

SOUTHTOWN BY 4M

CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN SITE PLAN

LOCATION MAP

DESIGN TEAM CONTACTS

APPLICANT / OWNER SOUTHTOWN BY 4M, LLC 2082 S. STATE STREET ANN ARBOR, MI 48104 P: 415.810.8124 ATTN: MARGE POSCHER

CIVIL / LANDSCAPE ARCHITECT NEDERVELD, INC. 3037 MILLER RD. ANN ARBOR, MI 48103 P: 734.929.6963

ATTN: BRANDON CHANEY SYNECDOCHE DESIGN STUDIO 1342 N. MAIN STREET #11 ANN ARBOR, MI 48104 ATTN: ADAM SMITH

STRUCTURAL ASPECT STRUCTURAL ENGINEERS 101-190 W. 3RD AVE VANCOVER, BRITISH COLUMBIA V5Y1E9 P: 604.762.7844 ATTN: SHAWN KENNEDY

MECHANICAL / PLUMBING GREENPATH DESIGN 139 W. LIBERTY STREET PLYMOUTH, MI 48170 P: 248.310.7286 ATTN: KELLY SUGG

ELECTRICAL ETS ENGINEERING 418-1/2 S. WASHINGTON BOULEVARD ROYAL OAK, MI 48067 P: 248.744.0360 ATTN: SCOTT LEO

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PREPARED FOR: Southtown by 4M, LLC

2082 S. State Street

Ann Arbor, MI 48104

Marge Poscher

800.222.1868

ANN ARBOR

Ann Arbor, MI 48103 Phone: 734.929.6963 CHICAGO

COLUMBUS **GRAND RAPIDS**

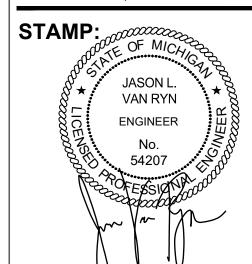
HOLLAND

INDIANAPOLIS

REVISIONS:

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

Ve



PROJECT NO: 21500282

SHEET NO:

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

B. DEVELOPMENT PROGRAM

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.

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

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

HE 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.

THE PROPOSED SOUTHTOWN DEVELOPMENT (MULTI-FAMILY HOUSING [MID-RISE] PER ITE CODE 221) WILL INCLUDE

• 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

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.

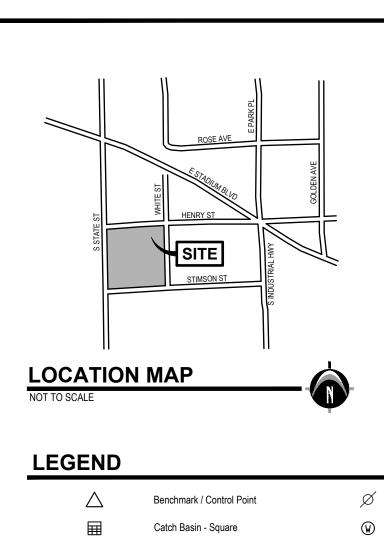
DEVELOPMENT SUMMARY & COMPARISON CHART Required / Permitted

SITE PERSPECTIVE

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	-	219,945 (1)(2)	216,444 (224,444 with premium)
FAR (% of Lot Area)	18.11%	-	304.85% (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
Setbacks				
Front (min)	18.4'	25'	3.9'	none
Front (max)	32.4'	none	19.8'	none
Back (min)	-	30' +	N/A	Min: Equal to minimum of abutting R district
Side (min)	-	12' +	N/A	Min: Equal to minimum of abutting R district
Building Height	30'	30'	85'	none (8 stories, 100')
Vehicle Parking				
Vehicle Parking (per dwelling unit)	-	none (was 1.5)	0.25	none
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.

(2) FLOOR AREA PREMIUM OPTION = PEDESTRIAN AMENITY PREMIUM OPTION - PLAZA



EGEND			
Δ	Benchmark / Control Point	Ø	Utility Pole
	Catch Basin - Square	W	Water Manhole
O_{CO}	Cleanout	$\otimes_{\sf wv}$	Water Valve
	Deciduous Tree	$oximes_{ extsf{YD}}$	Yard Drain
E	Electric Manhole	—— c ——	Cable TV
\square_{EM}	Electric Meter	—— UE ——	Underground Electric
\square_{GM}	Gas Meter	—— G ——	Gas
(—	Guy Anchor	—— он ——	Overhead Utility
HH	Hand Hole	ss	Sanitary
4	Hydrant	ST	Storm
0	Iron - Found	—— UT ——	Underground Telephone
*	Light Pole	w	Watermain
\square_{MB}	Mailbox	— × — × —	Fence
C	Miss Dig Flag - Cable	+++++++++++++++++++++++++++++++++++++++	Railroad
Ğ	Miss Dig Flag - Gas		Zoning Setback
M	Manhole		Asphalt
\circ_{S}	Sign		Concrete
(\$)	Sanitary Sewer Manhole		Gravel
D	Stormwater Manhole		Existing Building
T	Telephone Manhole	M=	Measured Dimension
\square_{TR}	Transformer	P=	Platted Dimension
0	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.

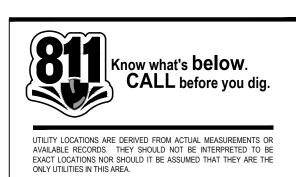
MICHIGAN.

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



0' 10' 20'

SCALE: 1" = 20'



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.

Experience . . . the Difference **ZONED PUD** Parcel #: 09-09-33-318-001 Address: 1514 White St Owner: Ann Arbor Housing Rim Elev. = 837.31 Storm Manhole #1713 Rim Eley. = 838.16 12" Conc. Inv. SW.= 830.61 12" Conc. Inv. E.= 828.90 Storm Manhole #1061 HENRY STREET Rim Elev. = 838.05 12" RCP Inv. W.= 831.55 2" RCP Inv. ENE.= 831.05 Catch Basin #1038 BENCHMARK #303 tim Elev. = 837.35 ELEV. = 843.71 Bottom= 834.45 BENCHMARK #301 ELEV. = 840.14 **ZONED R4C** #714 Henry St Parcel #: 09-09-33-316-015 BLDG. AREA: 1810 S.F Address: 800 Henry St Owner: Honzaki-Su Family Trust △ CP #207/ __N87°04'31"E 123.99'= Manhole #1550 Rim Elev. = 842.46 **ZONED PL** Parcel #: 09-09-32-400-002 Address: 500 E Stadium Blv Owner: University of Michigan Storm Manhole #1444 Rim Elev. = 842.2 IRON CAP #49278 0.8' N87°04'31"E 124.01 10 EXISTING Rim Elev. = 842.05 BUILDING ~ BLDG. AREA: 122 S.F. Catch Basin #1547 Rim Elev. = 841.65 S S S Rim Elev. = 841.73 12" RCP Inv. N.= 838.53 12" RCP Inv. S.= 838.53 P=S89°03'W 264.20' 12" RCP Inv. W.= 838.83 BLDG. AREA: 256 S.F. 프로 후기 기로 마루다리 <mark>한 라마스트 커뮤 크셔</mark> 워크 디랑 그룹 및 작고 원급기 만드 링크 링크 커닝/커 AREA: 72,148.02 Sq.Ft. ZONED R3 1.66 Acres Parcel #: 09-09-33-316-001 Address: 1613 White St Owner: Avalon Housing Inc Щ IRON CAP Catch Basin #1348 Rim Elev. = 841.75 Full of Debris Top of Debris= 839.10 Catch Basin #1321 **ZONED R3** Parcel #: 09-09-33-316-002 Address: 800 Stimson St Storm Manhole #1543 Owner: Avalon Housing Inc Rim Elev. = 842.09 BENCHMARK #302 ELEV. = 844.30 BENCHMARK #300 Rim Elev. = 837.03 ELEV. = 839.56 Rim Elev. = 836.67 Sanitary Manhole #1295 12" Conc. Inv. E.= 829.92 Rim Elev. = 841.12 8" VT Inv. E.= 831.41 ZONED C3 Parcel #: 09-09-33-314-007 Address: 725 Stimson St Owner: The Salvation Army

www.nederveld.com 800.222.1868

ANN ARBOR

3037 Miller Rd.

Phone: 734.929.6963

CHICAGO

COLUMBUS

GRAND RAPIDS

HOLLAND

INDIANAPOLIS

Southtown by 4M, LLC Marge Poscher

2082 S. State Street Ann Arbor, MI 48104

Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022

Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

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Plan

Conditions

Site

sting

JASON L. VAN RYN ENGINEER

PROJECT NO:

SHEET NO:

21500282

PREPARED FOR:

REVISIONS:

Title: Site Plan Submittal

Title: Site Plan Resubmittal

Ann Arbor, MI 48103

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

The 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, 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 Washtenaws

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

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 Washtenaws

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

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.

July 21, 2022 Date of Plat or Map:



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.

Experience . . . the Difference

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3539

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

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

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 Washtenaws

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

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 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 [].



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

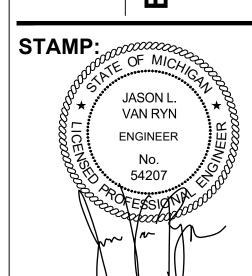
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Plan

onditions Site sting



PROJECT NO: 21500282

SHEET NO:

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NATURAL FEATURES ANALYSIS NOTES: 100-YEAR FLOODPLAIN: THERE IS NO FEMA MAPPED FLOOD PLAIN ON THE SITE. 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. STEEP SLOPES: THERE ARE NO STEEP SLOPES ON THE PROJECT SITE. EXISTING WATERCOURSE: THERE ARE NO WATERCOURSES ON THE SITE. BOUNDARY AND BASAL AREA ESTIMATE WOODLANDS: THERE ARE NO WOODLANDS ON 6. <u>BOUNDARY AND CHARACTER OF ALL WETLANDS:</u> THERE ARE NO WETLANDS ON THE

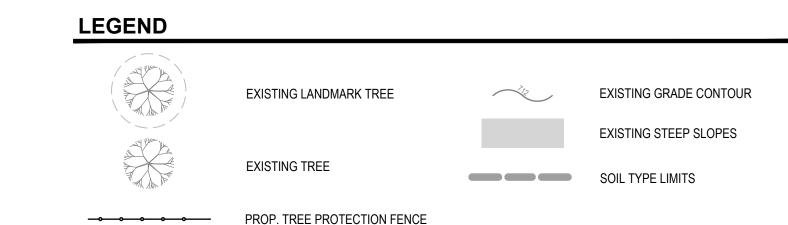
Tree ID Scientific Name 2301 Acer saccharinum Silver Maple
2302 Thuja occidentalis Arborvitae
 3
 Acer saccharum
 Sugar Maple
 21"
 Yes
 9

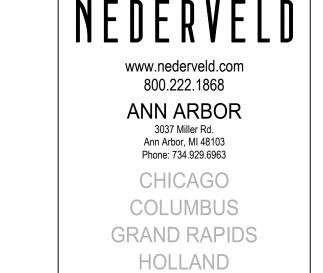
 4
 Acer platanoides
 Norway Maple
 10"
 No
 9

 5
 Acer platanoides
 Norway Maple
 16.5"
 No
 9

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

TREE SURVEY





PREPARED FOR:

Southtown by 4M, LLC Marge Poscher

INDIANAPOLIS

2082 S. State Street Ann Arbor, MI 48104

REVISIONS:

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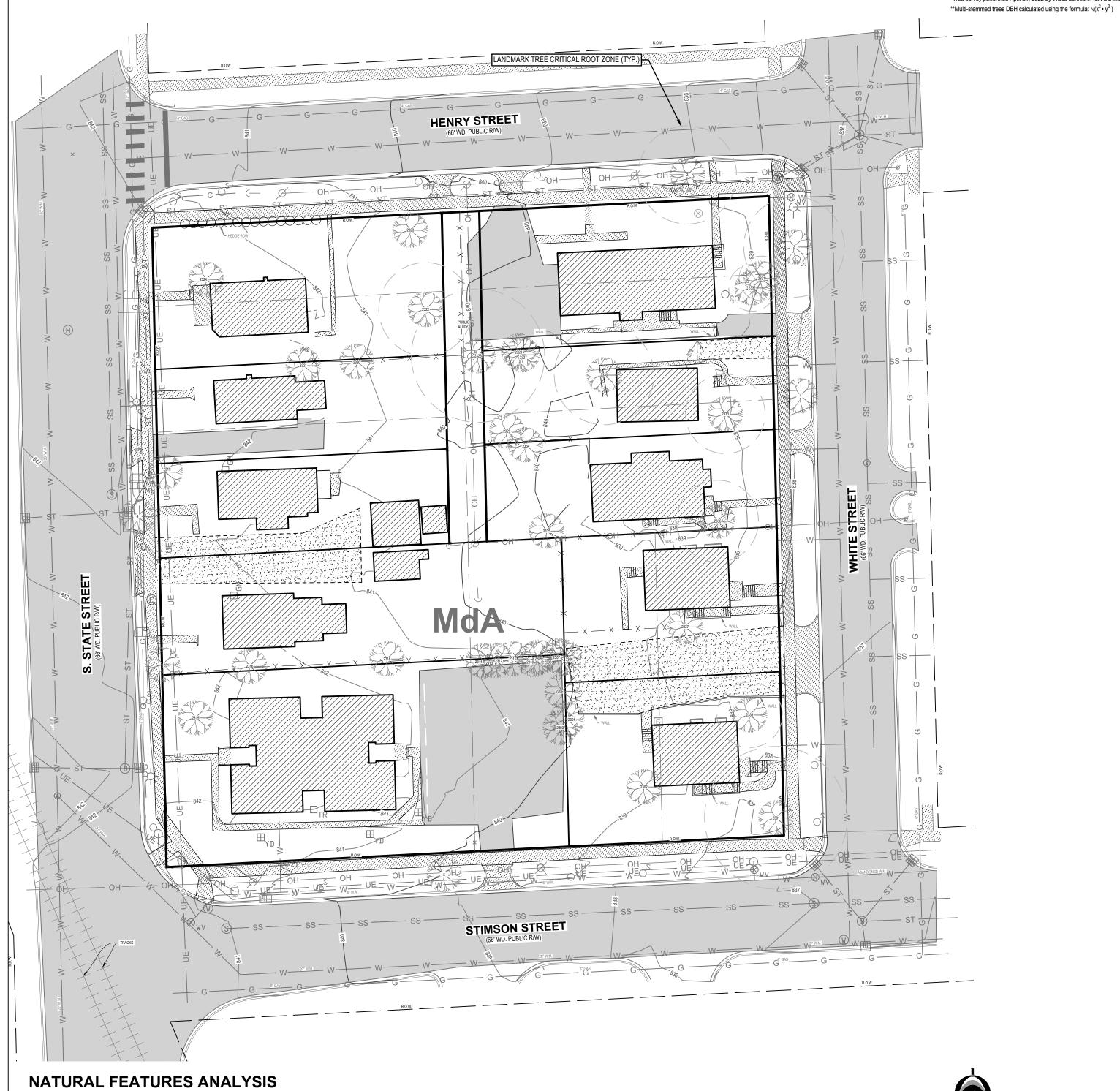
4M

B

SOUTHTOWN

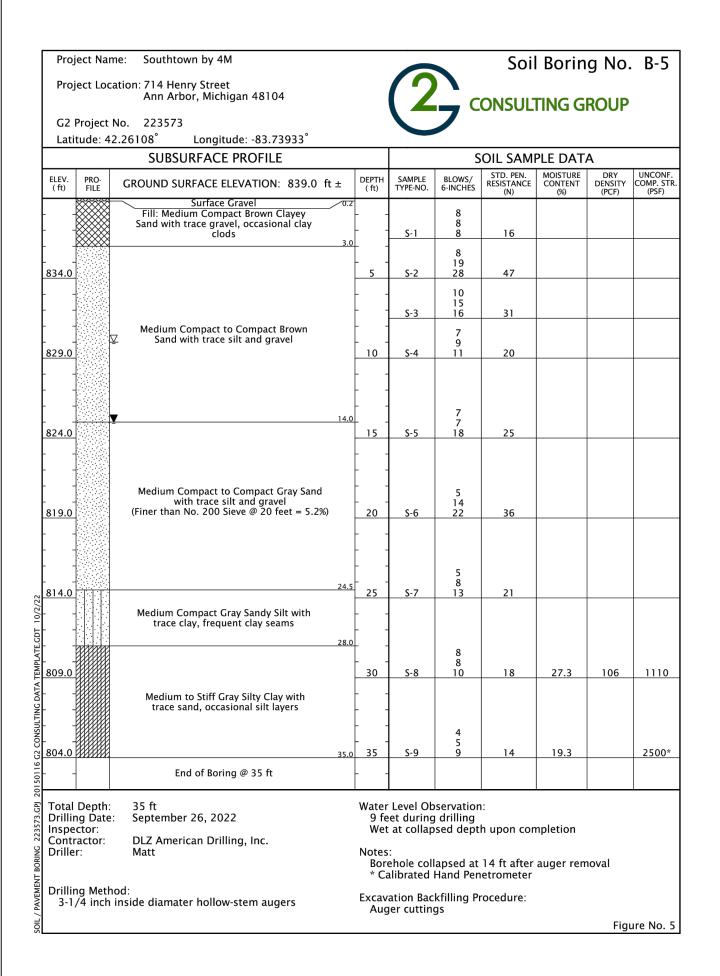
PROJECT NO: 21500282

SHEET NO:





NATURAL FEATURES OVERLAY



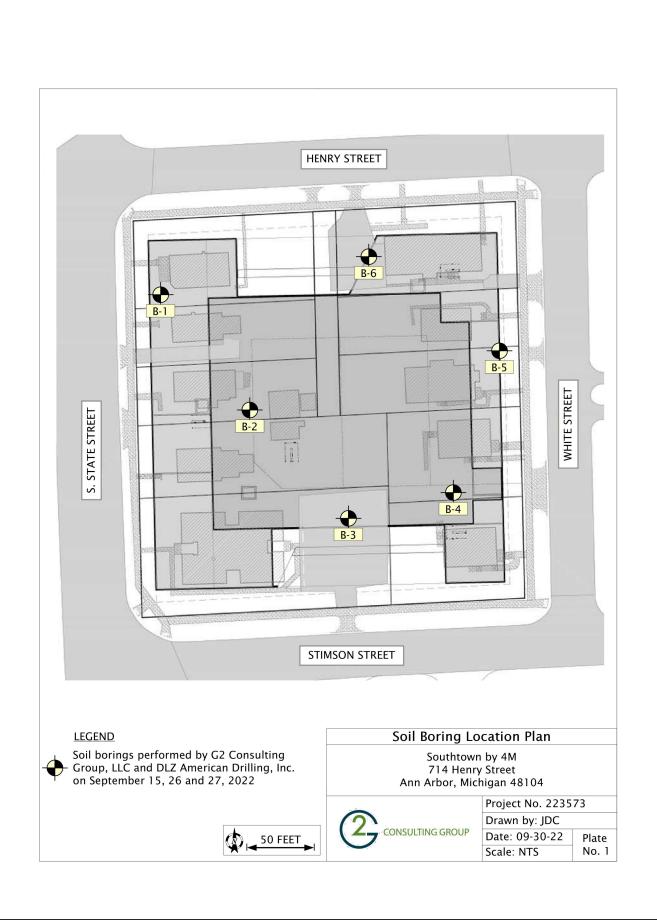
	ect Nam ect Loca	ne: Southtown by 4M ation: 714 Henry Street Ann Arbor, Michigan 48104					l Borin		
62.5				(7	ONSUL	TING G	ROUP	
	Project N rude: 42	No. 223573 2.26096° Longitude: -83.74004°							
Latit		SUBSURFACE PROFILE		·	S	OIL SAM	PLE DAT		
ELEV.	PRO-	GROUND SURFACE ELEVATION: 842.0 ft ±	DEPTH	SAMPLE	BLOWS/	STD. PEN. RESISTANCE	MOISTURE CONTENT	DRY DENSITY	UNCON COMP. S
(ft)	FILE	Surface Gravel 70.2	(ft)	TYPE-NO.	6-INCHÉS	(N)	(%)	(PCF)	(PSF)
		Fill: Medium Compact Brown and Dark Brown Silty Sand with trace gravel and organic matter, occasional clay clods (Organic Content = 3.0%)	- 	S-1	9 9 9	18			
837.0		(Organic Content = 5.0%) 4.0		S-2	13 20 24	44			
-			 	S-3	15 28 34	62			
		Compact to Very Compact Brown Sand with trace silt and gravel			12				
832.0	<u> </u>	(Finer than No. 200 Sieve @ 5 feet = 8.8%)	10	Ş-4	16 23	39			
-		13.0							
827.0			 15	\$-5	8 15 19	34			
822.0	0	Compact Gray Sand with trace silt and gravel	 20	\$-6	8 10 22	32			
817.0				S-7	10 15 20	35			
· -		28.0	 		5				
812.0		Medium Compact Gray Silty Sand	30	S-8	12 16	28	22.0		
-		33.0							
807.0		Medium Gray Silty Clay with trace sand, frequent silt layers		Ş- 9	9 9 12	21	23.3		1500
_		End of Boring @ 35 ft							
Drillin Inspec			9 fe	et during		ı: h upon cor	npletion		
Contra Driller		DLZ American Drilling, Inc. Matt	Notes Bore * Ca	ehole col	lapsed at Hand Per	10 ft after etrometer	auger ren	noval	
Drillin 3-1/	Orilling Method: 3-1/4 inch inside diamater hollow-stem augers				kfilling P	rocedure:			ure No

Lati	tude: 42	2.26076° Longitude: -83.73974° SUBSURFACE PROFILE		<u> </u>	9	SOIL SAM	PLE DAT	Ā	
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 839.0 ft ±	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCOI COMP. S
		Bituminous Concrete (Asphalt) Fill: Medium Compact Brown and Dark Brown Silty Sand with trace gravel, occasional clay clods and asphalt fragments	.0	S-1	5 9 9	18	V	(6.7	
834.0		ges	5	\$-2	8 15 8	23			
 				Ş-3	12 18 17	35			
829.0	Σ	Z Medium Compact to Compact Brown Sand with trace silt and gravel	10	Ş-4	9 14 16	30			
824.0		(Finer than No. 200 Sieve @ 15 feet = 11.3%)	15	\$-5	10 17 21	38			
 819.0		18 Medium Compact Gray Sand with trace silt and gravel	20	\$-6	8 12 17	29			
814.0		24		S-7	3 6 6	12			
809.0		Medium Compact to Compact Gray Silty Sand	30	S-8	7 16 17	33			
804.0		32 Medium Gray Silty Clay with trace sand, frequent silt layers 35		S-9	8 10 13	23	24.2	114	103
-		End of Boring @ 35 ft	-	_					
Total Drillii Inspe Conti Drille	ractor: r: ng Metho	M. Majed DLZ American Drilling, Inc. Matt	9 fe We Notes Bor * C Excav	eet during t at collar s: ehole col alibrated ration Bac ger cuttin	lapsed dept lapsed at Hand Per ckfilling P	n: th upon cor th stafter netrometer rocedure: c cold patcl	auger ren	noval	,

	ect Nam	·		6		Soil	Borin	g No.	B-6
		ation: 714 Henry Street Ann Arbor, Michigan 48104		(2		ONSUL	ΓING G	ROUP	
	Project N	No. 223573 2.26126° Longitude: -83.73967°							
Latit	uue. 42	SUBSURFACE PROFILE		Γ	5	OIL SAMI	PLE DAT	Α	
ELEV.	PRO-	GROUND SURFACE ELEVATION: 840.0 ft ±	DEPTH	SAMPLE	BLOWS/	STD. PEN. RESISTANCE	MOISTURE CONTENT	DRY DENSITY	UNCONF COMP. ST
(ft)	FILE	Bituminous Concrete (Asphalt)	(ft)	TYPE-NO.	6-INCHÉS	(N)	(%)	(PCF)	(PSF)
		Fill: Medium Compact Brown and Dark Brown Clayey Sand with trace gravel	-	-	2 5				
		and organic matter, occasional	-	<u>Ş-1</u>	8	13			
.]	\bowtie	asphalt fragments 4	.0]	9 10				
835.0			5	S-2	13	23			
			-	-	7 11				
		Medium Compact to Compact Brown Sand		S-3	10	21			
.]	_ 	Medium Compact to Compact Brown Sand With trace silt and gravel (Finer than No. 200 Sieve @ 7.5 feet = 8.9%)			8 16				
830.0		(Filler than No. 200 Sieve @ 7.5 Teet = 6.5%)	10	Ş-4	15	31			
			-	1					
. [:		14		-	8 10				
825.0		_	15	S-5	20	30			
†	-	<u> </u>	-	1					
		Medium Compact Gray Sand with trace		-	7 13				
820.0		silt and gravel	20	S-6	16	29			
.]									
		24	.5		6				
815.0		Madison Consumer Consumer Consumer City	25	Ş-7	7	13			
]:		Medium Compact Gray Sandy Silt with trace clay, frequent clay seams]					
.		28	.0 .						
				-	9 12	20			
810.0		Medium Compact Gray Silty Sand with trace clay	30	Ş-8	16	28			
		trace cray]					
·		33	.0 .		7				
805.0		Stiff Gray Silty Clay with trace sand	.0 35	S-9	8 12	20	20.9		3000*
	AXXXXXX	End of Boring @ 35 ft		3-9	12	20	20.3		3000
		End of boiling @ 33 it							
	Depth:	35 ft			servation	n:			
Inspec		•	9 fe We	eet during t at collap	g arilling osed dept	h upon con	npletion		
Contra Driller		DLZ American Drilling, Inc. Matt	Notes						
			Bor	ehole col	lapsed at Hand Per	16 ft after etrometer	auger ren	noval	
Drillin	g Meth	od:							
3-1/	'4 inch	inside diamater hollow-stem augers	Aud	ation Bac ger cuttin	.kmiing Pi as	rocedure:			

Proj	ect Nam	e: Southtown by 4M				Soi	Borin	g No.	B-4
Proj	ect Loca	ition: 714 Henry Street Ann Arbor, Michigan 48104		(2		ONSUL	TING G	ROUP	
G2 F	Project N	No. 223573		_	7	011501			
Latit	tude: 42	26081° Longitude: -83.73947°							
		SUBSURFACE PROFILE			S	OIL SAM	PLE DAT	A	
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 839.0 ft ±	(π)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCON COMP. ST (PSF)
-		Surface Gravel Fill: Medium Compact Dark Brown Silty Sand with trace gravel and organic matter, occasional clay clods (Organic Content = 1.6%)	0.2 	S-1	5 5 7	12			
834.0	****		5	\$-2	15 16	31			
-				Ş-3	12 14 14	28			
829.0	-		10	S-4	6 9 11	20			
_		Medium Compact to Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 10 feet = 6.9%)							
824.0			 	\$ -5	3 5 8	13			
-		1	8.0						
819.0			20	\$-6	10 7 10	17			
]		Medium Compact Gray Sand with trace silt and gravel							
814.0		:	24.5	S-7	4 4 8	12			
809.0		Medium Compact Gray Sandy Silt	 30	\$-8	4 8 10	18			
-			33.0		4				
804.0		Stiff Gray Silty Clay with trace sand, frequent sand seams	35.0 35	\$ -9	6 7	13	22.7	116	2860
-		End of Boring @ 35 ft	-						
	Depth: ng Date: ctor:	35 ft September 15, 2022 C. Nicol			servatior and upo	ı: n completi	on		
	actor:	G2 Consulting Group, LLC E. Talabo	Notes Bor * Ca	ehole col	lapsed at Hand Pen	8 ft after a etrometer	uger remo	oval	
Drillin 2-1	ng Metho /4 inch i	od: inside diameter hollow-stem augers	Excav Aug	ation Bac Jer cuttin	kfilling Pi gs	ocedure:			

		ne: Southtown by 4M				Soi	l Borin	g No	. B -1
Projec	ct Loc	ation: 714 Henry Street Ann Arbor, Michigan 48104							
		_		(4	-	ONSUL	TING G	ROUP	
G2 Pr									
Latitu	ide: 4	2.26119° Longitude: -83.74021° SUBSURFACE PROFILE		T .		SOIL SAM	DIFDAT	Λ	
ELEV.	PRO- FILE	GROUND SURFACE ELEVATION: 842.0 ft	± DEPTI	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE	MOISTURE CONTENT	DRY DENSITY	UNCON COMP. S
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	*****	Topsoil: Dark Brown Silty Sand with	0.3	1		(N)	(%)	(PCF)	(PSF)
		trace gravel Fill: Medium Compact Dark Brown Silty	_ []	6	14			
		Sand with trace gravel and organic matter, occasional clay clods	-	<u>Ş-1</u>	8	14			
837.0	****	(Organic Content = 4.6%)	4.0	- S-2	7 19 17	26			
037.0)	3-2	5	36			
-]] S-3	12 15	27			
		_	-	- 3-3	7	- 21			
832.0	· ·	<u>.</u>	10	- S-4	13 14	27			
		Medium Compact to Compact Brown	13	1	1.7				
- <u> </u> -		Sand with trace silt and gravel	-	-					
			}	-	7				
827.0			- 15	- \$-5	14 19	33	<u>L</u>	<u></u> _	
			_						
·			-	-					
			18.0	1	4				
822.0			20	<u> </u>	11 18	29			
			-	-					
		Medium Compact Gray Sand with trace	-	+					
		silt and gravel	ļ]	11 15				
817.0			25	\$-7	15	30			
			-	-					
			28.0	1					
]	8 15				
812.0		Modium Common to	30	\$-8	18	33			
+		Medium Compact to Compact Gray Silty Sand (Finer than No. 200 Sieve @ 30 feet = 26.2%)	-	1					
			ļ	1					
			-	-	6 12				
807.0	4:454	End of Boring @ 35 ft	35.0 35	\$-9 -	11	23			
		-		<u> </u>			<u> </u>		
Total D Drilling Inspect	Date:	35 ft September 27, 2022		er Level Ol feet during		n: on completi	on		
Contract Driller:	ctor:	DLZ American Drilling, Inc. Matt	Note Bo		lapsed at	9 ft after a	uger remo	oval	
Drilling	ı Meth	oq.	Exca Aı	vation Bad Iger cuttin	kfilling P gs	rocedure:			



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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

4M

SOUTHTOWN

Reports
ate, Henry, White, and Stimson Streets

Soil Report

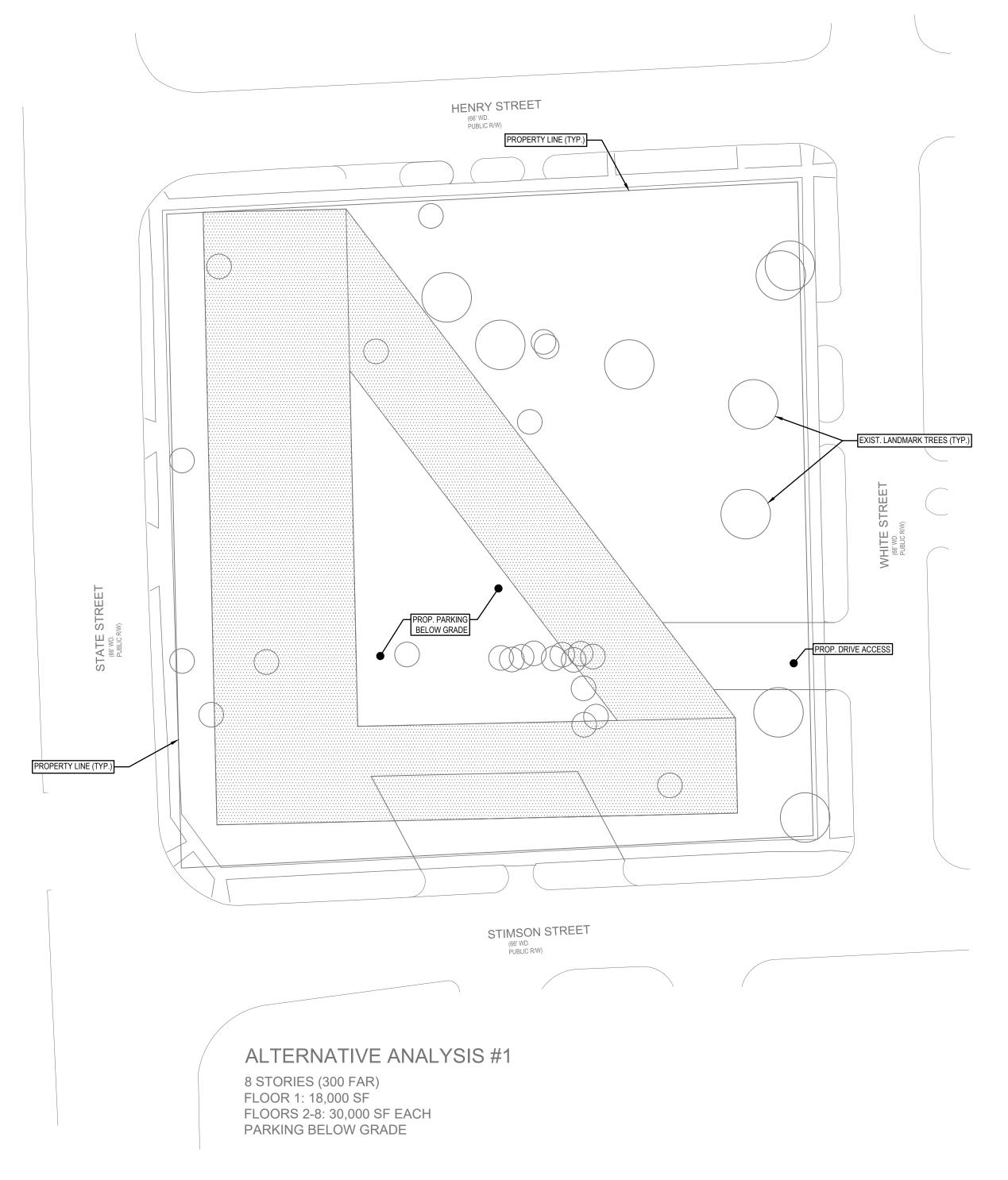
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PROJECT NO: 21500282

SHEET NO:

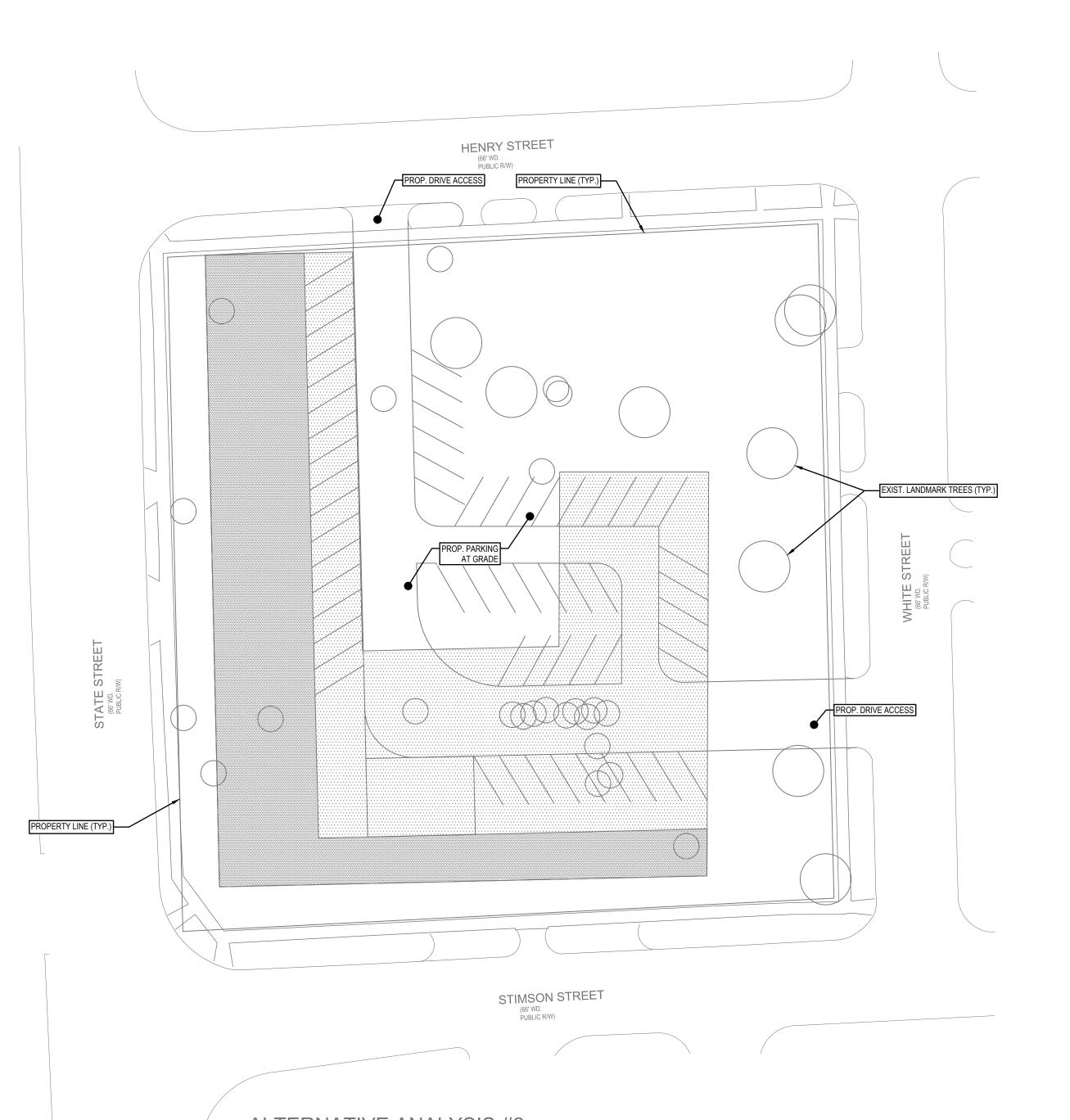
C-203



LANDMARK TREE TABLE

LAND		IADL	
Alternativ	ve Analysis 1		
<u>ID</u>	<u>Species</u>	<u>DBH</u>	<u>Landmark</u>
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
		75.3	total DBH sa

EARLY PROPOSED CONCEPT (#2) - SITE PLAN



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. I ANDMADK TDEE TADIE

Alternat	tive Analysis 2		
<u>ID</u>	<u>Species</u>	<u>DBH</u>	<u>Landmark</u>
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

PROJECT NO:

SHEET NO:

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

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.

EARLY PROPOSED CONCEPT - SITE PLAN

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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

Southtown by 4M, LLC Marge Poscher

2082 S. State Street Ann Arbor, MI 48104

Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022

Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

PREPARED FOR:

REVISIONS:

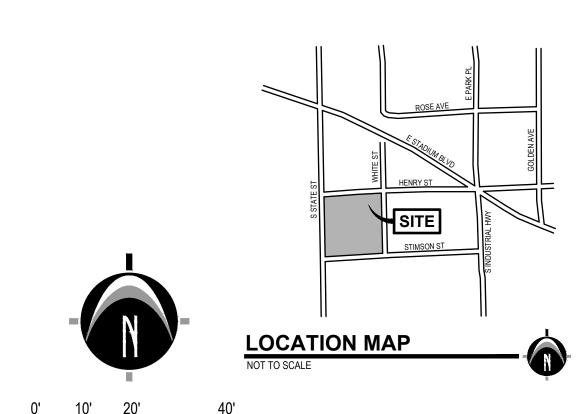
Title: Site Plan Submittal

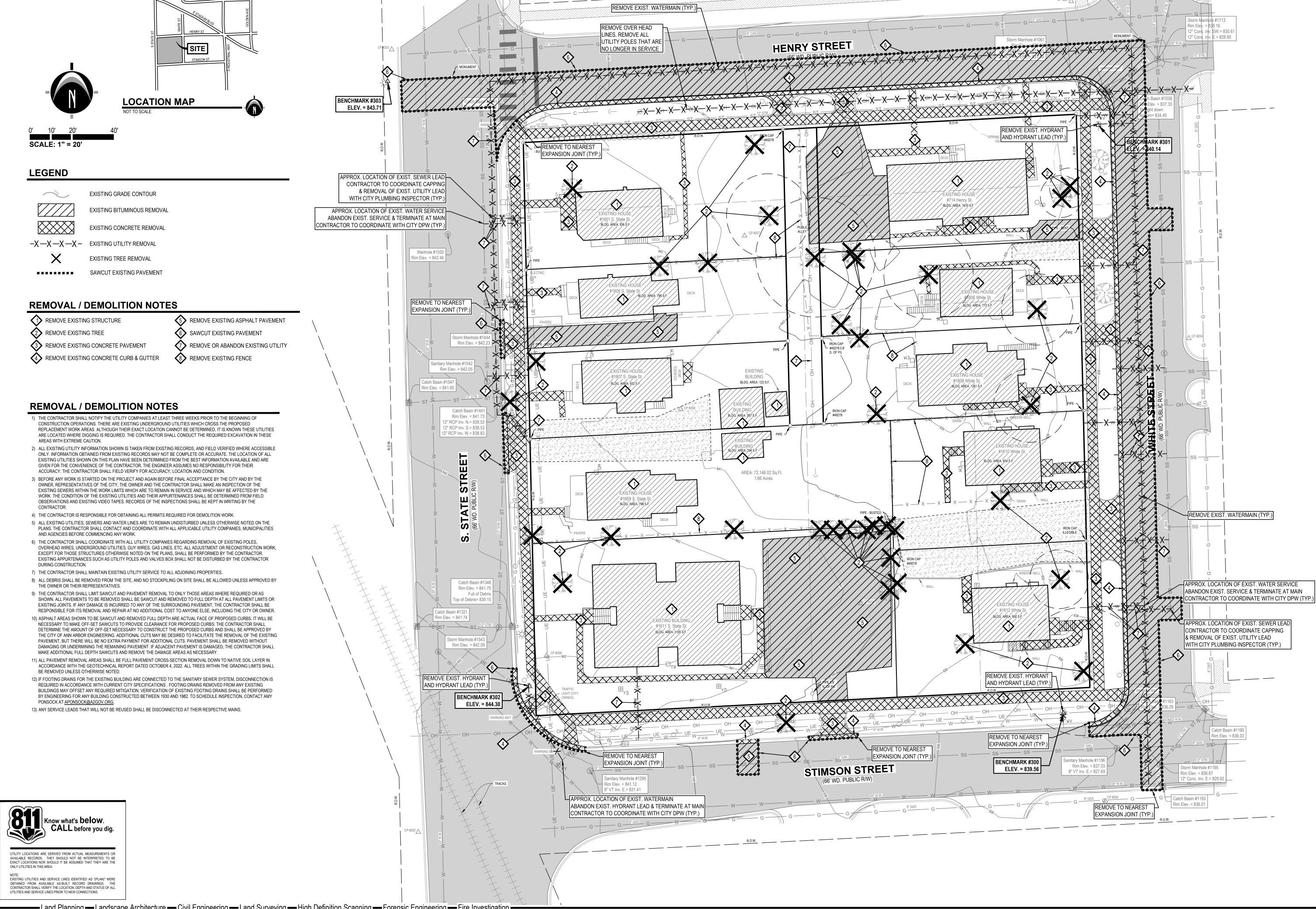
Title: Site Plan Resubmittal

JASON L.

ENGINEER

21500282







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:

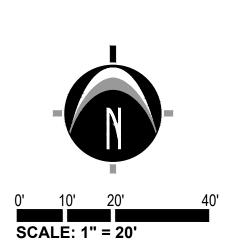
Title: Site Plan Submittal Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022

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

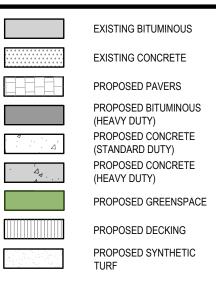
JASON L. VAN RYN **ENGINEER**

PROJECT NO: 21500282

SHEET NO:



LEGEND

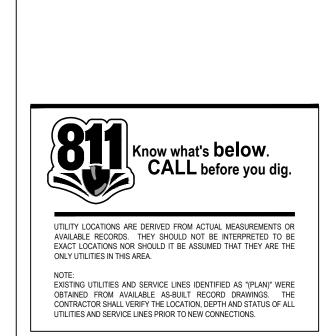


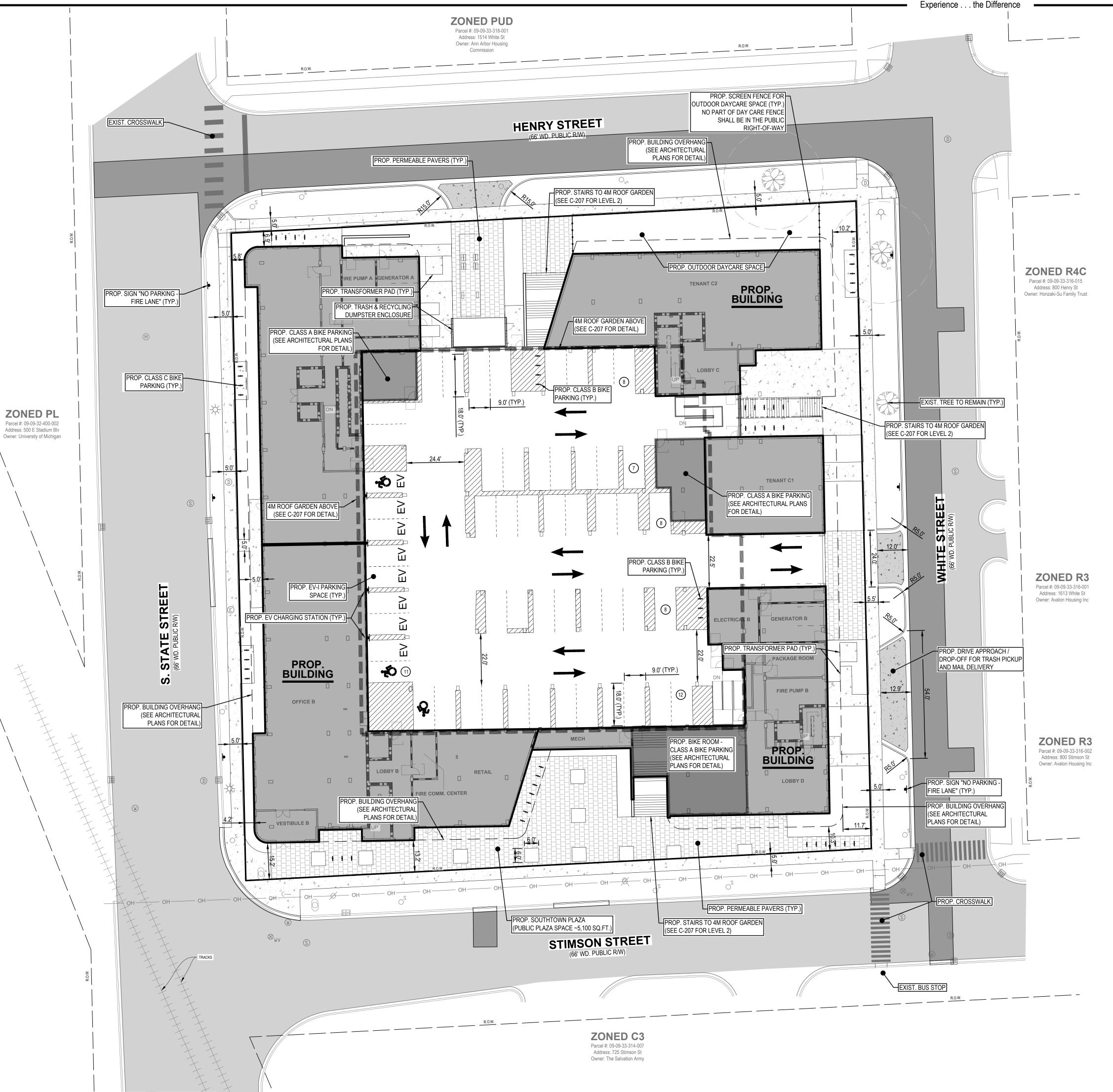
SITE NOTES

- 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.
- ANY DAMAGE TO PUBLIC STREETS AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AS DIRECTED BY CITY ENGINEERING.
- 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.

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
- 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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Site

JASON L.

VAN RYN

ENGINEER

PROJECT NO:

SHEET NO:

21500282

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www.nederveld.com 800.222.1868

ANN ARBOR

3037 Miller Rd.

Ann Arbor, MI 48103

Phone: 734.929.6963

COLUMBUS

GRAND RAPIDS

HOLLAND

INDIANAPOLIS

Southtown by 4M, LLC Marge Poscher

2082 S. State Street

Ann Arbor, MI 48104

Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022

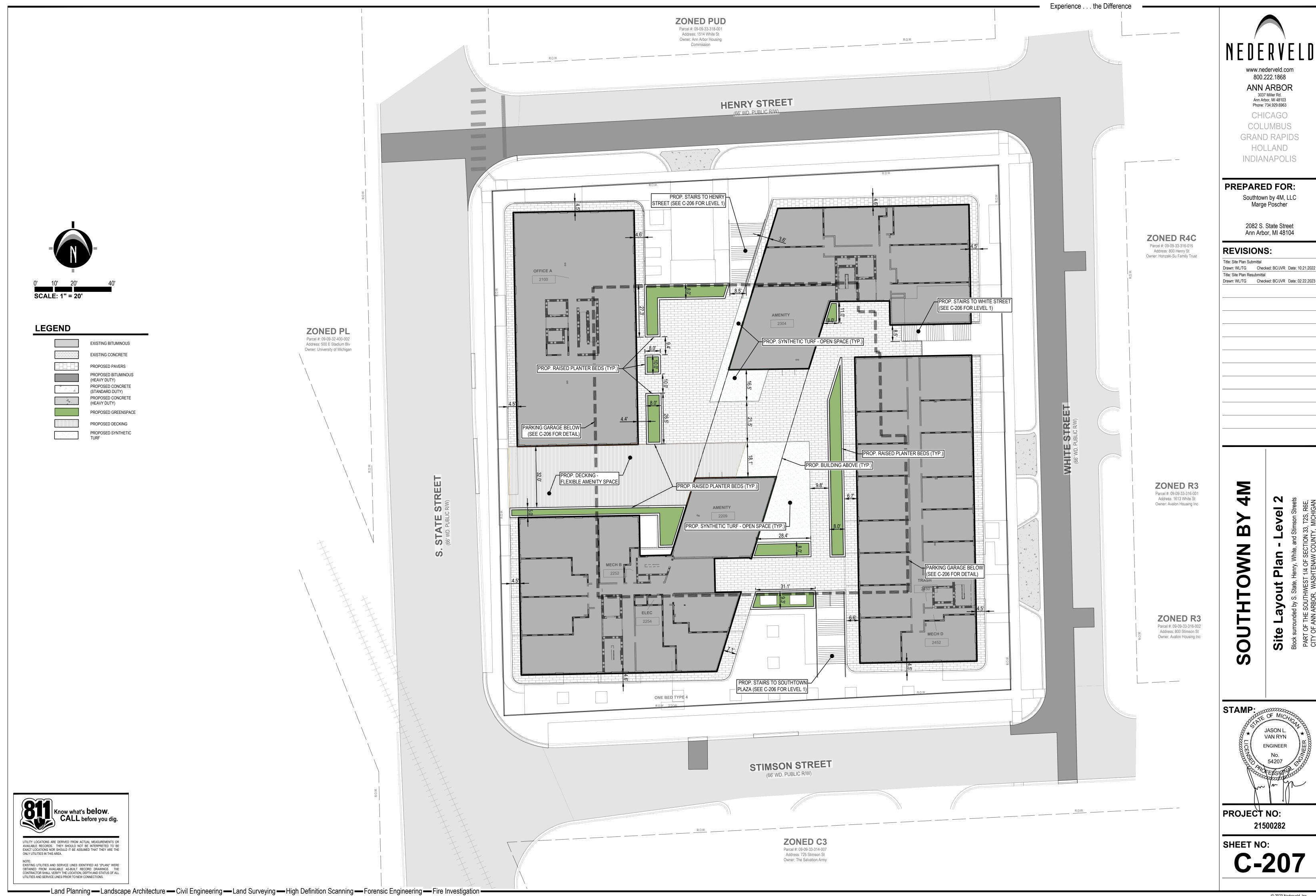
Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

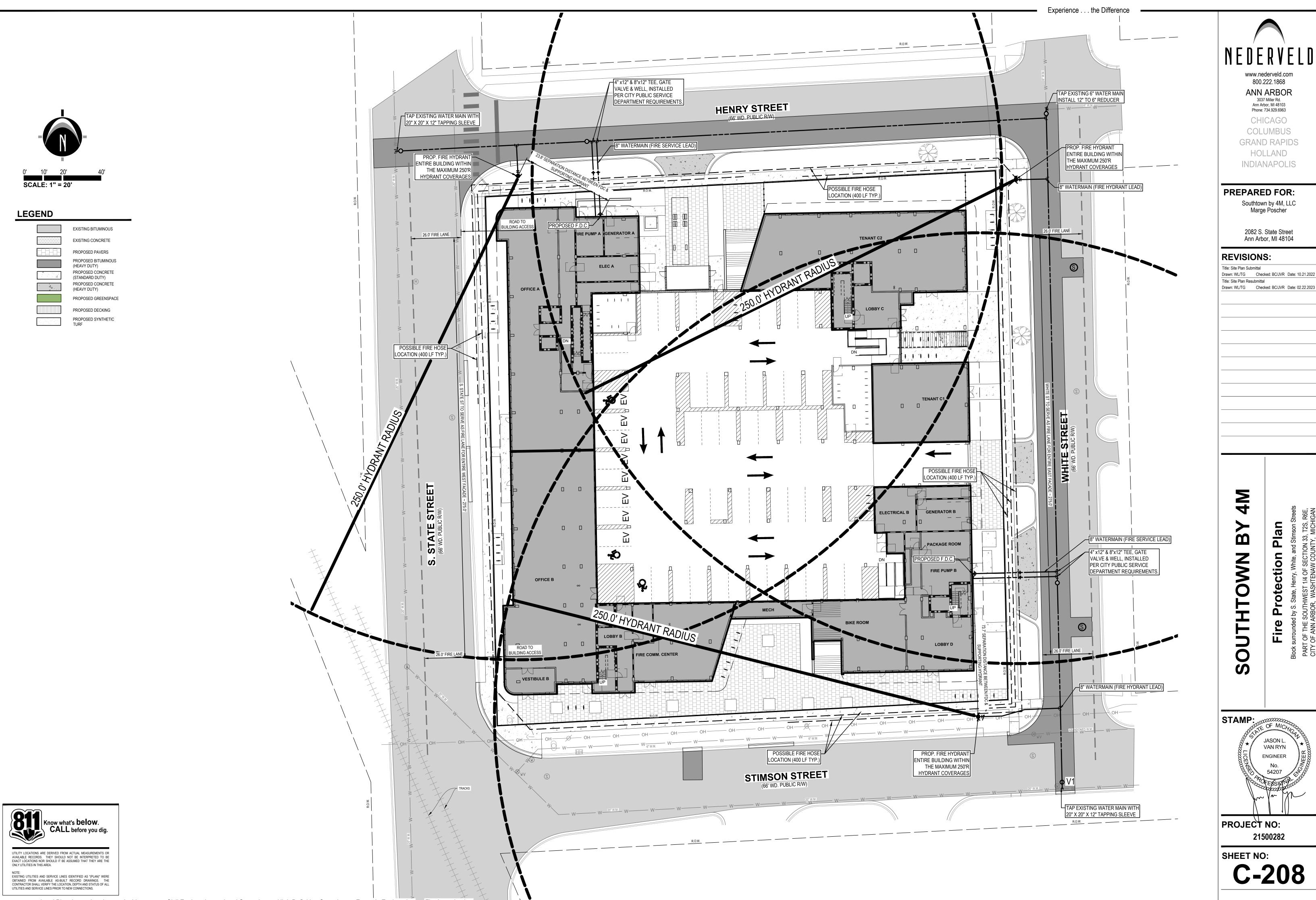
PREPARED FOR:

REVISIONS:

Title: Site Plan Submittal

Title: Site Plan Resubmittal





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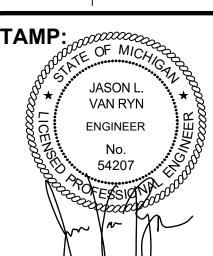
> CHICAGO COLUMBUS **GRAND RAPIDS** HOLLAND

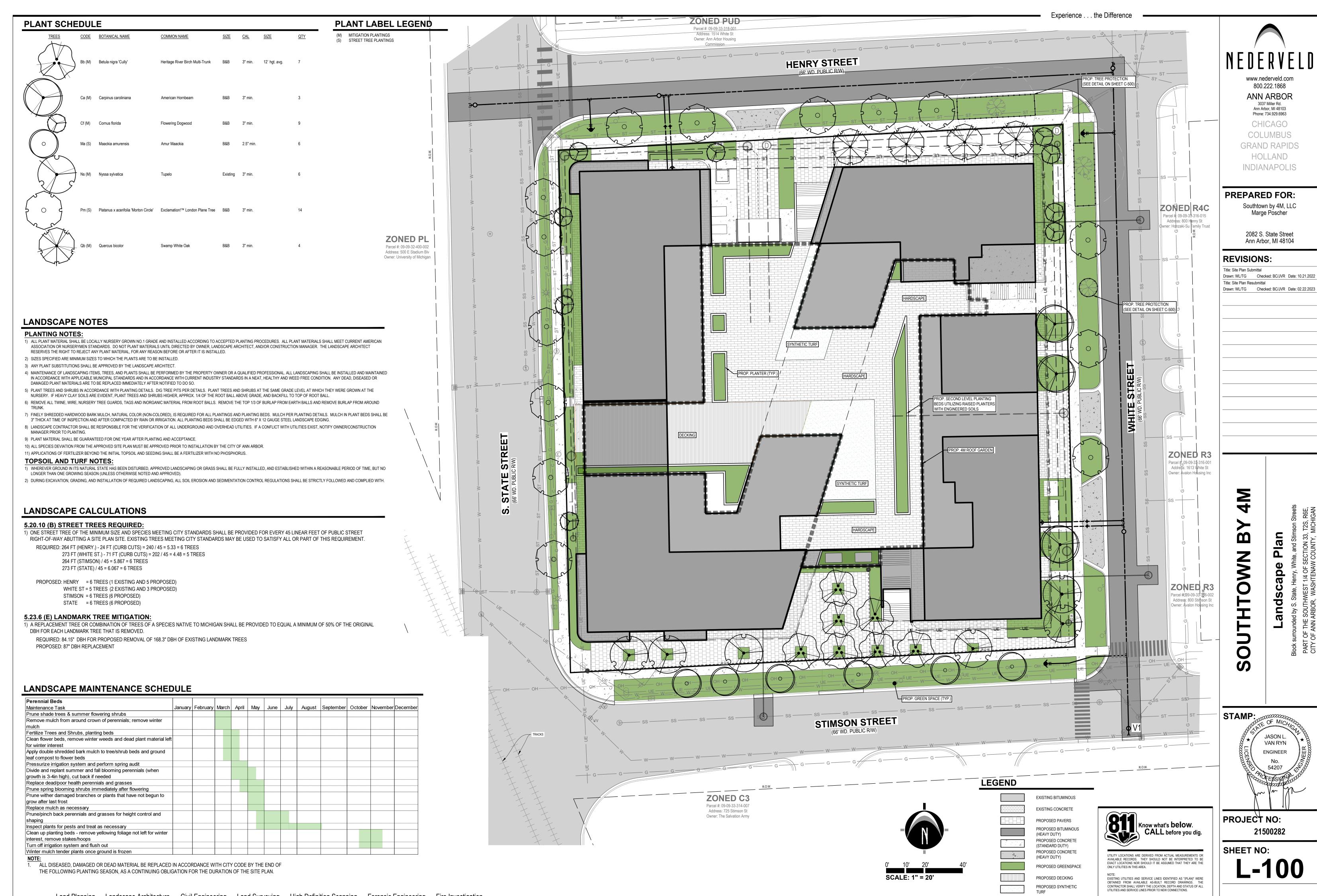
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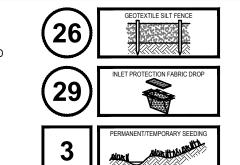




SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 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
- 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

THE CONTRACTOR OR FINAL ACCEPTANCE OF THE CONSTRUCTION BY THE



GRADING NOTES:

- 1. ALL PROPOSED PAVING AND GRADING IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF 8. BEST MANAGEMENT PRACTICES WILL BE UTILIZED 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. PROPOSED SPOT GRADES ARE TO BOTTOM OF CURB

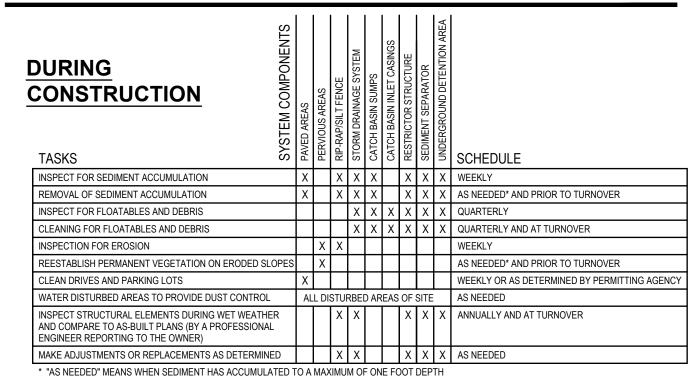
- UNLESS OTHERWISE NOTED. 5. EXISTING AND PROPOSED GRADE CONTOURS SHOWN
- AT 1 FOOT INTERVALS. 6. THE EARTHWORK FOR ALL BUILDING FOUNDATIONS
- GEOTECHNICAL REPORT AND ARCHITECTURAL BUILDING PLANS AND SPECIFICATIONS. 7. CONTRACTOR IS RESPONSIBLE FOR UNDERCUTTING
- EXISTING POOR SOIL AND REPLACING WITH 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. 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
- 3. ESTABLISH PERMANENT BENCH MARK ON-SITE PRIOR 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.

PERMANENT SOIL EROSION PROTECTION MEASURES.

- 10. CONTRACTOR TO FIELD VERIFY ALL INVERTS PRIOR TO START OF CONSTRUCTION.
- AND SLABS SHALL BE IN ACCORDANCE WITH THE 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

MAINTENANCE TASKS & SCHEDULE

SEDIMENT HAS ACCUMULATED TO A MAXIMUM OF ONE FOOT DEPTH.



	SYSTEM COMPONENTS	D AKEAS		STORM CONVEYANCE SYSTEM	CATCH BASIN SUMPS	CATCH BASIN INLET CASINGS	HYDRODYNAMIC SEPARATOR	UNDERGROUND DETENTION AREA	ET CONTROL STRUCTURE	RESPONSIBL FOR MAINTI SOUTHTOW (OWN)	ENANCE: /N BY 4M
MAINTENANCE ACTIVITIES		PAVEU #	PERV	STOF	CATC	CATC	HYDF	adno	OUTLET (SCHEDULE	BUDGET
INSPECT FOR SEDIMENT ACCUMULATION	7	X		Χ	Χ		Χ	Χ	Х	SEMI-ANNUALLY/AS NEEDED*	\$250.00
REMOVAL OF SEDIMENT ACCUMULATION)	X		Χ	Χ		Χ	Χ	Х	ANNUALLY/AS NEEDED*	\$750.00
INSPECT FOR FLOATABLES AND DEBRIS				Χ	Χ	Χ	Χ	Χ	Х	ANNUALLY	\$150.00
CLEANING FOR FLOATABLES AND DEBRIS				Χ	Χ	Χ	Χ	Χ	Х	ANNUALLY	\$300.00
INSPECTION FOR EROSION			Х							SEMI-ANNUALLY	\$100.00
CLEAN DRIVES AND PARKING LOTS	7	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			Χ	Χ	Х	ANNUALLY	\$500.00
INSPECT INFILTRATION AREA FOLLOWING RAIN EVENTS OF 1 INCH OR MORE								Χ		AS NEEDED	\$500.00
MAKE ADJUSTMENTS OR REPLACEMENTS AS DETERMINED BY ANNUAL WET WEATHER INSPECTION				Х			Χ	Χ	Х	AS NEEDED	\$500.00
KEEP RECORDS OF ALL INSPECTIONS AND MAINTENANCE ${\it APROPERTY}$ OWNER	CTIV	ITIE	S AI	ND F	REP	ORT	TO			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											
								\$500.00			

BENCHMARKS

842.42 MATCH

342.06 MATCH EX

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

Northeast bolt on light pole base, located 15' +/- South of control point 203 and 30' +/-

BENCHMARK #303 ELEV. = 843.71 (NAVD88)

West of centerline of State Street at end of Henry Street .

BUILDING

LEGEND

788.00(B) ×

HENRY STREET

788.00(C)

PROP. CONTOUR PROP. SILT FENCE PROP. LIMITS OF DISTURBANCE PROP. PITCH OUT CURB

EXISTING CONTOUR

PROP. GRADE ELEV. (BLACKTOP) PROP. GRADE ELEV. (CONCRETE

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 1.5%

BUILDING

G — G EXIST. GAS LINE 788.00(RIM) × 788.00(MATCH EX.)

----- ST ------- EXIST. STORM SEWER PROP. GRADE ELEV. (RIM) MATCH EXISTING GRADE

— — PROP. STORM SEWER/CATCH BASIN PROP. WATER SERVICE W/ STOP BOX

7.71 MATCH EX.

838.37(C)

PROP. SANITARY LEAD/CLEANOUT PROP. DOWNSPOUT

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ANN ARBOR

3037 Miller Rd.

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

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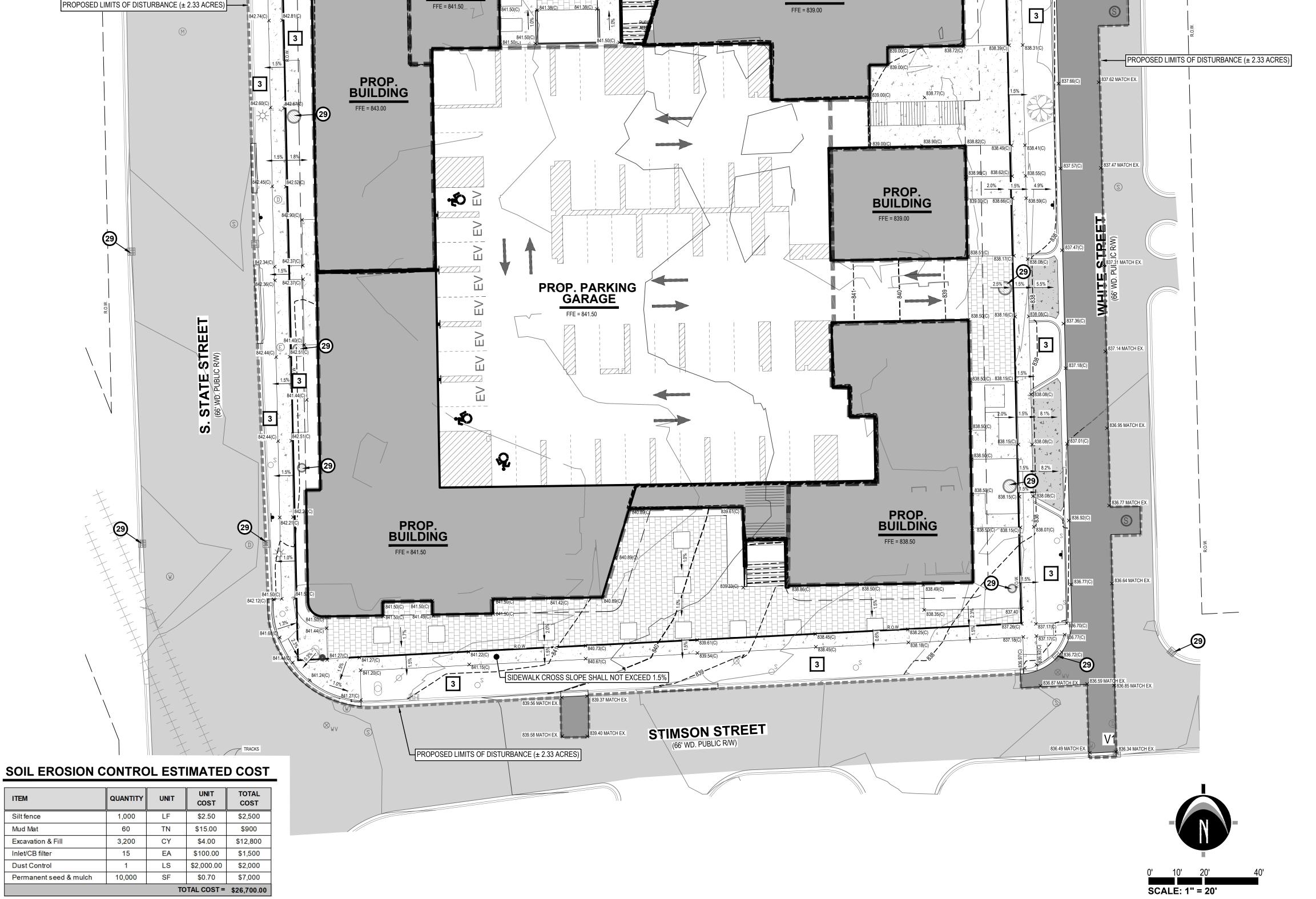
4 Plan

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JASON L. **ENGINEER**

PROJECT NO: 21500282

SHEET NO:



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 Avg. Flow of Base Unit For Given Use (gpd/unit) (gpd) (gpm) Unit Existing Site (Table A Designation) 1601 S. State St (Apartment ≤ 600 sq. ft.) 1605 S. State St (Apartment ≤ 600 sq. ft.) 175 525 Apartment 175 525 0.36 1607 S. State St (Apartment ≤ 600 sq. ft.) Apartment 1609 S. State St (Apartment ≤ 600 sq. ft.) 175 525 0.36 1,750 525 0.36 Apartment 525 0.36 1608 White St (Apartment < 600 sq. ft) Apartment 175 1610 White St (Apartment ≤ 600 sq. ft.) 2 Apartment 350 0.24

SANITARY SEWER EXISTING AND PROPOSED FLOWS

Sanitary Sewer Connection #1 (Building A)* *See architectural plans for building divisions		Quantity of Base	Unit	Flow Rate For Given Use	Avg. Flow		
Occ aren	see architectural plans for building divisions			(gpd/unit)	(gpd)	(gpm)	
Proposed Site (Table A Designation)							
	Apartment ≤ 600 sq. ft	16	Apartment	175	2,800	1.94	
L laga:	Apartment > 600 sq. ft, < 1200 sq. ft.	16	Apartment	175	2,800	1.94	
Uses:	Apartment ≥ 1200 sq. ft	12	Apartment	350	4,200	2.92	
	Non-Medical Office space	6,760	sf	0.06	406	0.28	
Total P	roposed Flow (Area A)				10,206	7.09	

2 Apartment

175

350 0.24

6,650 4.62

	y Sewer Connection #2 (Building BCD)* itectural plans for building divisions	Quantity of Base	Unit	Flow Rate For Given Use	Avg. Flow		
See aron	neotala, pano to Danang attolono	Unit		(gpd/unit)	(gpd)	(gpm)	
Propos	ed Site (Table A Designation)						
	Apartment ≤ 600 sq. ft	47	Apartment	175	8,225	5.71	
Uses:	Apartment > 600 sq. ft, < 1200 sq. ft.	123	Apartment	175	21,525	14.95	
	Apartment ≥ 1200 sq. ft	2	Apartment	350	700	0.49	
Total Pr	roposed Flow (Area B)				30,450	21.15	

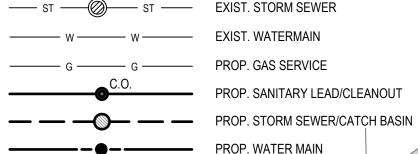
	· , ,				· ·	
	y Sewer Connection #3 (Area Podium)* itectural plans for building divisions	Quantity of Base	Unit	Flow Rate For Given Use	Avg.	Flow
See arch	intectural plans for building divisions	Unit		(gpd/unit)	(gpd)	(gpm)
Propos	ed Site (Table A Designation)					
	Non-Medical Office Space	10,680	sf	0.06	641	0.45
Uses:	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 P	roposed Flow (Area C)				988	0.69

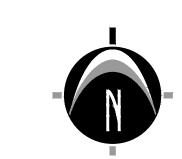
	Sanitary Sewer Connection Area (A + BCD + Podium)	Avg. Flow			
		(gpd)	(gpm)		
Propos	sed Site (Table A Designation)				
Uses:	Total Proposed Flow (Building A)	10,206	7.09		
	Total Proposed Flow (Building BCD)	30,450	21.15		
	Total Proposed Flow (Building Podium)	988	0.69		
Total P	roposed Flow Area	41,644	28.92		

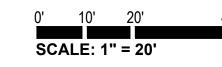
1612 White St (Apartment ≤ 600 sq. ft.)

Total Existing Flow

LEGEND









EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE TH EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "(PLAN)" WERE OBTAINED FROM AVAILABLE AS-BUILT RECORD DRAWINGS. TH

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR

CONTRACTOR SHALL VERIEY THE LOCATION, DEPTH AND STATUS OF ALL UTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.

SANITARY SEWER BASIS OF DESIGN

Sanitary Flow Offset Mitigation Summary			
Proposed - Existing Flows			
Proposed Site Average Flow (41644) - Existing Site Average Flow (6650) =	34,994	gpd	
34994 gpd x 4 (Peaking Factor) x 1.1 (System Recovery Factor) =	153,973	gpd	
153973 gpd x 1 day / 24 hrs x 1 hr / 60 min) =	106	gpm	
106 gpm Peak Flow to be mitigated			

UTILITY NOTES

- GENERAL

 1. CONSTRUCTION MUST CONFORM TO THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS AND STANDARD DETAILS.

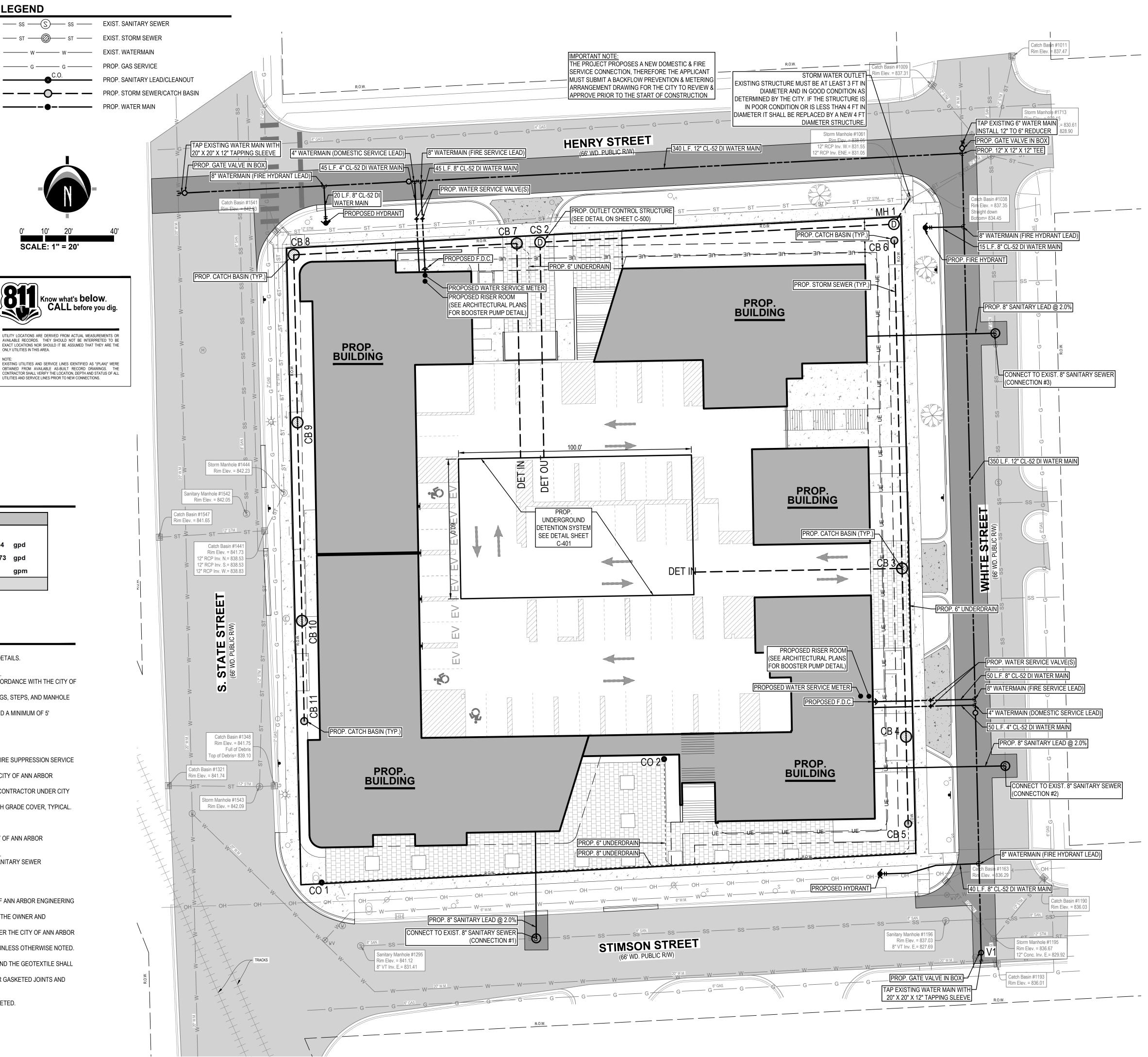
 1. CONSTRUCTION MUST CONFORM TO THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS AND STANDARD DETAILS.
- 3. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITY DURING CONSTRUCTION.
- 4. UTILITY TRENCHES WITHIN A 1 ON 1 INFLUENCE OF CITY OF ANN ARBOR R.O.W. SHALL BE BACKFILLED IN ACCORDANCE 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
- 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.

- 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
- 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.

- 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.

6. WATER SERVICE METERING SHALL OCCUR AT THE POINT THE SERVICE LEAD ENTERS THE BUILDING.

- 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
- 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.



JASON L.

VAN RYN

ENGINEER

PROJECT NO:

SHEET NO:

21500282

Block s PART CITY

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CHICAGO

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2082 S. State Street

Ann Arbor, MI 48104

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Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

PREPARED FOR:

REVISIONS:

Title: Site Plan Submittal

Title: Site Plan Resubmittal

Ann Arbor, MI 48103

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STORM SEWER STRUCTURE SCHEDULE

STR NUMBER	RIM	SIZE, DIRECTION & INVERT ELEVATION	STR DIA. (FT)	CASTING/ GRATE (OR APPROVED EQUAL)
1061	838.05	12" SW INV.= 831.7	-	
MH 1	838.30	12" NE INV.= 831.83 12" W INV.= 831.83	4	E.J.I.W.1040, TYPE M1
CS 2	841.00	12" E INV.= 833.35 18" S INV.= 833.35	4	E.J.I.W.1040, TYPE M1
DET	841.50	18" N INV.= 834 12" E INV.= 834 12" N INV.= 834	,	-
CB 3	838.15	12" W INV.= 834.45 12" N INV.= 834.45 12" S INV.= 834.45 6" NE, SW INV.= 835.15	4	E.J.I.W.1040, TYPE M1
CB 4	838.20	12" N INV.= 834.81 12" S INV.= 834.81	4	E.J.I.W.1040, TYPE N
CB 5	838.10	12" N INV.= 835 8" W INV.= 835.26	2	E.J.I.W.1040, TYPE N
CO 1	841.30	8" E INV.= 837.9	-	
CB 6	838.00	12" S INV.= 835.15	2	E.J.I.W.1040, TYPE N
CB 7	841.00	12" S INV.= 835.46 12" W INV.= 834.46 6" SE INV.= 837.5	4	E.J.I.W.1040, TYPE M1
CB 8	842.00	12" E INV.= 835.94 12" S INV.= 835.94	4	E.J.I.W.1040, TYPE N
CB 9	842.00	12" N INV.= 836.26 12" S INV.= 836.26	4	E.J.I.W.1040, TYPE N
CB 10	841.25	12" N INV.= 836.73 12" S INV.= 836.73	4	E.J.I.W.1040, TYPE N
CB 11	841.25	12" N INV.= 836.94	2	E.J.I.W.1040, TYPE N

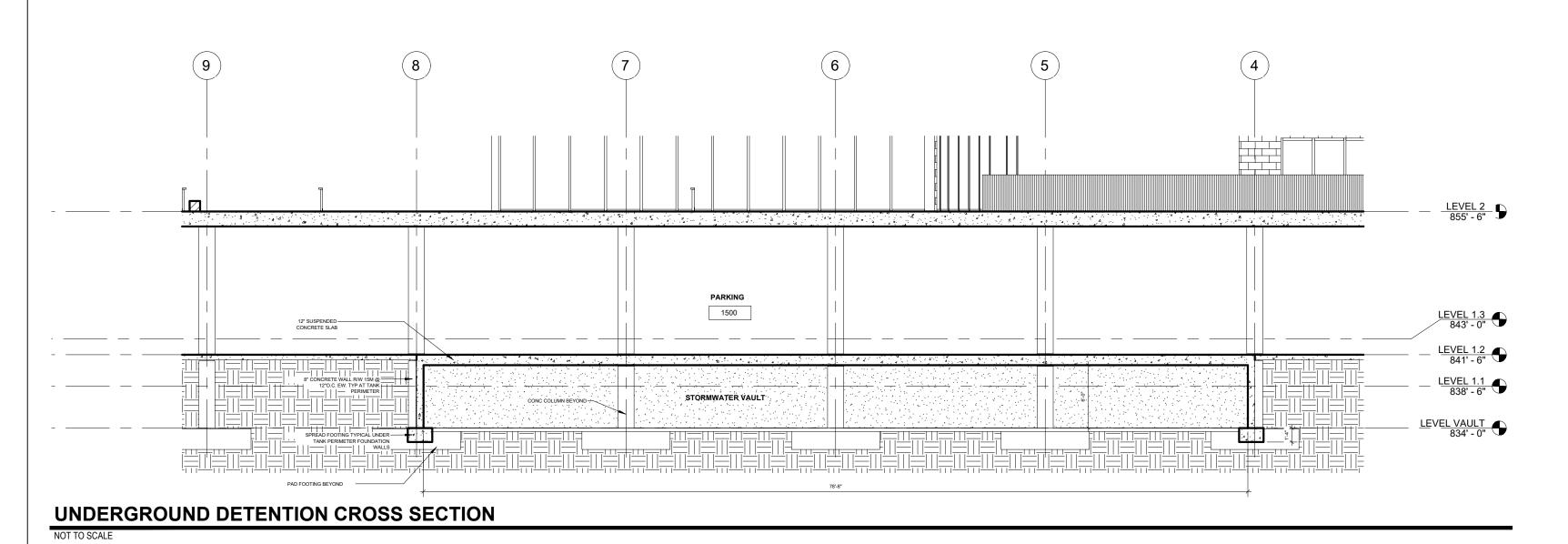
STORM SEWER PIPE SCHEDULE

PIPE RUN	LENGTH OF LINE (FT)	DIAM. OF PIPE (IN)	SLOPE OF PIPE (%)	PIPE MATERIAL
1061 - MH 1	12.8	12	1.00	RCP CL-IV
MH 1 - CS 2	152.1	12	1.00	RCP CL-IV
CS 2 - DET	92.4	18	0.70	RCP CL-IV
DET - CB 3	89.6	12	0.50	RCP CL-IV
CB 3 - CB 4	72.3	12	0.50	RCP CL-IV
CB 4 - CB 5	37.4	12	0.50	RCP CL-IV
CB 5 - CO 1	263.5	8	1.00	HDPE
CB 3 - CB 6	140.8	12	0.50	RCP CL-IV
DET - CB 7	92.1	12	0.50	RCP CL-IV
CB 7 - CB 8	95.9	12	0.50	RCP CL-IV
CB 8 - CB 9	64.9	12	0.50	RCP CL-IV
CB 9 - CB 10	92.2	12	0.50	RCP CL-IV
CB 10 - CB 11	43.1	12	0.50	RCP CL-IV

STORM SEWER PIPE SCHEDULE

DRAINAGE AREA MAP

PIPE	RUN				HYDRO	LOGY									HYDRAUL	LICS						H.G. ELE	VATION	F.G. ELE	VATION	INVERT	ΓELEV.
FROM STR	TO STR	INC RE- MENT AREA (SF)	INCRE- MENT A REA A CRES (A)	RUNOFF COEFF. (C)	EQUIV. AREA 100% (CA)	TOTAL AREA 100% ACRES SUM (CA)	TIME (T) MIN.	10 YR INTEN- SITY (I) INCHES PER HOUR	10-YR FLOW (C.F.S.) Q=CIA	CAPACITY OF SEWER (C.F.S.)	DIAM. OF PIPE (IN)	LENGTH OF LINE (FEET)	PIPE MATERIAL	SLOPE OF PIPE (%)		VELOCITY ACTUAL	HG BA SED ON "Q" (%)	HG FOR 3 FPS GIVEN "D" (%)	ACTUAL HG	VEL. FULL (FT./ SEC.)	TIME OF FLOW (MIN)	UPPER END	LOWER END	UPPER END	LOWER END	UPPER END	LOWER END
CB 11	CB 10	305	0.007	0.50	0.00	0.00	10.00	5.00	0.0	2.5	12	43.08	RCP CL-IV	0.50	2.746%	1.67	0.000	0.44	0.500%	3.2	0.2	836.98	836.77	841.25	841.25	836.94	836.73
CB 10	CB9	310	0.007	0.50	0.00	0.01	10.20	4.97	0.0	2.5	12	92.24	RCP CL-IV	0.50	11.033%	3.35	0.000	0.44	0.500%	3.2	0.5	836.77	836.31	841.25	842.00	836.73	836.26
CB9	CB8	499	0.011	0.50	0.01	0.01	10.70	4.90	0.1	2.5	12	64.89	RCP CL-IV	0.50	35.174%	5.97	0.000	0.44	0.500%	3.2	0.3	836.31	835.98	842.00	842.00	836.26	835.94
CB8	CB7	227	0.005	0.50	0.00	0.02	11.00	4.86	0.1	2.5	12	95.86	RCP CL-IV	0.50	50.087%	7.13	0.000	0.44	0.500%	3.2	0.5	835.98	835.50	842.00	841.00	835.94	835.46
CB7	DET	2,731	0.063	0.80	0.05	0.07	11.50	4.79	0.3	2.5	12	92.09	RCP CL-IV	0.50	0.008%	0.40	0.008	0.44	0.008%	3.2	0.5	835.10	835.10	841.00	841.50	834.46	834.00
CB6	CB3	3,217	0.074	0.80	0.06	0.06	10.00	5.00	0.3	2.5	12	140.82	RCP CL-IV	0.50	0.012%	0.54	0.007	0.44	0.012%	3.2	0.7	835.38	835.12	838.00	838.15	835.15	834.45
CO 1	CB5	5,203	0.119	0.35	0.04	0.04	10.00	5.00	0.2	1.4	8	263.52	HDPE	1.00	1.144%	3.06	0.021	0.54	1.000%	4.1	1.1	838.07	835.43	841.30	838.10	837.90	835.26
CB5	CB4	0	0.000	0.35	0.00	0.04	11.10	4.85	0.2	2.5	12	37.37	RCP CL-IV	0.50	0.074%	0.98	0.003	0.44	0.074%	3.2	0.2	835.17	835.12	838.10	838.20	835.00	834.81
CB4	CB3	463	0.011	0.35	0.00	0.05	11.30	4.82	0.2	2.5	12	72.26	RCP CL-IV	0.50	0.006%	0.40	0.004	0.44	0.006%	3.2	0.4	835.12	835.12	838.20	838.15	834.81	834.45
CB3	DET	867	0.020	0.35	0.01	0.11	11.70	4.77	0.5	2.5	12	89.56	RCP CL-IV	0.50	0.022%	0.68	0.022	0.44	0.022%	3.2	0.5	835.12	835.10	838.15	841.50	834.45	834.00
DET	CS2	72,148	1.656	0.85	1.41	1.58	10.00	5.00	7.9	8.8	18	92.42	RCP CL-IV	0.70	0.732%	5.73	0.569	0.25	0.700%	5.0	0.3	835.10	834.45	841.50	841.00	834.00	833.35
CS 2	MH1	0	0.000	0.85	0.00	1.58	10.30	4.96	7.9	3.6	12	152.05	RCP CL-IV	1.00	4.952%	10.09	4.948	0.44	1.000%	4.5	0.6	834.35	832.83	841.00	838.30	833.35	831.83
MH1	1061	0	0.000	0.85	0.00	1.58	10.90	4.87	7.9	3.6	12	12.84	RCP CL-IV	1.00	4.952%	10.09	4.948	0.44	1.000%	4.5	0.0	832.83	832.70	838.30	838.05	831.83	831.70



STORM WATER MANAGEMENT CALCULATIONS

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

Total Drainage Area Excluding "Self-Cre	editing" BMPs		=	72,148	sf
ational Method Variables					
	Slope	Soil Group	Area (sq. ft)	C factor	(C) x (Area
	<u> </u>				54,300
	_	_			1,805
					1,199
					2,447
	_		,		2,447
vater ourrace	-	O	U		
				_	
			Weighted (C = ∑ (C)(Area)/∑sf =	0.03
Open Space: lawns & planting beds Open Space: lawns & planting beds	Good (grass cover > 75%)	C	6,990	74 Total = ∑(C)(Area)	0 517,260 = 517,260 6,990
			Weighted (_	71
RCS Variables (Impervious)					
Cover Type	Hydrologic Condition	Soil Group	Area (sq. ft)	Curve Number	(C) x (Area
Roof & Pavement	-	С	59,163	98	5,797,974
Water Surface	-	С	0	98	0
					5 707 07/
				$Total = \Sigma(C)(\Delta real)$	
				Total = $\sum(C)(Area)$ Area Total = $\sum sf =$	59,163
	RCS Variables (Impervious) Cover Type Roof & Pavement	Roofs	Roofs - C Pavement - C PaveDrain Pourous Paver - C Semi-pervious: lawns & planting beds - C Water Surface - C RCS Variables (Pervious) Cover Type - Hydrologic Condition Soil Group Open Space: lawns & planting beds Poor (grass cover < 50%) C Open Space: lawns & planting beds Fair (grass cover 50% to 75%) C Open Space: lawns & planting beds Good (grass cover > 75%) C RCS Variables (Impervious) Cover Type Hydrologic Condition Soil Group RCS Variables (Impervious) Cover Type Hydrologic Condition C RCS Variables (Impervious) Cover Type Hydrologic Condition Soil Group ROOf & Pavement - C	Roofs	Roofs - C 57,158 0.95 Pavement - C 2,005 0.90 PaveDrain Pourous Paver C 5,995 0.20 Semi-pervious: lawns & planting beds - C 6,990 0.35 Water Surface - C 0 1.00 Total = ∑(C)(Area) Area Total = ∑sf = Weighted C = ∑ (C)(Area)/∑sf = RCS Variables (Pervious) Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Cover 50% C 79 Cover Type Cover 50% C 6,990 74 Cover Type Cover Type Cover Type Cover Type Cover Type Cover Type Hydrologic Condition Soil Group Area (sq. ft) Cover Type Hydrologic Condition Soil Group Area (sq. ft) Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Soil Group Area (sq. ft) Curve Number Cover Type Hydrologic Condition Counter Counter Cover Type Hydrologic Condition Counter Counter Cover Type Hydrologic Condition Counter Counter Counter Counter Counter C

w2 [Volume of 1 inch rain over total site area			
	$V_{ff} = (1") \left(\frac{1'}{12"}\right) \left(\frac{43560 \text{ ft}^2}{1 \text{ ac}}\right) \times A \times C$	=	4,979	ft ³
	Pre-Development Bankfull Runoff Calculations (V _{bf-pre})			
	A. 2-year / 24 hour storm event = P	=	2.35	in
	B. Curve Number (CN) (Cover Description: Meadow, Good, Hydrologic Soil Group C)	=	74	
νз	C . S = 1000/CN - 10	=	3.51	in
	D. Q = $(P-0.2S)^2/(P+0.8S)$	=	0.526	in
	E. Total Site Area	=	72,148	ft ²
	F. $V_{bf-pre} = Q(1/12)$ (site area)	=	3,161	ft ³
I	Pervious Cover Post-Development Bankfull Runoff Calculations (V _{bf-per-post})			
İ	A. 2-year / 24 hour storm event = P	=	2.35	in
	B. Curve Number (CN)	=	74	
W4	B. Curve Number (CN)C. S = 1000/CN - 10	= =	74 3.51	in
W4	` '			in in
W4	c . S = 1000/CN - 10	=	3.51	
W4	c. S = $1000/\text{CN} - 10$ D. Q = $(P-0.2\text{S})^2/(P+0.8\text{S})$	=	3.51 0.526	in
W4	C. S = 1000/CN - 10 D. Q = (P-0.2S) ² /(P+0.8S) E. Pervious Cover Area	= = =	3.51 0.526 6,990	in ft ²

F	Impervious Cover Post-Development Bankfull Runoff Calculations (V A. 2-year / 24 hour storm event = P	=	2.35	in
	B. Curve Number (CN)	=	98	
V5	C. S = 1000/CN - 10	=	0.20	in
	D. $Q = (P-0.2S)^2/(P+0.8S)$	=	2.122	in
	E. Impervious Cover Area	=	59,163	ft ²
	F. V _{bf-imp-post} = Q(1/12)(proposed impervious area)	=	10,460	ft ³
			•	
	Pervious Cover Post-Development 100-year Storm Runoff Calculatio	ns (V _{100-per-post})		
-	Pervious Cover Post-Development 100-year Storm Runoff Calculatio A. 100-year / 24 hour storm event = P	ns (V _{100-per-post})	5.11	in
		, p p ,	5.11 74	in

- 1	۰۰۰ ا	9,0 1000/011 10	_	0.0 .	
١		D. $Q_{100-per} = (P-0.2S)^2/(P+0.8S)$	=	2.452	in
١		E. Pervious Cover Area	=	6,990	ft ²
L		F. V _{100-per-post} = Q(1/12)(proposed impervious area)	=	1,428	ft ³
Ξ					
Г		Impervious Cover Post-Development 100-year Storm Runoff Calculations (V _{100-imp-post})			
		A. 100-year / 24 hour storm event = P	=	5.11	in
1		B. Curve Number (CN)	=	98	
1	W7	C. S = 1000/CN - 10	=	0.20	in
1		D. $Q_{100-post} = (P-0.2S)^2/(P+0.8S)$	=	4.873	in
1		E. Impervious Cover Area	=	59,163	ft ²

			Change In					T _c =
	Flow Type	K	Elevation	Length (L)	Slope % (S)	S ^{0.5}	$V = K*S^{0.5}$	L/(V*3600)
	Sheet Flow	0.48	0	0	0.00	0.00	0.00	0.00
/8	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 Concentra	ation (T _{c-brs})				=	0.25	hrs

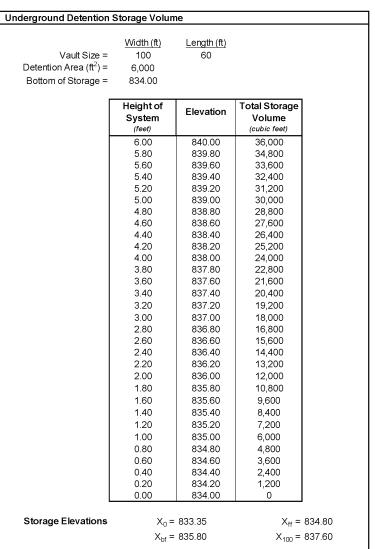
1	\triangle Peak of Unit Hydrograph = Ω = 238 6T $^{-0.82}$	=	743.63	cfe/in
	Detention/Retention Requirement			
	•			
	Onsite Infiltration Requirement = Greater of Bankfull Volume Difference and First Flush Volume = (V _{inf})	=	7,605	ft ³
	Bankfull Volume Difference (V _{bf-post} - V _{bf-pre})	=	7,605	ft ³
	B. Determine Onsite Infiltration Requirement			
WS	Total 100-year Volume (V ₁₀₀)	=	25,454	ft ³
	Total Post-Development Bankfull Volume (V _{bf-post})	=	10,767	ft ³
	A. Runoff Summary from Previous Worksheets			
	Runoff Summary and Onsite Infiltration Requirement			

A. Peak of Unit Hydrograph = $Q_p = 238.6 T_c^{-0.82}$ = 743.63 cfs/in B. Total Site Area (ac) excluding "Self-Crediting" BMPs = 1.66 acres C. $Q_{100} = Q_{100-per} + Q_{100-imp}$ = 7.33 in D. Peak Flow (PF) = $\left(\frac{Q_p \times Q_{100} \times Area \text{ (ac)}}{640}\right)$ = 14.10 ft ³ /s	
C. $Q_{100} = Q_{100-per} + Q_{100-imp}$ = 7.33 in	-mi ²
	;
D. Peak Flow (PF) = $\left(\frac{Q_p \times Q_{100} \times Area (ac)}{Q_1 \times Q_2}\right)$ = 14.10 ft ³ /s	
 	
E. $\Delta = PF - 0.15*(area)$ = 13.85 ft^3/s	
$F. V_{det} = \left(\frac{\Delta}{PF} \times V_{100}\right) = 25,005 \text{ft}^3$	

	Proposed BMP	Area (ft ²)	Storage V	olume (ft ³)	Ave. Design Infiltration Rate	Infiltration Volume During Storm	Total Volume Reductio
			Surface	Soil	(in/hr)	(ft ³)	(ft ³)
W11	Porous Pavement w/Infiltration Bed Infiltration Basin Subsuface Infiltration Bed Infiltration Trench Rain Garden Dry Well Bioswale Vegetated Filter Strip	6,924	577	4,154	0	0	4,731
	Green Roof (Level 2)	1,850	0	1.5	0	0	916
	Green Roof (Level 6)	6,000	0	0.5	0	0	990
	Green Roof (Level 7)	800	0	0.5	0	0	132
L	Green Roof (Level 8)	700	0	0.5	0	0	116
		Tota	al Volume Reduc	ction Credit by F	roposed Structura	al BMPs (ft ³) =	6,885
		F	Runoff Volume In	filtration Require	ement (V _{inf}) from \	Worksheet 9 =	7,605

			Runoff Volur	ne Credit (ft ³) =	(721)
	Natural Features Inventory				
	Existing Natural Reasources	Mapped (yes, no, n/a)	Total Area (ac)	Protected/U	
W12	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)				

	Site Summary of Infiltration & Detention			
	A. Stormwater Management Summary			
	Minimum Onsite Infiltration Requirement (V _{inf})	=	7,605	ft ³
	Designed/Provided Infiltration Volume	=	0	ft ³
	% Minimum Required Infiltration Provided	=	0.0	%
w13	Total Calculated Detention Volume, V _{det}	=	25,005	ft^3
** 13	Net Required Detention Volume (V _{det} - Designed/Provided Infiltration Volume)	=	18,120	ft ³
	B. Detention Volume Increase for site if required infiltration volume not achieved			
	% Required Infiltration NOT provided (100% - % Minimum Required Infiltration Provided)	=	100.0	%
	Net % Penalty (20% × % Required Infiltration Not Provided)	=	20.0	%
	Total Required Detention Volume, including penalty	=	21,744	ft ³
	[(100% + Net % Penalty) × Net Required Detention Volume)]			



Outlet Control Structure			
Orifice hole(s) sizing - "first flush" discharge			
$Q_{ff} = V_{ff} / 24 \text{ hrs} / 3600 \text{ sec}$	$Q_{ff} =$	0.058	ft ³ /s
$h_{ave} = {}^{2}I_{3} x (X_{ff} - X_{o})$	h _{ave} =	0.967	ft
$A = Q_{ff} / .62 \times sqrt(2 \times 32.2 \times h_{ave})$	A =	0.0118	ft^2
Area of an orifice with diameter (in) = 1 3/8		0.0096	ft^2
Number of orifice holes	=		holes at elev = 833.35
Q _{ff} design	=	0.047	ft ³ /s
Time to Discharge (greater than 24 hours)	=	29.5	hrs > 24 hrs
Orifice hole(s) sizing - "Bankfull flood" discharge Bankfull should discharge within 36 to 48 hours			
$h_{ave} = {}^2/_3 \times (X_{bf} - X_o)$	h _{ave} =	1.633	ft
Release from first flush holes only	4,0		
Q=a x .62 x sqrt(2 x 32.2 x 2 / ₃ h _{ave}) =	Q =	0.061	ft ³ /s
T _{bf} with first flush holes only =			hrs < 44 hrs
The first flush volume will discharge in	=		hrs > 24 hrs
The volume between the Bankfull elevation and the First Flux			1110 - 241.10
$V_{\text{rem}} = V_{\text{bf}} - V_{\text{ff}} =$		5,787	ft ³
$T_{\text{rem}} = 42 \text{ hr} - T_{\text{ff}}$,	hrs
$h_{\text{ave}}^{\text{ff}} = {}^{2}I_{3} \times (X_{\text{bf}} - X_{\text{ff}}) + (X_{\text{ff}} - X_{\text{o}})$		2.12	
	0 =	=: :=	•
$Q_1 = a \times .62 \times sqrt(2 \times 32.2 \times 2^{2}/_{3} h^{ff}_{ave}) =$	Q ₁ =	0.069	
$V_1 = T_{\text{rem}} \times Q_1 =$	V ₁ =	3,113	
$V_2 = V_{rem} - V_1 =$	V ₂ =	2,675	**
$Q_2 = V_2 / T_{rem}$	Q ₂ =	0.060	ft ³ /s
$h^{bf}_{ave} = {}^{2}I_{3}(X_{bf} - X_{ff})$	$h^{bf}_{ave} =$	0.67	ft
$A_{bf} = Q_2 / .62 \times \text{sqrt}(2 \times 32.2 \times \text{h}^{bf}_{ave})$	A ₂ =	0.0147	ft^2
Area of an orifice with diameter (in) = 1	-	0.0055	**
Number of orifice holes	=		holes at elev = 834.8
Bankfull storage time check (between 36 and 48)	=	47	hrs
Orifice hole(s) sizing - "100-yr flood" discharge			
Peak Flow, Q _a = 0.15 cfs/acre x drainage area (A)	$Q_a =$	0.248	ft ³ /s
$h_{tot} = (X_{100} - X_{o})$	h _{tot} =	4.25	ft
$h^{bf}_{tot} = (X_{100} - X_{ff})$	h ^{bf} tot =	2.80	ft
$Q_{ff} + Q_{bf} =$	'' (0)		
$\alpha_{tt} + \alpha_{bt} = 0$ a x 0.62 x sqrt(2 x 32.2 x h_{tot})+a x .62 x sqrt(2 x 32.2 x h^{bf}_{tot}) =	$Q_{ff} + Q_{bf} =$	0.144	# ³ / ₂
$Q_{100} = Q_a - (Q_{ff} - Q_{bf}) =$	Q ₁₀₀ =	0.105	
$A_{100} = Q_{100} / (.62 \times \text{sqrt}(2 \times 32.2 \times h_{100}))$	$A_{100} =$	0.0157	
Area of an orifice with diameter (in) = 1 5/8		0.0144	
Number of orifice holes	=	1	holes at elev = 835.8
Confirm allowable flow rate is not exceeded	_	0.040	afa < 0.040 afa
$Q_{ff} + Q_{bf} + 0.62 \times \#_{orif} \times A_{100} \times sqrt(2 \times g \times h^{100}_{tot}) < Q_{allow}$	=	0.240	cfs < 0.248 cfs
100-year storm volume discharge < 72 hours	_	2.65	Ф
$h^{all}_{ave} = {}^{2}I_{3}(X_{100} - X_{bf}) + (X_{bf} - X_{o})$	=	3.65	
$Q_{all} = 0.62 \times \#^{ff}_{orif} \times A^{ff}_{orif} \times sqrt(2 \times g \times h^{all}_{ave})$	=	0.091	ft³/s
Calculate Q _{bf+100}			
$h_{ave}^{bf} = {}^{2}I_{3}(X_{100} - X_{bf}) + (X_{bf} - X_{ff})$	=	2.20	ft
$Q_{bf+100} = 0.62 \times \#^{bf}_{orif} \times A^{bf}_{orif} \times sqrt(2 \times g \times h^{bf}_{ave})$	=	0.040	ft ³ /s
Average Discharge through 100-year Orifice(s) when other	Orifice (s) are cor	ntributing	
$h_{\text{ave}}^{100} = \frac{2}{3}(X_{100} - X_{\text{bf}})$	=	1.20	ft
$Q_{\text{ave}}^{100} = 0.62 \times \#_{\text{orif}}^{100} \times A_{\text{orif}}^{100} \times \text{sqrt}(2 \times g \times h_{\text{ave}}^{100})$	=	0.078	ft ³ /s
Check to confirm 100-year storm volume discharge in less t	han 72 hours		11.70
V_{100} = Total Required Detention - BMP Volume Reduction (1		22,465	ft ³
$V_{\text{rem}} = V_{100} - V_{\text{bf}}$	=	11,698	
	_	11,000	IL

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.

EIGHTY PERCENT (80%) OF THE PROPOSED PROJECT IS BUILDING ROOFTOP AND THE REMAINING TWENTY PERCENT (20%) IS LANDSCAPES, SIDEWALKS, AND HARDSCAPES. RUNOFF FROM THE ROOF TOPS WILL BE DIRECTED INTO THE UNDERGROUND DETENTION BASIN INTERNALLY WITHIN THE BUILDING. STORM WATER RUNOFF FROM OUTSIDE OF THE PROPOSED BUILDING WILL BE COLLECTED IN STORM SEWER PIPES AND DIRECTED TO THE PROPOSED UNDERGROUND DETENTION BASIN. APPROXIMATELY 9,350 SF OF GREEN ROOF (APPROX. 13% OF TOTAL ROOF AREA) WILL BE PROVIDED ON THE ROOF OF LEVELS 2, 6, 7 AND 8. IN ADDITION TO THE PROPOSED GREEN ROOF, PERVIOUS PAVERS (±6,000 SF) ARE PROPOSED TO HELP REDUCE RUNOFF AND PROMOTE INFILTRATION IN THE HARDSCAPE AREAS.

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. 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 DESIGN CALCULATIONS.



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.

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.

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GRAND RAPIDS

HOLLAND INDIANAPOLIS

Southtown by 4M, LLC

Marge Poscher

2082 S. State Street Ann Arbor, MI 48104

Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022

Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

15

Calculatio

Management

Water

JASON L.

VAN RYN

ENGINEER

PROJECT NO:

SHEET NO:

21500282

IHTOWN

0

PREPARED FOR:

REVISIONS:

Title: Site Plan Submittal

Title: Site Plan Resubmittal

VVVVVV

— UNDERDRAIN —

- GRADE OVER

MDOT CLASS II

MIN. = PIPE O.D. PLUS 12"

MAX. = PIPE O.D. PLUS 30"

... SAND BED & BACKFILL

STORM SEWER



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.

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.

800.222.1868 **ANN ARBOR** 3037 Miller Rd. Ann Arbor, MI 48103 Phone: 734.929.6963 CHICAGO COLUMBUS **GRAND RAPIDS**

www.nederveld.com

INDIANAPOLIS

HOLLAND

Southtown by 4M, LLC

Title: Site Plan Submittal

GRADE OVER WATERMAIN

MDOT CLASS II SAND BED & BACKFILL

INSTALLATION INSTRUCTIONS:

1. Remove grate from the drainage

drainage structure

2. Clean stone and dirt from ledge (lip) of

through the clear opening such that the

elevated more than 1/8", the thickness

hangers rest firmly on the lip of the

. Replace the grate and confirm it is not

. Drop the FLEXSTORM inlet filter

SUBGRADE

SIDE VIEW

BED & BACKFILL

MIN. = PIPE O.D. PLUS 12" MAX. = PIPE O.D. PLUS 24" 1. TRENCH TO BE BEDDED AND BACKFILLED WITH SAND AS NOTED ON DETAIL UNDER ALL 1. TRENCH TO BE BEDDED AND BACKFILLED WITH SAND AS NOTED ON DETAIL UNDER ALL 2. WHEN STORM SEWER PIPE IS OUTSIDE OF PAVED AREAS THE MINIMUM AMOUNT OF 2. WHEN WATER MAIN PIPE IS OUTSIDE OF PAVED AREAS THE MINIMUM AMOUNT OF SAND SAND BACKFILL SHALL BE, AS NOTED, FROM THE BOTTOM OF TRENCH TO 12" ABOVE BACKFILL SHALL BE, AS NOTED, FROM THE BOTTOM OF TRENCH TO 12" ABOVE CROWN CROWN OF STORM PIPE AND THE REMAINDER OF TRENCH BACKFILL WITH EXCAVATED OF WATERMAIN PIPE AND THE REMAINDER OF TRENCH BACKFILL WITH EXCAVATED

SEE PAVEMENT -

SPECIFICATIONS

WATER MAIN TRENCH STORM SEWER TRENCH AND BACKFILL DETAIL **AND BACKFILL DETAIL**

UNDERCUT

FILTER FABRIC ANCHORED -BETWEEN LATH AND STAKE COMPACTED SOIL IN -ANCHOR TRENCH UNDISTURBED AREA CORROSION RESISTANT RIGID STEEL FRAME UNDISTURBED AREA 2"x2" HARDWOOD STAKES

HARDWOOD STAKE

-HEAVY DUTY STAPLES

---STRUCTURE.....

— CASTING AS SPECIFIED

SEE PAVEMENT -

SPECIFICATIONS

STORM

PIPE

STRUCTURE

TOP VIEW

UNDER DRAIN AT CURB DETAIL

- GRADE OVER

SAN. SEWER

MDOT CLASS II

SAND BED & BACKFILL

MIN. = PIPE O.D. PLUS 12"

MAX. = PIPE O.D. PLUS 18"

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

SANITARY SEWER TRENCH

30" WOOD LATH, ----

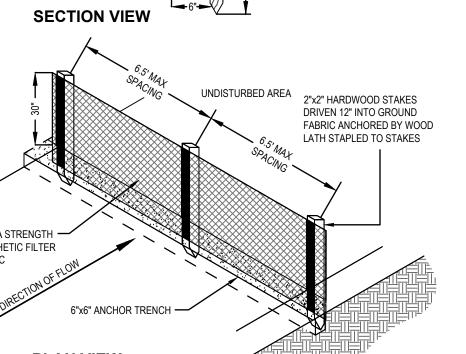
¾" THICK

SILT FENCE DETAIL

AND BACKFILL DETAIL

CROWN OF STORM PIPE AND THE REMAINDER OF TRENCH BACKFILL WITH EXCAVATED

1. TRENCH TO BE BEDDED AND BACKFILLED WITH SAND AS NOTED ON DETAIL UNDER ALL



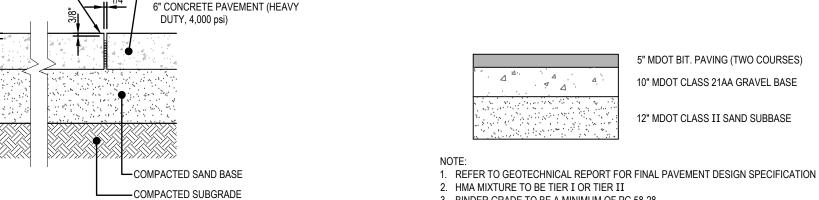
MEETS ASTM D8057 STANDARDS PRODUCT FEATURES Sized to meet treatment flow rate.

Rigid frame and removable geosynthetic bag EFFICIENCY PER ASTM D 7351 -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

FLEXSTORM INLET FILTER LITE DETAIL

- WOVEN GEOTEXTILE FILTER

BAG: 200 GPM/SQFT FLOW



3. BINDER GRADE TO BE A MINIMUM OF PG 58-28

GRADING NOTES:

HEAVY DUTY BITUMINOUS

1. ESTABLISH PERMANENT BENCH MARK ON-SITE PRIOR TO GRADING.

SEE GENERAL -

CONSTRUCTION NOTE

MDOT TYPE F-4 MODIFIED

FLOW CURB

#32 ON SHEET C-500 .

PAVEMENT CROSS SECTION DETAIL

PROPOSED SPOT GRADES ARE TO EDGE OF METAL/TOP OF PAVEMENT UNLESS OTHERWISE NOTED. THE VERTICAL DIFFERENCE BETWEEN PAVEMENT GRADES AND TOP OF CURB GRADES VARY FOR FLOW AND SPILL CURB (SEE DETAIL-THIS SHEET).

SEE GENERAL -

CONSTRUCTION NOTE

MDOT TYPE F-4 MODIFIED

SPILL CURB

#32 ON SHEET C-500

PROPOSED ADA ROUTE SHALL MEET THE STANDARDS SET FORTH IN THE MOST RECENT EDITION OF <u>ADA STANDARDS FOR ACCESSIBLE DESIGN</u> - APPENDIX A TO PART 1191, AS AMENDED
 SEE PLANS FOR LOCATIONS OF SPILL VS FLOW CURB.

24" CONCRETE CURB AND GUTTER DETAIL

-4" CONCRETE PAVEMENT

(STANDARD DUTY, 4,000 psi)

Do not prune terminal leader or branch tips.

Prune away dead or broken branches only.

Remove all labels, tags, tree wrap, tape or

Fold down or pull back string, burlap, plastic or

that trunk flare is level to grade, or very slightly

_ soil to expose the trunk flare. Set rootball so

Mulch 2" - 3.5" deep leaving 3" circle of bare

If possible, without disturbing developed roots fold down or cut away burlap to expose

rootball. Remove all non-degradable materia cutting away wire basket to 10" depth.

Center rootball in planting hole. Leave botton

rubble. Use shovels and water to settle soil and remove air pockets and firmly set tree.

of planting hole firm. Do not amend soil unless planting in severely disturbed soil or building

Break up (scarify) sides of planting hole.

string from tree trunk and crown.

Prune off suckers.

higher in clay soil.

soil around trunk of tree.

CONCRETE PAVEMENT DETAIL

2. LOCATE CONTROL JOINTS AND EXPANSION JOINTS PER ACI STANDARDS

4. PANELS SHALL BE KEPT AS SQUARE AS POSSIBLE WITH THE LENGTH

PREMODELED EXPANSION/ISOLATION — STRIP WITH REMOVABLE TOP CAP.

CONTROL JOINT

1. LIGHT BROOM FINISH

7. SLUMP 4"±1"

3. PANEL SIZE SHALL NOT EXCEED 8 FEET

NEVER EXCEEDING 1.25X THE WIDTH 5. 3.0#/CU.YD. FIBER REINFORCEMENT

6. AIR ENTRAINMENT - 6% ± 1%

- INSTALL TREE PROTECTION FENCE AT EDGE OF DISTURBED AREAS FOR THE PRESERVATION OF FENCING TO BE SECURELY FASTENED TO POSTS SIGN TO BE FASTENED TO POST - SIGNS TO BE

Hole width = 2 - 3x width of rootball

Do not stake unless in heavy clay soil, windy conditions, 3" or greater diameter tree trunk or large crown. If staking • Stake with 2 x 2 hardwood stakes, or approved equal, driven 6" - 8" outside of rootball. Loosely stake tree trunk to allow for trunk flexing. • Stake trees just below first branch with 2" - 3" wide

belt-like, nylon or plastic straps (2 per tree on opposite sides of tree, connect from tree to stake horizontally. Do not use rope or wire through a hose.)

• Remove all staking materials after 1 year.

TREE PLANTING DETAIL

6'-0" MIN. RAMP LENGTH 1:12 SLOPE MAX.-

SIDEWALK CURB RAMP DETAIL

4" WIDE STRIPE - TYP. (BLUE) 4" WIDE STRIPE - TYP. (WHITE) PER SITE LAYOUT PLAN **TYPICAL 90° INTERNAL PARKING SPACE** CURB & GUTTER 18' MIN, OR PER SITE LAYOUT PLAN STRIPE TO STRIPE TYPICAL 8'-0" WIDE FACE OF CURB **ADA VAN PARKING SPACE** 4" WIDE STRIPE - TYP.

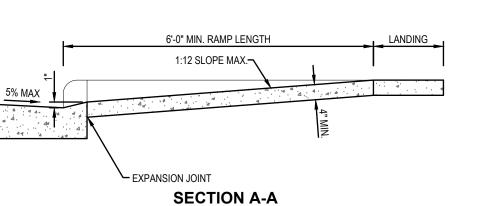
MAXIMUM OF 100 SFT PER GALLON, OR MINIMUM 15 MILS WET FILM THICKNESS, AND 7.5 MILS DRY FILM THICKNESS PER COAT, WITH MINIMUM 30 DAYS BETWEEN APPLICATIONS. SECOND COAT MUST

PARKING SPACE

APPLY TWO COATS OF VOC COMPLIANT, M.D.O.T. APPROVED, PER SITE LAYOUT PLAN TO UNDILUTED SOLVENT BASED, OR LATEX TRAFFIC PAINT TO ALL F/WALK OR FACE OF CURB PAVEMENT MARKINGS. USE MANUFACTURERS RECOMMENDED APPLICATION RATE, WITHOUT ADDITION OF THINNER, WITH A TYPICAL 90°

PARKING SPACE MARKING DETAILS

< 48": 1:12 MAX. FLARED SIDES -≥ 48": 1:10 MAX. FLARED SIDES UNPAVED OR — LANDSCAPED AREA FLARED SIDE **DUB-DOWN OR FLARED SIDE OPTION**



SHEET FLOW EXTRA STRENGTH — SYNTHETIC FILTER **FABRIC PLAN VIEW**

-Filter bag achieves +80% gross removal efficiency per ASTM D7351.

OUTLET - EACH SIDE OF FLOW CONTROL GROUTED CONNECTION (TYP.) -INLET WALL CAULKED W/ POLYURETHANE **ELASTOMERIC SEALANT TYPICAL PLAN VIEW** CASTING/GRATE SHALL BE — E.J.I.W. 1040, TYPE M1 MANHOLE SECTIONS TO BE MANUFACTURED TO ASTM C-478 OR APPROVED EQUAL SPECIFICATIONS W/HS-25 LOADING RIM. ELEV. = 841.00 TOP OF WALL ELEV. = 837.60 — STEEL REINFORCED -POLYPROPYLENE MANHOLE STEPS 100 YR ORIFICE = 1 5/8" @ INV. ELEV. = 835.8 BANKFULL ORIFICE = 1" @ INV. ELEV. = 834.8 18" INLET OUTLET FIRST FLUSH ORIFICE =

1 3/8" @ INV. ELEV. = 833.35

WEIR WALL SECTION

- ALL JOINTS MADE WATERTIGHT WITH

POINT UP ON INSIDE

- PRECAST BOTTOM SHALL BE 3,000 PSI CONCRETE WITH #4 BAR w/0.200 in²/ft wwf

APPROVED MASTIC MATERIAL & POINTED

TREE MASSINGS (DENOTED BY A TREE LINE ON

INSTALL TREE PROTECTION FENCE AT TREE

DRIP LINE FOR PRESERVATION OF INDIVIDUAL

-UV RESISTANT, HIGH TENSILE STRENGTH POLYETHLYENE LAMINAR BARRICADE FABRIC

SPACED EVERY 300'

ALL PLANTS DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING AS ILLUSTRATED.

TREE PROTECTION FENCING DETAIL

COMMENCEMENT OF DEMOLITION AND NEW CONSTRUCTION

5" X 1" KEYWAY (2)

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

THERE SHALL BE NO STORAGE OF MATERIAL OR EQUIPMENT WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.

-1.33 LBS/LF STEEL POST

48"Ø PRECAST OUTLET CONTROL STRUCTURE (CS 2)

2' SUMP

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

2' SUMP

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PREPARED FOR: Marge Poscher

2082 S. State Street Ann Arbor, MI 48104 **REVISIONS:**

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

cations

JASON L. VAN RYN **ENGINEER**

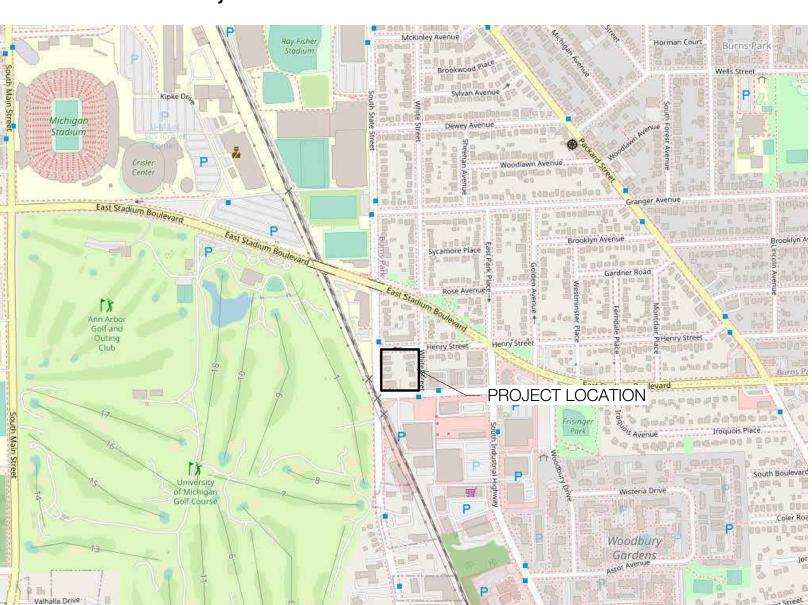
PROJECT NO: 21500282

SHEET NO:

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 EXSITING LIFE SAFETY FOR THIS BUILDING. PERFORM ALL WORK IN ACCORDANCE WITH BUILDING CODES, LAWS AND ORDINANCES HAVING JURISDICTION ON THE PROJECT. ORDINACES 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 AMMENDMENTS)

ZONING COMPLIANCE

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

FAR: MAX 300% SITE AREA 72,148 SF MAX FAR 216,444 SF TOTAL W/ 8000 PREMIUM 224,444 SF PROPOSED BUILDING AREA 219,945 SF

REQUIRED SETBACKS

FRONT MIN: NONE FRONT MAX: NONE

SIDE/REAR: EQUAL TO MIN OF ABUTTING R

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

FOR VEHICLE AND BICYCLE PARKING - REFER TO CIVIL

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 SYSTEMS THROUGHOUT.

SCOPE OF WORK

3037 MILLER RD ANN ARBOR, MI 48103 734.929.6963

SYNECDOCHE

1342 N MAIN ST. #11 ANN ARBOR, MI 48104

HELLO@SYNECDOCHE.DESIGN

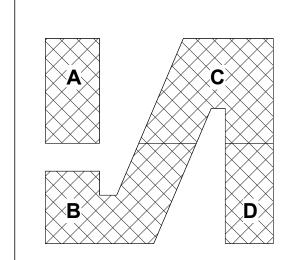
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FOR REVIEW ONLY

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

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No.	Description	Date
	SCHEMATIC DESIGN	01/03/23

ANN ARBOR, MI 48104

SOUTHTOWN

TITLE

PROJECT NUMBER

SOUTHTOWN BY 4M

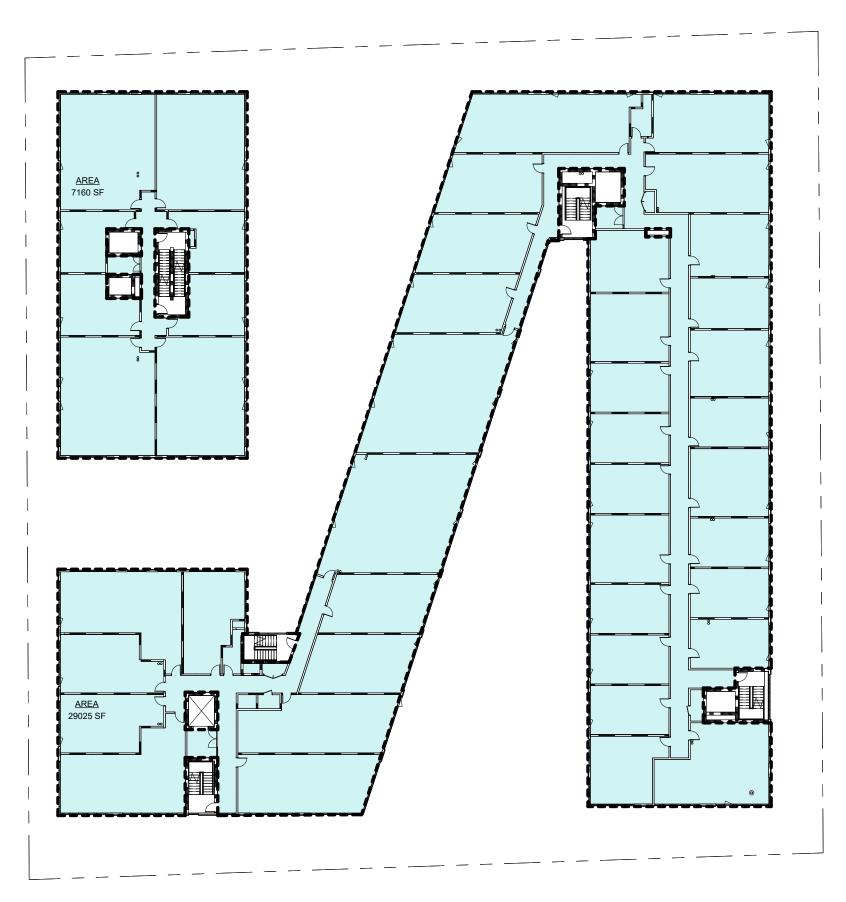
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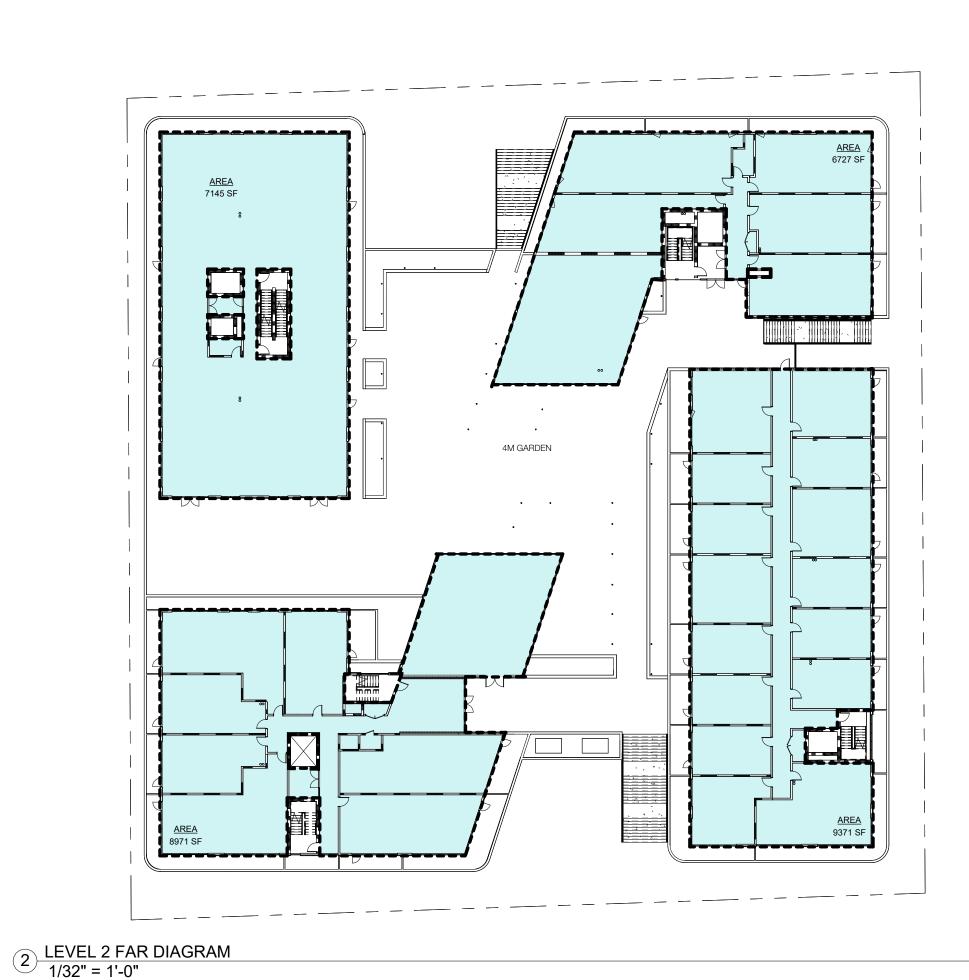
SOUTHTOWN BY 4M

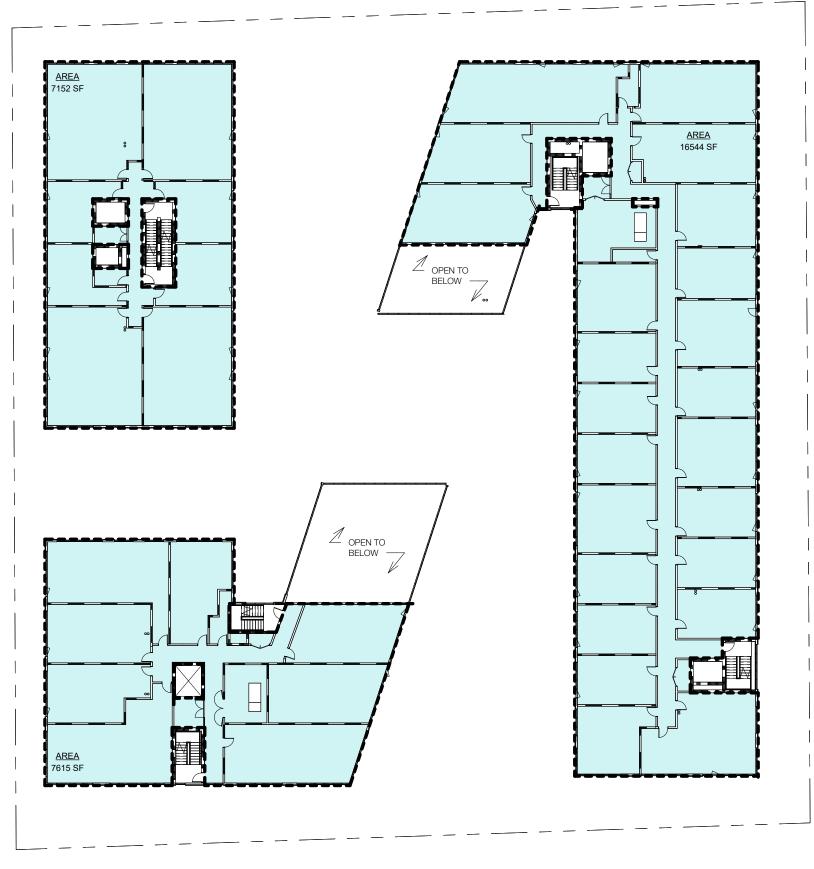


SYNECDOCHE

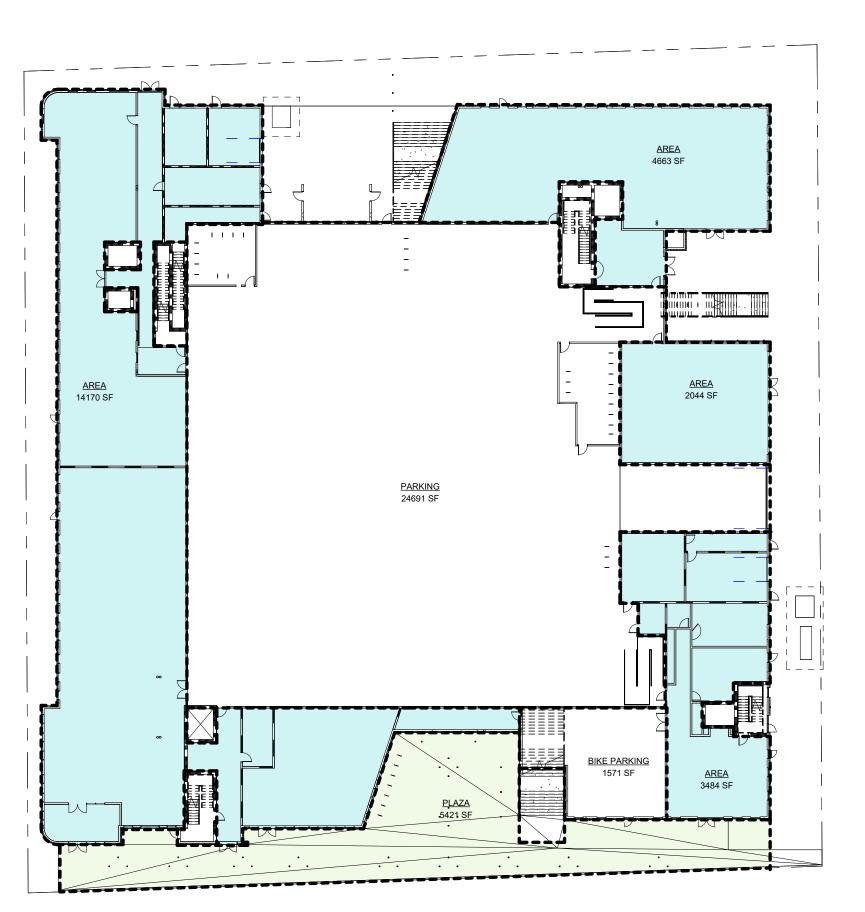


4 LEVEL 4 FAR DIAGRAM 1/32" = 1'-0"





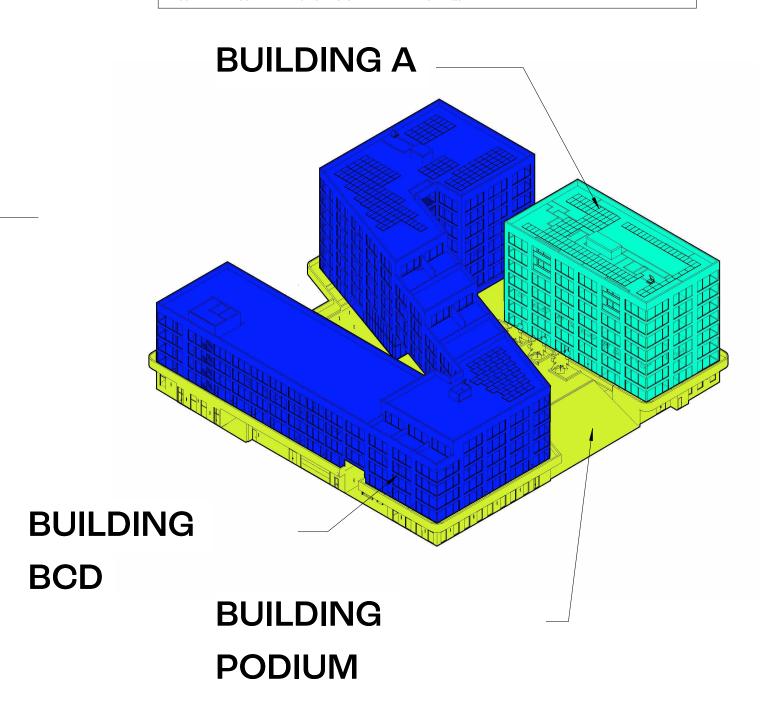
3 <u>LEVEL 3 FAR DIAGRAM</u> 1/32" = 1'-0"



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

FAR BUILDING AREA LEVEL 1 24,360 SF LEVEL 2 32,215 SF LEVEL 3 31,312 SF LEVEL 4 36,184 SF LEVEL 5 36,435 SF LEVEL 6 25,462 SF LEVEL 7 17,871 SF LEVEL 8 16,106 SF **Building Area Total** 219,945 SF

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
PROPOSED FAR AREA	219,945 SF





SYNECDOCHE

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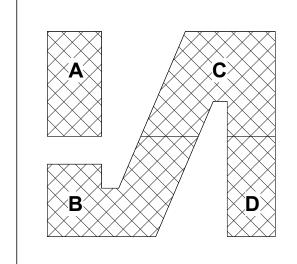
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604.762.78444

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No.	Description	Dat
	310 WHITE STF	SEET

ANN ARBOR, MI 48104

FAR

SOUTHTOWN

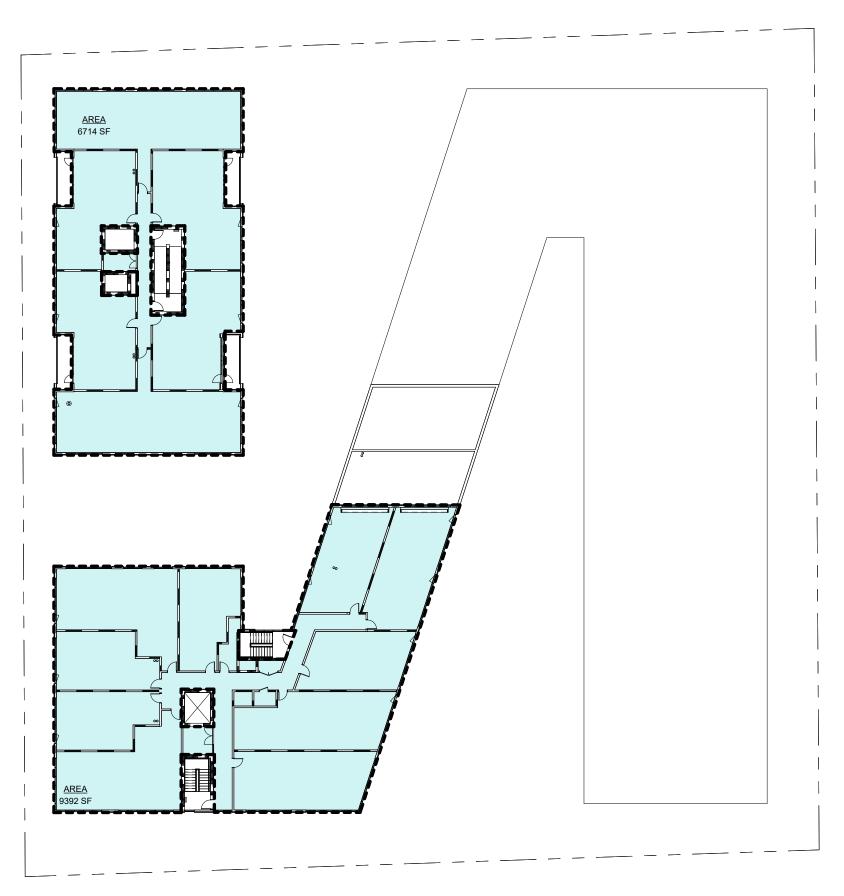
CALCULATIONS

PROJECT NUMBER
DATE

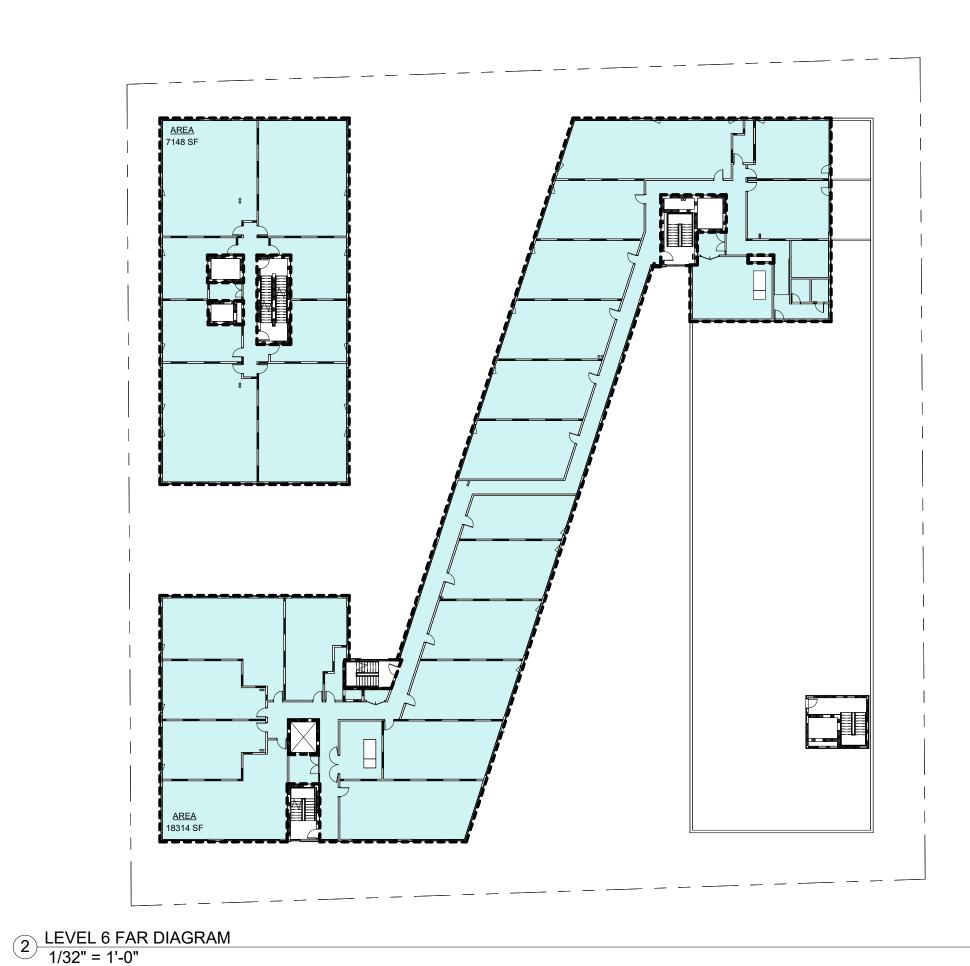
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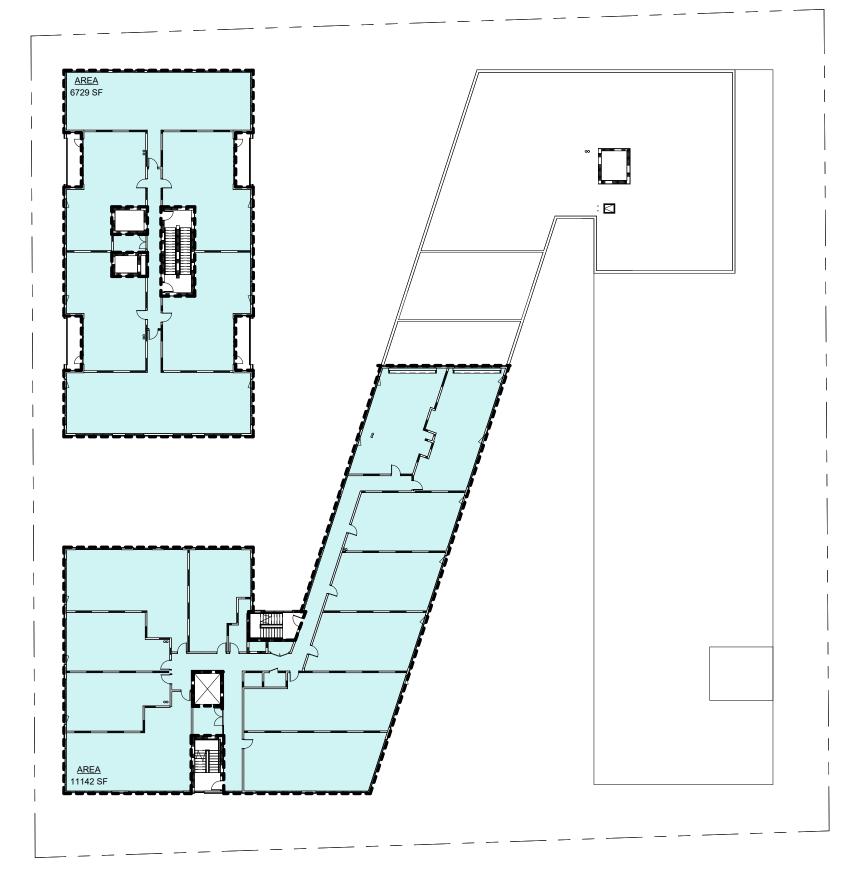
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1/32" = 1'-0"

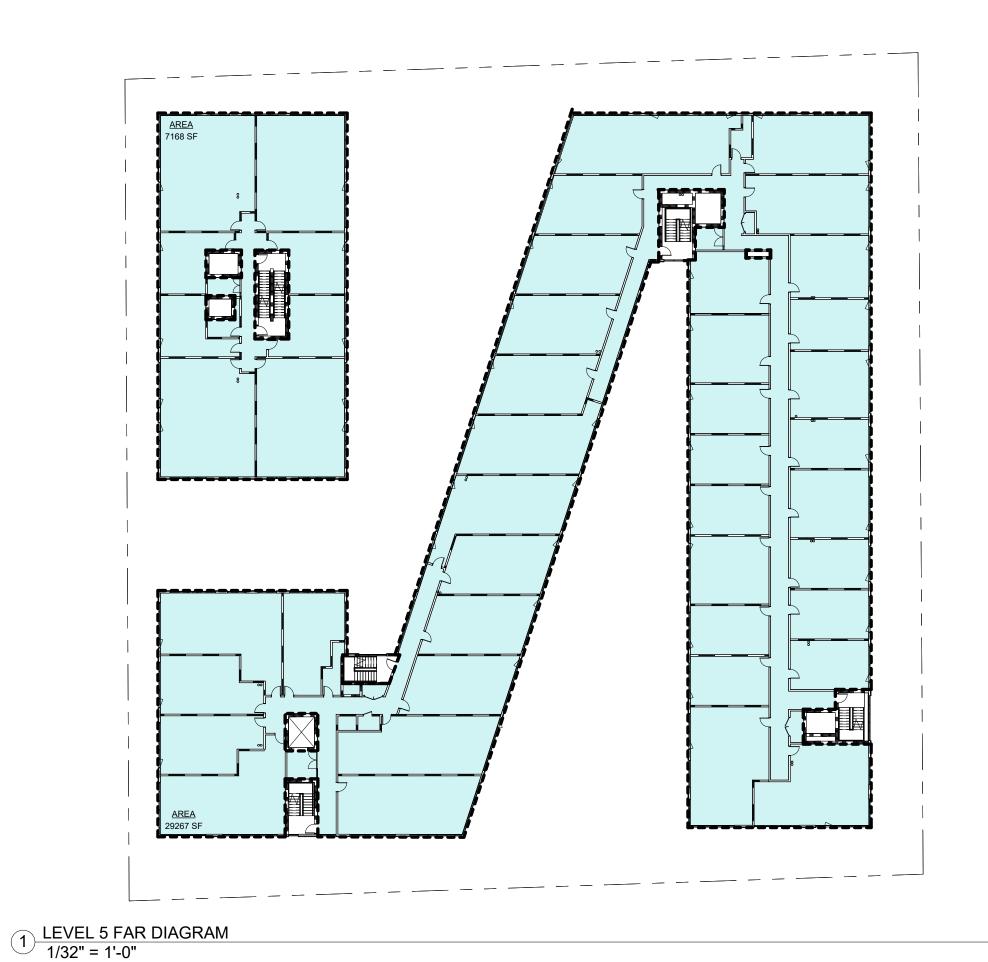


4 LEVEL 8 FAR DIAGRAM 1/32" = 1'-0"





3 <u>LEVEL 7 FAR DIAGRAM</u> 1/32" = 1'-0"



 FAR BUILDING AREA

 LEVEL 1
 24,360 SF

 LEVEL 2
 32,215 SF

 LEVEL 3
 31,312 SF

 LEVEL 4
 36,184 SF

 LEVEL 5
 36,435 SF

 LEVEL 6
 25,462 SF

 LEVEL 7
 17,871 SF

16,106 SF

219,945 SF

LEVEL 8

Building Area Total

SITE AREA	72,148 SF
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TOTAL MAX FAR AREA - W/ 8000 SF PREMIUM	224,444 SF
PROPOSED FAR AREA	219,945 SF

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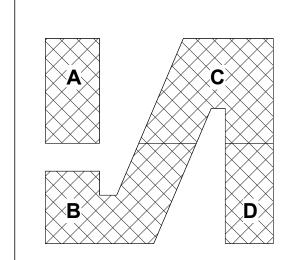
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No.	Description	Date

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

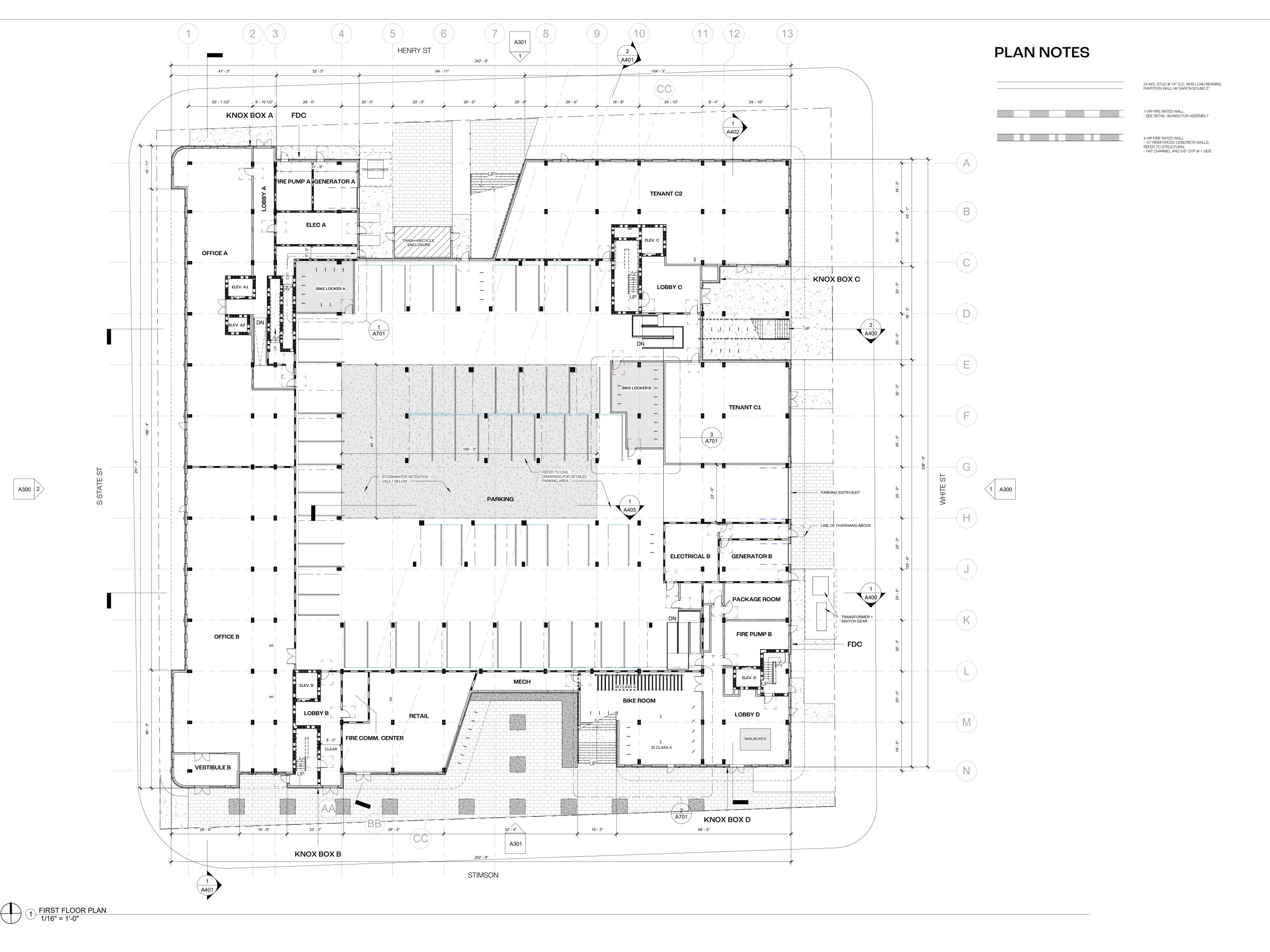
CALCULATIONS

PROJECT NUMBER 2021

DATE T

A007

SCALE 1/32" = 1'-0"





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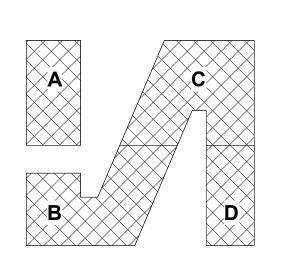
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No.	Description	Date
	SCHEMATIC DESIGN	01/03/23

1610 WHITE STREET ANN ARBOR, MI 48104

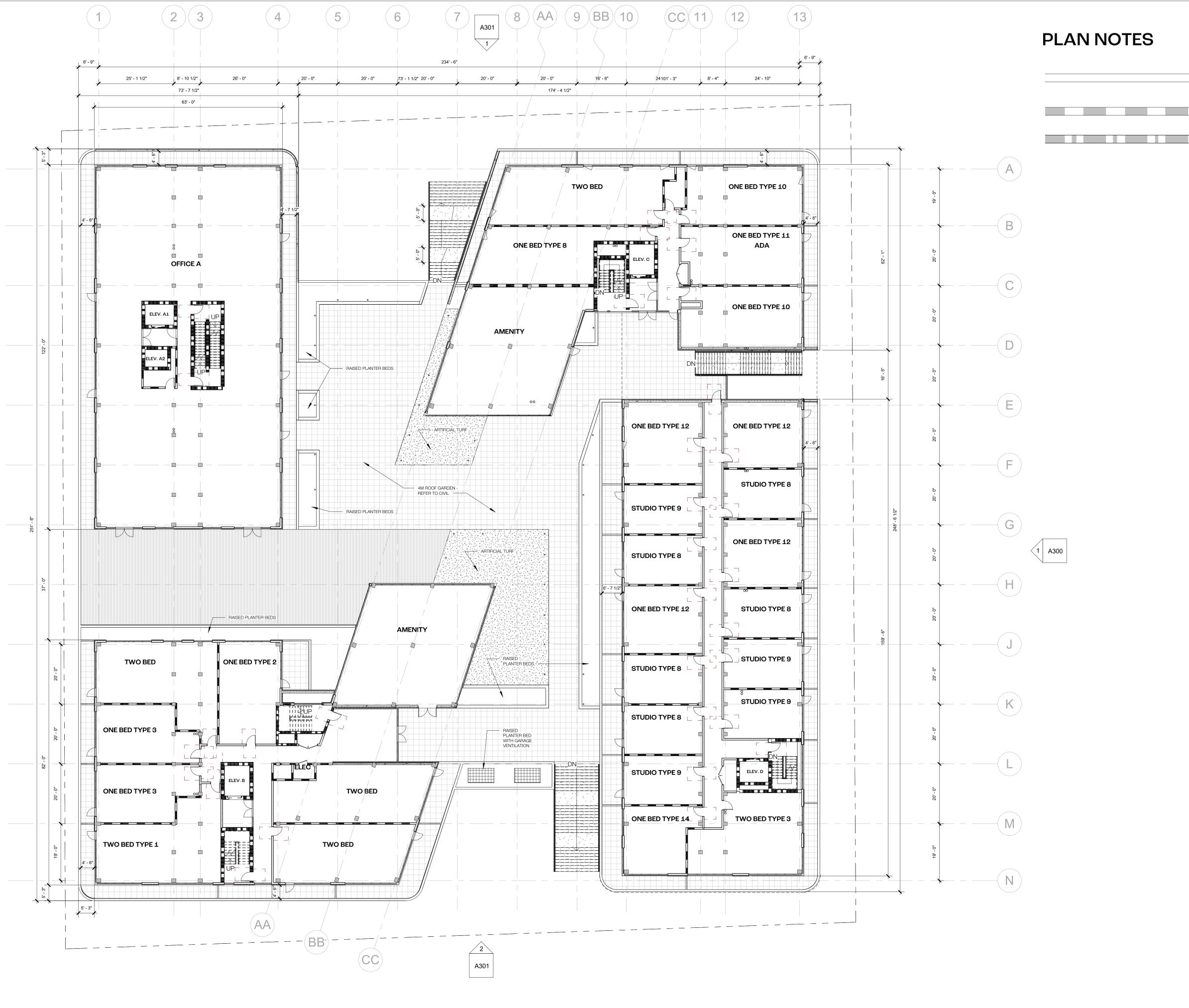
SOUTHTOWN

LEVEL 1

PROJECT NUMBER
DATE

A101

SCALE As indicated





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 1342 N MAIN ST. #11 ANN ARBOR, MI 48104

HELLO@SYNECDOCHE.DESIGN

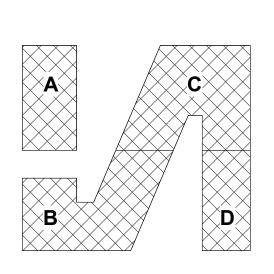
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No.	Description	Date
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1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN LEVEL 2

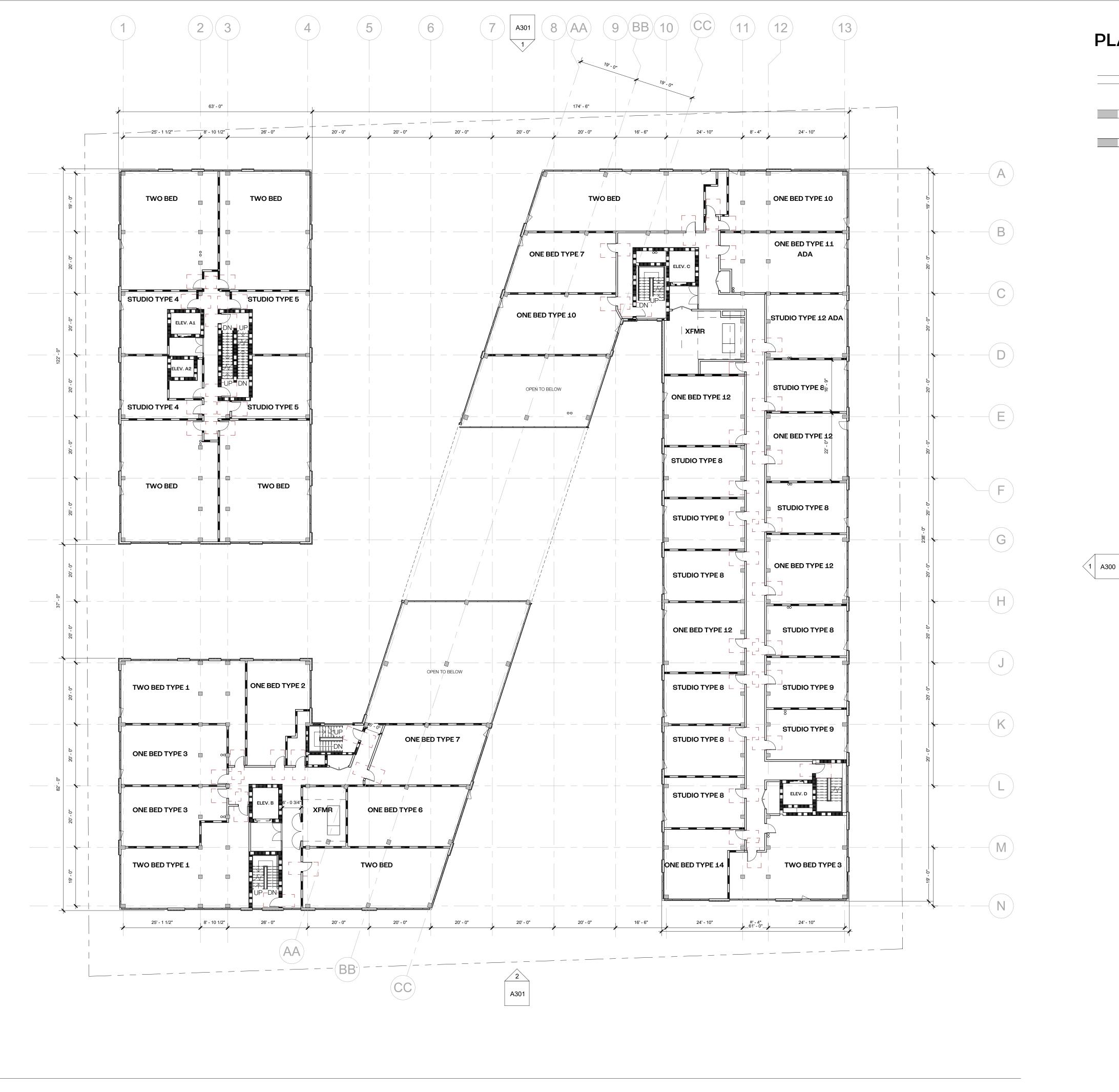
PROJECT NUMBER

202121

A102

SCALE As indicated

A300 2









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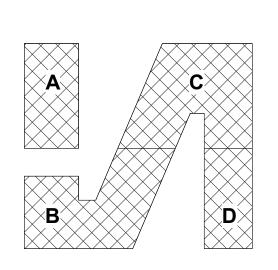
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No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	1610 WHITE STR	EET

ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 3

PROJECT NUMBER

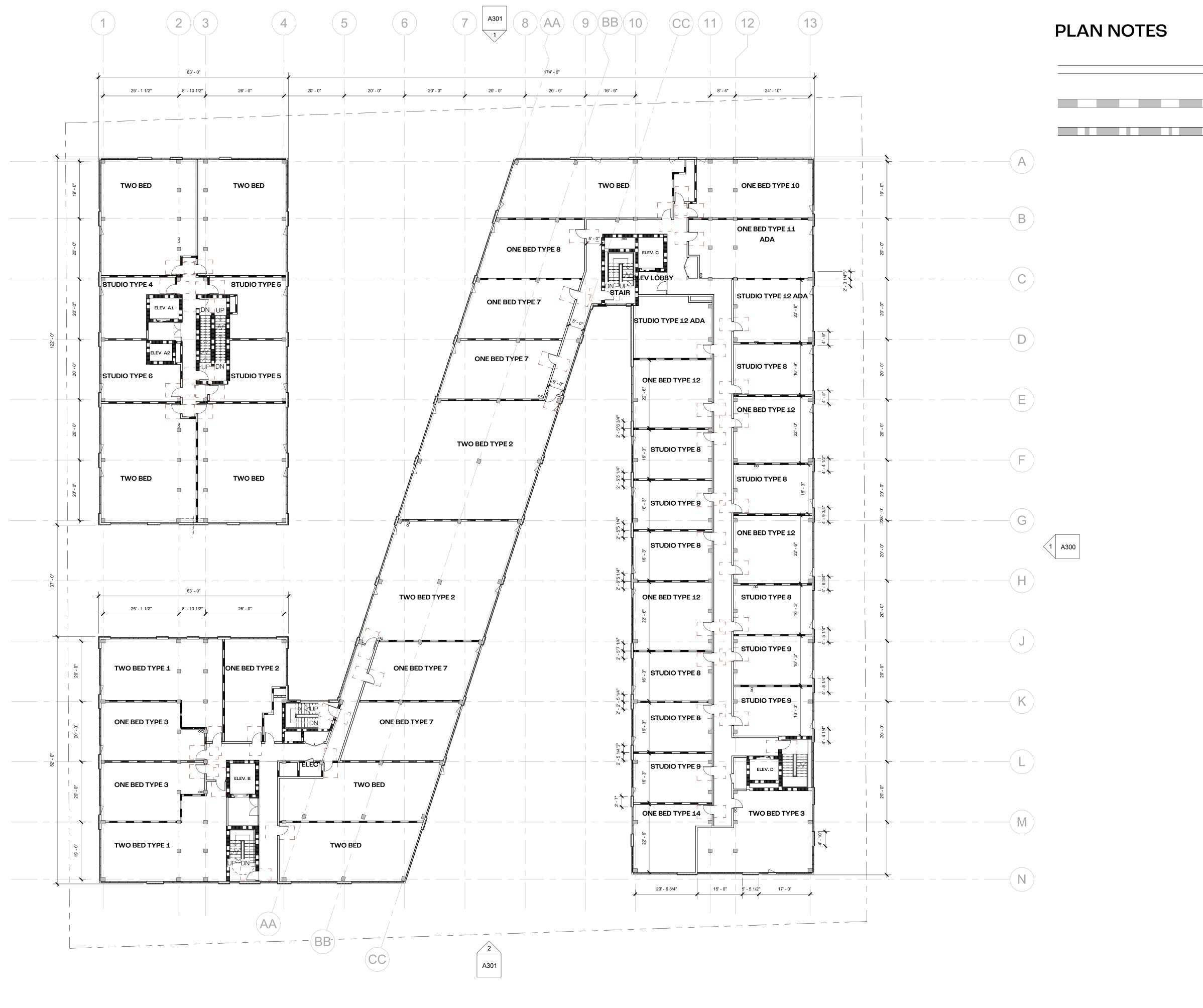
A103

202121

SCALE

As indicated

A300 2





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

NOT FOR CONSTRUCTION

FOR REVIEW ONLY

SYNECDOCHE

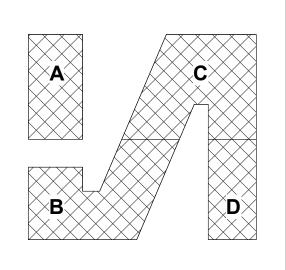
1342 N MAIN ST. #11 ANN ARBOR, MI 48104 HELLO@SYNECDOCHE.DESIGN

> **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

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 4

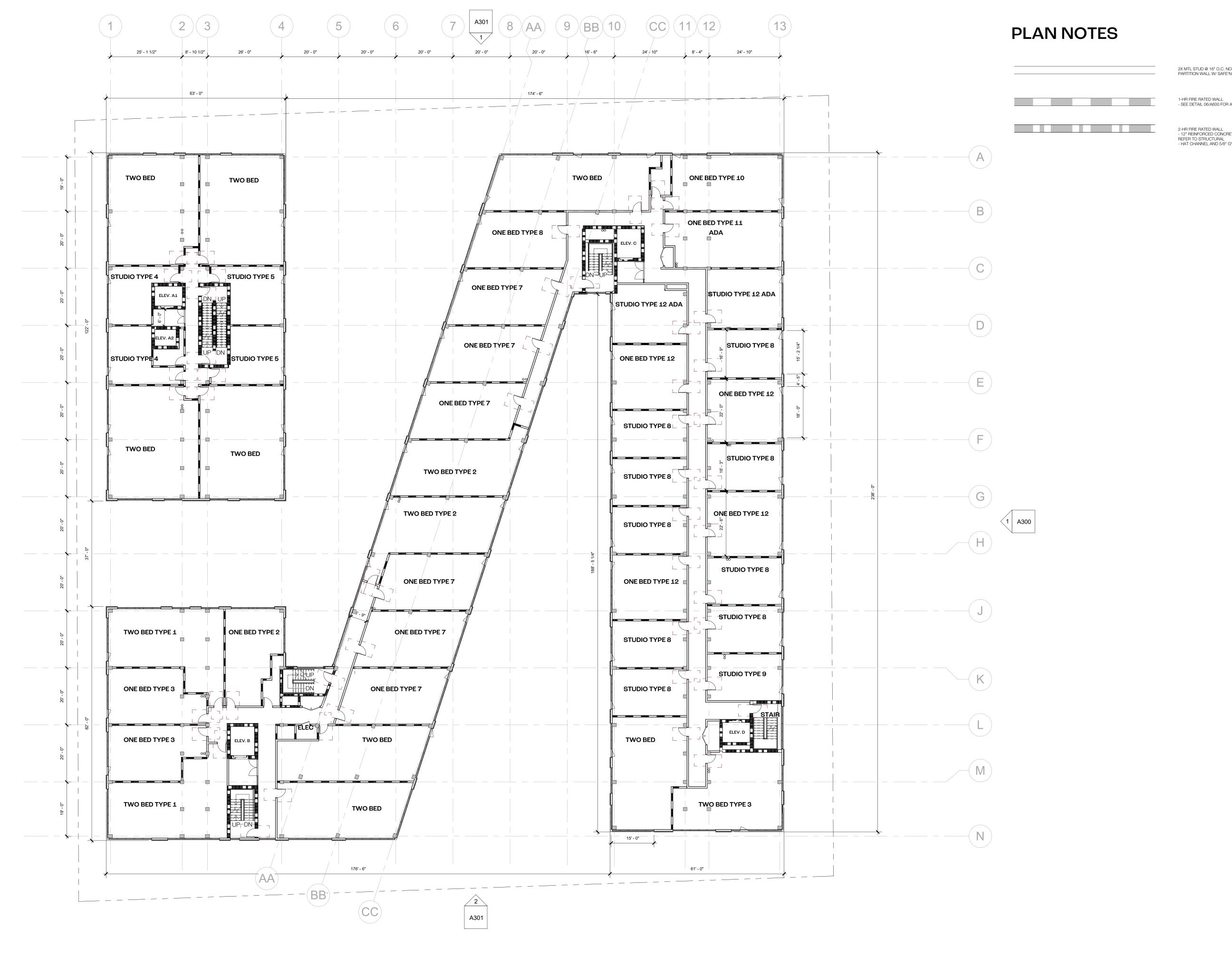
PROJECT NUMBER

202121

A104

SCALE As indicated

A300 2



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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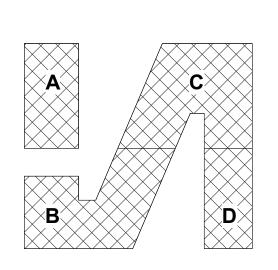
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No.	Description	Date
	SCHEMATIC DESIGN	01/03/23

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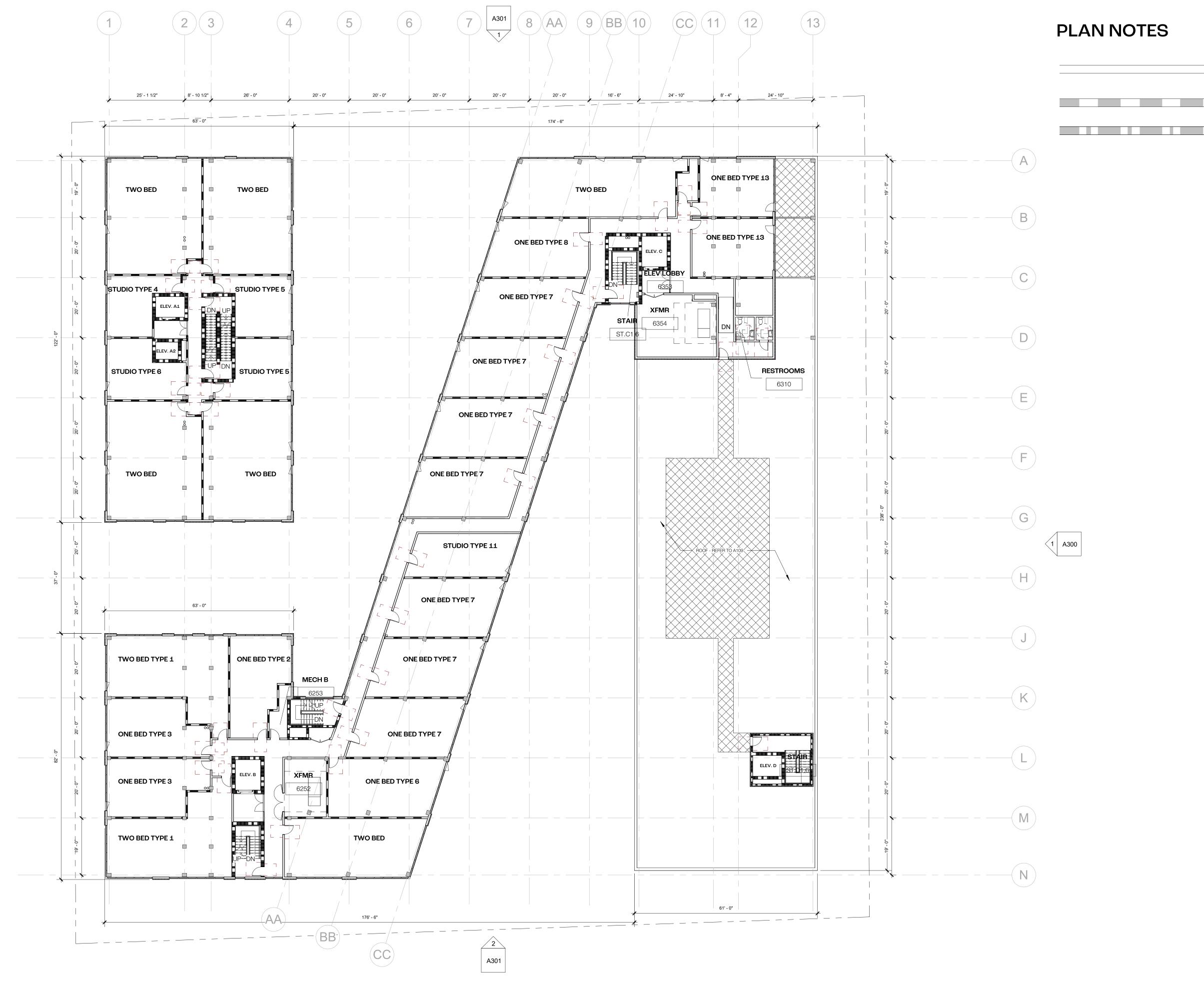
SOUTHTOWN

LEVEL 5

PROJECT NUMBER

A105

SCALE As indicated



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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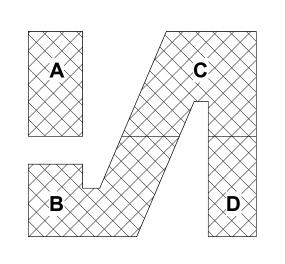
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No.	Description	Date
	SCHEMATIC DESIGN	01/03/23

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SOUTHTOWN

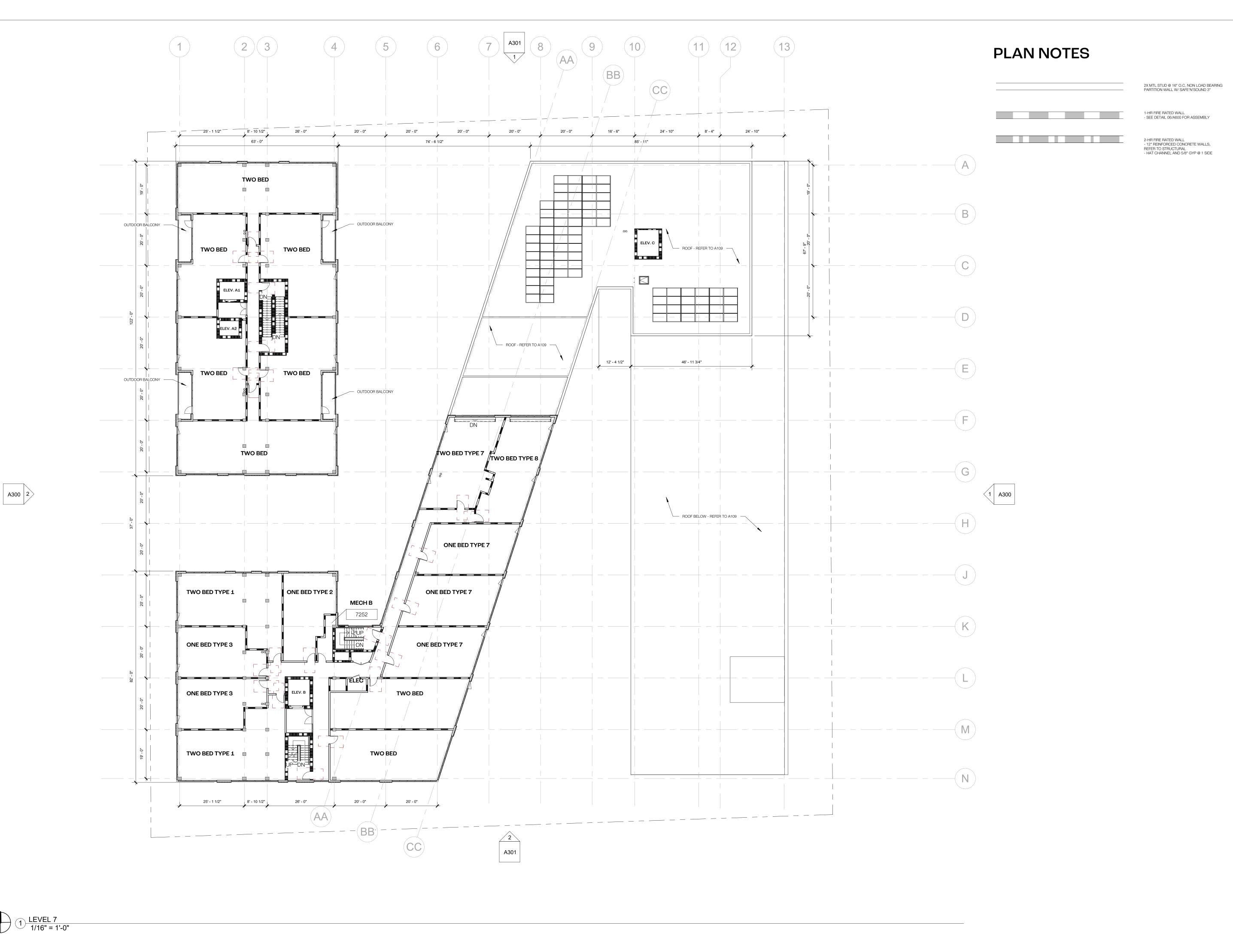
LEVEL 6

PROJECT NUMBER

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A106

SCALE As indicated





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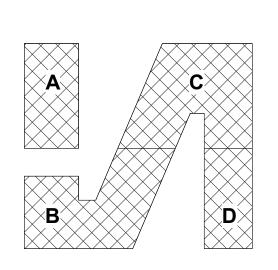
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No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	1610 WHITE STR	FFT

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

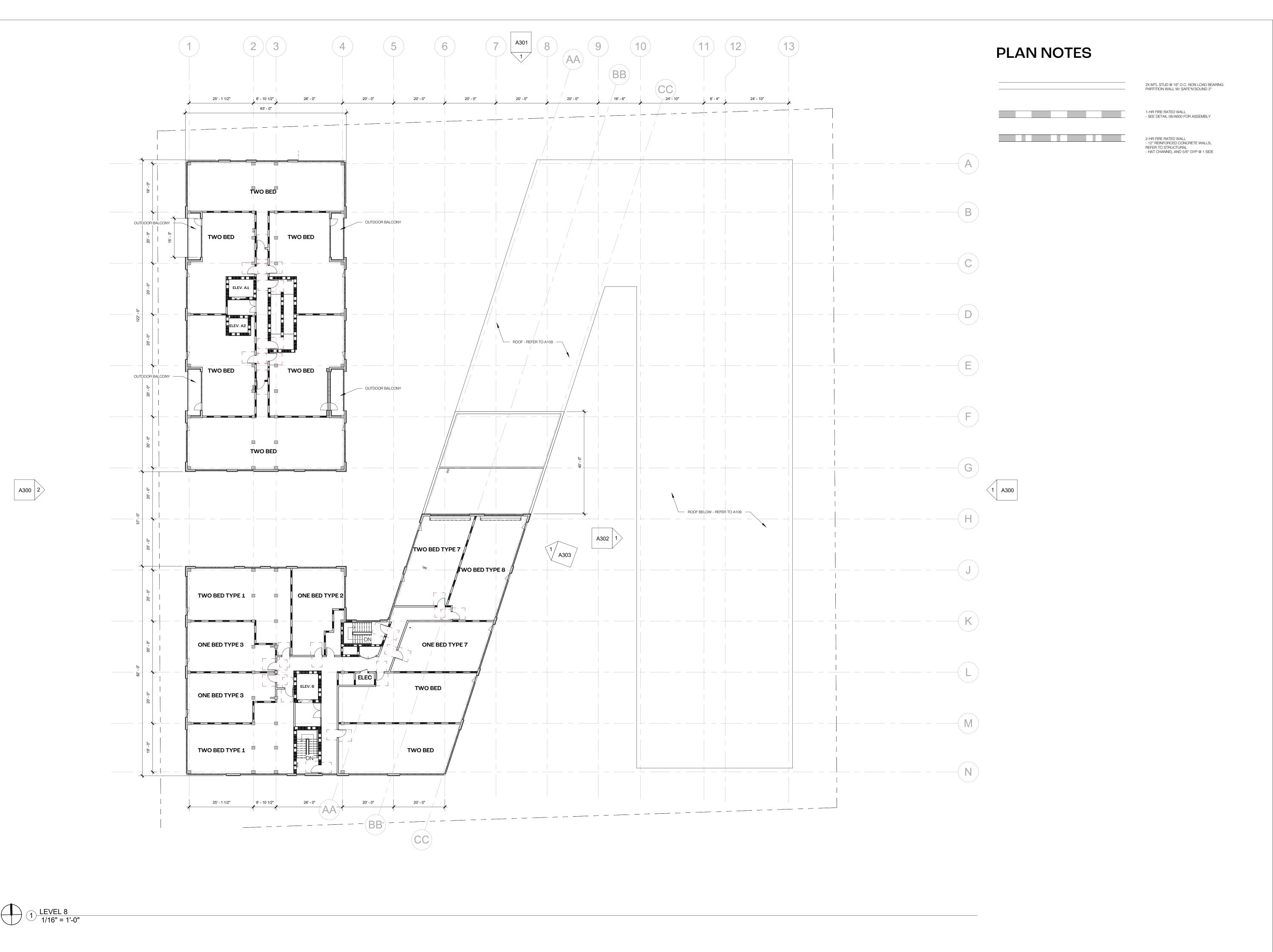
LEVEL 7

PROJECT NUMBER

A107

SCALE

As indicated





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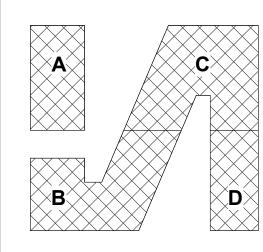
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No.	Description	Date
	SCHEMATIC DESIGN	01/03/23

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SOUTHTOWN

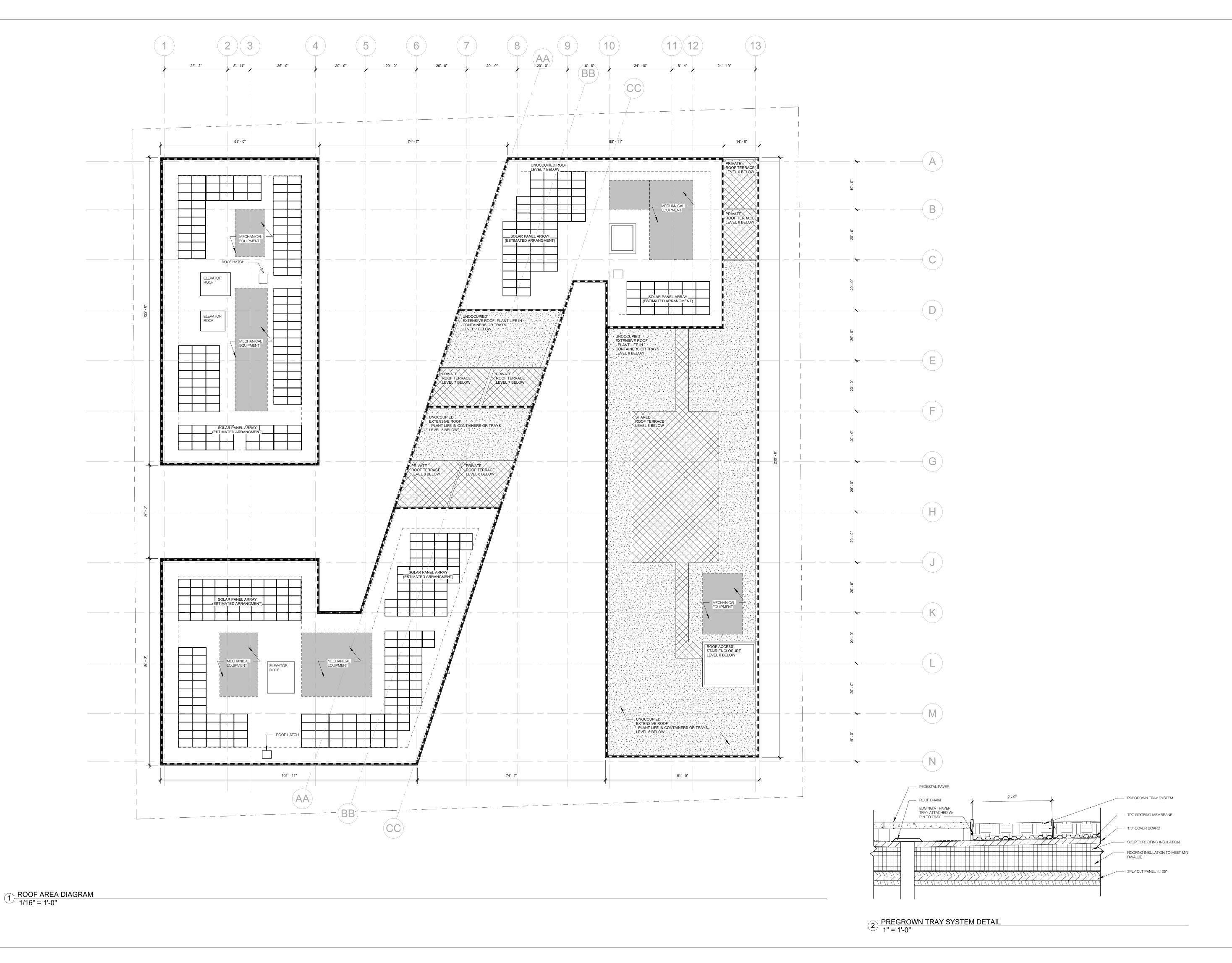
LEVEL 8

PROJECT NUMBER

A108

SCALE

As indicated





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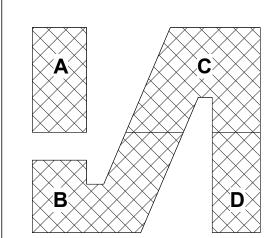
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604.762.78444

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No.	Description	Dat
	SCHEMATIC DESIGN	01/03

1610 WHITE STREET ANN ARBOR, MI 48104

ROOF AREA
DIAGRAM

PROJECT NUMBER 202121

DATE TBD

A109

SCALE As indicated

ELEVATION NOTES

1. REFER TO A600 FOR WALL ASSEMBLY DETAILS



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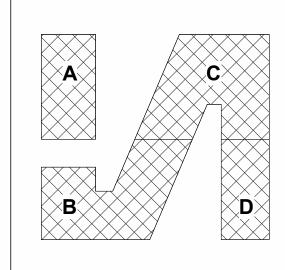
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1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

EXTERIOR

ELEVATIONS

PROJECT NUMBER
DATE

SCALE

A300

ROOF 925' - 9" LEVEL 8 915' - 9" LEVEL 7 905' - 9" LEVEL 6 895' - 9" - CEMENT TILE FACADE, TYP. LEVEL 5 885' - 9" ALUMINUM CLAD WINDOW SYSTEM, TYP. LEVEL 4 875' - 9" LEVEL 3 PRECAST CONCRETE
 PANEL, TYP. AT LEVEL 1 865' - 9" - ALUMINUM STOREFRONT LEVEL 2 855' - 9" GRADE PLANE ∃8 840' - 9" LEVEL 1.1 839' - 0" OVERHEAD DOOR @ PARKING ENTRY/EXIT -CARD ACCESS CONTROL - CONCRETE STAIR W/ PAINTED ALUMINUM RAILING LEVEL 1.0 838' - 6" 1 EAST ELEVATION 1/16" = 1'-0"



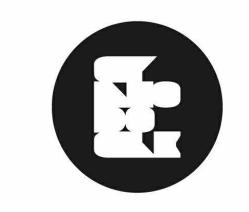
2 WEST ELEVATION 1/16" = 1'-0"

202121

As indicated

ELEVATION NOTES

REFER TO A600 FOR WALL ASSEMBLY DETAILS



SYNECDOCHE

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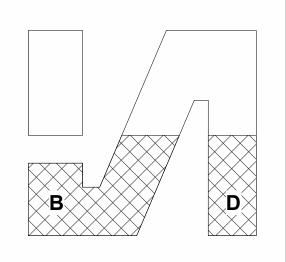
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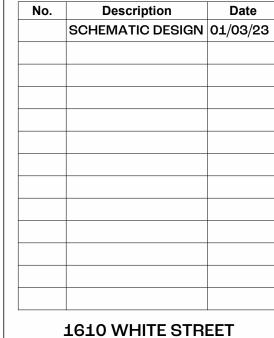
734.929.6963

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1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN **EXTERIOR ELEVATIONS**

PROJECT NUMBER DATE

A301

202121

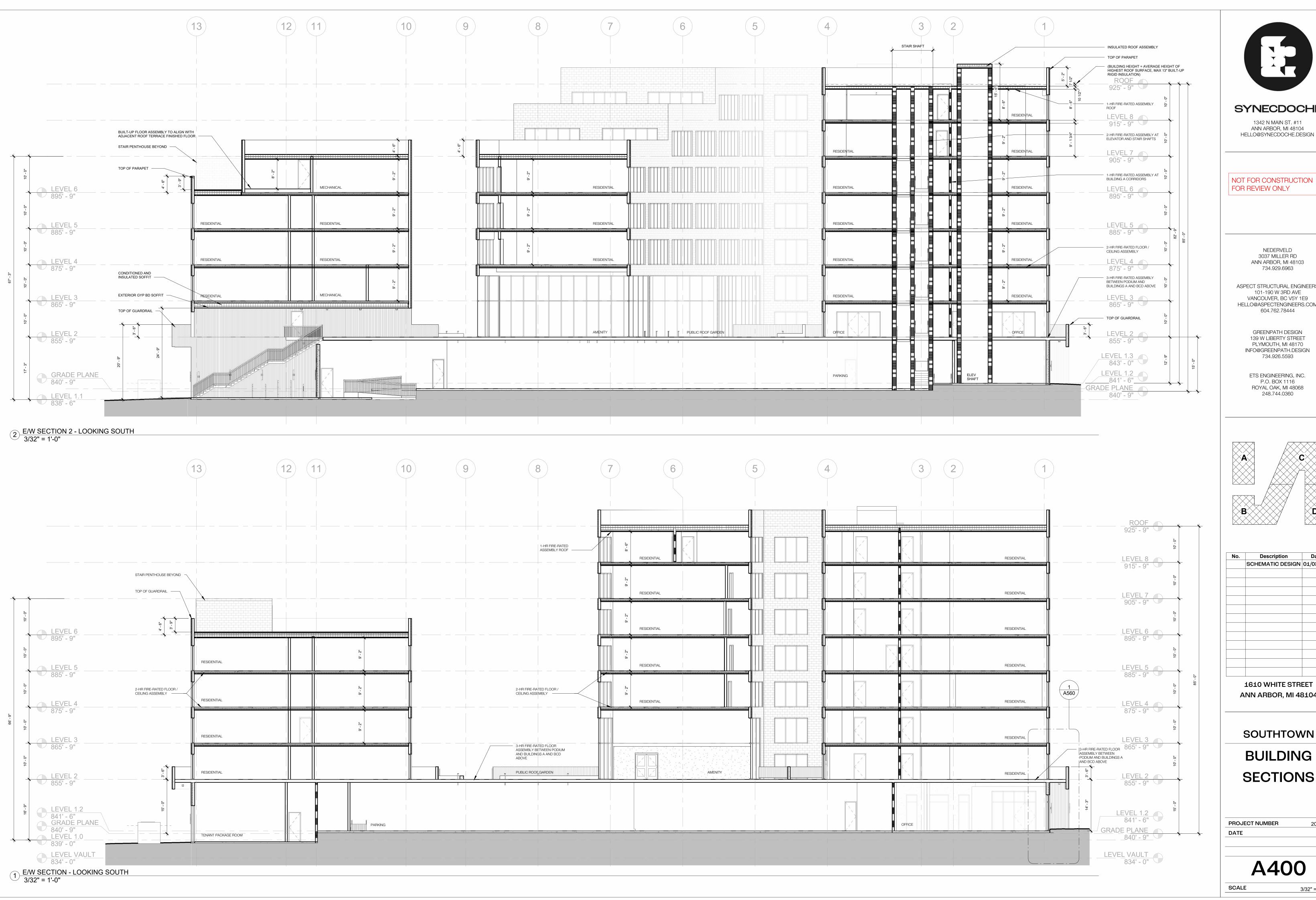
SCALE As indicated



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



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





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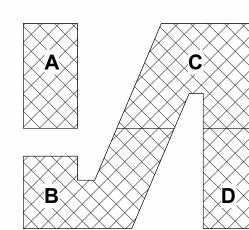
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No.	Description	Date	
	SCHEMATIC DESIGN	01/03/23	
	1610 WHITE STR	EET	
,	ANN ARBOR, MI 48	2404	

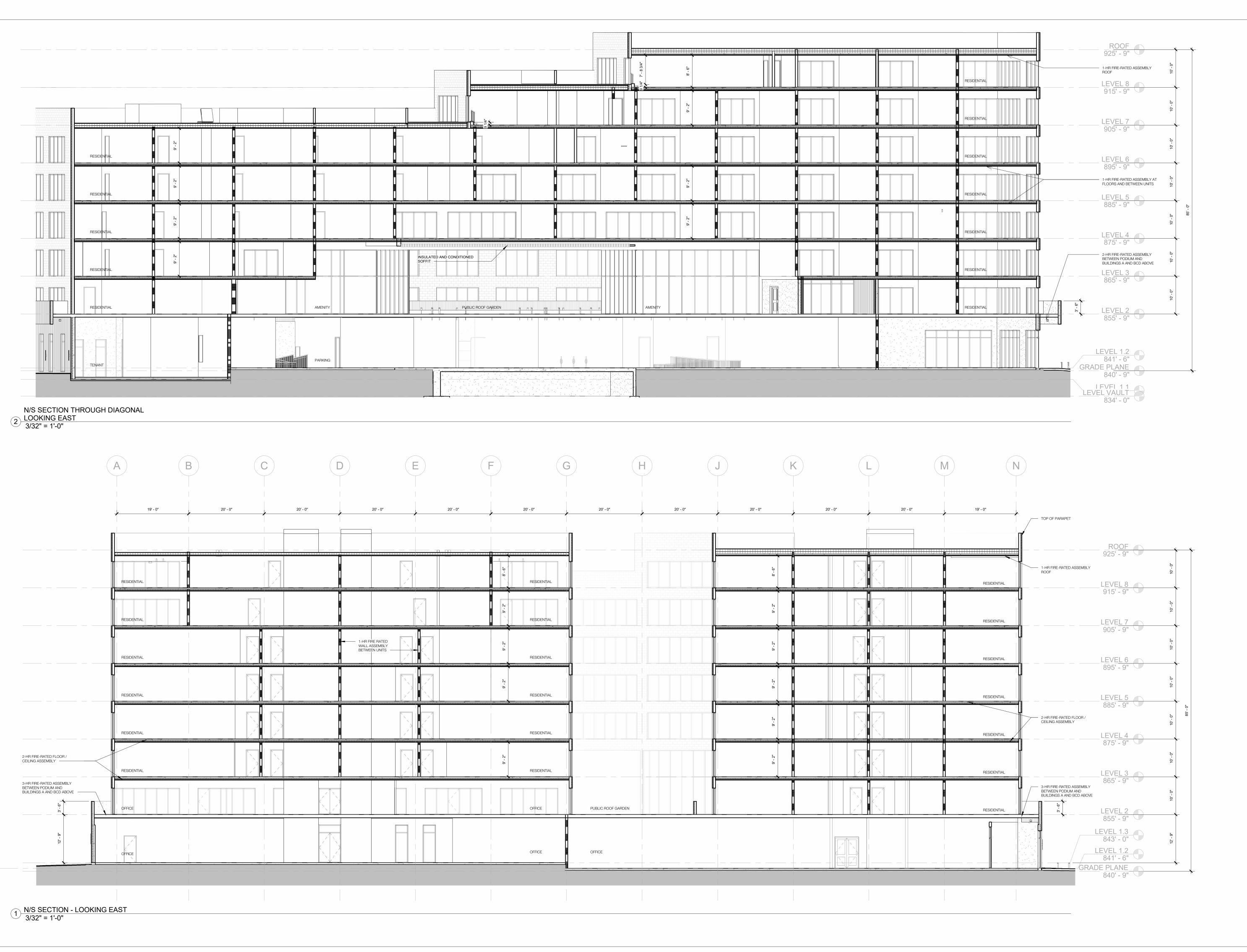
SOUTHTOWN BUILDING **SECTIONS**

PROJECT NUMBER

A400

3/32" = 1'-0"

202121





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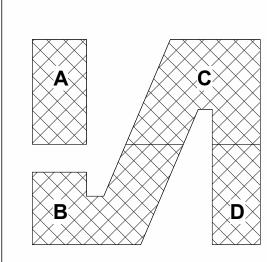
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No.	Description	Date
	SCHEMATIC DESIGN	01/03/

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

RI III DING

BUILDING SECTIONS

PROJECT NUMBER
DATE

A401

SCALE

3/32" = 1'-0"

202121

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.
- 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.

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.



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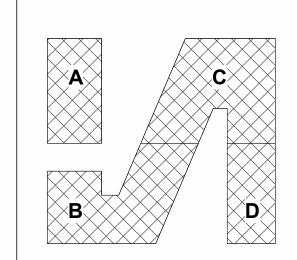
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No.	Description	Date

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SOUTHTOWN

AXONOMETRIC

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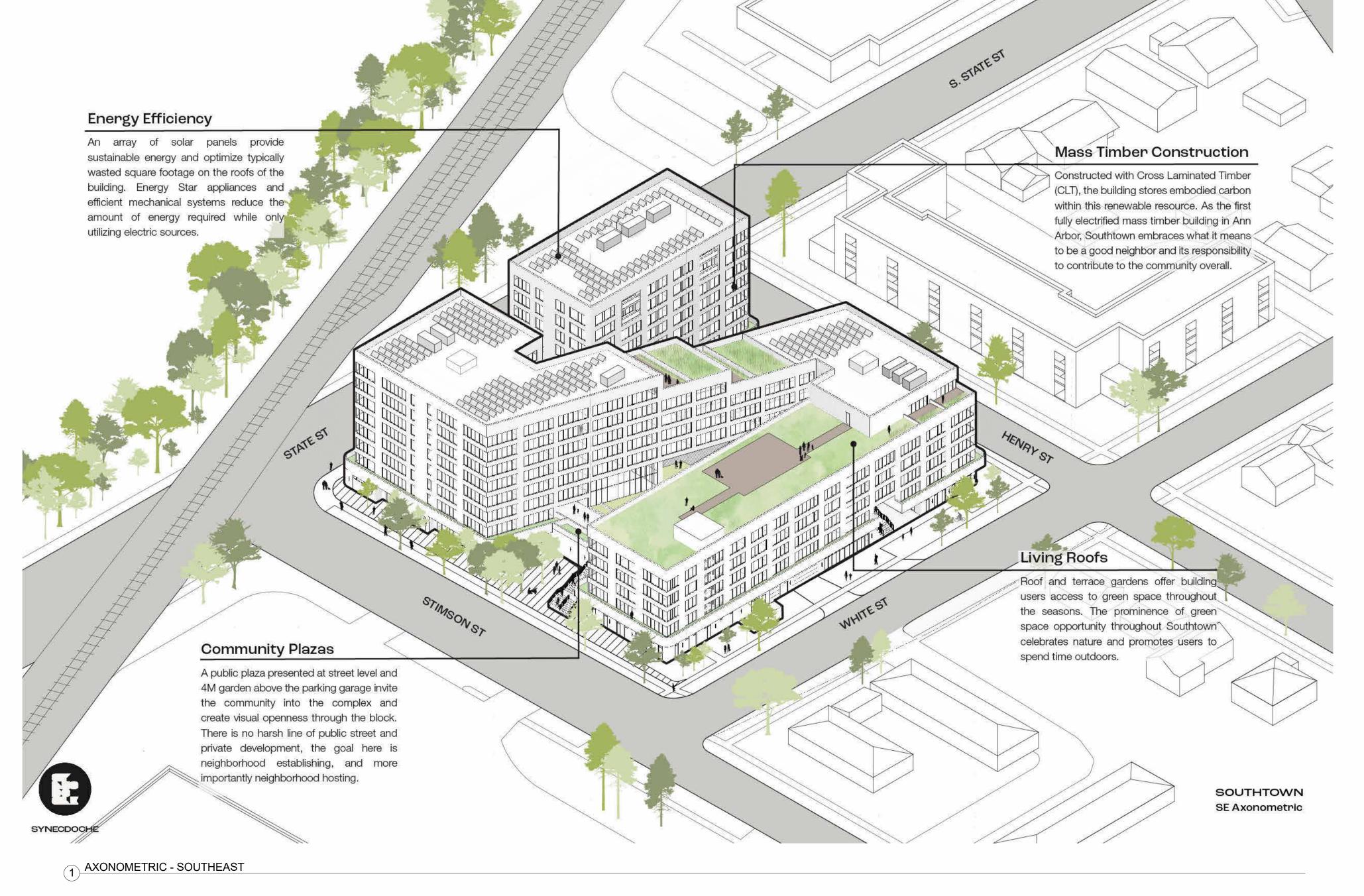
SUSTAINABILITY

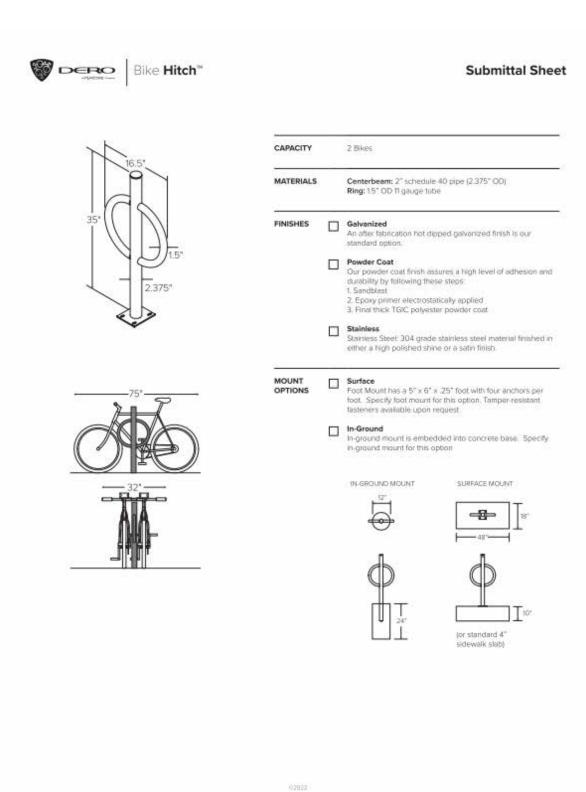
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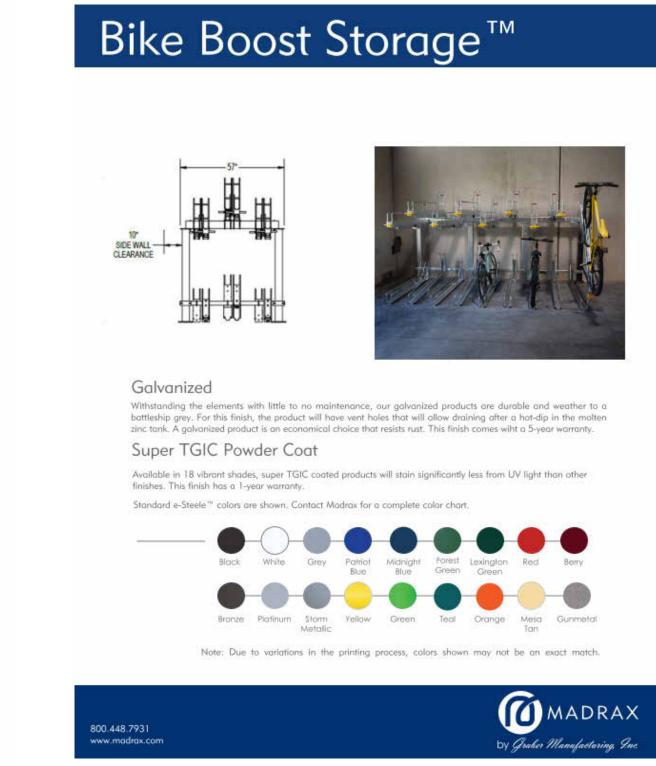
PROJECT NUMBER 2021

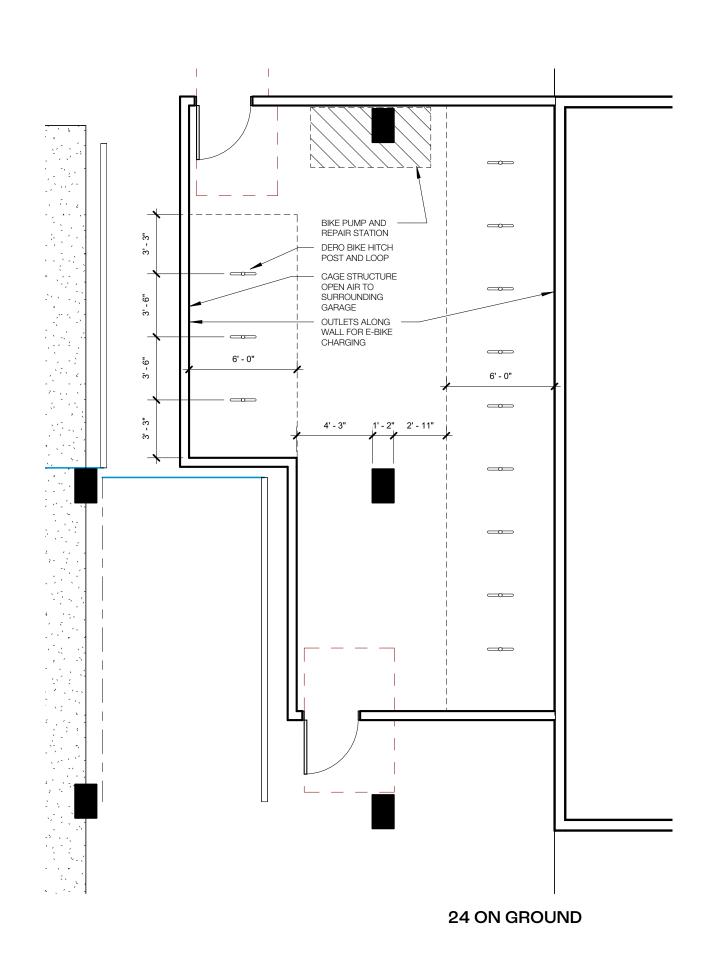
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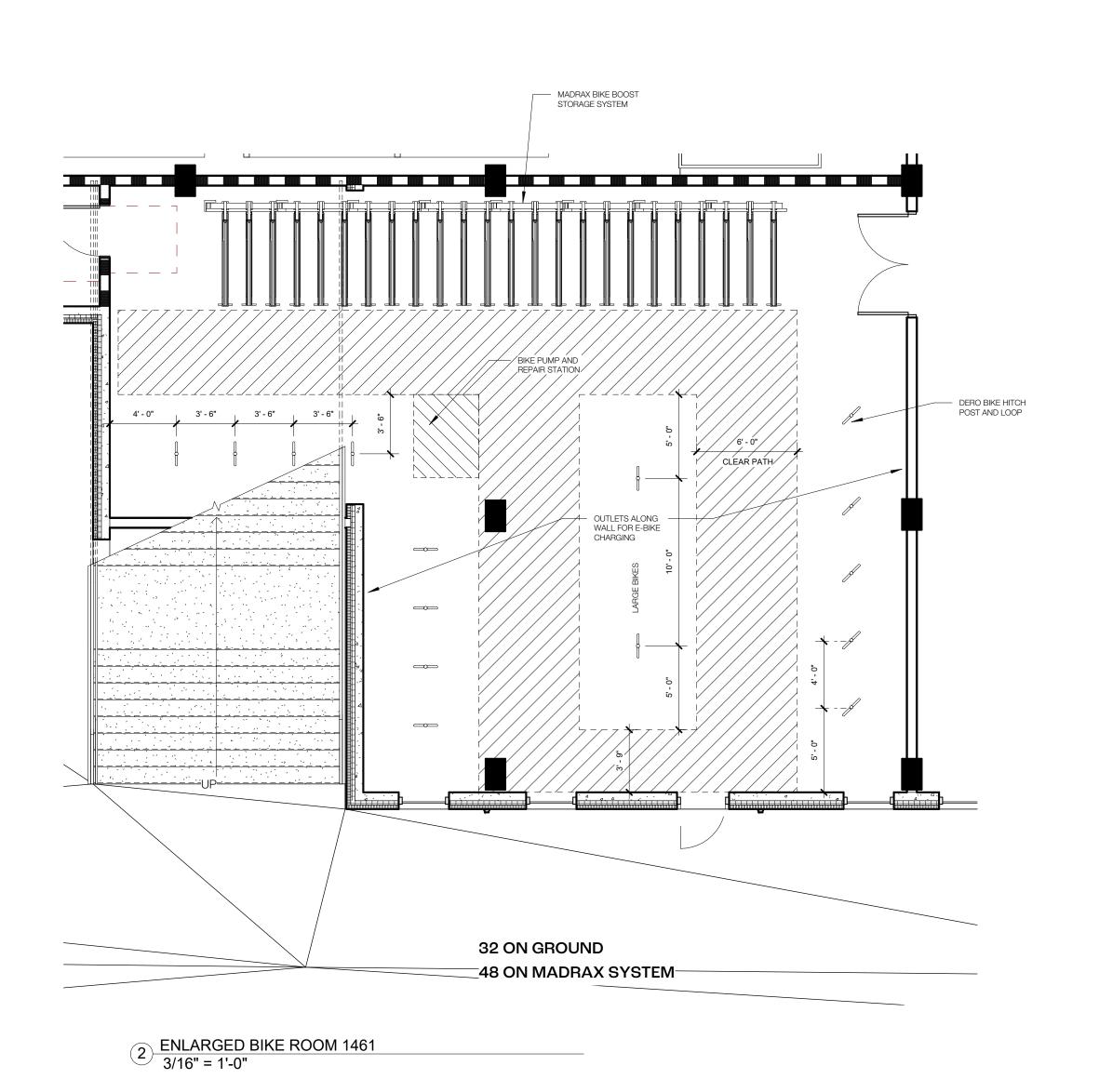


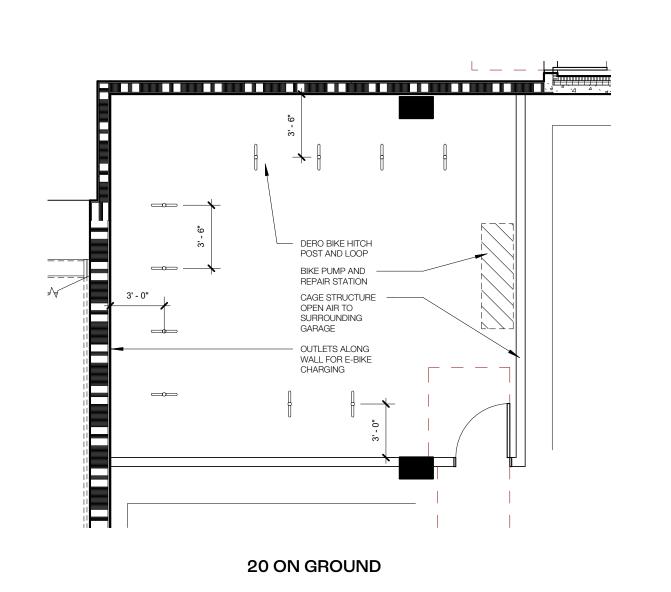






3 ENLARGED BIKE LOCKER B
3/16" = 1'-0"





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



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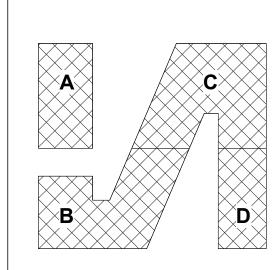
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No.	Description	Date

ANN ARBOR, MI 48104

SOUTHTOWN

ENLARGED PLANS - BIKE

PROJECT NUMBER

A701

SCALE