811 Know what's below. CALL before you dig.

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EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "PLAN" WERE OBTAINED FROM AVAILABLE AS-BUILT RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL UTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.

SOUTHTOWN BY 4M

CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

SITE PLAN

SITE SUMMARY NOTES

A. PETITION FOR SITE PLAN

REZONING IS REQUESTED FROM R4C TO C1A/R TO INCREASE THE DENSITY AND USE OF THE SITE. THE SOUTH AREA PLAN AS PART OF ANN ARBOR'S COMPREHENSIVE PLAN RECOMMENDS THE PARCELS ON STIMSON BE USED FOR RESIDENTIAL AND COMMERCIAL PURPOSES. BOTH R4C AND C1A/R INTEND TO BE CLOSE TO CAMPUS AND COMMERCIAL DISTRICTS. THE C1A AND C1A/R DISTRICTS HAVE THE LEAST DIMENSIONAL STANDARDS FOR MIXED USE ZONING IN THE UNIFIED DEVELOPMENT CODE. TO RESPOND TO THE CONTEXT OF THE SITE, ADDITIONAL CONDITIONS ARE PROPOSED INCLUDING A HEIGHT LIMIT OF 90', PARKING MAXIMUMS, AND REQUIRED ACTIVE OPEN SPACE.

B. DEVELOPMENT PROGRAM

I. DESCRIPTION:
THE PROPOSED DEVELOPMENT WILL HAVE 216 RESIDENTIAL UNITS, REPLACING 38 EXISTING UNITS. THE UNITS WILL BE A MIX OF STUDIO, ONE, AND TWO BEDROOM. THE SITE HAS BEEN PLANNED TO UTILIZE THE ROOF OF THE GROUND FLOOR AS AN EXTENSION OF LANDSCAPING AND ACTIVE OUTDOOR SPACE WITH EXTERIOR ACCESS THROUGH THE SOUTH, EAST, AND NORTH SIDEWALK CONNECTIONS OF THE SITE. TWO CURB CUTS ON WHITE STREET WILL PROVIDE LOADING, UNLOADING, AND DROP-OFF/PICK-UP AREAS FOR DELIVERIES, VISITORS, AND RESIDENTS AND AN ENTRY TO THE GROUND FLOOR PARKING. ONE CURB CUT ON HENRY WILL PROVIDE AN AREA FOR SOLID WASTE PICKUP. ALL PARKING IS COVERED AND WITHIN THE INTERIOR OF THE GROUND FLOOR.

II. PROPOSED PHASING & PROBABLY CONSTRUCTION COSTS:
THE SITE IS TO BE DEVELOPED IN ONE PHASE, SCHEDULED TO BEGIN ONCE APPROVALS ARE SECURED. CONSTRUCTION COSTS ARE CURRENTLY ESTIMATED TO BE BETWEEN $60-70 MILLION.

C. COMMUNITY ANALYSIS

I. IMPACT OF PROPOSED DEVELOPMENT ON AREA SCHOOLS:
THE PROPOSED SOUTHTOWN DEVELOPMENT WILL NOT IMPACT PUBLIC ELEMENTARY OR HIGH SCHOOLS.

II. RELATIONSHIP OF INTENDED USE TO NEIGHBORING USES:
THE PROPERTY TO THE NORTH OF THE SITE IS PUD FOR AFFORDABLE MULTI-FAMILY HOUSING. THE PROPERTY TO THE EAST OF THE SITE IS R4C AND R3 FOR MARKET RATE AND AFFORDABLE MULTI-FAMILY HOUSING. THE PROPERTY TO THE SOUTH OF THE SITE IS C3 SINGLE STORY COMMERCIAL RETAIL. THE PROPERTY TO THE WEST OF THE SITE IS PL PUBLIC LAND FOR THE UNIVERSITY OF MICHIGAN GOLF COURSE. THE MAJORITY OF THE SURROUNDING PROPERTY IS RESIDENTIAL NEIGHBORHOOD AND LOW DENSITY COMMERCIAL INCLUDING O OFFICE ZONING TO THE NORTH AND C3 COMMERCIAL FOR MUCH OF THE SOUTH AREA.

THE PROJECT WILL BE MARKETED PRIMARILY TO STUDENTS AND YOUNG PROFESSIONALS INTERESTED IN A CONVENIENT LOCATION TO DOWNTOWN ANN ARBOR AND THE UNIVERSITY OF MICHIGAN CAMPUS WITH MULTI-MODAL TRANSPORTATION OPTIONS. THE PROPOSED DEVELOPMENT WILL NOT IMPACT PUBLIC SCHOOLS, AIR, OR WATER QUALITY; AND THERE ARE NO NATURAL FEATURES ON THE SITE. THERE ARE NO HISTORIC DISTRICTS, SITES, OR STRUCTURES NEAR OR ON THE SITE.

THE EXISTING BUILDINGS ARE PROPOSED TO BE REMOVED. THE PROPOSED DEVELOPMENT OF RESIDENTIAL AND COMMERCIAL WITH RETAIL AND OFFICE IS CONSISTENT WITH THE CURRENT USES IN THE NEIGHBORHOOD AND SURROUNDING AREA.

III. IMPACT OF ADJACENT USES ON THE PROPOSED DEVELOPMENT:
IMPACTS ARE LIMITED AS PROPOSED USES (OFFICE, RETAIL, DAYCARE AND RESIDENTIAL) ARE LIKE USES FOUND IN THE EXISTING NEIGHBORHOOD.

IV. IMPACT OF PROPOSED DEVELOPMENT ON AIR AND WATER QUALITY, AND ON THE EXISTING NATURAL FEATURES OF THE SITE AND NEIGHBORING SITES:
a. THERE WILL BE NO NEGATIVE IMPACT TO AIR QUALITY.
b. THE AREA THAT MAKES UP THIS PROJECT IS CURRENTLY DEVELOPED AND HAVE NO STORM WATER DETENTION FACILITIES. THE PROPOSED STORM WATER DETENTION SYSTEM IS DESIGNED TO PRE-TREAT, DETAIN, AND RELEASE THE RUNOFF AT A CONTROLLED RATE. WATER QUALITY CONTROLS WILL BE IMPLEMENTED TO ENSURE THAT RUNOFF DURING CONSTRUCTION IS CONTROLLED AND MANAGED.
c. THE PROPOSED DEVELOPMENT REQUIRES THE REMOVAL OF LANDMARK TREES. ALTERNATIVE ANALYSIS WAS PERFORMED AND IS PROVIDED ON SHEET C-202.
d. THERE ARE NO ENDANGERED SPECIES HABITATS, FLOODPLAINS, WATER COURSES, WETLANDS, STEEP SLOPES, OR WOODLANDS WITHIN THE PROJECT AREA. NO MITIGATION IS REQUIRED.

V. IMPACT OF THE PROPOSED USE ON HISTORIC SITES/STRUCTURES:
NO HISTORIC STRUCTURES EXIST ON-SITE. THE SITE ITSELF IS NOT HISTORIC.

VI. TRAFFIC STATEMENT:
THE PROPOSED SOUTHTOWN DEVELOPMENT (MULTI-FAMILY HOUSING [MID-RISE] PER ITE CODE 221) WILL INCLUDE 216 RESIDENTIAL UNITS.
- THE ESTIMATED TRIP GENERATION (PER ITE MANUAL) IS 1,137 TRIPS (WEEKDAY AVERAGE DAILY TRIPS)
- THE TOTAL AM PEAK HOUR = 98 (VPH)
- THE TOTAL PM PEAK HOUR = 97 (VPH)

VII. PUBLIC SIDEWALK MAINTENANCE STATEMENT
THE PROPOSED PUBLIC SIDEWALK ALONG S. STATE STREET, HENRY STREET, WHITE STREET AND STIMSON STREET SHALL BE KEPT & MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO & ABUTTING THE SAME SIDEWALK.

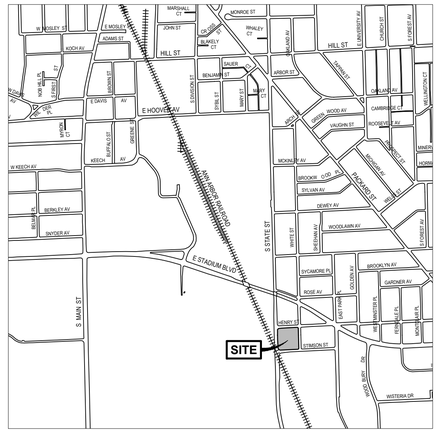
VIII. NATURAL FEATURES GENERAL DESCRIPTION AND IMPACTS:
IN ACCORDANCE WITH THE CITY OF ANN ARBOR LAND DEVELOPMENT REGULATIONS REGARDING SITE PLAN REQUIREMENTS, THE NATURAL FEATURES IMPACTS ARE AS FOLLOWS:
LIMITS OF SOIL DISTURBANCE: SEE GRADING PLAN (SHEET C-300).
BOUNDARY AND DESCRIPTION OF ENDANGERED SPECIES HABITAT: NOT APPLICABLE.
BOUNDARY AND ELEVATION OF ANY 100-YEAR FLOODPLAIN: NOT APPLICABLE.
LANDMARK TREES: SEE EXISTING CONDITIONS PLAN. THERE ARE PROPOSED IMPACTS TO LANDMARK TREES. SEE ALTERNATIVE ANALYSIS AND LANDSCAPE PLAN FOR MITIGATION (SHEET C-200 & C-204).
STEEP SLOPES: NOT APPLICABLE.
WATERCOURSES: THERE ARE NO EXISTING OR PROPOSED WATERCOURSES ON THIS SITE.
WETLANDS: THERE ARE NO EXISTING WETLANDS ON THIS SITE.
WOODLAND BASAL AREA: THERE ARE NO EXISTING WOODLAND AREAS ON THIS SITE.

SITE PERSPECTIVE

DEVELOPMENT SUMMARY & COMPARISON CHART

Zoning	Existing (R4C)	Required / Permitted (R4C)	Proposed (C1A/R)	Required / Permitted (C1 A/R)
Gross Lot Area (min)	72,148 sf	8,500 sf	72,148 sq. ft.	none
Min Lot Width (ft)	40.3'	60	none	none
Min Open Space (% of Lot Area)	82%	40%	none	none
Min Active Open Space (per dwelling - sq. ft.)	1,555	300	91	none *(50 sq. ft. per dwelling unit)*
Building Area (sq. ft.)	13,065	-	222,044 (1)(2)	216,444 (224,444 with premium)
FAR (% of Lot Area)	18.11%	-	307.28% (1)(2)	300% Max + premium
FAR (units / acre)	22.9	20 units / acre	130.9	-
Premiums (sq. ft.)	none	none	4,498 (2)	8,000
Front Setbacks				
State Street	24.2'	25'	5.1' min. 6.3' max.	10' min. (5' with 50% rule)
Stimson Street	N/A	25'	10.4' min. 48.5' max.	10' min. (5' with 50% rule)
White Street	18.4'	25'	9.5' min. 15.5' max.	10' min. (5' with 50% rule)
Henry Street	19.7'	25'	6.4' min. 53.9' max.	10' min. (5' with 50% rule)
Total Setback Area (square feet)	N/A	N/A	13,249 sq. ft.	10,135 sq. ft. min.
Building Height	30'	30'	85'	none (8 stories, 100')
Vehicle Parking				
Vehicle Parking (per dwelling unit)	-	none (was 1.5)	0.25	0.25 proposed max.
Vehicle Parking (per sq. ft. nonresidential)	-	none	1 per 600 sq. ft.	none
EV Parking	0	RESIDENTIAL: EV-C: 90% EV-I: 10%	RESIDENTIAL: EV-C: 45 EV-I: 8	RESIDENTIAL: EV-C: 90% EV-I: 10%
total	28	none	54 total (Including 8 EV & 3 Accessible Spaces)	none
Required Bicycle Parking				
Space	1 per 5 dwelling units Class A: 50% Class B: 0% Class C: 50%	1 per 5 dwelling units Class A: 50% Class B: 0% Class C: 50%	1 per 1.1 dwelling units: 216 Class A: 40% : 124 Class B: 22% : 48 Class C: 38% : 44	1 per 5 dwelling units: 50 Class A: 50%: 25 Class B: 0% Class C: 50%: 25
Office (O)	N/A	N/A	1 per 2,100 sq. ft.: 8	1 per 3,000 sq. ft.: 7
total	*0*	*8*	224 total	57

(1) VARIANCE REQUIRED. A VARIANCE APPLICATION WAS SUBMITTED TO THE ZBA ON FEBRUAURY 22, 2023 & THE PROJECT HAS BEEN PLACED ON THE MAY 24TH ZBA AGENDA.
(2) FLOOR AREA PREMIUM OPTION = PEDESTRIAN AMENITY PREMIUM OPTION - PLAZA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W KEECH AV
BERING E AV
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BAUER
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WOOD AV
VAUGHN ST
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MORGAN AV
BROOKS CIR
SYLVAN AV
DEWEY AV
WOODLAWN AV
SYCAMORE PL
ROSE AV
BROOKLYN AV
GARDNER AV
HENRY ST
STIMSON ST
WISTERIA DR
WHITE ST
GRACKIN ST
HARVARD PL
MINERVA PL
WORDEN PL
MARSHALL CT
JOHN ST
PINKLEY CT
BLAKELY CT
BENJAMIN CT
ROOSEVELT PL
MONROE PL
HILL CT
CAMBRIDGE CT
MINERVA CT
WORDEN CT
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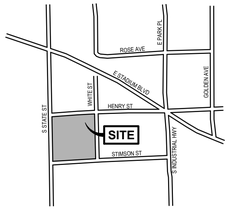

LOCATION MAP

NOT TO SCALE

LEGEND

△	Benchmark / Control Point	⌀	Utility Pole
▦	Catch Basin - Square	(W)	Water Manhole
CO	Cleanout	WV	Water Valve
✳	Deciduous Tree	YD	Yard Drain
(E)	Electric Manhole	C	Cable TV
EM	Electric Meter	UE	Underground Electric
GM	Gas Meter	G	Gas
⟵	Guy Anchor	OH	Overhead Utility
▦	Hand Hole	SS	Sanitary
⊥	Hydrant	ST	Storm
○	Iron - Found	UT	Underground Telephone
☼	Light Pole	W	Watermain
MB	Mailbox	X	Fence
⚑	Miss Dig Flag - Cable	▮▮▮▮▮	Railroad
⚑	Miss Dig Flag - Gas	----------	Zoning Setback
(M)	Manhole	▭	Asphalt
S	Sign	▭	Concrete
(S)	Sanitary Sewer Manhole	▭	Gravel
(D)	Stormwater Manhole	▭	Existing Building
(T)	Telephone Manhole	M=	Measured Dimension
TR	Transformer	P=	Platted Dimension
	Traffic Light		

BENCHMARKS

BENCHMARK #300 ELEV. = 839.56 (NAVD88)
Steamer valve on South side of hydrant, located 6' +/- North of back of curb and 24' +/- West of catch basin at Northwest corner of Stimson Street and White Street.

BENCHMARK #301 ELEV. = 840.14 (NAVD88)
Steamer valve on East side of hydrant, located 25' +/- West of centerline of White Street and 15' +/- South of catch basin at Southwest corner of Henry Street and White Street.

BENCHMARK #302 ELEV. = 844.30 (NAVD88)
Steamer valve on North side of hydrant, located 36' +/- East of centerline of State Street and 12' +/- North of Stimson Street traffic light at Northeast corner of State Street and Stimson Street.

BENCHMARK #303 ELEV. = 843.71 (NAVD88)
Northeast bolt on light pole base, located 15' +/- South of control point 203 and 30' +/- West of centerline of State Street at end of Henry Street .

SOIL DESCRIPTION

GENERAL SOILS DESCRIPTION: USDA CUSTOM SOIL RESOURCE REPORT FOR WASHTENAW COUNTY, MICHIGAN.

MdA **MATHERTON SANDY LOAM, 0 TO 4 PERCENT SLOPES**
LANDFORM: DRAINAGEWAYS ON OUTWASH PLAINS, DRAINAGEWAYS ON TERRACES, DRAINAGEWAYS ON GLACIAL DRAINAGE CHANNELS
DRAINAGE CLASS: SOMEWHAT POORLY DRAINED
RUNOFF CLASS: LOW
HYDROLOGIC SOIL GROUP: B/D

N

0' 10' 20' 40'

SCALE: 1" = 20'

811 Know what's **below.** **CALL** before you dig.

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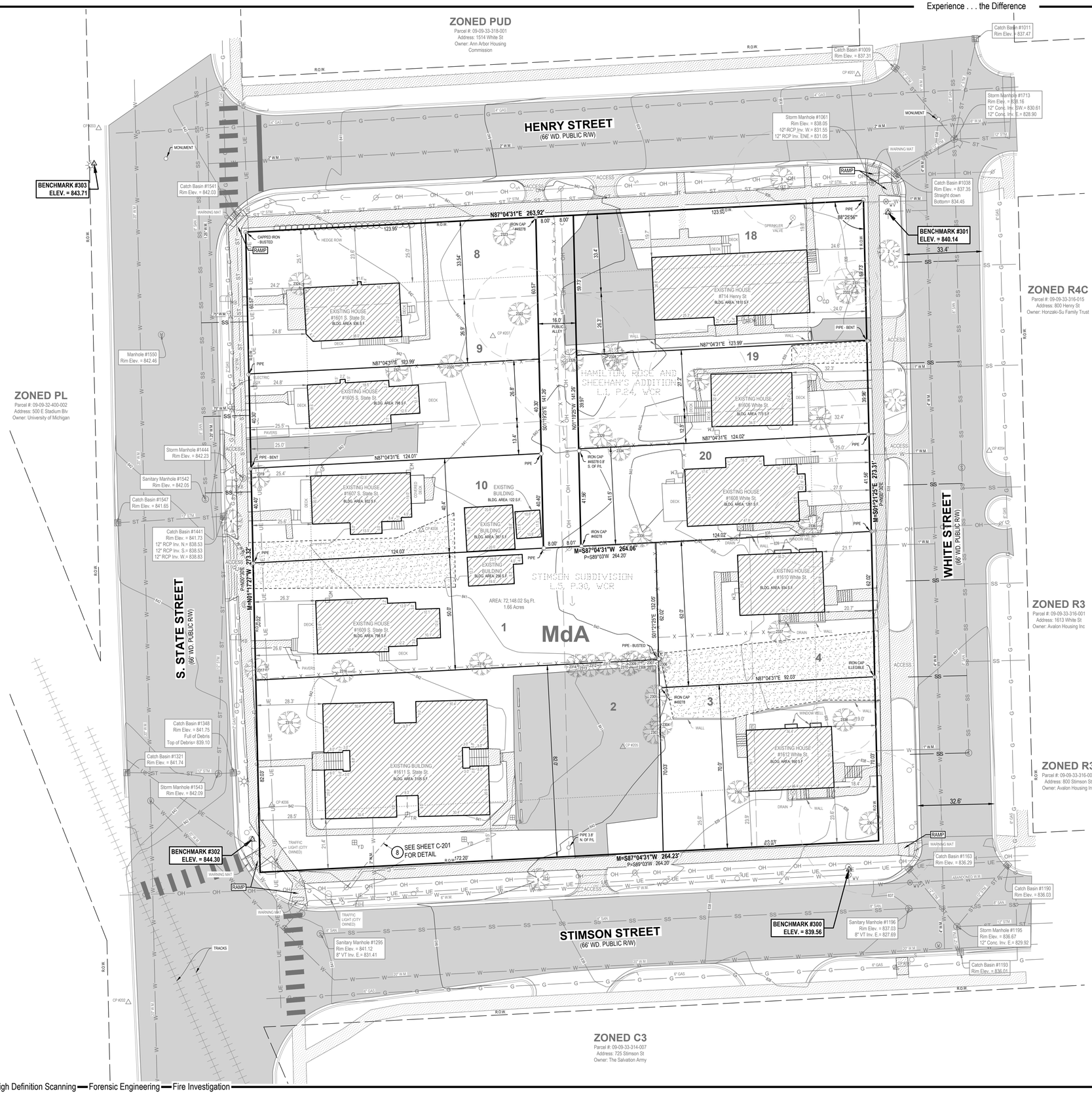

Land Planning — Landscape Architecture — Civil Engineering — Land Surveying — High Definition Scanning — Forensic Engineering — Fire Investigation

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3037 Miller Rd.
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HOLLAND
INDIANAPOLIS

PREPARED FOR:
Southtown by 4M, LLC
Marge Poscher

2082 S. State Street
Ann Arbor, MI 48104

REVISIONS:

Title: Site Plan Submittal
Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023

SOUTHTOWN BY 4M

Existing Site Conditions Plan - ALTA Survey

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:

STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-200

21500282-PREL1.dwg BC 4/24/2023 17:07

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TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU#: MIFA22-3540, dated May 31, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3540

The land is described as follows: City of Ann Arbor, County of Washtenaw

The North 40.02 feet, excepting the North 20.15 feet thereof, of Lot(s) 18, Block 3, also the South 13.5 feet of Lot 18 and the North 26.7 feet of Lot 19, all in Block 3 of HAMILTON, ROSE AND SHEEHAN'S ADDITION TO THE CITY OF ANN ARBOR, according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(11) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 714 Henry St. Ann Arbor, MI 48104-4366

TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU File No.: MIFA22-3535, dated May 31, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3535

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The North 26.9 feet of Lot(s) 9 and the South 33.54 feet of Lot 8, Block 3 of HAMILTON, ROSE & SHEEHAN'S ADDITION TO THE CITY OF ANN ARBOR according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1601 S. State St. Ann Arbor, MI 48104-4366

TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU File No.: MIFA22-3536, dated June 03, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3536

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The South 26.8 feet of Lot 9 and the North 13.4 feet of Lot 10, Block 3 of HAMILTON, ROSE & SHEEHAN'S ADDITION according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1605 S. State St. Ann Arbor, MI 48104-4366

TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU File No.: MIFA22-3537, dated June 06, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3537

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The South 40.3 feet of Lot(s) 10, Block 3 of HAMILTON ROSE & SHEEHAN'S ADDITION TO THE CITY OF ANN ARBOR according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1607 S. State St. Ann Arbor, MI 48104-4366

TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, Commitment Number: 9966-6074453, Revision A, dated June 17, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3541

The land is described as follows: City of Ann Arbor, Washtenaw County, State of Michigan:

The South 27 feet of Lot(s) 19, and the North 13.2 feet of Lot 20, Block 3, according to the recorded plat of HAMILTON, ROSE & SHEEHAN'S ADDITION to the City of Ann Arbor, Washtenaw County, Michigan, according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(9) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1606 White St. Ann Arbor, MI 48104-4366

TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU#: MIFA22-3542, dated May 31, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3542

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The South 41.18 feet of Lot(s) 20, Block 3 of HAMILTON, ROSE & SHEEHAN'S ADDITION according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1608 White St. Ann Arbor, MI 48104-4366

TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, File No: MIFA22-3538, dated May 31, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3538

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The North 50 feet of Lot(s) 1 and 2 of STIMSON SUBDIVISION according to the plat thereof recorded in Liber 5 of Plats, Page 30 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1609 S. State St. Ann Arbor, MI 48104-4366

TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU File No.: MIFA22-3543, dated June 3, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3543

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The North 62 feet of Lot(s) 3 and 4 of STIMSON SUBDIVISION according to the plat thereof recorded in Liber 5 of Plats, Page 30 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1610 White St. Ann Arbor, MI 48104-4366

SURVEYOR'S CERTIFICATION

To First American Title Insurance Company; Southtown by 4M LLC; Land Services USA LLC; Northeast Bank; ROSS-Ann Arbor:
This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 6, 7(a), 7(b)(1), 8, 10, 11, 13, 16, 17, & 20 of Table A thereof. The fieldwork was completed on April 19, 2022.

Date of Plat or Map: July 21, 2022

STATE OF MICHIGAN
Brandon George Parrent
License No. 4001063096
LICENSED PROFESSIONAL SURVEYOR

Brandon G. Parrent
Professional Surveyor No. 4001063096
Nederveld, Inc.
bparrent@nederveld.com

TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, File No: MIFA22-3539, dated June 3, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3539

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The South 82 feet of Lot(s) 1 and 2 of STIMSON SUBDIVISION according to the plat thereof recorded in Liber 5 of Plats, Page 30 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(7) Easement in favor of The Detroit Edison Company and the Michigan Bell Telephone Company and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 1075, page 439. **The easement described in this document is a blanket easement.**

(8) Agreement in favor of The Detroit Edison Company and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 1076, page 518. **The easement route described in this document is shown on this survey. No width has been provided.**

(9) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1611 S. State St. Ann Arbor, MI 48104-4366

TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU#: MIFA22-3544, dated May 31, 2022.

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3544

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The South 70 feet of Lot(s) 3 and 4 of STIMSON SUBDIVISION according to the plat thereof recorded in Liber 5 of Plats, Page 30 of Washtenaw County Records.

SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1612 White St. Ann Arbor, MI 48104-4366

SURVEYOR'S NOTES

1) ALTA TABLE "A" ITEM NO. 1 - Existing and placed monuments at all major corners of the boundary of the property have been shown.
2) ALTA TABLE "A" ITEM NO. 2 - Address of the surveyed property is 714 Henry Street; 1601, 1605, 1607, 1609, 1611 S. State Street; 1606, 1608, 1610, and 1612, Ann Arbor, MI 48104.
3) ALTA TABLE "A" ITEM NO. 3 - Flood Zone Classification: **An examination of the National Flood Insurance Program's Flood Insurance Rate Map for Community Number 260213, Map Number 26161C0263E, with an Effective Date of April 3, 2012, shows this parcel to be located in Zone X (subject to map scale uncertainty).**
4) ALTA TABLE "A" ITEM NO. 4 - **Gross Land Area: 72,148.02 Square Feet / 1.66 Acres**
5) ALTA TABLE "A" ITEM NO. 5 - Vertical relief shown per ground survey at 1' contour interval, NAVD88 Datum.
6) ALTA TABLE "A" ITEM NO. 6(a) - A zoning letter or report has not been provided to the surveyor at this time. Zoning is shown per research performed by Nederveld and Henry Street Feasibility Study November 2021. See "Zoning Information".
7) ALTA TABLE "A" ITEM NO. 6(b) - A zoning letter or report has not been provided to the surveyor at this time. Building setbacks are shown per research and interpretation performed by Nederveld and Henry Street Feasibility Study November 2021..
8) ALTA TABLE "A" ITEM NO. 7(a) - **Exterior dimensions of all permanent buildings at ground level have been shown.**
9) ALTA TABLE "A" ITEM NO. 7(b)(1) - **Building Area: 13,062 Square Feet** (Total)
10) ALTA TABLE "A" ITEM NO. 8 - Substantial features observed in the process of conducting fieldwork have been shown.
11) ALTA TABLE "A" ITEM NO. 10 - No division or party walls with respect to adjoining properties were observed in the process of conducting fieldwork.
12) ALTA TABLE "A" ITEM NO. 11 - See Note 17 below.
13) ALTA TABLE "A" ITEM NO. 13 - Names of adjoining owners have been shown according to current tax records.
14) ALTA TABLE "A" ITEM NO. 16 - Evidence of recent earth moving work, building construction or building additions observed in the process of conducting the fieldwork. **None observed.**
15) ALTA TABLE "A" ITEM NO. 17 - Proposed changes in street right of way lines, if such information is made available to the surveyor by the controlling jurisdiction. Evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork. **None observed.**
16) Note to the client, insurer, and lender - With regard to Table A, item 11, information from the sources checked above will be combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response. Where additional or more detailed information is required, the client is advised that excavation may be necessary.
17) Basis of Bearing: NAD83 Michigan State Planes, South Zone, International Foot
18) NOTE TO CONTRACTORS: 3 (THREE) WORKING DAYS BEFORE YOU DIG, CALL MISS DIG AT TOLL FREE 1-800-482-7171 FOR UTILITY LOCATIONS ON THE GROUND.
19) Access to property is from S. State Street, Henry Street, White Street, and Stimson Street.
20) The surveyed boundary shown hereon is contiguous with adjoining properties and/or rights of way without any gaps, gores, or overlaps.
21) Survey includes a survey of the real property located at 1606 White Street, Ann Arbor, however this property is not part of the collateral in connection with that certain mortgage loan from ROSS-ANN ARBOR, LLC, a Delaware limited liability company, as lender, to South Town By 4M LLC, a Michigan limited liability company, as borrower, dated as of [ ].

NEDERVELD
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3037 Miller Rd.
Ann Arbor, MI 48103
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CHICAGO
COLUMBUS
GRAND RAPIDS
HOLLAND
INDIANAPOLIS

PREPARED FOR:
Southtown by 4M, LLC
Marge Poscher

2082 S. State Street
Ann Arbor, MI 48104

REVISIONS:

Title: Site Plan Submittal
Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023

SOUTHTOWN BY 4M

Existing Site Conditions Plan - ALTA Survey

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E;
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:

STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-201

21500282-PREL1.dwg BC 4/24/2023 17:07

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NATURAL FEATURES ANALYSIS NOTES:

1. 100-YEAR FLOODPLAIN: THERE IS NO FEMA MAPPED FLOOD PLAIN ON THE SITE.
2. LANDMARK TREES: SEE NATURAL FEATURES PLAN (THIS SHEET) AND EXISTING TREE TABLE (SHEET C-203).THERE ARE TWO (2) LANDMARK TREES TO REMAIN WITHIN THE PROPOSED PROJECT SITE.
3. STEEP SLOPES: THERE ARE NO STEEP SLOPES ON THE PROJECT SITE.
4. EXISTING WATERCOURSE: THERE ARE NO WATERCOURSES ON THE SITE.
5. BOUNDARY AND BASAL AREA ESTIMATE WOODLANDS: THERE ARE NO WOODLANDS ON THE SITE.
6. BOUNDARY AND CHARACTER OF ALL WETLANDS: THERE ARE NO WETLANDS ON THE SITE.

TREE SURVEY

Tree ID	Scientific Name	Common Name	DBH	Landmark	Notes	Remove
2301	*Acer saccharinum*	Silver Maple	30.5"	Yes		x
2302	*Thuja occidentalis*	Arborvitae	10"	No		x
2303	*Ulmus pumila*	Siberian Elm	27.5"	No		x
2304	*Acer platanoides*	Norway Maple	8"	No		x
2305	*Ulmus pumila*	Siberian Elm	13.6"	No	multi-stem	x
2306	*Acer platanoides*	Norway Maple	11"	No		x
2307	*Ulmus pumila*	Siberian Elm	9"	No		x
2308	*Ulmus pumila*	Siberian Elm	14"	No		x
2309	*Ulmus pumila*	Siberian Elm	16"	No		x
2310	*Ulmus pumila*	Siberian Elm	7.5"	No		x
2311	*Ulmus pumila*	Siberian Elm	9"	No		x
2312	*Ulmus pumila*	Siberian Elm	8"	No		x
2313	*Ulmus pumila*	Siberian Elm	17"	No		x
2314	*Ulmus pumila*	Siberian Elm	21.7"	No	multi-stem	x
2315	*Acer platanoides*	Norway Maple	13.5"	No		x
2316	*Ulmus americana*	American Elm	8.5"	No		x
2317	*Acer platanoides*	Norway Maple	24.5"	No		x
2318	*Acer platanoides*	Norway Maple	28"	No		x
2319	*Acer platanoides*	Norway Maple	19"	No		x
2320	*Morus alba*	Mulberry	25"	No		x
2321	*Juglans nigra*	Black Walnut	7"	No		x
2322	*Acer saccharum*	Sugar Maple	20"	Yes		x
2323	*Ulmus pumila*	Siberian Elm	23.5"	No		x
2324	*Morus alba*	Mulberry	15.6"	No	multi-stem	x
2325	*Juglans nigra*	Black Walnut	8"	No		x
2326	*Juglans nigra*	Black Walnut	28.5"	Yes		x
2327	*Morus alba*	Mulberry	24"	No		x
2328	*Ulmus americana*	American Elm	8"	No		x
2329	*Pinus resinosa*	Red Pine	21"	No		x
2330	*Thuja occidentalis*	Arborvitae	21.3"	Yes	multi-stem	x
2331	*Juniperus virginiana*	Eastern Red Cedar	9.5"	Yes		x
2332	*Juniperus virginiana*	Eastern Red Cedar	10"	Yes		x
2333	*Thuja occidentalis*	Arborvitae	17"	Yes	multi-stem	x
2334	*Celtis occidentalis*	Common Hackberry	7"	No		x
2335			14"	No	stump	x
2336	*Thuja occidentalis*	Arborvitae	17.5"	Yes	multi-stem	x
2337	*Ulmus pumila*	Siberian Elm	8"	No		x
2338	*Thuja occidentalis*	Arborvitae	14"	Yes	multi-stem	x
1	*Acer miyabe*	Miyabe Maple	8"	No	Street Tree	
2	*Acer saccharum*	Sugar Maple	21.5"	Yes	Street Tree	
3	*Acer saccharum*	Sugar Maple	21"	Yes	Street Tree	
4	*Acer platanoides*	Norway Maple	10"	No	Street Tree	x
5	*Acer platanoides*	Norway Maple	16.5"	No	Street Tree	x

*Tree survey performed April 21, 2022 by Wade Lehmann ISA Certified Arborist ID# MI-4593A

**Multi-stemmed trees DBH calculated using the formula: $\sqrt{x^2+y^2}$

CERTIFIED ARBORIST ISA

LEGEND

EXISTING LANDMARK TREE

EXISTING TREE

PROP. TREE PROTECTION FENCE

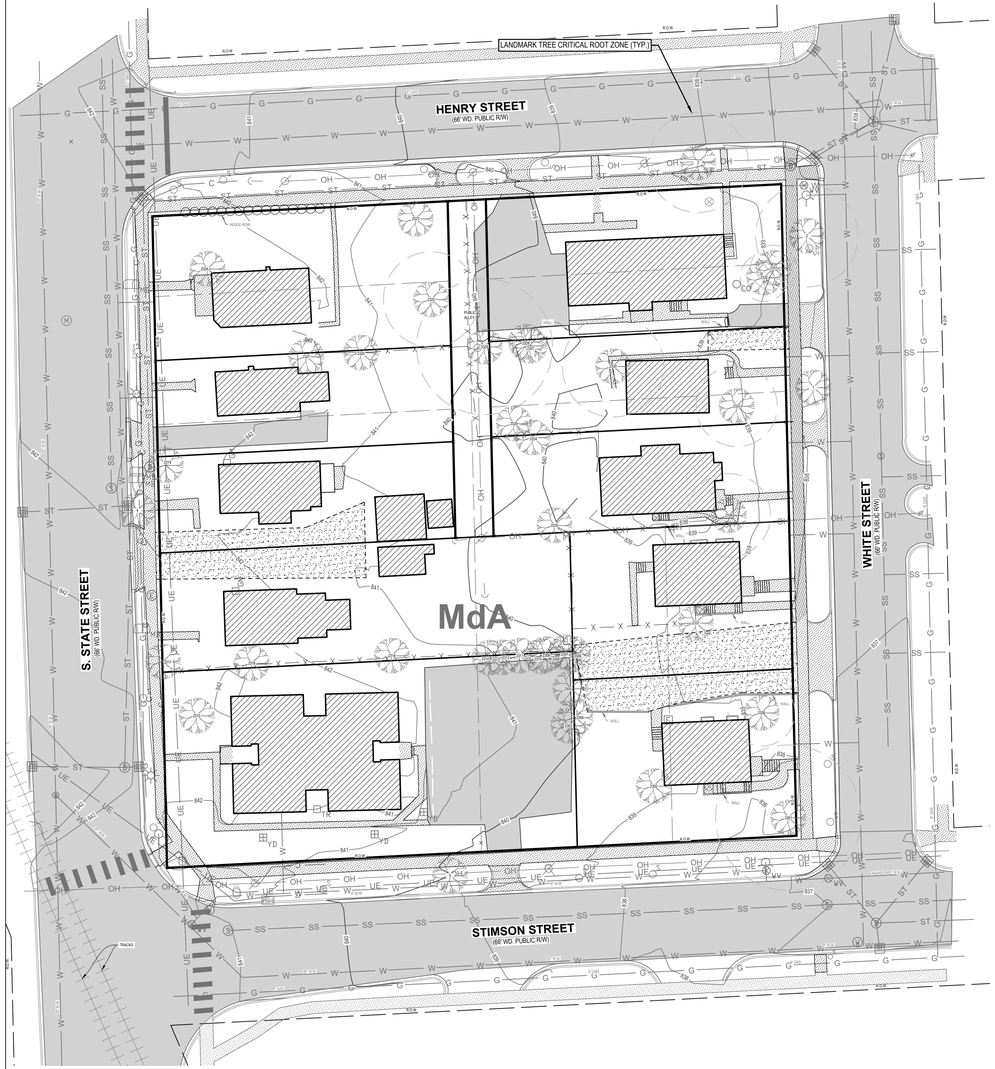
EXISTING GRADE CONTOUR

EXISTING STEEP SLOPES

SOIL TYPE LIMITS

Benchmark / Control Point
Catch Basin - Square
Cleanout
Deciduous Tree
Electric Manhole
Electric Meter
Gas Meter
Guy Anchor
Hand Hole
Hydrant
Iron - Found
Light Pole
Mailbox
Miss Dig Flag - Cable
Miss Dig Flag - Gas
Manhole
Sign
Sanitary Sewer Manhole
Stormwater Manhole
Telephone Manhole
Transformer
Traffic Light

Utility Pole
Water Manhole
Water Valve
Yard Drain
Cable TV
Underground Electric
Gas
Overhead Utility
Sanitary
Storm
Underground Telephone
Watermain
Fence
Railroad
Zoning Setback
Asphalt
Concrete
Gravel
Existing Building
Measured Dimension
Platted Dimension



NATURAL FEATURES ANALYSIS

SCALE: 1" = 30'

NATURAL FEATURES OVERLAY

SCALE: 1" = 30'

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PREPARED FOR:

Southtown by 4M, LLC
Marge Poscher

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SOUTHTOWN BY 4M

Natural Features Plan

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:

STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO: 21500282

SHEET NO: C-202

21500282-PREL1.dwg BC 4/24/2023 17:07

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Project Name: Southtown by 4M
Project Location: 714 Henry Street, Ann Arbor, Michigan 48104
G2 Project No.: 223573
Latitude: 42.26108° Longitude: -83.73933°

Soil Boring No. B-5

CONSULTING GROUP

ELEV. (ft)	PRO FILE	GROUND SURFACE ELEVATION: 839.0 ft ±	DEPTH (ft)	SAMPLE TYPE NO.	SOIL SAMPLE DATA: BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
		Surface Gravel (0.2)							
		Fill: Medium Compact Brown Clayey Sand with trace gravel, occasional clay clods (3.0)		S-1	8 8 8	16			
834.0			5	S-2	8 10 18	47			
		Medium Compact to Compact Brown Sand with trace silt and gravel		S-3	10 15 16	31			
829.0			10	S-4	7 9 11	20			
824.0		Medium Compact to Compact Gray Sand with trace silt and gravel (Finer than No. 200 Sieve @ 20 feet = 5.2%)	15	S-5	7 7 18	25			
819.0			20	S-6	5 14 22	36			
		Medium Compact Gray Sandy Silt with trace clay, frequent clay seams (28.0)	25	S-7	5 8 13	21			
809.0		Medium to Stiff Gray Silty Clay with trace sand, occasional silt layers	30	S-8	8 6 10	18	27.3	106	1110
804.0		(35.0)	35	S-9	4 5 9	14	19.3		2500+
		End of Boring @ 35 ft							

Total Depth: 35 ft
Drilling Date: September 26, 2022
Inspector: DLZ
Contractor: American Drilling, Inc.
Driller: Matt

Drilling Method:
3-1/4 inch inside diameter hollow-stem augers

Water Level Observation:
9 feet during drilling
Wet at collapsed depth upon completion

Notes:
Borehole collapsed at 14 ft after auger removal
+ Calibrated Hand Penetrometer

Excavation Backfilling Procedure:
Auger cuttings

Figure No. 5

Project Name: Southtown by 4M
Project Location: 714 Henry Street, Ann Arbor, Michigan 48104
G2 Project No.: 223573
Latitude: 42.26096° Longitude: -83.74004°

Soil Boring No. B-2

CONSULTING GROUP

ELEV. (ft)	PRO FILE	GROUND SURFACE ELEVATION: 842.0 ft ±	DEPTH (ft)	SAMPLE TYPE NO.	SOIL SAMPLE DATA: BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
		Surface Gravel (0.2)							
		Fill: Medium Compact Brown and Dark Brown Silty Sand with trace gravel and organic matter, occasional clay clods (Organic Content = 3.0%) (4.0)		S-1	9 9 9	18			
837.0			5	S-2	13 20 24	44			
		Compact to Very Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 5 feet = 8.8%) (13.0)		S-3	15 28 34	62			
832.0			10	S-4	12 16 23	39			
827.0		Compact Gray Sand with trace silt and gravel	15	S-5	8 15 19	34			
822.0			20	S-6	8 10 22	32			
		Medium Compact Gray Silty Sand (28.0)	25	S-7	10 15 20	35			
817.0		Medium Compact Gray Silty Clay with trace sand, frequent silt layers (33.0)	30	S-8	5 12 16	28	22.0		
812.0			35	S-9	9 9 12	21	23.3		1500+
807.0		End of Boring @ 35 ft (35.0)							

Total Depth: 35 ft
Drilling Date: September 27, 2022
Inspector: M. Majed
Contractor: DLZ American Drilling, Inc.
Driller: Matt

Drilling Method:
3-1/4 inch inside diameter hollow-stem augers

Water Level Observation:
9 feet during drilling
Wet at collapsed depth upon completion

Notes:
Borehole collapsed at 10 ft after auger removal
+ Calibrated Hand Penetrometer

Excavation Backfilling Procedure:
Auger cuttings

Figure No. 2

Project Name: Southtown by 4M
Project Location: 714 Henry Street, Ann Arbor, Michigan 48104
G2 Project No.: 223573
Latitude: 42.26076° Longitude: -83.73974°

Soil Boring No. B-3

CONSULTING GROUP

ELEV. (ft)	PRO FILE	GROUND SURFACE ELEVATION: 839.0 ft ±	DEPTH (ft)	SAMPLE TYPE NO.	SOIL SAMPLE DATA: BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
		Bituminous Concrete (Asphalt) (0.3)							
		Fill: Medium Compact Brown and Dark Brown Silty Sand with trace gravel, occasional clay clods and asphalt fragments (3.0)		S-1	5 5 9	18			
834.0			5	S-2	8 13 8	23			
		Medium Compact to Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 15 feet = 11.3%)		S-3	12 18 17	35			
829.0			10	S-4	9 14 16	30			
824.0		(18.0)	15	S-5	10 17 21	38			
819.0		Medium Compact Gray Sand with trace silt and gravel	20	S-6	8 12 17	29			
		(24.0)	25	S-7	3 6 6	12			
814.0		Medium Compact to Compact Gray Silty Sand	30	S-8	7 10 17	33			
809.0		(32.0)	35	S-9	8 10 13	23	24.2	114	1030
804.0		Medium Gray Silty Clay with trace sand, frequent silt layers (35.0)							
		End of Boring @ 35 ft							

Total Depth: 35 ft
Drilling Date: September 26, 2022
Inspector: M. Majed
Contractor: DLZ American Drilling, Inc.
Driller: Matt

Drilling Method:
3-1/4 inch inside diameter hollow-stem augers

Water Level Observation:
9 feet during drilling
Wet at collapsed depth upon completion

Notes:
Borehole collapsed at 15 ft after auger removal
+ Calibrated Hand Penetrometer

Excavation Backfilling Procedure:
Auger cuttings
Capped with ashpaltic cold patch

Figure No. 3

Project Name: Southtown by 4M
Project Location: 714 Henry Street, Ann Arbor, Michigan 48104
G2 Project No.: 223573
Latitude: 42.26081° Longitude: -83.73947°

Soil Boring No. B-4

CONSULTING GROUP

ELEV. (ft)	PRO FILE	GROUND SURFACE ELEVATION: 839.0 ft ±	DEPTH (ft)	SAMPLE TYPE NO.	SOIL SAMPLE DATA: BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
		Surface Gravel (0.2)							
		Fill: Medium Compact Dark Brown Silty Sand with trace silt and gravel and organic matter, occasional clay clods (Organic Content = 1.6%) (4.0)		S-1	5 5 7	12			
834.0			5	S-2	8 15 16	31			
		Medium Compact to Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 10 feet = 6.9%)		S-3	12 14 14	28			
829.0			10	S-4	6 9 11	20			
824.0		(18.0)	15	S-5	3 5 8	13			
819.0		Medium Compact Gray Sand with trace silt and gravel	20	S-6	10 7 10	17			
		(24.5)	25	S-7	4 4 8	12			
814.0		Medium Compact Gray Sandy Silt (33.0)	30	S-8	4 8 10	18			
809.0		Stiff Gray Silty Clay with trace sand, frequent sand seams (35.0)	35	S-9	4 6 7	13	22.7	116	2860
804.0		End of Boring @ 35 ft							

Total Depth: 35 ft
Drilling Date: September 15, 2022
Inspector: C. Nicol
Contractor: G2 Consulting Group, LLC
Driller: E. Talabo

Drilling Method:
2-1/4 inch inside diameter hollow-stem augers

Water Level Observation:
8 feet during and upon completion

Notes:
Borehole collapsed at 8 ft after auger removal
+ Calibrated Hand Penetrometer

Excavation Backfilling Procedure:
Auger cuttings

Figure No. 4

Project Name: Southtown by 4M
Project Location: 714 Henry Street, Ann Arbor, Michigan 48104
G2 Project No.: 223573
Latitude: 42.26119° Longitude: -83.74021°

Soil Boring No. B-1

CONSULTING GROUP

ELEV. (ft)	PRO FILE	GROUND SURFACE ELEVATION: 842.0 ft ±	DEPTH (ft)	SAMPLE TYPE NO.	SOIL SAMPLE DATA: BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
		Topsoil: Dark Brown Silty Sand with trace gravel (4.0)							
		Fill: Medium Compact Dark Brown Silty Sand with trace gravel and organic matter, occasional clay clods (Organic Content = 4.6%) (4.0)		S-1	6 6 8	14			
837.0			5	S-2	7 10 17	36			
		Medium Compact to Compact Brown Sand with trace silt and gravel		S-3	5 12 15	27			
832.0			10	S-4	7 13 14	27			
827.0		(18.0)	15	S-5	7 14 19	33			
822.0		Medium Compact Gray Sand with trace silt and gravel	20	S-6	4 11 18	29			
		(28.0)	25	S-7	11 15 15	30			
817.0		Medium Compact to Compact Gray Silty Sand (Finer than No. 200 Sieve @ 30 feet = 26.2%)	30	S-8	8 15 18	33			
812.0		(35.0)	35	S-9	6 12 11	23			
807.0		End of Boring @ 35 ft							

Total Depth: 35 ft
Drilling Date: September 27, 2022
Inspector: M. Majed
Contractor: DLZ American Drilling, Inc.
Driller: Matt

Drilling Method:
3-1/4 inch inside diameter hollow-stem augers

Water Level Observation:
9 feet during and upon completion

Notes:
Borehole collapsed at 9 ft after auger removal

Excavation Backfilling Procedure:
Auger cuttings

Figure No. 1

Project Name: Southtown by 4M
Project Location: 714 Henry Street, Ann Arbor, Michigan 48104
G2 Project No.: 223573
Latitude: 42.26126° Longitude: -83.73967°

Soil Boring No. B-6

CONSULTING GROUP

ELEV. (ft)	PRO FILE	GROUND SURFACE ELEVATION: 840.0 ft ±	DEPTH (ft)	SAMPLE TYPE NO.	SOIL SAMPLE DATA: BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
		Bituminous Concrete (Asphalt) (0.3)							
		Fill: Medium Compact Brown and Dark Brown Clayey Sand with trace gravel and organic matter, occasional asphalt fragments (4.0)		S-1	2 5 8	13			
835.0			5	S-2	9 10 13	23			
		Medium Compact to Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 7.5 feet = 8.9%)		S-3	7 11 10	21			
830.0			10	S-4	8 16 15	31			
825.0		(14.0)	15	S-5	8 10 20	30			
820.0		Medium Compact Gray Sand with trace silt and gravel	20	S-6	7 13 16	29			
		(24.5)	25	S-7	2 6 7	13			
815.0		Medium Compact Gray Sandy Silt with trace clay, frequent clay seams (28.0)	30	S-8	9 12 16	28			
810.0		Medium Compact Gray Silty Sand with trace clay (33.0)	35	S-9	7 8 12	20	20.9		3000+
805.0		Stiff Gray Silty Clay with trace sand (35.0)							
		End of Boring @ 35 ft							

Total Depth: 35 ft
Drilling Date: September 26, 2022
Inspector: M. Majed
Contractor: DLZ American Drilling, Inc.
Driller: Matt

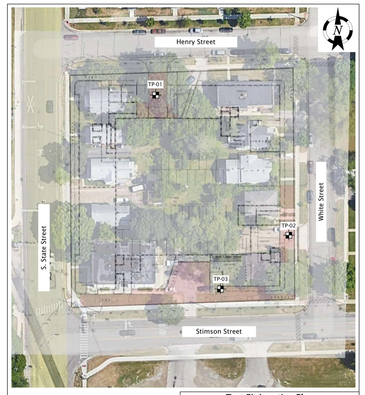
Drilling Method:
3-1/4 inch inside diameter hollow-stem augers

Water Level Observation:
9 feet during drilling
Wet at collapsed depth upon completion

Notes:
Borehole collapsed at 16 ft after auger removal
+ Calibrated Hand Penetrometer

Excavation Backfilling Procedure:
Auger cuttings
Capped with ashpaltic cold patch

Figure No. 6



Legend

Test pit performed by Maulbetsch Excavating and Tree, LLC on March 16, 2023

Test Pit Location Plan

Proposed Southtown by 4M
714 Henry Street
City of Ann Arbor, Washtenaw County, Michigan

CONSULTING GROUP

Project No. 223573	
Drawn by: OR	
Date: 3-16-23	Plate No. 1
Scale: NTS	

Project Name: Southtown by 4M
Project Location: 714 Henry Street, Ann Arbor, Michigan 48104
G2 Project No.: 223573
Latitude: 42.26126° Longitude: -83.73990°

Test Pit No. TP-01

CONSULTING GROUP

ELEV. (ft)	PRO FILE	GROUND SURFACE ELEVATION: 842.0 ft ±	DEPTH (ft)	SAMPLE TYPE/NO.	SOIL SAMPLE DATA: DRY DENSITY (PCF)	MOISTURE CONTENT (%)	PERCENT COMPACTION	UNCONF. COMP. ST. (PSF)
		Topsoil: Dark Brown Silty Sand with trace clay and gravel (12 inches) (1.0)		BS-1				
		Fill: Dark Brown Clayey Sand with trace gravel (1.5)		BS-2				
		Fill: Very Stiff Brown Sandy Clay with trace gravel (2.5)		BS-3	19.1			4000+
		Grayish Brown Sand with trace silt and gravel (Infiltration Rate = 6.00 iph)						
837.0		(5.0) End of Test Pit @ 5 ft	5	BS-4				
			10					

Total Depth: 5 ft
Excavation Date: March 16, 2023
Inspector: O. Rama
Contractor: Maulbetsch Excavating and Tree, LLC
Operator: P. Maulbetsch

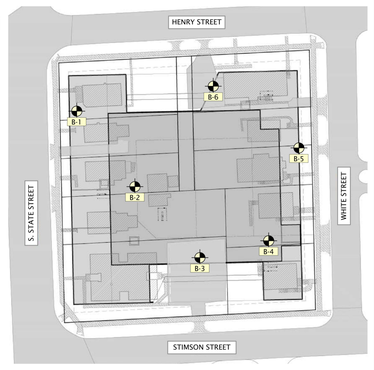
Excavation Equipment:
CAT 420E Backhoe with 30-inch bucket

Water Level Observation:
Dry during and upon completion

Notes:
+ Calibrated Hand Penetrometer

Excavation Backfilling Procedure:
Excavated soil; uncontrolled

Figure No. 1



LEGEND

Soil borings performed by G2 Consulting Group, LLC and DLZ American Drilling, Inc. on September 15, 26 and 27, 2022

50 FEET

Soil Boring Location Plan

Southtown by 4M
714 Henry Street
Ann Arbor, Michigan 48104

CONSULTING GROUP

Project No. 223573	
Drawn by: JDC	
Date: 09-30-22	Plate No. 1
Scale: NTS	

Project Name: Southtown by 4M
Project Location: 714 Henry Street, Ann Arbor, Michigan 48104
G2 Project No.: 223573
Latitude: 42.26119° Longitude: -83.73931°

Test Pit No. TP-02

CONSULTING GROUP

ELEV. (ft)	PRO FILE	GROUND SURFACE ELEVATION: 839.0 ft ±	DEPTH (ft)	SAMPLE TYPE/NO.	SOIL SAMPLE DATA: DRY DENSITY (PCF)	MOISTURE CONTENT (%)	PERCENT COMPACTION	UNCONF. COMP. ST. (PSF)
		Surface Gravel (0.5)		BS-1				
		Fill: Dark Brown Silty Sand with trace clay and gravel (1.5)		BS-2				
		Fill: Brown Silty Sand with trace clay and gravel (3.5)		BS-3				
		Grayish Brown Sand with trace silt and gravel (Infiltration Rate = 6.00 iph)						
834.0		(5.0) End of Test Pit @ 5 ft	5	BS-4				
829.0			10					

Total Depth: 5 ft
Excavation Date: March 16, 2023
Inspector: O. Rama
Contractor: Maulbetsch Excavating and Tree, LLC
Operator: P. Maulbetsch

Excavation Equipment:
CAT 420E Backhoe with 30-inch bucket

Water Level Observation:
Dry during and upon completion

Excavation Backfilling Procedure:
Excavated soil; uncontrolled

Figure No. 2

Project Name: Southtown by 4M
Project Location: 714 Henry Street, Ann Arbor, Michigan 48104
G2 Project No.: 223573
Latitude: 42.26065° Longitude: -83.73931°

Test Pit No. TP-03

CONSULTING GROUP

ELEV. (ft)	PRO FILE	GROUND SURFACE ELEVATION: 840.0 ft ±	DEPTH (ft)	SAMPLE TYPE/NO.	SOIL SAMPLE DATA: DRY DENSITY (PCF)	MOISTURE CONTENT (%)	PERCENT COMPACTION	UNCONF. COMP. ST. (PSF)
		Topsoil : Dark Brown Silty Sand (12 inches) (1.0)		BS-1				
		Fill: Brown Clayey Sand with trace gravel (3.0)		BS-2				
		Grayish Brown Sand with trace silt and gravel (Infiltration Rate = 5.25 iph) (Finer than No. 200 Sieve = 10.8%)		BS-3				
835.0		(5.0) End of Test Pit @ 5 ft	5					
830.0			10					

Total Depth: 5 ft
Excavation Date: March 16, 2023
Inspector: O. Rama
Contractor: Maulbetsch Excavating and Tree, LLC
Operator: P. Maulbetsch

Excavation Equipment:
CAT 420E Backhoe with 30-inch bucket

Water Level Observation:
Dry during and upon completion

Excavation Backfilling Procedure:
Excavated soil; uncontrolled

Figure No. 3

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Ann Arbor, MI 48103
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COLUMBUS
GRAND RAPIDS
HOLLAND
INDIANAPOLIS

PREPARED FOR:

Southtown by 4M, LLC
Marge Poscher

2082 S. State Street
Ann Arbor, MI 48104

REVISIONS:

Title: Site Plan Submittal
Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023

SOUTHTOWN BY 4M

Soil & Infiltration Report

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:

STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-203

4/24/2023 11:07 BC 21500282 PREL1.dwg

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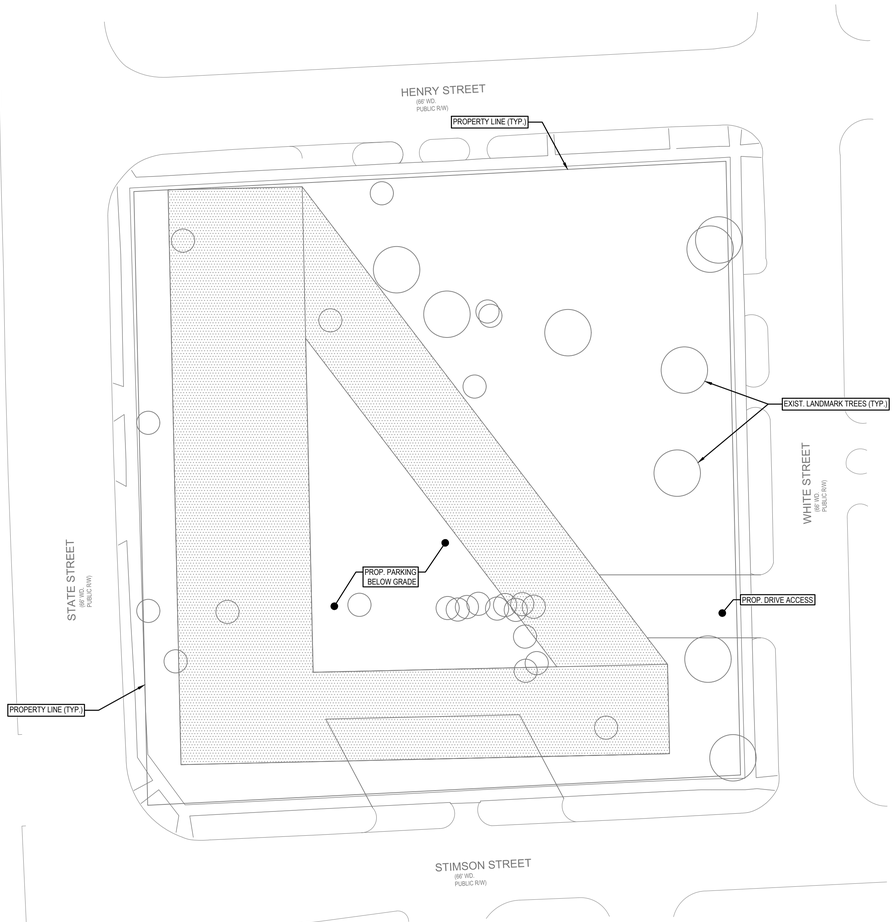


ALTERNATIVE ANALYSIS #1

8 STORIES (300 FAR)
FLOOR 1: 18,000 SF
FLOORS 2-8: 30,000 SF EACH
PARKING BELOW GRADE

THIS PROPOSED CONCEPT WOULD GENERATE AN 8 STORY BUILDING FOR THE ENTIRE MASS WHICH WOULD CREATE LONG SHADOWS ACROSS THE NEIGHBORHOOD. MAXING OUT THE FAR CREATES A BUILDING THAT DOES NOT FIT IN THE CONTEXT OF THE NEIGHBORHOOD. THE PROPOSED BELOW GRADE PARKING WOULD BE HIGHLY COSTLY TO THE PROJECT SINCE THE GROUND WATER IN THIS AREA IS RELATIVELY HIGH. THE UNDERGROUND PARKING WOULD BE BELOW THE GROUND WATER LEVEL.

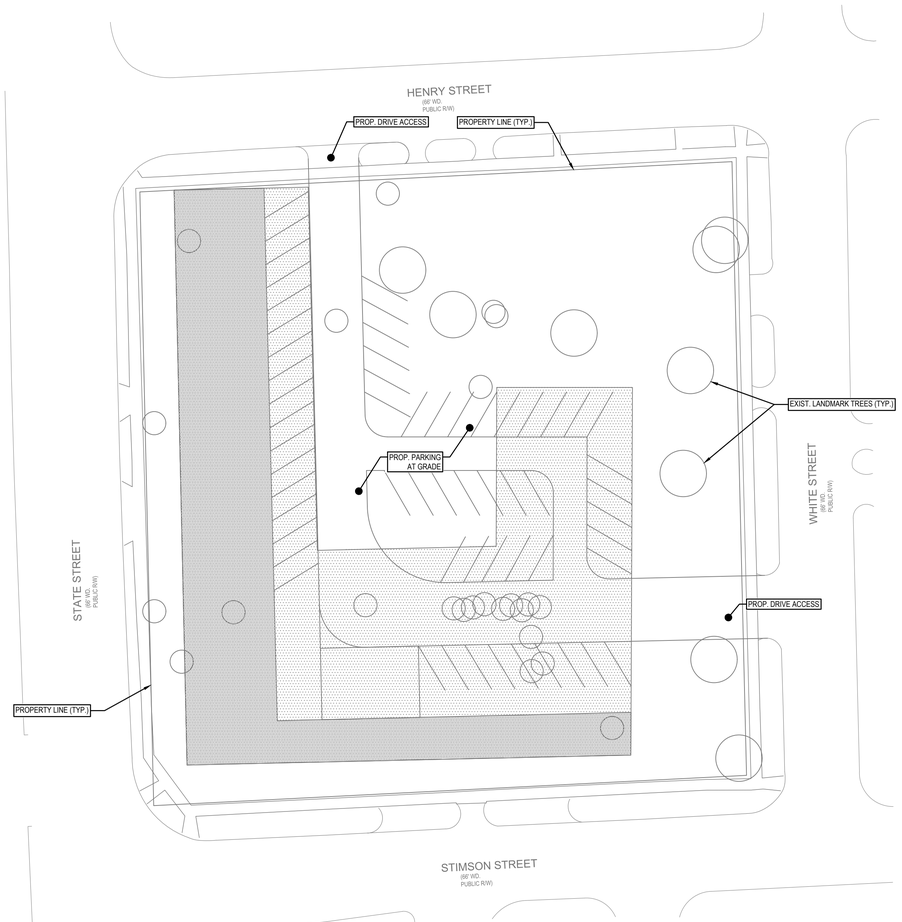
LANDMARK TREE TABLE

Alternative Analysis 1

ID	Species	DBH	Landmark
2330	*Thuja accidentalis*	21.3	yes
2331	*Juniperus virginana*	9.5	yes
2332	*Juniperus virginana*	10	yes
2333	*Thuja accidentalis*	17	yes
2336	*Thuja accidentalis*	17.5	yes
		75.3	**total DBH saved**

EARLY PROPOSED CONCEPT - SITE PLAN

SCALE: 1" 100'



ALTERNATIVE ANALYSIS #2

9 STORIES (300 FAR)
FLOOR 1: 10,000 SF
FLOORS 2-9: 28,000 SF EACH
PARKING AT GRADE

CONCEPT # 2 UTILIZED PARKING AT GRADE WHICH WOULD ALSO BE UNDER PORTIONS OF THE BUILDING. PARKING AT GRADE REDUCES THE ABILITY FOR RESIDENTS TO USE OUTDOOR AREAS SINCE MOST OF IT WOULD BE SUBJECT TO VEHICULAR AREAS. THE BUILDING SHAPE BEING A SMALLER FOOTPRINT WOULD NEED TO BE 9 STORIES TALL IN ORDER TO MEET THE FAR. THIS GENERATES A STRUCTURE THAT IS OUT OF CHARACTER IN THE NEIGHBORHOOD AND CREATES LONG SHADOWS ONTO THE NEIGHBORS TO THE NORTH AND TO THE EAST.

LANDMARK TREE TABLE

Alternative Analysis 2

ID	Species	DBH	Landmark
2301	*Acer saccharinum*	30.5	yes
2322	*Acer saccharum*	20	yes
2326	*Juglans nigra*	28.5	yes
2330	*Thuja occidentalis*	21.3	yes
2331	*Juniperus virginana*	9.5	yes
2332	*Juniperus virginana*	10	yes
2333	*Thuja occidentalis*	17	yes
2336	*Thuja occidentalis*	17.5	yes
2338	*Thuja occidentalis*	14	yes
		168.3	**total DBH saved**

EARLY PROPOSED CONCEPT (#2) - SITE PLAN

SCALE: 1" 100'

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PREPARED FOR:

Southtown by 4M, LLC
Marge Poscher

2082 S. State Street
Ann Arbor, MI 48104

REVISIONS:

Title: Site Plan Submittal
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SOUTHTOWN BY 4M

Alternative Analysis

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:

STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-204

21500282-PREL1.dwg BC 4/24/2023 17:07

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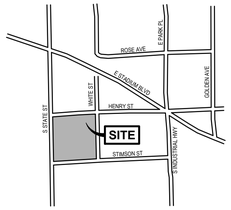
0' 10' 20' 40'

SCALE: 1" = 20'



LOCATION MAP

NOT TO SCALE

LEGEND

- EXISTING GRADE CONTOUR
- EXISTING BITUMINOUS REMOVAL
- EXISTING CONCRETE REMOVAL
- EXISTING UTILITY REMOVAL
- EXISTING TREE REMOVAL
- SAWCUT EXISTING PAVEMENT

REMOVAL / DEMOLITION NOTES

1) THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES AT LEAST THREE WEEKS PRIOR TO THE BEGINNING OF CONSTRUCTION OPERATIONS. THERE ARE EXISTING UNDERGROUND UTILITIES WHICH CROSS THE PROPOSED REPLACEMENT WORK AREAS. ALTHOUGH THEIR EXACT LOCATION CANNOT BE DETERMINED, IT IS KNOWN THESE UTILITIES ARE LOCATED WHERE DIGGING IS REQUIRED. THE CONTRACTOR SHALL CONDUCT THE REQUIRED EXCAVATION IN THESE AREAS WITH EXTREME CAUTION.
2) ALL EXISTING UTILITY INFORMATION SHOWN IS TAKEN FROM EXISTING RECORDS, AND FIELD VERIFIED WHERE ACCESSIBLE ONLY. INFORMATION OBTAINED FROM EXISTING RECORDS MAY NOT BE COMPLETE OR ACCURATE. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. THE CONTRACTOR SHALL FIELD VERIFY FOR ACCURACY, LOCATION AND CONDITION.
3) BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY AND BY THE OWNER, REPRESENTATIVES OF THE CITY, THE OWNER AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE EXISTING SEWERS WITHIN THE WORK LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING UTILITIES AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS AND EXISTING VIDEO TAPES. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE CONTRACTOR.
4) THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION WORK.
5) ALL EXISTING UTILITIES, SEWERS AND WATER LINES ARE TO REMAIN UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH ALL APPLICABLE UTILITY COMPANIES, MUNICIPALITIES AND AGENCIES BEFORE COMMENCING ANY WORK.
6) THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES REGARDING REMOVAL OF EXISTING POLES, OVERHEAD WIRES, UNDERGROUND UTILITIES, GUY WIRES, GAS LINES, ETC. ALL ADJUSTMENT OR RECONSTRUCTION WORK, EXCEPT FOR THOSE STRUCTURES OTHERWISE NOTED ON THE PLANS, SHALL BE PERFORMED BY THE CONTRACTOR. EXISTING APPURTENANCES SUCH AS UTILITY POLES AND VALVES BOX SHALL NOT BE DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION.
7) THE CONTRACTOR SHALL MAINTAIN EXISTING UTILITY SERVICE TO ALL ADJOINING PROPERTIES.
8) ALL DEBRIS SHALL BE REMOVED FROM THE SITE, AND NO STOCKPILING ON SITE SHALL BE ALLOWED UNLESS APPROVED BY THE OWNER OR THEIR REPRESENTATIVES.
9) THE CONTRACTOR SHALL LIMIT SAWCUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE REQUIRED OR AS SHOWN. ALL PAVEMENTS TO BE REMOVED SHALL BE SAWCUT AND REMOVED TO FULL DEPTH AT ALL PAVEMENT LIMITS OR EXISTING JOINTS. IF ANY DAMAGE IS INCURRED TO ANY OF THE SURROUNDING PAVEMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR AT NO ADDITIONAL COST TO ANYONE ELSE, INCLUDING THE CITY OR OWNER.
10) ASPHALT AREAS SHOWN TO BE SAWCUT AND REMOVED FULL DEPTH ARE ACTUAL FACE OF PROPOSED CURBS. IT WILL BE NECESSARY TO MAKE OFF-SET SAWCUTS TO PROVIDE CLEARANCE FOR PROPOSED CURBS. THE CONTRACTOR SHALL DETERMINE THE AMOUNT OF OFF-SET NECESSARY TO CONSTRUCT THE PROPOSED CURBS AND SHALL BE APPROVED BY THE CITY OF ANN ARBOR ENGINEERING. ADDITIONAL CUTS MAY BE DESIRED TO FACILITATE THE REMOVAL OF THE EXISTING PAVEMENT, BUT THERE WILL BE NO EXTRA PAYMENT FOR ADDITIONAL CUTS. PAVEMENT SHALL BE REMOVED WITHOUT DAMAGING OR UNDERMINING THE REMAINING PAVEMENT. IF ADJACENT PAVEMENT IS DAMAGED, THE CONTRACTOR SHALL MAKE ADDITIONAL FULL DEPTH SAWCUTS AND REMOVE THE DAMAGE AREAS AS NECESSARY.
11) ALL PAVEMENT REMOVAL AREAS SHALL BE FULL PAVEMENT CROSS-SECTION REMOVAL DOWN TO NATIVE SOIL LAYER IN ACCORDANCE WITH THE GEOTECHNICAL REPORT DATED OCTOBER 4, 2022. ALL TREES WITHIN THE GRADING LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.
12) IF FOOTING DRAINS FOR THE EXISTING BUILDING ARE CONNECTED TO THE SANITARY SEWER SYSTEM, DISCONNECTION IS REQUIRED IN ACCORDANCE WITH CURRENT CITY SPECIFICATIONS. FOOTING DRAINS REMOVED FROM ANY EXISTING BUILDINGS MAY OFFSET ANY REQUIRED MITIGATION. VERIFICATION OF EXISTING FOOTING DRAINS SHALL BE PERFORMED BY ENGINEERING FOR ANY BUILDING CONSTRUCTED BETWEEN 1930 AND 1982. TO SCHEDULE INSPECTION, CONTACT AMY PONSOCK AT APONSOCK@A2GOV.ORG.
13) ANY SERVICE LEADS THAT WILL NOT BE REUSED SHALL BE DISCONNECTED AT THEIR RESPECTIVE MAINS.

LEGEND

△	Benchmark / Control Point	⌀	Utility Pole
CB	Catch Basin - Square	W	Water Manhole
CO	Cleanout	WV	Water Valve
	Deciduous Tree	YD	Yard Drain
E	Electric Manhole	C	Cable TV
EM	Electric Meter	UE	Underground Electric
GM	Gas Meter	G	Gas
	Guy Anchor	OH	Overhead Utility
HH	Hand Hole	SS	Sanitary
	Hydrant	ST	Storm
	Iron - Found	UT	Underground Telephone
	Light Pole	W	Watermain
MB	Mailbox	X	Fence
	Miss Dig Flag - Cable		Railroad
	Miss Dig Flag - Gas		Zoning Setback
M	Manhole		Asphalt
S	Sign		Concrete
S	Sanitary Sewer Manhole		Gravel
D	Stormwater Manhole		Existing Building
T	Telephone Manhole	M=	Measured Dimension
TR	Transformer	P=	Platted Dimension

Traffic Light

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NOTE:
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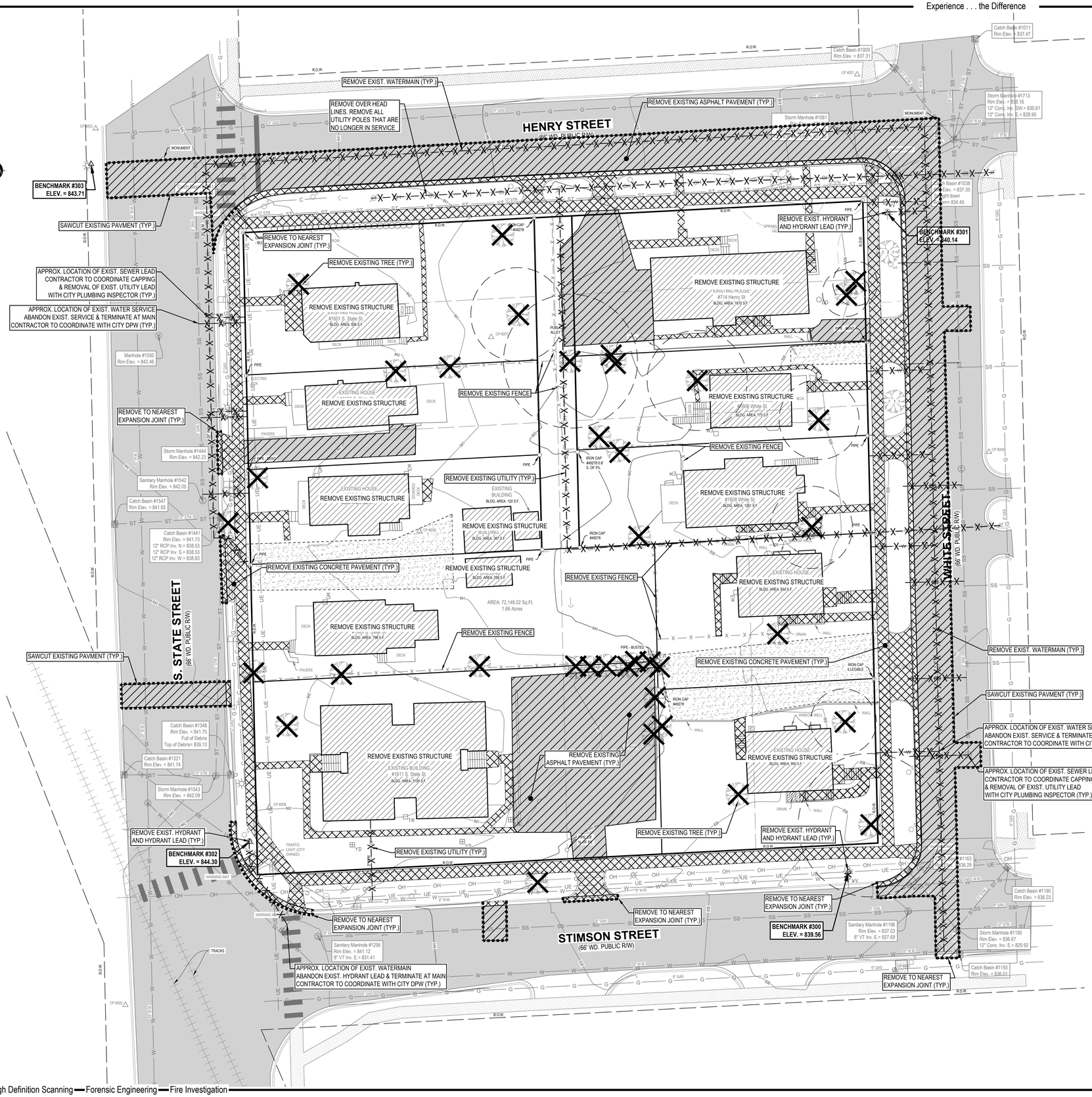

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PREPARED FOR:

Southtown by 4M, LLC
Marge Poscher

2082 S. State Street
Ann Arbor, MI 48104

REVISIONS:

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Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023

SOUTHTOWN BY 4M

Demolition Plan

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:

STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO: 21500282

SHEET NO: C-205

BC 4/24/2023 17:08
21500282-PREL1.dwg

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SETBACK AREA LESS THAN 10' & GREATER THAN 5' = -1,271 SQ. FT.
SETBACK AREA GREATER THAN 10' = +4,385 SQ. FT.
TOTAL SETBACK AREA = + 3,114 SQ. FT.

FRONT SETBACK AREA CALCULATIONS

1" = 50'

SOLID WASTE NARRATIVE

A TOTAL OF TWO (2) DUMPSTERS (1 FOR TRASH [8-YARD] AND 1 FOR RECYCLING [6-YARD]) WILL BE USED TO SERVICE THE SOUTHTOWN DEVELOPMENT. THE DUMPSTERS WILL BE LOCATED WITHIN A DOUBLE BIN ENCLOSURE AT THE NORTH END OF THE BUILDING. ACCESS TO THE ENCLOSURE WILL BE MADE FROM HENRY STREET AND ALL ACCESS CLEARANCES OUTLINED IN THE CITY OF ANN ARBOR SOLID WASTE STANDARDS ARE MET. IT IS ANTICIPATED THAT SEVEN (7) TRASH/RECYCLING PICKUPS WILL BE REQUIRED PER WEEK. THE PROPERTY OWNER IS RESPONSIBLE FOR MANAGING SOLID WASTE ON-SITE.

SITE NOTES

1. STORAGE AREAS FOR CONSTRUCTION SHALL NOT INTERFERE WITH FIRE / EMERGENCY SITE ACCESS.
2. ALL SIDEWALKS SHALL BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME. PRIOR TO THE ISSUANCE OF *THE* FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS IN NEED OF REPAIR MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS.
3. NO CHEMICALS ARE ALLOWED IN STORMWATER FEATURES OR BUFFER ZONES WITH THE FOLLOWING EXCEPTION: INVASIVE SPECIES MAY BE TREATED WITH CHEMICALS BY A CERTIFIED APPLICATOR.
4. THE MAINTENANCE OF THE DROP OFF LANE, LOCATED ALONG WHITE STREET, WILL BE THE RESPONSIBILITY OF THE OWNER, INCLUDING SNOW AND ICE REMOVAL.
5. FIRE DEPARTMENT REQUIREMENT: THE BUILDING SHALL BE COMPLIANT WITH 2015 IFC 510 - EMERGENCY RESPONDER RADIO COVERAGE.
6. ANY DAMAGE TO PUBLIC STREETS AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AS DIRECTED BY CITY ENGINEERING.
7. IF A CRANE WILL BE USED IN THE RIGHT OF WAY, THE CONTRACTOR SHALL OBTAIN A TEMPORARY LICENSE AGREEMENT FROM THE CITY AS NEEDED.
8. A LOGISTICS PLAN MUST BE SUBMITTED TO THE CITY FOR REVIEW IF ANY LONG TERM LANE CLOSURE OR SIDEWALK CLOSURE IS ANTICIPATED.
9. NO PART OF STAIRS SHALL BE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY.
10. ELECTRIC TRANSFORMER SHALL NOT BE LOCATED IN THE PUBLIC RIGHT-OF-WAY.
11. PAVERS SHALL NOT BE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY.

ADA ACCESSIBILITY NOTES

1. ALL HANDICAPPED PARKING SPACES AND ACCESS AISLES ADJACENT TO THE HANDICAP PARKING SPACES SHALL HAVE A MAXIMUM OF 2% SLOPE IN ALL DIRECTIONS (THIS INCLUDES RUNNING SLOPE AND CROSS SLOPE).
2. AN ACCESSIBLE ROUTE FROM THE PUBLIC STREET OR SIDEWALK TO THE BUILDING ENTRANCE MUST BE PROVIDED. THIS ACCESSIBLE ROUTE SHALL BE A MINIMUM OF 60" WIDE. THE RUNNING SLOPE OF AN ACCESSIBLE ROUTE SHALL NOT EXCEED 5% AND THE CROSS SLOPE SHALL NOT EXCEED 2%.
3. SLOPES EXCEEDING 5% BUT LESS THAN 8% WILL REQUIRE A RAMP AND MUST CONFORM TO THE REQUIREMENTS FOR RAMP DESIGN (HANDRAILS, CURBS, LANDINGS). NO RAMP SHALL EXCEED AN 8% RUNNING SLOPE OR 2% CROSS SLOPE. IF THE SIDEWALK IS ADJACENT TO THE STREET, THE SIDEWALK GRADE MAY BE EQUAL TO THE GRADE OF THE STREET AND NOT BE CONSIDERED A RAMP.
4. IN THE CASE THAT A NEW SIDEWALK WILL BE CONSTRUCTED IN THE RIGHT OF WAY THE RUNNING SLOPE OF THE SIDEWALK SHALL NOT EXCEED 5% AND THE CROSS SLOPE SHALL NOT EXCEED 2%. THIS STANDARD APPLIES TO CROSS WALKS IN THE DRIVEWAY AS WELL AND WILL REQUIRE SPECIAL ATTENTION DURING STAKING TO MAKE SURE THE 2% CROSS SLOPE IS MET IN THE CROSS WALK. IF THE SIDEWALK IS ADJACENT TO THE STREET, THE SIDEWALK GRADE MAY BE EQUAL TO THE GRADE OF THE STREET AND NOT BE CONSIDERED A RAMP.
5. IT WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENSURE THAT THE HANDICAP PARKING SPACES, ACCESSIBLE ROUTES, AND SIDEWALKS/CROSSWALKS ARE CONSTRUCTED TO MEET ADA REQUIREMENTS.
6. ANY REQUIREMENTS LISTED ABOVE THAT CAN NOT BE MET SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ANYTHING NOT BUILT TO THE ABOVE STANDARDS WILL REQUIRE REMOVAL AND REPLACEMENT OF THE NON COMPLIANT AREAS AT THE GENERAL CONTRACTORS COST.
7. LEAD RAMPS SHALL CONNECT PERPENDICULAR TO THE SIDEWALK AND SHALL BE ADA COMPLIANT.

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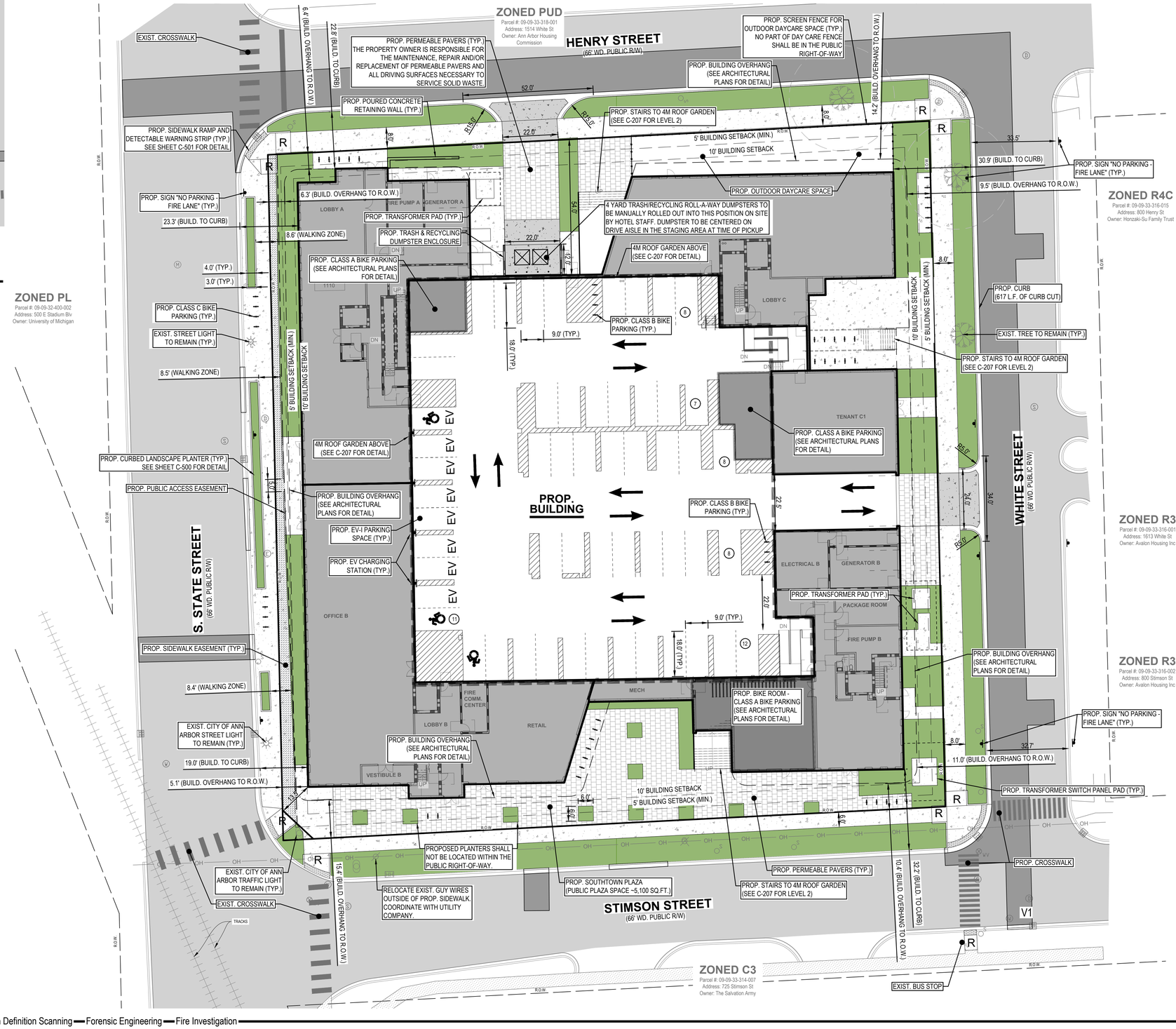
N

0' 10' 20' 40'

SCALE: 1" = 20'

LEGEND

Benchmark / Control Point; Catch Basin - Square; Cleanout; Deciduous Tree; Electric Manhole; Electric Meter; Gas Meter
Guy Anchor; Hand Hole; Hydrant; Iron - Found; Light Pole; Mailbox; Miss Dig Flag - Cable
Miss Dig Flag - Gas; Manhole; Sign; Sanitary Sewer Manhole; Stormwater Manhole; Telephone Manhole; Transformer
Traffic Light; Utility Pole; Water Manhole; Water Valve; Yard Drain; Cable TV; Underground Electric
Gas; Overhead Utility; Sanitary; Storm; Underground Telephone; Watermain; Fence
Railroad; Zoning Setback; Asphalt; Concrete; Gravel; Existing Building
PROPOSED PAVERS; PROPOSED BITUMINOUS (HEAVY DUTY); PROPOSED CONCRETE (STANDARD DUTY); PROPOSED CONCRETE (HEAVY DUTY); PROPOSED GREENSPACE; PROPOSED DECKING; PROPOSED SYNTHETIC TURF



Land Planning — Landscape Architecture — Civil Engineering — Land Surveying — High Definition Scanning — Forensic Engineering — Fire Investigation

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SOUTHTOWN BY 4M

Site Layout Plan - Level 1

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R5E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:
STATE OF MICHIGAN
JASON L. VAN RYN
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LICENSED PROFESSIONAL ENGINEER

PROJECT NO: 21500282

SHEET NO: C-206

21500282-PREL1.dwg BC 4/24/2023 17:08

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0' 10' 20' 40'

SCALE: 1" = 20'

LEGEND

△	Benchmark / Control Point	YD	Yard Drain
	Catch Basin - Square	C	Cable TV
CO	Cleanout	UE	Underground Electric
	Deciduous Tree	G	Gas
E	Electric Manhole	OH	Overhead Utility
EM	Electric Meter	SS	Sanitary
GM	Gas Meter	ST	Storm
	Guy Anchor	UT	Underground Telephone
HH	Hand Hole	W	Watermain
	Hydrant	X X	Fence
○	Iron - Found		Railroad
	Light Pole		Zoning Setback
MB	Mailbox		Asphalt
	Miss Dig Flag - Cable		Concrete
	Miss Dig Flag - Gas		Gravel
M	Manhole		Existing Building
S	Sign	M=	Measured Dimension
S	Sanitary Sewer Manhole	P=	Platted Dimension
D	Stormwater Manhole		PROPOSED PAVERS
T	Telephone Manhole		PROPOSED BITUMINOUS (HEAVY DUTY)
TR	Transformer		PROPOSED CONCRETE (STANDARD DUTY)
	Traffic Light		PROPOSED CONCRETE (HEAVY DUTY)
	Utility Pole		PROPOSED GREENSPACE
W	Water Manhole		PROPOSED DECKING
WV	Water Valve		PROPOSED SYNTHETIC TURF

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800.222.1868
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GRAND RAPIDS
HOLLAND
INDIANAPOLIS

PREPARED FOR:
Southtown by 4M, LLC
Marge Poscher

2082 S. State Street
Ann Arbor, MI 48104

REVISIONS:

Title: Site Plan Submittal		
Drawn: WL/TG	Checked: BC/JVR	Date: 10.21.2022
Title: Site Plan Resubmittal		
Drawn: WL/TG	Checked: BC/JVR	Date: 02.22.2023
Title: Site Plan Resubmittal		
Drawn: WL/TG	Checked: BC/JVR	Date: 04.24.2023

SOUTHTOWN BY 4M

Site Layout Plan - Level 2

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:

STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-207

21500282-PREL1.dwg BC 4/24/2023 17:08

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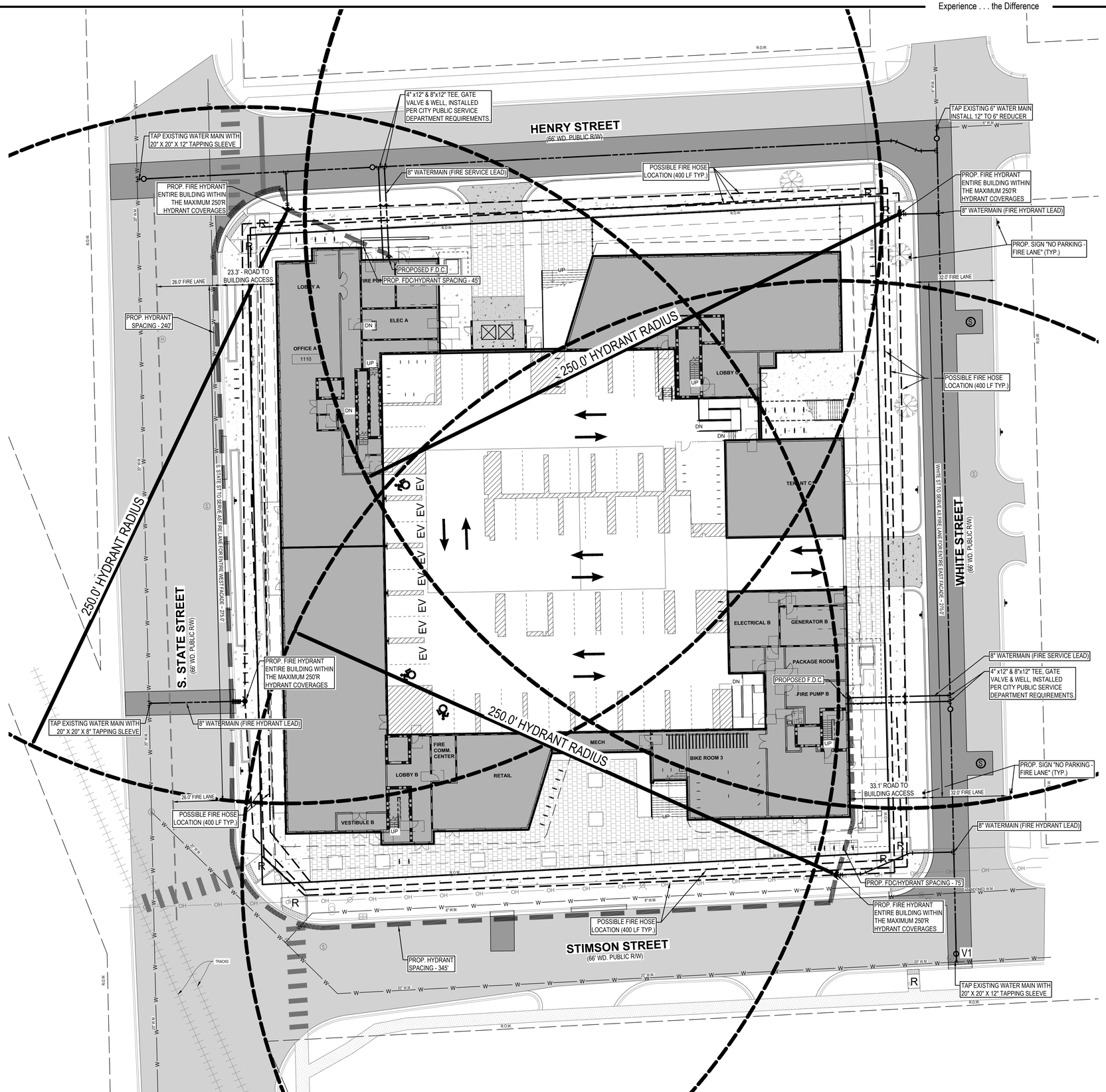

N

0' 10' 20' 40'

SCALE: 1" = 20'

LEGEND

△	Benchmark / Control Point	YD	Yard Drain
	Catch Basin - Square	C	Cable TV
CO	Cleanout	UE	Underground Electric
	Deciduous Tree	G	Gas
E	Electric Manhole	OH	Overhead Utility
EM	Electric Meter	SS	Sanitary
GM	Gas Meter	ST	Storm
	Guy Anchor	UT	Underground Telephone
	Hand Hole	W	Watermain
	Hydrant	X	Fence
	Iron - Found		Railroad
	Light Pole		Zoning Setback
MB	Mailbox		Asphalt
	Miss Dig Flag - Cable		Concrete
	Miss Dig Flag - Gas		Gravel
H	Manhole		Existing Building
	Sign	M=	Measured Dimension
S	Sanitary Sewer Manhole	P=	Platted Dimension
D	Stormwater Manhole		PROPOSED PAVERS
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	Utility Pole		PROPOSED GREENSPACE
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SOUTHTOWN BY 4M

Fire Protection Plan

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

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STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-208

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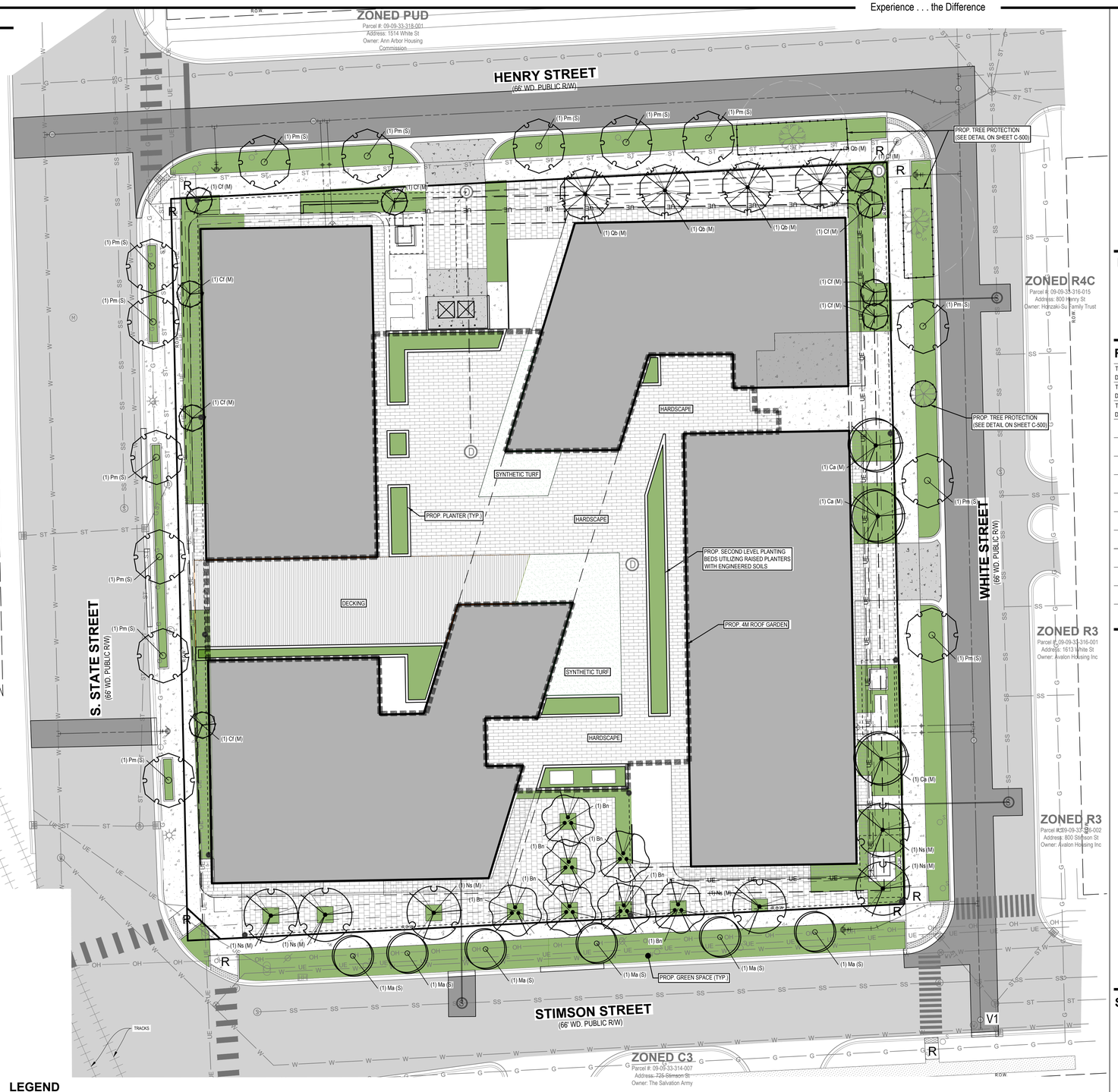
PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CAL	SIZE	QTY
	Bn	Betula nigra	River Birch Multi-Trunk	B&B	3" min.	12' hgt. avg.	7
	Ca (M)	Carpinus caroliniana	American Hornbeam	B&B	3" min.		3
	Cf (M)	Cornus florida	Flowering Dogwood	B&B	3" min.		9
	Ma (S)	Maackia amurensis	Amur Maackia	B&B	2.5" min.		6
	Ns (M)	Nyssa sylvatica	Tupelo	Existing	3" min.		6
	Pm (S)	Platanus x acerifolia 'Morton Circle'	Exclamation!™ London Plane Tree	B&B	3" min.		14
	Qb (M)	Quercus bicolor	Swamp White Oak	B&B	3" min.		4

PLANT LABEL LEGEND

(M) MITIGATION PLANTINGS
(S) STREET TREE PLANTINGS

0' 10' 20' 40'
SCALE: 1" = 20'



LANDSCAPE NOTES

PLANTING NOTES:

1) ALL PLANT MATERIAL SHALL BE LOCALLY NURSERY GROWN NO.1 GRADE AND INSTALLED ACCORDING TO ACCEPTED PLANTING PROCEDURES. ALL PLANT MATERIALS SHALL MEET CURRENT AMERICAN ASSOCIATION OR NURSERYMEN STANDARDS. DO NOT PLANT MATERIALS UNTIL DIRECTED BY OWNER, LANDSCAPE ARCHITECT, AND/OR CONSTRUCTION MANAGER. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL, FOR ANY REASON BEFORE OR AFTER IT IS INSTALLED.
2) SIZES SPECIFIED ARE MINIMUM SIZES TO WHICH THE PLANTS ARE TO BE INSTALLED.
3) ANY PLANT SUBSTITUTIONS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
4) MAINTENANCE OF LANDSCAPING ITEMS, TREES, AND PLANTS SHALL BE PERFORMED BY THE PROPERTY OWNER OR A QUALIFIED PROFESSIONAL. ALL LANDSCAPING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH APPLICABLE MUNICIPAL STANDARDS AND IN ACCORDANCE WITH CURRENT INDUSTRY STANDARDS IN A NEAT, HEALTHY AND WEED FREE CONDITION. ANY DEAD, DISEASED OR DAMAGED PLANT MATERIALS ARE TO BE REPLACED IMMEDIATELY AFTER NOTIFIED TO DO SO.
5) PLANT TREES AND SHRUBS IN ACCORDANCE WITH PLANTING DETAILS. DIG TREE PITS PER DETAILS. PLANT TREES AND SHRUBS AT THE SAME GRADE LEVEL AT WHICH THEY WERE GROWN AT THE NURSERY. IF HEAVY CLAY SOILS ARE EVIDENT, PLANT TREES AND SHRUBS HIGHER, APPROX. 1/4 OF THE ROOT BALL ABOVE GRADE, AND BACKFILL TO TOP OF ROOT BALL.
6) REMOVE ALL TWINE, WIRE, NURSERY TREE GUARDS, TAGS AND INORGANIC MATERIAL FROM ROOT BALLS. REMOVE THE TOP 1/3 OF BURLAP FROM EARTH BALLS AND REMOVE BURLAP FROM AROUND TRUNK.
7) FINELY SHREDDED HARDWOOD BARK MULCH, NATURAL COLOR (NON-COLORED), IS REQUIRED FOR ALL PLANTINGS AND PLANTING BEDS. MULCH PER PLANTING DETAILS. MULCH IN PLANT BEDS SHALL BE 3" THICK AT TIME OF INSPECTION AND AFTER COMPACTED BY RAIN OR IRRIGATION. ALL PLANTING BEDS SHALL BE EDGED WITH 6" X 12 GAUGE STEEL LANDSCAPE EDGING.
8) LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES. IF A CONFLICT WITH UTILITIES EXIST, NOTIFY OWNER/CONSTRUCTION MANAGER PRIOR TO PLANTING.
9) PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR AFTER PLANTING AND ACCEPTANCE.
10) ALL SPECIES DEVIATION FROM THE APPROVED SITE PLAN MUST BE APPROVED PRIOR TO INSTALLATION BY THE CITY OF ANN ARBOR.
11) APPLICATIONS OF FERTILIZER BEYOND THE INITIAL TOPSOIL AND SEEDING SHALL BE A FERTILIZER WITH NO PHOSPHORUS.

TOPSOIL AND TURF NOTES:

1) WHEREVER GROUND IN ITS NATURAL STATE HAS BEEN DISTURBED, APPROVED LANDSCAPING OR GRASS SHALL BE FULLY INSTALLED, AND ESTABLISHED WITHIN A REASONABLE PERIOD OF TIME, BUT NO LONGER THAN ONE GROWING SEASON (UNLESS OTHERWISE NOTED AND APPROVED).
2) DURING EXCAVATION, GRADING, AND INSTALLATION OF REQUIRED LANDSCAPING, ALL SOIL EROSION AND SEDIMENTATION CONTROL REGULATIONS SHALL BE STRICTLY FOLLOWED AND COMPLIED WITH.

LANDSCAPE CALCULATIONS

5.20.10 (B) STREET TREES REQUIRED:

1) ONE STREET TREE OF THE MINIMUM SIZE AND SPECIES MEETING CITY STANDARDS SHALL BE PROVIDED FOR EVERY 45 LINEAR FEET OF PUBLIC STREET RIGHT-OF-WAY ABUTTING A SITE PLAN SITE. EXISTING TREES MEETING CITY STANDARDS MAY BE USED TO SATISFY ALL OR PART OF THIS REQUIREMENT.

REQUIRED: 264 FT (HENRY.) - 24 FT (CURB CUTS) = 240 / 45 = 5.33 = 6 TREES
273 FT (WHITE ST.) - 71 FT (CURB CUTS) = 202 / 45 = 4.48 = 5 TREES
264 FT (STIMSON) / 45 = 5.867 = 6 TREES
273 FT (STATE) / 45 = 6.067 = 6 TREES

PROPOSED: HENRY = 6 TREES (1 EXISTING AND 5 PROPOSED)
WHITE ST = 5 TREES (2 EXISTING AND 3 PROPOSED)
STIMSON = 6 TREES (6 PROPOSED)
STATE = 6 TREES (6 PROPOSED)

5.23.6 (E) LANDMARK TREE MITIGATION:

1) A REPLACEMENT TREE OR COMBINATION OF TREES OF A SPECIES NATIVE TO MICHIGAN SHALL BE PROVIDED TO EQUAL A MINIMUM OF 50% OF THE ORIGINAL DBH FOR EACH LANDMARK TREE THAT IS REMOVED.

REQUIRED: 84.15" DBH FOR PROPOSED REMOVAL OF 168.3" DBH OF EXISTING LANDMARK TREES
PROPOSED: 87" DBH REPLACEMENT

LANDSCAPE MAINTENANCE SCHEDULE

Perennial Beds Maintenance Task	January	February	March	April	May	June	July	August	September	October	November	December
Prune shade trees & summer flowering shrubs												
Remove mulch from around crown of perennials; remove winter mulch												
Fertilize Trees and Shrubs, planting beds												
Clean flower beds, remove winter weeds and dead plant material left for winter interest												
Apply double shredded bark mulch to tree/shrub beds and ground leaf compost to flower beds												
Pressurize irrigation system and perform spring audit												
Divide and replant summer and fall blooming perennials (when growth is 3-4in high), cut back if needed												
Replace dead/poor health perennials and grasses												
Prune spring blooming shrubs immediately after flowering												
Prune wither damaged branches or plants that have not begun to grow after last frost												
Replace mulch as necessary												
Prune/pinch back perennials and grasses for height control and shaping												
Inspect plants for pests and treat as necessary												
Clean up planting beds - remove yellowing foliage not left for winter interest, remove stakes/hoops												
Turn off irrigation system and flush out												
Winter mulch tender plants once ground is frozen												

NOTE:
1. ALL DISEASED, DAMAGED OR DEAD MATERIAL BE REPLACED IN ACCORDANCE WITH CITY CODE BY THE END OF THE FOLLOWING PLANTING SEASON, AS A CONTINUING OBLIGATION FOR THE DURATION OF THE SITE PLAN.

LEGEND

Benchmark / Control Point	Hand Hole	Sign	Water Valve	Underground Telephone	PROPOSED PAVERS
Catch Basin - Square	Hydrant	Sanitary Sewer Manhole	Yard Drain	Watermain	PROPOSED BITUMINOUS (HEAVY DUTY)
Cleanout	Iron - Found	Stormwater Manhole	Cable TV	Fence	PROPOSED CONCRETE (STANDARD DUTY)
Deciduous Tree	Light Pole	Telephone Manhole	Underground Electric	Railroad	PROPOSED CONCRETE (HEAVY DUTY)
Electric Manhole	Mailbox	Transformer	Gas	Zoning Setback	PROPOSED GREENSPACE
Electric Meter	Miss Dig Flag - Cable	Traffic Light	Overhead Utility	Asphalt	PROPOSED DECKING
Gas Meter	Miss Dig Flag - Gas	Utility Pole	Sanitary	Concrete	PROPOSED SYNTHETIC TURF
Guy Anchor	Manhole	Water Manhole	Storm	Gravel	

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SOUTHTOWN BY 4M

Landscape Plan

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:
STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
L-100

BC 4/24/2023 17:09
21500282 PREL1.dwg

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SITE CONSTRUCTION SEQUENCE & TIMING

	2024									
	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
INSTALL SOIL EROSION CONTROL MEASURES										
DEMOLITION & REMOVALS										
ROUGH GRADE SITE										
CONSTRUCT STORM WATER MANAGEMENT SYSTEM										
CONSTRUCT UTILITY LINES TO BUILDING										
CURBING AND FIRST COURSE OF ASPHALT PAVING										
CONSTRUCT BUILDING FOUNDATION AND BUILDING										
CONSTRUCT IMPROVEMENTS AROUND BUILDING										
FINISH GRADE SITE										
PAVE SITE										
RESPREAD TOPSOIL/COMPACTION										
SEED DISTURBED AREAS										
SITE RESTORATION/CLEAN UP										

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

1) CONTRACTOR SHALL POSSESS THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT PRIOR TO START OF ANY EARTH WORK.
2) CONTRACTOR SHALL MODIFY THIS SOIL EROSION AND SEDIMENTATION CONTROL PLAN TO SHOW THE ADDITIONAL CONTROL MEASURES INTENDED TO BE USED DURING CONSTRUCTION. SUBMIT MODIFICATIONS TO THE CONTROLLING AGENCY, THE OWNER, AND THE ENGINEER.
3) EROSION PROTECTION SHALL BE PROVIDED AT ALL STORM SEWER INLETS AND OUTLETS. ALL BARE EARTH SHALL BE STABILIZED WITH SEEDING.
4) REFER TO THE M.D.O.T. "SOIL EROSION AND SEDIMENTATION CONTROL MANUAL" (APRIL 2006) FOR ADDITIONAL INFORMATION
5) THE ENTIRE STORM SEWER SYSTEM SHALL BE CLEANED AND FLUSHED FOLLOWING CONSTRUCTION AND PAID RECEIPT THEREOF PROVIDED TO THE ENGINEER AND COUNTY SESC AGENT PRIOR TO FINAL PAYMENT TO THE CONTRACTOR OR FINAL ACCEPTANCE OF THE CONSTRUCTION BY THE OWNER.
6) THE CONTRACTOR SHALL BE RESPONSIBLE TO INSPECT, TAKE CORRECTIVE ACTION AND MAINTAIN ALL TEMPORARY SESC MEASURES DAILY AND AFTER EACH RAIN EVENT UNIT FINAL COMPLETION AND ACCEPTANCE OF THE PROJECT.

26 GRO/TEXTILE SILT FENCE

29 INLET PROTECTION FABRIC DROP

3 PERMANENT/TEMPORARY SEEDING

GRADING NOTES:

1. ALL PROPOSED PAVING AND GRADING IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ANN ARBOR ENGINEERING DESIGN STANDARDS.
2. CONTRACTOR SHALL REFERENCE AND ABIDE BY THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL EVALUATION PREPARED BY G2 CONSULTING, PROJECT NO. 223573, DATED OCTOBER 4, 2022.
3. ESTABLISH PERMANENT BENCH MARK ON-SITE PRIOR TO GRADING.
4. PROPOSED SPOT GRADES ARE TO BOTTOM OF CURB UNLESS OTHERWISE NOTED.
5. EXISTING AND PROPOSED GRADE CONTOURS SHOWN AT 1 FOOT INTERVALS.
6. THE EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND ARCHITECTURAL BUILDING PLANS AND SPECIFICATIONS.
7. CONTRACTOR IS RESPONSIBLE FOR UNDERCUTTING EXISTING POOR SOIL AND REPLACING WITH APPROVED FILL. IF POOR SOIL IS ENCOUNTERED THE GENERAL CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO MAKING ANY SOIL CORRECTIONS & SHALL PROVIDE UNIT COSTS IN THEIR BID FOR SUCH WORK.
8. BEST MANAGEMENT PRACTICES WILL BE UTILIZED DURING AND AFTER CONSTRUCTION OF THE PROJECT. MEASURES WILL INCLUDE THE USE OF SEEDING AND MULCHING, SEDIMENT INLET FILTERS, COMPACTION AND PAVING. THE OWNER OF THE SUBJECT PARCEL SHALL HAVE THE RESPONSIBILITY TO MAINTAIN THE PERMANENT SOIL EROSION PROTECTION MEASURES.
9. UTILITIES SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.
10. CONTRACTOR TO FIELD VERIFY ALL INVERTS PRIOR TO START OF CONSTRUCTION.
11. CURBING AND FIRST COARSE OF ASPHALT NEEDS TO BE COMPLETED PRIOR TO VERTICAL CONSTRUCTION.
12. VERTICAL CONSTRUCTION CANNOT BEGIN UNTIL UNTIL THE STORM WATER MANAGEMENT SYSTEM IS COMPLETED.

MAINTENANCE TASKS & SCHEDULE

DURING CONSTRUCTION

TASKS	PAVED AREAS	PERVIOUS AREAS	RIP-RAP/SILT FENCE	STORM DRAINAGE SYSTEM	CATCH BASIN SUMPS	CATCH BASIN INLET CASINGS	RESTRICTOR STRUCTURE	SEDIMENT SEPARATOR	UNDERGROUND DETENTION AREA	SCHEDULE
INSPECT FOR SEDIMENT ACCUMULATION	X		X	X	X		X	X	X	WEEKLY
REMOVAL OF SEDIMENT ACCUMULATION	X		X	X	X		X	X	X	AS NEEDED* AND PRIOR TO TURNOVER
INSPECT FOR FLOATABLES AND DEBRIS				X	X	X	X	X	X	QUARTERLY
CLEANING FOR FLOATABLES AND DEBRIS				X	X	X	X	X	X	QUARTERLY AND AT TURNOVER
INSPECTION FOR EROSION		X	X							WEEKLY
REESTABLISH PERMANENT VEGETATION ON ERODED SLOPES		X								AS NEEDED* AND PRIOR TO TURNOVER
CLEAN DRIVES AND PARKING LOTS	X									WEEKLY OR AS DETERMINED BY PERMITTING AGENCY
WATER DISTURBED AREAS TO PROVIDE DUST CONTROL	ALL DISTURBED AREAS OF SITE									AS NEEDED
INSPECT STRUCTURAL ELEMENTS DURING WET WEATHER AND COMPARE TO AS-BUILT PLANS (BY A PROFESSIONAL ENGINEER REPORTING TO THE OWNER)			X	X			X	X	X	ANNUALLY AND AT TURNOVER
MAKE ADJUSTMENTS OR REPLACEMENTS AS DETERMINED			X	X			X	X	X	AS NEEDED

* "AS NEEDED" MEANS WHEN SEDIMENT HAS ACCUMULATED TO A MAXIMUM OF ONE FOOT DEPTH

PERMANENT LONG-TERM MAINTENANCE

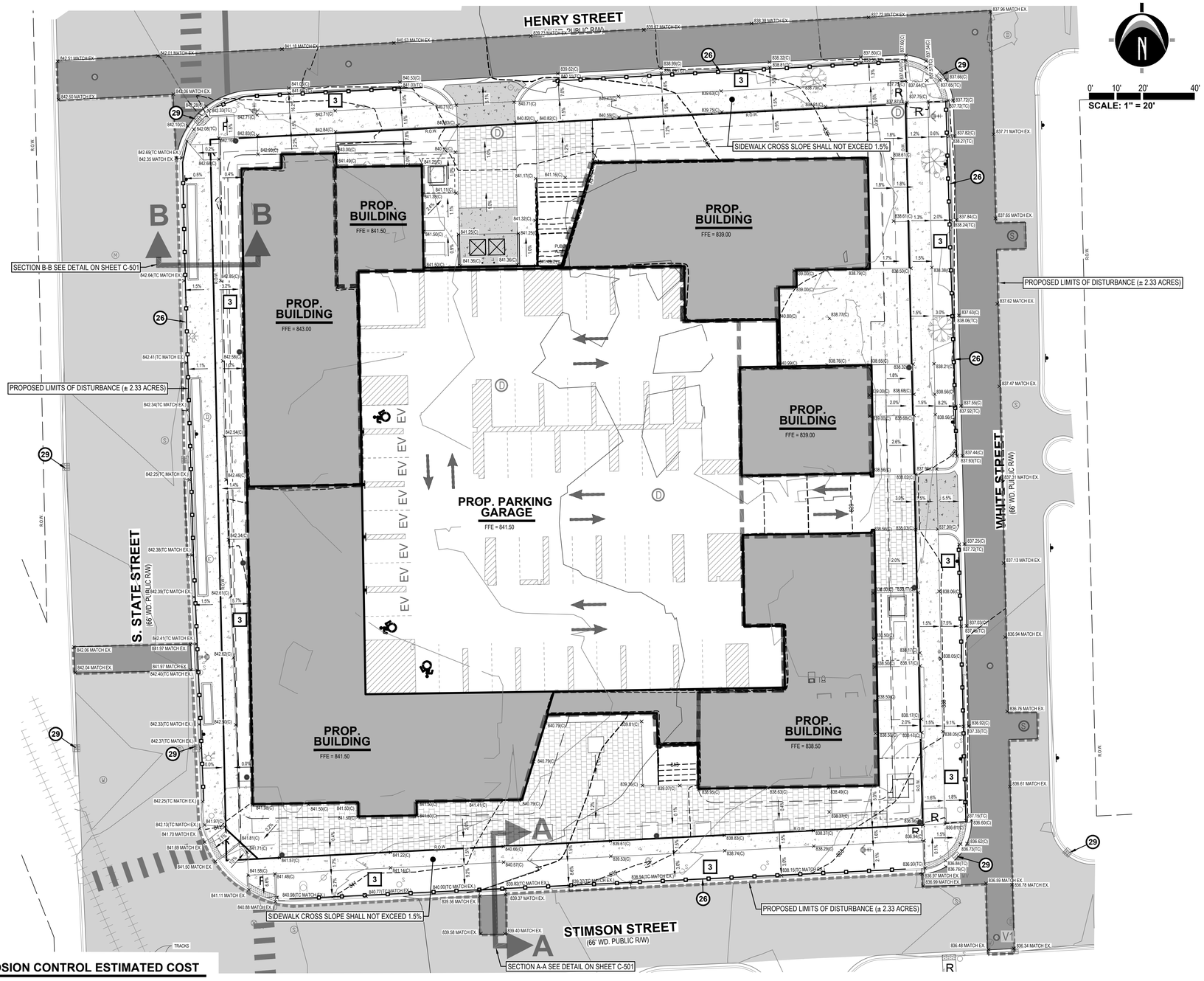
RESPONSIBLE PARTY FOR MAINTENANCE: SOUTHTOWN BY 4M (OWNER)

MAINTENANCE ACTIVITIES	PAVED AREAS	PERVIOUS AREAS	STORM CONVEYANCE SYSTEM	CATCH BASIN SUMPS	CATCH BASIN INLET CASINGS	HYDRODYNAMIC SEPARATOR	UNDERGROUND DETENTION AREA	OUTLET CONTROL STRUCTURE	SCHEDULE	BUDGET
INSPECT FOR SEDIMENT ACCUMULATION	X		X	X		X	X	X	SEMI-ANNUALLY/AS NEEDED*	$250.00
REMOVAL OF SEDIMENT ACCUMULATION	X		X	X		X	X	X	ANNUALLY/AS NEEDED*	$750.00
INSPECT FOR FLOATABLES AND DEBRIS			X	X	X	X	X	X	ANNUALLY	$150.00
CLEANING FOR FLOATABLES AND DEBRIS			X	X	X	X	X	X	ANNUALLY	$300.00
INSPECTION FOR EROSION		X							SEMI-ANNUALLY	$100.00
CLEAN DRIVES AND PARKING LOTS	X								ANNUALLY	$250.00
INSPECT STRUCTURAL ELEMENTS DURING WET WEATHER AND COMPARE TO AS-BUILT PLANS (BY A PROFESSIONAL ENGINEER REPORTING TO THE OWNER)			X			X	X	X	ANNUALLY	$500.00
INSPECT INFILTRATION AREA FOLLOWING RAIN EVENTS OF 1 INCH OR MORE							X		AS NEEDED	$500.00
MAKE ADJUSTMENTS OR REPLACEMENTS AS DETERMINED BY ANNUAL WET WEATHER INSPECTION			X			X	X	X	AS NEEDED	$500.00
KEEP RECORDS OF ALL INSPECTIONS AND MAINTENANCE ACTIVITIES AND REPORT TO PROPERTY OWNER									ANNUALLY	
KEEP RECORDS OF ALL COSTS FOR INSPECTIONS, MAINTENANCE AND REPAIRS. REPORT TO PROPERTY OWNER									ANNUALLY	
PROPERTY OWNER REVIEWS COST EFFECTIVENESS OF THE PREVENTATIVE MAINTENANCE PROGRAM AND MAKES NECESSARY ADJUSTMENTS									ANNUALLY	
OWNER TO HAVE A PROFESSIONAL ENGINEER CARRY OUT EMERGENCY INSPECTIONS UPON IDENTIFICATION OF SEVERE PROBLEMS									AS NEEDED	$500.00

* "AS NEEDED" MEANS INSPECTION AFTER EVERY STORM THAT TOTALS 1-INCH OF RAINFALL OR MORE, AND REMOVAL OF SEDIMENT WHEN SEDIMENT HAS ACCUMULATED TO A MAXIMUM OF ONE FOOT DEPTH.

LEGEND

Benchmark / Control Point; Catch Basin - Square; Cleanout; Deciduous Tree; Electric Manhole; Electric Meter; Gas Meter; Guy Anchor; Hand Hole; Hydrant; Iron - Found; Light Pole; Mailbox; Miss Dig Flag - Cable; Miss Dig Flag - Gas; Manhole; Sign; Sanitary Sewer Manhole; Stormwater Manhole; Telephone Manhole; Transformer; Traffic Light; Utility Pole; Water Manhole; Water Valve; Yard Drain; Cable TV; Underground Electric; Gas; Overhead Utility; Sanitary; Storm; Underground Telephone; Watermain; Fence; Railroad; Zoning Setback; Asphalt; Concrete; Gravel; Existing Building; PROPOSED PAVERS; PROPOSED BITUMINOUS (HEAVY DUTY); PROPOSED CONCRETE (STANDARD DUTY); PROPOSED CONCRETE (HEAVY DUTY)



SOIL EROSION CONTROL ESTIMATED COST

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL COST
Silt fence	1,000	LF	$2.50	$2,500
Mud Mat	60	TN	$15.00	$900
Excavation & Fill	3,200	CY	$4.00	$12,800
Inlet/CB filter	15	EA	$100.00	$1,500
Dust Control	1	LS	$2,000.00	$2,000
Permanent seed & mulch	10,000	SF	$0.70	$7,000
			TOTAL COST =	$26,700.00

LEGEND

EXISTING CONTOUR; PROP. CONTOUR; PROP. SILT FENCE; PROP. LIMITS OF DISTURBANCE; PROP. PITCH OUT CURB; 788.00(B) PROP. GRADE ELEV. (BLACKTOP); 788.00(C) PROP. GRADE ELEV. (CONCRETE); PROP. SANITARY LEAD/CLEANOUT; PROP. STORM SEWER/CATCH BASIN; PROP. WATER SERVICE W/ STOP BOX; PROP. DOWNSPOUT; 788.00(RIM) PROP. GRADE ELEV. (RIM); 788.00(MATCH EX.) MATCH EXISTING GRADE

BENCHMARKS

BENCHMARK #300 ELEV. = 839.56 (NAVD88)
Steamer valve on South side of hydrant, located 6' +/- North of back of curb and 24' +/- West of catch basin at Northwest corner of Stimson Street and White Street.

BENCHMARK #301 ELEV. = 840.14 (NAVD88)
Steamer valve on East side of hydrant, located 25' +/- West of centerline of White Street and 15' +/- South of catch basin at Southwest corner of Henry Street and White Street.

BENCHMARK #302 ELEV. = 844.30 (NAVD88)
Steamer valve on North side of hydrant, located 36' +/- East of centerline of State Street and 12' +/- North of Stimson Street traffic light at Northeast corner of State Street and Stimson Street.

BENCHMARK #303 ELEV. = 843.71 (NAVD88)
Northeast bolt on light pole base, located 15' +/- South of control point 203 and 30' +/- West of centerline of State Street at end of Henry Street .

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PREPARED FOR:
Southtown by 4M, LLC
Marge Poscher

2082 S. State Street
Ann Arbor, MI 48104

REVISIONS:
Title: Site Plan Submittal
Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023

SOUTHTOWN BY 4M

S.E.S.C. & Grading Plan

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:
STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-300

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SANITARY SEWER EXISTING AND PROPOSED FLOWS

Use the City of Ann Arbor "Table A" and "Michigan Criteria for Subsurface Sewage Disposal" Michigan Department of Public Health April 1994 & the "Ten States Standards"

		Quantity of Base Unit	Unit	Flow Rate For Given Use (gpd/unit)	Avg. Flow (gpd)	Avg. Flow (gpm)
Existing Site (Table A Designation)						
Uses:	1601 S. State St (Apartment ≤ 600 sq. ft.)	3	Apartment	175	525	0.36
	1605 S. State St (Apartment ≤ 600 sq. ft.)	3	Apartment	175	525	0.36
	1607 S. State St (Apartment ≤ 600 sq. ft.)	3	Apartment	175	525	0.36
	1609 S. State St (Apartment ≤ 600 sq. ft.)	3	Apartment	175	525	0.36
	1611 S. State St (Apartment ≤ 600 sq. ft.)	10	Apartment	175	1,750	1.22
	714 Henry St (Apartment ≤ 600 sq. ft.)	6	Apartment	175	1,050	0.73
	1606 White St (Apartment ≤ 600 sq. ft.)	3	Apartment	175	525	0.36
	1608 White St (Apartment ≤ 600 sq. ft.)	3	Apartment	175	525	0.36
	1610 White St (Apartment ≤ 600 sq. ft.)	2	Apartment	175	350	0.24
	1612 White St (Apartment ≤ 600 sq. ft.)	2	Apartment	175	350	0.24
Total Existing Flow					6,650	4.62

Sanitary Sewer Connection #1 (Building A)* **See architectural plans for building divisions*		Quantity of Base Unit	Unit	Flow Rate For Given Use (gpd/unit)	Avg. Flow (gpd)	Avg. Flow (gpm)
Proposed Site (Table A Designation)						
Uses:	Apartment ≤ 600 sq. ft	16	Apartment	175	2,800	1.94
	Apartment > 600 sq. ft, < 1200 sq. ft.	16	Apartment	250	4,000	2.78
	Apartment ≥ 1200 sq. ft	12	Apartment	300	3,600	2.50
	Non-Medical Office space	6,760	sf	0.06	406	0.28
Total Proposed Flow (Area A)					10,806	7.50

Sanitary Sewer Connection #2 (Building BCD)* **See architectural plans for building divisions*		Quantity of Base Unit	Unit	Flow Rate For Given Use (gpd/unit)	Avg. Flow (gpd)	Avg. Flow (gpm)
Proposed Site (Table A Designation)						
Uses:	Apartment ≤ 600 sq. ft	47	Apartment	175	8,225	5.71
	Apartment > 600 sq. ft, < 1200 sq. ft.	123	Apartment	250	30,750	21.35
	Apartment ≥ 1200 sq. ft	2	Apartment	300	600	0.42
Total Proposed Flow (Area B)					39,575	27.48

Sanitary Sewer Connection #3 (Area Podium)* **See architectural plans for building divisions*		Quantity of Base Unit	Unit	Flow Rate For Given Use (gpd/unit)	Avg. Flow (gpd)	Avg. Flow (gpm)
Proposed Site (Table A Designation)						
Uses:	Non-Medical Office Space	10,680	sf	0.06	641	0.45
	Daycare (nursery & elementary)	30	Student	10	300	0.21
	Retail Store (no process water discharge)	1,587	Gross Floor	0.03	48	0.03
Total Proposed Flow (Area C)					988	0.69

Sanitary Sewer Connection Area (A + BCD + Podium)		Avg. Flow (gpd)	Avg. Flow (gpm)
Proposed Site (Table A Designation)			
Uses:	**Total Proposed Flow (Building A)**	10,806	7.50
	Total Proposed Flow (Building BCD)	39,575	27.48
	Total Proposed Flow (Building Podium)	988	0.69
Total Proposed Flow Area		51,369	35.67

SANITARY SEWER BASIS OF DESIGN

Sanitary Flow Offset Mitigation Summary		
Proposed - Existing Flows		
Proposed Site Average Flow (51369) - Existing Site Average Flow (6650) =	**44,719**	**gpd**
44719 gpd x 4 (Peaking Factor) x 1.1 (System Recovery Factor) =	**196,763**	**gpd**
196763 gpd x 1 day / 24 hrs x 1 hr / 60 min) =	**136**	**gpm**
136 gpm Peak Flow to be mitigated		

UTILITY NOTES

GENERAL

1. CONSTRUCTION MUST CONFORM TO THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS AND STANDARD DETAILS.
2. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
3. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITY DURING CONSTRUCTION.
4. UTILITY TRENCHES WITHIN A 1 ON 1 INFLUENCE OF CITY OF ANN ARBOR R.O.W. SHALL BE BACKFILLED IN ACCORDANCE WITH THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR DATA CUT SHEETS FOR PIPE MATERIALS, VALVES, CASTINGS, STEPS, AND MANHOLE STRUCTURES FOR REVIEW.
6. MAINTAIN A MINIMUM OF 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN WATER AND SEWERS, AND A MINIMUM OF 5' HORIZONTAL AND 12" VERTICAL SEPARATION BETWEEN WATER AND OTHER UTILITIES.
6. SUMP PUMPS PROPOSED IN ELEVATOR PITS ONLY. SEE ARCHITECTURAL PLANS FOR DETAIL.

WATER SERVICE

1. HYDRANTS SHALL BE IN SERVICE DURING CONSTRUCTION.
2. THE PROPOSED BUILDING WILL BE SERVICED BY A NEW 4" DUCTILE IRON WATER LINE AND 8" DUCTILE IRON FIRE SUPPRESSION SERVICE LINE.
3. WATER SERVICE LINE IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ANN ARBOR ENGINEERING DESIGN STANDARDS.
4. THE 4-INCH DOMESTIC WATER SERVICE SHALL BE CONSTRUCTED OF DUCTILE IRON AND INSTALLED BY THE CONTRACTOR UNDER CITY OF ANN ARBOR INSPECTION.
5. ALL WATER SERVICE PIPES MUST BE LAID WITH A MINIMUM OF FIVE AND ONE-HALF (5.5) FEET, OF FINAL EARTH GRADE COVER, TYPICAL.
6. WATER SERVICE METERING SHALL OCCUR AT THE POINT THE SERVICE LEAD ENTERS THE BUILDING.
7. A BOOSTER PUMP SHALL BE USED FOR BUILDINGS WATER SERVICE LEADS.

SANITARY SERVICE

1. SANITARY SEWER IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ANN ARBOR ENGINEERING DESIGN STANDARDS.
2. THE PROPOSED SANITARY SEWER LEAD SHALL BE PVC SDR-23.5 OR PVC SCH 40 UNLESS OTHERWISE NOTED.
3. NO CONNECTION TO RECEIVING STORM WATER, SURFACE WATER OR GROUNDWATER SHALL BE MADE TO SANITARY SEWER
4. NO FOOTING DRAINS SHALL BE CONNECTED TO THE BUILDING SANITARY SEWER.
5. THE INSTALLATION OF SANITARY LEAD AND TAP SHALL BE INSPECTED BY CITY STAFF.

STORM WATER MANAGEMENT

1. STORM SEWER IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ANN ARBOR ENGINEERING DESIGN STANDARDS.
2. AN AGREEMENT FOR OPERATION AND MAINTENANCE OF ALL DETENTION SYSTEMS MUST BE COMPLETED BY THE OWNER AND SUBMITTED TO THE CITY PRIOR TO FINAL ACCEPTANCE OF THE PROJECT BY THE CITY.
3. STORM WATER RUNOFF GENERATED BY THE PROPOSED SITE IMPROVEMENTS WILL BE DETAINED ON-SITE, PER THE CITY OF ANN ARBOR REQUIREMENTS
4. 12" STORM SEWER PIPE SHALL BE REINFORCED CONCRETE MEETING THE REQUIREMENTS OF ASTM C-76-III, UNLESS OTHERWISE NOTED. JOINTS SHALL BE TONGUE AND GROOVE PREMIUM JOINTS WITH RUBBER GASKETS
5. 6" UNDERDRAIN SHALL BE PERFORATED PIPE WITH SOCK, MEETING THE REQUIREMENTS OF AASHTO M-252 AND THE GEOTEXTILE SHALL MEET AASHTO M-88 REQUIREMENTS.
6. ALL CATCH BASINS AND MANHOLES SHALL BE CONCRETE, CONFORMING TO ASTM C-478 WITH BUTYL RUBBER GASKETED JOINTS AND BOOT TYPE PIPE CONNECTORS, CONFORMING TO ASTM C-923
7. NO PART OF THE PRIVATE STORM SEWER STRUCTURES SHALL ENCROACH INTO THE PUBLIC RIGHT-OF-WAY.
8. VERTICAL CONSTRUCTION CANNOT BEGIN UNTIL UNTIL THE STORM WATER MANAGEMENT SYSTEM IS COMPLETED.
9. NO PRIVATE STORM SEWER SHALL BE LOCATED WITHIN THE RIGHT OF WAY.

N

0' 10' 20' 40'

SCALE: 1" = 20'

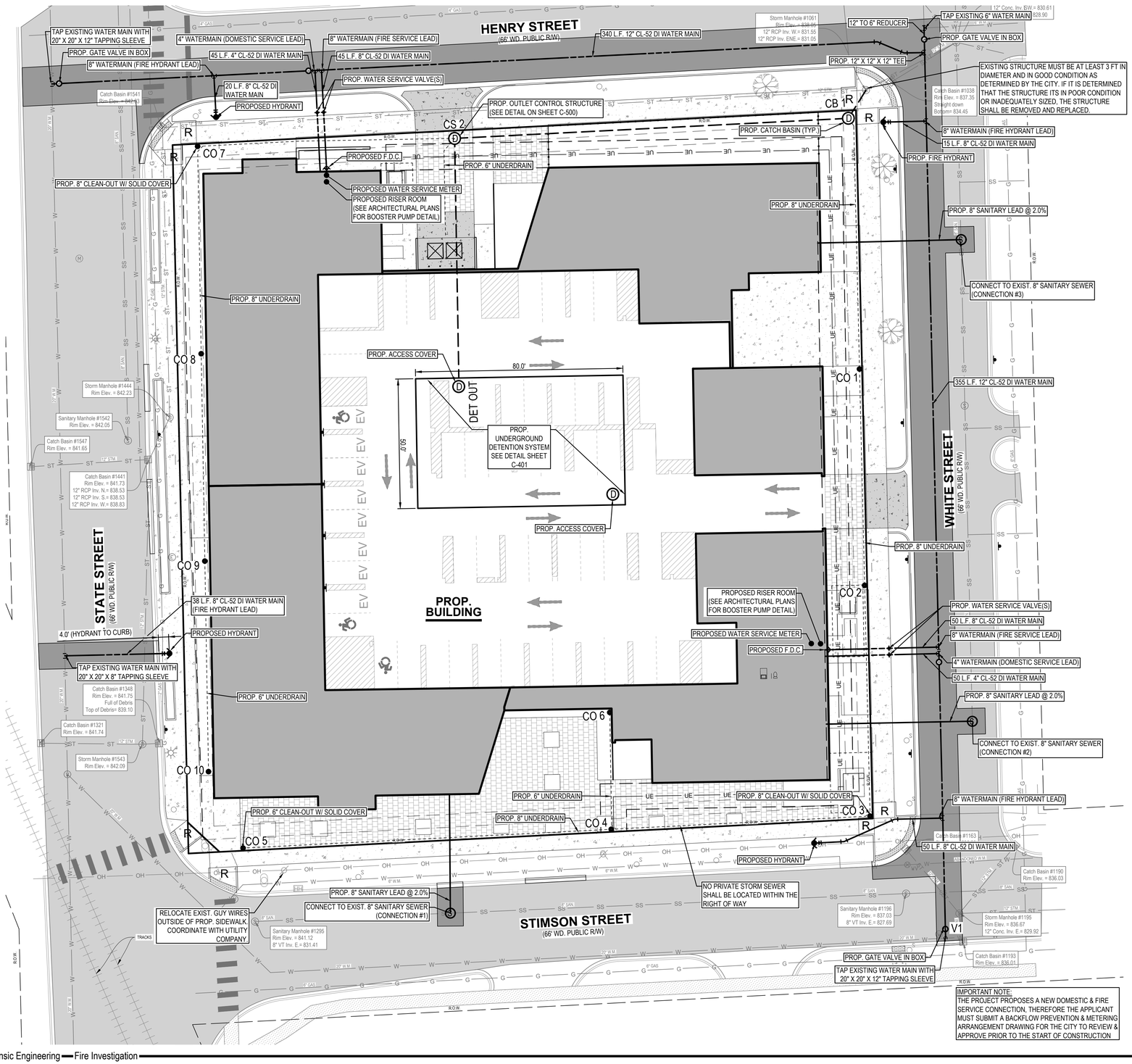
811 Know what's **below.** **CALL** before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NOTE:
EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "PLAN" WERE OBTAINED FROM AVAILABLE AS-BUILT, RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL UTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.

LEGEND

Benchmark / Control Point; Catch Basin - Square; Cleanout; Deciduous Tree; Electric Manhole; Electric Meter; Gas Meter; Guy Anchor; Hand Hole; Hydrant; Iron - Found; Light Pole; Mailbox; Miss Dig Flag - Cable; Miss Dig Flag - Gas; Manhole; Sign; Sanitary Sewer Manhole; Stormwater Manhole; Telephone Manhole; Transformer; Traffic Light; Utility Pole; Water Manhole; Water Valve; Yard Drain; Cable TV; Underground Telephone; Underground Electric; Gas; Overhead Utility; Sanitary; Storm; Underground Telephone; Watermain; Fence; Railroad; Zoning Setback; Asphalt; Concrete; Gravel; Existing Building; PROPOSED PAVERS; PROPOSED BITUMINOUS (HEAVY DUTY); PROPOSED CONCRETE (STANDARD DUTY); PROPOSED CONCRETE (HEAVY DUTY); PROPOSED GREENSPACE; PROPOSED DECKING; PROPOSED SYNTHETIC TURF



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SOUTHTOWN BY 4M

Utility Plan

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
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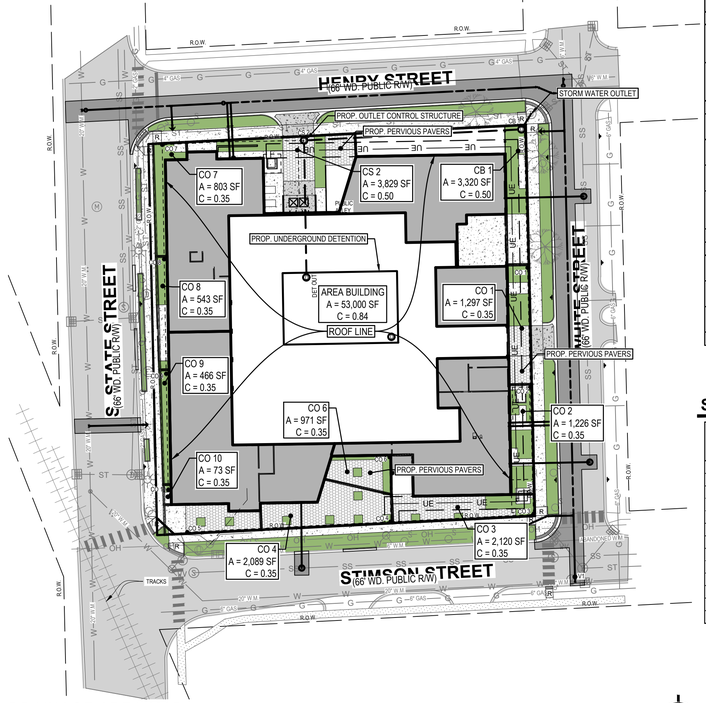


DRAINAGE AREA MAP

SCALE:1" = 50'

STORM SEWER STRUCTURE SCHEDULE

STR NUMBER	RIM	SIZE, DIRECTION & INVERT ELEVATION	STR DIA	CASTING/ GRATE (OR APPROVED EQUAL)
1061	*838.05*	12" SW INV.= 831.7	-	
CB 1	838.30	8" S INV.= 834.7 12" W INV.= 831.83 12" NE INV.= 831.83	4 FT	E.J.I.W.1040, TYPE M1
CS 2	840.85	8" W INV.= 836.52 18" S INV.= 833.35 12" E INV.= 833.35	4 FT	E.J.I.W.1040, TYPE M1
DET	841.50	18" N INV.= 834	-	-
CO 1	838.40	8" S INV.= 834.89 8" N INV.= 834.89	8 IN	E.J.I.W.8396
CO 2	838.20	8" S INV.= 835.06 8" N INV.= 835.06	8 IN	E.J.I.W.8396
CO 3	837.50	8" W INV.= 835.24 8" N INV.= 835.24	8 IN	E.J.I.W.8396
CO 4	839.10	6" W INV.= 836.98 6" N INV.= 836.98 8" E INV.= 836.85	8 IN	E.J.I.W.8396
CO 5	841.50	6" E INV.= 839.4	6 IN	E.J.I.W.8396
CO 6	839.70	6" S INV.= 837.58	6 IN	E.J.I.W.1578
CO 7	842.70	8" S INV.= 838.4 8" E INV.= 838.4	8 IN	E.J.I.W.1578
CO 8	842.50	6" S INV.= 838.7 8" N INV.= 838.57	8 IN	E.J.I.W.1578
CO 9	841.00	6" S INV.= 838.86	6 IN	E.J.I.W.1578
CO 9		6" N INV.= 838.86		
CO 10	841.50	6" N INV.= 839.35	6 IN	E.J.I.W.1578

STORM SEWER PIPE SCHEDULE

PIPE RUN	LENGTH OF LINE (FT)	DIAM. OF PIPE (IN)	SLOPE OF PIPE (%)	PIPE MATERIAL
1061 - CB 1	12.8	12	1.00	RCP CL-IV
CB 1 - CS 2	152.1	12	1.00	RCP CL-IV
CS 2 - DET	92.4	18	0.70	RCP CL-IV
CB 1 - CO 1	97.4	8	0.20	HDPE
CO 1 - CO 2	83.5	8	0.20	HDPE
CO 2 - CO 3	89.0	8	0.20	HDPE
CO 3 - CO 4	100.7	8	1.60	HDPE
CO 4 - CO 5	142.2	6	1.70	HDPE
CO 4 - CO 6	45.6	6	1.30	HDPE
CS 2 - CO 7	99.2	8	1.90	HDPE
CO 7 - CO 8	80.9	8	0.20	HDPE
CO 8 - CO 9	80.0	6	0.20	HDPE
CO 9 - CO 10	81.2	6	0.60	HDPE

STORM WATER MANAGEMENT CALCULATIONS (BUILDING)

Design Basis: Use the Washtenaw County Water Resources Commissioner Rules and Guidelines, Revised - October 17, 2016

Determining Post-Development Cover Types, Areas, Curve Numbers, and Runoff Coefficients

Total Drainage Area of Building	=	53,006 sf
Total Drainage Area Excluding "Self-Crediting" BMPs	=	53,006 sf

Rational Method Variables

Cover Type	Slope	Soil Group	Area (sq. ft)	C factor	(C) x (Area)
Roofs	-	C	35,079	0.95	33,325
Pavement: Top of Podium	-	C	8,577	0.90	7,719
Semi-pervious: Green Roof	-	C	9,350	0.35	3,273
Water Surface	-	C	0	1.00	0
			Total = Σ[(C)Area] =		44,317
			Area Total = Σ A' =		53,006
			Weighted C = Σ [(C)Area]/Σ A' =		0.84

NRCS Variables (Pervious)

Cover Type	Hydrologic Condition	Soil Group	Area (sq. ft)	Curve Number	(C) x (Area)
Open Space: lawns & planting beds	Poor (grass cover < 50%)	C		86	0
Open Space: lawns & planting beds	Fair (grass cover 50% to 75%)	C		79	0
Open Space: lawns & planting beds	Good (grass cover > 75%)	C	9,350	74	691,900
			Total = Σ[(CN)Area] =		691,900
			Area Total = Σ A' =		9,350
			Weighted C = Σ [(CN)Area]/Σ A' =		74

NRCS Variables (Impervious)

Cover Type	Hydrologic Condition	Soil Group	Area (sq. ft)	Curve Number	(C) x (Area)
Roof & Pavement	-	C	43,656	98	4,278,288
Water Surface	-	C	0	98	0
			Total = Σ[(CN)Area] =		4,278,288
			Area Total = Σ A' =		43,656
			Weighted C = Σ [(CN)Area]/Σ A' =		98

W1

W2 — First Flush Runoff Calculations (V_{ff})

Volume of 1 inch rain over total site area

$V_{ff} = 1"(\frac{1'}{12"}) \times (\frac{43560\ SF}{1\ ac}) \times A \times C$ = **3,693** ft³

W3 — Pre-Development Bankfull Runoff Calculations (V_{BFpre})

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN) (Cover Description: Meadow, Good, Hydrologic Soil Group C)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q = (P-0.2S)²/(P+0.8S)	=	0.526	in
E. Total Site Area	=	53,006	ft²
F. V_{BFpre} = Q/12*(site area)	=	**2,323**	ft³

W4 — Pervious Cover Post-Development Bankfull Runoff Calculations ($V_{BFper-post}$)

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q = (P-0.2S)²/(P+0.8S)	=	0.526	in
E. Pervious Cover Area	=	9,350	ft²
F. $V_{BFper-post}$ = Q/12*(site area)	=	**410**	ft³

W5 — Impervious Cover Post-Development Bankfull Runoff Calculations ($V_{BFimp-post}$)

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN)	=	98	
C. S = 1000/CN - 10	=	0.20	in
D. Q = (P-0.2S)²/(P+0.8S)	=	2.122	in
E. Impervious Cover Area	=	43,656	ft²
F. $V_{BFimp-post}$ = Q/12*(proposed impervious area)	=	**7,719**	ft³

W6 — Pervious Cover Post-Development 100-year Storm Runoff Calculations ($V_{100per-post}$)

A. 100-year / 24 hour storm event = P	=	5.11	in
B. Curve Number (CN)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q_{100per} = (P-0.2S)²/(P+0.8S)	=	2.462	in
E. Pervious Cover Area	=	9,350	ft²
F. $V_{100per-post}$ = Q/112(proposed impervious area)	=	**1,911**	ft³

W7 — Impervious Cover Post-Development 100-year Storm Runoff Calculations ($V_{100imp-post}$)

A. 100-year / 24 hour storm event = P	=	5.11	in
B. Cune Number (CN)	=	98	
C. S = 1000/CN - 10	=	0.20	in
D. Q_{100imp} = (P-0.2S)²/(P+0.8S)	=	4.873	in
E. Impervious Cover Area	=	43,656	ft²
F. $V_{100imp-post}$ = Q/112(proposed impervious area)	=	**17,728**	ft³

W8 — Determine Time of Concentration for Applicable Flow Types (T_{CONC})

Flow Type	K	Change In Elevation	Length (L)	Slope % (S)	$S^{0.5}$	$V = K*S^{0.5}$	$T_c = L/(V*3600)$
Sheet Flow	0.48	0	0	0.00	0.00	0.00	0.00
Sheet Flow	0.48	0	0	0.00	0.00	0.00	0.00
Waterway	1.2	0	0	0.00	0.00	0.00	0.00
Small Tributary	2.1	-	-	-	-	-	0.00
Total Time of Concentration (T_{CONC})					=	**0.25**	hrs

W9 — Runoff Summary and Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets			
Total Post-Development Bankfull Volume (V_{BFpost})	=	**8,128**	ft³
Total 100-year Volume (V_{100})	=	**19,639**	ft³
B. Determine Onsite Infiltration Requirement			
Bankfull Volume Difference ($V_{BFpost} - V_{BFpre}$)	=	**5,806**	ft³
Onsite Infiltration Requirement = Greater of Bankfull Volume Difference and First Flush Volume = (V_{rr})	=	**5,806**	ft³

W10 — Detention/Retention Requirement

A. Peak of Unit Hydrograph = Q_u = 238.6$T_c^{-0.82}$	=	**743.63**	cfs/in-mi²
B. Total Site Area (ac) excluding "Self-Crediting" BMPs	=	**1.22**	acres
C. $Q_{100} = Q_{100per} + Q_{100imp}$	=	**7.33**	in
D. Peak Flow (PF) = $\frac{(Q_u * C_{100} * Area\ (ac))}{640}$	=	**10.36**	ft³/s
E. Δ = PF - 0.15*(area)	=	**10.17**	ft³/s
F. $V_{rr} = (\frac{\Delta}{60} * V_{100})$	=	**19,293**	ft³

W11 — Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Runoff Storage Volume (ft³) Surface	Runoff Storage Volume (ft³) Soil	Ave. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm (ft^3)	Total Volume Reduction (ft^3)
Porous Pavement w/Infiltration Bed						
Infiltration Basin						
Subsurface Infiltration Bed						
Infiltration Trench						
Rain Garden						
Dry Well						
Bioswale						
Vegetated Filter Strip						
Green Roof (Level 2)	1,850	0	916	0	0	916
Green Roof (Level 6)	6,000	0	990	0	0	990
Green Roof (Level 7)	800	0	132	0	0	132
Green Roof (Level 8)	700	0	116	0	0	116
Total Volume Reduction Credit by Proposed Structural BMPs (ft^3) =						2,153
Runoff Volume Infiltration Requirement (V_{rr}) from Worksheet 9 =						5,806
Total Designed/Provided Infiltration Volume from Building and Site BMPs =						**21,652**

W12 — Natural Features Inventory

Existing Natural Resources	Mapped (yes, no, n/a)	Total Area (ac)	Protected/Undisturbed Area (ac)
Waterbodies	no		
Floodplains	no		
Riparian Areas	no		
Wetlands	no		
Woodlands	no		
Natural Drainage Area	no		
Steep Slopes, 15%-25%	no		
Steep Slopes, over 25%	no		
Special Habitat Areas	no		
TOTAL EXISTING (ac)			

W13 — Site Summary of Infiltration & Detention

A. Stormwater Management Summary			
Minimum Onsite Infiltration Requirement (V_{rr})	=	**5,806**	ft³
Total Designed/Provided Infiltration Volume from Building and Site BMPs	=	**21,652**	ft³
% Minimum Required Infiltration Provided	=	**372.9**	%
Total Calculated Detention Volume, V_{TR}	=	**19,293**	ft³
Net Required Detention Volume (V_{req} - Designed/Provided Infiltration Volume)	=	**17,129**	ft³
B. Detention Volume Increase for site if required infiltration volume not achieved			
% Required Infiltration NOT provided (100% - % Minimum Required Infiltration Provided)	=	**0.0**	%
Net % Penalty (20% + % Required Infiltration Not Provided)	=	**0.0**	%
Total Required Detention Volume, including penalty	=	**17,129**	ft³
[(100% + Net % Penalty) * Net Required Detention Volume)]			

Underground Detention Storage Volume

Vault Size = 4,000 ft² (Width) × 60 ft (Length)
Detention Area (ft²) = 4,000
Bottom of Storage = 834.00

Height of System (feet)	Elevation	Total Storage Volume (cubic feet)
6.00	840.00	24,000
5.80	839.80	23,200
5.60	839.60	22,400
5.40	839.40	21,600
5.20	839.20	20,800
5.00	839.00	20,000
4.80	838.80	19,200
4.60	838.60	18,400
4.40	838.40	17,600
4.20	838.20	16,800
4.00	838.00	16,000
3.80	837.80	15,200
3.60	837.60	14,400
3.40	837.40	13,600
3.20	837.20	12,800
3.00	837.00	12,000
2.80	836.80	11,200
2.60	836.60	10,400
2.40	836.40	9,600
2.20	836.20	8,800
2.00	836.00	8,000
1.80	835.80	7,200
1.60	835.60	6,400
1.40	835.40	5,600
1.20	835.20	4,800
1.00	835.00	4,000
0.80	834.80	3,200
0.60	834.60	2,400
0.40	834.40	1,600
0.20	834.20	800
0.00	834.00	0

Storage Elevations: X_0 = 833.35, X_{20} = 834.90, X_{40} = 836.00, X_{100} = 838.30

Outlet Control Structure

Orifice hole(s) sizing - "first flush" discharge

$Q_{ff} = V_{ff} / 24\ hrs / 3600\ sec$ = 0.043 ft³/s
$h_{out} = Y_2 \times (X_{40} - X_0)$ = 1.033 ft
$A = Q_{ff} / (.62 \times sqrt(2 \times 32.2 \times h_{out}))$ = 0.0085 ft²
Area of an orifice with diameter (in) = 1 1/8 = 0.0069 ft²
Number of orifice holes = 1 holes at elev = 833.35
Q_{ff} design = 0.035 ft³/s
Time to Discharge (greater than 24 hours) = 29.4 hrs > 24 hrs

Orifice hole(s) sizing - "Bankfull flood" discharge

Bankfull should discharge within 36 to 48 hours
$h_{BFF} = Y_3 \times (X_{40} - X_0)$ = 1.767 ft
Release from first flush holes only
$Q_{FFA} = .62 \times sqrt(2 \times 32.2 \times Y_3 \times h_{BFF}) \times$ = Q = 0.046 ft³/s
T_{FF} with first flush holes only = 49 hrs < 44 hrs
The first flush volume will discharge in = 29.4 hrs > 24 hrs
The volume between the Bankfull elevation and the First Flush Elevation
$V_{min} = V_{40} - V_0$ = 4,435 ft³
$T_{min} = 42\ hr \times T_{FF}$ = 13 hrs
$h^2_{BFF} = Y_3 \times (X_{40} - X_{20}) + (X_{40} - X_0)$ = 2.28 ft
$Q_1 = 4 \times .62 \times sqrt(2 \times 32.2 \times Y_3 h^2_{BFF}) =$ Q_1 = 0.052 ft³/s
$V_1 = T_{min} \times Q_1 \times$ V_1 = 2,357 ft³
$V_2 = V_{min} - V_1 =$ V_2 = 2,078 ft³
$Q_2 = V_2 / T_{min}$ Q_2 = 0.046 ft³/s
$h^2_{min} = Y_3 \times (X_{40} - X_{20})$ h^2_{min} = 0.73 ft
$A_{BF} = Q_2 / .62 \times sqrt(2 \times 32.2 \times h^2_{min})$ A_{BF} = 0.0107 ft²
Area of an orifice with diameter (in) = 1 3/8 = 0.0096 ft²
Number of orifice holes = 1 holes at elev = 834.9
Bankfull storage time check (between 36 and 48) = 43 hrs

Orifice hole(s) sizing - "100-yr flood" discharge

Peak Flow, Q_u = 0.15 cfs/acre x drainage area (A) Q_u = 0.183 ft³/s
$h_{BF} = (X_{100} - X_0)$ h_{BF} = 4.95 ft
$h^2_{BF} = (X_{100} - X_{20})$ h^2_{BF} = 3.40 ft
$Q_{BF} = Q_{ff} +$ Q_{ff} + Q_{BF} = 0.164 ft³/s
$x = 0.62 \times sqrt(2 \times 32.2 \times h_{BF}) + x \cdot 62 \times sqrt(2 \times 32.2 \times h^2_{BF}) =$
$Q_{100} = Q_{ff}+Q_{BF}-Q_{BF}) =$ Q_{100} = 0.019 ft³/s
$A_{100} = Q_{100} / (.62 \times sqrt(2 \times 32.2 \times h_{100}))$ A_{100} = 0.0024 ft²
Area of an orifice with diameter (in) = 5/8 = 0.0021 ft²
Number of orifice holes = 1 holes at elev = 836
Confirm allowable flow rate is not exceeded
$Q_{ff} + Q_{BF} + 0.62 \times \pi_{BF} \times A_{100} \times sqrt(2 \times g \times h^{100}_{BF}) < Q_{allow}$ = 0.180 cfs < 0.183 cfs
100-year storm volume discharge < 72 hours
$h^{100}_{BF} = (X_{100} - X_{20}) + (X_{40} - X_0)$ = 4.18 ft
$Q_{BF} = 0.62 \times \pi^{BF}_{orif} \times A^{BF}_{orif} \times sqrt(2 \times g \times h^{100}_{BF})$ = 0.070 ft³/s
Calculate Q_{BLOCK}
$h^{100}_{BF} = (X_{100} - X_0) + (X_{40} - X_0)$ = 2.63 ft
$Q_{BLOCK} = 0.62 \times \pi^{BF}_{orif} \times A^{BF}_{orif} \times sqrt(2 \times g \times h^{100}_{BF})$ = 0.077 ft³/s
Average Discharge through 100-year Orifice(s) when other Orifice (s) are contributing
$h^{100}_{avg} = (X_{100} - X_{40})$ = 1.53 ft
$Q^{100}_{avg} = 0.62 \times \pi^{100}_{orif} \times A^{100}_{orif} \times sqrt(2 \times g \times h^{100}_{avg})$ = 0.013 ft³/s
Check to confirm 100-year storm volume discharge in less than 72 hours
V_{100} = Total Required Detention - BMP Volume Reduction (W11) = 14,986 ft³
$V_{min} = V_{100} - V_0$ = 6,858 ft³
$T_{100} = T_{ff} + V_{min} / (Q_{ff} + Q_{BF100} + Q^{100}_{avg})$ <= 72 hrs = 55 hrs <= 72 hrs
Design meets both the time of detention and flow rate requirements

STORM WATER MANAGEMENT CALCULATIONS (SITE)

Design Basis: Use the Washtenaw County Water Resources Commissioner Rules and Guidelines, Revised - October 17, 2016

Determining Post-Development Cover Types, Areas, Curve Numbers, and Runoff Coefficients

Total Drainage Area	=	17,953 sf
Total Drainage Area Excluding "Self-Crediting" BMPs	=	17,953 sf

Rational Method Variables

Cover Type	Slope	Soil Group	Area (sq. ft)	C factor	(C) x (Area)
Roofs	-	C	0	0.95	0
Pavement	-	C	5,245	0.90	4,721
PaveDrain Porous Paver	-	C	6,324	0.35	2,213
Semi-pervious: lawns & planting beds	-	C	6,384	0.35	2,234
Water Surface	-	C	0	1.00	0
			Total = Σ[(C)Area] =		9,168
			Area Total = Σ A' =		17,953
			Weighted C = Σ [(C)Area]/Σ A' =		0.51

W1

NRCS Variables (Pervious)

Cover Type	Hydrologic Condition	Soil Group	Area (sq. ft)	Curve Number	(C) x (Area)
Open Space: lawns & planting beds	Poor (grass cover < 50%)	C		86	0
Open Space: lawns & planting beds	Fair (grass cover 50% to 75%)	C		79	0
Open Space: lawns & planting beds	Good (grass cover > 75%)	C	12,708	74	940,392
			Total = Σ[(CN)Area] =		940,392
			Area Total = Σ A' =		12,708
			Weighted C = Σ [(CN)Area]/Σ A' =		74

NRCS Variables (Impervious)

Cover Type	Hydrologic Condition	Soil Group	Area (sq. ft)	Curve Number	(C) x (Area)
Roof & Pavement	-	C	5,245	98	514,010
Water Surface	-	C	0	98	0
			Total = Σ[(CN)Area] =		514,010
			Area Total = Σ A' =		5,245
			Weighted C = Σ [(CN)Area]/Σ A' =		98

W2 — First Flush Runoff Calculations (V_{ff})

Volume of 1 inch rain over total site area

$V_{ff} = 1"(\frac{1'}{12"}) \times (\frac{43560\ SF}{1\ ac}) \times A \times C$ = **764** ft³

W3 — Pre-Development Bankfull Runoff Calculations (V_{BFpre})

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN) (Cover Description: Meadow, Good, Hydrologic Soil Group C)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q = (P-0.2S)²/(P+0.8S)	=	0.526	in
E. Total Site Area	=	17,953	ft²
F. V_{BFpre} = Q/12*(site area)	=	**787**	ft³

W4 — Pervious Cover Post-Development Bankfull Runoff Calculations ($V_{BFper-post}$)

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q = (P-0.2S)²/(P+0.8S)	=	0.526	in
E. Pervious Cover Area	=	12,708	ft²
F. $V_{BFper-post}$ = Q/12*(site area)	=	**557**	ft³

W5 — Impervious Cover Post-Development Bankfull Runoff Calculations ($V_{BFimp-post}$)

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Cune Number (CN)	=	98	
C. S = 1000/CN - 10	=	0.20	in
D. Q = (P-0.2S)²/(P+0.8S)	=	2.122	in
E. Impervious Cover Area	=	5,245	ft²
F. $V_{BFimp-post}$ = Q/112(proposed impervious area)	=	**927**	ft³

W6 — Pervious Cover Post-Development 100-year Storm Runoff Calculations ($V_{100per-post}$)

A. 100-year / 24 hour storm event = P	=	5.11	in
B. Curve Number (CN)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q_{100per} = (P-0.2S)²/(P+0.8S)	=	2.462	in
E. Pervious Cover Area	=	12,708	ft²
F. $V_{100per-post}$ = Q/112(proposed impervious area)	=	**2,597**	ft³

W7 — Impervious Cover Post-Development 100-year Storm Runoff Calculations ($V_{100imp-post}$)

A. 100-year / 24 hour storm event = P	=	5.11	in
B. Cune Number (CN)	=	98	
C. S = 1000/CN - 10	=	0.20	in
D. Q_{100imp} = (P-0.2S)²/(P+0.8S)	=	4.873	in
E. Impervious Cover Area	=	5,245	ft²
F. $V_{100imp-post}$ = Q/112(proposed impervious area)	=	**2,150**	ft³

W8 — Determine Time of Concentration for Applicable Flow Types (T_{CONC})

Flow Type	K	Change In Elevation	Length (L)	Slope % (S)	$S^{0.5}$	$V = K*S^{0.5}$	$T_c = L/(V*3600)$
Sheet Flow	0.48	0	0	0.00	0.00	0.00	0.00
Sheet Flow	0.48	0	0	0.00	0.00	0.00	0.00
Waterway	1.2	0	0	0.00	0.00	0.00	0.00
Small Tributary	2.1	-	-	-	-	-	0.00
Total Time of Concentration (T_{CONC})					=	**0.26**	hrs

W9 — Runoff Summary and Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets			
Total Post-Development Bankfull Volume (V_{BFpost})	=	**1,484**	ft³
Total 100-year Volume (V_{100})	=	**4,727**	ft³
B. Determine Onsite Infiltration Requirement			
Bankfull Volume Difference ($V_{BFpost} - V_{BFpre}$)	=	**698**	ft³
Onsite Infiltration Requirement = Greater of Bankfull Volume Difference and First Flush Volume = (V_{rr})	=	**764**	ft³

W10 — Detention/Retention Requirement

A. Peak of Unit Hydrograph = Q_u = 238.6$T_c^{-0.82}$	=	**743.63**	cfs/in-mi²
B. Total Site Area (ac) excluding "Self-Crediting" BMPs	=	**0.41**	acres
C. $Q_{100} = Q_{100per} + Q_{100imp}$	=	**7.33**	in
D. Peak Flow (PF) = $\frac{(Q_u * C_{100} * Area\ (ac))}{640}$	=	**3.81**	ft³/s
E. Δ = PF - 0.15*(area)	=	**3.45**	ft³/s
F. $V_{rr} = (\frac{\Delta}{60} * V_{100})$	=	**4,644**	ft³

W11 — Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Runoff Storage Volume (ft³) Surface	Runoff Storage Volume (ft³) Soil	Ave. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm (ft^3)	Total Volume Reduction (ft^3)
Porous Pavement w/Infiltration Bed	6,324	927	3,162	5	15,810	19,499
Infiltration Basin						
Subsurface Infiltration Bed						
Infiltration Trench						
Rain Garden						
Dry Well						
Bioswale						
Vegetated Filter Strip						
Green Roof						
Total Volume Reduction Credit by Proposed Structural BMPs (ft^3) =						19,499
Runoff Volume Infiltration Requirement (V_{rr}) from Worksheet 9 =						764
Total Designed/Provided Infiltration Volume from Building and Site BMPs =						**21,652**

W12 — Natural Features Inventory

Existing Natural Resources	Mapped (yes, no, n/a)	Total Area (ac)	Protected/Undisturbed Area (ac)
Waterbodies	no		
Floodplains	no		
Riparian Areas	no		
Wetlands	no		
Woodlands	no		
Natural Drainage Area	no		
Steep Slopes, 15%-25%	no		
Steep Slopes, over 25%	no		
Special Habitat Areas	no		
TOTAL EXISTING (ac)			

W13 — Site Summary of Infiltration & Detention

A. Stormwater Management Summary			
Minimum Onsite Infiltration Requirement (V_{rr})	=	**764**	ft³
Total Designed/Provided Infiltration Volume from Building and Site BMPs	=	**15,810**	ft³
% Minimum Required Infiltration Provided	=	**2,069.3**	%
Total Calculated Detention Volume, V_{TR}	=	**4,644**	ft³
Net Required Detention Volume (V_{req} - Designed/Provided Infiltration Volume)	=	**(11,009)**	ft³
B. Detention Volume Increase for site if required infiltration volume not achieved			
% Required Infiltration NOT provided (100% - % Minimum Required Infiltration Provided)	=	**0.0**	%
Net % Penalty (20% + % Required Infiltration Not Provided)	=	**0.0**	%
Total Required Detention Volume, including penalty	=	**(17,009)**	ft³
[(100% + Net % Penalty) * Net Required Detention Volume)]		No Detention Required	

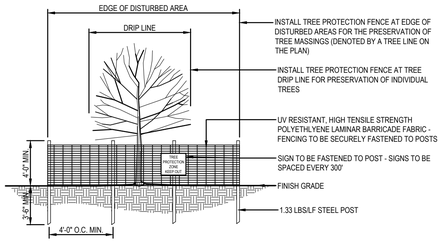
STORM WATER MANAGEMENT PLAN NARRATIVE

THE EXISTING DEVELOPED SITE CONTAINS TEN (10) SEPARATE PARCELS THAT DRAIN FROM WEST TO EAST TOWARD THE EXISTING CITY OF ANN ARBOR STORM SEWER SYSTEM LOCATED WITHIN THE HENRY STREET RIGHT-OF-WAY AT THE NORTHEAST CORNER OF THE SITE. THIS CITY OWNED CATCH BASIN AND THE SUBSEQUENT DOWNSTREAM STORM SEWER SYSTEM DRAIN TO THE EAST AND CONNECT TO THE PITTSFIELD #3 DRAIN BEFORE HEADING SOUTHEAST TOWARD MALLETS CREEK. THIS EXISTING DRAINAGE PATTERN WILL BE MAINTAINED, AND THE EXISTING CATCH BASIN WILL BE USED AS AN OUTLET TO THE PROPOSED UNDERGROUND DETENTION SYSTEM FOR THE PROPOSED PROJECT.

THE PROPOSED PROJECT CONSISTS OF 2 SEPARATE DRAINAGE DESIGNS REQUIRING 2 SEPARATE STORM WATER MANAGEMENT CALCULATIONS, 1 FOR THE PROPOSED BUILDING ROOF RUNOFF THAT IS DIRECTED TO THE UNDERGROUND DETENTION SYSTEM AND THE OTHER FOR THE SITE RUNOFF. BOTH SETS OF CALCULATIONS ARE PROVIDED ABOVE.

1. SEVENTY FIVE PERCENT (75%) OF THE PROPOSED PROJECT IS BUILDING. RUNOFF FROM THE PROPOSED BUILDING WILL BE ROUTED INTERNALLY THROUGH THE BUILDING STRUCTURE TO THE UNDERGROUND DETENTION VAULT LOCATED BENEATH THE PARKING AREA ON THE FIRST FLOOR LEVEL. APPROXIMATELY 9,350 SF OF GREEN ROOF (APPROX. 17% OF TOTAL ROOF AREA) WILL BE PROVIDED ON THE ROOF OF LEVELS 2, 6, 7 AND 8. THE EXCESS RUNOFF GENERATED FROM THE BUILDING ROOF WILL BE FREE OF OILS, FERTILIZERS, DEBRIS AND SEDIMENT AND THEREFORE NO PRE-TREATMENT IS PROPOSED PRIOR TO THE ROOF RUNOFF ENTERING THE DETENTION SYSTEM. THE PROPOSED UNDERGROUND DETENTION SYSTEM IS SIZED IN ACCORDANCE WITH THE WASHTENAW COUNTY WATER RESOURCE COMMISSIONER'S OFFICE RULES. IT WILL BE DESIGNED TO DETAIN THE FIRST FLUSH, BANKFULL AND FLOOD CONTROL VOLUMES OF RUNOFF USING A RESTRICTED OUTLET. THE DETENTION SYSTEM WILL BE CONSTRUCTED BELOW THE SURFACE PARKING LOT AND WILL BE INTEGRATED INTO THE PROPOSED BUILDING FOUNDATION DESIGN. ACCESS TO THE PROPOSED UNDERGROUND SYSTEM WILL BE PROVIDED THROUGH MANHOLES LOCATED IN THE NORTHWEST AND SOUTHEAST CORNERS OF THE SYSTEM. DUE TO THE LOCATION OF THE SYSTEM (UNDER THE PROPOSED BUILDING) AND DUE TO HIGH GROUND WATER LEVELS AT THE SITE, NO INFILTRATION IS ACCOUNTED FOR IN THE UNDERGROUND DETENTION BASIN DESIGN CALCULATIONS.

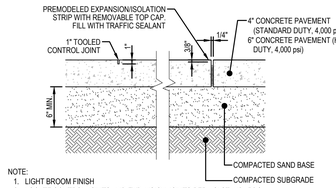
2. THE REMAINING TWENTY FIVE PERCENT (25%) OF THE SITE CONSISTS OF LANDSCAPE AREAS, POROUS PAVERS, & CONCRETE SIDEWALKS. RUNOFF GENERATED FROM THESE AREAS OF THE SITE WILL BE ROUTED TO SEVERAL PERMEABLE PAVER SYSTEMS AROUND THE EXTERIOR OF THE BUILDING. THIS SYSTEM, IN COMBINATION WITH THE EXISTING SITE INFILTRATION RATE OF 5 INCH PER HOUR, WILL PROVIDE STORM WATER QUALITY IMPROVEMENTS, REDUCE THE QUANTITY OF RUNOFF LEAVING THE SITE, AND PROVIDE THE REQUIRED INFILTRATION VOLUME NEEDED TO AVOID THE 20% PENALTY PER COUNTY REGULATIONS. A PERFORATED UNDERDRAIN WILL BE INSTALLED AROUND THE PERIMETER OF THE SITE TO PROVIDE OVERFLOW PROTECTION IN THE CASE OF MAJOR RAIN EVENTS AND WILL



- ALL PLANTS DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING AS ILLUSTRATED.
- THERE SHALL BE NO STORAGE OF MATERIAL OR EQUIPMENT WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.
- TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
- ALL TREE PROTECTION SHALL BE INSTALLED BY THE CONTRACTOR AND APPROVED BY THE OWNER PRIOR TO COMMENCEMENT OF DEMOLITION AND NEW CONSTRUCTION

TREE PROTECTION FENCING DETAIL

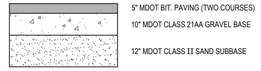
N.T.S.



NOTE:
1. LIGHT BROOM FINISH
2. LOCATE CONTROL JOINTS AND EXPANSION JOINTS PER ACI STANDARDS
3. PANEL SIZE SHALL NOT EXCEED 8 FEET
4. PANELS SHALL BE KEPT AS SQUARE AS POSSIBLE WITH THE LENGTH NEVER EXCEEDING 1.25X THE WIDTH
5. 3.0#/CU.YD. FIBER REINFORCEMENT
6. AIR ENTRAINMENT - 6% ± 1%
7. SLUMP 4"±1"

CONCRETE PAVEMENT DETAIL

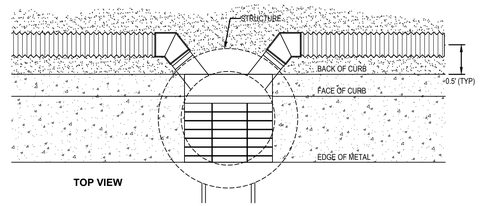
N.T.S.



NOTE:
1. REFER TO GEOTECHNICAL REPORT FOR FINAL PAVEMENT DESIGN SPECIFICATION
2. HMA MIXTURE TO BE TIER I OR TIER II
3. BINDER GRADE TO BE A MINIMUM OF PG 58-28

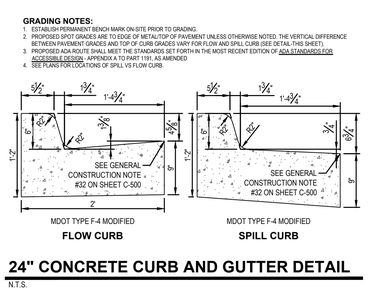
HEAVY DUTY BITUMINOUS PAVEMENT CROSS SECTION DETAIL

N.T.S.



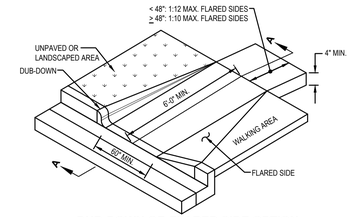
UNDER DRAIN AT CURB DETAIL

N.T.S.

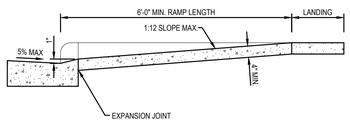


24" CONCRETE CURB AND GUTTER DETAIL

N.T.S.



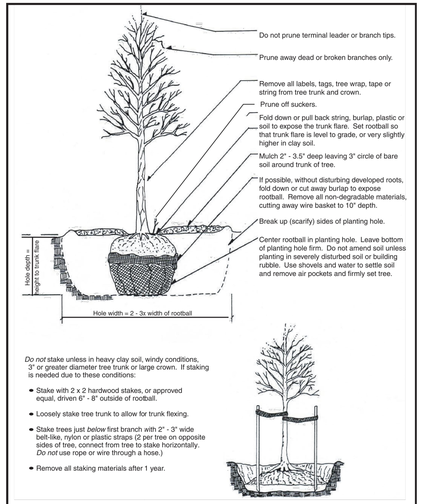
DUB-DOWN OR FLARED SIDE OPTION



SECTION A-A

SIDEWALK CURB RAMP DETAIL

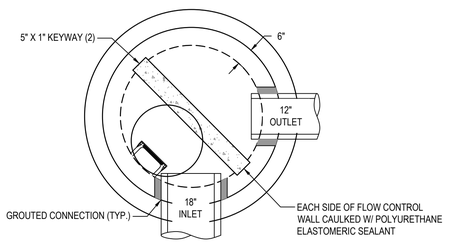
N.T.S.



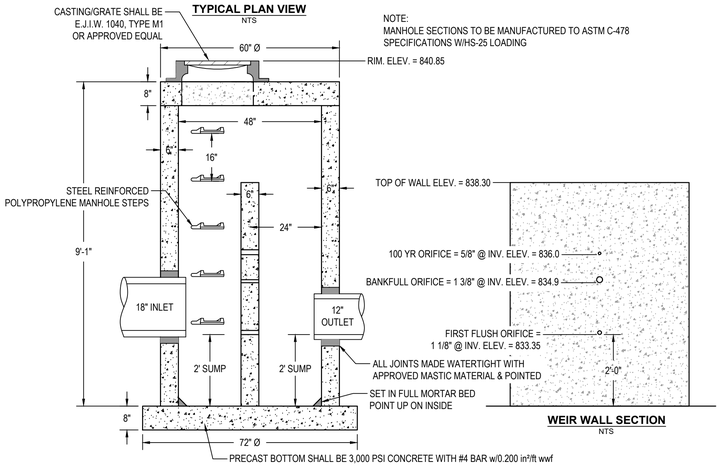
TREE PLANTING DETAIL

SOURCE: NO SOURCE

Original: Dr. Bonnie Appleton, Virginia Polytechnic Institute and State University, modified by the Michigan Department of Natural Resources, Forest Management Division, and the City of Ann Arbor.



TYPICAL PLAN VIEW
NTS

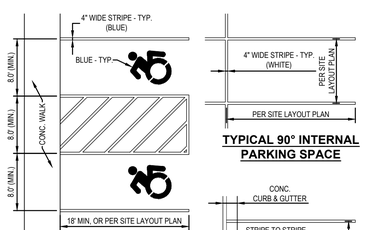


NOTE:
MANHOLE SECTIONS TO BE MANUFACTURED TO ASTM C-478 SPECIFICATIONS W/HS-25 LOADING

WEIR WALL SECTION
NTS

48"Ø PRECAST OUTLET CONTROL STRUCTURE (CS 2)

N.T.S.

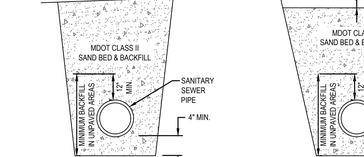


TYPICAL 8'-0" WIDE ADA VAN PARKING SPACE

NOTE:
APPLY TWO COATS OF VOC COMPLIANT, M.D.O.T. APPROVED, UNDILUTED SOLVENT BASED, OR LATEX TRAFFIC PAINT TO ALL PAVEMENT MARKINGS. USE MANUFACTURERS RECOMMENDED APPLICATION RATE, WITHOUT ADDITION OF THINNER, WITH A MAXIMUM OF 100 SFT PER GALLON, OR MINIMUM 15 MILS WET FILM THICKNESS, AND 7.5 MILS DRY FILM THICKNESS PER COAT, WITH MINIMUM 30 DAYS BETWEEN APPLICATIONS. SECOND COAT MUST NOT BE APPLIED EARLIER THAN 7 DAYS BEFORE OCCUPANCY.

PARKING SPACE MARKING DETAILS

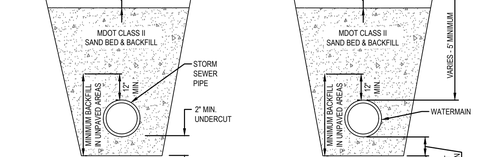
N.T.S.



NOTE:
1. TRENCH TO BE BEDDED AND BACKFILLED WITH SAND AS NOTED ON DETAIL UNDER ALL PAVED AREAS.
2. WHEN SANITARY SEWER PIPE IS OUTSIDE OF PAVED AREAS THE MINIMUM AMOUNT OF SAND BACKFILL SHALL BE, AS NOTED, FROM THE BOTTOM OF TRENCH TO 12" ABOVE CROWN OF STORM PIPE AND THE REMAINDER OF TRENCH BACKFILL WITH EXCAVATED SOILS.

SANITARY SEWER TRENCH AND BACKFILL DETAIL

N.T.S.



NOTE:
1. TRENCH TO BE BEDDED AND BACKFILLED WITH SAND AS NOTED ON DETAIL UNDER ALL PAVED AREAS.
2. WHEN STORM SEWER PIPE IS OUTSIDE OF PAVED AREAS THE MINIMUM AMOUNT OF SAND BACKFILL SHALL BE, AS NOTED, FROM THE BOTTOM OF TRENCH TO 12" ABOVE CROWN OF STORM PIPE AND THE REMAINDER OF TRENCH BACKFILL WITH EXCAVATED SOILS.

STORM SEWER TRENCH AND BACKFILL DETAIL

N.T.S.

NOTE:
1. TRENCH TO BE BEDDED AND BACKFILLED WITH SAND AS NOTED ON DETAIL UNDER ALL PAVED AREAS.
2. WHEN WATER MAIN PIPE IS OUTSIDE OF PAVED AREAS THE MINIMUM AMOUNT OF SAND BACKFILL SHALL BE, AS NOTED, FROM THE BOTTOM OF TRENCH TO 12" ABOVE CROWN OF WATERMAIN PIPE AND THE REMAINDER OF TRENCH BACKFILL WITH EXCAVATED SOILS.

WATER MAIN TRENCH AND BACKFILL DETAIL

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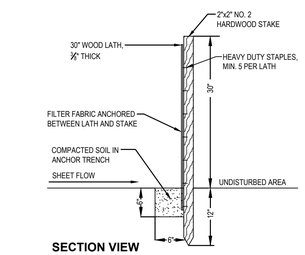

SILT FENCE DETAIL

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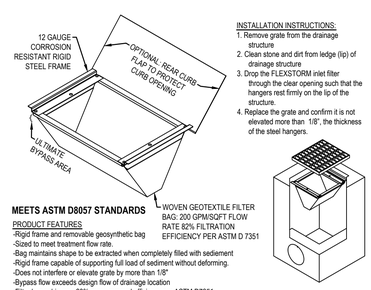


MEETS ASTM D8057 STANDARDS

PRODUCT FEATURES
- -Rigid frame and removable geosynthetic bag
- -Sized to meet treatment flow rate.
- -Bag maintains shape to be extracted when completely filled with sediement
- -Rigid frame capable of supporting full load of sediment without deforming.
- -Does not interfere or elevate grate by more than 1/8"
- -Bypass flow exceeds design flow of drainage location
- -Filter bag achieves +80% gross removal efficiency per ASTM D7351.

INSTALLATION INSTRUCTIONS:
1. Remove grate from the drainage structure
2. Clean stone and dirt from ledge (lip) of drainage structure
3. Drop the FLEXSTORM inlet filter through the clear opening such that the hangers rest firmly on the lip of the structure.
4. Replace the grate and confirm it is not elevated more than 1/8", the thickness of the steel hangers.

FLEXSTORM INLET FILTER LITE DETAIL

N.T.S.

811 Know what's below. CALL before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NOTE:
EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "(PLAN)" WERE OBTAINED FROM AVAILABLE AS-BUILT RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL UTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.

NEDERVELD
www.nederveld.com
800.222.1868
ANN ARBOR
3037 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.6963
CHICAGO
COLUMBUS
GRAND RAPIDS
HOLLAND
INDIANAPOLIS

PREPARED FOR:
Southtown by 4M, LLC
Marge Poscher

2082 S. State Street
Ann Arbor, MI 48104

REVISIONS:

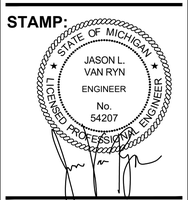
Title: Site Plan Submittal
Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023

SOUTHTOWN BY 4M

Details & Specifications

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:



PROJECT NO:
21500282

SHEET NO:
C-500

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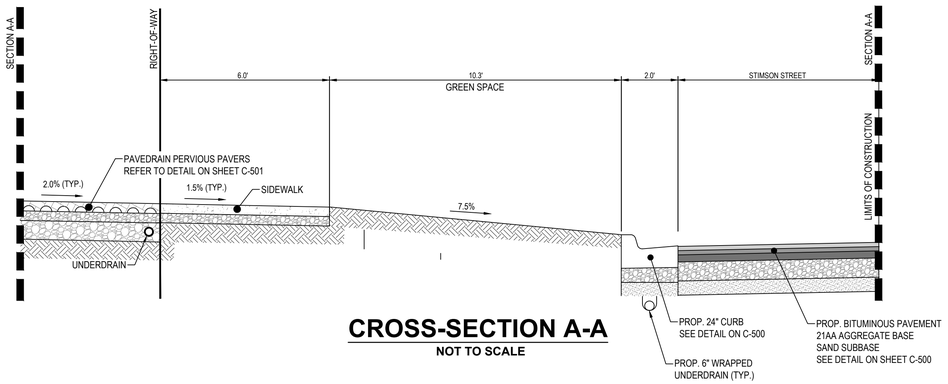

CROSS-SECTION A-A

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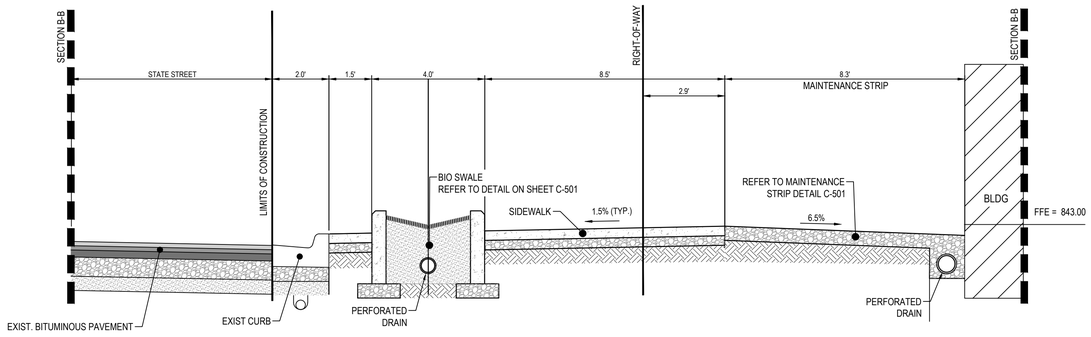

CROSS SECTION B-B

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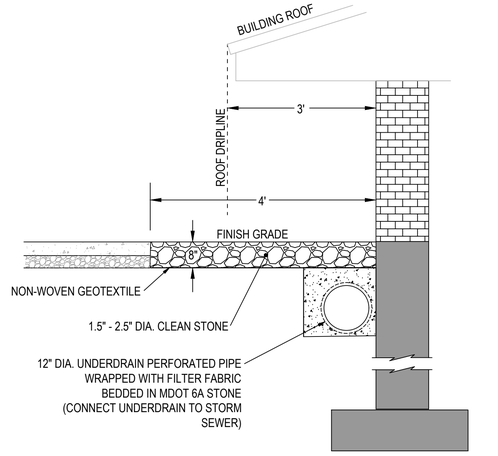
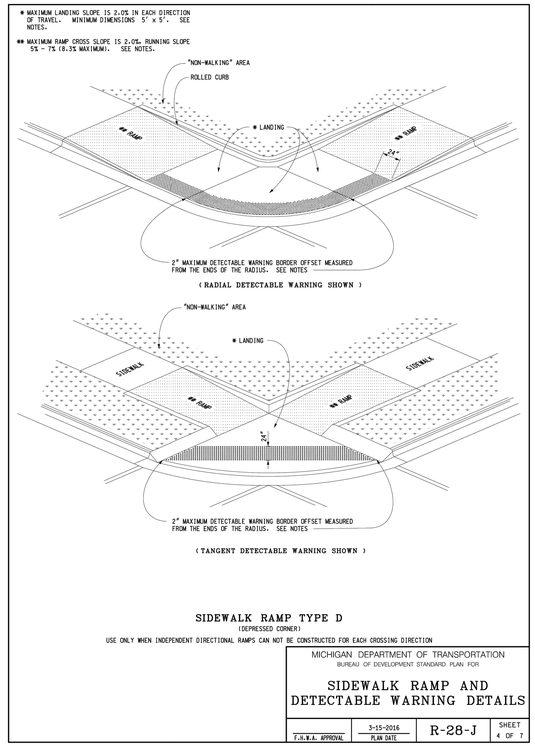


BUILDING MAINTENANCE STRIP / ROOF RUNOFF INFILTRATION BED

N.T.S.



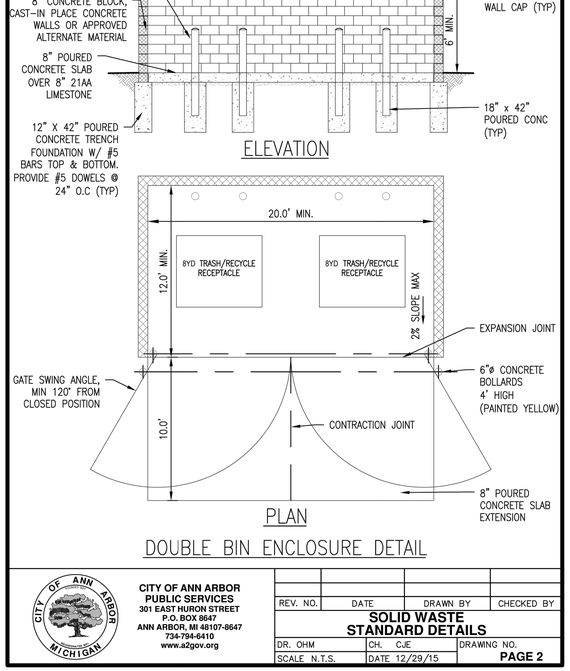
SIDEWALK RAMP TYPE D
(DEPRESSED CORNER)

USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

T.R.N.N.A. APPROVAL	3-15-2016 PLAN DATE	R-28-J	SHEET 4 OF 7



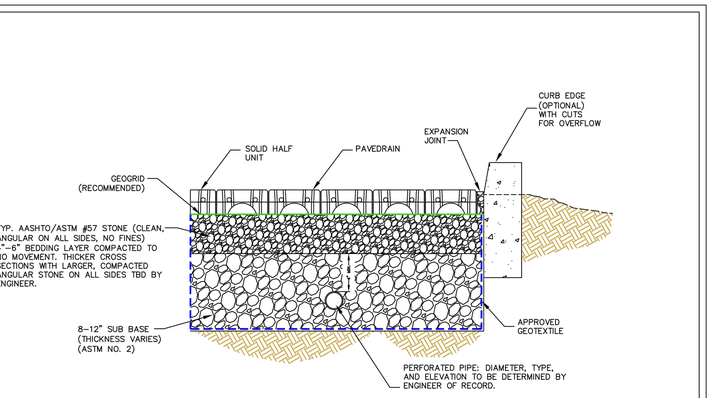
DOUBLE BIN ENCLOSURE DETAIL

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

REV. NO.	DATE	DRAWN BY	CHECKED BY

SOLID WASTE STANDARD DETAILS

DR. OHM	CH. CJE	DRAWING NO.
SCALE N.T.S.	DATE 12/29/15	**PAGE 2**



PERMEABLE – ARTICULATING CONCRETE BLOCK/MAT
TYPICAL SECTION

PAVEDRAIN
STANDARD DETAIL
CROSS-SECTION
SCALE: N.T.S.

PAVE DRAIN
STORMWATER'S BEST FRIEND
PH: (800) 375-5339
WWW.PAVEDRAIN.COM
Email: info@pavedrain.com

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www.nederveld.com
800.222.1868
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Marge Poscher

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SOUTHTOWN BY 4M

Details & Specifications II

Block surrounded by S. State, Henry, White, and Stimson Streets
PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

STAMP:

STATE OF MICHIGAN
JASON L. VAN RYN
ENGINEER
No. 54207
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-501

21500282-PREL1.dwg BC 4/24/2023 17:10

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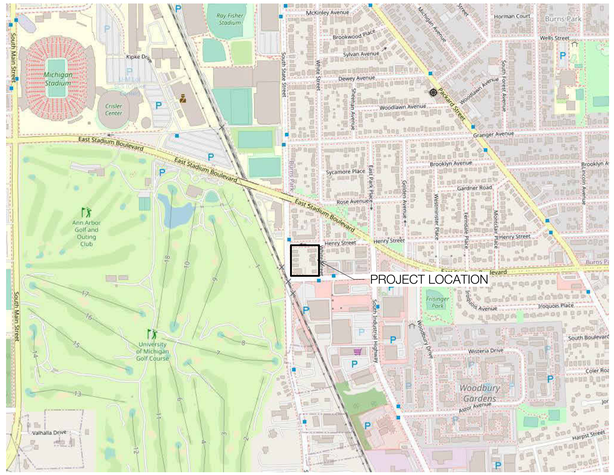
SOUTHTOWN BY 4M

PROJECT LOCATION

ANN ARBOR, MI 48104



Architect
SYNECDOCHE
ADAM SMITH, AIA
1342 N. MAIN ST #11
ANN ARBOR, MI 48104
P: 734.926.5593
E: ADAM@SYNECDOCHE.DESIGN

Owner
SOUTHTOWN BY 4M, LLC
MARGARET POSCHER
2082 S STATE STREET
ANN ARBOR, MI 48104

APPLICABLE CODES

THE PROPOSED CONSTRUCTION IS IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL ORDINANCES.

THE CONSTRUCTION SHOWN ON THIS DOCUMENT DOES NOT INFRINGE ON THE EXISTING LIFE SAFETY FOR THIS BUILDING. PERFORM ALL WORK IN ACCORDANCE WITH BUILDING CODES, LAWS AND ORDINANCES HAVING JURISDICTION ON THE PROJECT. ORDINANCES HAVING JURISDICTION ON THE PROJECT INCLUDE BUT ARE NOT LIMITED TO:

2021 INTERNATIONAL BUILDING CODE
2015 MICHIGAN MECHANICAL CODE
2018 MICHIGAN PLUMBING CODE
2017 MICHIGAN ELECTRICAL CODE
2015 INTERNATIONAL ENERGY CODE
2009 ICC/ANSI + MICHIGAN BARRIER FREE CODE
2015 INTERNATIONAL FIRE CODE
2013 NFPA FIRE ALARM CODE

UNIFIED DEVELOPMENT CODE ANN ARBOR (JANUARY 30 2022 AMENDMENTS)

ZONING COMPLIANCE

CITY ZONING: C1/AR
REFERENCE SITE PLAN: SP22-2017

REQUIRED SETBACKS
FRONT MIN: 10'-0"
- EXCEPTION 5.183c "MIXED USE DISTRICTS (C1AR) MINIMUM MAY BE DECREASED UP TO 50% WHEN ANOTHER SETBACK IS INCREASED "
- SEE SHEET CIVIL FOR DIAGRAM

REQUIRED BUILDING HEIGHT: 100'-0" AND 8 STORIES
PROPOSED BUILDING HEIGHT: 85'-0" AND 8 STORIES

FOR VEHICLE AND BICYCLE PARKING - REFER TO CIVIL

FAR CALCULATIONS REFER TO TABLE BELOW + SHEETS A006 + A007

FAR CALCULATIONS

SITE AREA	72,148 SF
MAX FAR AREA (300% PER C1/AR)	216,444 SF
TOTAL MAX FAR AREA - W/ 8000 SF PREMIUM	224,444 SF

FAR BUILDING AREA

LEVEL 1	23,997 SF
LEVEL 2	32,486 SF
LEVEL 3	31,422 SF
LEVEL 4	36,314 SF
LEVEL 5	36,526 SF
LEVEL 6	26,218 SF
LEVEL 7	18,402 SF
LEVEL 8	16,680 SF
Building Area Total	222,044 SF

SCOPE OF WORK

NEW CONSTRUCTION OF FULL BLOCK BOUND BY S. STATE STREET, WHITE STREET, STIMSON STREET, AND HENRY STREET. THREE FIRE-SEPARATED BUILDINGS. CONCRETE PODIUM AT LEVEL 1 HORIZONTALLY SEPARATED FROM SEVEN LEVELS ABOVE OF MASS TIMBER TYPE IV-C CONSTRUCTION TYPE. 216 RESIDENTIAL UNITS AND 20,000 SF BUSINESS AREA. ACTIVE OPEN SPACE COVERING 54 VEHICLE PARKING SPACES. FULLY ELECTRIFIED MECHANICAL + PLUMBING SYSTEMS THROUGHOUT.

SYNECDOCHE

SOUTHTOWN BY 4M

SYNECDOCHE

SOUTHTOWN BY 4M

SYNECDOCHE
1342 N MAIN ST. #11
ANN ARBOR, MI 48104
HELLO@SYNECDOCHE.DESIGN

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FOR REVIEW ONLY

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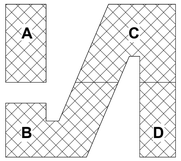
3037 MILLER RD
ANN ARBOR, MI 48103
734.929.6963

ASPECT STRUCTURAL ENGINEERS
101-190 W 3RD AVE
VANCOUVER, BC V5Y 1E9
HELLO@ASPECTENGINEERS.COM
604.762.78444

GREENPATH DESIGN
139 W LIBERTY STREET
PLYMOUTH, MI 48170
INFO@GREENPATH.DESIGN
734.926.5593

ETS ENGINEERING, INC.
P.O. BOX 1116
ROYAL OAK, MI 48068
248.744.0360



No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

TITLE

PROJECT NUMBER 202121
DATE 04/24/2023

G000

SCALE 1/4" = 1'-0"

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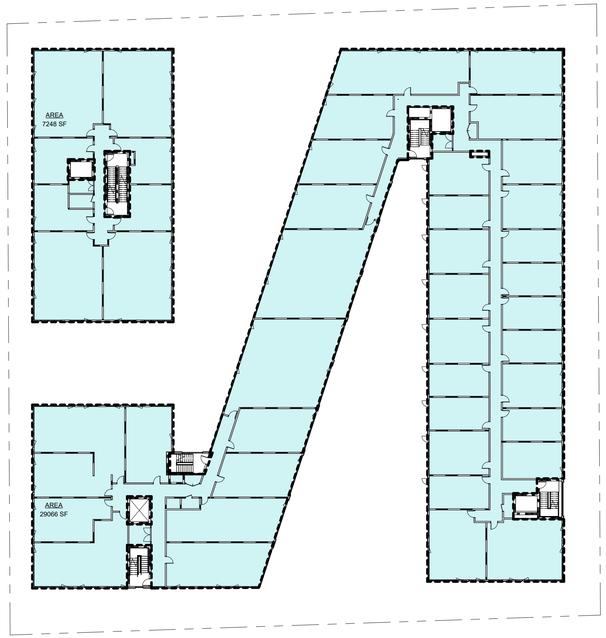
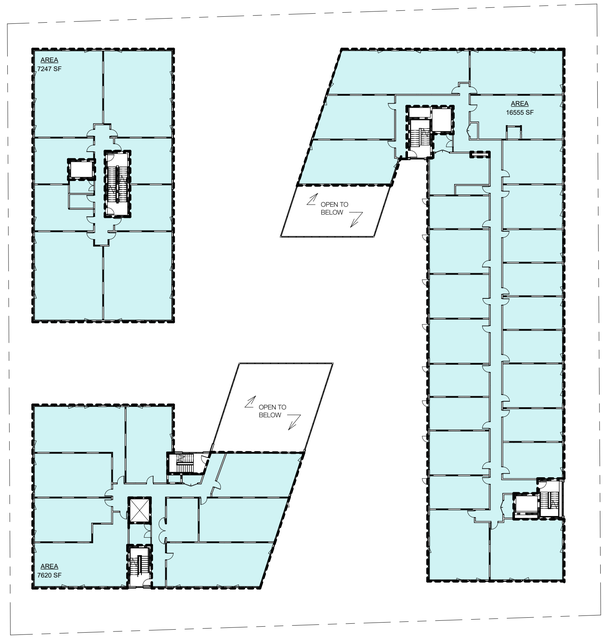


4 LEVEL 4 FAR DIAGRAM
1/32" = 1'-0"



3 LEVEL 3 FAR DIAGRAM
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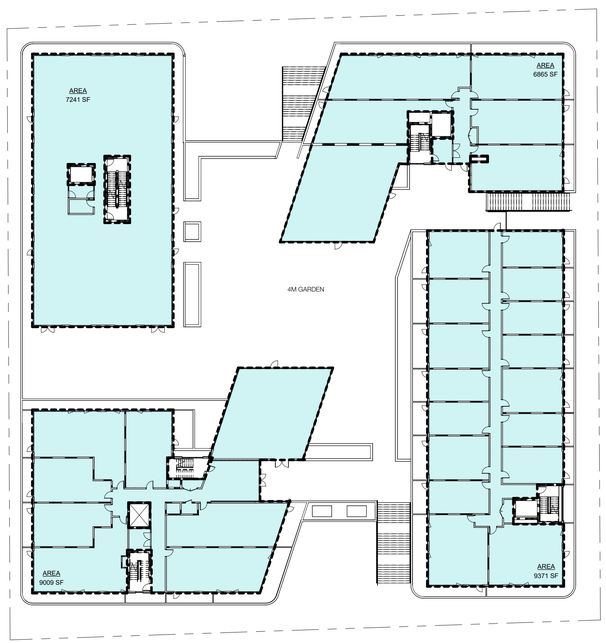
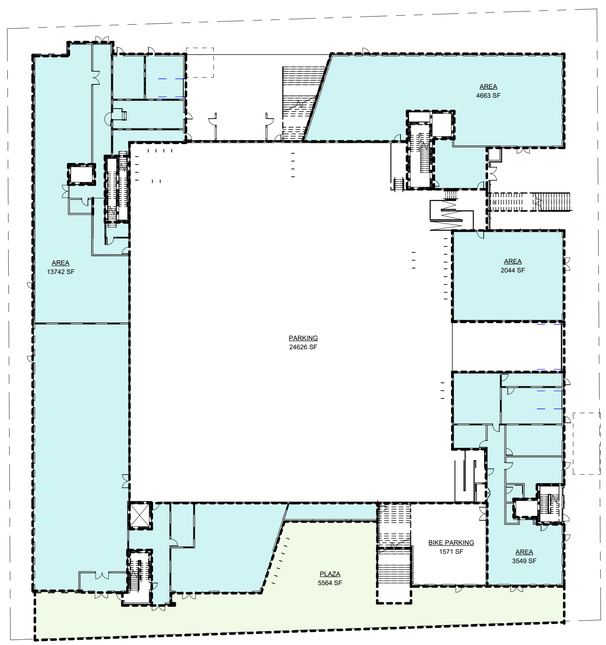


2 LEVEL 2 FAR DIAGRAM
1/32" = 1'-0"



1 LEVEL 1 FAR DIAGRAM
1/32" = 1'-0"

FAR BUILDING AREA

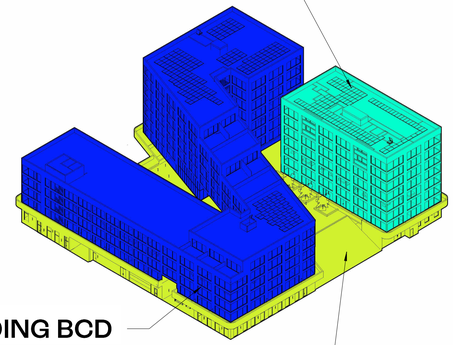
LEVEL 1	23,997 SF
LEVEL 2	32,486 SF
LEVEL 3	31,422 SF
LEVEL 4	36,314 SF
LEVEL 5	36,526 SF
LEVEL 6	26,218 SF
LEVEL 7	18,402 SF
LEVEL 8	16,680 SF
Building Area Total	222,044 SF

FAR CALCULATIONS

SITE AREA	72,148 SF
MAX FAR AREA (300% PER C1/AR)	216,444 SF
TOTAL MAX FAR AREA - W/ 8000 SF PREMIUM	224,444 SF

* GROSS FAR EXCLUDES FLOOR AREA USED FOR REQUIRED PREMIUM VEHICULAR PARKING AND REQUIRED BICYCLE PARKING, STAIRWELLS (INCLUDING LANDINGS), ELEVATOR SHAFTS, RAMPS, AND VERTICAL CHASES OR CHUTES.
** COVERED VEHICULAR PARKING NOT INCLUDED - ZBA VARIANCE REQUIRED

BUILDING A



SYNECDOCHE
1342 N MAIN ST. #11
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HELLO@SYNECDOCHE.DESIGN

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3037 MILLER RD
ANN ARBOR, MI 48103
734.929.6963

ASPECT STRUCTURAL ENGINEERS
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734.926.5593

ETS ENGINEERING, INC.
P.O. BOX 1116
ROYAL OAK, MI 48068
248.744.0360

A C B D

No.	Description	Date
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

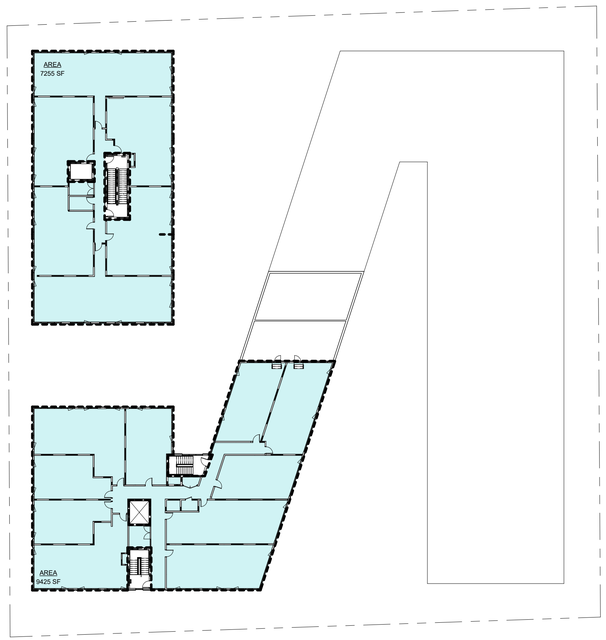
SOUTHTOWN

FAR CALCULATIONS

PROJECT NUMBER 202121
DATE 04/24/2023

A006
SCALE 1/32" = 1'-0"

4/24/2023 1:43:17 PM



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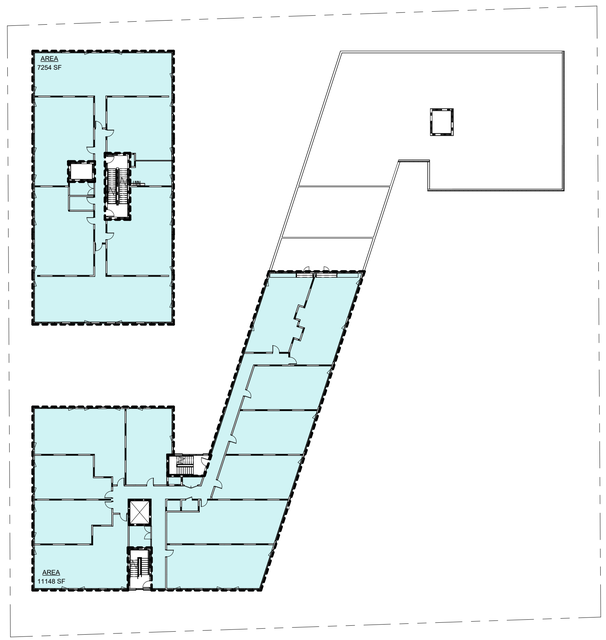
1/32" = 1'-0"



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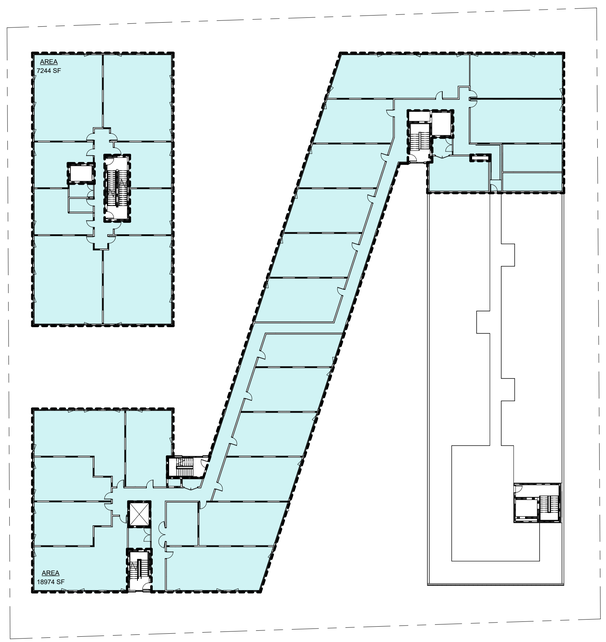
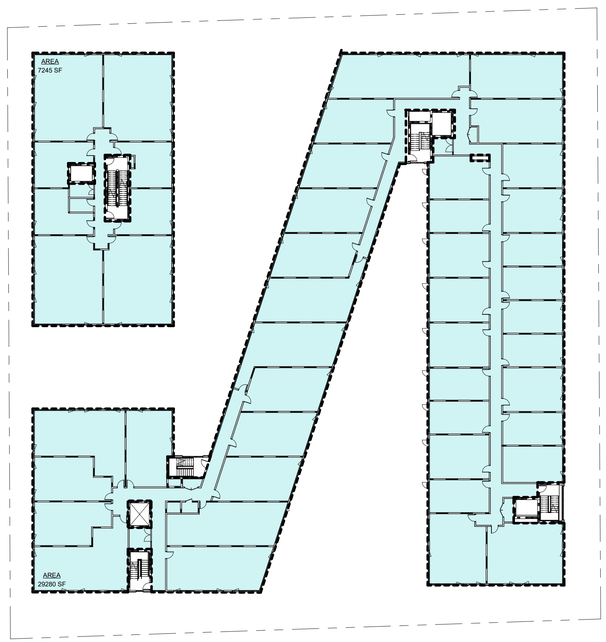


2 LEVEL 6 FAR DIAGRAM
1/32" = 1'-0"



1 LEVEL 5 FAR DIAGRAM
1/32" = 1'-0"

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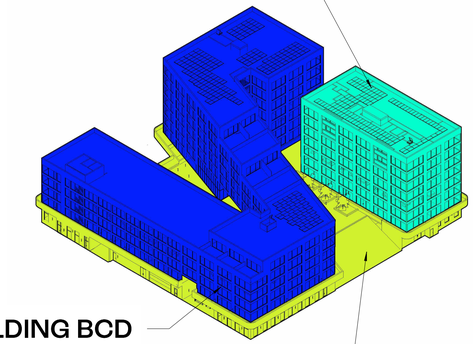
** COVERED VEHICULAR PARKING NOT INCLUDED - ZBA VARIANCE REQUIRED

BUILDING A



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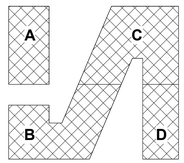
101-190 W 3RD AVE
VANCOUVER, BC V5Y 1E9
HELLO@ASPECTENGINEERS.COM
604.762.78444

GREENPATH DESIGN
139 W LIBERTY STREET
PLYMOUTH, MI 48170
INFO@GREENPATH.DESIGN
734.926.5593

ETS ENGINEERING, INC.
P.O. BOX 1116
ROYAL OAK, MI 48068
248.744.0360



No.	Description	Date
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

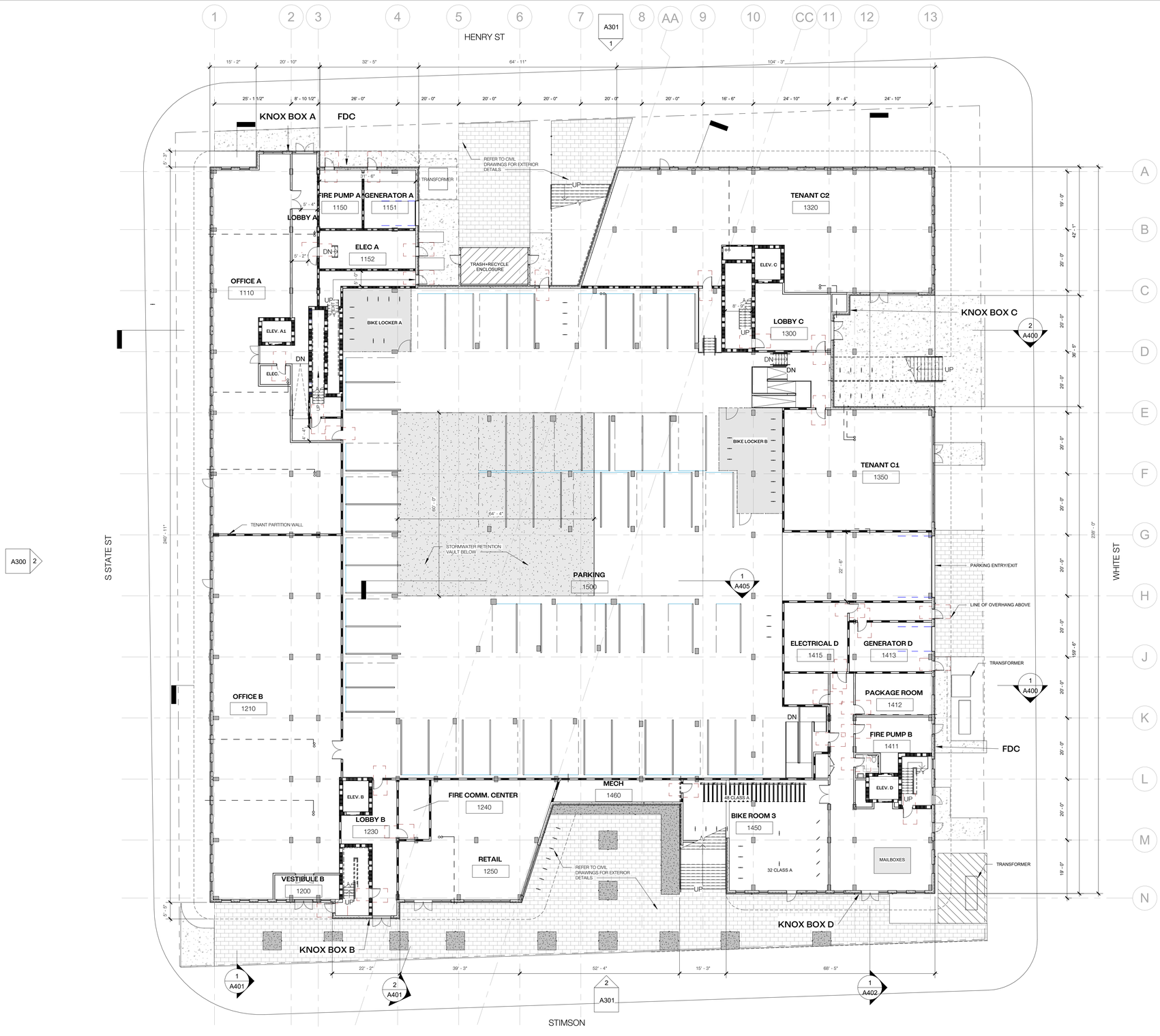
FAR CALCULATIONS

PROJECT NUMBER 202121
DATE 04/24/2023

A007

SCALE 1/32" = 1'-0"

4/24/2023 1:43:31 PM



1 FIRST FLOOR PLAN
1/16" = 1'-0"

PLAN NOTES

2X MTL STUD @ 16" O.C. NON LOAD BEARING PARTITION WALL W/ SAFE'N'SOUND 3"

1-HR FIRE RATED WALL
- SEE DETAIL 06/A600 FOR ASSEMBLY

2-HR FIRE RATED WALL
- 12" REINFORCED CONCRETE WALLS, REFER TO STRUCTURAL
- HAT CHANNEL AND 5/8" GYP @ 1 SIDE

SYNECDOCHE
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248.744.0360

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 1

PROJECT NUMBER 202121
DATE 04/24/2023

A101

SCALE As indicated

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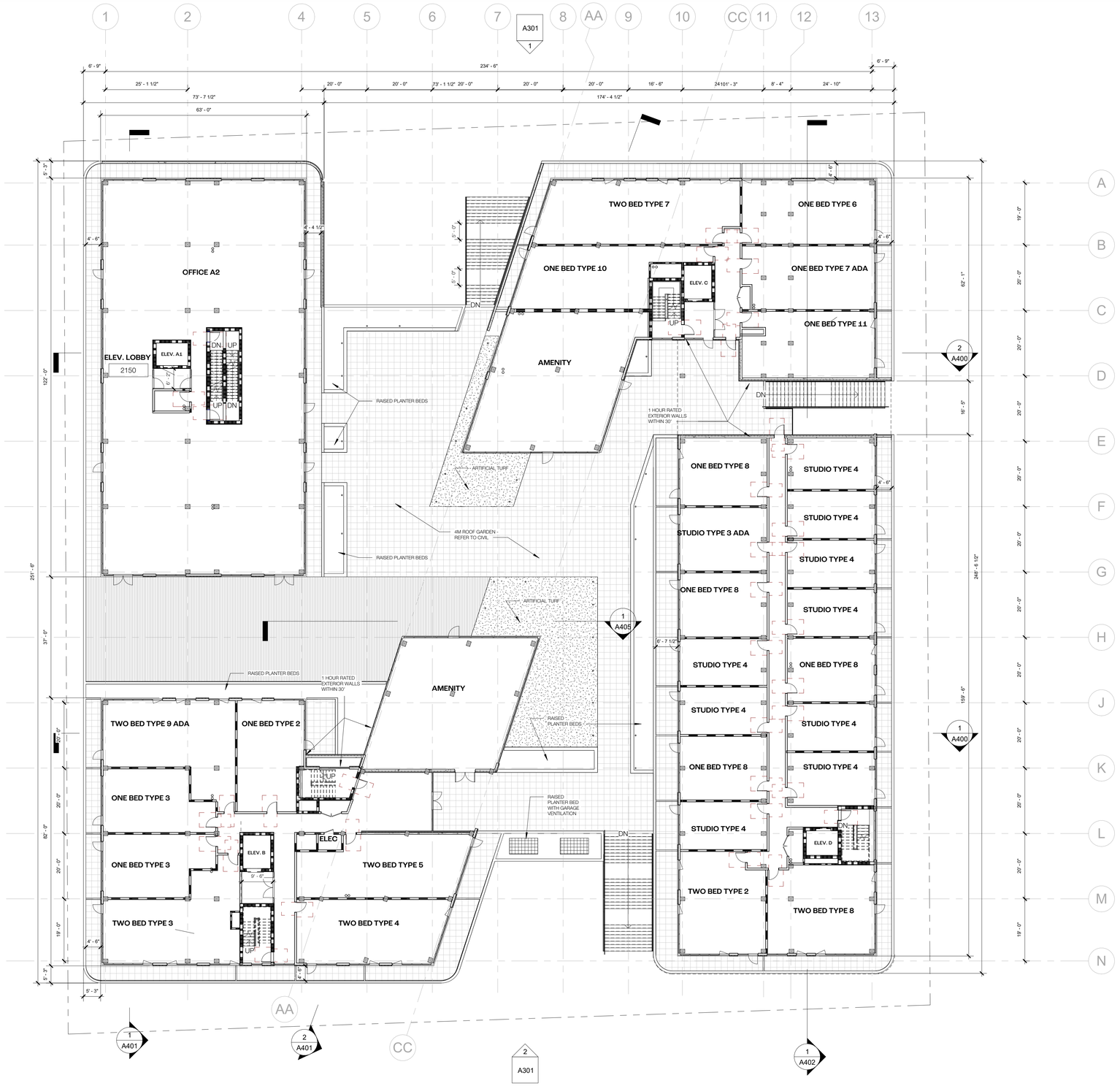

A300 2

1 LEVEL 2
1/16" = 1'-0"

PLAN NOTES

2X MTL STUD @ 16" O.C. NON LOAD BEARING PARTITION WALL W/ SAFE'N'SOUND 3"

1-HR FIRE RATED WALL
- SEE DETAIL 06/A600 FOR ASSEMBLY

2-HR FIRE RATED WALL
- 12" REINFORCED CONCRETE WALLS, REFER TO STRUCTURAL
- HAT CHANNEL AND 5/8" GYP @ 1 SIDE

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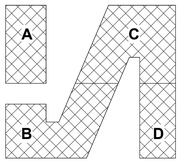

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 2

PROJECT NUMBER 202121
DATE 04/24/2023

A102

SCALE As indicated

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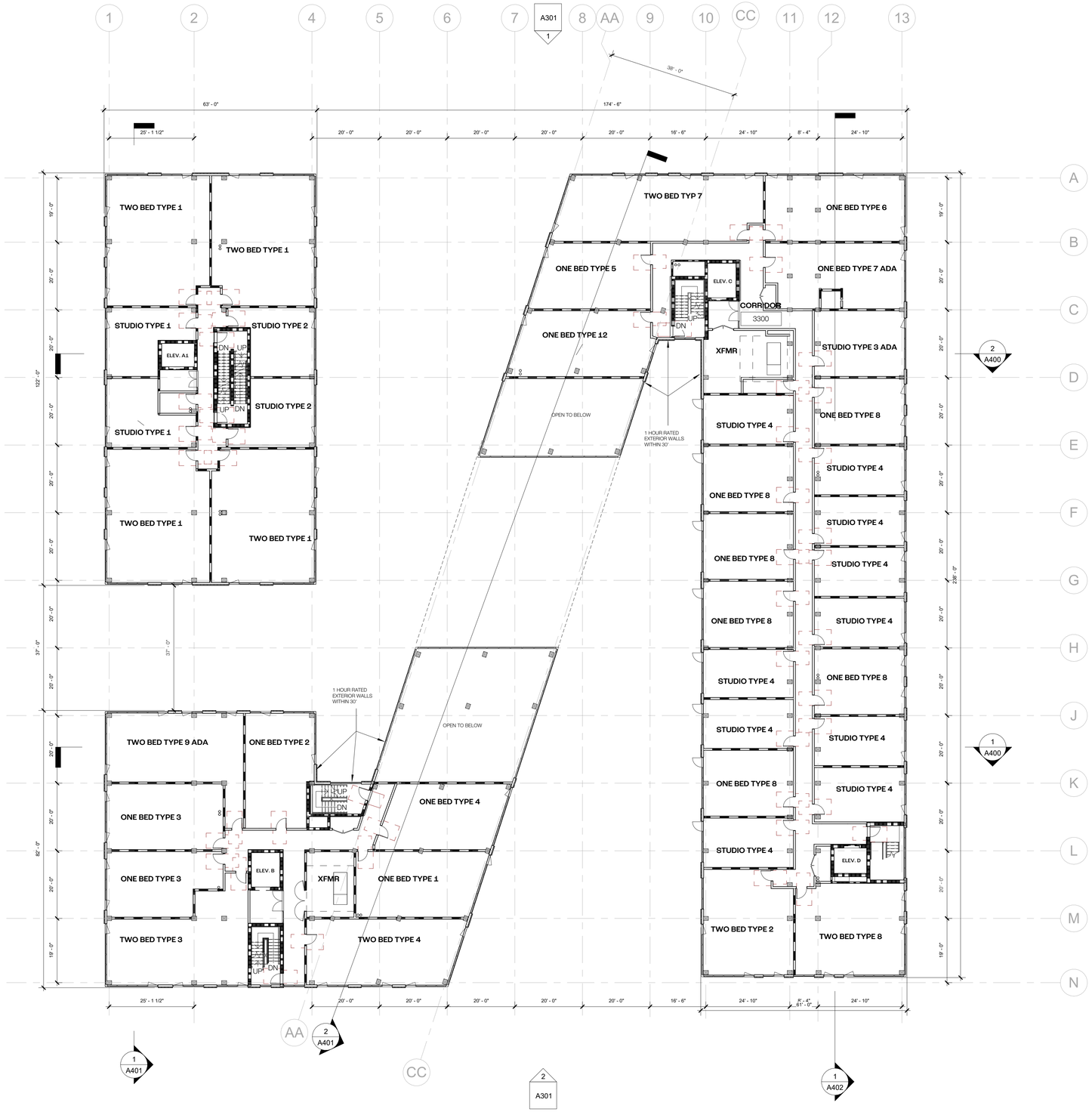

PLAN NOTES

2X MTL STUD @ 16" O.C. NON LOAD BEARING PARTITION WALL W/ SAFE'N'SOUND 3"

1-HR FIRE RATED WALL
- SEE DETAIL 06/A600 FOR ASSEMBLY

2-HR FIRE RATED WALL
- 12" REINFORCED CONCRETE WALLS, REFER TO STRUCTURAL
- HAT CHANNEL AND 5/8" GYP @ 1 SIDE

1 LEVEL 3
1/16" = 1'-0"

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248.744.0360

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

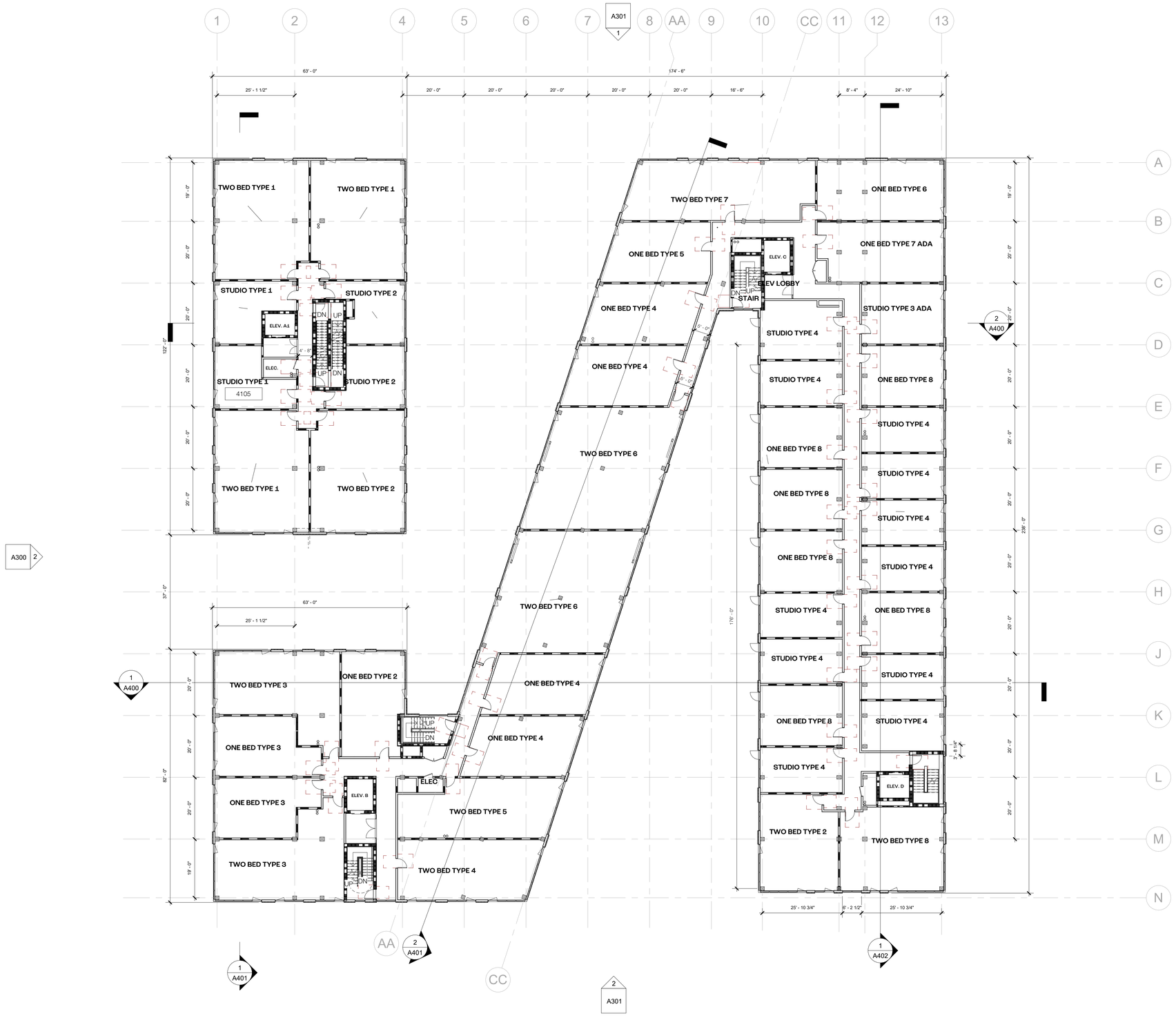
LEVEL 3

PROJECT NUMBER 202121
DATE 04/24/2023

A103

SCALE As indicated

4/24/2023 1:43:51 PM



PLAN NOTES

2X MTL STUD @ 16" O.C. NON LOAD BEARING PARTITION WALL W/ SAFE'N'SOUND 3"

1-HR FIRE RATED WALL
- SEE DETAIL 06/A600 FOR ASSEMBLY

2-HR FIRE RATED WALL
- 12" REINFORCED CONCRETE WALLS, REFER TO STRUCTURAL
- HAT CHANNEL AND 5/8" GYP @ 1 SIDE

1 LEVEL 4
1/16" = 1'-0"

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248.744.0360

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

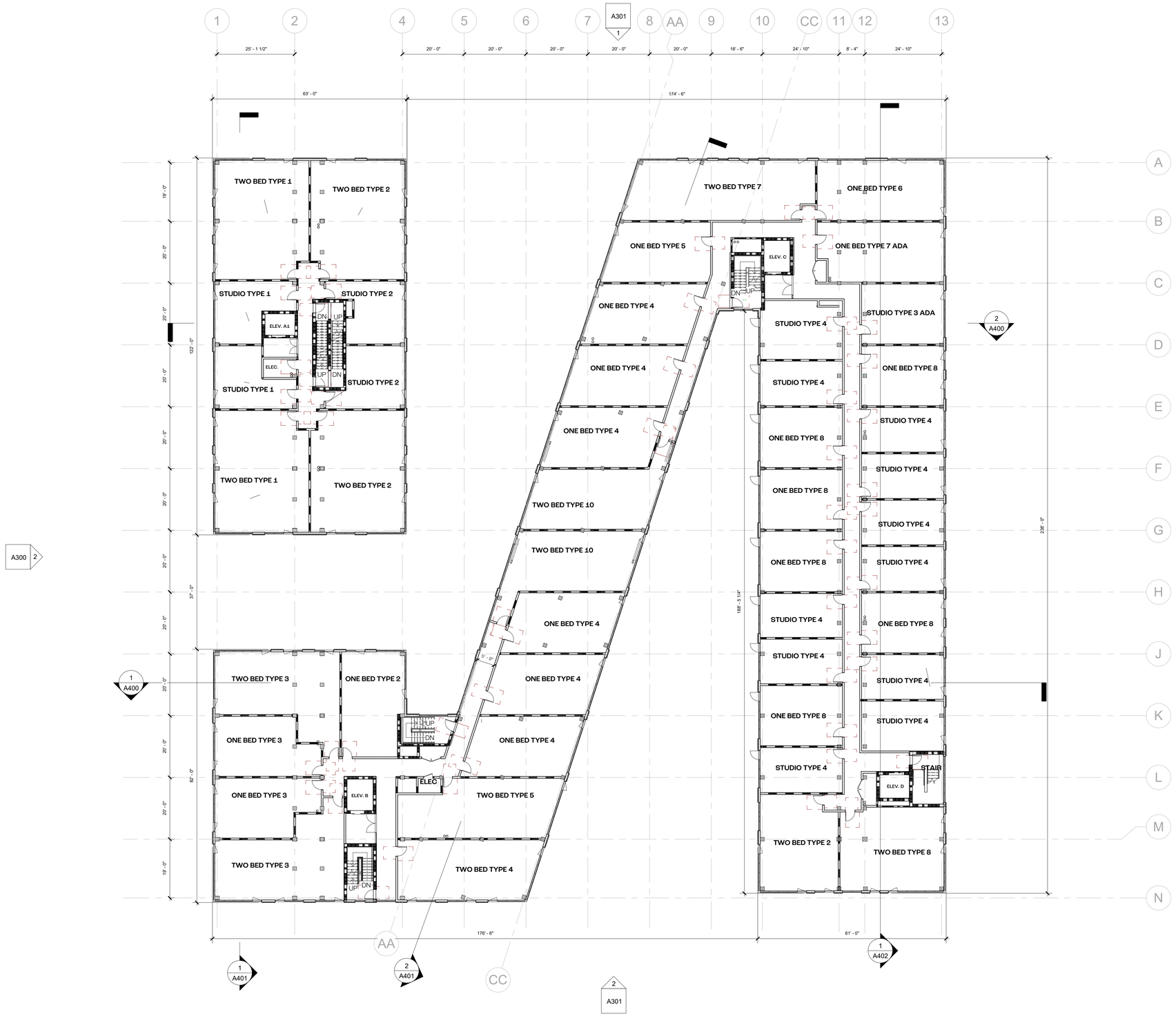
LEVEL 4

PROJECT NUMBER 202121
DATE 04/24/2023

A104

SCALE As indicated

4/24/2023 1:43:56 PM



PLAN NOTES

2X MTL STUD @ 16" O.C. NON LOAD BEARING PARTITION WALL W/ SAFE'N'SOUND 3"

1-HR FIRE RATED WALL
- SEE DETAIL 06/A600 FOR ASSEMBLY

2-HR FIRE RATED WALL
- 12" REINFORCED CONCRETE WALLS, REFER TO STRUCTURAL
- HAT CHANNEL AND 5/8" GYP @ 1 SIDE

1 LEVEL 5
1/16" = 1'-0"

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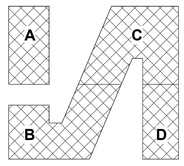

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 5

PROJECT NUMBER 202121
DATE 04/24/2023

A105

SCALE As indicated

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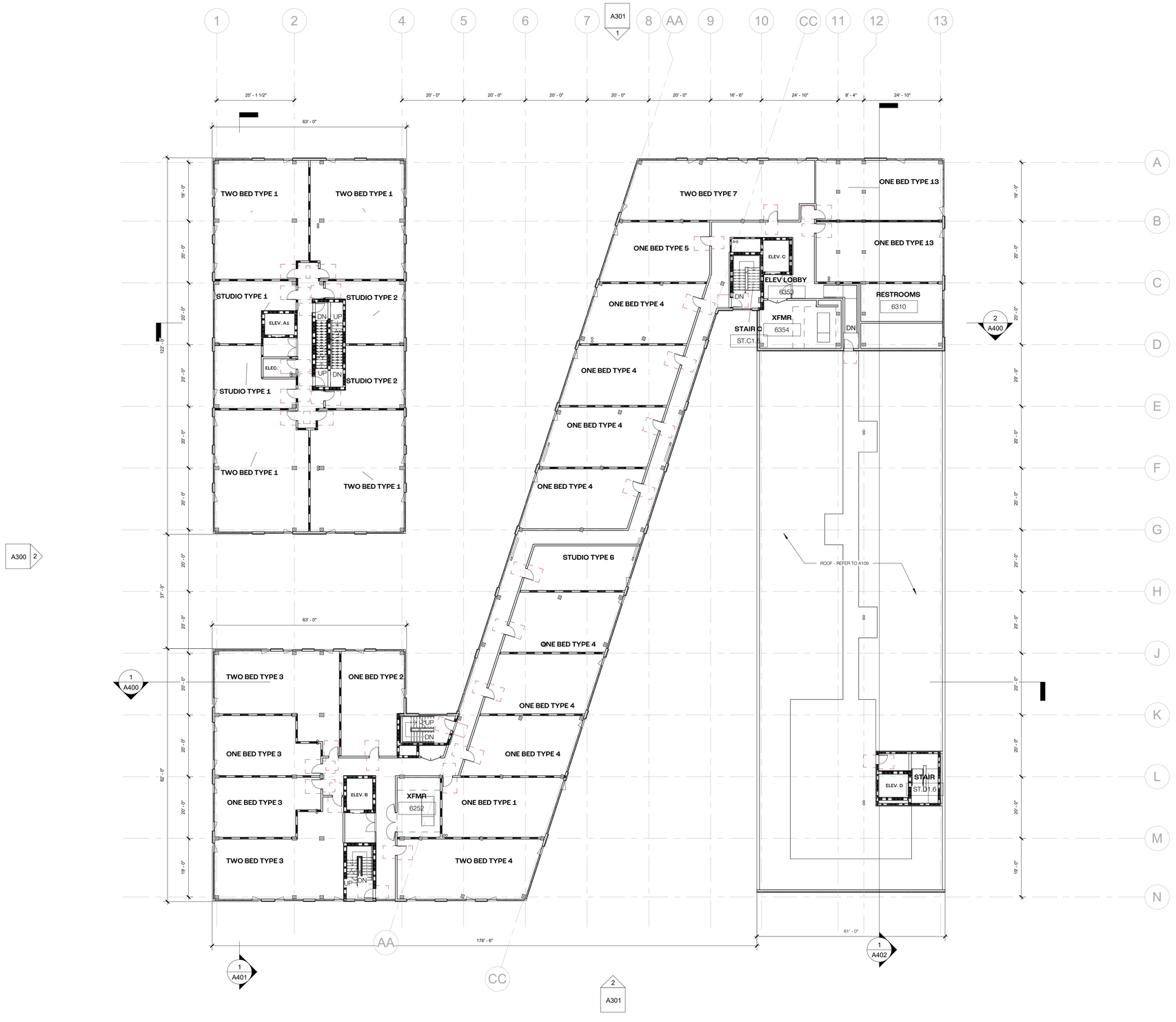

PLAN NOTES

2X MTL STUD @ 16" O.C. NON LOAD BEARING PARTITION WALL W/ SAFE'N'SOUND 3"

1-HR FIRE RATED WALL
- SEE DETAIL 06/A600 FOR ASSEMBLY

2-HR FIRE RATED WALL
- 12" REINFORCED CONCRETE WALLS, REFER TO STRUCTURAL
- HAT CHANNEL AND 5/8" GYP @ 1 SIDE

1 LEVEL 6
1/16" = 1'-0"

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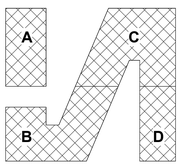

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 6

PROJECT NUMBER 202121
DATE 04/24/2023

A106

SCALE As indicated

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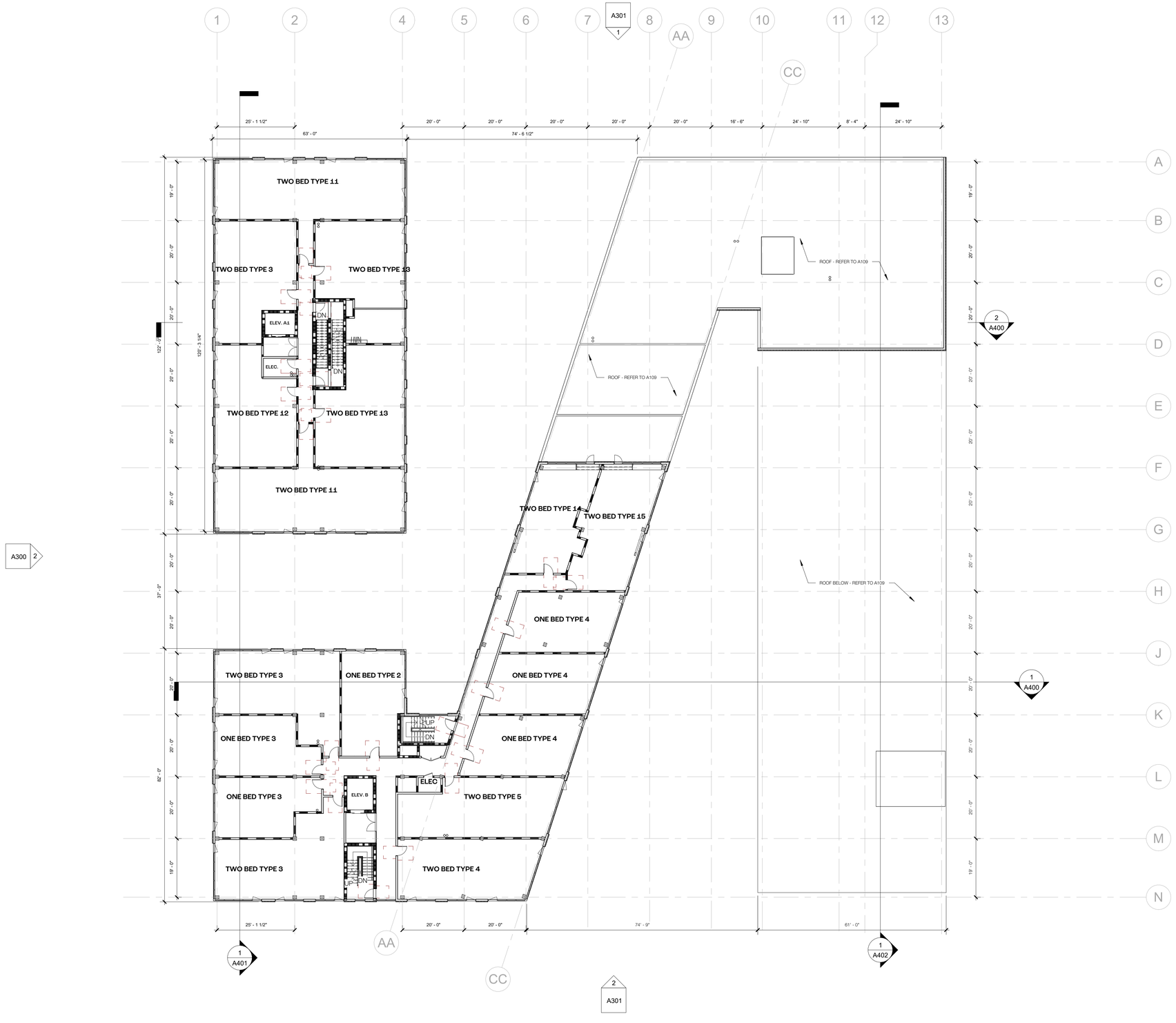

PLAN NOTES

2X MTL STUD @ 16" O.C. NON LOAD BEARING PARTITION WALL W/ SAFE'N'SOUND 3"

1-HR FIRE RATED WALL
- SEE DETAIL 06/A600 FOR ASSEMBLY

2-HR FIRE RATED WALL
- 12" REINFORCED CONCRETE WALLS, REFER TO STRUCTURAL
- HAT CHANNEL AND 5/8" GYP @ 1 SIDE

1 LEVEL 7
1/16" = 1'-0"

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248.744.0360

A B C D

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 7

PROJECT NUMBER 202121
DATE 04/24/2023

A107

SCALE As indicated

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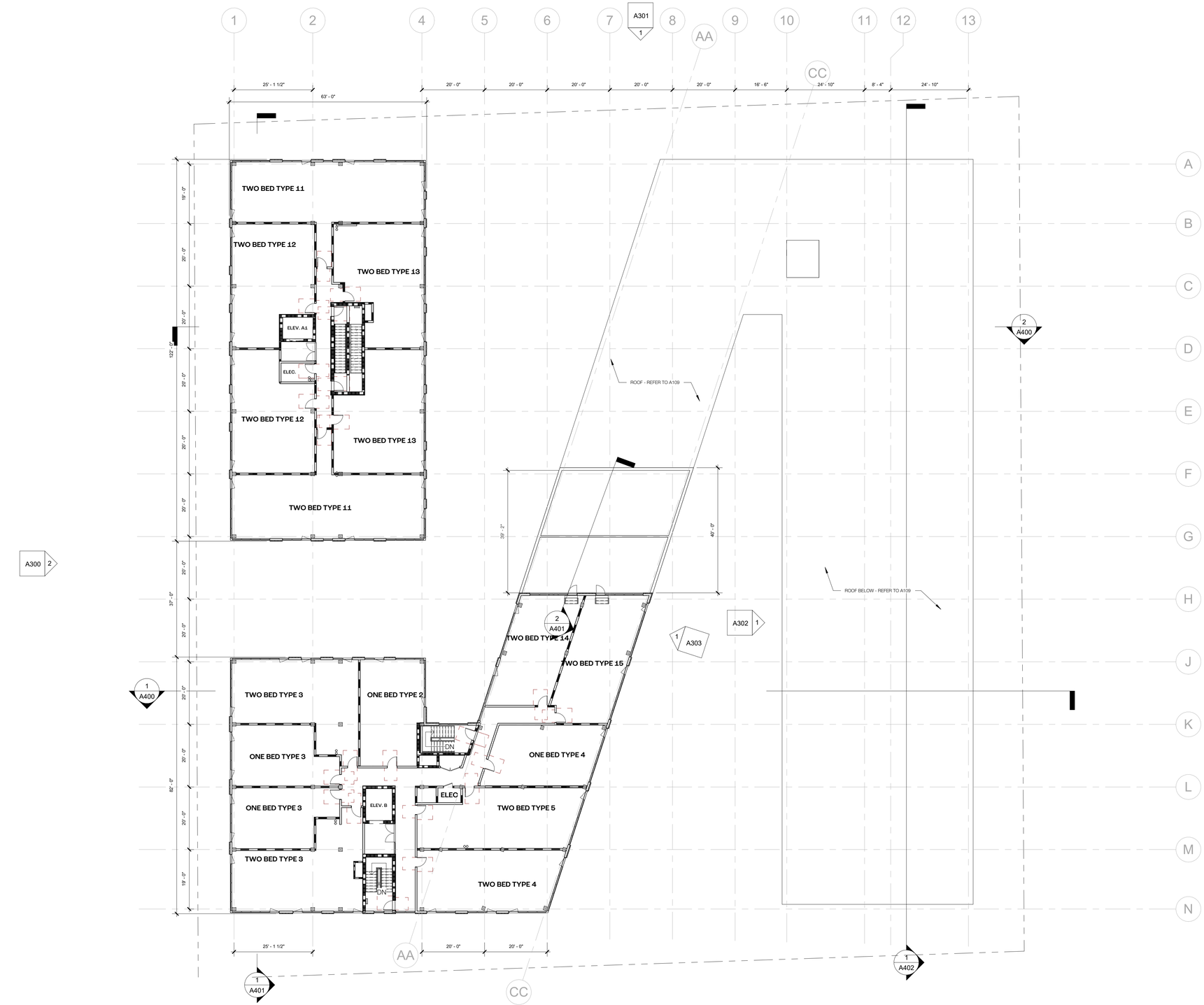

1 LEVEL 8
1/16" = 1'-0"

PLAN NOTES

2X MTL STUD @ 16" O.C. NON LOAD BEARING PARTITION WALL W/ SAFE'N'SOUND 3"

1-HR FIRE RATED WALL
- SEE DETAIL 06/A600 FOR ASSEMBLY

2-HR FIRE RATED WALL
- 12" REINFORCED CONCRETE WALLS, REFER TO STRUCTURAL
- HAT CHANNEL AND 5/8" GYP @ 1 SIDE

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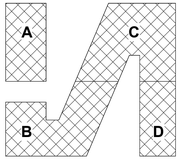


No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

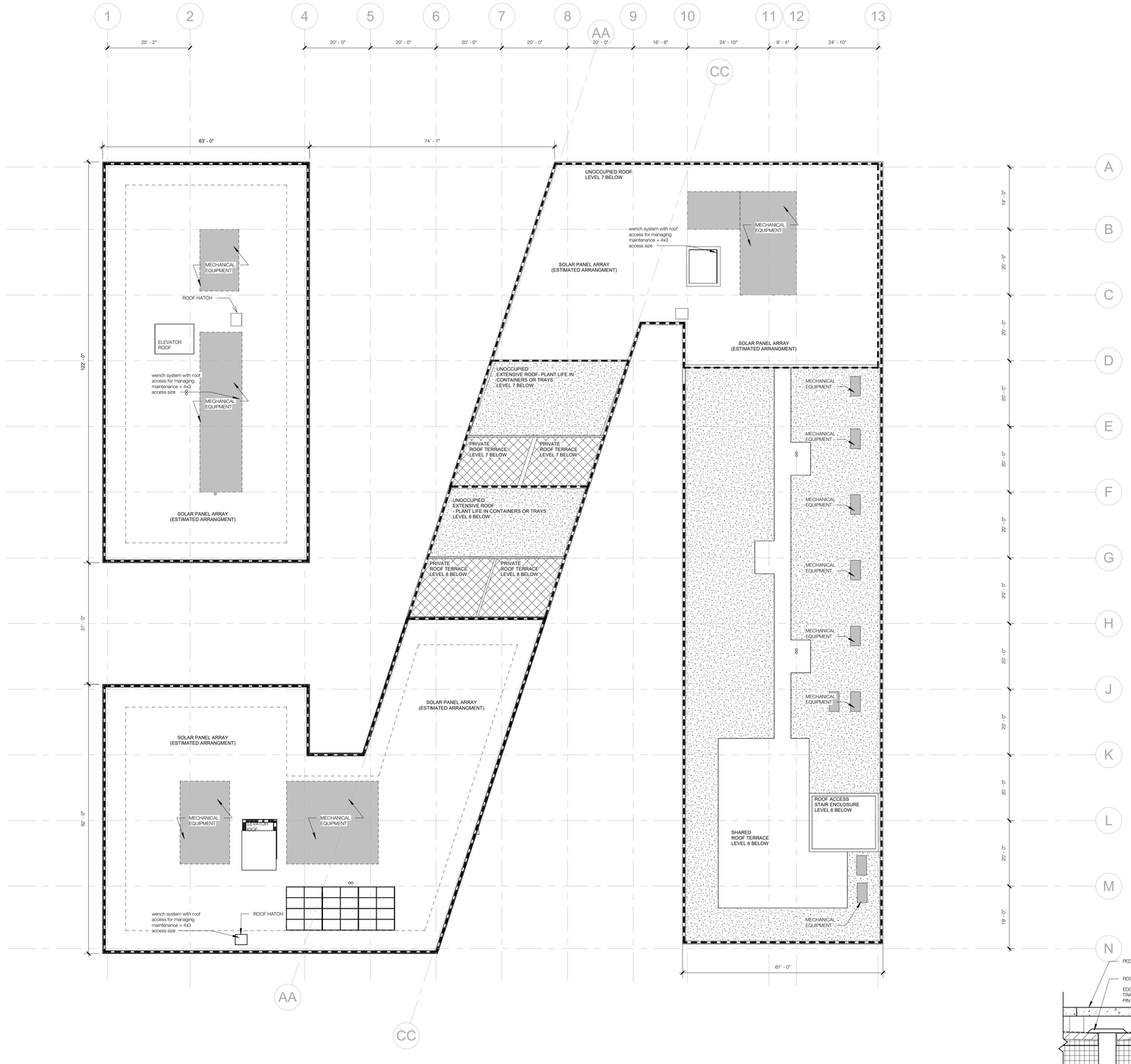
LEVEL 8

PROJECT NUMBER 202121
DATE 04/24/2023

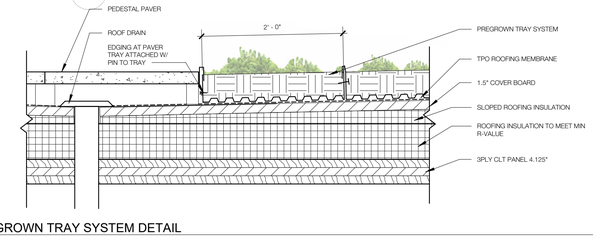
A108

SCALE As indicated

4/24/2023 1:44:11 PM



1 ROOF AREA DIAGRAM
1/16" = 1'-0"



2 PREGROWN TRAY SYSTEM DETAIL
1" = 1'-0"

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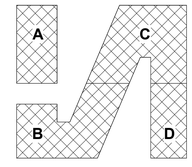


No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

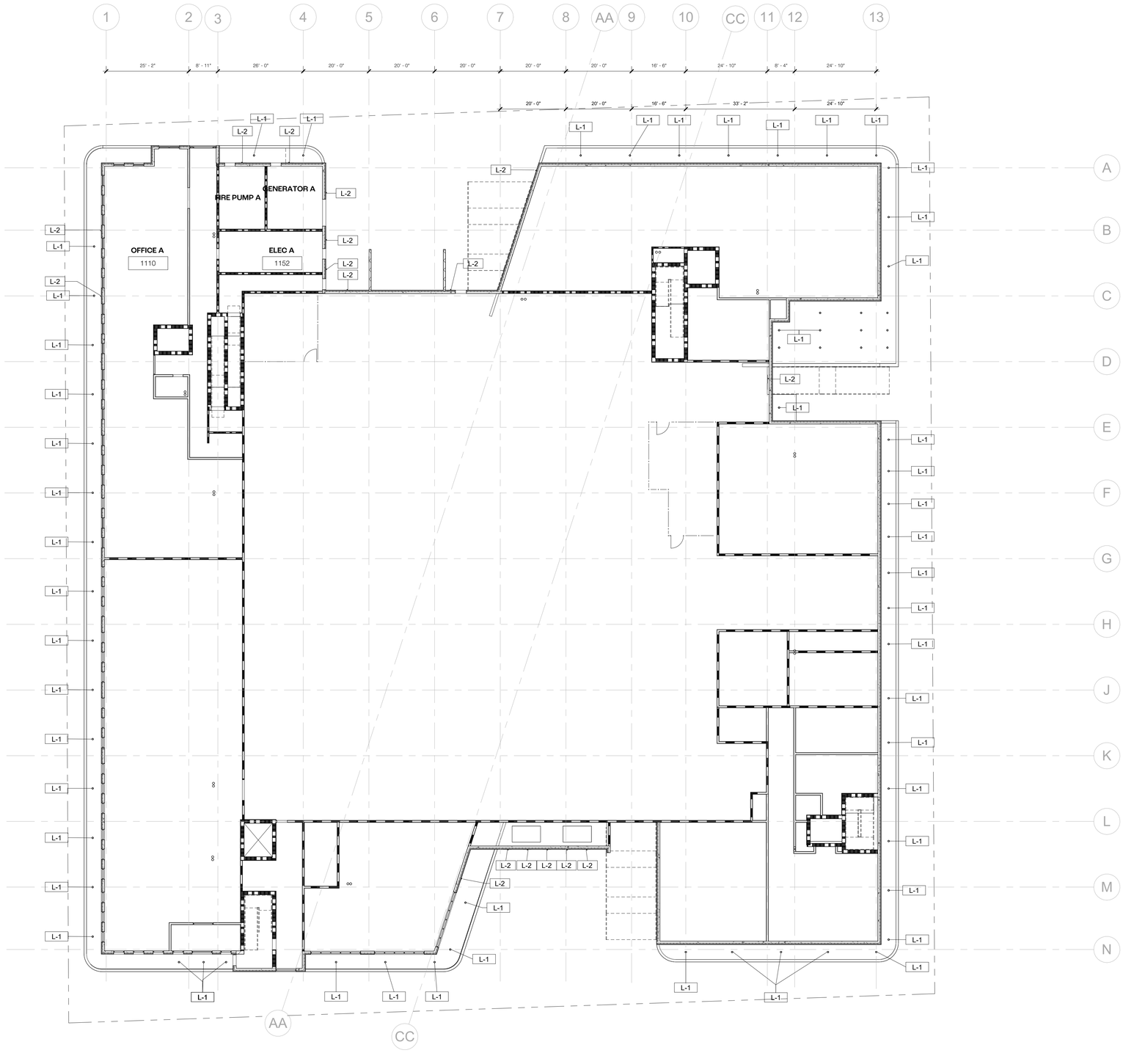
ROOF AREA DIAGRAM

PROJECT NUMBER 202121
DATE 04/24/2023

A109

SCALE As indicated

4/24/2023 1:44:16 PM



1 LEVEL 1 RCP
1/16" = 1'-0"

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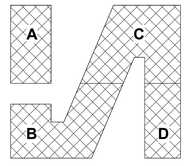


No.	Description	Date
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

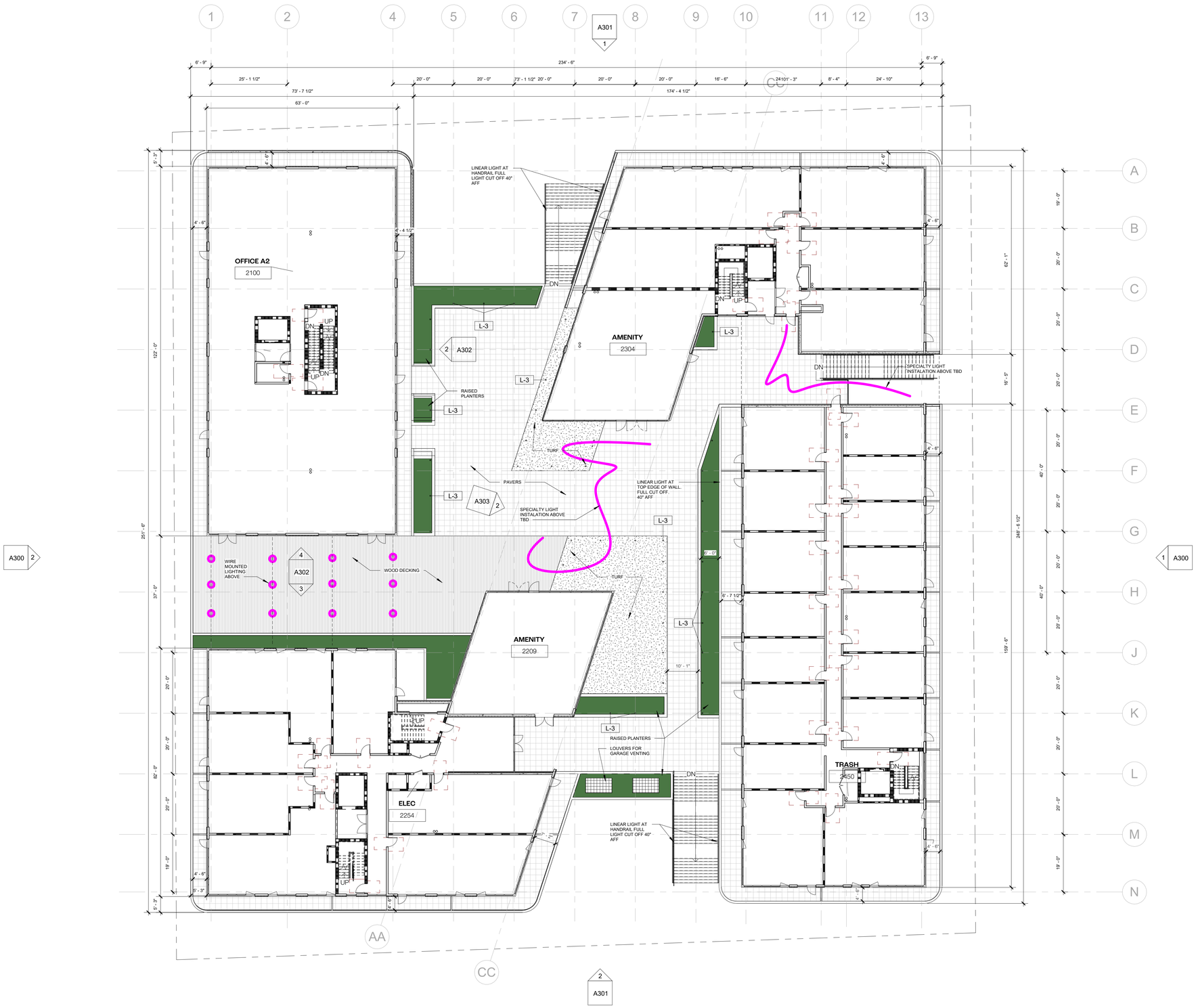
LEVEL 1 - EXTERIOR LIGHTING

PROJECT NUMBER 202121
DATE 04/24/2023

A201

SCALE 1/16" = 1'-0"

4/24/2023 1:44:19 PM



1 LEVEL 2 Site Plan
1/16" = 1'-0"

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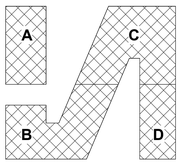


No.	Description	Date
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 2 - EXTERIOR LIGHTING

PROJECT NUMBER 202121
DATE 04/24/2023

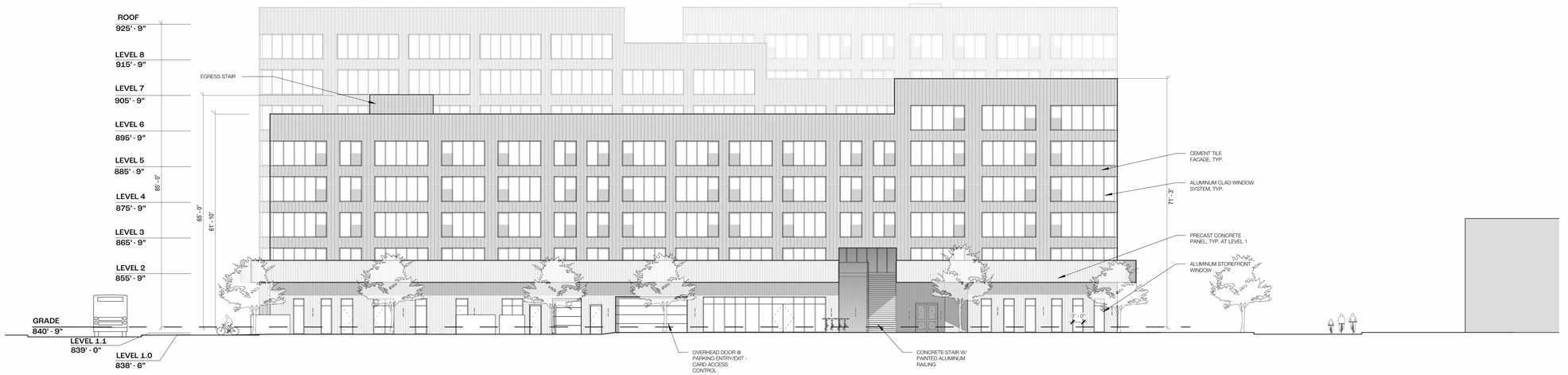
A202

SCALE 1/16" = 1'-0"

4/24/2023 1:44:24 PM

ELEVATION NOTES

1. REFER TO A600 FOR WALL ASSEMBLY DETAILS



1 EAST ELEVATION - Site Plan Application
1/16" = 1'-0"

2 WEST ELEVATION
1/16" = 1'-0"

SYNECDOCHE
1342 N MAIN ST. #11
ANN ARBOR, MI 48104
HELLO@SYNECDOCHE.DESIGN

NOT FOR CONSTRUCTION
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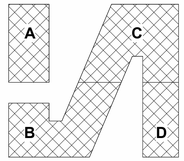
NEDERVELD
3037 MILLER RD
ANN ARBOR, MI 48103
734.929.6963

ASPECT STRUCTURAL ENGINEERS
101-190 W 3RD AVE
VANCOUVER, BC V5Y 1E9
HELLO@ASPECTENGINEERS.COM
604.762.78444

GREENPATH DESIGN
139 W LIBERTY STREET
PLYMOUTH, MI 48170
INFO@GREENPATH.DESIGN
734.926.5593

ETS ENGINEERING, INC.
P.O. BOX 1116
ROYAL OAK, MI 48068
248.744.0360



No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

EXTERIOR ELEVATIONS

PROJECT NUMBER 202121
DATE 04/24/2023

A300

SCALE As indicated

4/24/2023 1:45:07 PM

ELEVATION NOTES

1. REFER TO A600 FOR WALL ASSEMBLY DETAILS

1 NORTH ELEVATION
1/16" = 1'-0"

2 SOUTH ELEVATION
1/16" = 1'-0"

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A C B D

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

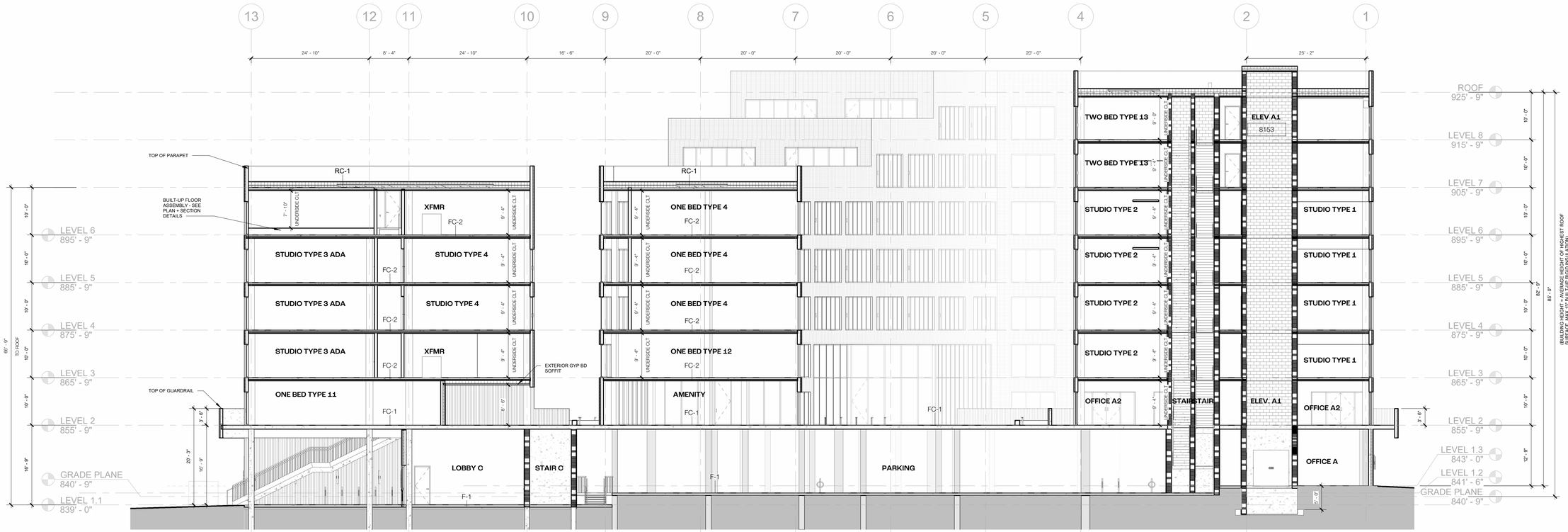
EXTERIOR ELEVATIONS

PROJECT NUMBER 202121
DATE 04/24/2023

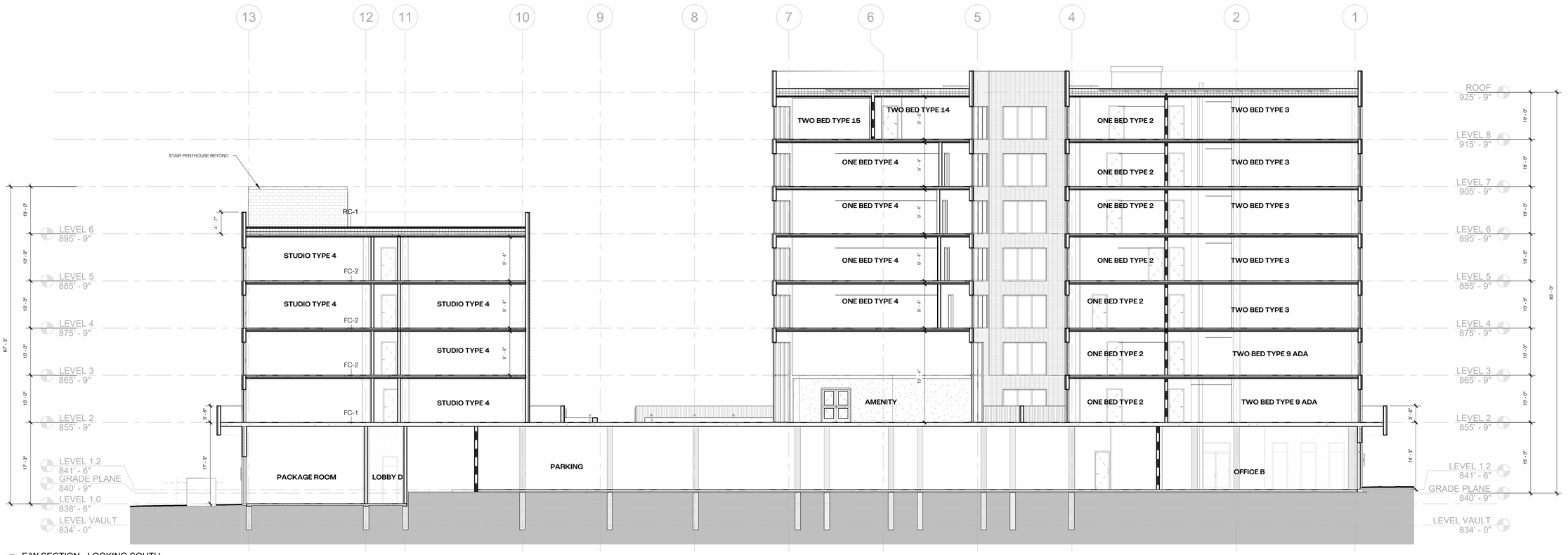
A301

SCALE As indicated

4/24/2023 1:46:18 PM



2 E/W SECTION 2 - LOOKING SOUTH
3/32" = 1'-0"



1 E/W SECTION - LOOKING SOUTH
3/32" = 1'-0"

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A B C D

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

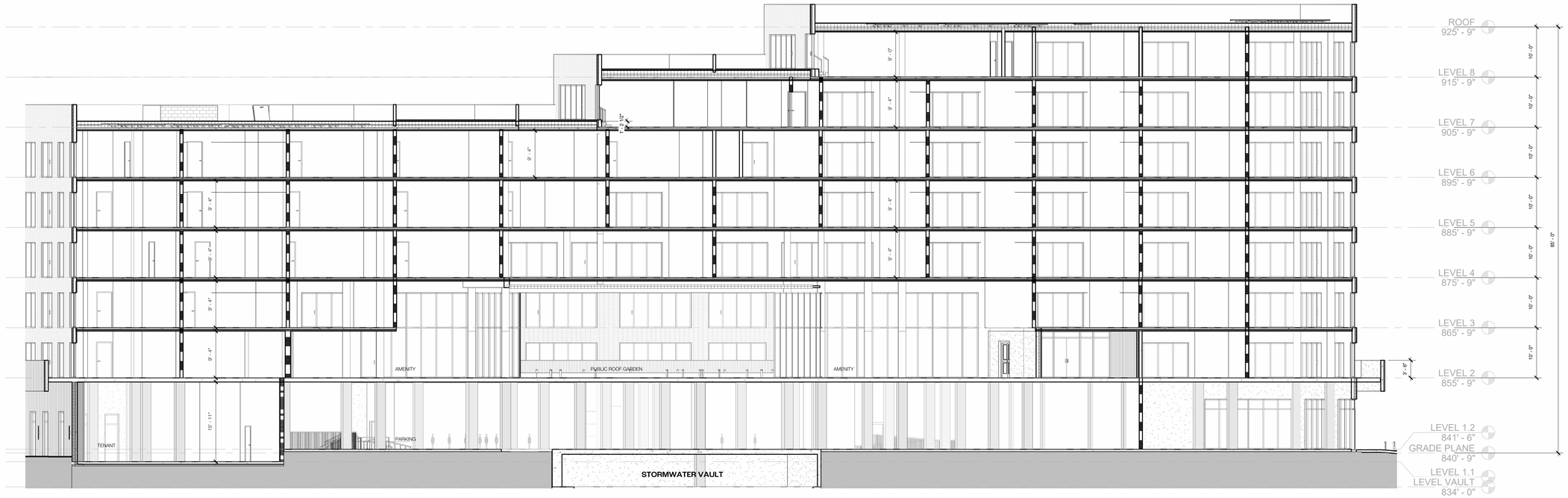
BUILDING SECTIONS

PROJECT NUMBER 202121
DATE 04/24/2023

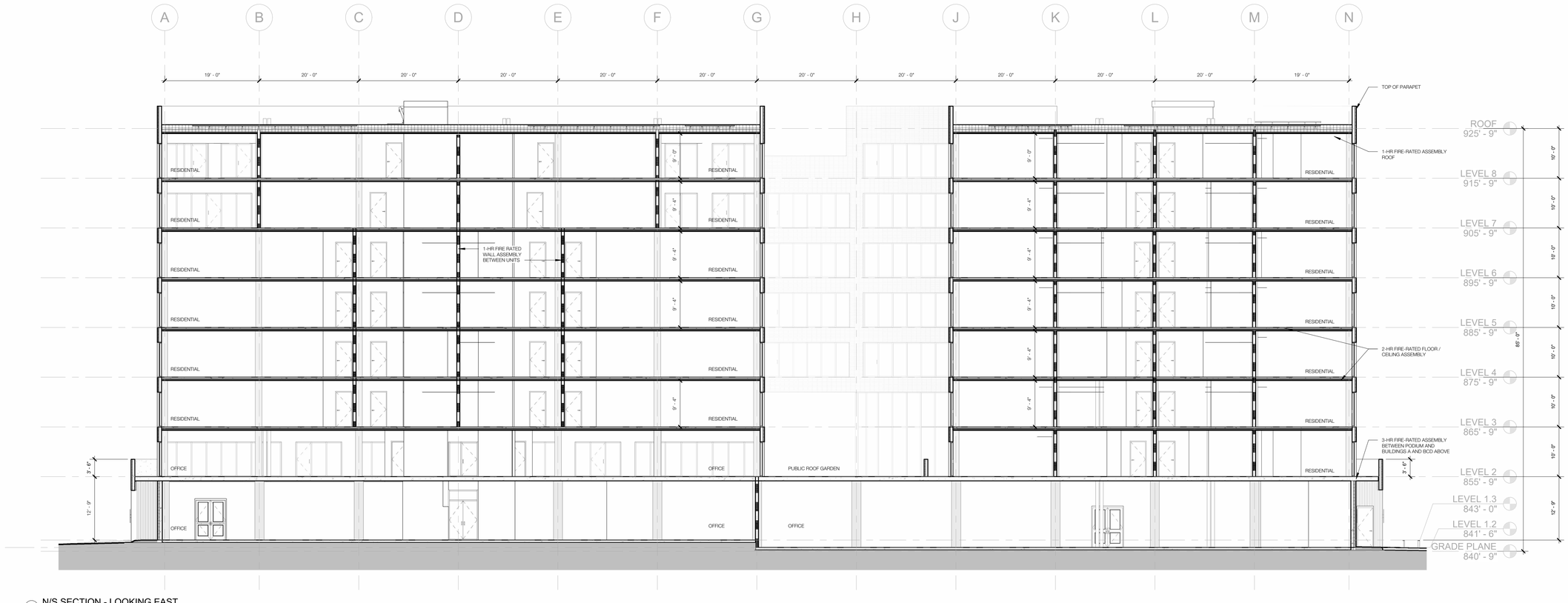
A400

SCALE 3/32" = 1'-0"

4/24/2023 1:46:38 PM



2 N/S SECTION THROUGH DIAGONAL
LOOKING EAST
3/32" = 1'-0"



1 N/S SECTION - LOOKING EAST
3/32" = 1'-0"

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A C B D

No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

BUILDING SECTIONS

PROJECT NUMBER 202121
DATE 04/24/2023

A401

SCALE 3/32" = 1'-0"

4/24/2023 1:47:00 PM

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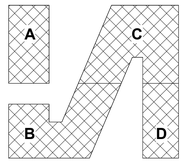
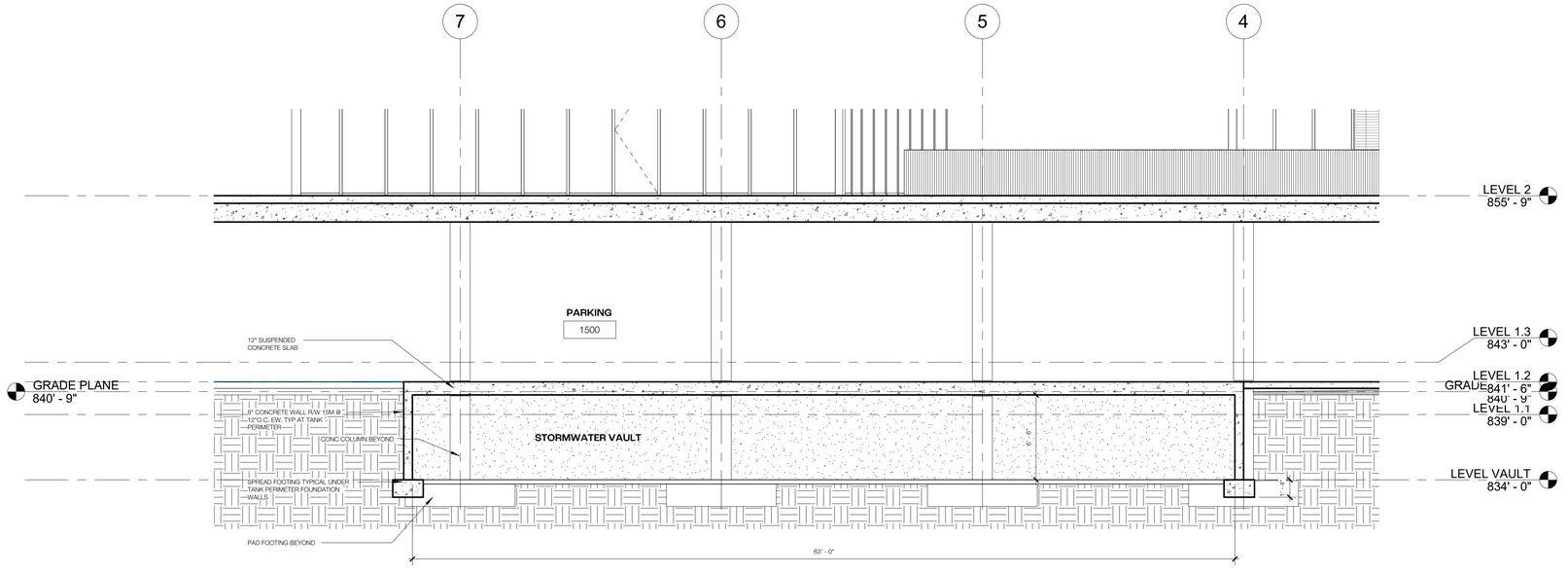


No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

DETAIL SECTION



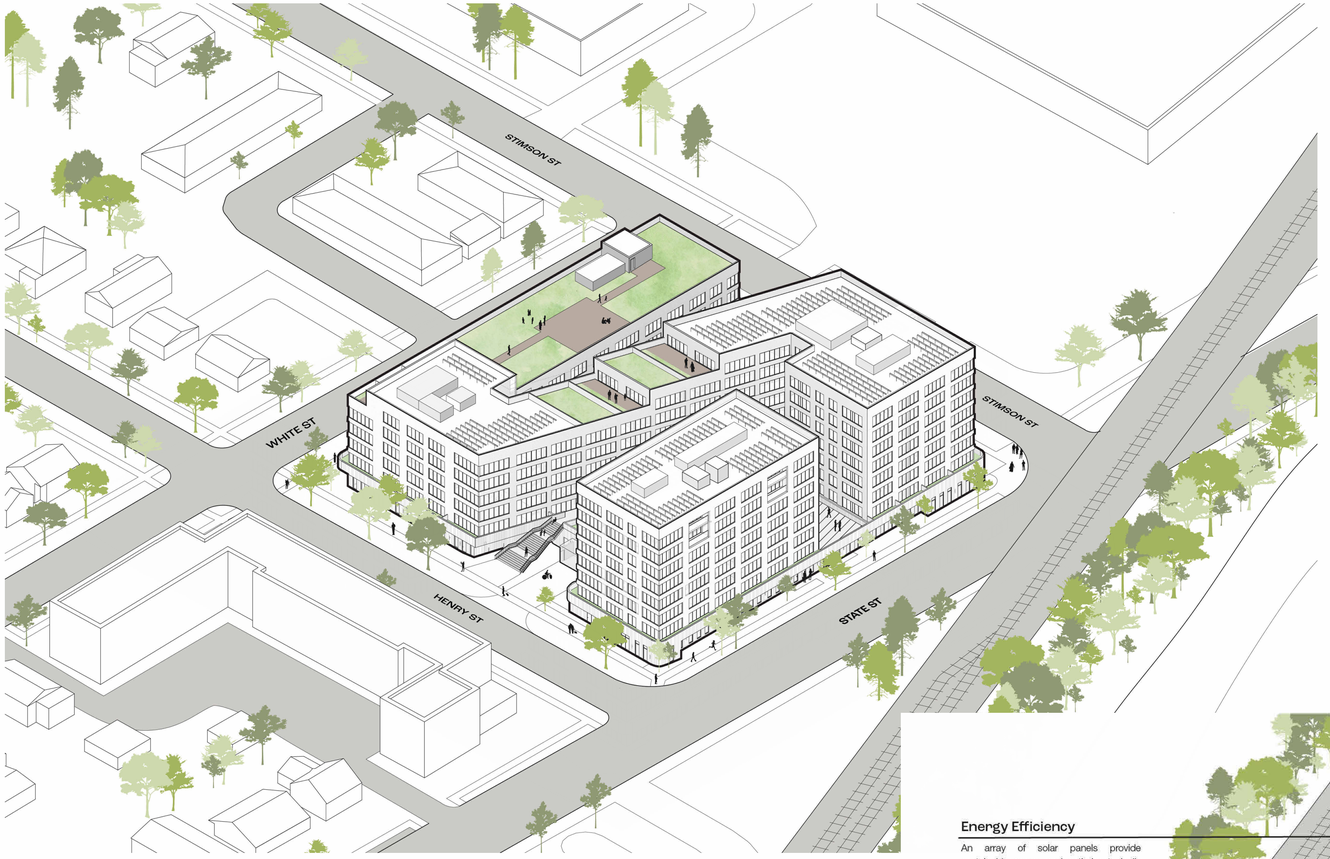
1 Section 24 VAULT
3/16" = 1'-0"

PROJECT NUMBER 202121
DATE 04/24/2023

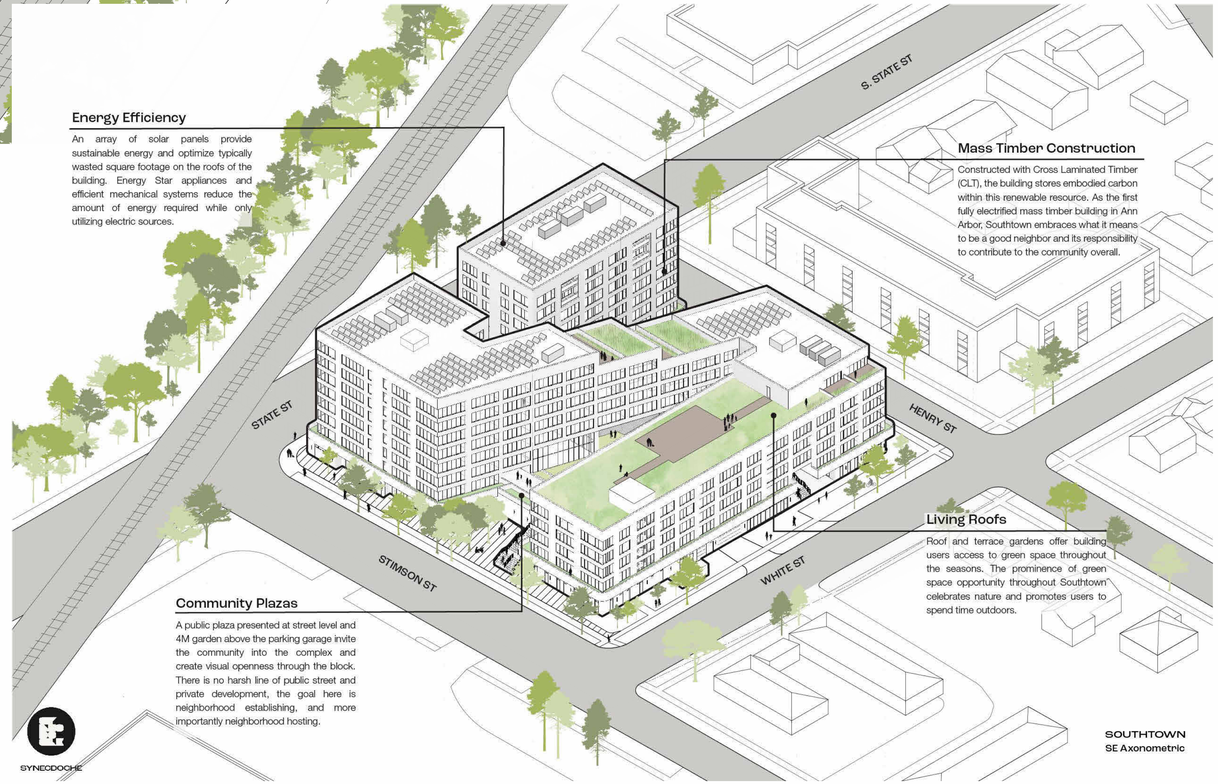
A405

SCALE 3/16" = 1'-0"

4/24/2023 1:47:01 PM



2 AXONOMETRIC - NORTHWEST



1 AXONOMETRIC - SOUTHEAST

HEALTH AND WELLNESS

In conjunction with our focus on sustainability, we have leveraged the WELL Building Standard design guidelines to prioritize neighborhood and occupant health and wellness. WELL prioritizes human mental and physical health and wellness through 10 categories - Mind, Community, Movement, Water, Air, Light, Thermal Comfort, Nourishment, Sound, and Materials. Highly compatible with sustainable design practices, WELL design guidelines are a critical step in providing a safe and healthy community.

SUSTAINABILITY

We have focused on three major components to prioritize sustainability.

1. The primary structure for levels 2-8 will be constructed using mass timber and CLT. Glue laminated beams and columns will hold up Cross Laminated Timber floor panels. Based on early estimates, we are looking to use a manufacturer in Ontario who sources from sustainably managed forests. The trees in these forests store carbon and as we use them for building materials, that carbon is continuously stored in the building structure. Allowing for new trees to grow in these forests, thereby capturing more carbon from the air. Forests that are not sustainably managed run the risk of wildfires and deteriorating biomass heath that then allows for the release of all of that stored carbon. Calculations based on the volume of wood in this building will store approximately 1,740 metric tons of CO2 which is equivalent to 4,319,038 miles driven by gas powered cars.
2. The building does not utilize any gas equipment or connections. All heating systems are electric and all appliances are going to be energy star certified. Solar arrays on the roofs are designed to generate at least 100,000 Watts per day. These will power lighting in common areas of the building.
3. The building is set in a neighborhood that prioritizes multi-modal transportation. There are 3 bus stops located on blocks directly adjacent to the site serving 3 different bus routes. State Street is being developed into a bike friendly corridor in the future, so we have designed 224 total bike parking spaces to equal the amount of units. Reducing the need to drive a vehicle reduces the carbon footprint of each individual living at this building.

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ROYAL OAK, MI 48068
248.744.0360

A C B D

No.	Description	Date
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

AXONOMETRIC - SUSTAINABILITY

PROJECT NUMBER 202121
DATE 04/24/2023

A700

SCALE 1/4" = 1'-0"

4/24/2023 1:49:24 PM

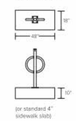
DERO | Bike Hitch™

Submittal Sheet

CAPACITY	2 Bikes	
MATERIALS	**Centerbeam:** 2" schedule 40 pipe (2.375" OD) **Ring:** 15" OD 11 gauge tube	
FINISHES	☐	**Galvanized** An after fabrication hot dipped galvanized finish is our standard option.
	☐	**Powder Coat** Our powder coat finish assures a high level of adhesion and durability by following these steps: 1. Sandblast 2. Epoxy primer electrostatically applied 3. Final thick TGIC polyester powder coat
	☐	**Stainless** Stainless Steel 304 grade stainless steel material finished in either a high polished shine or a satin finish.
MOUNT OPTIONS	☐	**Surface** Foot Mount has a 5" x 6" x .25" foot with four anchors per foot. Specify foot mount for this option. Tamper-resistant fasteners available upon request.
	☐	**In-Ground** In-ground mount is embedded into concrete base. Specify in-ground mount for this option

IN-GROUND MOUNT

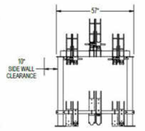
SURFACE MOUNT



(or standard 4" sidewalk slab)

1/2022

Bike Boost Storage™



Galvanized

Withstanding the elements with little to no maintenance, our galvanized products are durable and weather to a battleship gray. For this finish, the product will have vent holes that will allow draining after a hot-dip in the molten zinc tank. A galvanized product is an economical choice that resists rust. This finish comes wiht a 5-year warranty.

Super TGIC Powder Coat

Available in 18 vibrant shades, super TGIC coated products will stain significantly less from UV light than other finishes. This finish has a 1-year warranty.

Standard e-Steele™ colors are shown. Contact Madrax for a complete color chart.

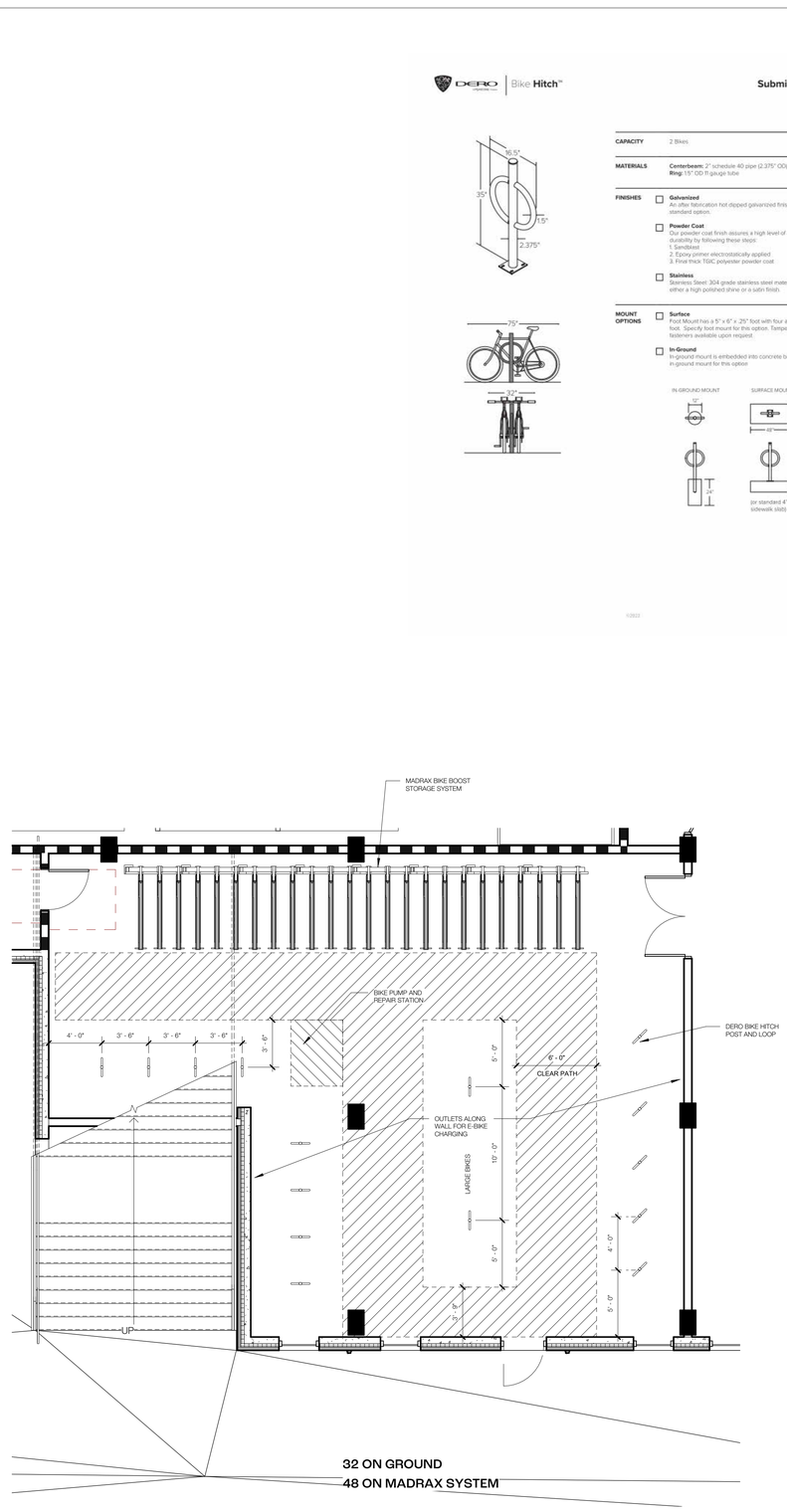
Note: Due to variations in the printing process, colors shown may not be an exact match.

800.448.7931
www.madrax.com

MADRAX by Graber Manufacturing Inc.

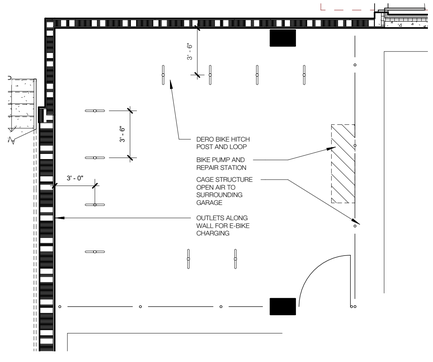
24 ON GROUND

3 ENLARGED BIKE LOCKER B
3/16" = 1'-0"



32 ON GROUND
48 ON MADRAX SYSTEM

2 ENLARGED BIKE ROOM 1461
3/16" = 1'-0"



20 ON GROUND

1 ENLARGED BIKE AREA A
3/16" = 1'-0"

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No.	Description	Date
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
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SOUTHTOWN

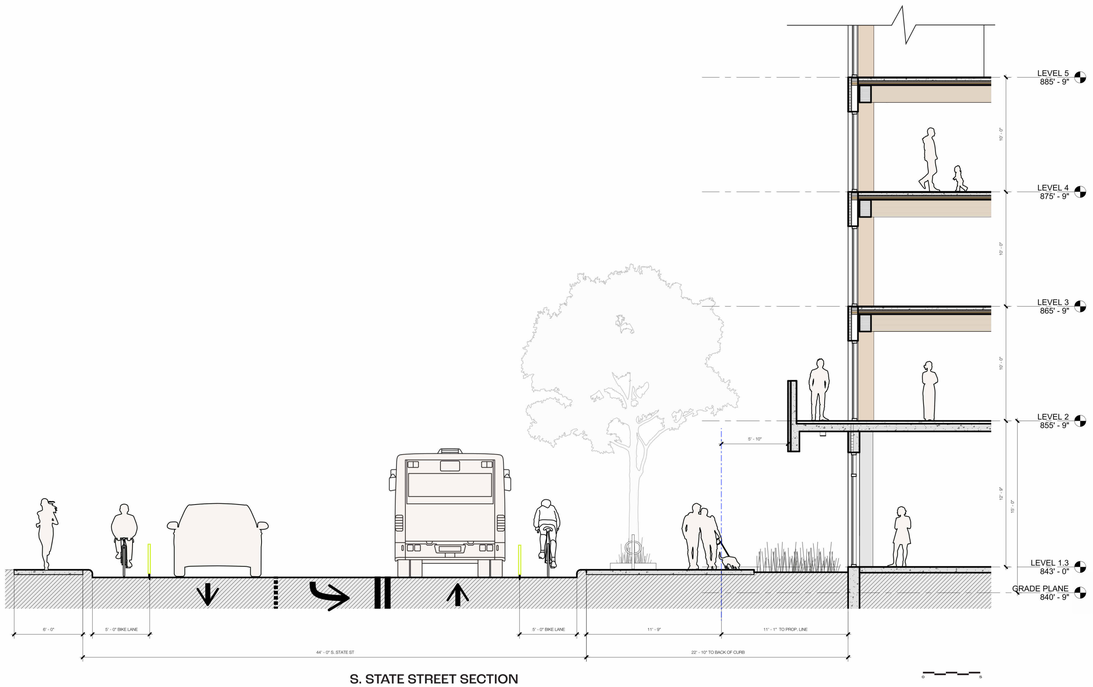
ENLARGED PLANS - BIKE

PROJECT NUMBER 202121
DATE 04/24/2023

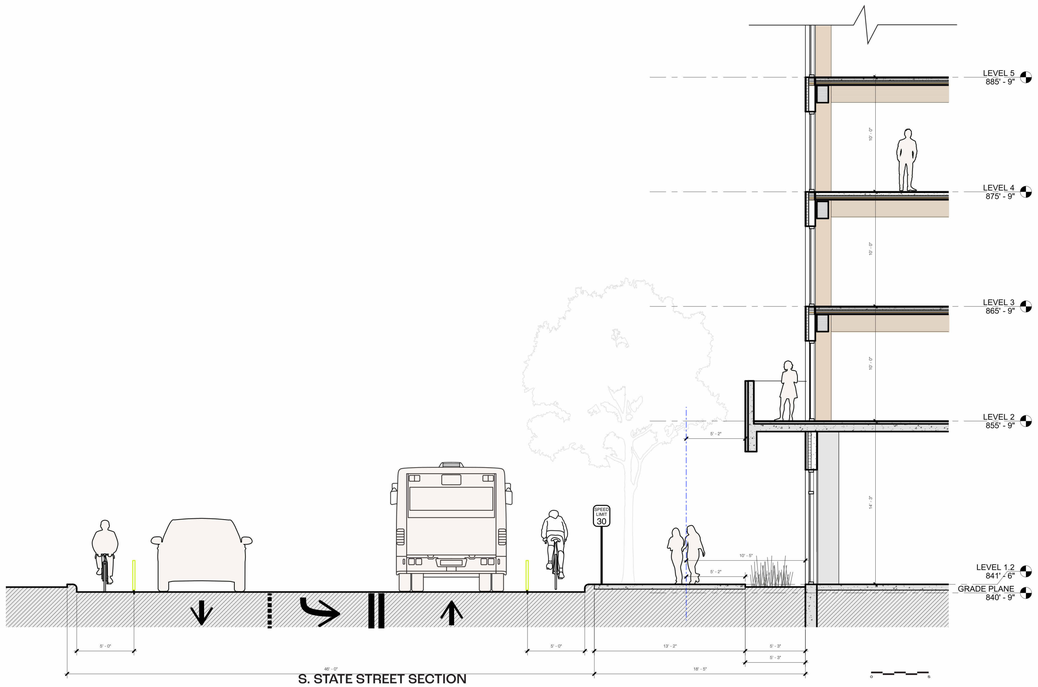
A701

SCALE 3/16" = 1'-0"

4/24/2023 1:49:28 PM



S. STATE STREET SECTION



S. STATE STREET SECTION

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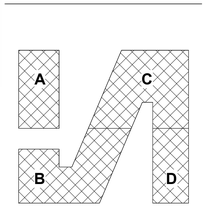

No.	Description	Date
	SITE PLAN RESUB.	04/24/23

1610 WHITE STREET
ANN ARBOR, MI 48104

SOUTHTOWN

STREET SECTIONS

PROJECT NUMBER 202121
DATE 04/24/2023

A702

SCALE

4/24/2023 1:49:33 PM