



EXTERIOR PERSPECTIVE

SCALE
NTS

1

TEAM:

INWOO LEE
MEGAN HOLZRICHTER
LILY GUCFA

PROJECT:

WHAT CHEER
FLOWER FARM

63 Magnolia St,
Providence, RI 02909
USA

DRAWING:

Exterior Perspective

DATE:

Dec. 01, 2023

SHEET:

G-101

Description

- A. Project Name: What Cheer Flower Farm
- B. Project Location: Historic Overlay District
- C. Project Address: 287 Oak St, Providence, RI 02909, USA
- D. Project Description: New construction of multi-story classrooms and other amenities serving What Cheer Floor Farm with on-site parking.
- E. Applicable Codes

a. City of Providence Zoning Ordinance. Chapter 2014-39 NO. 513

b. 2021 International Building Code
- F. Building Description

a. Building Area: 33,853 gross SF

b. Building Height: 36’

c. Building fully sprinklered

d. Fire alarm system

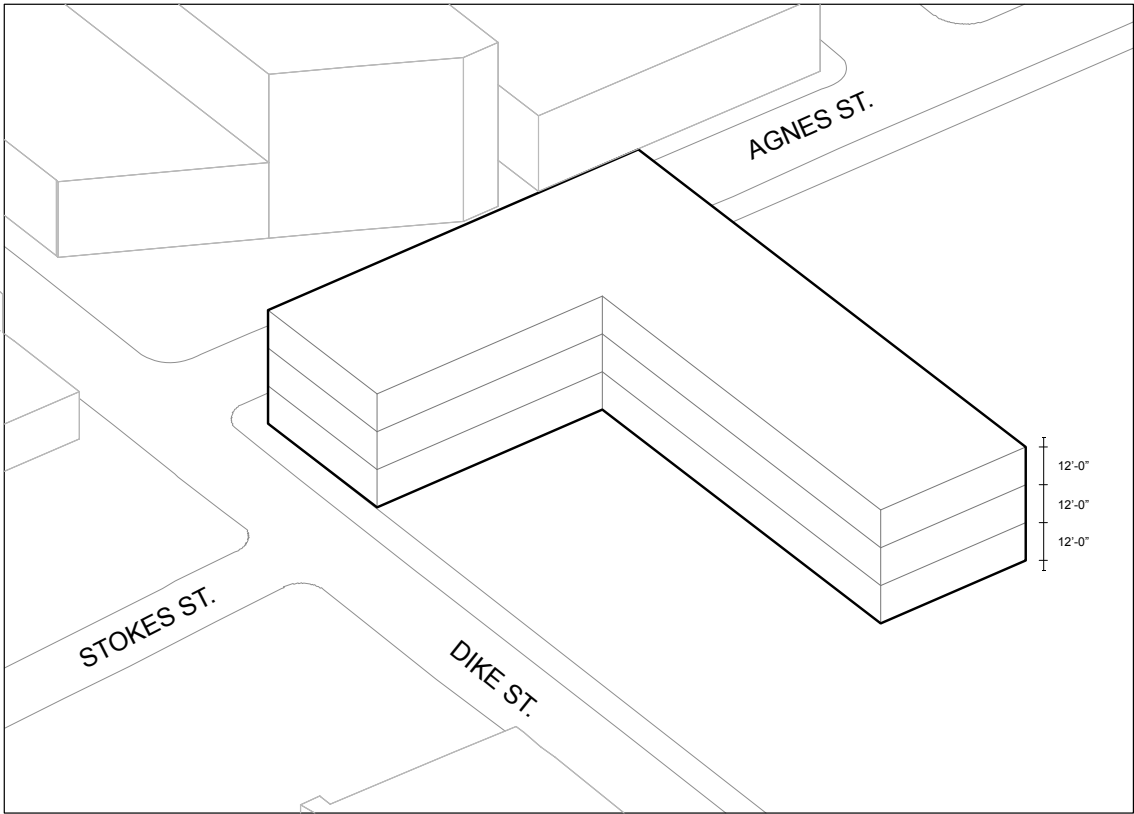
e. Major Use Categories

i. Agricultural Building

ii. Assembly

iii. Educational

iv. Mercantile (Storage)



2021 International Building Code

Occupancy Classification - IBC Section 302.1
Group A-3
Group B (Offices)
Group M (Cafe)
Group E (Classrooms and workshops)
Group U

Construction Classification/Type - IBC Table 503

Type IV: Heavy Timber Construction: Type IV construction features large wooden columns and beams that are thicker and more fire-resistant than standard wood framing. This type is often used in historic buildings and some contemporary designs.
Type IVA: Exterior walls are non-combustible, while the structural elements are heavy timber.
Type IVB: Both exterior walls and structural elements are heavy timber.

Exit Requirements - IBC 1017.2
Max. exit access travel distance in building with sprinkler system.
A-3: 250’
B: 300’
M: 250’
E: 250’
U: 400’

Providence Zoning Ordinance

M-MU-75
Historic Overlay District
Providence Landmark District: 105

Dimensions:
Maximum Building Height: 75’

Setbacks:
Front: None, unless a residential district is located on the opposite side of the street, then 10’
Interior Side: None, unless abutting a residential district, then 10’ – no residential districts located across the street on any of the sides of the property.
Corner Side: None, unless a residential district is located on the opposite side of the street, then 10’ – no residential districts located across the street on any of the sides of the property.
Rear: None, unless abutting a residential district, then 20’ – no residential districts located across the street on any of the sides of the property.

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63 Magnolia St,
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DRAWING:

Egress and Zoning
Isometrics

DATE:

Dec. 01, 2023

SHEET:

G-102

OCCUPANCY LOAD									
PROGRAM	QTY.	AREA EA.	TOTAL AREA	FUNCTION OF SPACE - TABLE 1004.5	OCCUPANT LOAD FACTOR	OCCUPANT LOAD	ROUND UP	NOTES	
STEM PROCESSING	1	3000 SF	3000 SF	Industrial Areas	100 gross	30	30	Group F-1	
SHOP/ STORAGE	1	3000 SF	3000 SF	Accessory storage areas, mechanical equipment room	300 gross	10	10	Group U	
MEETING ROOM	1	400 SF	400 SF	Assembly without fixed seats - unconcentrated (tables and chairs)	15 net	26.6667	27	Group A	
RECEPTION	1	400 SF	400 SF	Assembly without fixed seats - unconcentrated (tables and chairs)	15 net	26.6667	27	Group A	
LOBBY	1	1500 SF	1500 SF	Assembly without fixed seats - standing space	5 net	300	300	Group A	
REFUSE ROOM	1	400 SF	400 SF	Accessory storage areas, mechanical equipment room	300 gross	1.33333	2	Group U	
COMPOST ROOM	1	400 SF	400 SF	Accessory storage areas, mechanical equipment room	300 gross	1.33333	2	Group U	
UTILITY / MECHANICAL ROOMS	2	200 SF	400 SF	Accessory storage areas, mechanical equipment room	300 gross	1.33333	2	Group U	
RESTROOMS	2	TBD				N/A			
CIRCULATION		TBD				N/A			
1F TOTAL							400		
SMALL CLASSROOM	2	300 SF	600 SF	Educational - classroom area	20 net	30	30	Group E	
MEDIUM CLASSROOM	3	400 SF	1200 SF	Educational - classroom area	20 net	60	60	Group E	
WORKSHOPS	2	800 SF	1600 SF	Educational - shops and other vocational room areas	50 net	32	32	Group E	
ADMINISTRATION	1	700 SF	700 SF	Business areas	150 gross	4.66667	5	Group B	
WAITING AREA / LOUNGE	1	700 SF	700 SF	Assembly without fixed seats - concentrated (chairs only - not fixed)	7 net	100	100	Group A	
STUDENT CAFÉ	1	700 SF	700 SF	Assembly without fixed seats - unconcentrated (tables and chairs)	15 net	46.6667	47	Group A	
BREAKOUT AREA / LOUNGE	1	700 SF	700 SF	Assembly without fixed seats - unconcentrated (tables and chairs)	15 net	46.6667	47	Group A	
FACULTY OFFICES	10	150 SF	1500 SF	Business areas	150 gross	10	10	Group B	
UTILITY / MECHANICAL ROOMS	2	200 SF	400 SF	Accessory storage areas, mechanical equipment room	300 gross	1.33333	2	Group U	
RESTROOMS	2	TBD				N/A			
CIRCULATION		TBD				N/A			
2F TOTAL							333		
OFFICES	10	150 SF	1500 SF	Business areas	150 gross	10	10	Group B	
CONFERENCE ROOMS	2	300 SF	600 SF	Assembly without fixed seats - unconcentrated (tables and chairs)	15 net	40	40	Group A	
MULTIPURPOSE ROOMS	2	400 SF	800 SF	Assembly without fixed seats - unconcentrated (tables and chairs)	15 net	53.3333	54	Group A	
BOARD ROOM	1	400 SF	400 SF	Assembly without fixed seats - unconcentrated (tables and chairs)	15 net	26.6667	27	Group A	
OUTDOOR BALCONY	1	1200 SF	1200 SF	Assembly without fixed seats - concentrated (chairs only - not fixed)	7 net	171.429	172	Group A	
LECTURE HALL	1	1200 SF	1200 SF	Assembly without fixed seats - concentrated (chairs only - not fixed)	7 net	171.429	172	Group A	
EXECUTIVE OFFICES	2	400 SF	800 SF	Business areas	150 gross	5.33333	6	Group B	
RECEPTION / SUPPORT OFFICES	2	400 SF	800 SF	Business areas	150 gross	5.33333	6	Group B	
UTILITY / MECHANICAL ROOMS	2	200 SF	400 SF	Accessory storage areas, mechanical equipment room	300 gross	1.33333	2	Group U	
RESTROOMS	2	TBD				N/A			
CIRCULATION		TBD				N/A			
3F TOTAL							489		
TOTAL OCCUPANT LOAD							1222		

EGRESS COMPONENT REQUIREMENTS				UNSPRINKLERED			SPRINKLERED		
MINIMUM STAIRWAY CAPACITY				0.3	489	146.70 IN	0.2	489	97.80 IN
MINIMUM CAPACITY OF OTHER EGRESS COMPONENTS				0.2	489	97.80 IN	0.15	489	73.35 IN
OCCUPANCY GROUP A - MAXIMUM EXIT ACCESS TRAVEL DISTANCE				200'			250'		
OCCUPANCY GROUP B - MAXIMUM EXIT ACCESS TRAVEL DISTANCE				200'			300'		
OCCUPANCY GROUP E - MAXIMUM EXIT ACCESS TRAVEL DISTANCE				200'			250'		
OCCUPANCY GROUP F-1 - MAXIMUM EXIT ACCESS TRAVEL DISTANCE				200'			250'		
OCCUPANCY GROUP U - MAXIMUM EXIT ACCESS TRAVEL DISTANCE				300'			400'		

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WHAT CHEER
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63 Magnolia St,
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USA

DRAWING:

Occupancy Load and
Egress Component
Requirements

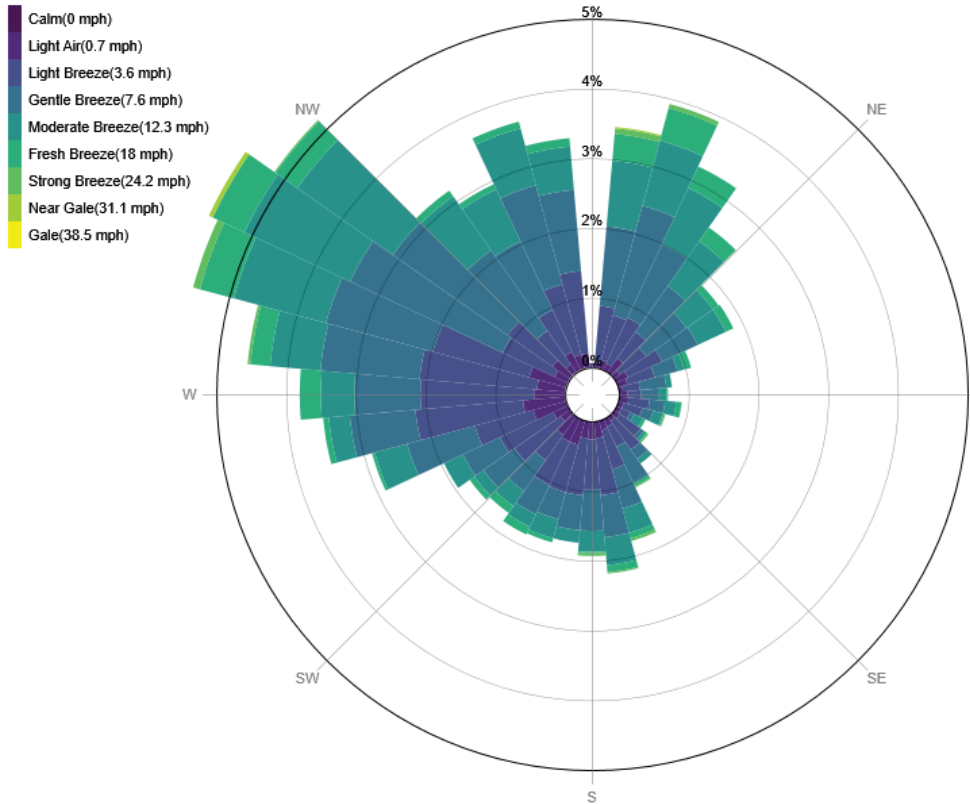
DATE:

Dec. 01, 2023

SHEET:

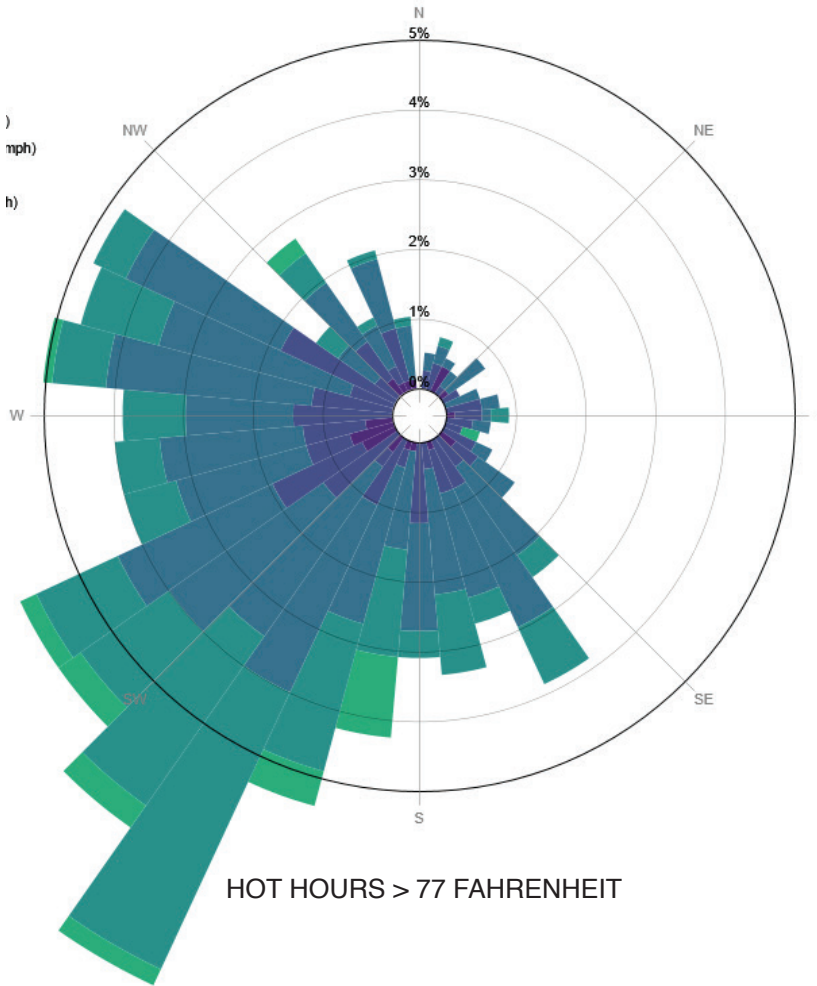
G-102

Entire Year | Whole Day | > Calm 0 mph | 5 - 57°F
Total 4971 hrs | Medium Speed 8.1 mph
ProvidenceGreenIntIStateAP



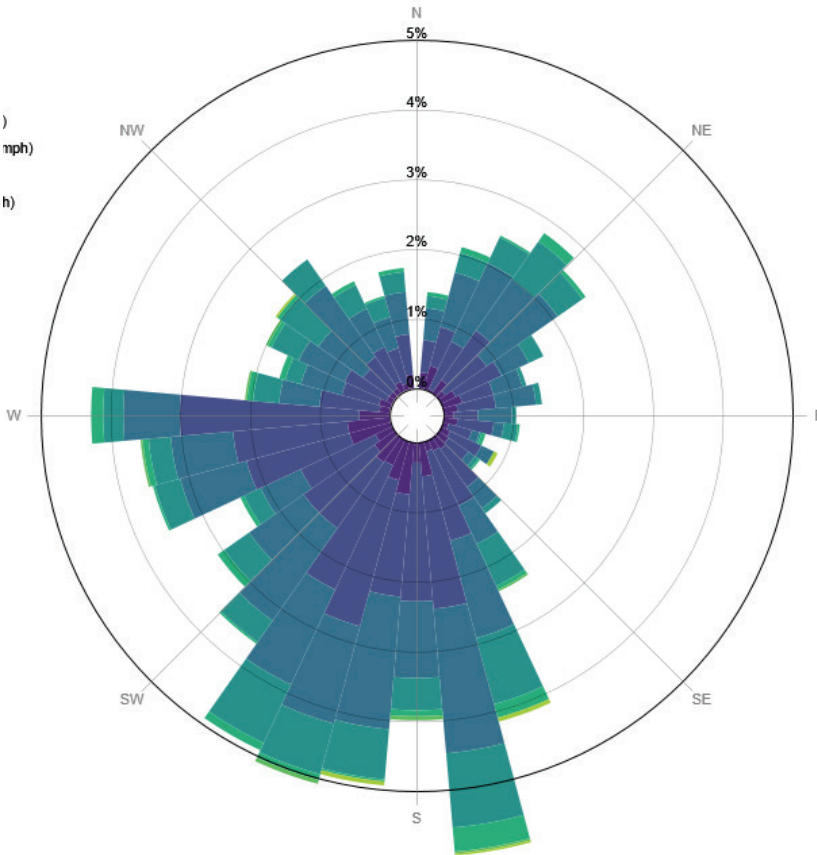
COLD HOURS < 55 FAHRENHEIT

· Calm 0 mph | 77 - 95°F
Total 10.3 hrs
IStateAP



HOT HOURS > 77 FAHRENHEIT

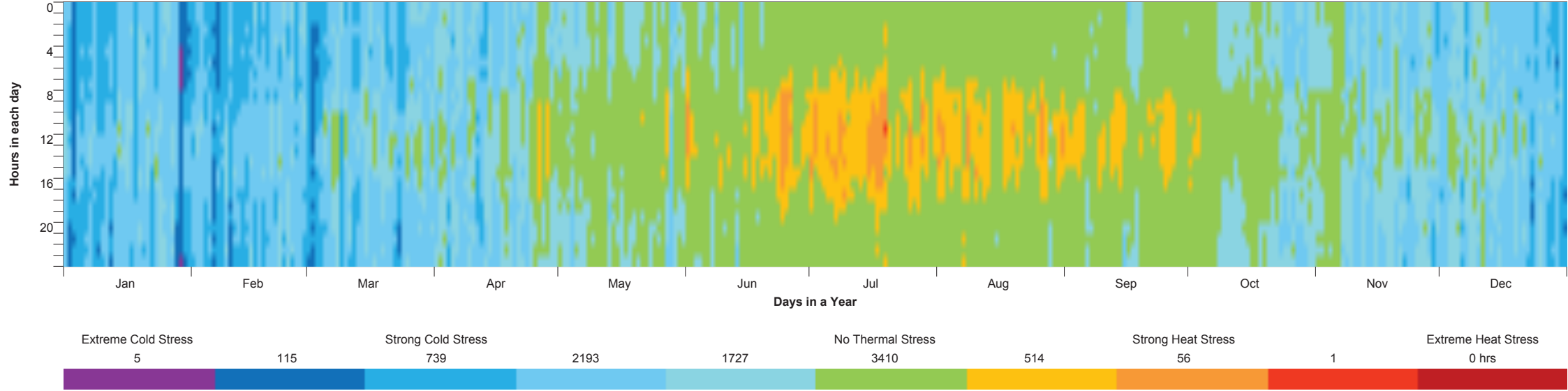
· Calm 0 mph | 55 - 77°F
Total 6.9 hrs
IStateAP



NATURAL VENTILATION POTENTIAL 55-77 FAHRENHEIT

UTCI | Entire Year | Whole Day | Total of 8760 Hours

ProvidenceGreenIntIStateAP



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DRAWING:

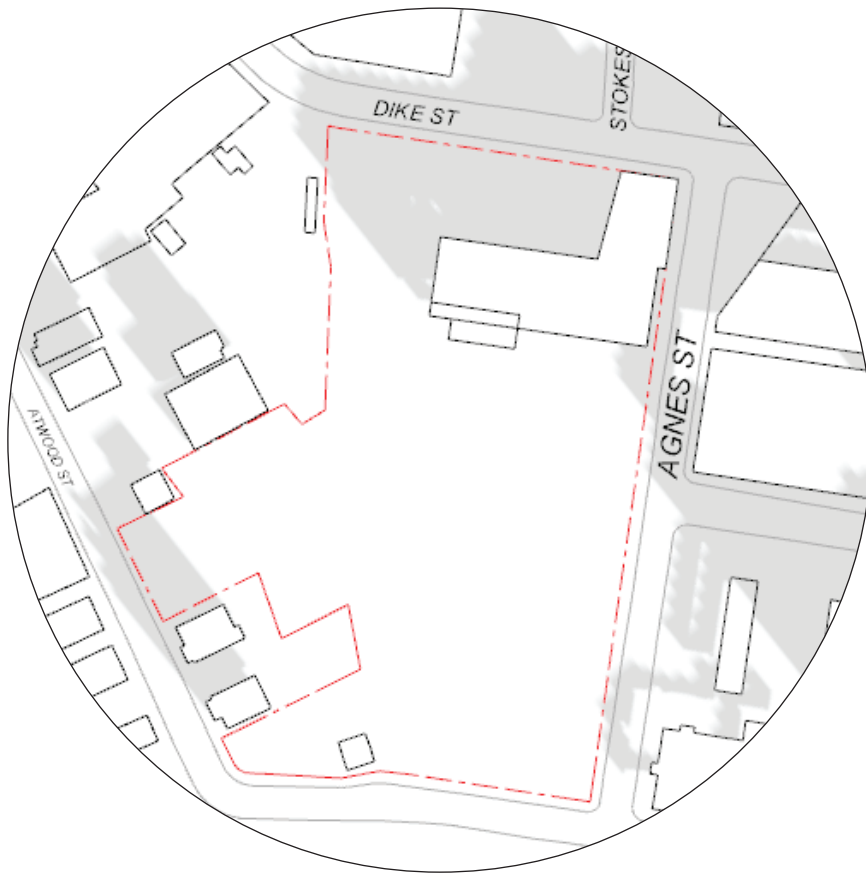
Providence Wind
Rose Diagram +
UTCI

DATE:

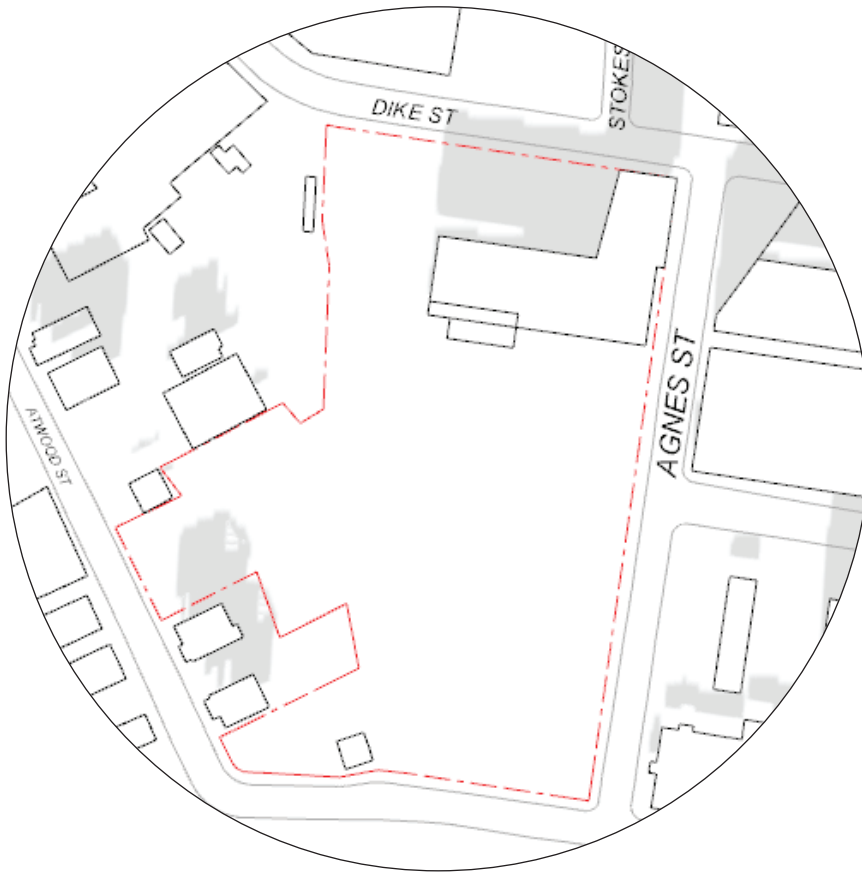
Dec. 01, 2023

SHEET:

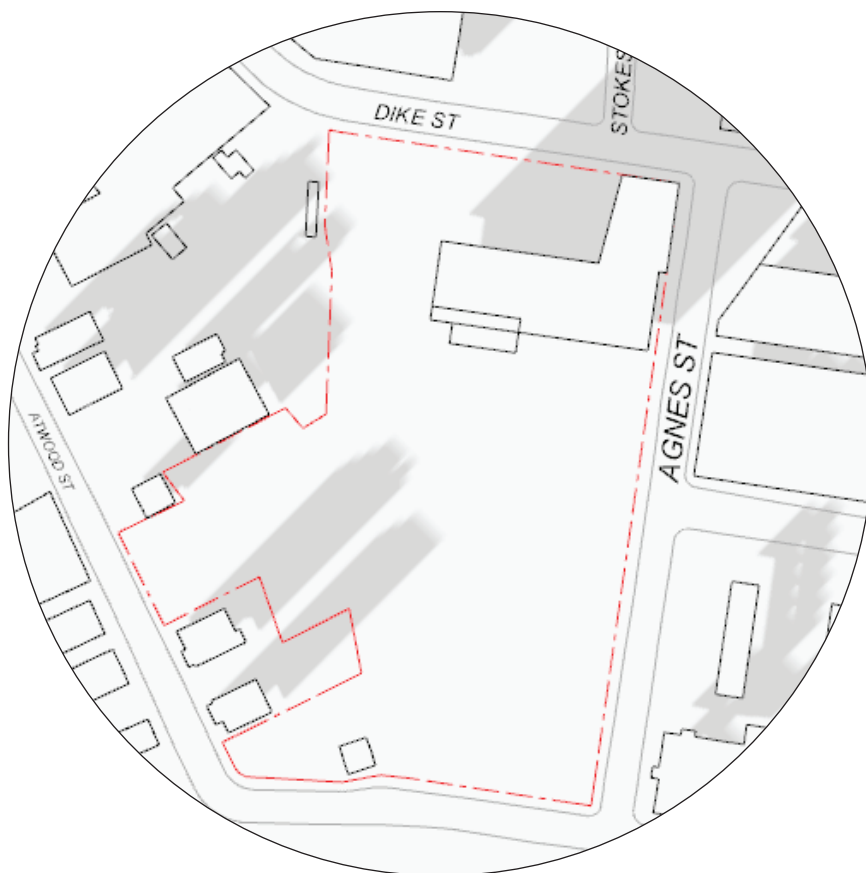
G-103



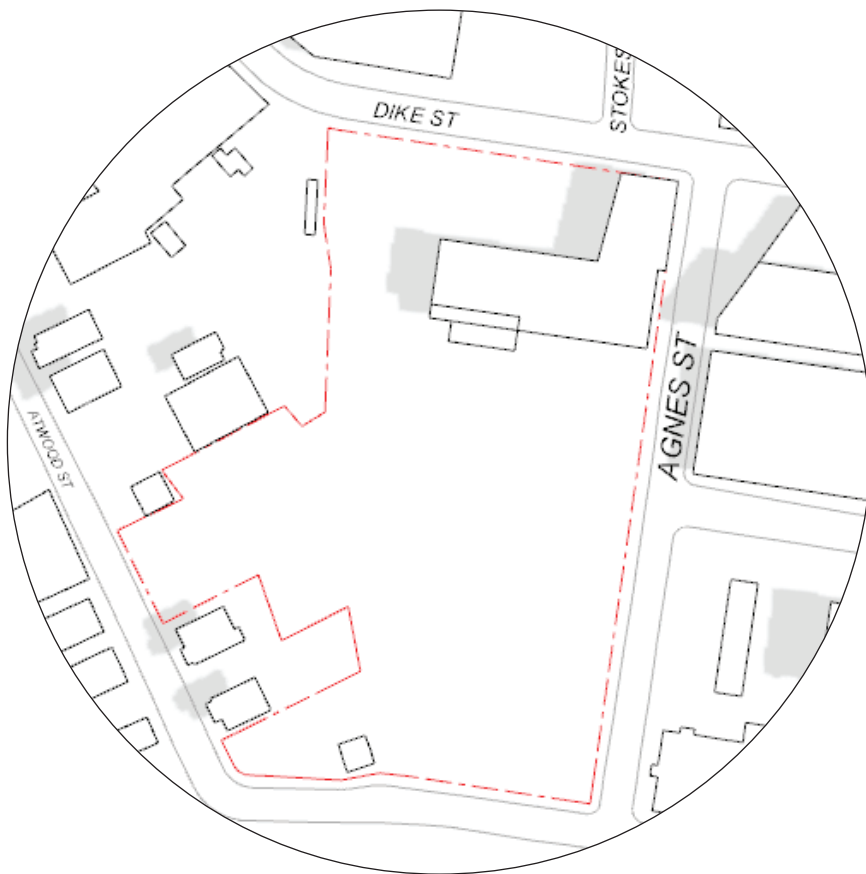
WINTER SOLSTICE 9AM



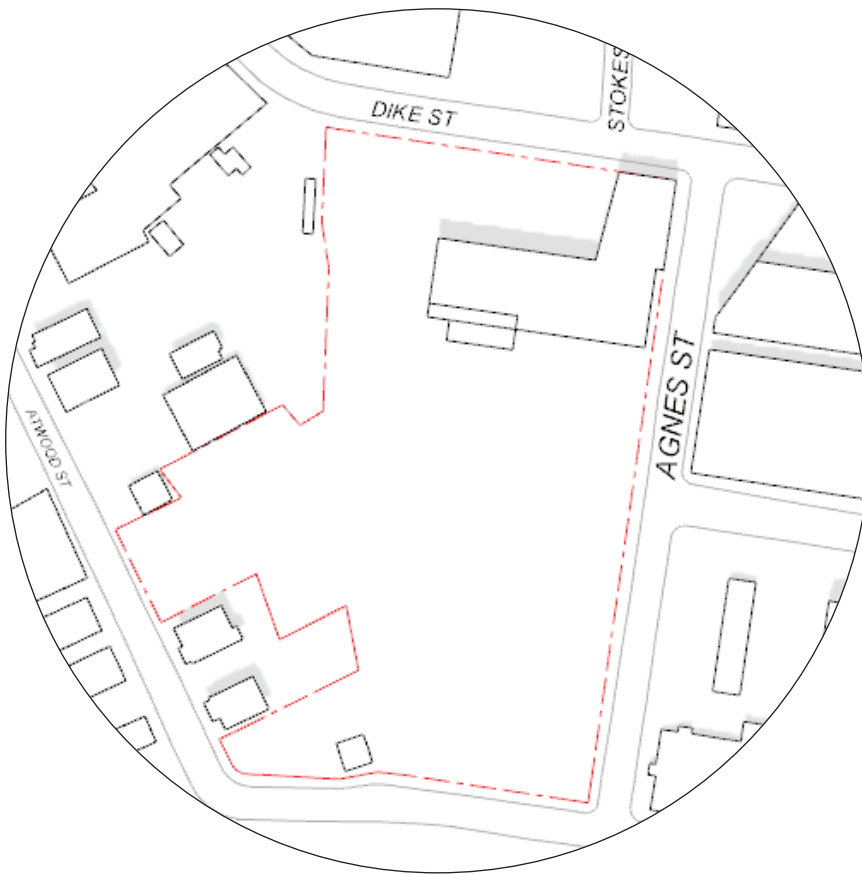
WINTER SOLSTICE NOON



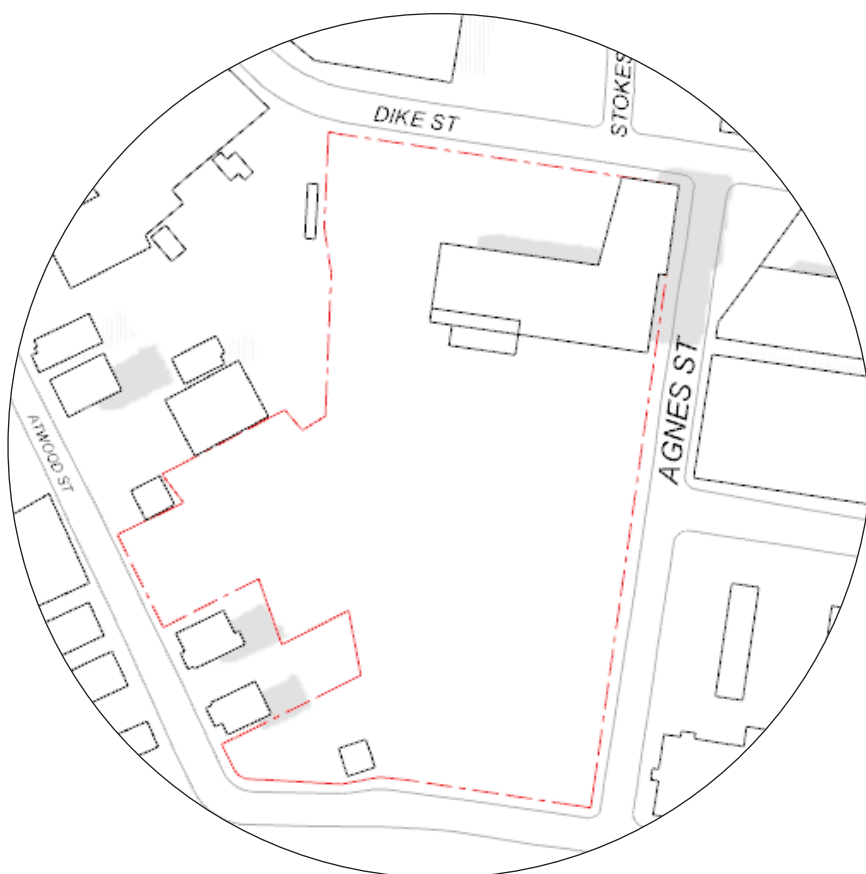
WINTER SOLSTICE 3PM



SUMMER SOLSTICE 9AM



SUMMER SOLSTICE NOON



SUMMER SOLSTICE 3PM

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DRAWING:

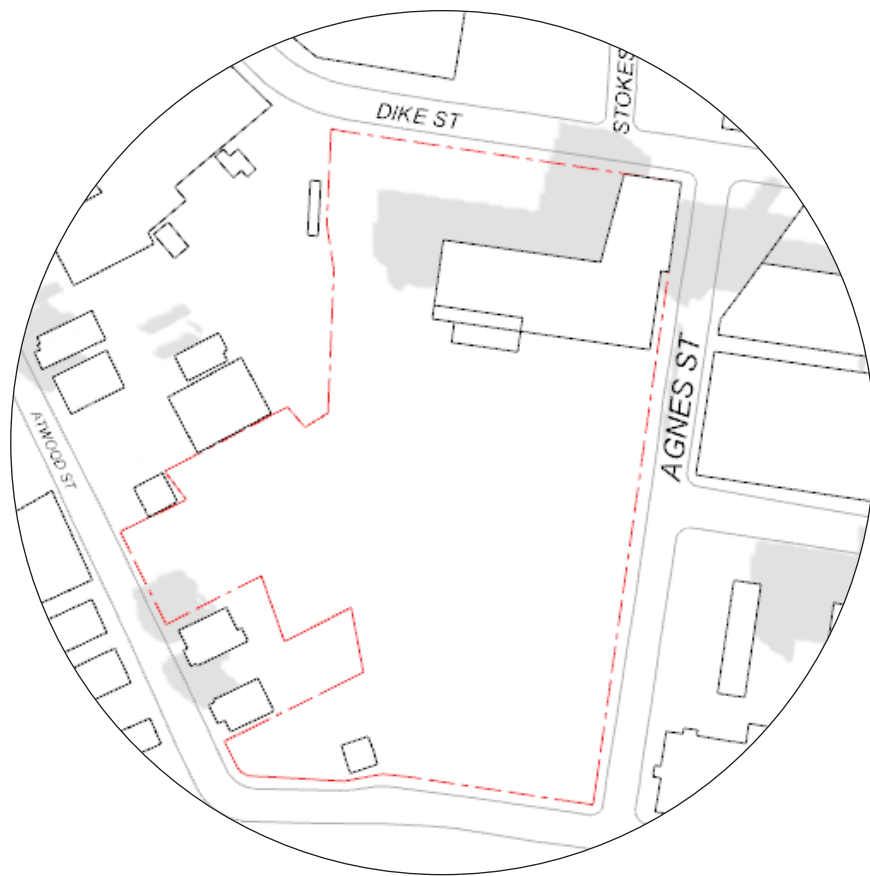
Shadow Study
Solstice Diagram

DATE:

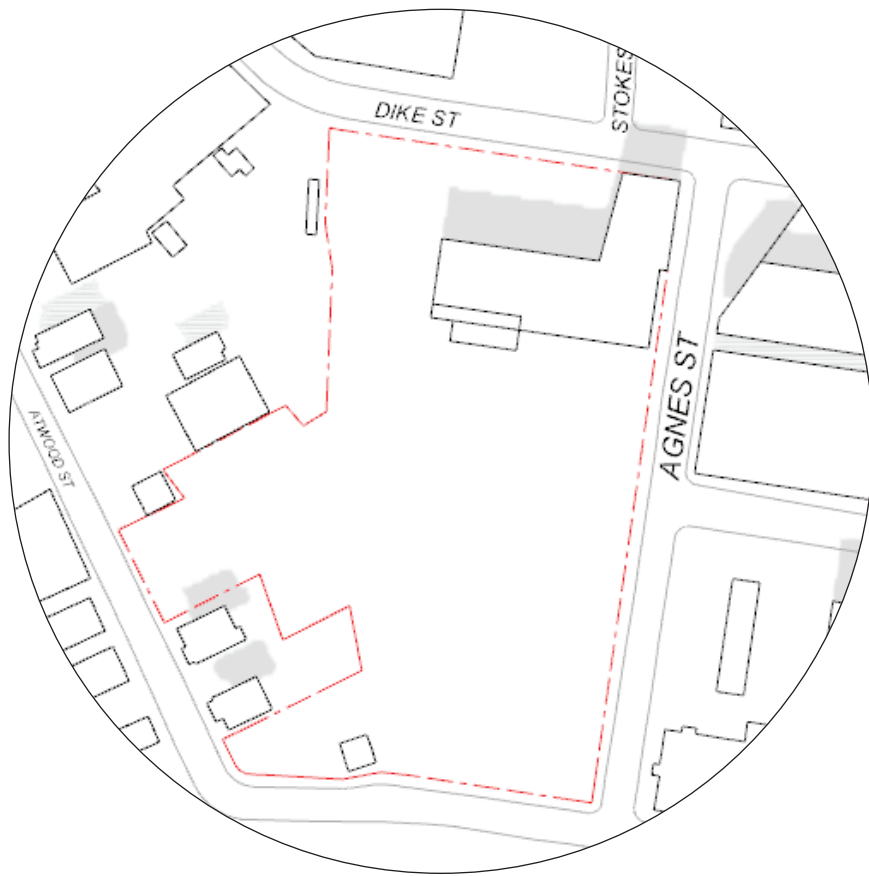
Dec. 01, 2023

SHEET:

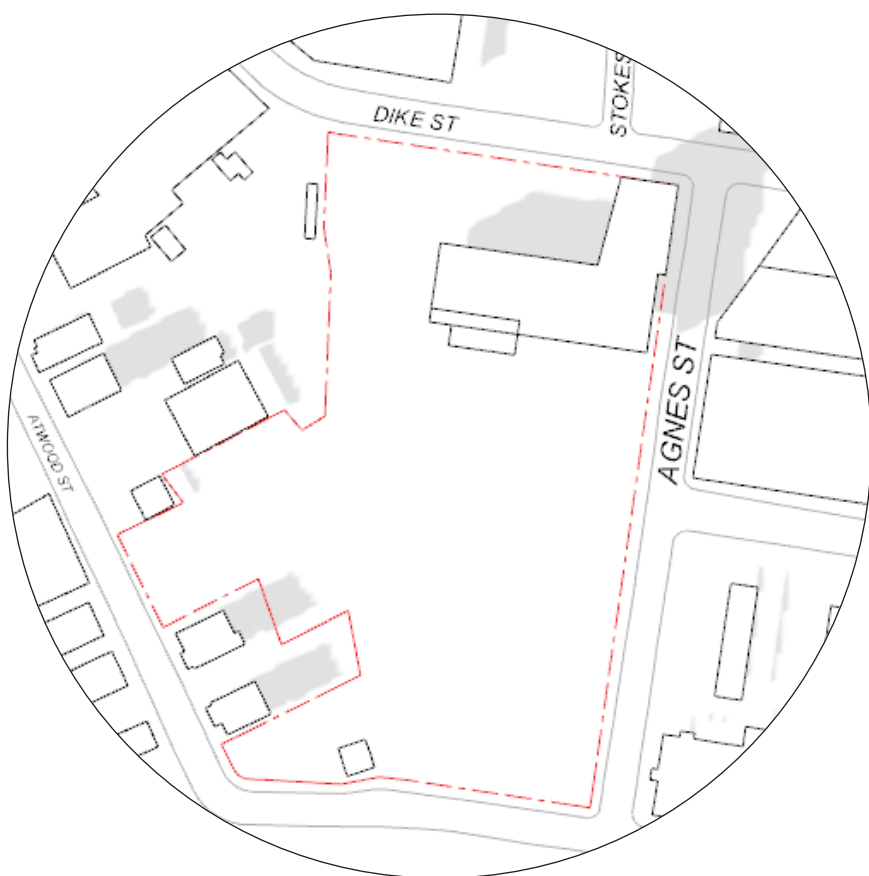
G-103



AUTUMN EQUINOX 9AM



AUTUMN EQUINOX NOON



AUTUMN EQUINOX 3PM

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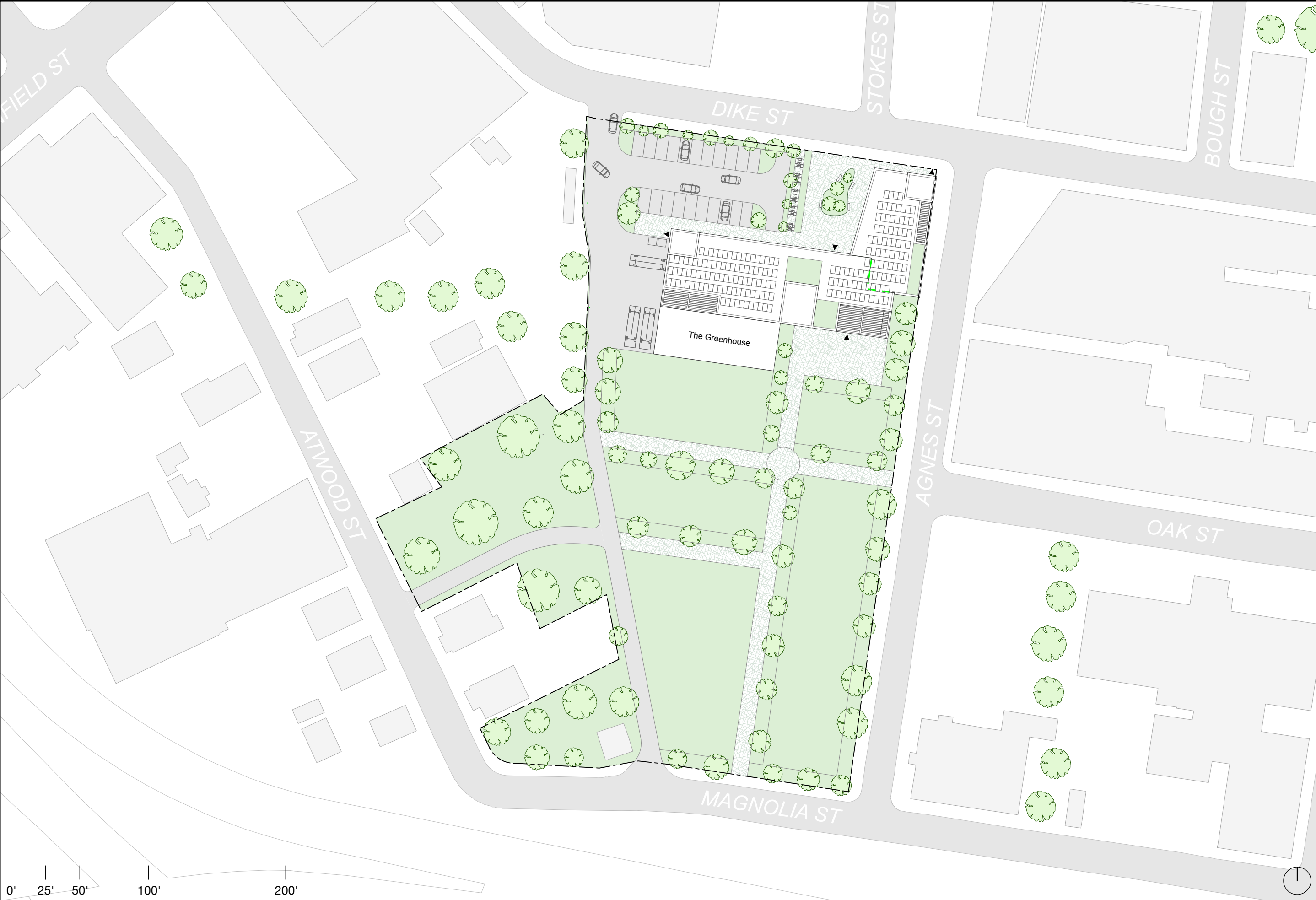
63 Magnolia St,
Providence, RI 02909
USA

DRAWING:
Shadow Study
Autumn Equinox
Diagram

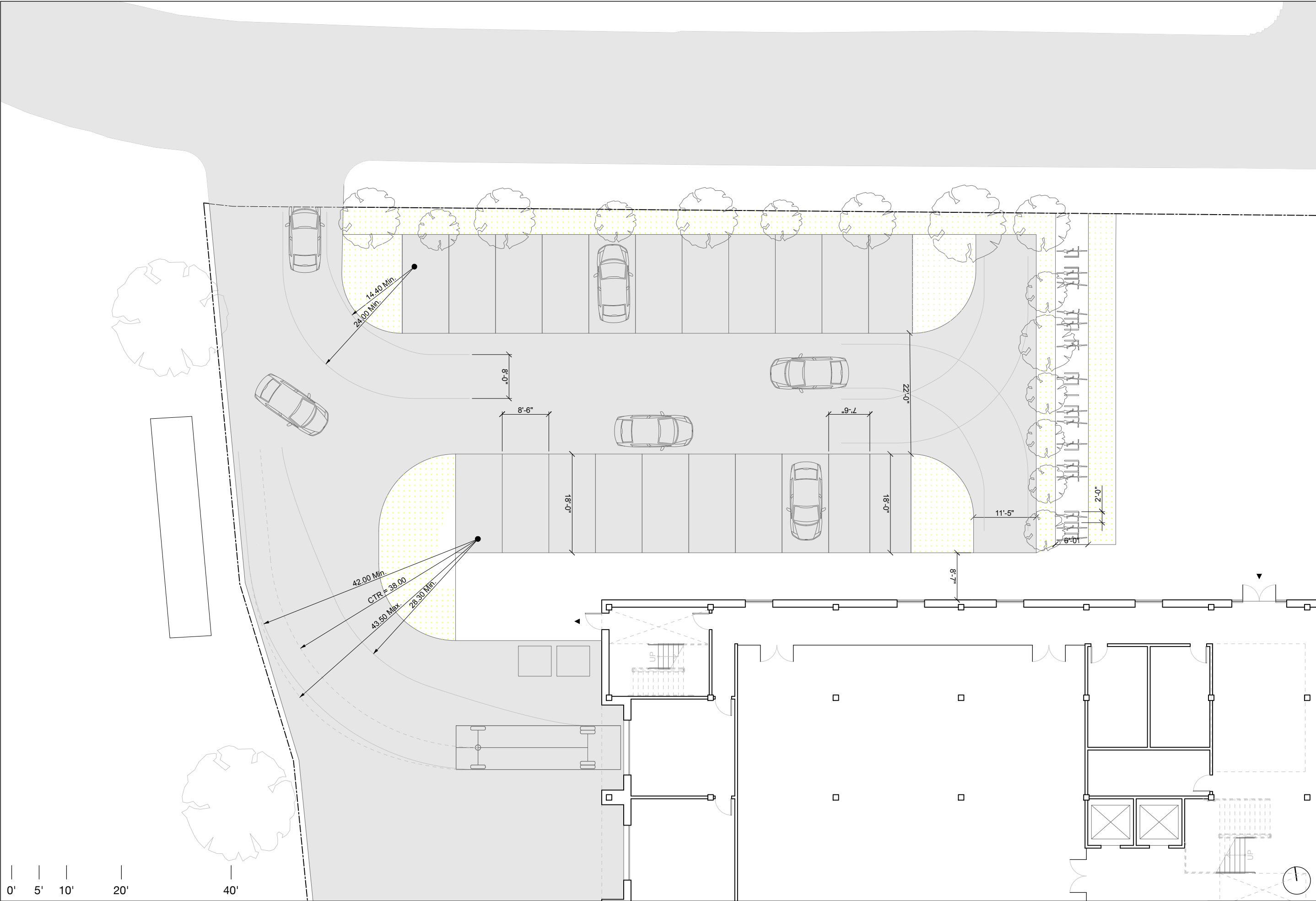
DATE:
Dec. 01, 2023

SHEET:

G-103



TEAM: INWOO LEE MEGAN HOLZRICHTER LILY GUCFA
PROJECT: WHAT CHEER FLOWER FARM 63 Magnolia St, Providence, RI 02909 USA
DRAWING: Site Plan
DATE: Dec. 01, 2023
SHEET: L-101



TEAM: INWOO LEE MEGAN HOLZRICHTER LILY GUCFA
PROJECT: WHAT CHEER FLOWER FARM 63 Magnolia St, Providence, RI 02909 USA
DRAWING: Parking and Access Plan
DATE: Dec. 01, 2023
SHEET: L-102

INWOO LEE
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WHAT CHEER
FLOWER FARM

DRAWING:

Ground Floor with Egress Plan

Dec. 01, 2023

A-101



SCALE
1/16" = 1'-0"

1



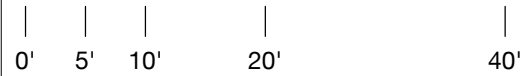
TEAM:
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LILY GUCFA

PROJECT:
WHAT CHEER
FLOWER FARM
63 Magnolia St,
Providence, RI 02909
USA

DRAWING:
Second Floor with
Egress Plan

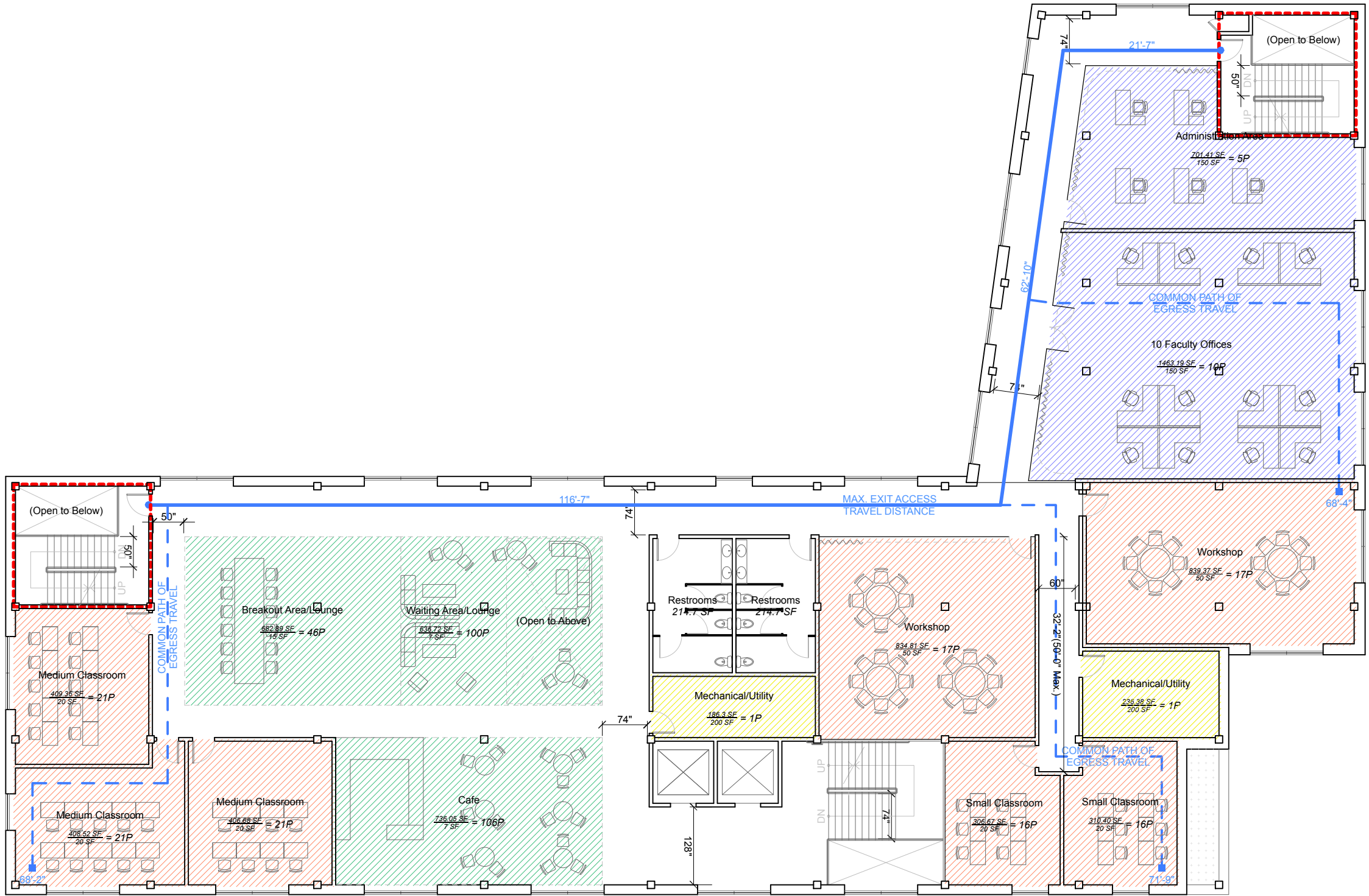
DATE:
Dec. 01, 2023

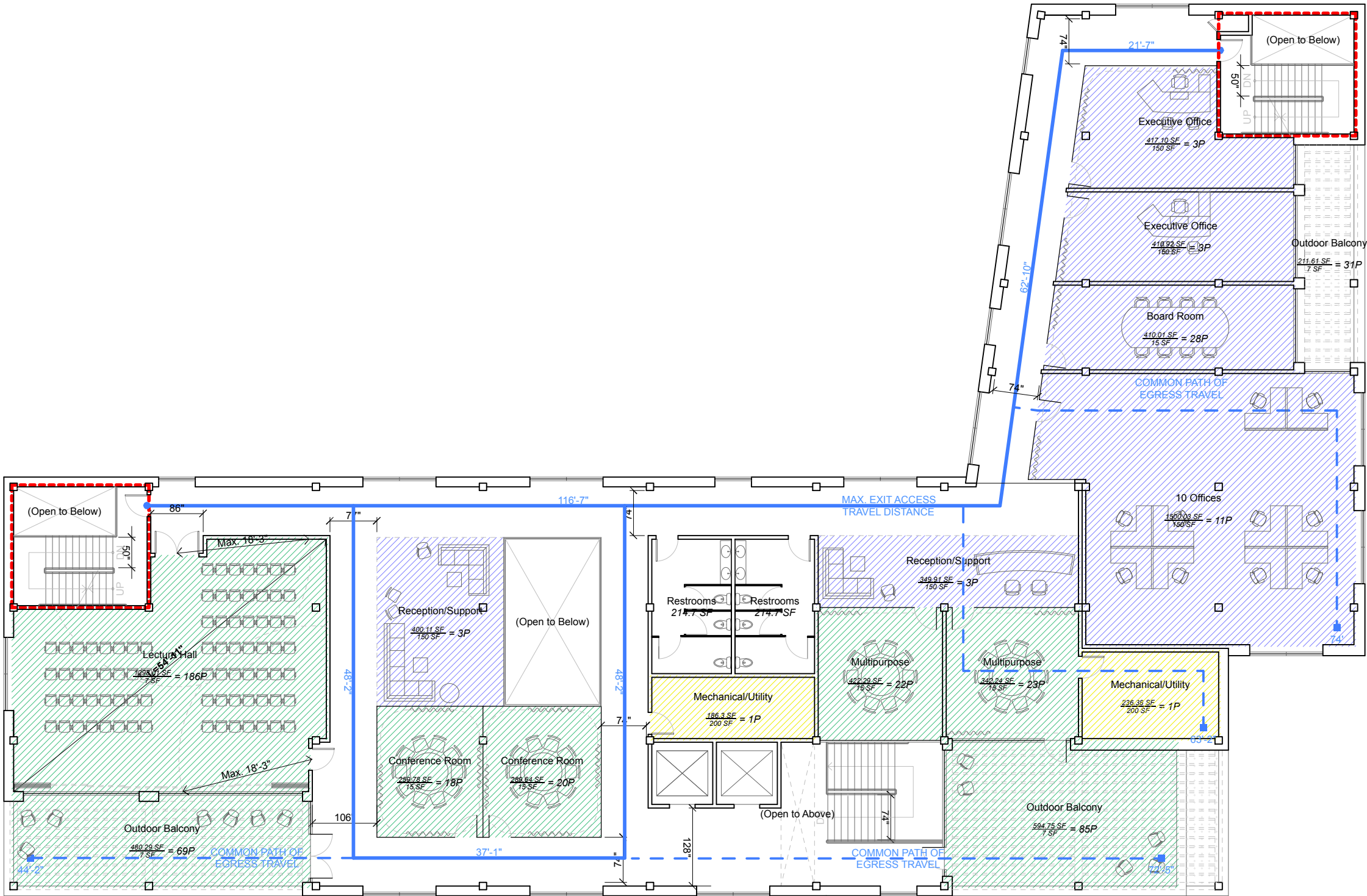
SHEET:
A-102



SECOND FLOOR WITH EGRESS PLAN

SCALE
1/16" = 1'-0"





THIRD FLOOR WITH EGRESS PLAN

SCALE
1/16" = 1'-0"

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PROJECT:

WHAT CHEER
FLOWER FARM

63 Magnolia St,
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DRAWING:

Third Floor with
Egress Plan

DATE:

Dec. 01, 2023

SHEET:

A-103

MODULE TYPE, DIMENSIONS & WEIGHT

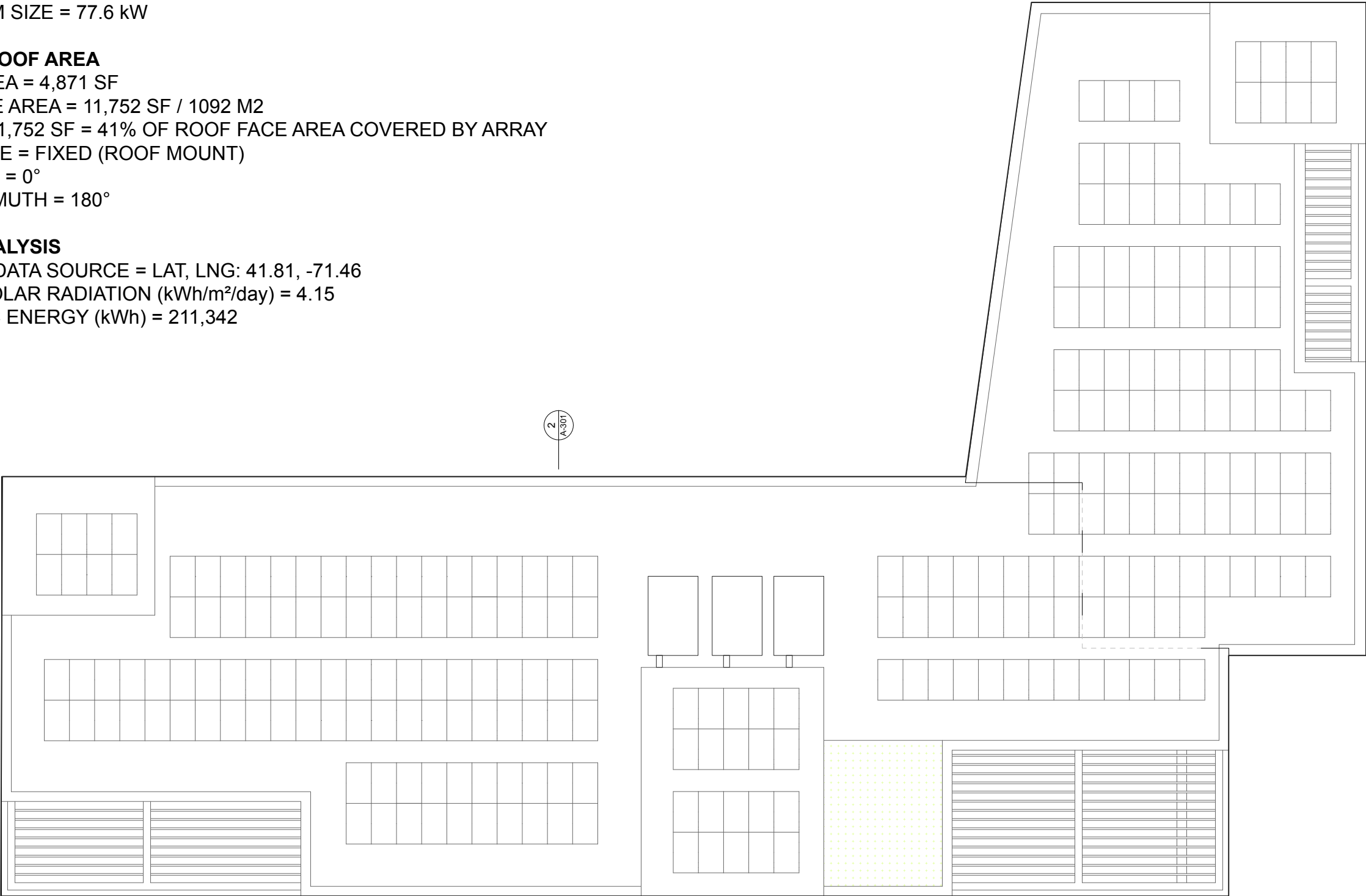
MODULE TYPE = SUNPOWER MAXEON 3 | 400W (RESIDENTIAL SOLAR PANEL)
NUMBER OF MODULES = 194
WEIGHT = 41 LBS / 19KG
DIMENSIONS = 5.5' x 3.4' = 18.7 SF
PANEL EFFICIENCY = 22.6%
DC SYSTEM SIZE = 77.6 kW

ARRAY & ROOF AREA

ARRAY AREA = 4,871 SF
ROOF FACE AREA = 11,752 SF / 1092 M2
4,871 SF / 11,752 SF = 41% OF ROOF FACE AREA COVERED BY ARRAY
ARRAY TYPE = FIXED (ROOF MOUNT)
ARRAY TILT = 0°
ARRAY AZIMUTH = 180°

SOLAR ANALYSIS

WEATHER DATA SOURCE = LAT, LNG: 41.81, -71.46
ANNUAL SOLAR RADIATION (kWh/m²/day) = 4.15
ANNUAL AC ENERGY (kWh) = 211,342



ROOF PLAN

SCALE
1/16" = 1'-0"

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WHAT CHEER
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63 Magnolia St,
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DRAWING:

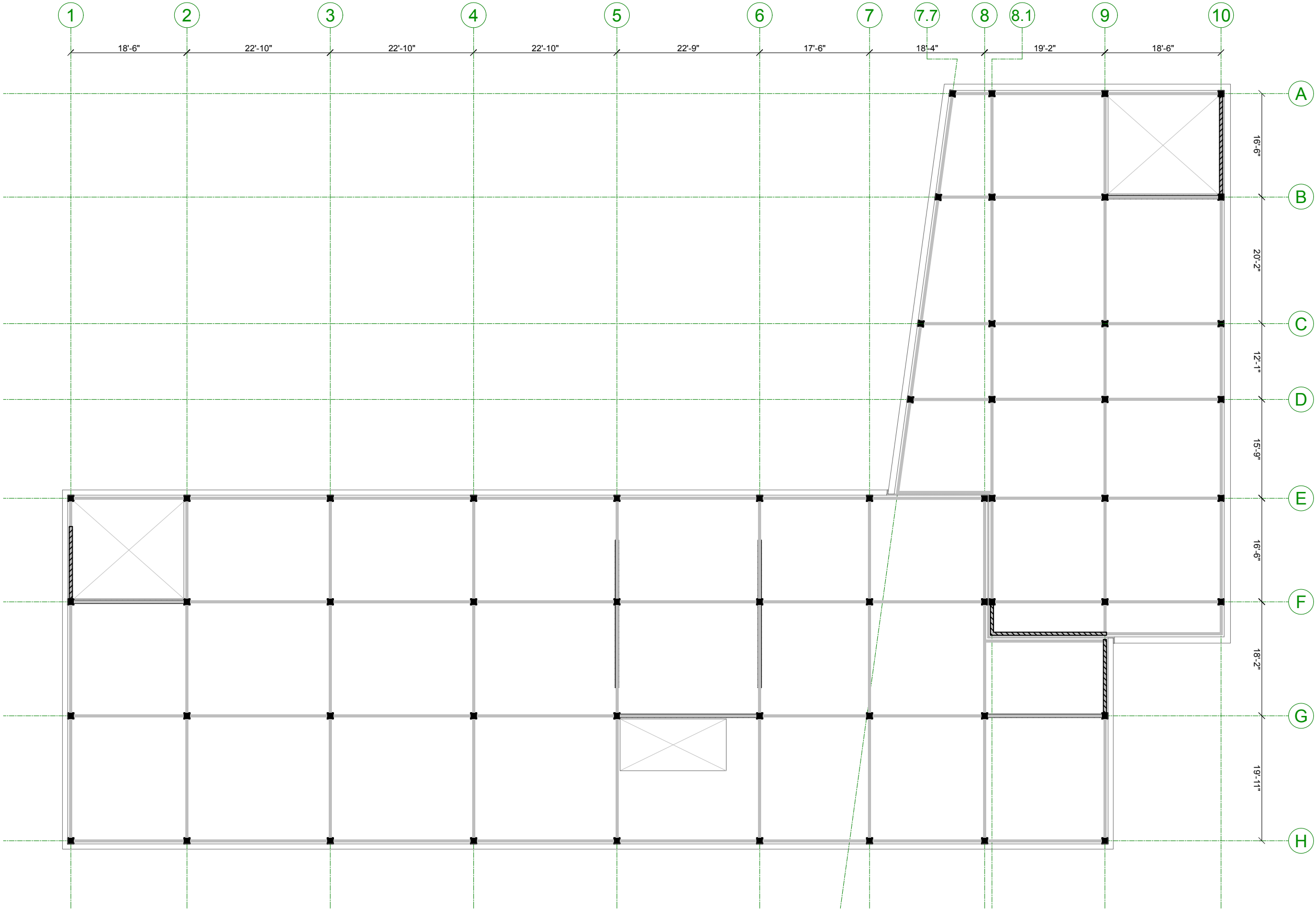
Roof Plan with Solar

DATE:

Dec 01, 2023

SHEET:

A-104



0' 5' 10' 20' 40'

STRUCTURE PLAN - GROUND FLOOR

SCALE
1/16" = 1'-0"

1

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WHAT CHEER
FLOWER FARM
63 Magnolia St,
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DRAWING:

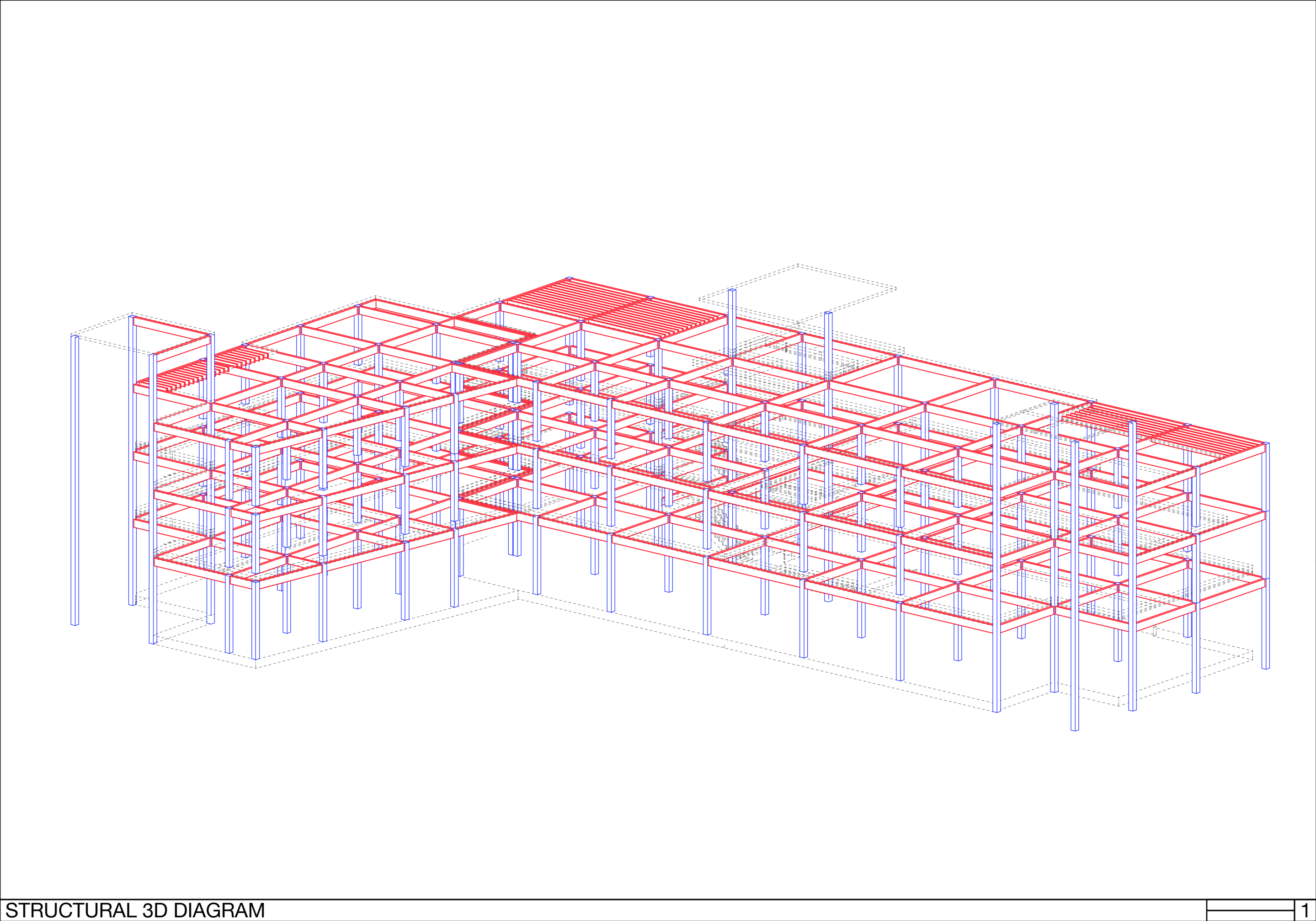
Structure Plan -
Ground Floor

DATE:

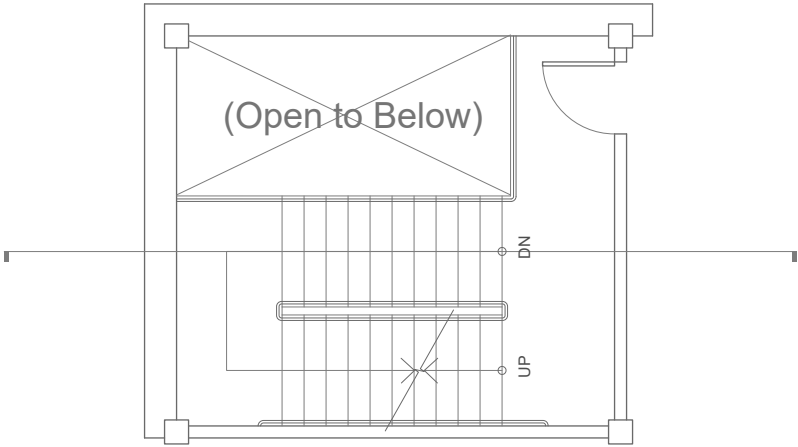
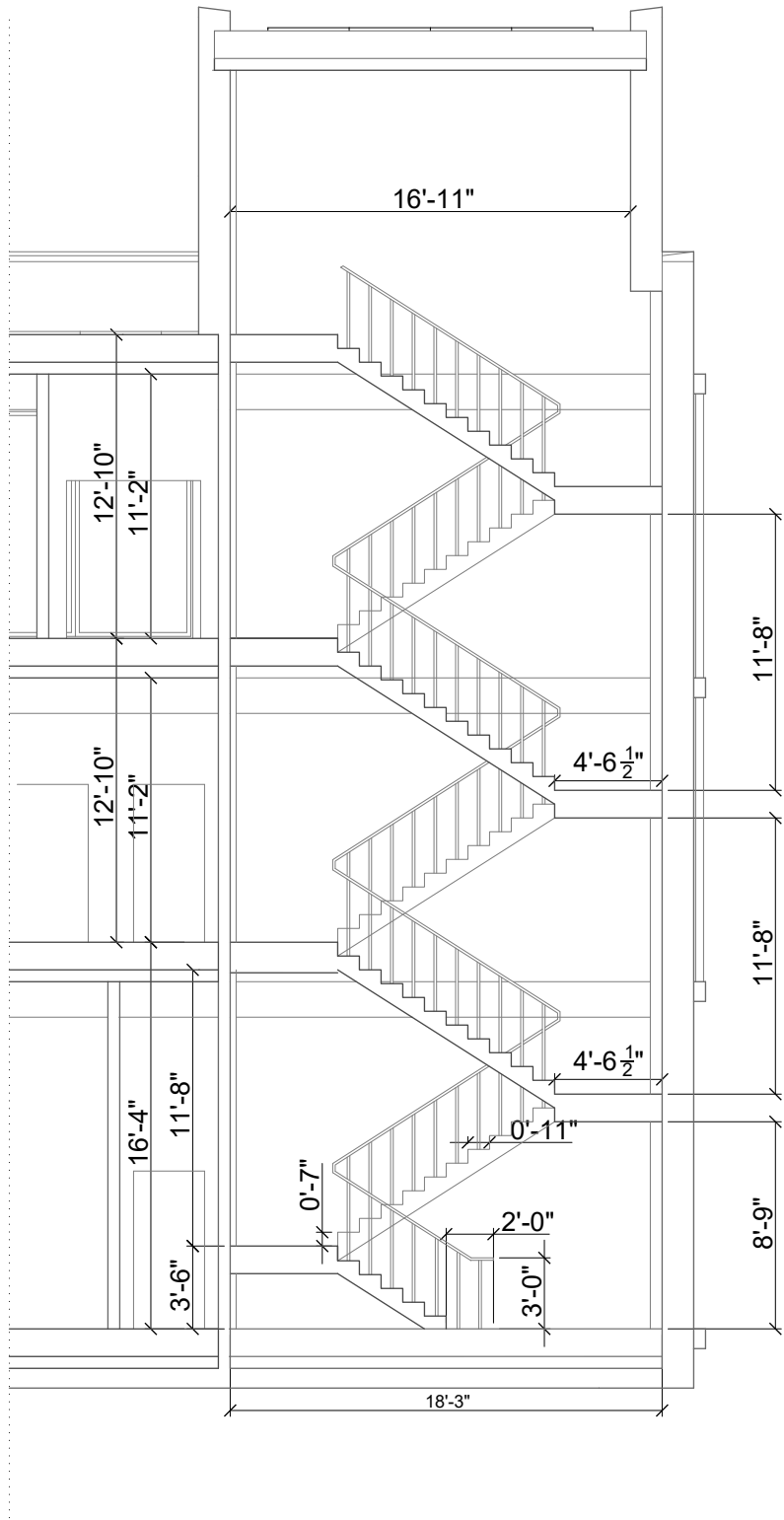
Dec. 01, 2023

SHEET:

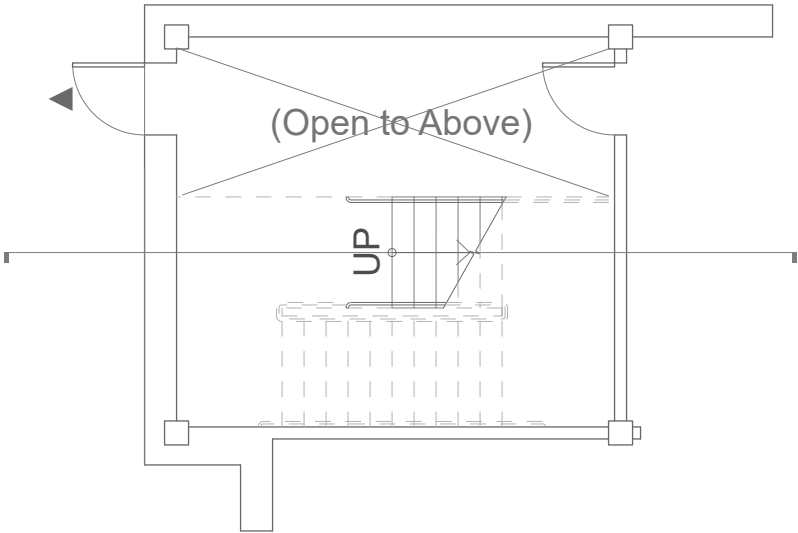
S-102



TEAM: INWOO LEE MEGAN HOLZRICHTER LILY GUCFA
PROJECT: WHAT CHEER FLOWER FARM 63 Magnolia St, Providence, RI 02909 USA
DRAWING: Structural 3D Diagram
DATE: Dec. 01, 2023
SHEET: S-101

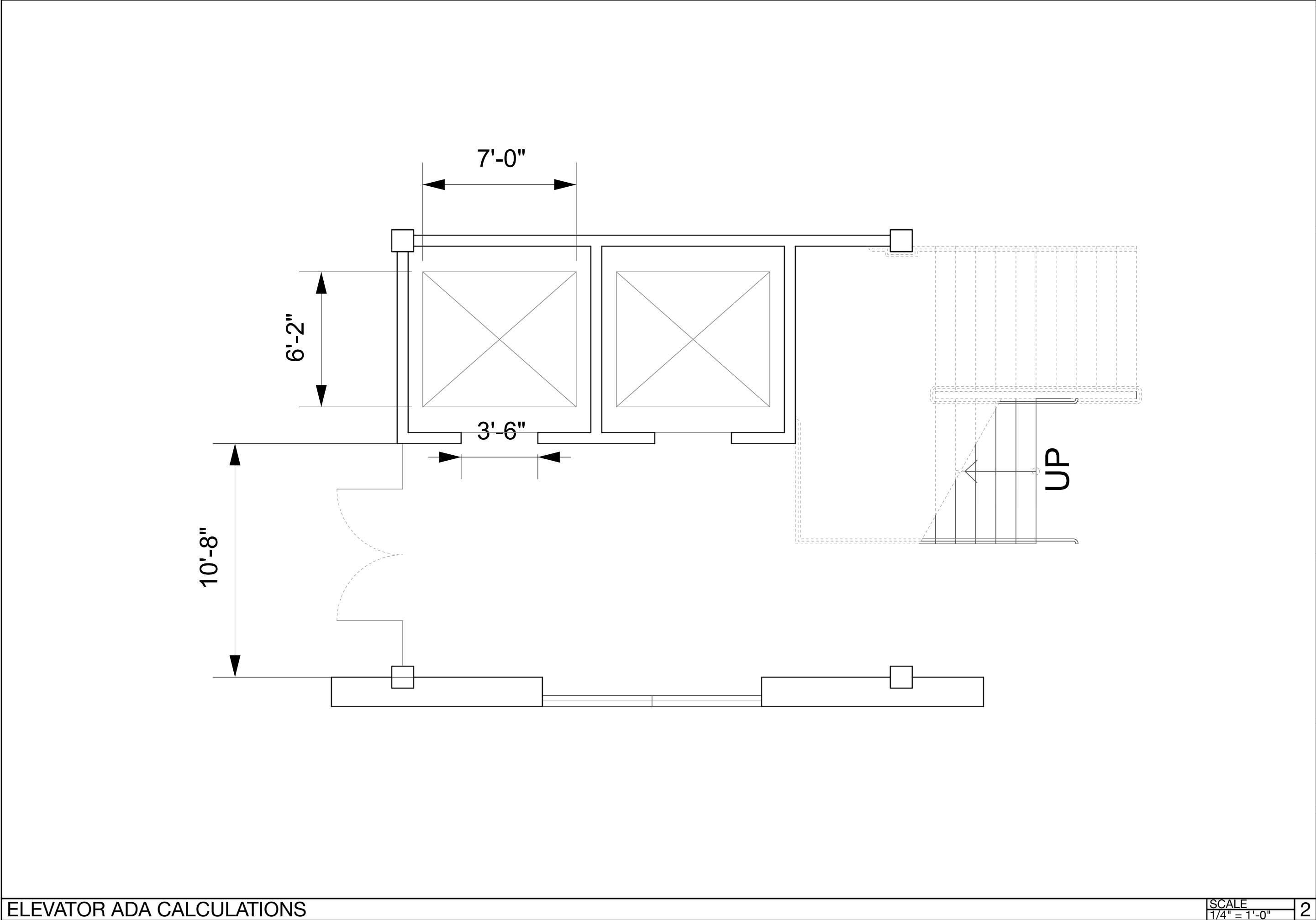


TYPICAL STAIR PLAN



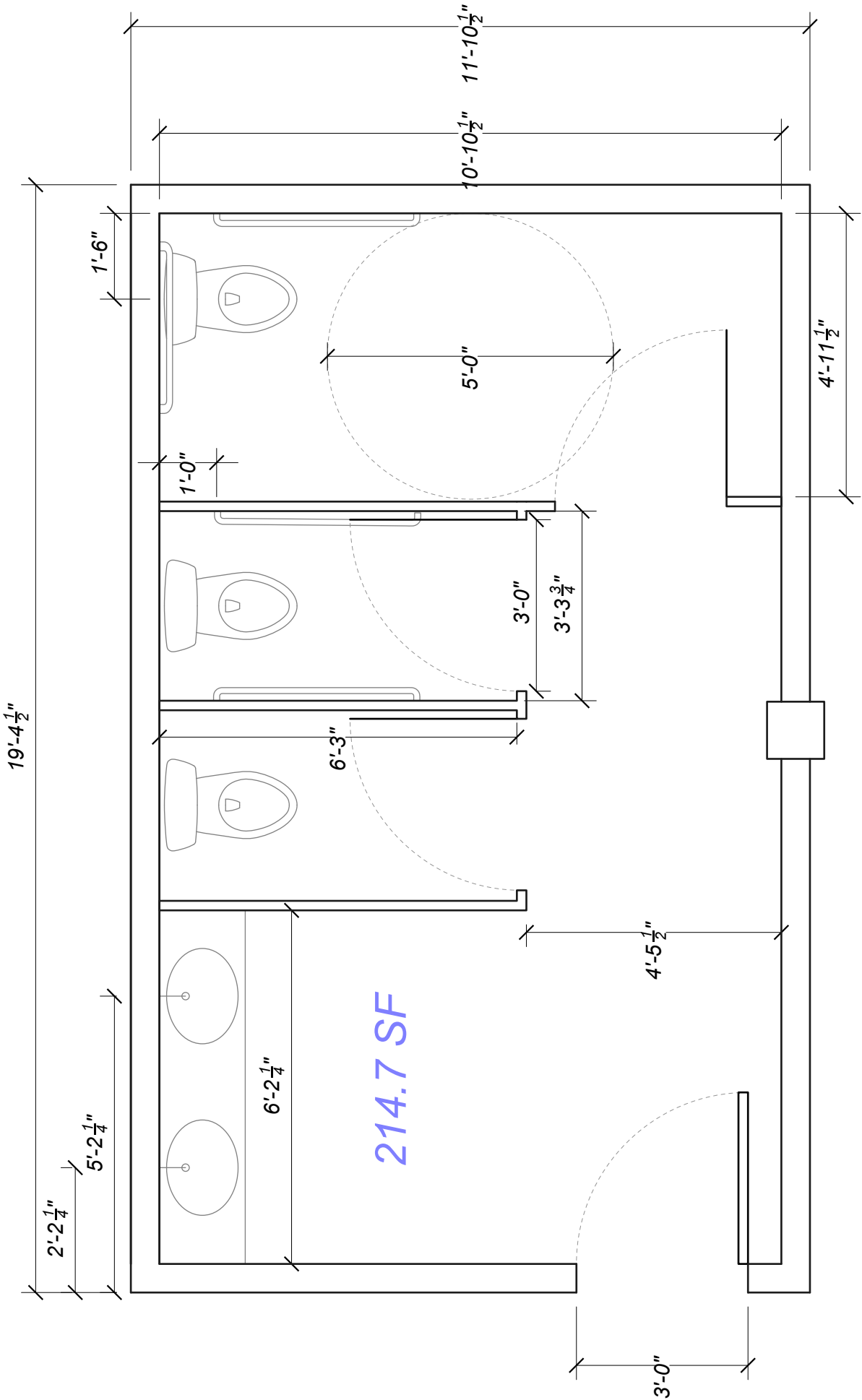
FLOOR 1 STAIR PLAN

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DRAWING: Egress Stairs Section
DATE: Dec. 01, 2023
SHEET: A-402



TEAM: INWOO LEE MEGAN HOLZRICHTER LILY GUCFA
PROJECT: WHAT CHEER FLOWER FARM 63 Magnolia St, Providence, RI 02909 USA
DRAWING: Elevator ADA Calculations
DATE: Dec. 01, 2023
SHEET: A-402

Table 2902.1 Minimum Number of Required Plumbing Fixtures							
Classification	Description	Occupant Load		Water Closets		Lavatories	
		Male	Female	Male	Female	Male	Female
Assembly	Auditoriums without permanent seating, art galleries, exhibition halls, lecture halls	507	507	1 per 125	1 per 65	1 per 200	
				4	7.8	2.54	2.54
Business	Buildings for the transaction of business, office buildings, professional services	19	19	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80	
				0.76	0.76	0.48	0.48
Educational	Educational facilities	61	61	1 per 50		1 per 50	
				1.22	1.22	1.22	1.22
Factory and industrial	Structures in which occupants are engaged in work fabricating, assembly, or processing of products or materials.	15	15	1 per 100		1 per 100	
				0.15	0.15	0.15	0.15
Misc. structures and accessory	Agricultural buildings, greenhouses, compost and refuse, mechanical	10	10	1 per 100			
				0.1	0.1	0.1	0.1
Totals				6.23	10.03	4.49	4.49
Required				7	10	5	5



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63 Magnolia St,
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DRAWING:
Bathroom ADA
Calculations

DATE:
Dec. 01, 2023

SHEET:
A-402



NORTH ELEVATION

SCALE
1/16" = 1'-0"

1

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WHAT CHEER
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63 Magnolia St,
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DRAWING:

North Exterior
Elevations

DATE:

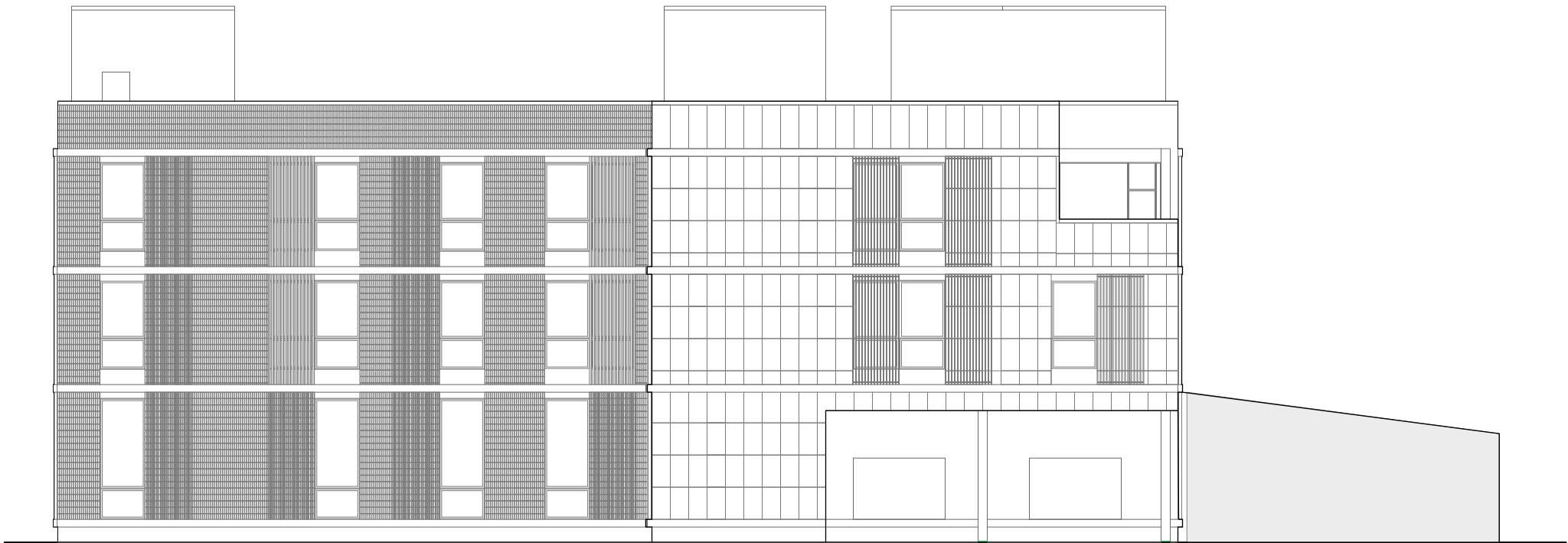
Dec. 1, 2023

SHEET:

A-201



EAST ELEVATION



WEST ELEVATION

0' 5' 10' 20' 40'

EAST AND WEST ELEVATIONS

SCALE
1/16" = 1'-0"

1

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63 Magnolia St,
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DRAWING:

East and West
Exterior Elevations

DATE:

Dec. 1, 2023

SHEET:

A-202

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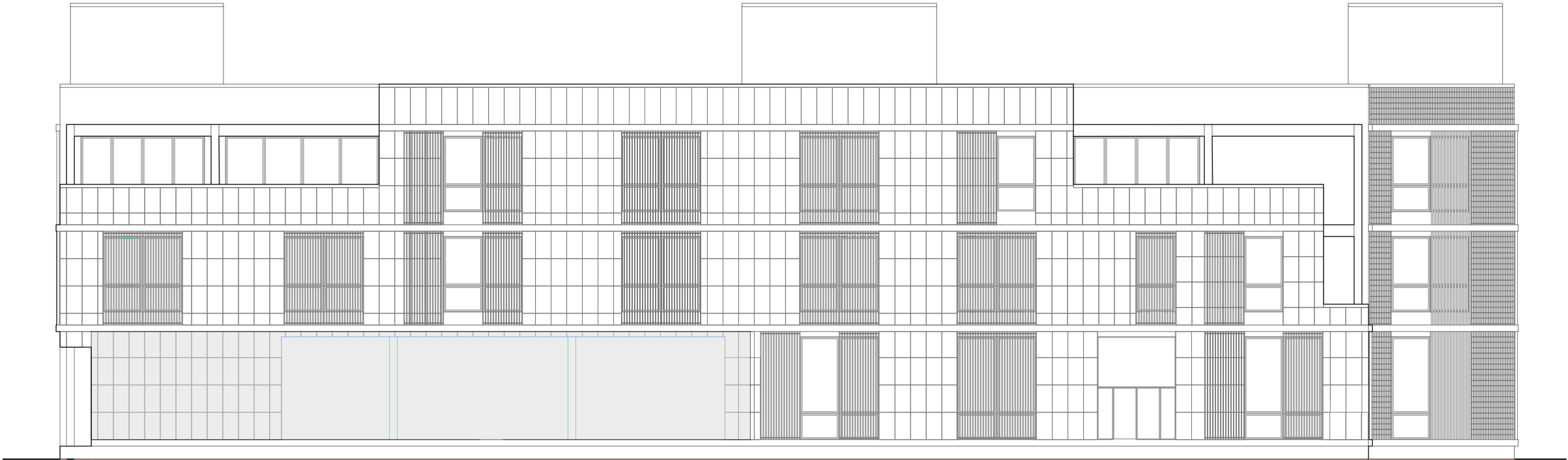
63 Magnolia St,
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USA

DRAWING:
South Exterior
Elevations

DATE:
Dec. 1, 2023

SHEET:

A-203

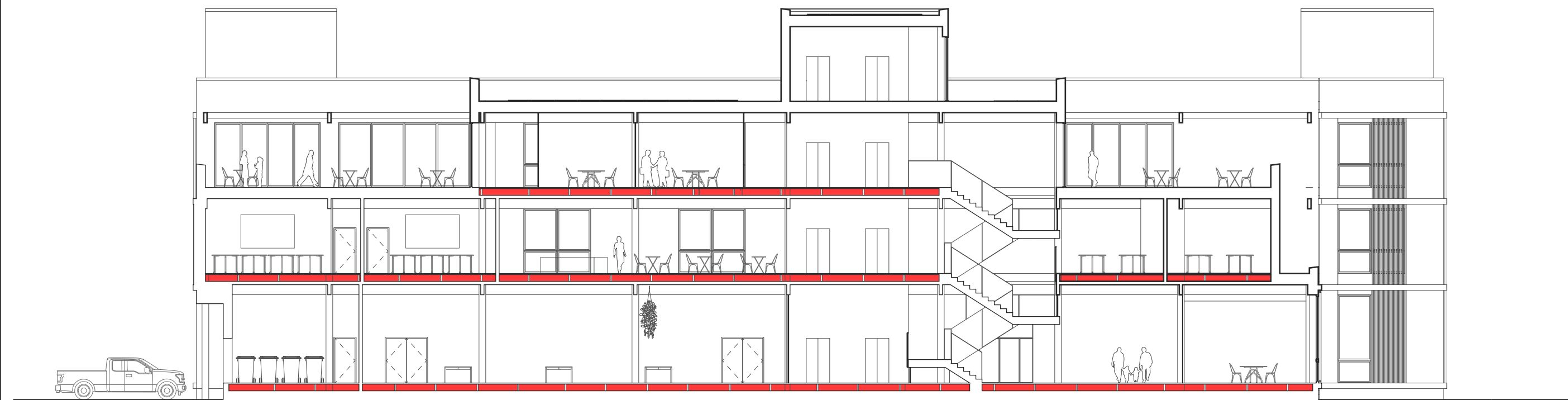


0' 5' 10' 20' 40'

SOUTH ELEVATION

SCALE
1/16" = 1'-0"

1

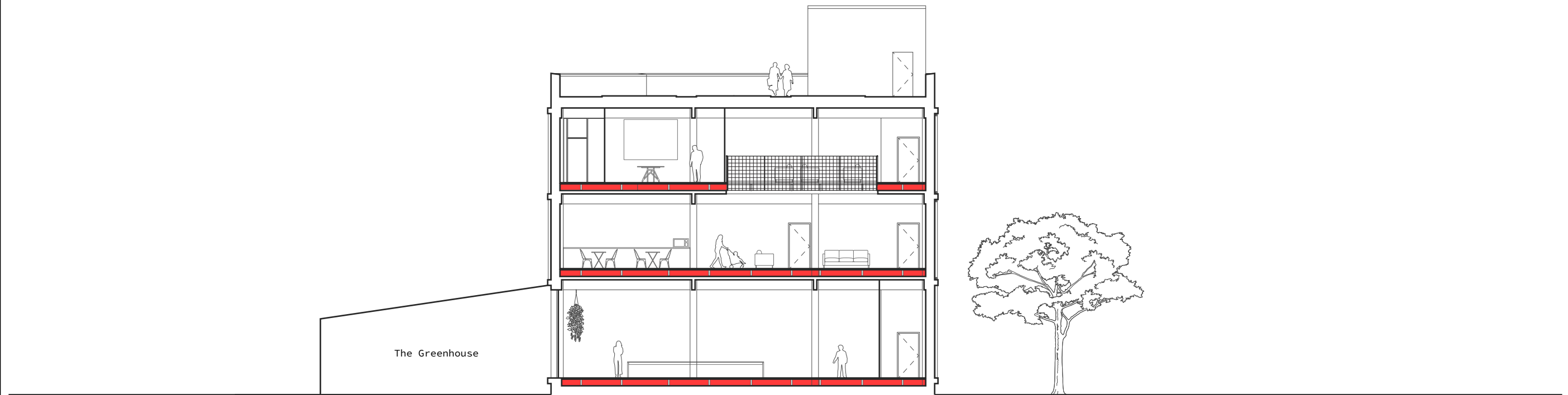


0' 5' 10' 20' 40'

LONGITUDINAL SECTION

SCALE
1/16" = 1'-0"

1



0' 5' 10' 20' 40'

TRANSVERSAL SECTION

SCALE
1/16" = 1'-0"

2

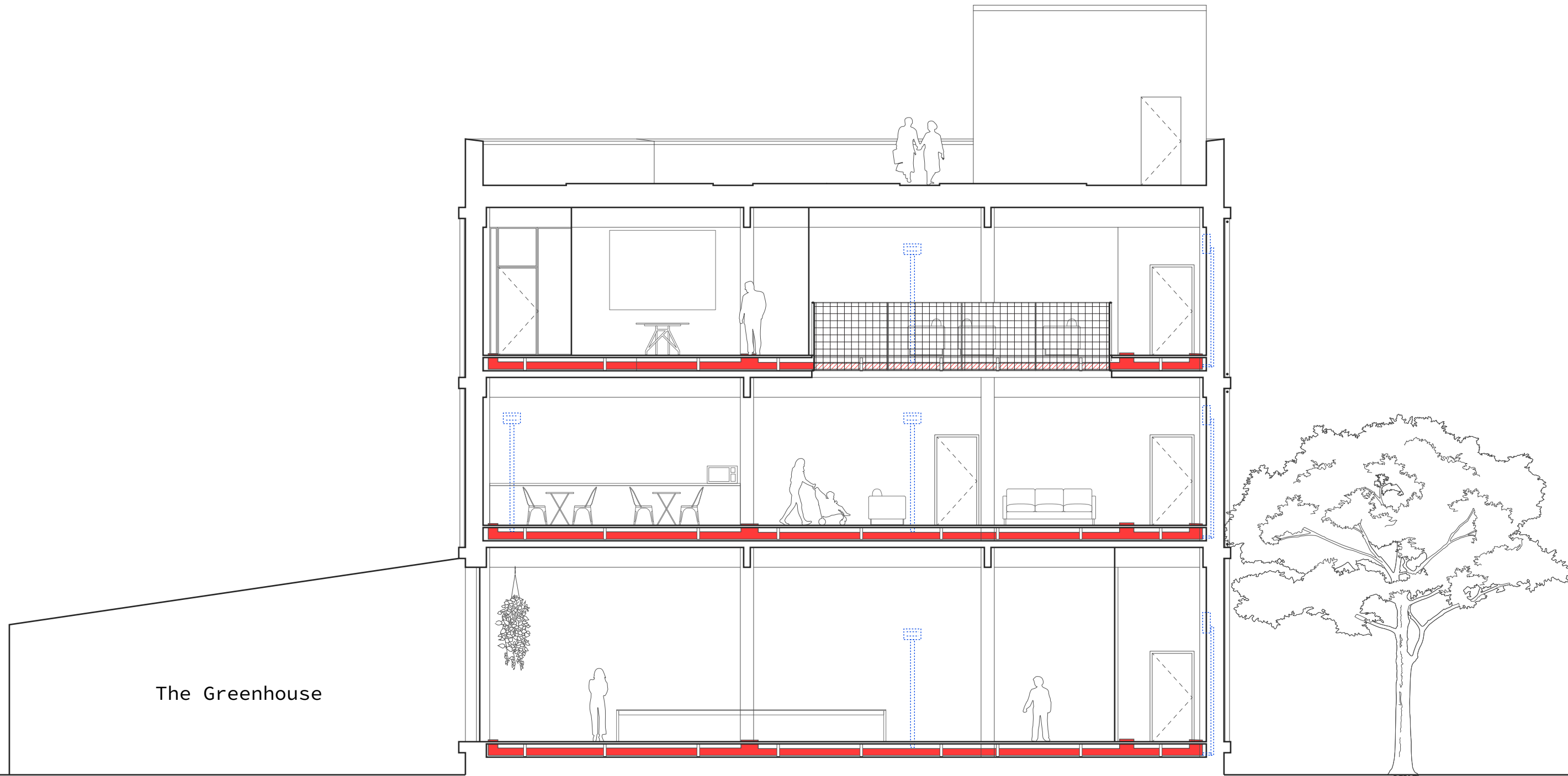
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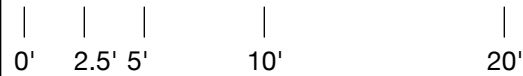
DRAWING:
Building Sections
with Mechanical
System Highlight

DATE:
Dec. 01, 2023

SHEET:
A-301



The Greenhouse



TRANSVERSAL SECTION

SCALE
1/8" = 1'-0"

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DRAWING:

Building Sections
with Mechanical
System Highlight

DATE:

Dec. 01, 2023

SHEET:

A-301

TEAM:
INWOO LEE
MEGAN HOLZRICHTER
LILY GUOFA

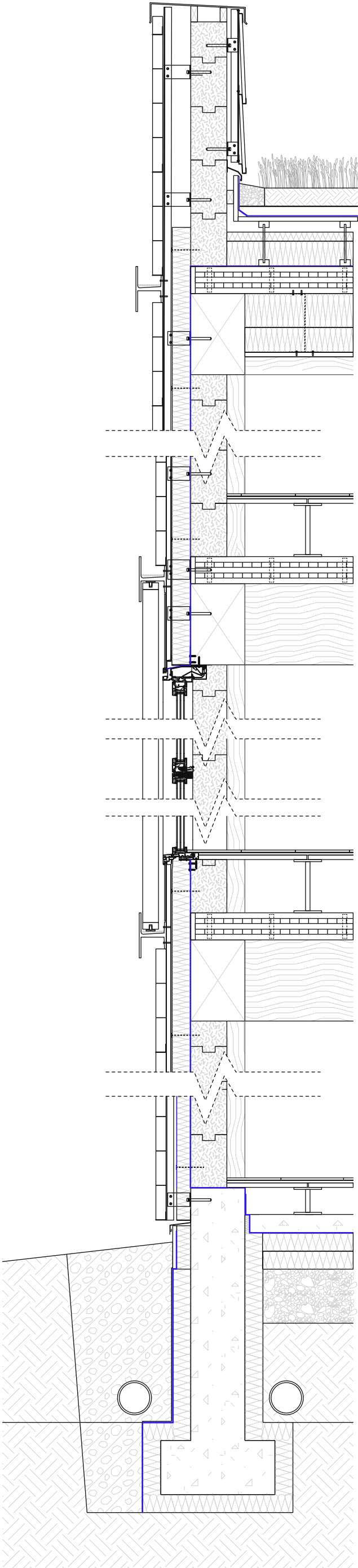
PROJECT:
WHAT CHEER
FLOWER FARM
63 Magnolia St,
Providence, RI 02909
USA

DRAWING:
Wall Section -
Wood Cladding +
Brick Cladding

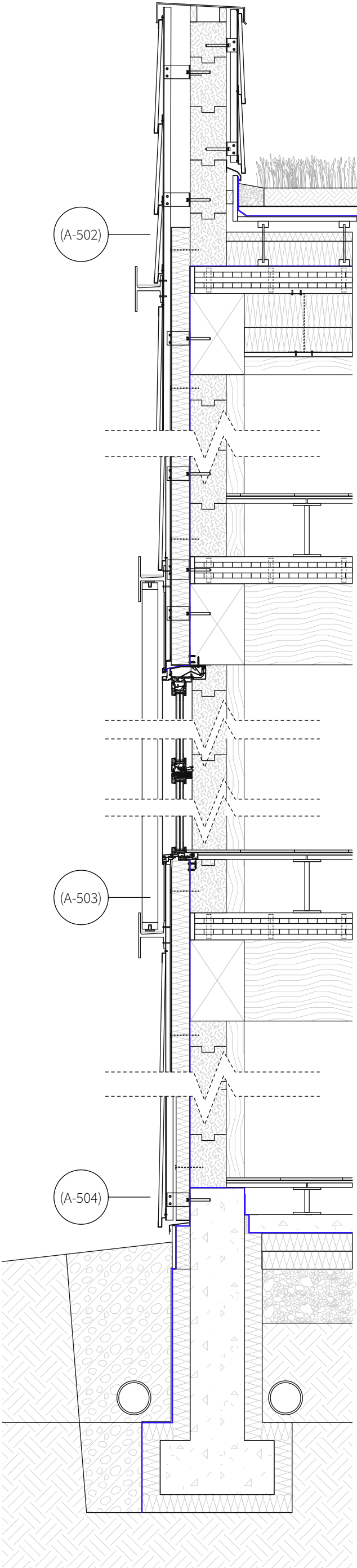
DATE:
Dec. 01, 2023

SHEET:

A-401



Roof R-Value: 86.25
Wall R-Value: 41.2
Window R-Value: 7



TEAM:
INWOO LEE
MEGAN HOLZRICHTER
LILY GUCFA

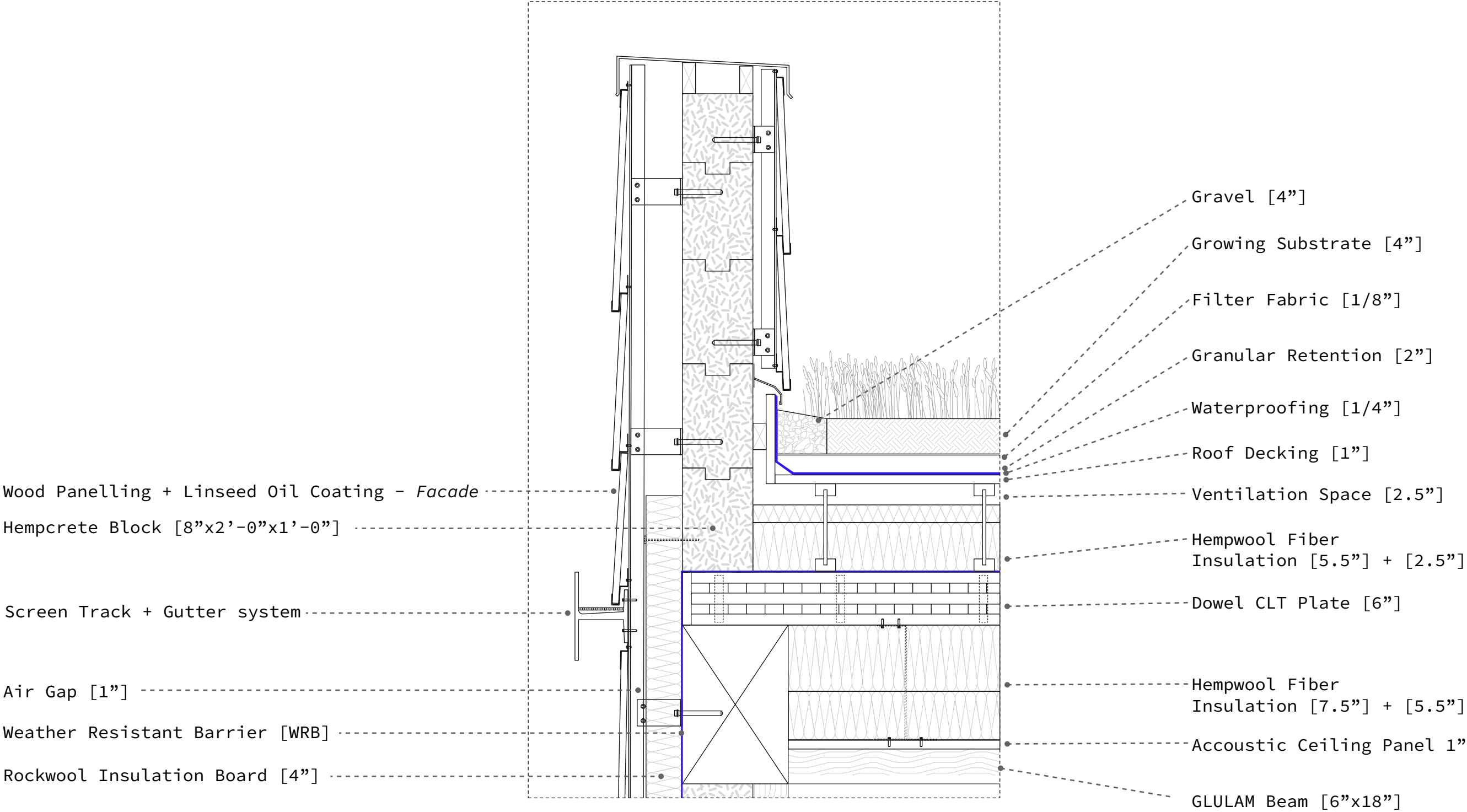
PROJECT:
WHAT CHEER
FLOWER FARM

63 Magnolia St,
Providence, RI 02909
USA

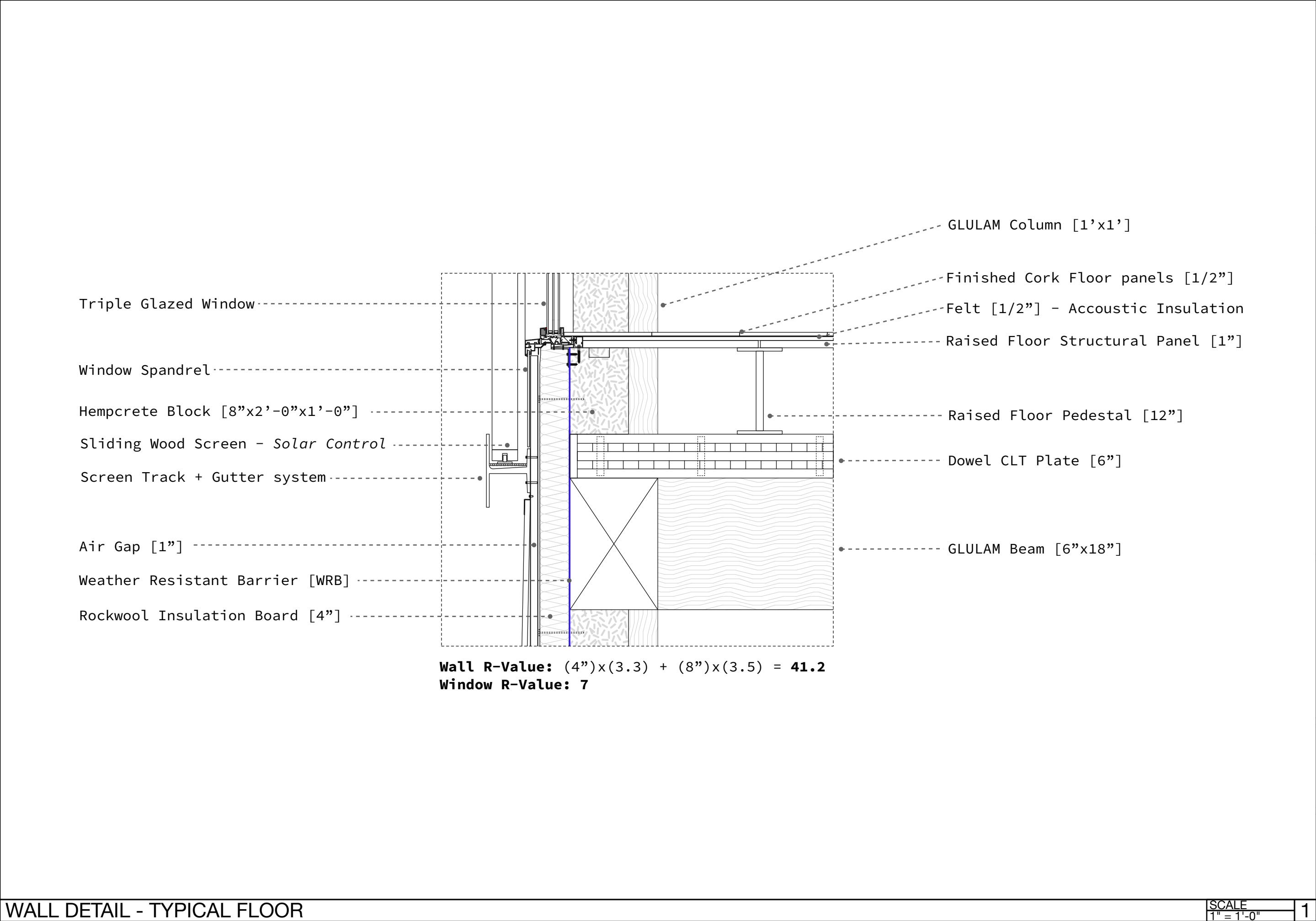
DRAWING:
Wall Detail -
Roof Parapet

DATE:
Dec. 01, 2023

SHEET:
A-502

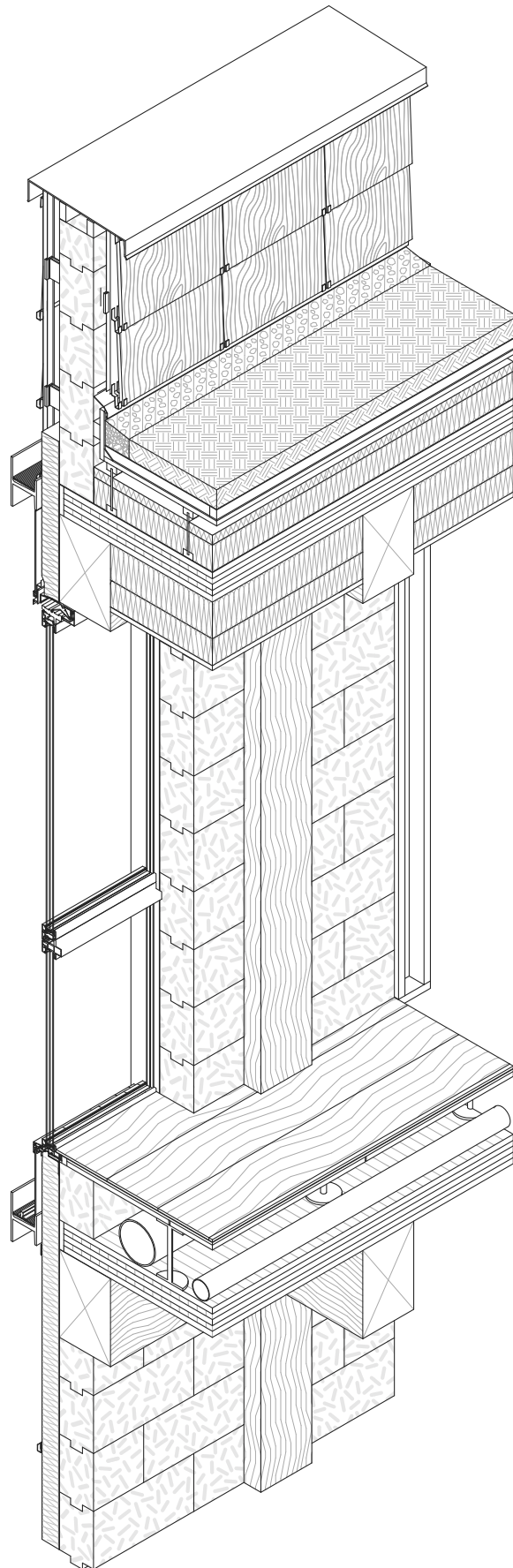
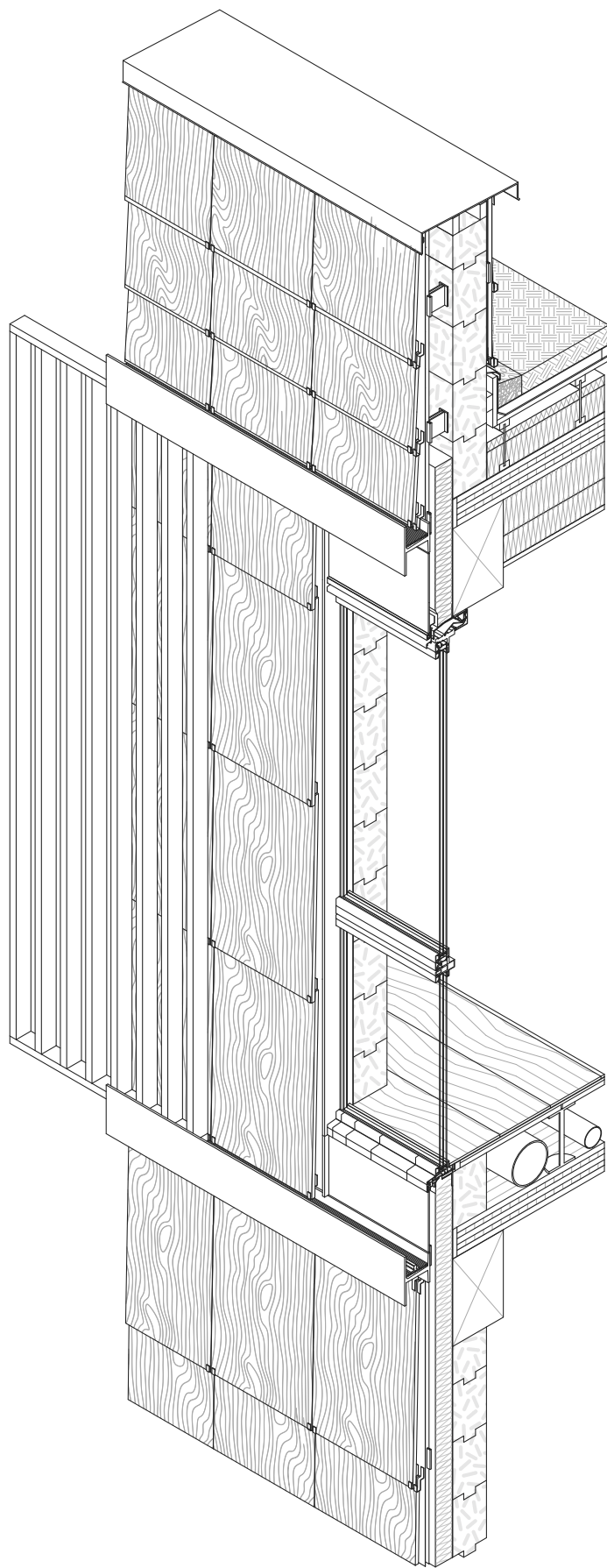


Roof R-Value:
 $(2.5") \times (3.75) + (5.5") \times (3.75) + (6") \times (1.25)$
 $+ (7.5") \times (3.75) + (5.5") \times (3.75) = \mathbf{86.25}$



TEAM: INWOO LEE MEGAN HOLZRICHTER LILY GUCFA
PROJECT: WHAT CHEER FLOWER FARM 63 Magnolia St, Providence, RI 02909 USA
DRAWING: Wall Detail - Typical Floor
DATE: Dec. 01, 2023
SHEET: A-503

			TEAM: INWOO LEE MEGAN HOLZRICHTER LILY GUCFA	
			PROJECT: WHAT CHEER FLOWER FARM 63 Magnolia St, Providence, RI 02909 USA	
			DRAWING: Wall Detail - Foundation	
			DATE: Dec. 01, 2023	
			SHEET: A-504	
WALL DETAIL - FOUNDATION			SCALE 1" = 1'-0"	1



TEAM:

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LILY GUCFA

PROJECT:

WHAT CHEER
FLOWER FARM

63 Magnolia St,
Providence, RI 02909
USA

DRAWING:

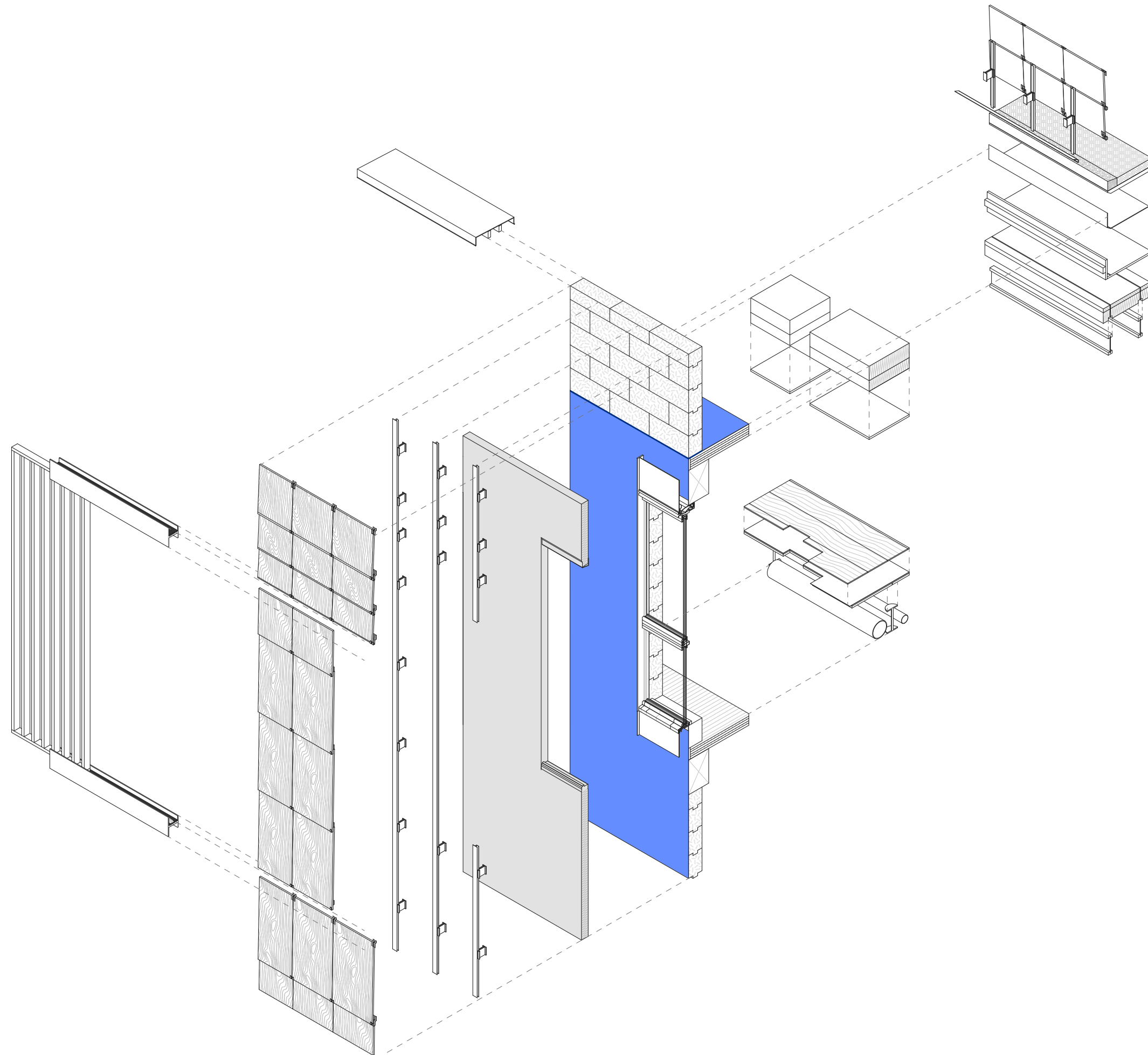
Assembly Axon

DATE:

Dec. 01, 2023

SHEET:

A-501



TEAM:

INWOO LEE
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LILY GUCFA

PROJECT:

WHAT CHEER
FLOWER FARM

63 Magnolia St,
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USA

DRAWING:

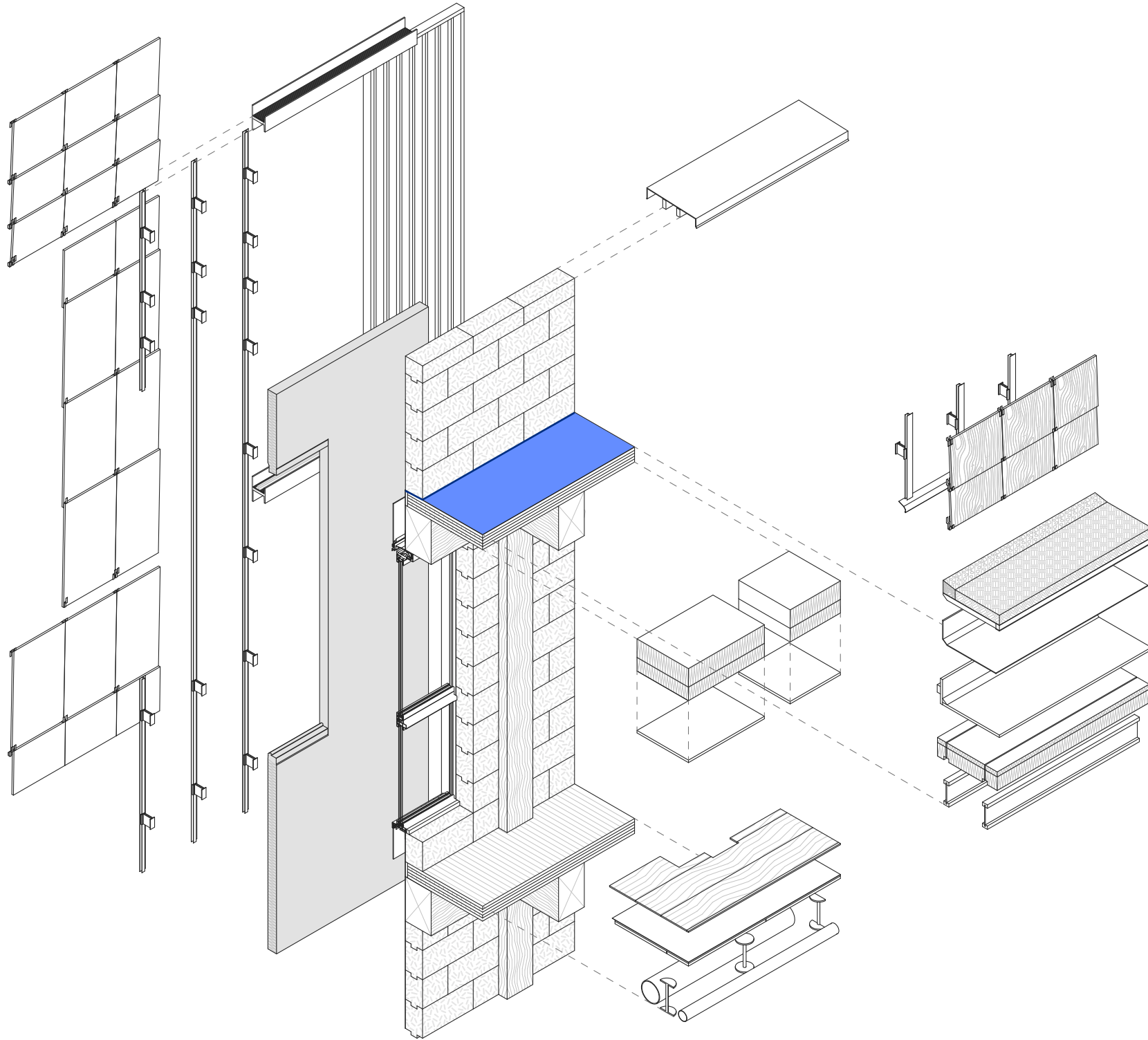
Exploded Assembly
Axon

DATE:

D'ec. 01, 2023

SHEET:

A-501



TEAM:
INWOO LEE
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LILY GUCFA

PROJECT:
WHAT CHEER
FLOWER FARM

63 Magnolia St,
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USA

DRAWING:
Exploded Assembly
Axon

DATE:
Dec. 01, 2023

SHEET:
A-501