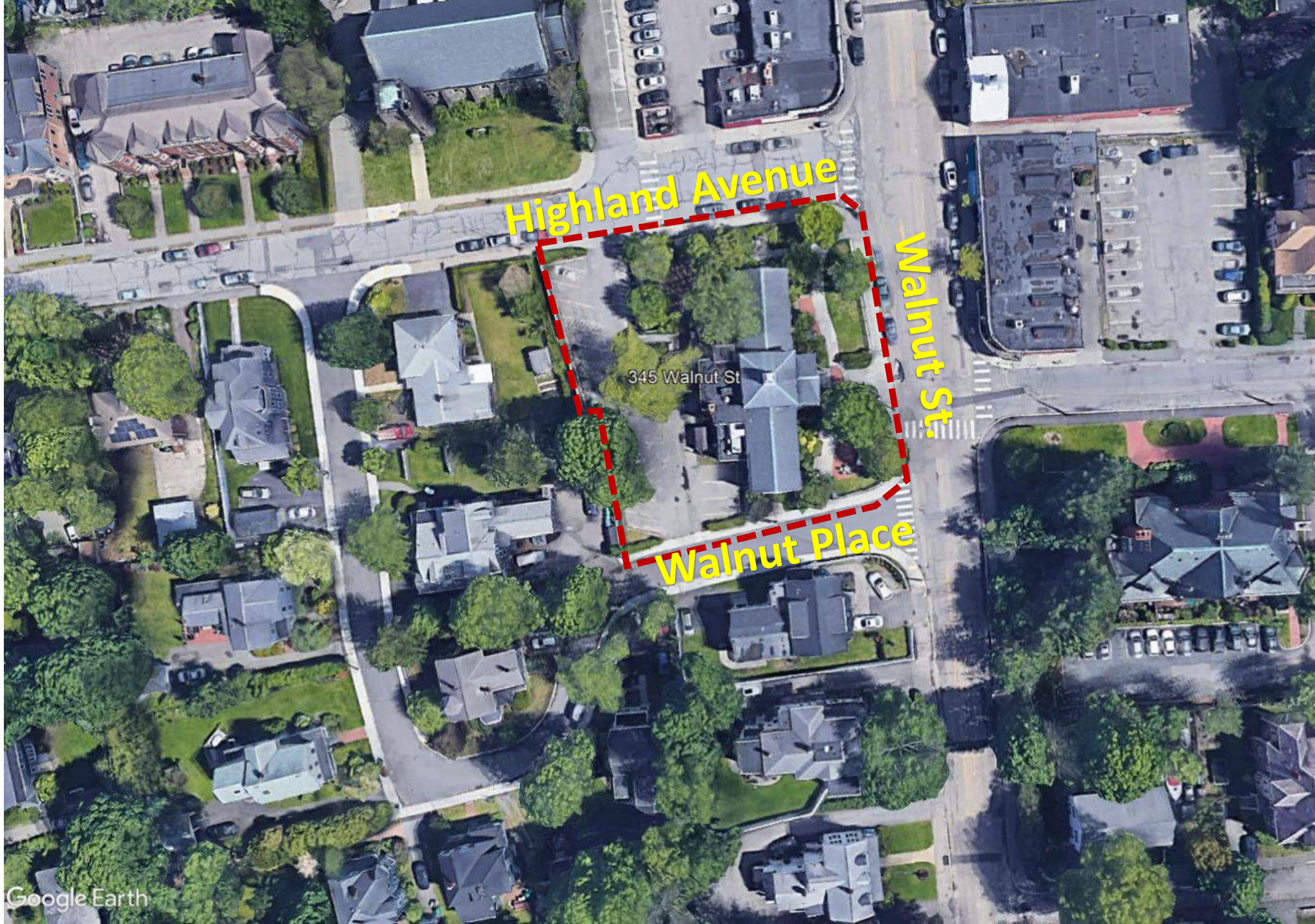


NewCAL

Public Facility Committee Presentation
July 13, 2022





Highland Avenue

Walnut St.

345 Walnut St

Walnut Place

Parking Options

125 Municipal
Parking Spaces

AUSTIN STREET
PARKING

On Street Parking
Spaces

31 Onsite Parking

345 WALNUT
STREET

Newtonville Avenue

Madison Avenue

Washington

AUSTIN STREET

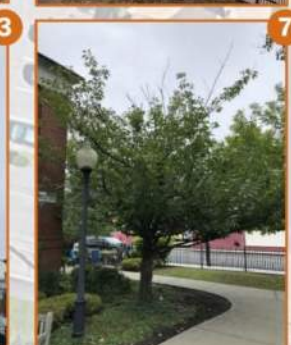
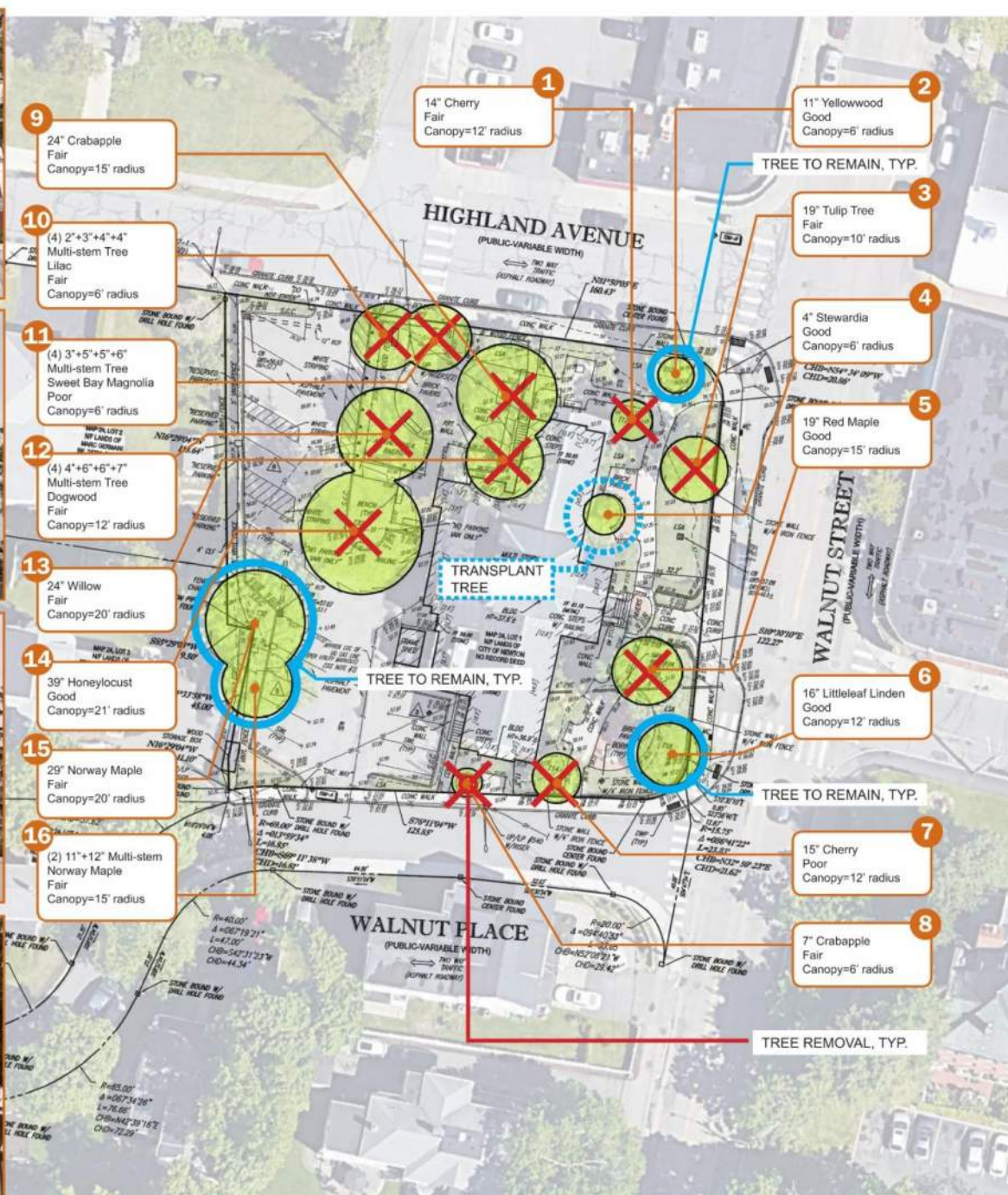
LOWELL AVENUE

HIGHLAND AVENUE

WALNUT STREET

0.50
0.50
0.50







Corner of Highland Avenue and Walnut Street

Landscape, Paver and Planting Site Plan Approval Submission



HIGHLAND AVENUE

PICK UP/DROP OFF

Entry

PV Array

NEWCAL

PV Array

PARKING

Terrace

WALNUT STREET

WALNUT PLACE

MAP 24, LOT 2
NF LANDS OF
MARC GERMANI
BK. 24791, PG. 146

MAP 24, LOT 3
NF LANDS OF
37 WALNUT PLACE, LLC
BK. 68855, PG. 373

31
Parking
Spaces

↑

↑

↑

↑

STONE BOUND W/
DRILL HOLE FOUND

STONE BOUND W/
DRILL HOLE FOUND

STONE BOUND W/
DRILL HOLE FOUND

STONE BOUND W/
DRILL HOLE FOUND

(PUBLIC VARIANCE WIDTH)

STONE BOUND W/
DRILL HOLE FOUND

STONE BOUND W/
DRILL HOLE FOUND

STONE BOUND W/
DRILL HOLE FOUND

STONE BOUND W/
DRILL HOLE FOUND



COUNTRY CASUAL TEAK | FOXHALL 6FT. BENCH



FORMS+SURFACES | TRIO 6FT. BENCH



FORMS+SURFACES | VAYA 6FT. BENCH



VESTRE | AIR 6FT. BENCH



VESTRE | URBAN 6FT. BENCH



EXISTING SITE



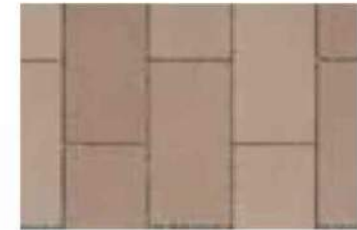
RECTANGLE
7 7/8"X3 7/8"X2 3/4"
IMPERVIOUS PAVER



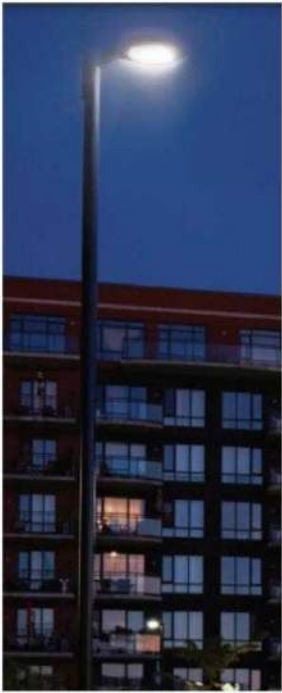
UNILOCK | HOLLAND STONE



GRANITE
(SMOOTH ENDURACOLOR)



ALMOND GROVE BLEND
(SMOOTH ENDURACOLOR)



LUMENPULSE | PURE-100



EXISTING GRANITE BOLLARD/EXISTING GRANITE CURB/
EXISTING FENCE



LANDSCAPEFORMS | WELLSRING



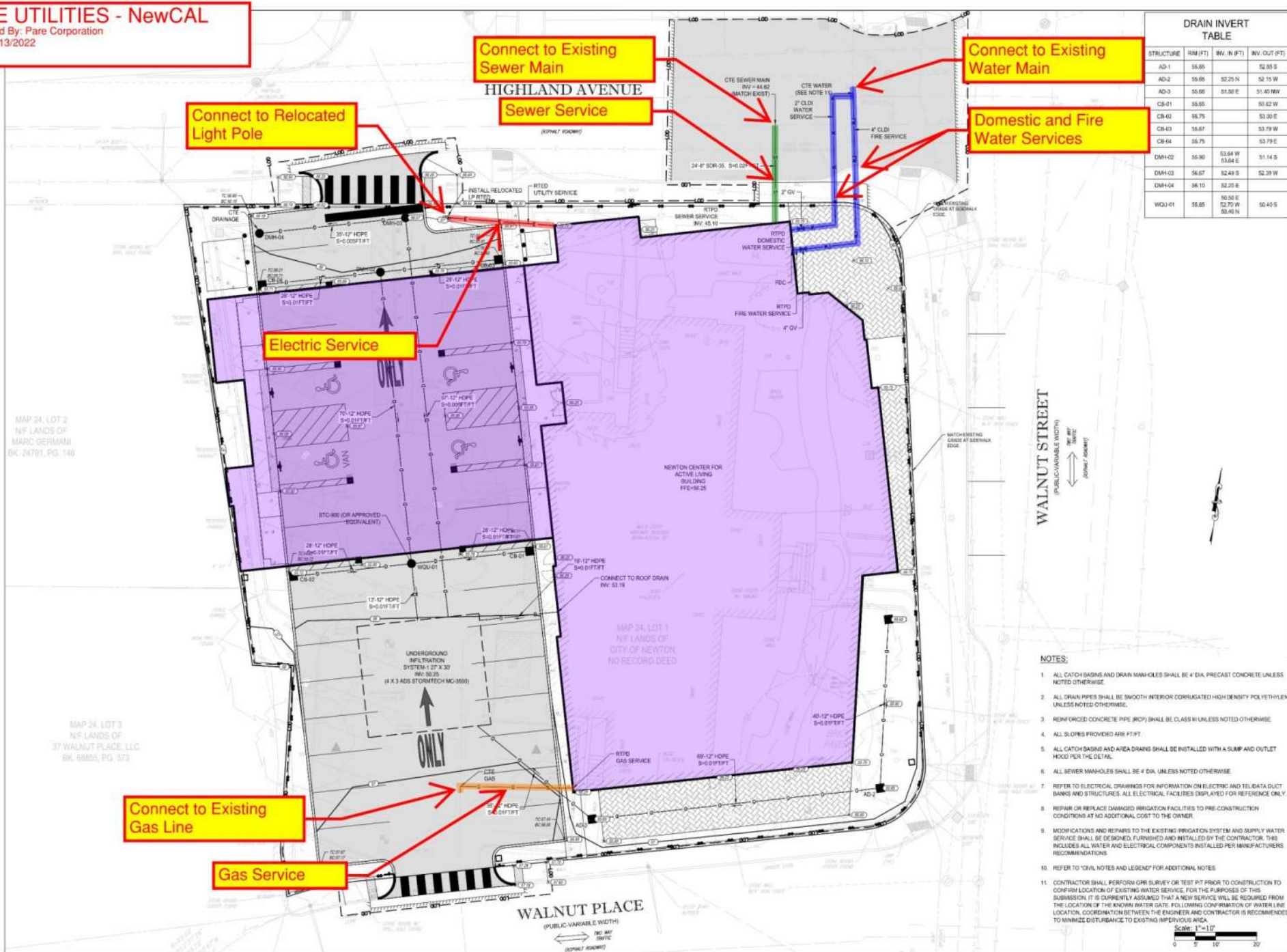
LANDSCAPEFORMS | CIPMAN W/
31" DIA. STANDING TABLE



**Civil Engineering
Site Plan Approval Submission**

SITE UTILITIES - NewCAL

Prepared By: Pare Corporation
Date: 7/13/2022



ARCHITECT

bh&a
Borghese Interiors + Architecture, Inc.
33 Channel Center Street, Suite 300
Boston, MA 02210
(617) 200-9400

PROJECT NAME

**Newton Center for
Active Living**
343 Walnut Street
Newton, MA 02459

CLIENT

City of Newton

PROJECT TEAM

CIVIL ENGINEER
Pare Corporation
10 Lincoln Rd., Suite 270
Providence, RI 02908
Tel: 401-451-1019

CIVIL ENGINEER

Kyle D. Landon Architecture, Inc.
136 Everett St., Suite 202
Boston, MA 02108
Tel: 617-451-1019

REVISIONS

DRAWING TITLE

**DRAINAGE &
UTILITY PLAN**

DRAWING INFORMATION



REVISIONS

DATE: 7/13/2022
BY: [Signature]
CHECKED: [Signature]
DATE: 7/13/2022
BY: [Signature]
CHECKED: [Signature]
DATE: 7/13/2022
BY: [Signature]
CHECKED: [Signature]

DRAWING NUMBER

C5.1

Copyright bh&a, Inc.

V.2.1

SITE DRAINAGE - NewCAL

Prepared By: Pare Corporation
Date: 7/13/2022

Connect to Existing
Drainage Line

Generator
Pad

Transformer

Connect to Roof Drain

Catch Basin (typ. of 4)

Water Quality Unit
(STC-900)

Underground Infiltration
System (Stormtech
MC-3500)

HIGHLAND AVENUE
(PUBLIC-VARIABLE WIDTH)

WALNUT STREET
(PUBLIC-VARIABLE WIDTH)

WALNUT PLACE
(PUBLIC-VARIABLE WIDTH)

DRAIN INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
AD-1	55.85		52.85 S
AD-2	55.85	52.25 N	52.15 W
AD-3	55.85	51.50 E	51.40 NW
CB-01	55.85		53.02 W
CB-02	55.75		53.00 E
CB-03	55.67		53.79 W
CB-04	55.75		53.79 E
DMH-02	55.90	53.64 W	51.14 S
DMH-03	56.67	52.49 S	52.39 W
DMH-04	56.10	52.22 E	
WQU-01	55.85	50.90 E 52.70 W 50.40 N	50.40 S

ARCHITECT
bh&a
Borghesi Architects + Architects, Inc.
33 Channel Center Street, Suite 300
Boston, MA 02210
(617) 200-9400

PROJECT NAME
**Newton Center for
Active Living**
343 Walnut Street
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City of Newton

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10 Lincoln Rd., Suite 270
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Tel: 401.451.1010

CIVIL ENGINEER
Kyle D. Landon
136 Somerset St., Suite 202
Boston, MA 02108
Tel: 617.451.1010

REVISIONS

DRAWING TITLE
**DRAINAGE &
UTILITY PLAN**

DRAWING INFORMATION

APPROVED BY
[Signature]
DATE
7/13/2022

DESIGNED BY
[Signature]
DATE
7/13/2022

CHECKED BY
[Signature]
DATE
7/13/2022

DRAWING NUMBER
C5.1

Scale: 1"=10'

- NOTES:
1. ALL CATCH BASINS AND DRAIN MANHOLES SHALL BE 4' DIA. PRECAST CONCRETE UNLESS NOTED OTHERWISE.
 2. ALL DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED HIGH DENSITY POLYETHYLENE UNLESS NOTED OTHERWISE.
 3. REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS II UNLESS NOTED OTHERWISE.
 4. ALL SLOPES PROVIDED ARE FT/FT.
 5. ALL CATCH BASINS AND AREA DRAINS SHALL BE INSTALLED WITH A SLUMP AND OUTLET HOOD FOR THE DETAIL.
 6. ALL SEWER MANHOLES SHALL BE 4' DIA. UNLESS NOTED OTHERWISE.
 7. REFER TO ELECTRICAL DRAWINGS FOR INFORMATION ON ELECTRICAL AND TELEPHONE DUCT BANKS AND STRUCTURES. ALL ELECTRICAL FACILITIES DISPLAYED FOR REFERENCE ONLY.
 8. REPAIR OR REPLACE DAMAGED IRRIGATION FACILITIES TO PRE-CONSTRUCTION CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
 9. MODIFICATIONS AND REPAIRS TO THE EXISTING IRRIGATION SYSTEM AND SUPPLY WATER SERVICE SHALL BE DECKED, FURNISHED AND INSTALLED BY THE CONTRACTOR. THIS INCLUDES ALL WATER AND ELECTRICAL COMPONENTS INSTALLED PER MANUFACTURERS.

Area Drains Along
Southern Building Edge

C:\Users\Borh\OneDrive\Documents\NewCAL_Site\NewCAL_Site\Drawings\05050505.dwg
7/13/2022 4:27:39 PM
Author

Building Plans and Elevations

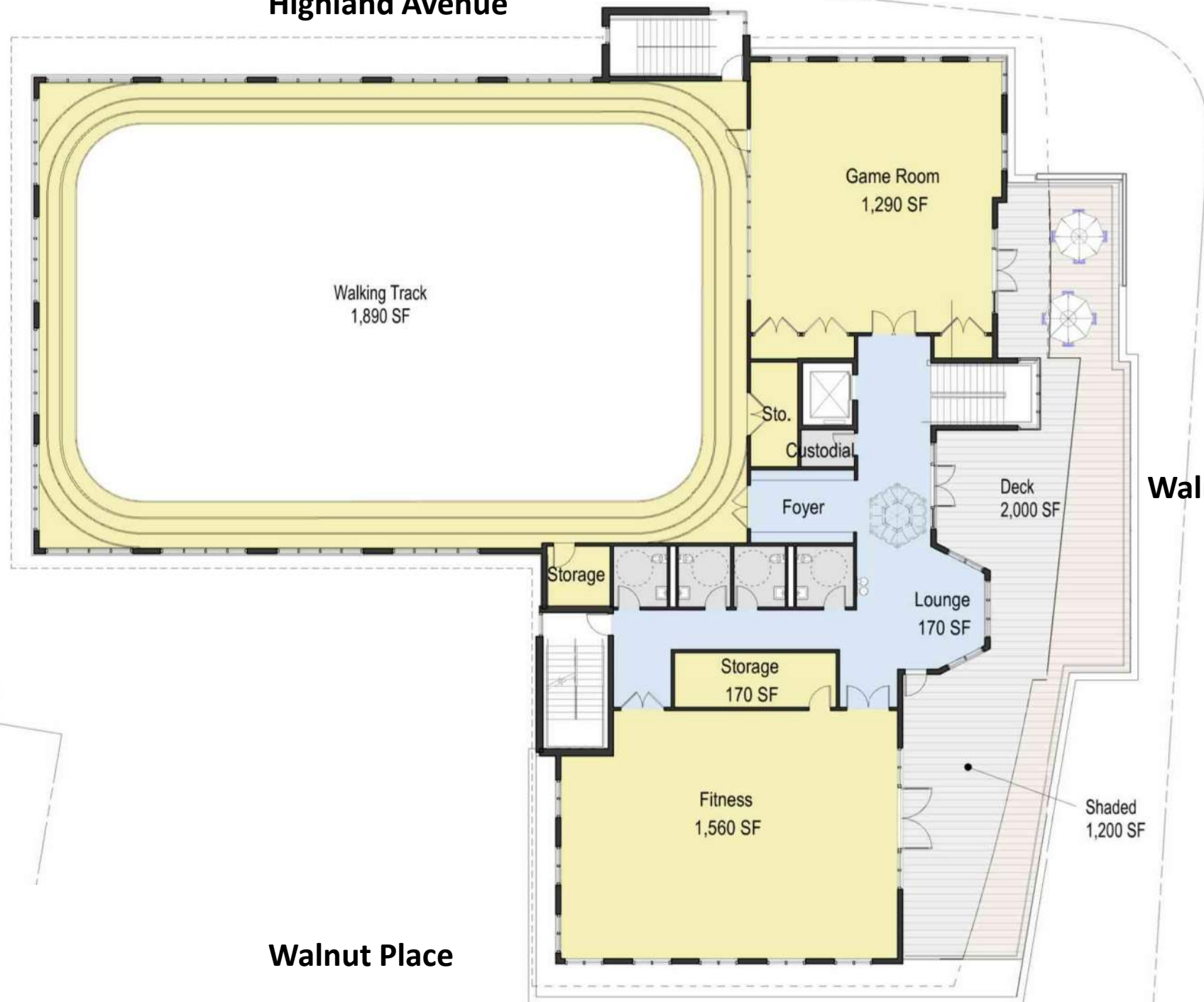
First Floor



Second Floor



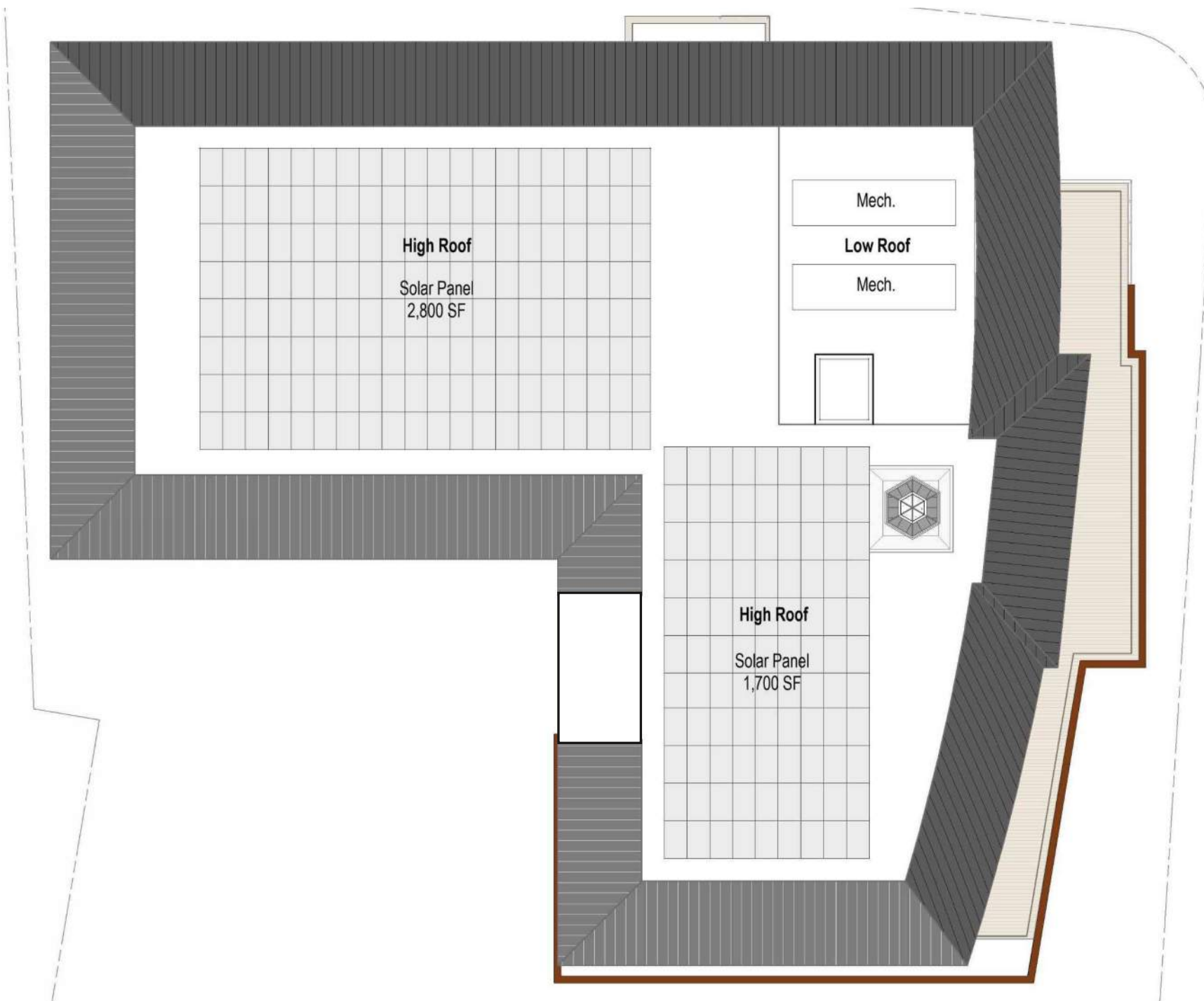
Highland Avenue



Walnut Street

Third Floor

Walnut Place



Roof Plan

Building Street Perspectives



Front Entrance – Corner of Highland and Walnut St.



Walnut Street and Highland Avenue

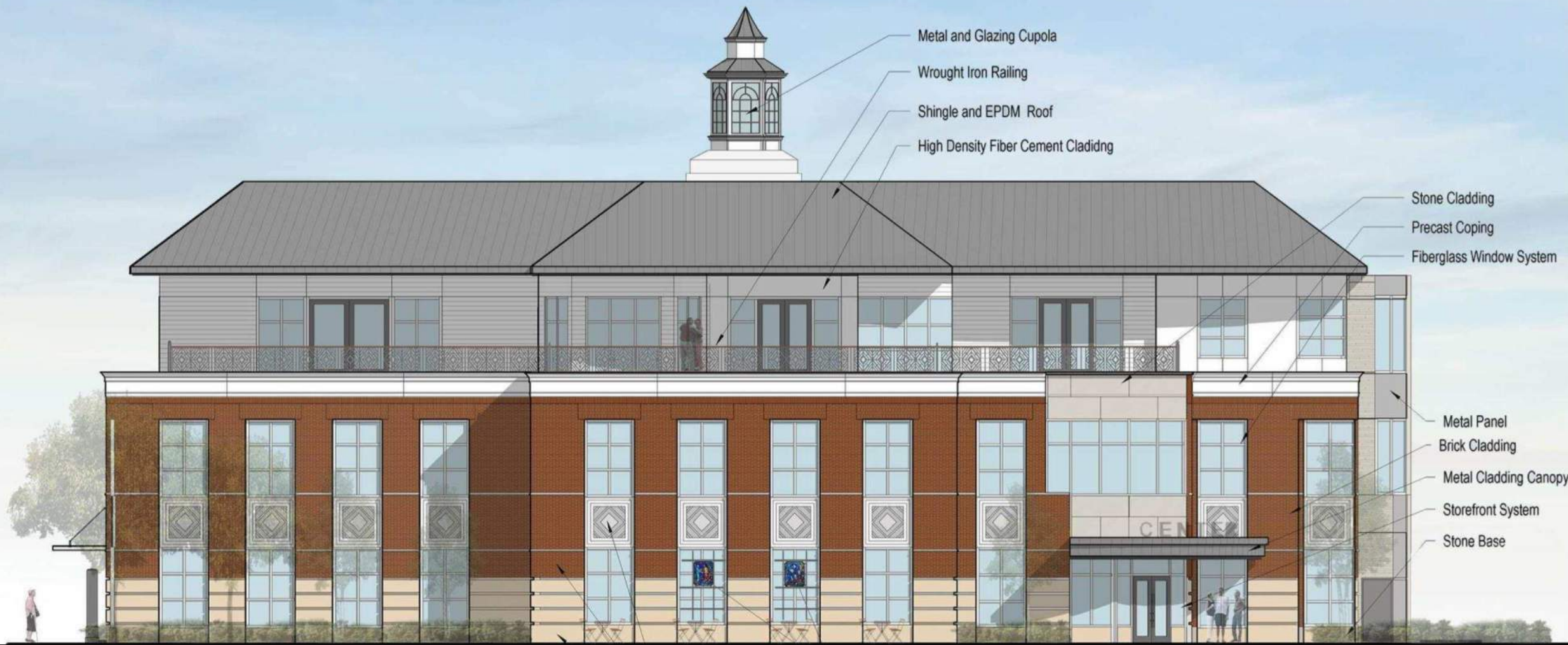


Walnut
Walnut Pl

Walnut Street and Walnut Place



Walnut Place



Walnut Street Elevation



Highland Avenue Elevation

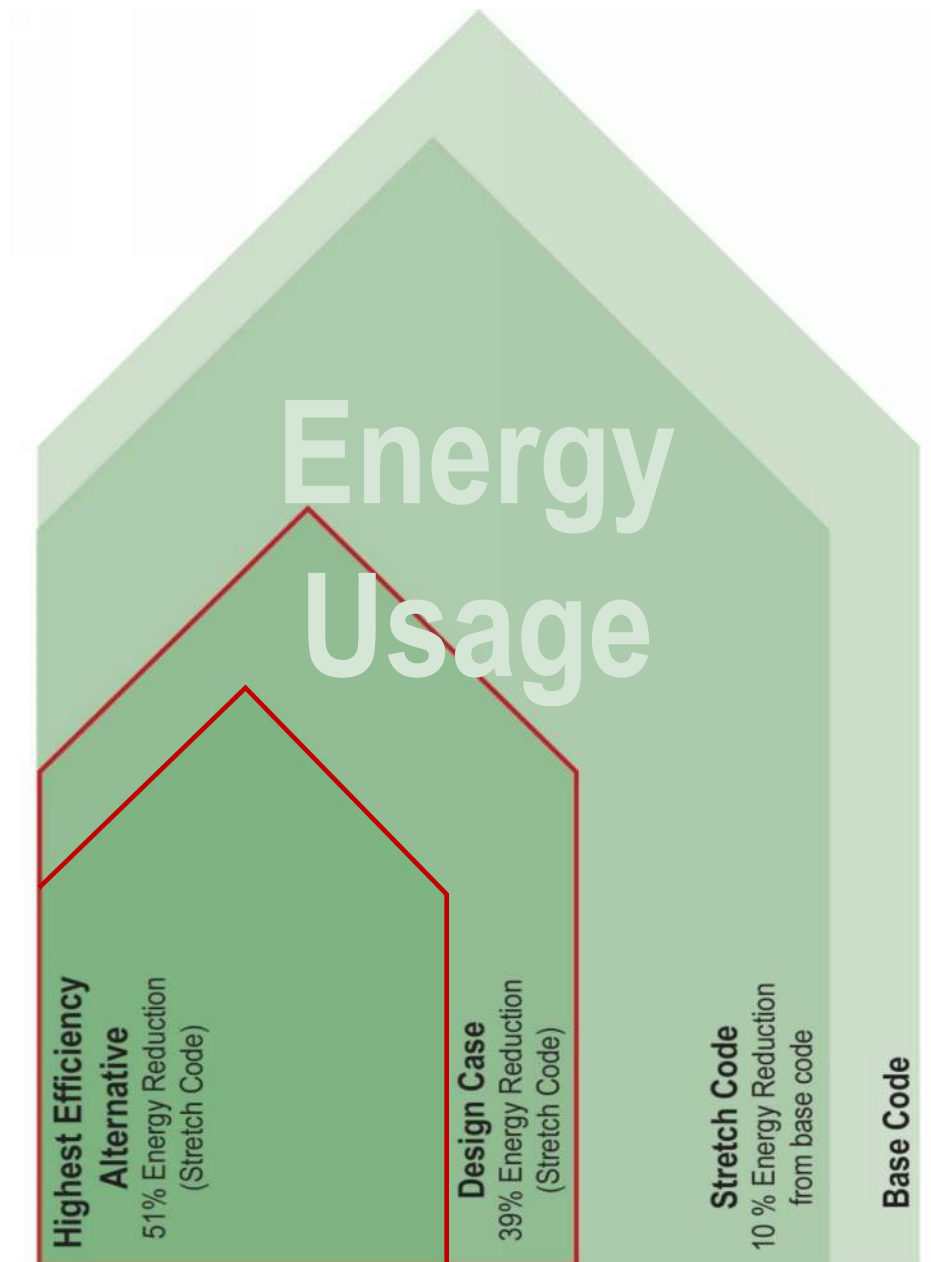


Walnut Place Elevation



West Elevation

Energy Model Analysis



Overall Energy + Green House Gas Comparison to Code

COMcheck Guidance	
ENVELOPE BACKSTOP COMPLIANCE	
A+B+C+D+E	-170
Pass	

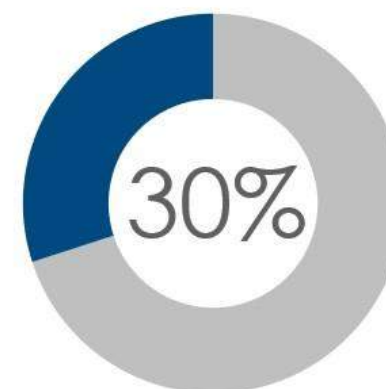
C406.8 ENHANCED ENVELOPE COMPLIANCE	
A+B+C+D+E	-145
Pass C402.1.5	

DOER Guidance	
ENVELOPE BACKSTOP COMPLIANCE	
A+B+C+D+E	-359
Pass	

ENVELOPE BACKSTOP COMPLIANCE	
A+B+C+D+E	-305
Pass	

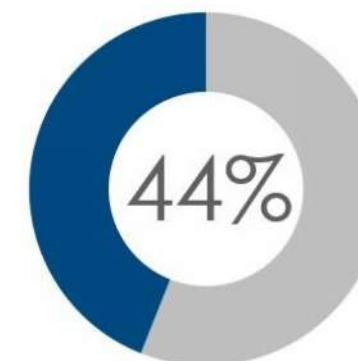
Design Case GHG

Percent of Green House Gas Reduction



Highest Efficiency Alternative - GHG

Percent of Green House Gas Reduction



Energy Usage Intensity Comparison



EUI = 108
21% Glazing

Existing Senior Center
11,000 SF



EUI = 56
30% Glazing

Stretch Code
32,000 SF

Proposed Design



EUI
36.5

Base Case
32,000 SF

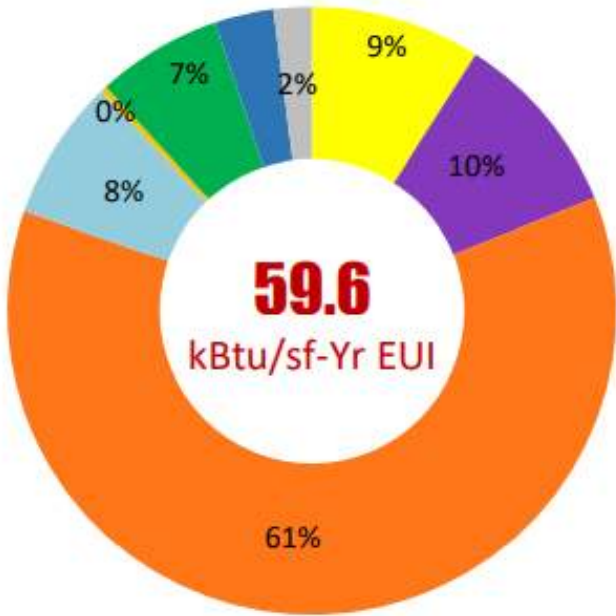


EUI
29

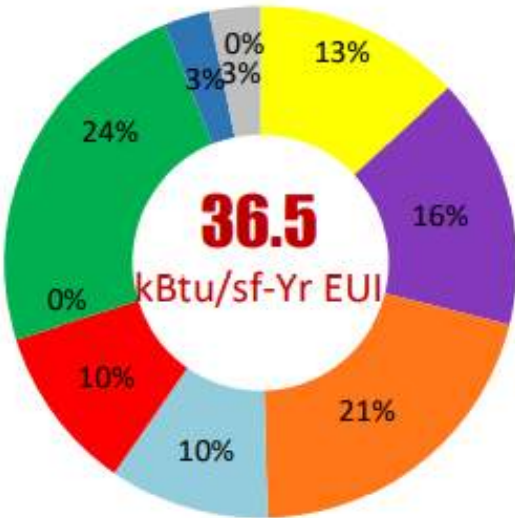
Highest Efficiency
Alternative
32,000 SF

Energy Usage Intensity

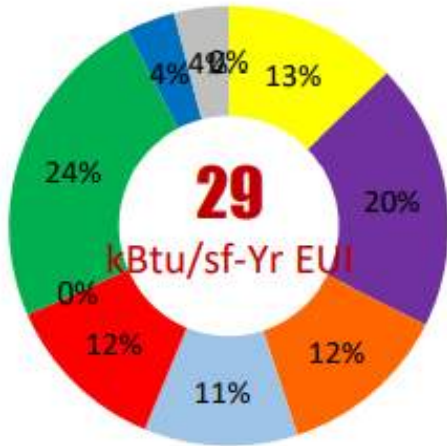
SITE ENERGY CONSUMPTION BY END-USE (REGULAR OCCUPANCY)



CODE BASELINE



BASE CASE



HIGHEST EFFICIENCY ALTERNATIVE



*EUI includes energy use savings from On-Site PV as per C406.5 Requirements

Renewable Energy - PV (Solar Panels)

Design Case

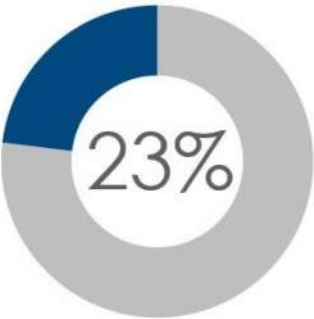
Summary

Complete Energy Offset

19,510 SF

Design Case

4,500 SF



Renewable Energy - PV (Solar Panels)

Highest Efficiency Alternative

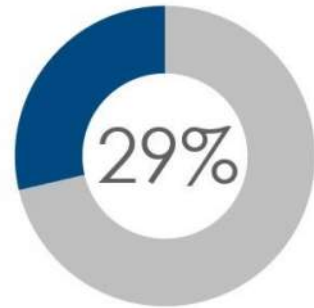
Summary

Complete Energy Offset

15,710 SF

Design Case

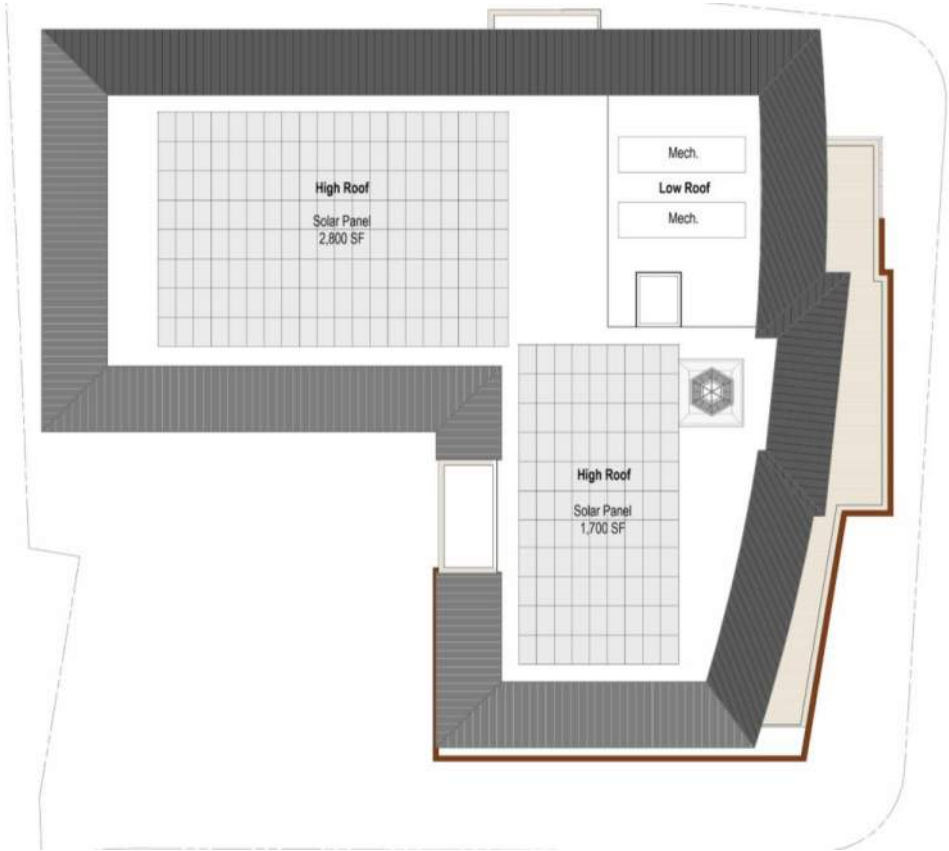
4,500 SF



PV Requirement to Achieve Zero Net Site Energy for Scenario 1								
Description	Annual Energy Use			Annual Energy Production				
	EUI (kBtu/sf/yr)	SF	kWh/yr	kWh req for NZE	kWh/kW (PV Watts)	pkW req for NZE	SF Roof Req	*Install Cost
Design Case	38.5	31,805	358,878	358,878	1,200	299.1	19,510	\$ 897,196
NZE Alternative	31.0	31,805	288,967	288,967	1,200	240.8	15,710	\$ 722,417

*Installed Cost is based on \$3/pWatt PV capacity and does not account for any solar incentives.

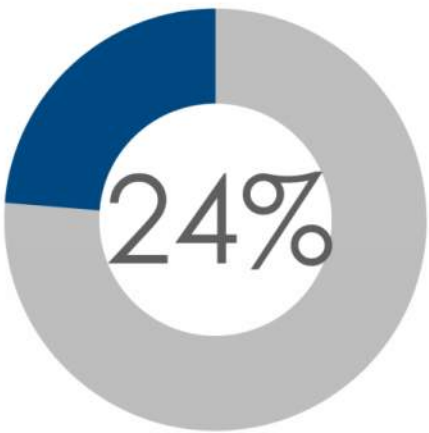
Renewable Energy – Solar Panel



Proposed Design

Total Building

Percent of Glazing to Wall Ratio



Summary

TOTAL WALL

24,123 SF

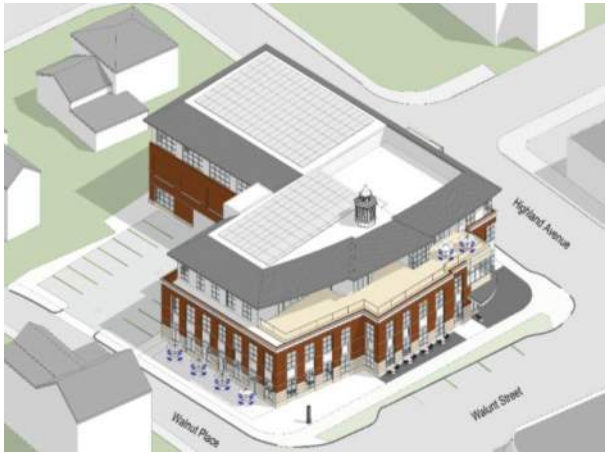
TOTAL GLAZING

5,722 SF

Glazing to Wall Summary

Wall/Surface	Glazing and curtainwall	
	1,326 sf	North
	1,388 sf	South
	2,061 sf	East
	947 sf	West
18,401 sf	5,722 sf	
24,123 sf	23.7%	Total Wall + Glazing
11,800 sf	Roof	
560 lf	Foundation wall perimeter	
2,240 sf	Under slab wall area	

Glazing to Wall Analysis



Life Cycle Assessment Embodied Carbon Analysis

Life Cycle Assessment

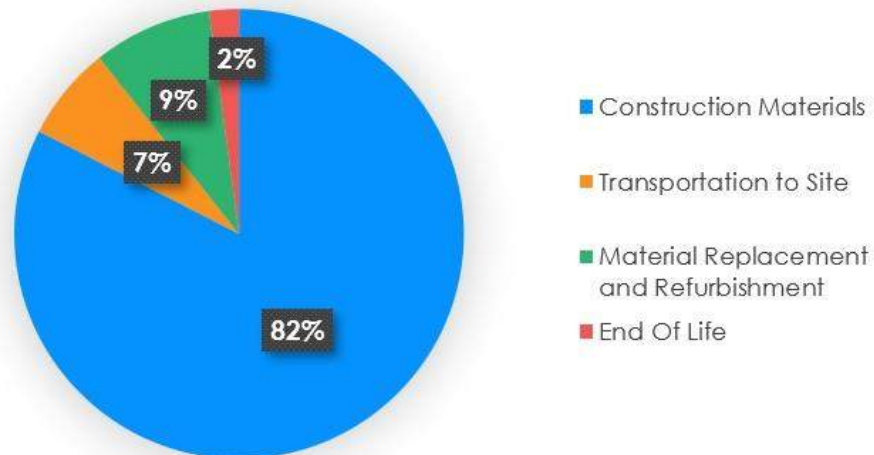
Whole-building Life Cycle Assessment, ISO 14040 & ISO 14044 (TRACI 2.1.)

[Download Results Summary](#)

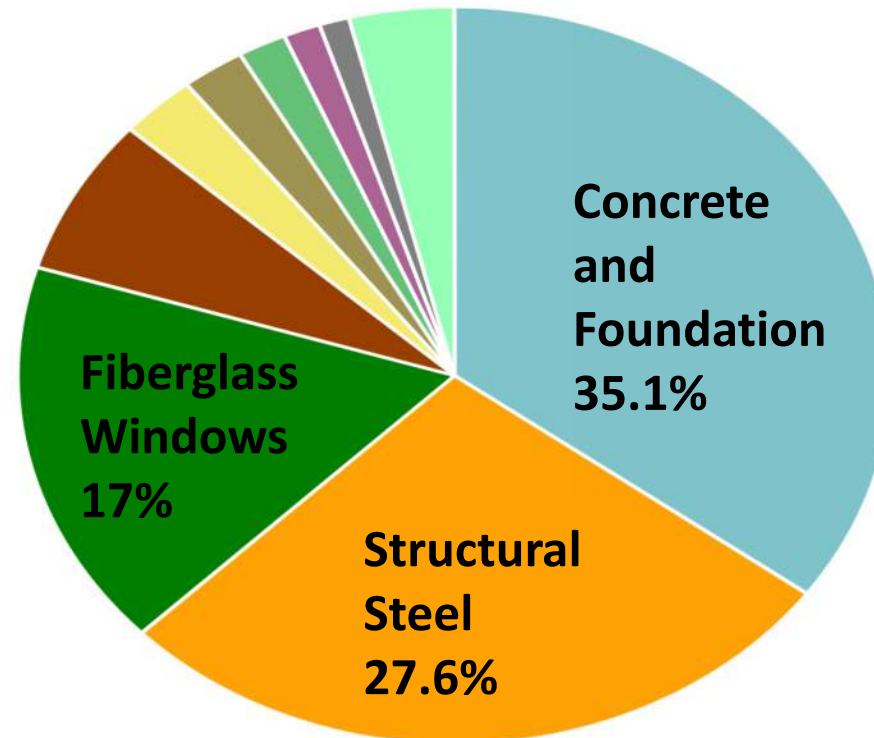
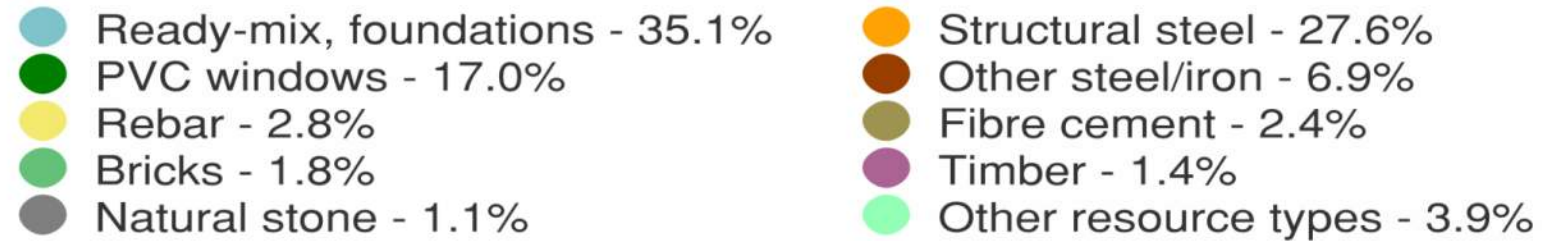
Result category		Global warming kg CO ₂ e	Ozone Depletion kg CFC11e	Acidification kg SO ₂ e	Eutrophication kg Ne	Formation of tropospheric ozone kg O ₃ e	Depletion of nonrenewable energy MJ	Biogenic carbon storage kg CO ₂ e bio
A1-A3	Construction Materials	1,165,340.18	0.02	4,908.15	121,299.95	516,949.82	11,940,906.45	23,842.19
+ A4	Transportation to site	95,651.35	0.02	180.19	66.91	2,876.04	1,522,879.26	
+ B3	Repair	0	0	0	0	0	0	
+ B4-B5	Material replacement and refurbishment	120,650.33	0	920.92	143.07	11,373.4	294,506.4	
+ C1-C4	End of life	30,191.85	0	154.72	27.53	1,485.37	380,339.82	
Total		1,411,833.71	0.05	6,163.99	121,537.46	532,684.63	14,138,631.92	23,842.19
Results per denominator								
Gross Internal Floor Area (ASHRAE) 32000.0 sq ft		44.12	0	0.19	3.8	16.65	441.83	0.75

Please note. The following LCA or EPD standards are all fully compliant with the requirements of ISO 14044: ISO 14025, ISO 21930, EN15804. Assessment period fixed to 60 years.

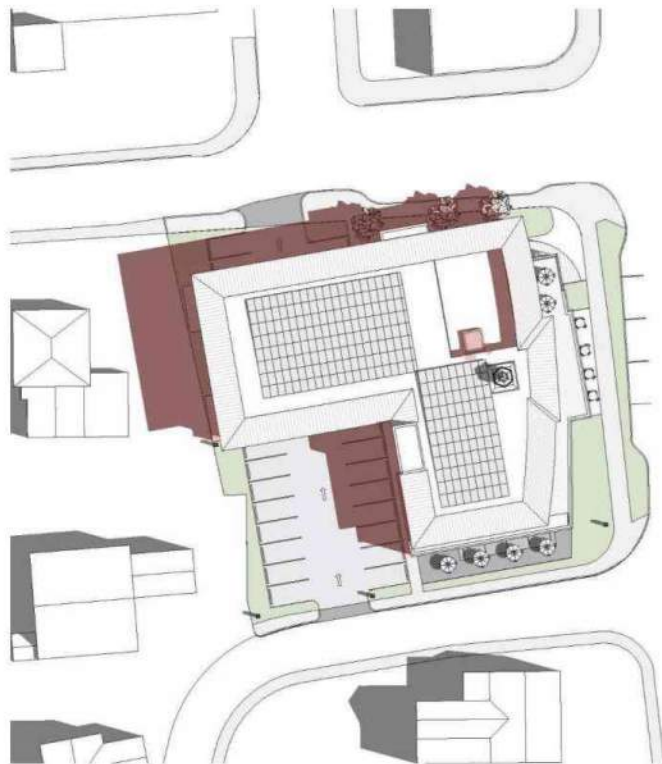
Embodied Carbon Breakdown



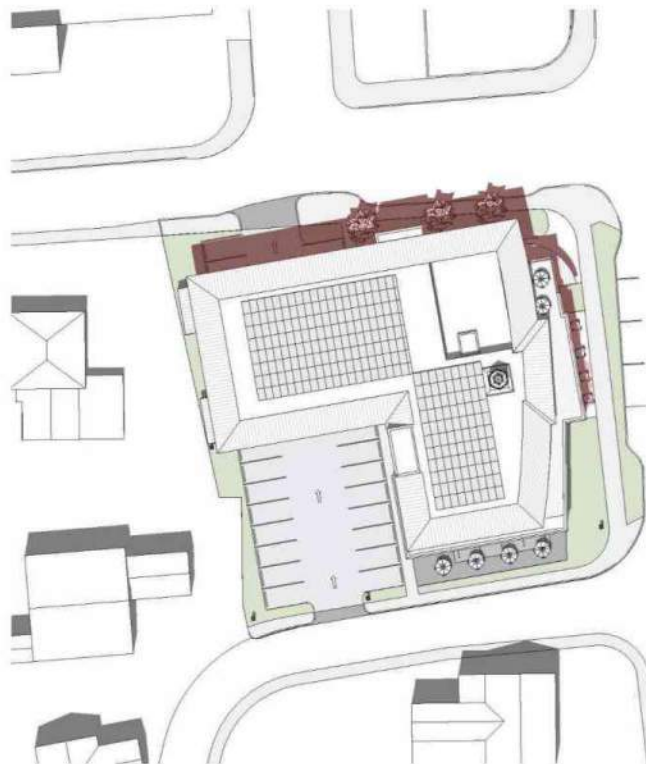
Construction Carbon Breakdown



Shadow Studies



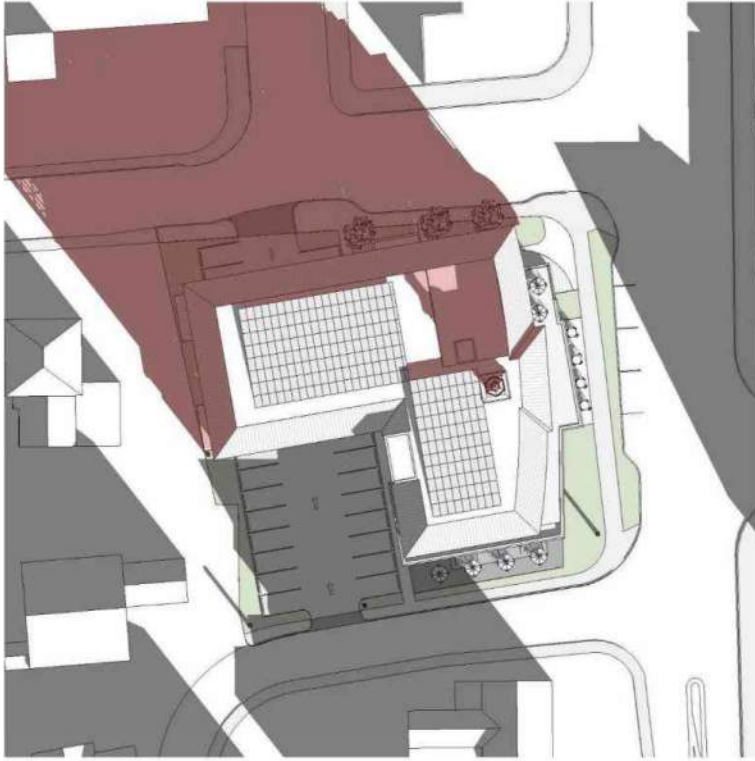
June 21st - 9am



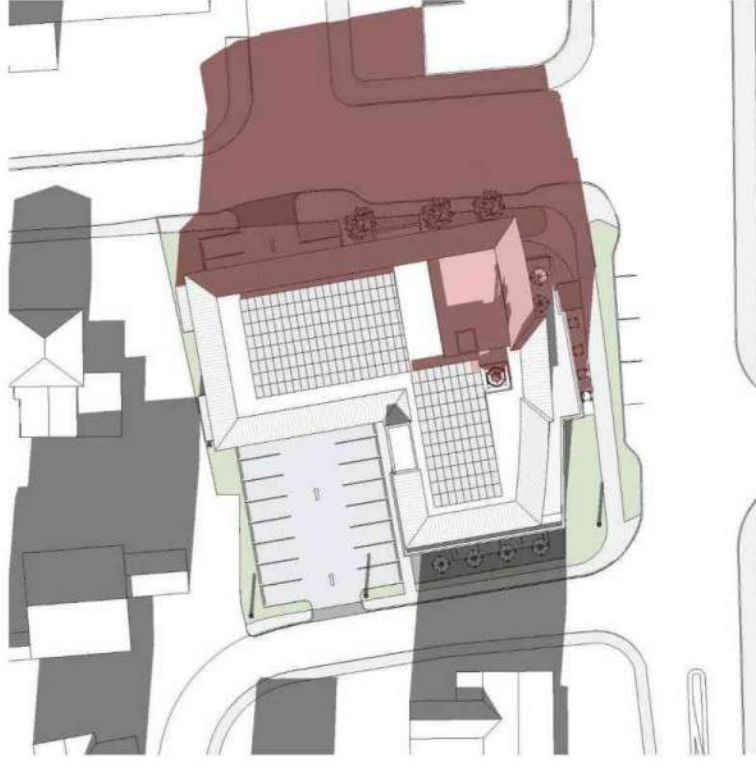
June 21st - 12pm



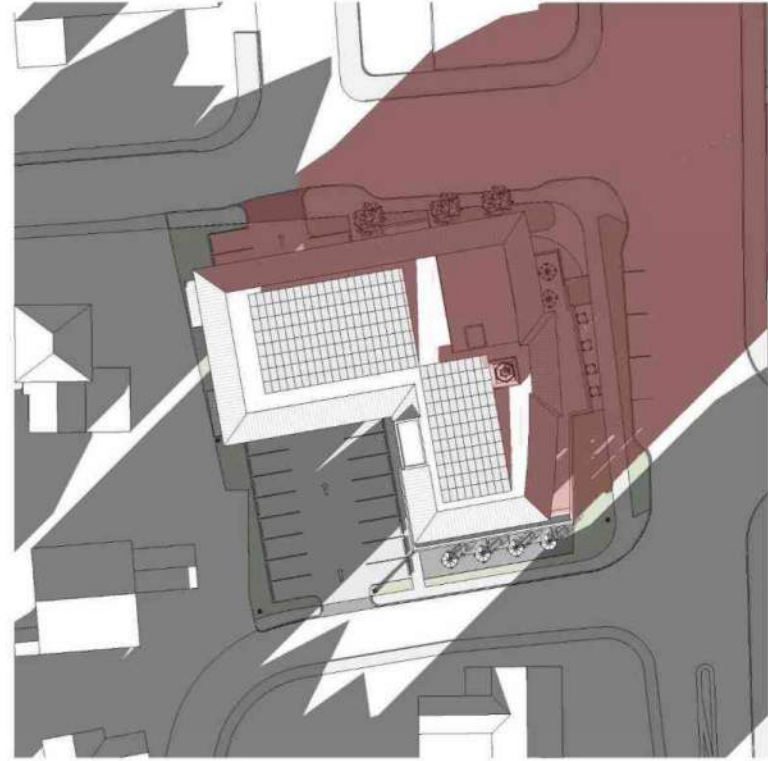
June 21st - 3pm



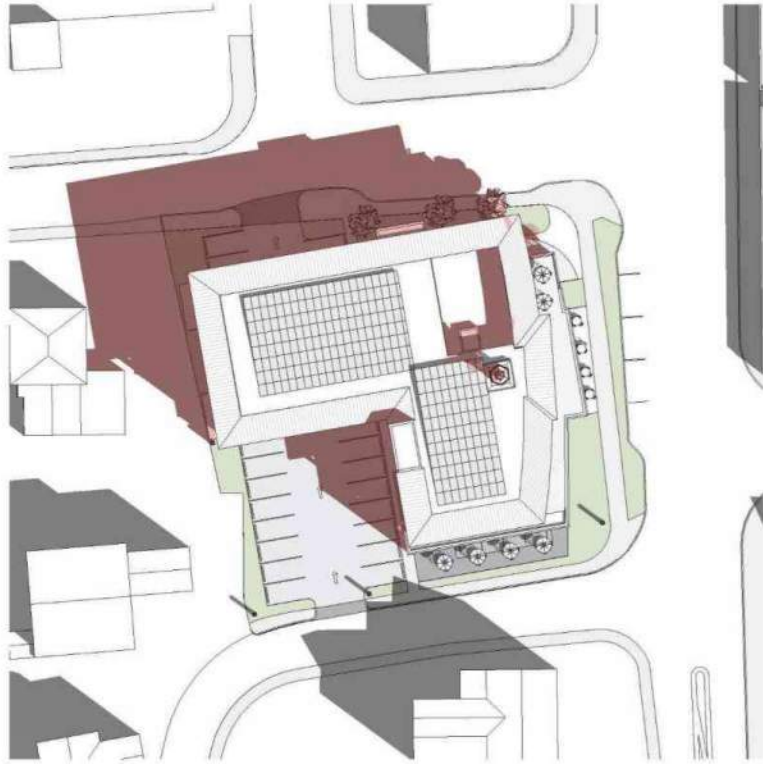
December 21st - 9am



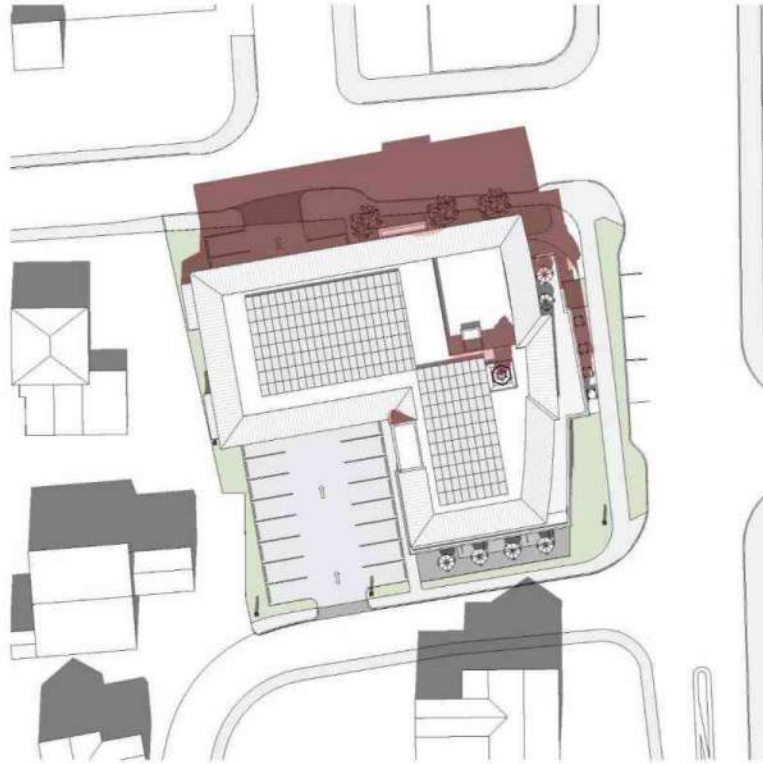
December 21st - 12pm



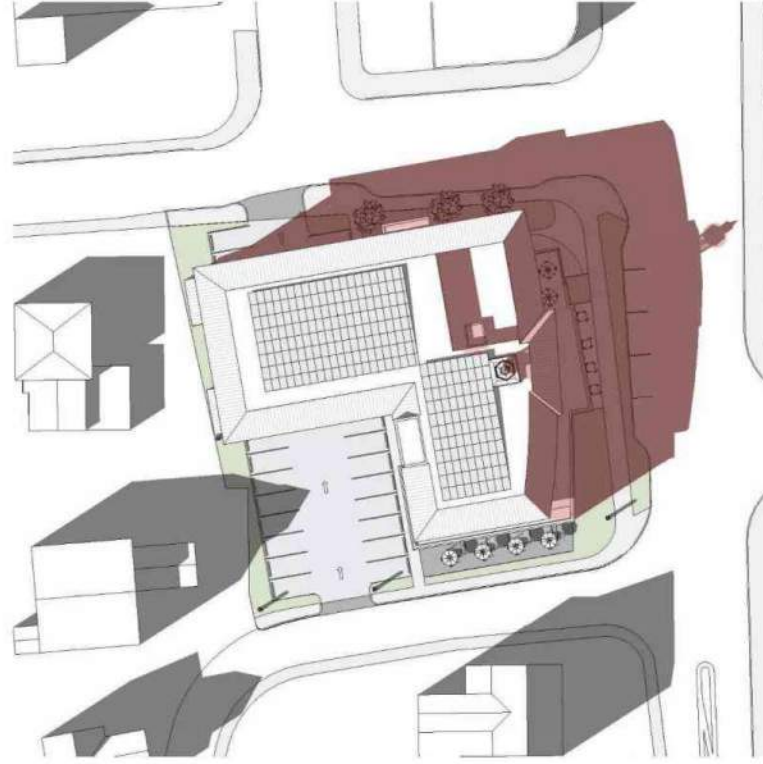
December 21st - 3pm



March 20th - 9am



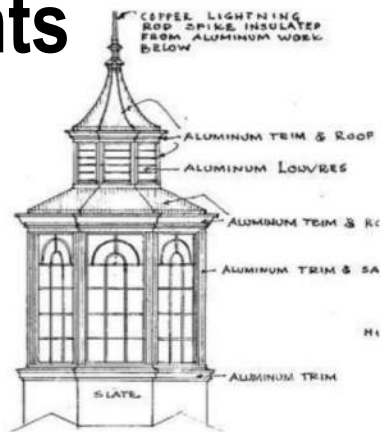
March 20th - 12pm



March 20th - 3pm

Building Materials and Historical Element

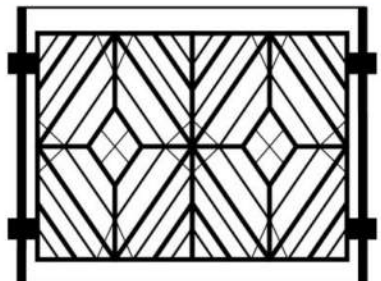
Design Elements



Original 1938
Cupola Design



Decorative Panels



Decorative Railing



Mending Wall

-Robert Frost



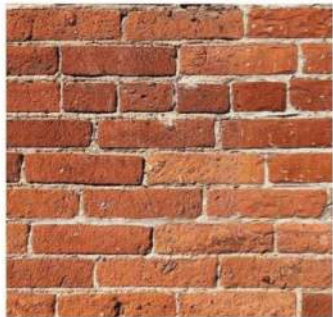
There is no frigate like a book

-Emily Dickinson

Connick Studio
Stained Glass



Materials



Brick



Shingle Roof



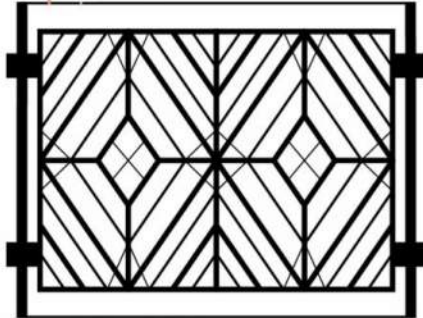
Decorative Panel



Cladding



Connick Studio Stained Glass Panels



Wrought Iron Railing



Limestone

An architectural rendering of a three-story brick building with a clock tower. The building features large windows, a balcony on the second floor, and a modern glass entrance. People are shown walking on the sidewalk and sitting on benches. The scene is set on a street corner with trees and a clear sky.

Thank You

CENTER