2020: Shows the trunk across the driveway.

E. Picture taken: Monday, April 20, 2020: Picture of the back of the house and the damage caused by the tree.

F. Picture taken: Monday, April 20, 2020: Close up of the base of the tree. Green arrow pointing to the mechanical damage. The blue arrow pointing to the soil line on the trunk. The yellow arrow pointing to the discoloration. The orange arrow pointing to the included bark where the trunks of the tree grow together.



MARQUIS TREE SERVICE INC.,
10 Republic Road, N. Billerica, MA 01862
Tel: 781-860-9618 978-657-5633 781-272-6662

March 29, 2020

Town of Wellesley
Tree Protection Plan

To Natural Resource Commission:

Tree Number ten on the tree protection plan for 81 Arnold Road, Wellesley, Ma. is a red oak tree located within the 20 foot "tree yard" set back area.

The tree is in good health and fair to poor structural condition.

The tree is located in the front of the house and has been impacted by past maintenance and construction. There is some concern regarding the damage to the base of the tree. Cracks, seams, swelling, abnormal bark patterns, and "Abnormal growth" are all indicators of potential structural issues. The presence of these characteristics can be an indication that there is decay present, however the extent of the decay is not known. Cracks and seams can also be a result of damage and/or decay in the roots. The main bifurcation of the trunk has an acute angle and there is included bark between the two leaders. This is notable due to the increased likelihood of failure associated with this characteristic. Due to the existing conditions it is my opinion that this tree is not a good candidate for retention.

It is my opinion that the oak tree should be removed.

If you have any questions, please feel free to call me at 978-877-8755

Respectfully,

MARQUIS TREE SERVICE, INC

Jay Webster
Arborist
ISA #NE-6330BUT

ISA Basic Tree Risk Assessment Form

Client Matt Fruhan Date 2-26-2020 Time 4:50pm
 Address/Tree location 81 Arnold Road, Wellesley, Ma. Tree no. 10 Sheet of
 Tree species Red Oak (Quercus rubra) dbh 30" Height 73 Feet Crown spread dia. 74 Feet
 Assessor(s) Jay Webster Time frame 5 Years Tools used Tape Measure, Laser

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 - rare 2 - occasional 3 - frequent 4 - constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1	Power lines	<input checked="" type="checkbox"/>			4	no	no
2	Car	<input checked="" type="checkbox"/>			1	yes	no
3	Pedestrians	<input checked="" type="checkbox"/>			1	yes	yes
4							

Site Factors

History of failures Yes, Large limb failure. Topography Flat Slope % Aspect
 Site changes None Grade change Site clearing Changed soil hydrology Root cuts Describe Installation of driveway in CRZ
 Soil conditions Limited volume Saturated Shallow Compacted Pavement over roots 20 % Describe Street within drip edge
 Prevailing wind direction Common weather Strong winds Ice Snow Heavy rain Describe Heavy seasonal weather

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal % Chlorotic % Necrotic %
 Pests Abiotic landscaping and grade change
 Species failure profile Branches Trunk Roots Describe Red oak is a fairly failure-resistant. Root disease in old age is primary concern.

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large
 Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss
 Recent or planned change in load factors Tree removal on site for construction.

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown LCR 37 % Cracks Lightning damage
 Dead twigs/branches 2 % overall Max. dia. 6-8" Codominant Large leader with bark inclusion Included bark
 Broken/Hangers Number Max. dia. Weak attachments Cavity/Nest hole % circ.
 Over-extended branches Previous branch failures Large Limb Similar branches present
Pruning history
 Crown cleaned Thinned Raised Dead/Missing bark Cankers/Galls/Burls Sapwood damage/decay
 Reduced Topped Lion-tailed Conks Heartwood decay
 Flush cuts Other Response growth
 Main concern(s) Large codominant leaders.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Trunk —

Dead/Missing bark Abnormal bark texture/color
 Codominant stems Included bark Cracks
 Sapwood damage/decay Cankers/Galls/Burls Sap ooze
 Lightning damage Heartwood decay Conks/Mushrooms
 Cavity/Nest hole % circ. Depth Poor taper
 Lean ° Corrected?
 Response growth Yes
 Main concern(s) Abnormal bark patterns, seems, abnormal growth, dead and missing bark, reaction wood production.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Roots and Root Collar —

Collar buried/Not visible Depth Stem girdling
 Dead Decay Conks/Mushrooms
 Ooze Cavity % circ.
 Cracks Cut/Damaged roots Distance from trunk
 Root plate lifting Soil weakness
 Response growth

Main concern(s) Damage on one section of trunk extending into the soil. trunk flattened on one side.
 Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

Risk Categorization

Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood												Consequences				Risk rating of part (from Matrix 2)
							Failure				Impact				Failure & Impact (from Matrix 1)				Negligible	Minor	Significant	Severe	
							Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat	Likely	Very likely					
1	Canopy	Co-dominant leaders	18"	73'	1	none	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	High
			18"	73'	2	none	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Low
			18"	73'	3	none	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Low
2	Trunk	Construction damage	30"	73'	1	none	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Mod
			30"	73'	2	none	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Low
			30"	73'	3	none	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Low
3	Roots	Construction damage	30"	73'	1	none	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Mod
			30"	73'	2	none	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Low
			30"	73'	3	none	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Low
4							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

North

Notes, explanations, descriptions Large red oak with abnormal growth and bark patterns at the base. Missing and dead bark and reaction wood production. Included bark at main bifurcation of trunk the large leader leans heavily out over the road and the power lines. Tree has a history of failure.

Mitigation options Remove tree Residual risk Low
 Reduction pruning, crown cleaning and installation of tree support system. Residual risk Moderate
 _____ Residual risk _____
 _____ Residual risk _____

Overall tree risk rating Low Moderate High Extreme **Work priority** 1 2 3 4
Overall residual risk Low Moderate High Extreme **Recommended inspection interval** _____

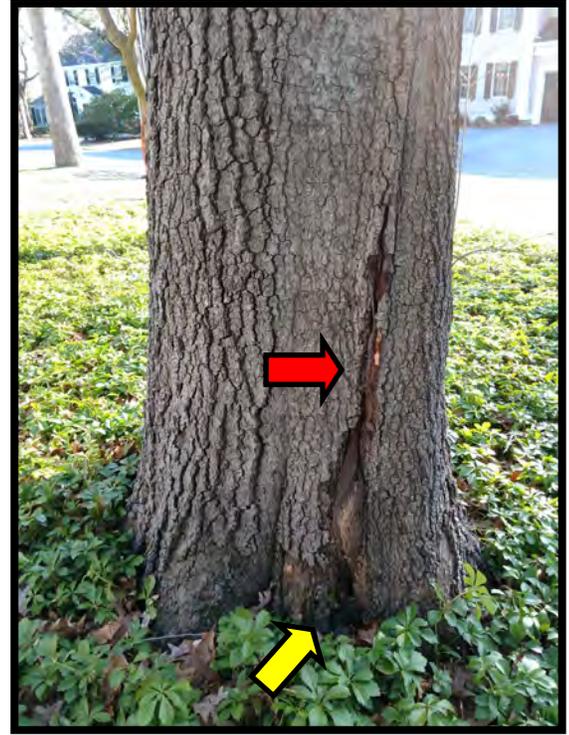
Data Final Preliminary **Advanced assessment needed** No Yes-Type/Reason _____

Inspection limitations None Visibility Access Vines Root collar buried Describe _____



Picture: taken Thursday, March 26, 2020, 4:53:33 PM

The picture shows the red oak tree in the front of 81 Arnold Road. The tree is located in the lawn area directly in front of the house.



Picture top left: taken Thursday, March 26, 2020, 4:51:11 PM. Picture of the reaction wood production on the trunk. The red arrow is pointing to the location of the wound wood.

Picture top right: taken Thursday, March 26, 2020, 4:51:19 PM. The red arrow is pointing to the reaction wood and the yellow arrow is pointing to the dead spot at the base of the tree.

Picture bottom Left: taken Thursday, March 26, 2020, 4:51:53 PM. Picture of the abnormal growth and the abnormal bark patterns on the trunk.

Picture bottom middle: taken Thursday, March 26, 2020, 4:51:38 PM. Blue arrow is pointing to the flattening of the trunk and the green arrow is indicating the abnormal bark pattern.

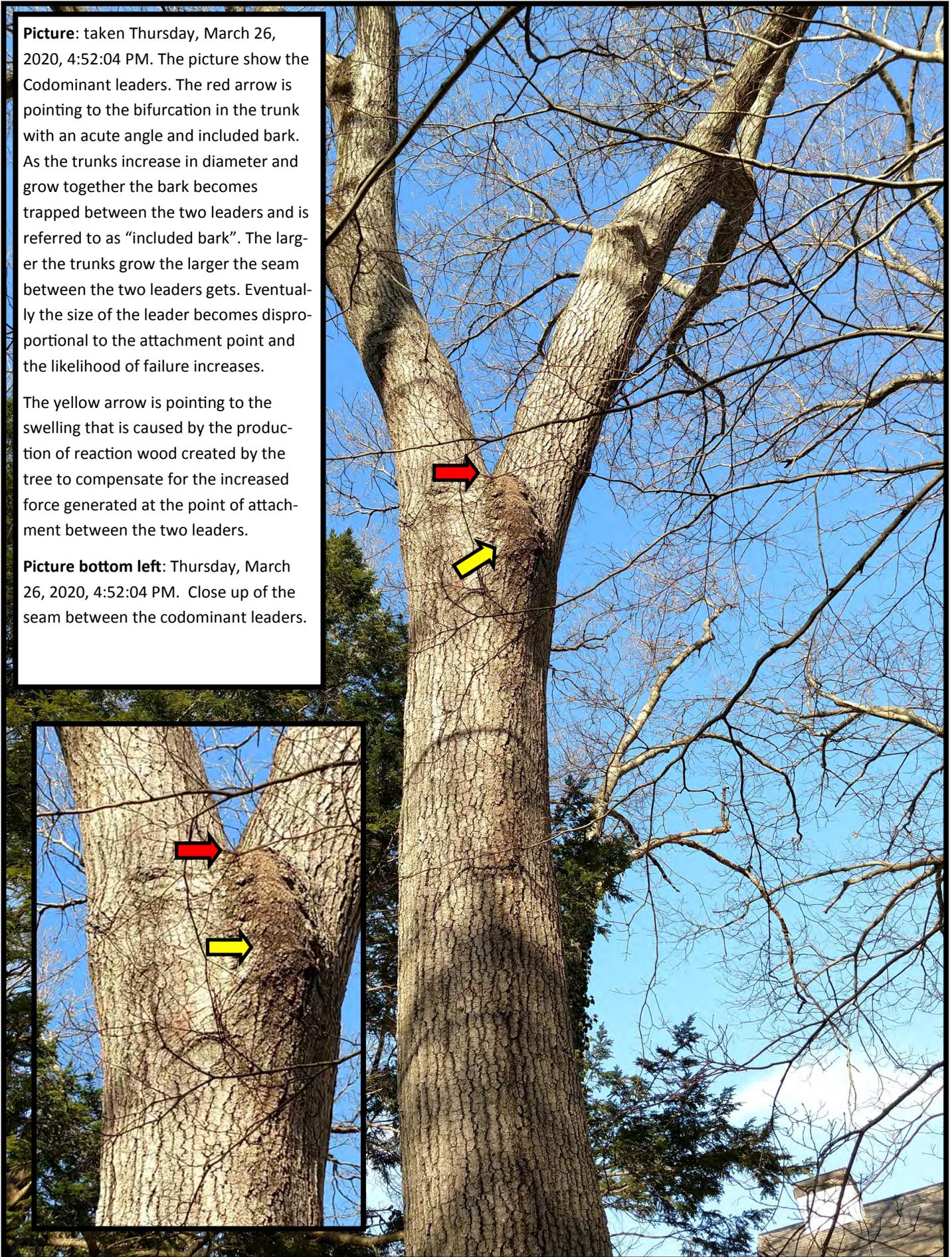
Picture bottom right: taken Thursday, March 26, 2020, 4:51:40 PM.



Picture: taken Thursday, March 26, 2020, 4:52:04 PM. The picture show the Codominant leaders. The red arrow is pointing to the bifurcation in the trunk with an acute angle and included bark. As the trunks increase in diameter and grow together the bark becomes trapped between the two leaders and is referred to as “included bark”. The larger the trunks grow the larger the seam between the two leaders gets. Eventually the size of the leader becomes disproportional to the attachment point and the likelihood of failure increases.

The yellow arrow is pointing to the swelling that is caused by the production of reaction wood created by the tree to compensate for the increased force generated at the point of attachment between the two leaders.

Picture bottom left: Thursday, March 26, 2020, 4:52:04 PM. Close up of the seam between the codominant leaders.





MARQUIS TREE SERVICE INC.,
10 Republic Road, N. Billerica, MA 01862
Tel: 781-860-9618 978-657-5633 781-272-6662

March 29, 2020

Town of Wellesley
Tree Protection Plan

To Natural Resource Commission:

Tree Number eighteen on the tree protection plan for 81 Arnold Road, Wellesley, Ma. is an elm tree located within the 20 foot "tree yard" set back area.

The tree is in fair to poor health and fair to good structural condition.

The tree is located in a wooded portion of the lot in a low lying area. There is English Ivy growing on the trunk of the tree making it difficult to see the trunk and underlying structure. There is a cavity at the base of the tree however the extent of the decay is not known. There does not appear to be any obvious structural characteristics in the upper canopy that would increase the likelihood of failure. There is some concern about the health of the tree. The canopy appears thin and there seems to be some tip dieback. It is possible that the tree has Dutch elm disease. Due to the existing conditions it is my opinion that this tree is a poor candidate for retention.

It is my opinion that the Elm tree should be removed. Decision to retain this tree should take into consideration the scope of work in this area, proximity of the tree to any new structures, age of the tree, health of the tree and possible **disease concerns**.

If you have any questions, please feel free to call me at 978-877-8755

Respectfully,

MARQUIS TREE SERVICE, INC

Jay Webster
Arborist
ISA #NE-6330BUT

ISA Basic Tree Risk Assessment Form

Client Matt Fruhan Date 2-26-2020 Time 4:27pm
 Address/Tree location 81 Arnold Road, Wellesley, Ma. Tree no. 18 Sheet of
 Tree species Elm tree (Ulmus spp.) dbh 33" Height 82 Feet Crown spread dia. 70 Feet
 Assessor(s) Jay Webster Time frame 5 Years Tools used Tape Measure, Laser

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 - rare 2 - occasional 3 - frequent 4 - constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1	Power lines	<input checked="" type="checkbox"/>			4	no	no
2	Car	<input checked="" type="checkbox"/>			1	yes	yes
3	Pedestrian	<input checked="" type="checkbox"/>			1	yes	yes
4							

Site Factors

History of failures Yes, History of limb failure on site Topography Flat Slope % Aspect
 Site changes None Grade change Site clearing Changed soil hydrology Root cuts Describe
 Soil conditions Limited volume Saturated Shallow Compacted Pavement over roots % Describe
 Prevailing wind direction Common weather Strong winds Ice Snow Heavy rain Describe Heavy seasonal weather

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal % Chlorotic % Necrotic %
 Pests Abiotic
 Species failure profile Branches Trunk Roots Describe All are prone to disease. internal decay. branch failure from snow and ice

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large
 Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss English Ivy
 Recent or planned change in load factors Tree removal on site for construction.

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown LCR 20 % Cracks Lightning damage
 Dead twigs/branches 5 % overall Max. dia. 1-2" Codominant Included bark
 Broken/Hangers Number Max. dia. Weak attachments Cavity/Nest hole % circ.
 Over-extended branches Previous branch failures Similar branches present
Pruning history
 Crown cleaned Thinned Raised Dead/Missing bark Cankers/Galls/Burls Sapwood damage/decay
 Reduced Topped Lion-tailed Conks Heartwood decay
 Flush cuts Other Response growth
 Main concern(s)

Load on defect N/A Minor Moderate Significant
 Likelihood of failure improbable Possible Probable Imminent

— Trunk —

Dead/Missing bark Abnormal bark texture/color
 Codominant stems Included bark Cracks
 Sapwood damage/decay Cankers/Galls/Burls Sap ooze
 Lightning damage Heartwood decay Conks/Mushrooms
 Cavity/Nest hole 3 % circ. Depth 1' 6" Poor taper
 Lean ° Corrected?
 Response growth Yes
 Main concern(s) Cavity at base of tree 6"W x 2'4"L x 1'6"D

Load on defect N/A Minor Moderate Significant
 Likelihood of failure improbable Possible Probable Imminent

— Roots and Root Collar —

Collar buried/Not visible Depth Stem girdling
 Dead Decay Conks/Mushrooms
 Ooze Cavity % circ.
 Cracks Cut/Damaged roots Distance from trunk
 Root plate lifting Soil weakness
 Response growth
 Main concern(s) Tree in low area and there is ledge present

Load on defect N/A Minor Moderate Significant
 Likelihood of failure improbable Possible Probable Imminent

Risk Categorization

Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood												Consequences				Risk rating of part (from Matrix 2)
							Failure				Impact				Failure & Impact (from Matrix 1)								
							Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat	Likely	Very likely	Negligible	Minor	Significant	Severe	
1	Trunk	Cavity	33"	82'	1	none	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Low						
			33"	82'	2	yes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Low						
			33"	82'	3	yes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Low						
2	Roots	soil conditions	33"	82'	1	none	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Low						
			33"	82'	2	yes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Low						
			33"	82'	3	yes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Low						
3						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

North

Notes, explanations, descriptions Large elm tree covered with english ivy. Tree has a cavity at the base, extent of decay is not known.
 There appears to be fair amount of tip dieback. The health of the tree may be a concern. If the tree has Dutch elm disease the risk rating of the tree will change as it declines.

Mitigation options Remove tree Residual risk Low
 Crown clean and inspect structure in upper canopy, remove vines on trunk. Residual risk Low
Residual risk _____
Residual risk _____

Overall tree risk rating Low Moderate High Extreme **Work priority** 1 2 3 4
Overall residual risk Low Moderate High Extreme **Recommended inspection interval** _____

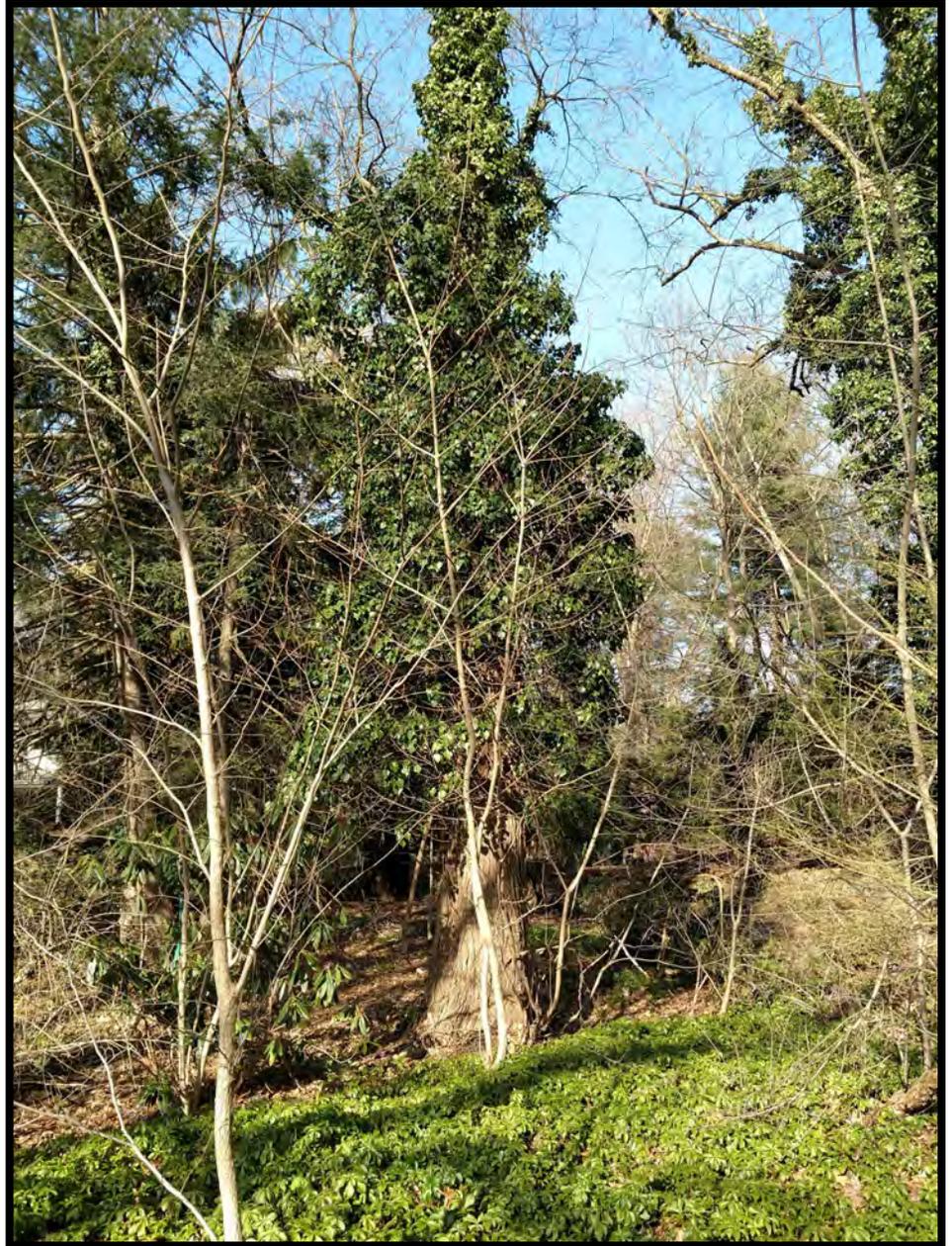
Data Final Preliminary **Advanced assessment needed** No Yes-Type/Reason Inspect canopy, Monitor foliage throughout spring.

Inspection limitations None Visibility Access Vines Root collar buried Describe _____



Picture: taken Thursday, March 26, 2020, 4:29:11 PM

The picture shows the elm tree looking north east from the street. Structure of the upper canopy is visible.



Picture top left: taken Thursday, March 26, 2020, 4:29:44 PM. The yellow arrow indicating the location of the cavity at the base of the trunk. The extent of the decay is unknown.

Picture middle left: taken Thursday, March 26, 2020, 4:30:02 PM. Image is a close up of the base of the tree.

Picture bottom left: taken Thursday, March 26, 2020, 4:29:57 PM. The image shows the ivy at the base of the tree.

Picture top right: taken Thursday, March 26, 2020, 4:28:01 PM. Shows the English ivy on the trunk of the tree reducing visibility of the structure.



MARQUIS TREE SERVICE INC.,
10 Republic Road, N. Billerica, MA 01862
Tel: 781-860-9618 978-657-5633 781-272-6662

March 29, 2020

Town of Wellesley
Tree Protection Plan

To Natural Resource Commission:

Tree Number twenty three on the tree protection plan for 81 Arnold Road, Wellesley, Ma. is a dead maple tree located within the 20 foot "tree yard" set back area.

The tree is dead and is located in a wooded portion of the lot in the back of the house near the property line. There is euonymus growing up the trunk and the tree is leaning toward the neighbors shed. There is a large open cavity running down the length of the trunk from an old limb failure. The tree is hollow in places and the decay is advanced.

It is my opinion that the tree should be removed for safety reasons.

If you have any questions, please feel free to call me at 978-877-8755

Respectfully,

MARQUIS TREE SERVICE, INC

Jay Webster
Arborist
ISA #NE-6330BUT

ISA Basic Tree Risk Assessment Form

Client Matt Fruhan Date 2-26-2020 Time 3:33pm
 Address/Tree location 81 Arnold Road, Wellesley, Ma. Tree no. 23 Sheet of
 Tree species Red Oak (Quercus rubra) dbh 18" Height 53 Feet Crown spread dia. 25 Feet
 Assessor(s) Jay Webster Time frame 5 Years Tools used Tape Measure, Laser

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 - rare 2 - occasional 3 - frequent 4 - constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1	Shed	✓			4	no	no
2	Pool House	✓			4	no	no
3							
4							

Site Factors

History of failures Yes, History of limb failure on site Topography Flat Slope % Aspect
 Site changes None Grade change Site clearing Changed soil hydrology Root cuts Describe
 Soil conditions Limited volume Saturated Shallow Compacted Pavement over roots % Describe
 Prevailing wind direction Common weather Strong winds Ice Snow Heavy rain Describe Heavy seasonal weather

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal % Chlorotic % Necrotic %
 Pests Abiotic Driveway installation and landscaping
 Species failure profile Branches Trunk Roots Describe The tree is dead.

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large
 Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss Euonymus
 Recent or planned change in load factors Tree removal on site for construction.

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown LCR 0 % Cracks Lightning damage
 Dead twigs/branches % overall Max. dia. Codominant Included bark
 Broken/Hangers Number Max. dia. Weak attachments Cavity/Nest hole % circ.
 Over-extended branches Previous branch failures Similar branches present
Pruning history
 Crown cleaned Thinned Raised Dead/Missing bark Cankers/Galls/Burls Sapwood damage/decay
 Reduced Topped Lion-tailed Conks Heartwood decay
 Flush cuts Other Response growth

Main concern(s) The tree is dead and has euonymus growing on it which adds weight to the tree increasing the possibility of a failure.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Trunk —

Dead/Missing bark Abnormal bark texture/color
 Codominant stems Included bark Cracks
 Sapwood damage/decay Cankers/Galls/Burls Sap ooze
 Lightning damage Heartwood decay Conks/Mushrooms
 Cavity/Nest hole 20 % circ. Depth 6-8" Poor taper
 Lean ° Corrected?

Response growth
 Main concern(s) The tree is dead and there is a large open cavity from and old limb failure running down the trunk.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Roots and Root Collar —

Collar buried/Not visible Depth Stem girdling
 Dead Decay Conks/Mushrooms
 Ooze Cavity % circ.
 Cracks Cut/Damaged roots Distance from trunk
 Root plate lifting Soil weakness

Response growth
 Main concern(s) The tree is dead.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

Risk Categorization

Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood												Consequences				Risk rating of part (from Matrix 2)		
							Failure				Impact				Failure & Impact (from Matrix 1)				Negligible	Minor	Significant	Severe			
							Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat	Likely	Very likely							
1	Trunk		18"	53'	1	yes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Low						
			18"	53'	2	yes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mod					
							<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Roots		18"	53'	1	yes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Low						
			18"	53'	2	yes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mod					
							<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

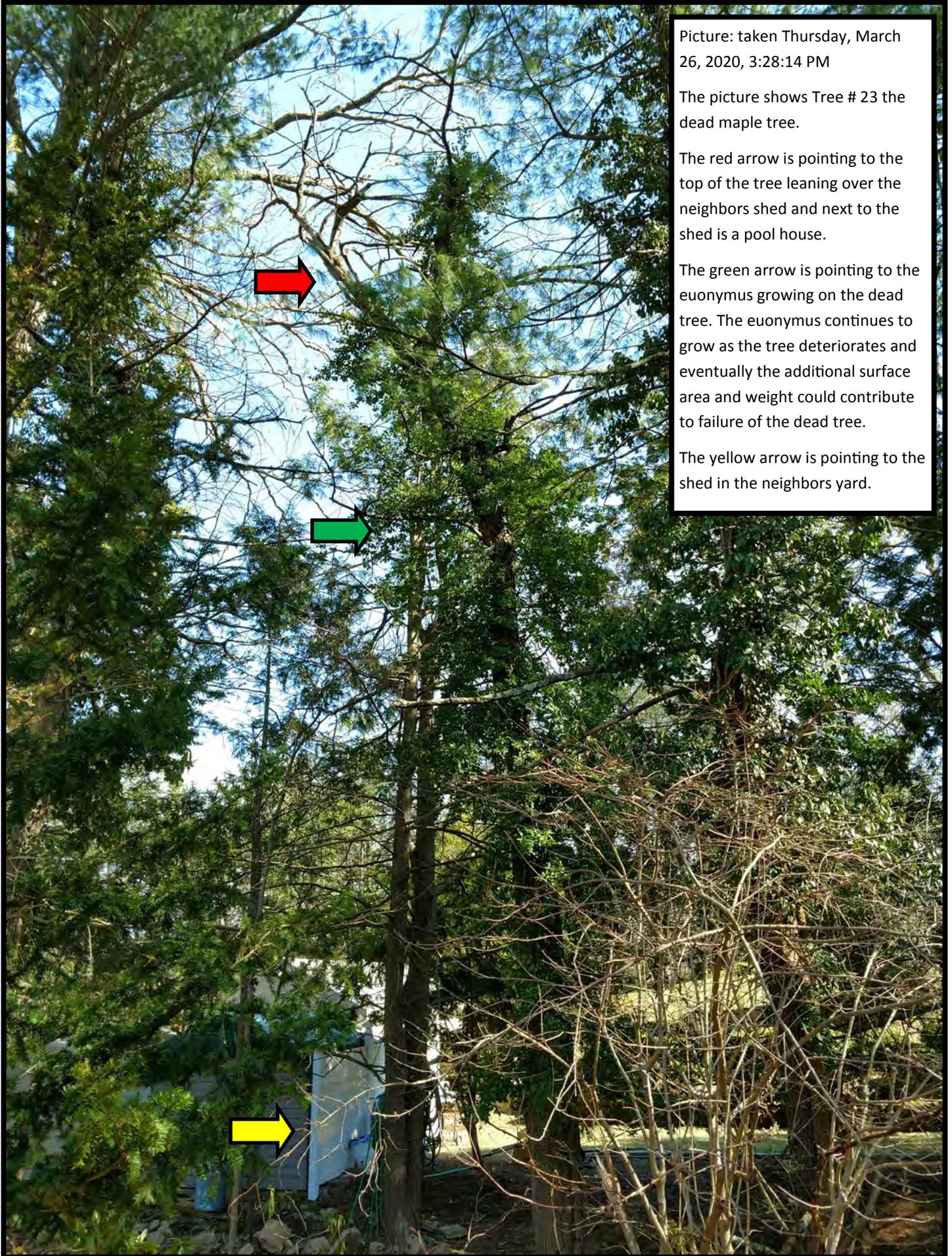
Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions The tree is dead and structurally unstable. The tree should be removed.

Mitigation options Remove tree **Residual risk** Low
 _____ **Residual risk** _____
 _____ **Residual risk** _____
 _____ **Residual risk** _____

Overall tree risk rating Low Moderate High Extreme **Work priority** 1 2 3 4
Overall residual risk Low Moderate High Extreme **Recommended inspection interval** _____

Data Final Preliminary **Advanced assessment needed** No Yes-Type/Reason _____
Inspection limitations None Visibility Access Vines Root collar buried Describe _____



Picture: taken Thursday, March 26, 2020, 3:28:14 PM

The picture shows Tree # 23 the dead maple tree.

The red arrow is pointing to the top of the tree leaning over the neighbors shed and next to the shed is a pool house.

The green arrow is pointing to the euonymus growing on the dead tree. The euonymus continues to grow as the tree deteriorates and eventually the additional surface area and weight could contribute to failure of the dead tree.

The yellow arrow is pointing to the shed in the neighbors yard.



Picture top left: taken Thursday, March 26, 2020, 3:27:27 PM. Shows the decay at the base of the tree.

Picture top right: taken Thursday, March 26, 2020, 3:33:12 PM. Shows the tear down the side of the trunk and the decay

Picture bottom left: Thursday, March 26, 2020, 3:37:27 PM. Shows the damage on the side of the trunk from an old limb failure.

Picture bottom middle: Thursday, March 26, 2020, 3:32:39 PM. Shows trunk and euonymus.

Picture bottom right: Thursday, March 26, 2020, 3:37:27 PM. Shows the damage at the base of the tree.





MARQUIS TREE SERVICE INC.,
10 Republic Road, N. Billerica, MA 01862
Tel: 781-860-9618 978-657-5633 781-272-6662

March 29, 2020

Town of Wellesley
Tree Protection Plan

To Natural Resource Commission:

Tree Number thirty two on the tree protection plan for 81 Arnold Road, Wellesley, Ma. is a red oak tree located within the 20 foot "tree yard" set back area.

The tree is in fair to poor health and fair to poor structural condition.

The tree is located in a wooded portion of the lot on the east side of the property. There is some concern regarding the health and the structure of the tree. The branching in the canopy of the tree does not appear full, the interior branching is sparse. These can be indications that the tree is under stress or declining. The tree is covered in English Ivy extending almost to the top of the tree. The English Ivy can add surface area and weight to the tree potentially affecting the trees likelihood of failure. There is a cavity located about 8 to 10 feet above the ground in the trunk. The extent of the decay is not known. The cavity is on the back side of the lean or the tension side of the tree. Wood fiber is much stronger under tensile loading than under compressive loading, as a result much of the structural integrity of a tree relies on the tensile strength of the wood. Any decay or deviation of the wood fiber can affect the structural integrity of the tree. Due to the existing conditions it is my opinion that this tree is not a good candidate for retention.

It is my opinion that the tree should be removed for health and structural reasons. The decision to retain this tree should take the scope of work in this area and the proximity of the tree to any new structures into consideration.

If you have any questions, please feel free to call me at 978-877-8755

Respectfully,

MARQUIS TREE SERVICE, INC

Jay Webster
Arborist
ISA #NE-6330BUT

ISA Basic Tree Risk Assessment Form

Client Matt Fruhan Date 2-26-2020 Time 3:41pm
 Address/Tree location 81 Arnold Road, Wellesley, Ma. Tree no. 32 Sheet of
 Tree species Red Oak (Quercus rubra) dbh 33" Height 62 Feet Crown spread dia. 40 Feet
 Assessor(s) Jay Webster Time frame 5 Years Tools used Tape Measure, Laser

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1-rare 2-occasional 3-frequent 4-constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1	Putting green		✓		4	no	no
2							
3							
4							

Site Factors

History of failures Yes, History of limb failure on site Topography Flat Slope % Aspect
 Site changes None Grade change Site clearing Changed soil hydrology Root cuts Describe
 Soil conditions Limited volume Saturated Shallow Compacted Pavement over roots % Describe
 Prevailing wind direction Common weather Strong winds Ice Snow Heavy rain Describe Heavy seasonal weather

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal % Chlorotic % Necrotic %
 Pests Abiotic
 Species failure profile Branches Trunk Roots Describe Red oak is a fairly failure-resistant. Root disease in old age is primary concern.

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large
 Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss English Ivy
 Recent or planned change in load factors Tree removal on site for construction.

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown LCR 40 %
 Dead twigs/branches 5 % overall Max. dia. 4-6"
 Broken/Hangers Number Max. dia.
 Over-extended branches
 Pruning history
 Crown cleaned Thinned Raised
 Reduced Topped Lion-tailed
 Flush cuts Other
 Cracks Lightning damage
 Codominant Included bark
 Weak attachments Cavity/Nest hole % circ.
 Previous branch failures Similar branches present
 Dead/Missing bark Cankers/Galls/Burls Sapwood damage/decay
 Conks Heartwood decay
 Response growth

Main concern(s) Structure obscured by Ivy growing on approximately 90% of the tree. Ivy can add weight and surface area adding force that could contribute to failure.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Trunk —

Dead/Missing bark Abnormal bark texture/color
 Codominant stems Included bark Cracks
 Sapwood damage/decay Cankers/Galls/Burls Sap ooze
 Lightning damage Heartwood decay Conks/Mushrooms
 Cavity/Nest hole 8 % circ. Depth 1 inch Poor taper
 Lean 10 ° Corrected? yes

Response growth Yes
 Main concern(s) The tree branches low on trunk and leans heavily. There is a cavity 8 to 10 up. trunk sounds hollow.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Roots and Root Collar —

Collar buried/Not visible Depth Stem girdling
 Dead Decay Conks/Mushrooms
 Ooze Cavity % circ.
 Cracks Cut/Damaged roots Distance from trunk
 Root plate lifting Soil weakness

Response growth
 Main concern(s) Tree growing on the edge of a slope there is ledge present. Unbalanced crown

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent



Picture Top left: taken Thursday, March 26, 2020, 3:45:58 PM. The picture shows the cavity in the side of the trunk. The extent of the decay is not known. An off center open cavity can affect the structural stability of the trunk.

Picture Top right: taken Thursday, March 26, 2020, 3:46:31 PM. Shows the tree leaning toward the neighbors yard. The red arrow is pointing to the location of the cavity.

Picture Bottom left: taken Thursday, March 26, 2020, 3:43:21 PM. Shows how much of the tree is covered by ivy. Eventually the ivy will grow to the top of the canopy. The picture also shows the lean of the tree.



Picture: taken Thursday, March 26, 2020, 3:43:21 PM

The picture shows the lean of the tree. The red arrow is pointing to the ivy that has grown into the upper canopy of the tree. The ivy can add surface area and weight to the tree potentially increasing the possibility of failure. The picture also shows the lack of interior growth, thin branching and sparse growth in the top of the tree.



MARQUIS TREE SERVICE INC.,
10 Republic Road, N. Billerica, MA 01862
Tel: 781-860-9618 978-657-5633 781-272-6662

March 29, 2020

Town of Wellesley
Tree Protection Plan

To Natural Resource Commission:

Tree Number thirty seven on the tree protection plan for 81 Arnold Road, Wellesley, Ma. is a red oak tree located within the 20 foot "tree yard" set back area.

The tree is in fair to good health and fair to poor structural condition.

The tree is located on the north side of the lot in a wooded area. This triple leader oak tree has structural characteristics known to increase the likelihood of failure. There is "included bark" present at the junctions of all 3 leaders. This characteristic is known to affect the structural stability of the tree. In addition to the codominant leaders there are mushrooms growing at two locations on the base of the tree. The mushrooms are unidentified, however they are usually an indication of decay. Some types of fungi only produce mushrooms at an advanced state of decay while others produce mushrooms much earlier in the process. The extent of the decay is unknown. Due to the existing conditions it is my opinion that this tree is a poor candidate for retention.

It is my opinion that this oak tree should be removed.

If you have any questions, please feel free to call me at 978-877-8755

Respectfully,

MARQUIS TREE SERVICE, INC

Jay Webster
Arborist
ISA #NE-6330BUT

ISA Basic Tree Risk Assessment Form

Client Matt Fruhan Date 2-26-2020 Time 4:00pm
 Address/Tree location 81 Arnold Road, Wellesley, Ma. Tree no. 37 Sheet of
 Tree species Red Oak (Quercus rubra) dbh 22", 17", 13" Height 66 Feet Crown spread dia. 50 Feet
 Assessor(s) Jay Webster Time frame 5 Years Tools used Tape Measure, Laser

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 - rare 2 - occasional 3 - frequent 4 - constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1							
2							
3							
4							

Site Factors

History of failures Yes, History of limb failure on site Topography Flat Slope % Aspect
 Site changes None Grade change Site clearing Changed soil hydrology Root cuts Describe
 Soil conditions Limited volume Saturated Shallow Compacted Pavement over roots % Describe
 Prevailing wind direction Common weather Strong winds Ice Snow Heavy rain Describe Heavy seasonal weather

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal % Chlorotic % Necrotic %
 Pests Abiotic
 Species failure profile Branches Trunk Roots Describe Red oak is a fairly failure-resistant. Root disease in old age is primary concern.

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large
 Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss
 Recent or planned change in load factors

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown LCR 29 %
 Dead twigs/branches 5 % overall Max. dia. 12"
 Broken/Hangers Number Max. dia.
 Over-extended branches
Pruning history
 Crown cleaned Thinned Raised
 Reduced Topped Lion-tailed
 Flush cuts Other
 Cracks Lightning damage
 Codominant Included bark
 Weak attachments Cavity/Nest hole % circ.
 Previous branch failures Similar branches present
 Dead/Missing bark Cankers/Galls/Burls Sapwood damage/decay
 Conks Heartwood decay
 Response growth

Main concern(s) Large dead limb

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Trunk —

Dead/Missing bark Abnormal bark texture/color
 Codominant stems Included bark Cracks
 Sapwood damage/decay Cankers/Galls/Burls Sap ooze
 Lightning damage Heartwood decay Conks/Mushrooms
 Cavity/Nest hole % circ. Depth Poor taper
 Lean 10 ° Corrected? Yes
 Response growth Yes

Main concern(s) Codominant leaders poor attachment signs of mushrooms at the base of the tree.

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent

— Roots and Root Collar —

Collar buried/Not visible Depth Stem girdling
 Dead Decay Conks/Mushrooms
 Ooze Cavity % circ.
 Cracks Cut/Damaged roots Distance from trunk
 Root plate lifting Soil weakness

Response growth
 Main concern(s)

Load on defect N/A Minor Moderate Significant
 Likelihood of failure Improbable Possible Probable Imminent



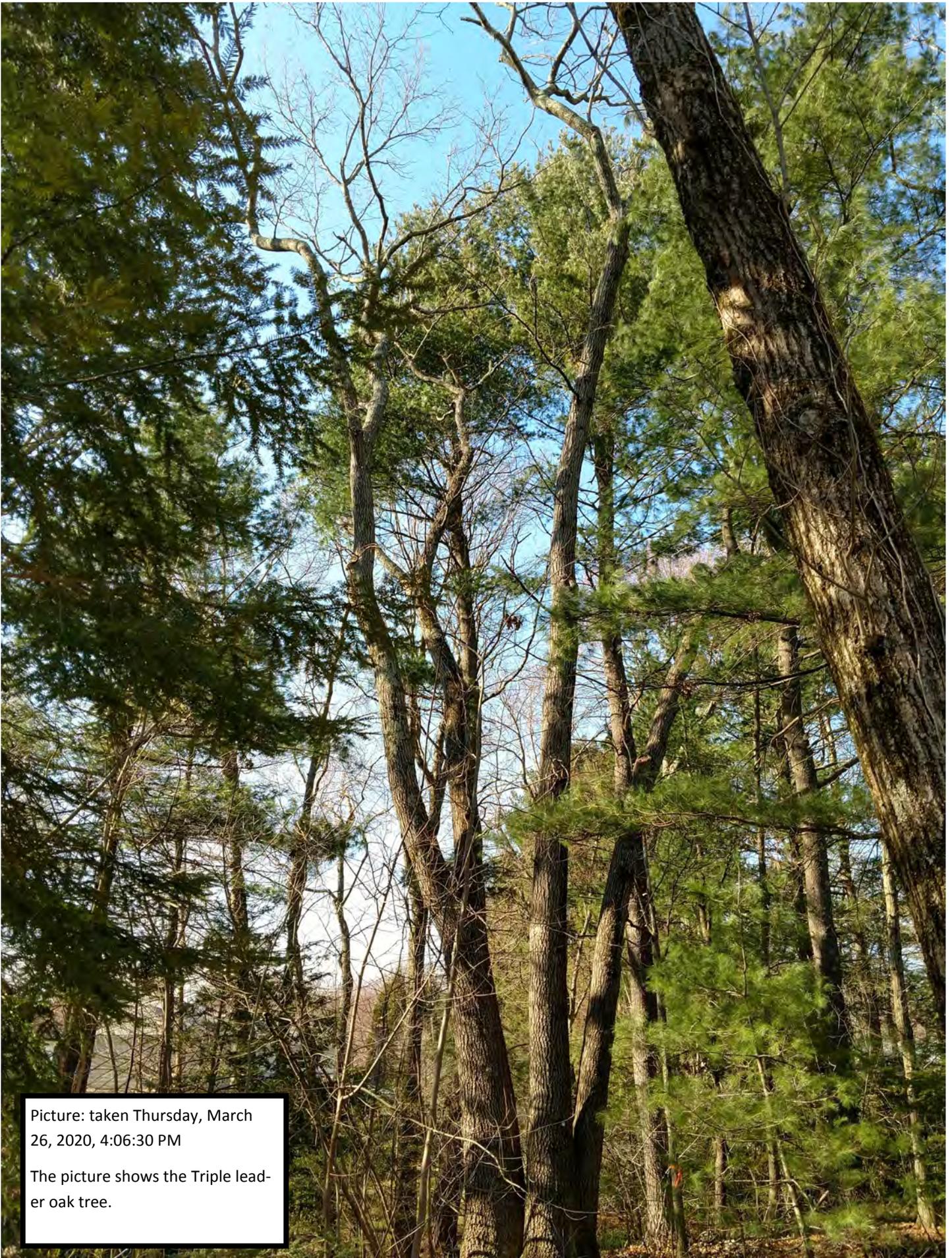
Picture above: taken Thursday, March 26, 2020, 4:05:11 PM: The red arrow is pointing to the remanence of mushrooms growing at the base of the tree. Mushroom production can be a sign of decay in the tree.

Picture lower left: taken Thursday, March 26, 2020, 4:05:56 PM: The yellow arrow is pointing to the seem between the two trunks of the tree. The red circle is around the remanence of mushrooms at the base of the tree. There are two locations mushrooms growing on the tree.

Picture lower middle: Thursday, March 26, 2020, 4:05:44 PM: Yellow arrows pointing to locations where the trunks of the tree are growing together with "included bark". The red circle is around one of the two locations mushrooms are growing at the base of the tree.

Picture lower right: March 26, 2020, 4:05:44 PM: Red circle around the mushroom growth at second location on the base of the tree.





Picture: taken Thursday, March 26, 2020, 4:06:30 PM

The picture shows the Triple leader oak tree.

KD Turner Design
 landscape architecture
 27 High St.
 Newburyport, MA 01950
 ph) 781.632.6004

FRUHAN RESIDENCE

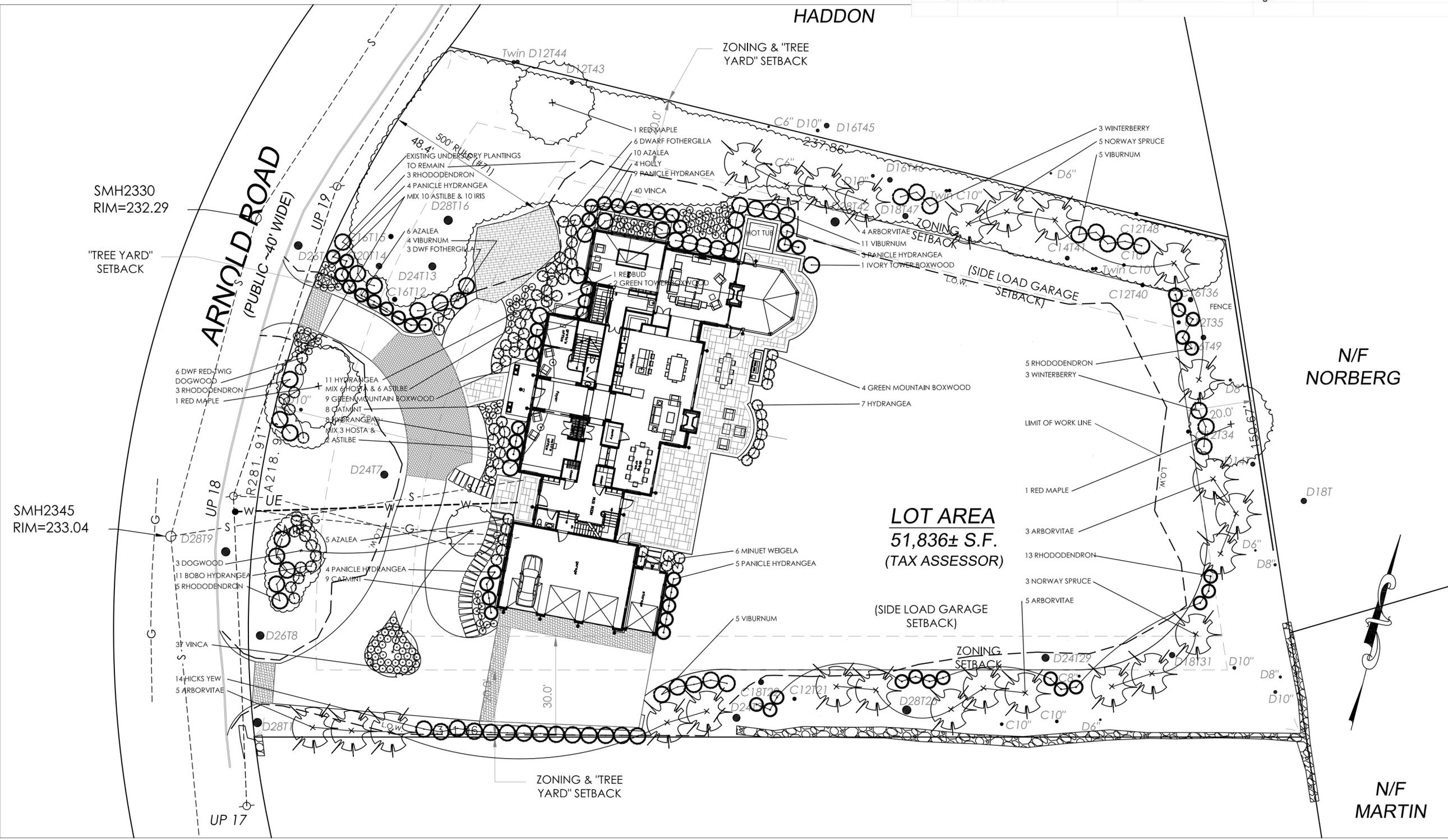
81 Arnold Rd.
 Wellesley, MA

Landscape Planting Plan

Scale: 1"=20'-0"

Issued:	
1	4-6-20 For review
2	4-8-20 For review
3	4-14-20 For review
4	4-15-20 For review
5	4-29-20 For review
6	

Fruhan Plant List				
Qty.	Scientific Name	Common Name	Size	Notes
Trees				
3	Acer rubrum	Red Maple	4" cal.	
1	Cercis canadensis	Redbud	2-2.5" cal.	
3	Cornus x 'Rutban'	Dogwood	2-2.5" cal.	Rutgers hybrid
8	Picea abies	Norway Spruce	14-16' ht.	
17	Thuja 'Green Giant'	Arborvitae	10-12' ht.	
Shrubs				
21	Azalea 'Delaware Valley White'	Azalea	5 gal.	
13	Buxus 'Green Mountain'	Green Mountain Boxwood	2.5-3' ht.	
3	Buxus 'Green Tower'	Green Tower Boxwood	3-3.5' ht.	
6	Cornus sericea 'Kelsey'	Dwarf Red-Twig Dogwood	5 gal.	
9	Fothergilla gardenii 'Mt Airy'	Dwarf Fothergilla	5 gal.	
26	Hydrangea macrophylla 'Blue Wave'	Lacecap Hydrangea	5 gal.	
11	Hydrangea paniculata 'ILVOBO'	Bobo Hydrangea	7 gal.	
25	Hydrangea paniculata 'Quickfire'	Panicke Hydrangea	7 gal.	
7	Ilex x meserveae 'Blue Princess'	Holly	4.5-5' ht.	
3	Ilex verticillata 'Sparkleberry'	Sparkleberry Winterberry	7 gal.	female
29	Rhododendron 'Cunningham's White'	Rhododendron	3-3.5' ht.	white flower
14	Taxus x 'Hicks'	Hicks Upright Yew	5-5.5' ht	
25	Viburnum x burkwoodii 'Mohawk'	Viburnum	4-4.5' ht.	
6	Weigela florida 'Minue'	Minuet Weigela	5 gal.	dwarf
Perennials				
18	Astilbe 'Bridal Veil'	Astilbe	1 gal	
9	Hosta 'Guacamole'	Hosta	1 gal	
10	Iris siberica 'Caesar's Brother'	Siberian Iris	1 gal	
17	Nepeta x fassenii 'Walkers Low'	Catmint	1 gal	dwarf
57	Vinca minor	Vinca	1 gal	



N/F MARTIN

PATH LIGHTING



1518BZ
Path Lighting

Width: 6.5"
Height: 22"
Weight: 4 lbs.
Material: Aluminum
Glass: Etched Glass Lens
Bulb: One 20w T3 Bi-pin (Included)
Voltage: 12v
Leadwire: 36"
Certification: c-UL-us Wet
UPC: 640665151800
Notes: Etched Acrylic Lens

SCONCE



LED Fixture w Bracket



9-LED FIXTURE

FEATURES

- Aluminum, Brass, & Copper Plated Housings w/ Multiple Finish Options
- Stainless Steel Mount Brackets
- Stainless Steel Mounting Screws
- 9-15V AC/DC Operating Range w/ Integrated, Constant Voltage Driver
- 10-Year / 40,000 Hour Warranty on LED Driver & All Other Electrical Components
- Available in 3, 6, & 9 LED Configurations
- Casts a Low, Even Spread of Energy Efficient LED Light
- 2950K (-150 / +175) High CRI
- 70" of Useable #18-2, SPT-1W Leads. Cable Connector Supplied. WHT Finished Fixtures Have Coordinating White Leads
- 5-Year Warranty on Aluminum LED Housings & Exterior Finishes



ORDERING INFORMATION

EXAMPLE: 15745AZT (Product # & Finish)

PRODUCT	WATTAGE/STYLE	FINISHES	OPTIONAL
3-LED Fixture 15745	.75 Watts / 1.3 Voltage Amps 	AZT - Architectural Textured Bronze (Shown Above) BBR - Bronzed Brass CO - Copper (Will Naturally Patina Over Time) GRY - Gray SD - Sand WHT - Textured White	
6-LED Fixture 15746	1.4 Watts / 2.4 Voltage Amps 		
9-LED Fixture 15756	2.2 Watts / 3.7 Voltage Amps (Shown Above) Please Note: Not For Use With Electronic Transformers		

NOTES

**Definition of 40,000 hours: Voluntarily following the accepted industry standard of L70, Kichler rates the entire lighting fixture system at 40,000 hours; with engineered electronics that will last at least 40,000 hours, superior optical engineering, and finally utilizing a design that operates at the optimal temperature thresholds for the LED chips. The end result is a complete light fixture that does not require replacement parts and will provide 70% or more of its original light output for at least 40,000 hours. It has been proven that the human eye can hardly detect any difference in light output when light output is at 70% or above of its original output.



For Warranty Information, please visit www.landscape-lighting.com

We reserve the right to revise the design or components of any product due to parts availability or change in UL standards, without assuming any obligation or liability to modify any products previously manufactured, and without notice.

7711 E. Pleasant Valley Road, Cleveland, OH 44131 ph:(216) 573-1000 fax:(216) 573-2270 email:sales@kichler.com web:landscape-lighting.com

GENERAL NOTES:
These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:

D. MICHAEL
COLLINS
ARCHITECTS

21 ELIOT STREET NATICK, MA 01760
DMCARCH.COM P+F 508.651.7099

FRUHAN
RESIDENCE

81 ARNOLD ROAD
WELLESLEY, MA

DRAWN BY:

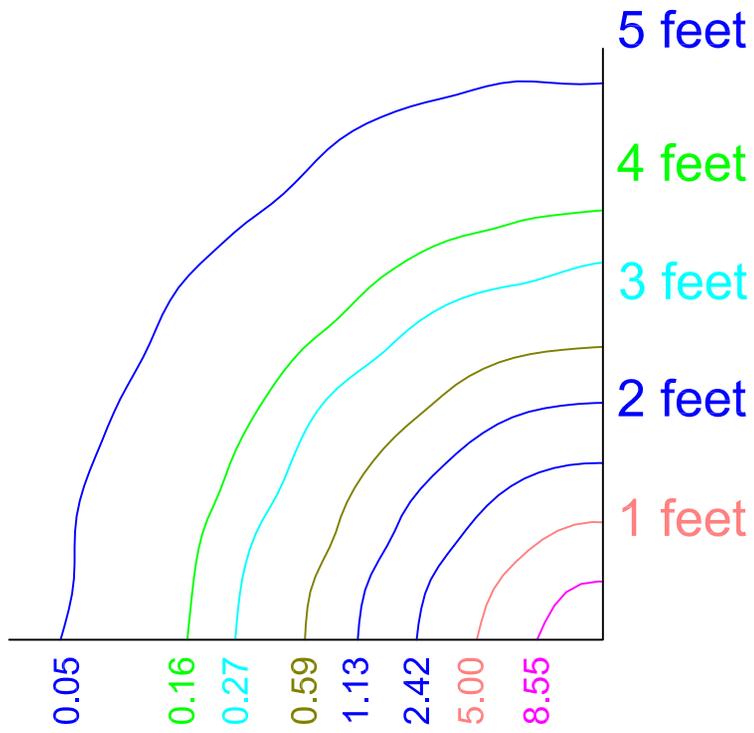
DATE: 5.11.2019

DESCRIPTION:

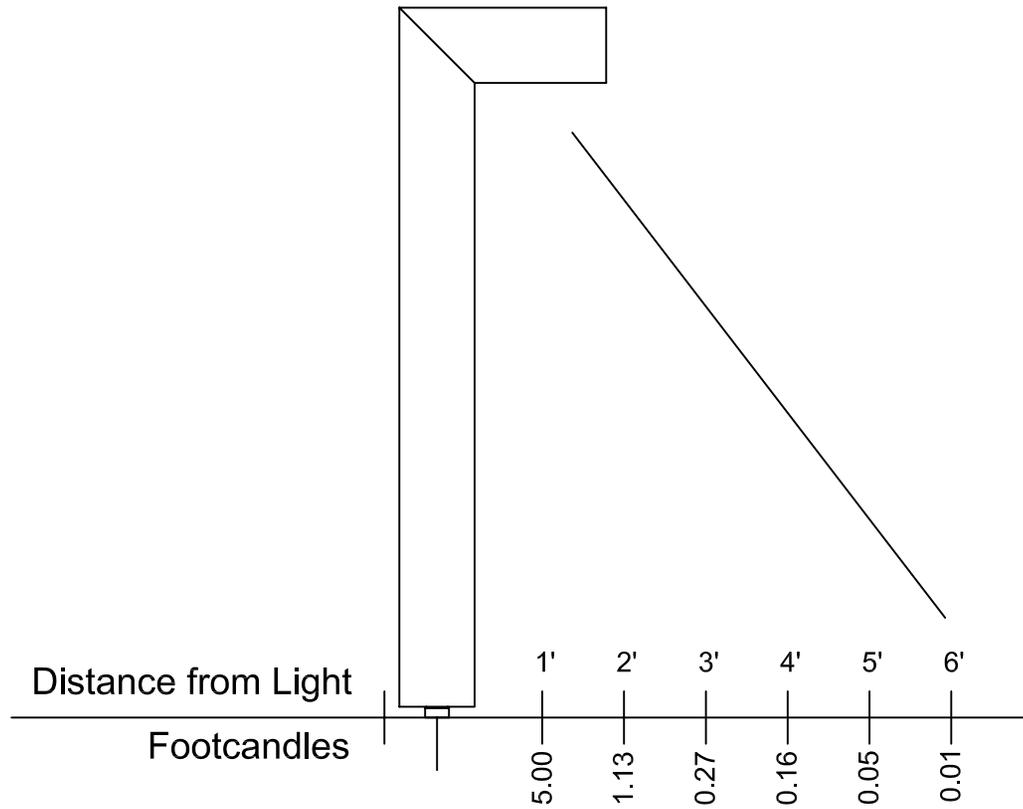
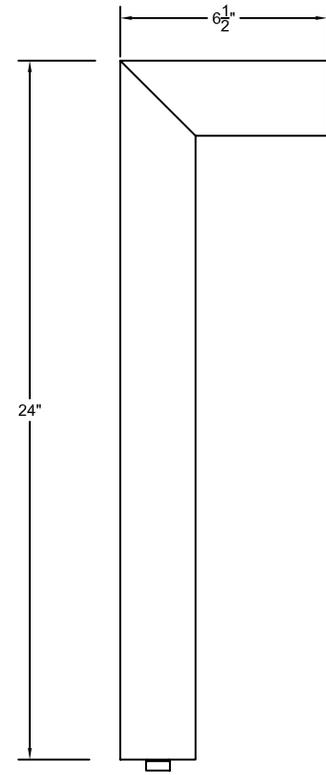
LANDSCAPE
LIGHTING

DWG. #

L 1.0



Footcandles



S-SCONCE



Project: Fruhan Residence
 Fixture Type: Exterior Wall Sconce
 Location: _____
 Contact: _____

Medium Wall Lantern

Wall mounted • Wet location listed **PROGRESS LED**

Description:

LED wall lantern with etched white linen glass. Includes dark sky shield for full cut-off illumination or remove for a traditional lighting effect. 120V AC replaceable LED module, 1,211 lumens 71.2 lumens/watt per module (source). 3000K color temperature and 90+ CRI.

Specifications:

- Black (-31) (powder coat paint)
- Aluminum Construction
- Etched White Linen glass cylindrical diffuser
- LED Module is replaceable (part # 93053641)
- Etched white linen glass.
- Includes removable dark sky shield for full cut-off illumination.
- Powder coated finish.
- 1,211 lumens 71.2 lumens/watt per module (source)
- 3000K color temperature, 90+ CRI
- Dimmable to 10% brightness (See Dimming Notes)
- Back plate covers a standard 4" octagonal recessed outlet box
- Mounting strap for outlet box included
- 6" of wire supplied
- ENERGY STAR® qualified
- Meets California Title 24 high efficacy requirements for outdoor use only

Performance:

Number of Modules	1
Input Power	17w
Input Voltage	120 V
Input Frequency	60 Hz
Lumens/LPW (Source)	1211/71.2 (LM-82)
Lumens/LPW (Delivered)	234/14.1 (LM-79)
CCT	3000 K
CRI	90 CRI
Life (hours)	60,000 (L70/TM-21)
FCC	Meets FCC Title 47, Part 15 Class B
Min. Start Temp	-30 °C
Max. Operating Temp	30 °C
Warranty	5 year warranty
Labels	cCSAus Wet location listed ENERGY STAR® qualified Meets California Title 24 high efficacy requirements for outdoor use only

P6085-3130K9

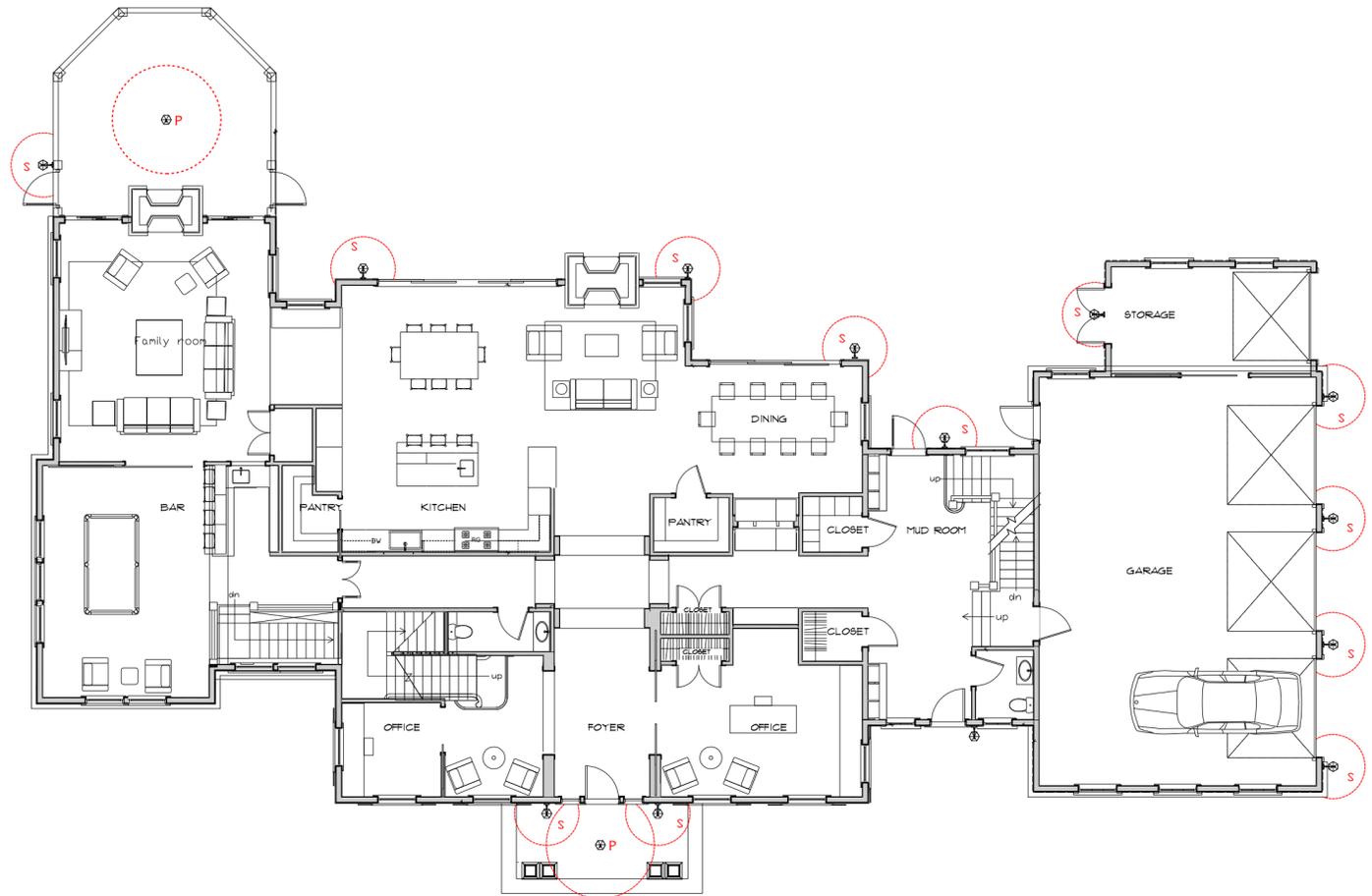
Images:



Dimensions:

Width: 9"
 Depth: 10-1/2"
 Height: 12-1/2"
 H/CTR: 3-1/8"

Glass
 Width: 5-5/16"
 Height: 7-3/8"



P- PENDANT



DATE: _____ TYPE: _____
 NAME: _____
 PROJECT: _____

Incandescent

P6524-31

Wish

Hanging lantern with etched white linen glass. Includes dark sky shield for full cut-off illumination or remove for a traditional lighting effect.

- Etched white linen glass.
- Includes removable dark sky shield for full cut-off illumination.
- Powder coated finish.

Category: Outdoor

Finish: Black (powder coat paint)

Construction: Aluminum Construction

Glass/Shade: Etched White Linen glass cylindrical diffuser



Diameter: 9"
 Height: 12-1/2"
 Overall Ht. W/Chain: 87-1/2"

Glass
 Width: 6"
 Height: 7-3/8"

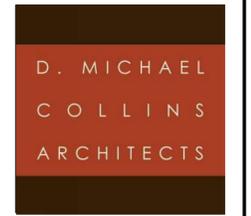
MOUNTING	ELECTRICAL	LAMPING	ADDITIONAL INFORMATION
Ceiling chain mounted	Pre-wired	Quantity:	UL-CUL Damp location listed
Mounting strap for outlet box included	15 feet of wire supplied	One 100w max. Medium Base	1 year warranty
Six feet of 9 gauge chain supplied	120 V	E26 base porcelain socket	
Canopy covers a standard 4" octagonal recessed outlet box			
5" W., 1" ht., 5" depth			

GENERAL NOTES:
 These drawings and specifications shall remain the sole and exclusive property of D. Michael Collins Architects as instruments of service. All drawings, sections of drawings, details, and design concepts shall be used only for the purpose intended by the Architect and shall not be copied, amended or reused at another site without the expressed written consent of the Architect.

It is the responsibility of the Contractor to review these drawings and report any errors or discrepancies on the drawings, shop drawings, details, or associated sketches to the Architect before construction has commenced. Do not scale drawings.

REVISIONS:

ISSUE DATES:



21 ELIOT STREET NATICK, MA 01760
 DMCARCH.COM P+F 508.651.7099

FRUHAN RESIDENCE

81 ARNOLD ROAD
 WELLESLEY, MA

DRAWN BY:
 DATE: 5.11.2019

DESCRIPTION:
 EXTERIOR HOUSE LIGHTING

DWG. #

L 1.1

P6085-3130K9

Dimming Notes:

P6085 is designed to be compatible with many ELV/Reverse Phase controls.

The following is a partial list of known compatible dimmer controls.

Dimming Controls

Lutron Nova T NTELV-300

Lutron Vienti VTELV-600

Lutron Maestro MAELV-600

Lutron spacer/system SPSELV-600

Leviton Renoir II AWRMG-EAW

Dimming capabilities will vary depending on the dimmer control, load, and circuit installation. Always refer to dimmer manufacturer instructions or a controls specialist for specific requirements.

Dimmer control brand names where identified above are trade names or registered trademarks of each respective company.

Project Number
15.00828



Date
5/20/2015

LAB 1

Test Sample Description

Catalog Number: P6085-3130K9
Description: WISH - 1-Lt. Med. LED Wall Lantern w/ HAL 17W Module

Test Method: IES LM-79-08 § 10
Preburn Time: 00:30
Time To Stabilize: 1:17
Total Operating Time: 2:34

Input Voltage (Volts): 120.0
Input Current (Amps): 0.149
Input Wattage (Watts): 16.6
Ambient Temp (°C): 25.2



Hubbell Lighting, Inc.
701 Millennium Boulevard
Greenville, SC 29607
www.hubbellighting.com

Checked: D. ROBBINS
Approved: M. WASHBURN



This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.



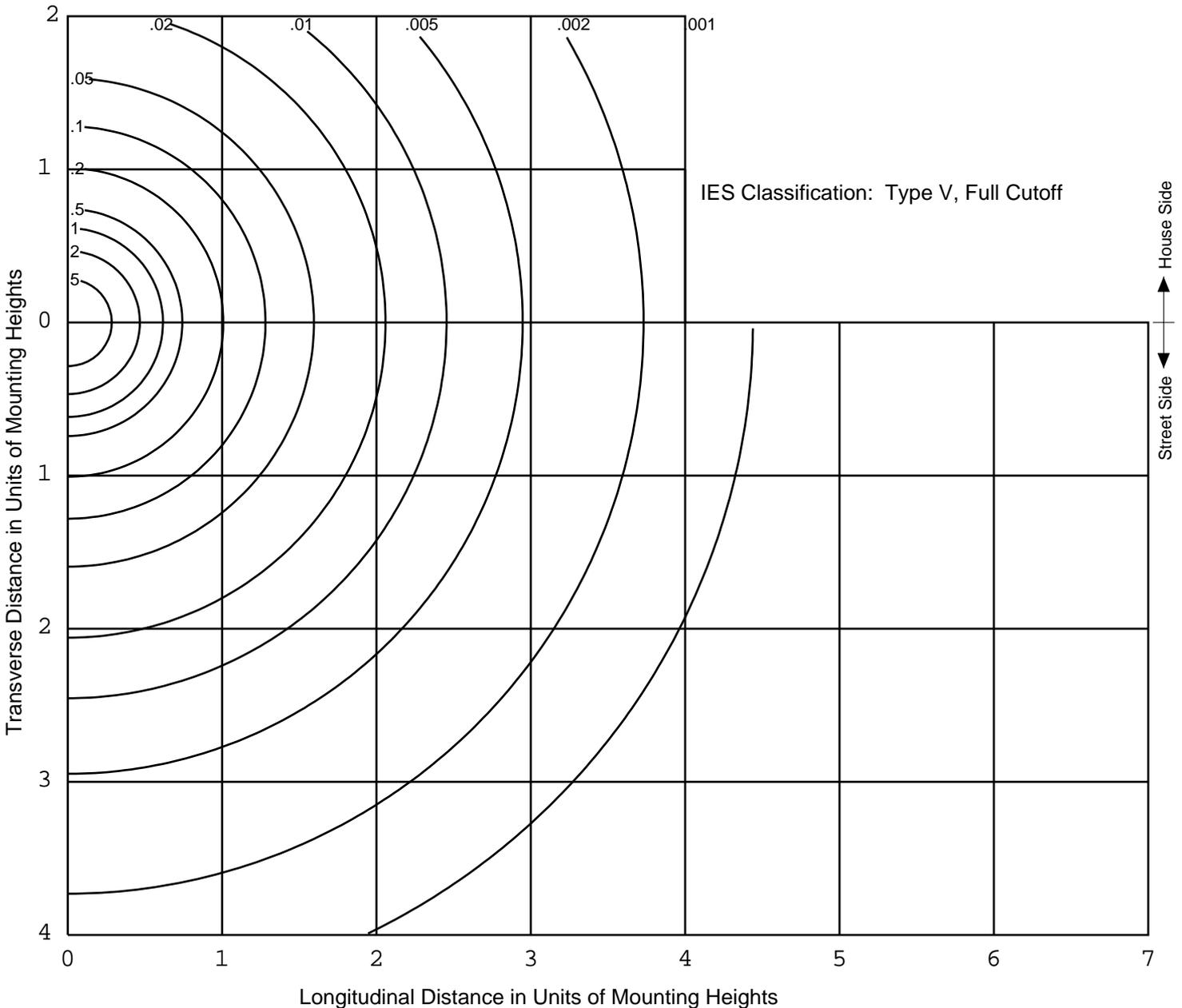
HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbellighting.com



ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION
Values based on 6.6 foot mounting height.

REPORT NUMBER: 15.00828
ISSUE DATE: 05/20/15 PAGE: 2 OF 9
PREPARED FOR: PROGRESS
CATALOG NUMBER: P6085-3130K9
LUMINAIRE: WISH - 1-Lt. Med. LED Wall
Lantern w/ HAL 17W Module
LAMP CAT. NO.: 93047261-4130
LAMP: 40 - NICHIA 3000K LEDs
REFRACTOR: Etched White Linen Glass
Shade Part# 93061284 w/ Metal
Cylinder painted Gloss White insert
MOUNTING: WALL
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED.





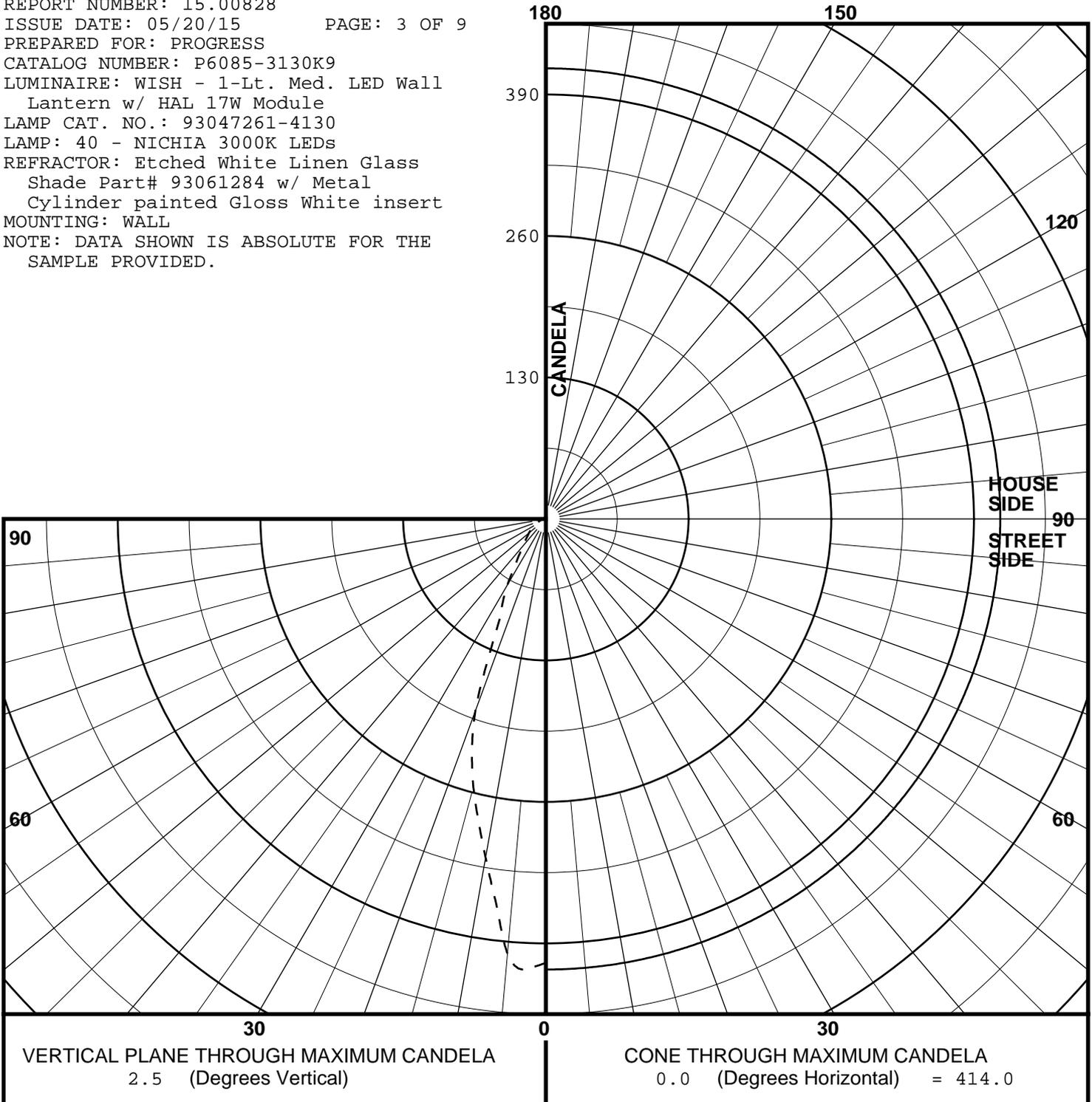
HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbellighting.com



MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: 15.00828
 ISSUE DATE: 05/20/15 PAGE: 3 OF 9
 PREPARED FOR: PROGRESS
 CATALOG NUMBER: P6085-3130K9
 LUMINAIRE: WISH - 1-Lt. Med. LED Wall
 Lantern w/ HAL 17W Module
 LAMP CAT. NO.: 93047261-4130
 LAMP: 40 - NICHIA 3000K LEDs
 REFRACTOR: Etched White Linen Glass
 Shade Part# 93061284 w/ Metal
 Cylinder painted Gloss White insert
 MOUNTING: WALL
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE
 SAMPLE PROVIDED.





HUBBELL
Lighting

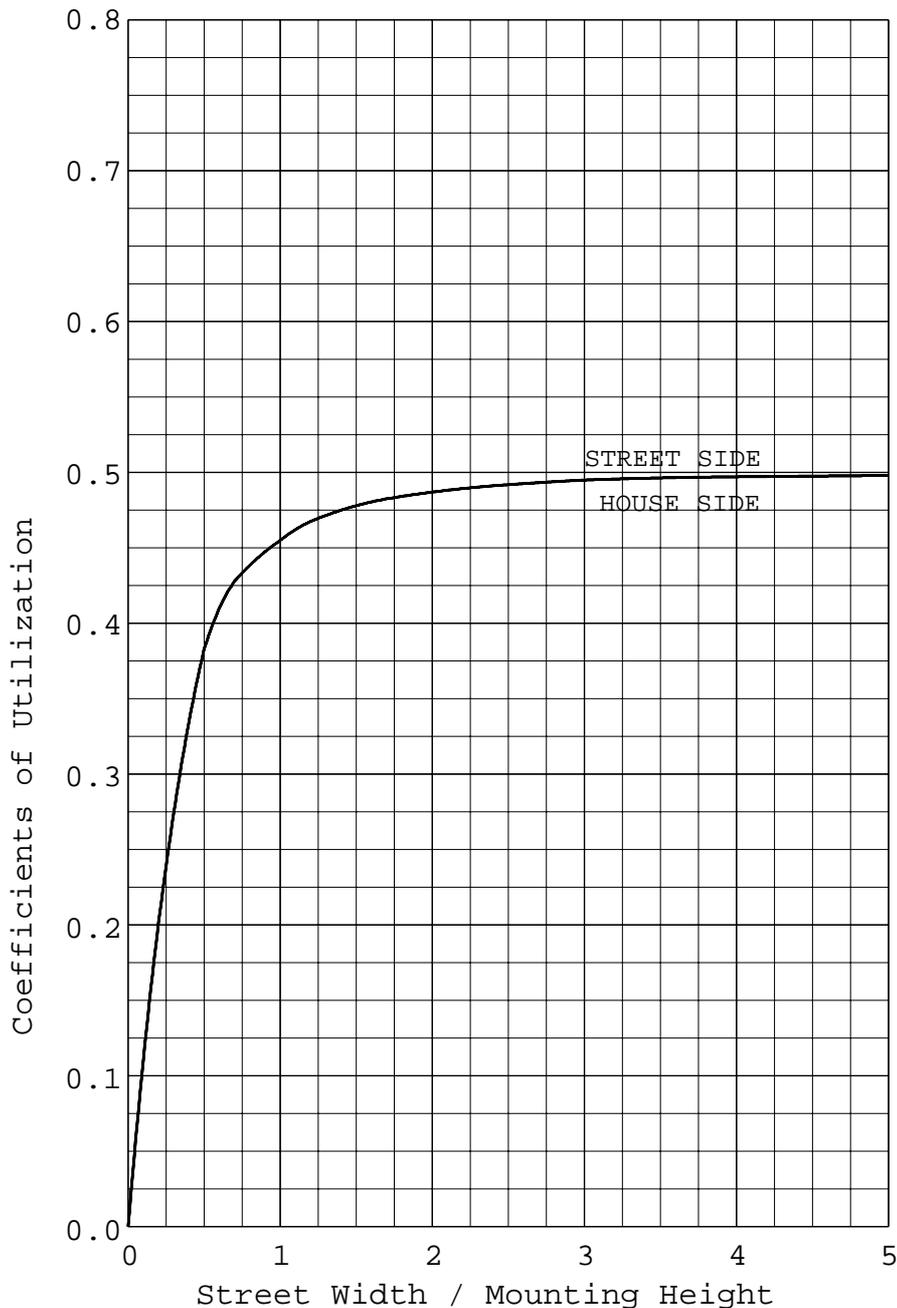
701 Millennium Blvd
Greenville, SC 29607
www.hubbellighting.com



REPORT NUMBER: 15.00828
ISSUE DATE: 05/20/15
PREPARED FOR: PROGRESS

PAGE: 4 OF 9

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	117.	50.0
DOWNWARD HOUSE SIDE	117.	50.0
DOWNWARD TOTAL	234.	100.0
UPWARD STREET SIDE	0.	0.0
UPWARD HOUSE SIDE	0.	0.0
UPWARD TOTAL	0.	0.0
TOTAL FLUX	234.	100.0
TOTAL INPUT WATTS = 16.6		
EFFICACY = 14.1 Lm/W		

ALL CANDELA AND LUMENS IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.

THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES. FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE.



HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbellighting.com

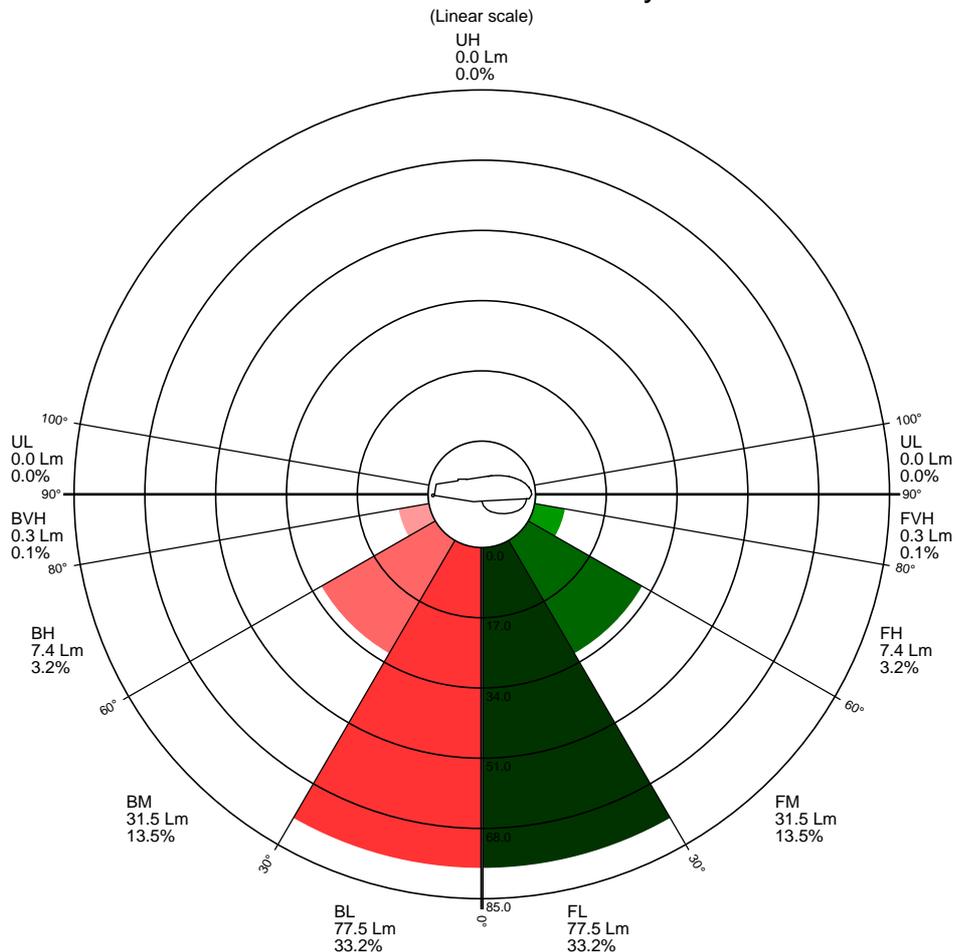


REPORT NUMBER: 15.00828
ISSUE DATE: 05/20/15
PREPARED FOR: PROGRESS

PAGE: 5 OF 9

BUG Rating: Zonal Summary	Lumens	% of Fixture	Zone Ratings		
			B	U	G
Forward	117	50.0			
FL (0° - 30°)	77.5	33.2			
FM (30° - 60°)	31.5	13.5			
FH (60° - 80°)	7.4	3.2			G0
FVH (80° - 90°)	0.3	0.1			G0
Backward	117	50.0			
BL (0° - 30°)	77.5	33.2	B0		
BM (30° - 60°)	31.5	13.5	B0		
BH (60° - 80°)	7.4	3.2	B0		G0
BVH (80° - 90°)	0.3	0.1			G0
Upward	0	0.0			
UL (90° - 100°)	0.0	0.0		U0	
UH (100° - 180°)	0.0	0.0		U0	
Trapped Light	0	0.0			
Total Flux	234	100.0			

Zonal Lumen Summary





HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbellighting.com

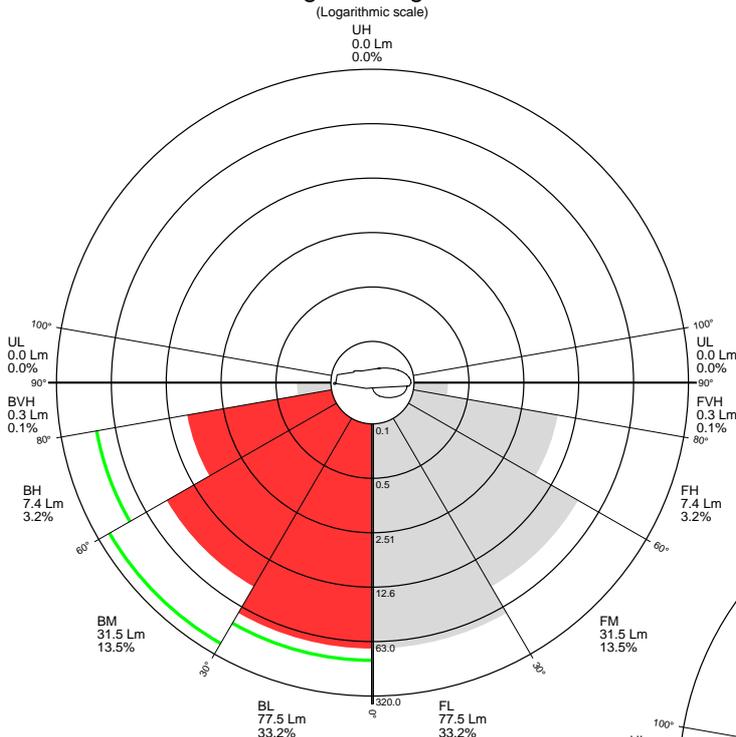


NVLAP LAB CODE: 201003-0

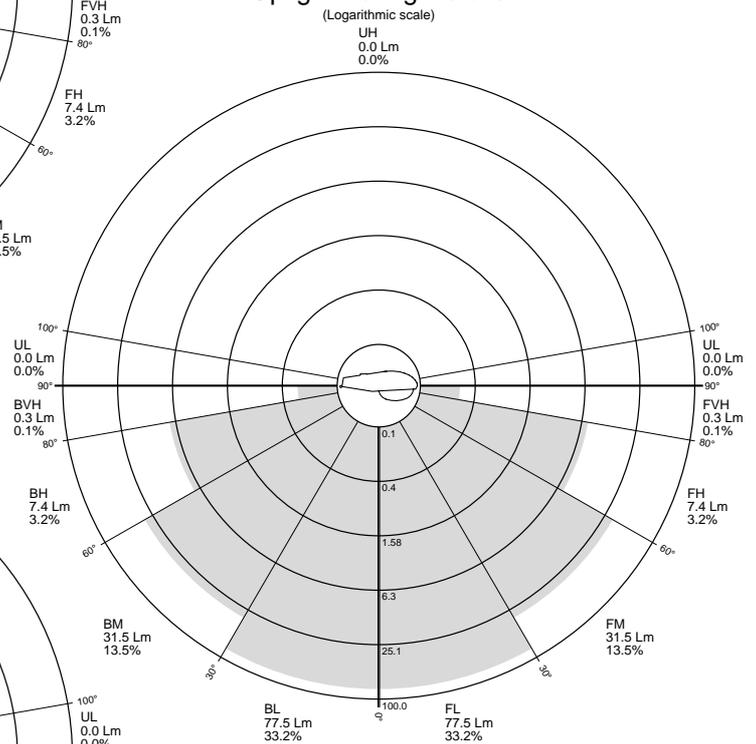
REPORT NUMBER: 15.00828
ISSUE DATE: 05/20/15
PREPARED FOR: PROGRESS

PAGE: 6 OF 9

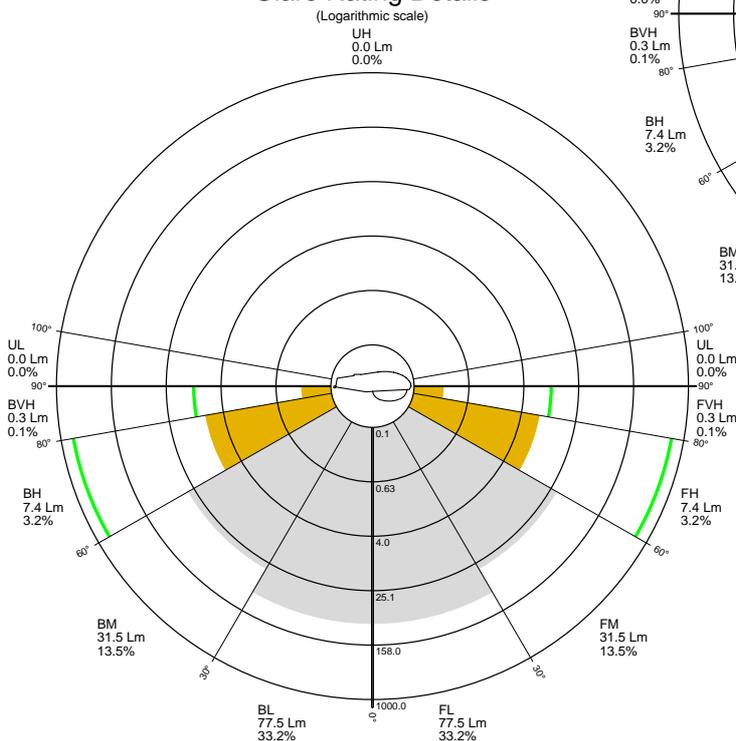
Backlight Rating Details



Uplight Rating Details



Glare Rating Details





HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbellighting.com



REPORT NUMBER: 15.00828
ISSUE DATE: 05/20/15
PREPARED FOR: PROGRESS
CANDELA TABULATION -- TYPE V

PAGE: 7 OF 9

90.0	0.
87.5	0.
85.0	0.
82.5	1.
80.0	2.
77.5	4.
75.0	5.
72.5	6.
70.0	7.
67.5	8.
65.0	10.
62.5	11.
60.0	13.
57.5	14.
55.0	16.
52.5	18.
50.0	20.
47.5	22.
45.0	25.
42.5	28.
40.0	33.
37.5	38.
35.0	45.
30.0	70.
25.0	98.
20.0	188.
15.0	255.
10.0	316.
5.0	401.
2.5	414.<<
0.0	408.

<< INDICATES MAXIMUM CANDELA



HUBBELL
Lighting

701 Millennium Blvd
Greenville, SC 29607
www.hubbellighting.com



REPORT NUMBER: 15.00828
ISSUE DATE: 05/20/15
PREPARED FOR: PROGRESS

PAGE: 8 OF 9

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	10
5- 10	25
10- 15	34
15- 20	37
20- 25	29
25- 30	21
30- 35	16
35- 40	13
40- 45	11
45- 50	9
50- 55	8
55- 60	7
60- 65	5
65- 70	4
70- 75	3
75- 80	2
80- 85	1
85- 90	0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	35
0- 20	105
0- 30	155
0- 40	184
0- 50	204
0- 60	218
0- 70	228
0- 80	233
0- 90	234

Project Number
15.00828



HUBBELL
Lighting

Date
5/20/2015

Goniophotometer Calibration

Calibration Lamp: GE 1000W, 120V, T6, CL (FEL)

Lamp Number: ITL78966-1000-38

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 25753.0 Lumens

Calibration Date: 12/02/2014

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL / HLI LAB 1 - Test Distance: 31.75'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	11/12/2015
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	11/11/2015

Hubbell Lighting, Inc.

701 Millennium Boulevard
Greenville, SC 29607
www.hubbellighting.com