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

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

NOTE:
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SOUTHTOWN BY 4M

CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

SITE PLAN

SITE SUMMARY NOTES

A. PETITION FOR SITE PLAN

THE FOLLOWING SITE PLAN PETITION IS FOR PLANNING COMMISSION APPROVAL. TYPE-2 COMMUNITY PARTICIPATION NOTIFICATION IS REQUIRED. RECOMMENDATION FROM PLANNING & DEVELOPMENT SERVICES IS REQUIRED. NO ANNEXATION PETITIONS, REZONING PETITIONS, PUD ZONING PETITIONS, SPECIAL EXCEPTION USES, PLANNED PROJECT MODIFICATIONS, LANDSCAPE MODIFICATIONS OR VARIANCE REQUESTS ARE REQUIRED.

B. DEVELOPMENT PROGRAM

I. DESCRIPTION:
THE PROPOSED DEVELOPMENT WILL HAVE 289 RESIDENTIAL UNITS, REPLACING 38 EXISTING UNITS. THE UNITS WILL BE A MIX OF STUDIO, ONE, AND TWO BEDROOM. ONE CURB CUT ON HENRY STREET WILL PROVIDE ENTRY TO THE GROUND FLOOR COVERED PARKING. ONE CURB CUT ON HENRY AND WHITE WILL PROVIDE AN AREA FOR SOLID WASTE PICKUP. ALL PARKING IS COVERED AND WITHIN THE INTERIOR OF THE GROUND FLOOR.

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

C. COMMUNITY ANALYSIS

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

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

THE PROJECT WILL BE MARKETED PRIMARILY TO 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 IN THE PROCESS OF BEING DEMOLISHED PER THE PREVIOUSLY APPROVED PLANS UNDER CVLP24-0008. THE PROPOSED DEVELOPMENT OF RESIDENTIAL 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 (RESIDENTIAL) ARE LIKE USES FOUND IN THE EXISTING NEIGHBORHOOD.

IV. IMPACT OF PROPOSED DEVELOPMENT ON AIR AND WATER QUALITY, AND ON THE EXISTING NATURAL FEATURES OF THE SITE AND NEIGHBORING SITES:
a. THERE WILL BE NO NEGATIVE IMPACT TO AIR QUALITY.
b. THE AREA THAT MAKES UP THIS PROJECT IS CURRENTLY DEVELOPED AND HAVE NO STORM WATER DETENTION FACILITIES. THE PROPOSED STORM WATER DETENTION SYSTEM IS DESIGNED TO PRE-TREAT, DETAIN, AND RELEASE THE RUNOFF AT A CONTROLLED RATE. WATER QUALITY CONTROLS WILL BE IMPLEMENTED TO ENSURE THAT RUNOFF DURING CONSTRUCTION IS CONTROLLED AND MANAGED.
c. ALL EXISTING ON-SITE LANDMARK TREES ARE EITHER REMOVED OR PLANNED TO BE REMOVED DURING THE ONGOING DEMOLITION PER THE PREVIOUSLY APPROVED PLANS UNDER CVLP24-0008. ALTERNATIVE ANALYSIS WAS PERFORMED AND IS PROVIDED ON SHEET G7.0.0
d. THERE ARE NO ENDANGERED SPECIES HABITATS, FLOODPLAINS, WATER COURSES, WETLANDS, STEEP SLOPES, OR WOODLANDS WITHIN THE PROJECT AREA. NO MITIGATION IS REQUIRED.

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

VI. TRAFFIC STATEMENT:
THE PROPOSED SOUTHTOWN DEVELOPMENT (MULTI-FAMILY HOUSING [MID-RISE] PER ITE CODE 221) WILL INCLUDE 289 RESIDENTIAL UNITS.
- THE ESTIMATED TRIP GENERATION (PER ITE MANUAL) IS 921 TRIPS (WEEKDAY AVERAGE DAILY TRIPS)
- THE TOTAL AM PEAK HOUR = 102 (VPH)
- THE TOTAL PM PEAK HOUR = 99 (VPH)

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

VIII. NATURAL FEATURES GENERAL DESCRIPTION AND IMPACTS:
IN ACCORDANCE WITH THE CITY OF ANN ARBOR LAND DEVELOPMENT REGULATIONS REGARDING SITE PLAN REQUIREMENTS, THE NATURAL FEATURES IMPACTS ARE AS FOLLOWS:
LIMITS OF SOIL DISTURBANCE: SEE GRADING PLAN (SHEET C-300).
BOUNDARY AND DESCRIPTION OF ENDANGERED SPECIES HABITAT: NOT APPLICABLE.
BOUNDARY AND ELEVATION OF ANY 100-YEAR FLOODPLAIN: NOT APPLICABLE.
LANDMARK TREES: SEE EXISTING CONDITIONS, NATURAL FEATURES AND LANDSCAPE PLAN FOR DETAIL (SHEETS C-200, C-202, & L-100). NOTE, ALL EXISTING ON-SITE LANDMARK TREES ARE EITHER REMOVED OR PLANNED TO BE REMOVED DURING THE ONGOING DEMOLITION PER THE PREVIOUSLY APPROVED PLANS UNDER CVLP24-0008.
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.

D. PUBLIC PARK PLANNING

I. PARKS CONTRIBUTION REQUEST:
THE DEVELOPMENT TEAM HAS AGREED TO CONTRIBUTE FUNDS TOWARD THE CITY OF ANN ARBOR'S PUBLIC PARKLANDS TO IMPROVE THE SURROUNDING NEIGHBORHOOD PARKS. FUNDS WILL BE PROVIDED AT THE FOLLOWING RATE:
289 DWELLING UNITS x .0125 ACRES x $50,000/ACRE = $180,000

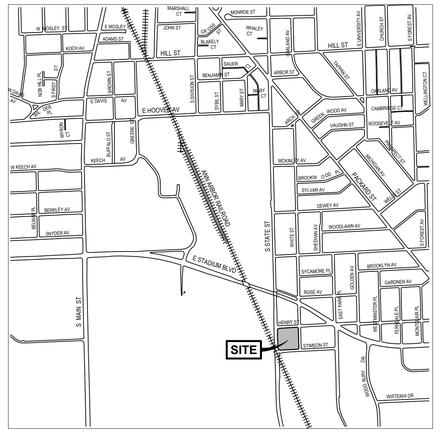


SITE PERSPECTIVE

DEVELOPMENT SUMMARY & COMPARISON CHART

ZONING	EXISTING	REQUIRED/PERMITTED	PROPOSED
Zoning Classification	C1 A/R	C1 A/R	C1 A/R
Gross Lot Area (min)	72,148 sf	none	72,148 sq. ft.
Min Lot Width (ft)	40.3'	none	none
Min Open Space (% of Lot Area)	none	none	none
Max Short Term Rental (STR) Use	-	30% (per conditional rezoning)	up to 30% of 289 dwelling units (86 STR units max)
Building Area (sq. ft.)	13,065	216,444 max	228,787 (total) 15,072 (parking only) 213,715 (total - excluding parking) (1)
FAR (% of Lot Area)	18.11%	300% max	299% (1)
FAR (units / acre)	22.9%	-	174%
Buiulding Height (ft)	30'	100' max. (per conditional rezoning)	100'
FRONT SETBACKS			
State Street	24.2'	10' min. (5' with 50% rule)	11.1' min. 17.7' max.
Stimson Street	N/A	10' min. (5' with 50% rule)	14.9' min. 33' max.
White Street	18.4'	10' min. (5' with 50% rule)	56.7' min. 63' max.
Henry Street	19.7'	10' min. (5' with 50% rule)	10.8' min. 11' max.
VEHICLE PARKING			
Vehicle Parking (per dwelling unit)	-	0.25 max. (per conditional rezoning)	41 spaces 0.14 spaces per unit (289 units)
EV Parking	0	RESIDENTIAL: EV-C: 90% EV-I: 10%	RESIDENTIAL: EV-I: 41 (100%)
total	28	none	41 total (All EV-I & 2 Accessible Spaces)
REQUIRED BIKE PARKING			
Space	-	Class A: 1 per 2 units 145 spaces Class C: 1 per 10 units 29 spaces	Class A: 1 per 2 units 145 spaces Class C: 1 per 10 units 29 spaces
total	*0*	*174*	175

(1) VARIANCE REQUIRED. A VARIANCE WAS GRANTED FROM THE PARKING FAR REQUIREMENTS BY THE ZBA AT THE MAY 24TH, 2023 ZBA MEETING.



LOCATION MAP
SCALE: 1 INCH =1000 FT

DESIGN TEAM CONTACTS

APPLICANT / OWNER
SOUTHTOWN BY 4M, LLC
1919 INDUSTRIAL HWY
ANN ARBOR, MI 48104
P: 415.810.8124
ATTN: HEIDI POSCHER

ARCHITECT
SMITHGROUP
201 DEPOT STREET #100
ANN ARBOR, MI 48104
P: 734.662.4457
ATTN: JEFF HRUBEC

CIVIL / LANDSCAPE ARCHITECT
NEDERVELD, INC.
3037 MILLER RD.
ANN ARBOR, MI 48103
P: 734 929 6963
ATTN: BRANDON CHANEY

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NEDERVELD
www.nederveld.com
800.222.1868

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Ann Arbor, MI 48103
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GRAND RAPIDS
217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190

HOLLAND
730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449

PREPARED FOR:
Southtown by 4M, LLC

1919 S. Industrial Hwy
Ann Arbor, MI 48104

REVISIONS:

Title: Concept Design Package for OAC review		
Drawn: CB/OO	Checked: JVR	Date: 10.10.2025
Title: Draft Site Plan for Pre-Submission meeting		
Drawn: CB/OO	Checked: JVR	Date: 10.31.2025
Title: Site Plan Submittal		
Drawn: CB/OO	Check: OO/NB/BC	Date: 11.20.2025
Title: Site Plan Resubmittal		
Drawn: CB/OO	Check: OO/NB/BC	Date: 01.21.2026
Title: Site Plan Resubmittal #2		
Drawn: CB/OO	Check: OO/NB/BC	Date: 02.23.2026

SOUTHTOWN BY 4M

Cover Sheet

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

SEAL:

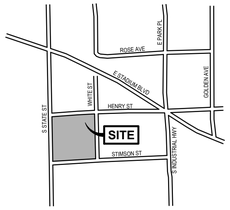
STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-100

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LOCATION MAP

NOT TO SCALE

LEGEND

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

BENCHMARKS

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

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

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

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

SOIL DESCRIPTION

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

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

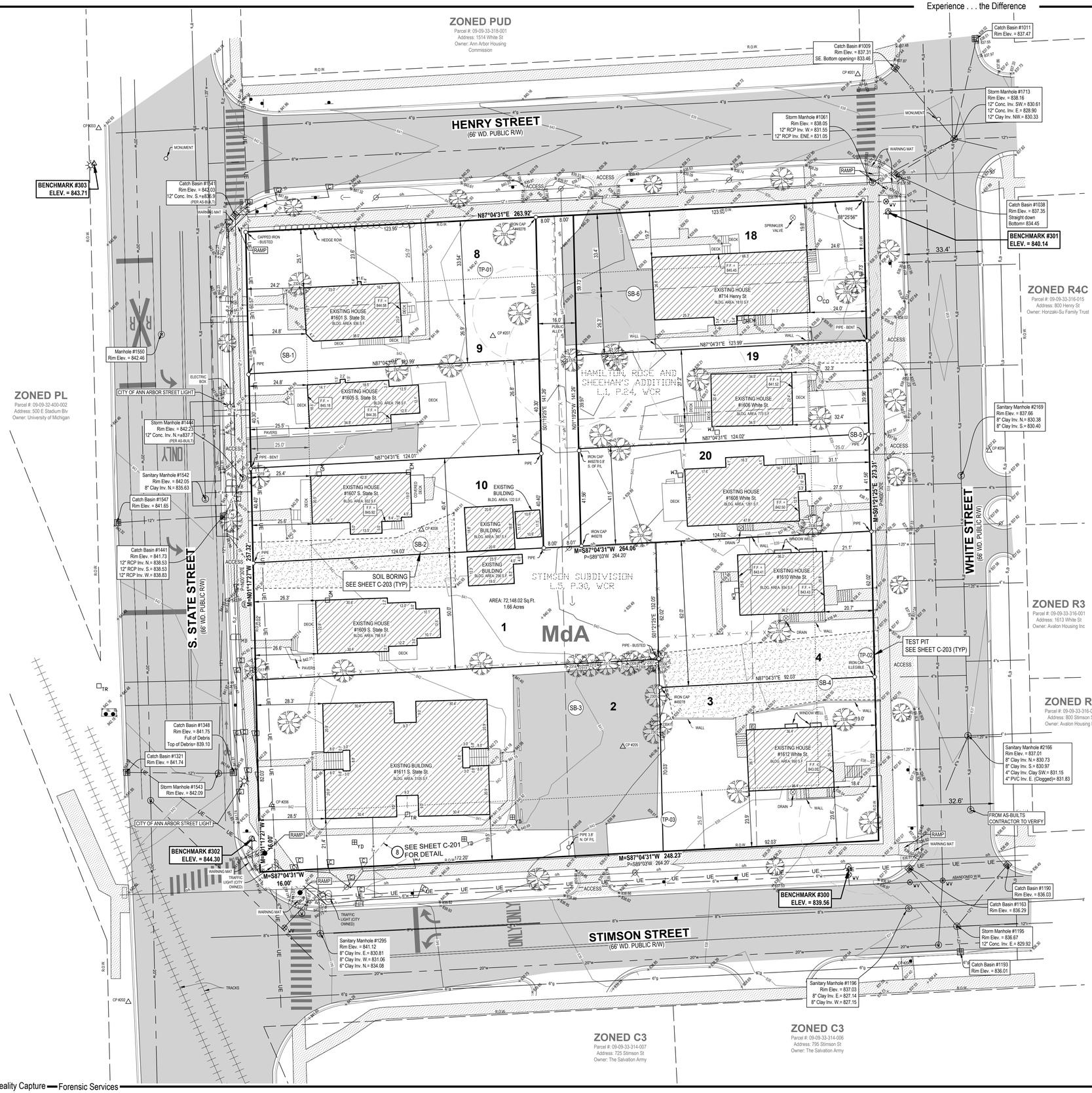
0' 10' 20' 40'

SCALE: 1" = 20'

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

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Drawn: CB/OO	Check: OO/NB/BC	Date: 02.23.2026

SOUTHTOWN BY 4M

Existing Conditions Plan - ALTA Survey

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

SEAL:

STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-200

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TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3540

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

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

SCHEDULE B - SECTION II NOTES

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

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

TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3535

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

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

SCHEDULE B - SECTION II NOTES

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

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

TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3536

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

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

SCHEDULE B - SECTION II NOTES

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

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

TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3537

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

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

SCHEDULE B - SECTION II NOTES

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

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

TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3541

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

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

SCHEDULE B - SECTION II NOTES

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

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

TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3542

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

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

SCHEDULE B - SECTION II NOTES

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

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

TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3538

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

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

SCHEDULE B - SECTION II NOTES

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

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

TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3543

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

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

SCHEDULE B - SECTION II NOTES

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

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

SURVEYOR'S CERTIFICATION

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

Date of Plat or Map: July 21, 2022

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

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

TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3539

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

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

SCHEDULE B - SECTION II NOTES

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

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

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

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

TITLE INFORMATION

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

TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3544

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

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

SCHEDULE B - SECTION II NOTES

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

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

SURVEYOR'S NOTES

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

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Phone: 616.575.5190

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730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449

PREPARED FOR:
Southtown by 4M, LLC

1919 S. Industrial Hwy
Ann Arbor, MI 48104

REVISIONS:

Title: Concept Design Package for OAC review
Drawn: CB/OO Checked: JVR Date: 10.10.2025
Title: Draft Site Plan for Pre-Submission meeting
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Title: Site Plan Resubmittal
Drawn: CB/OO Check: OO/NB/BC Date: 01.21.2026
Title: Site Plan Resubmittal #2
Drawn: CB/OO Check: OO/NB/BC Date: 02.23.2026

SOUTHTOWN BY 4M

Existing Conditions Plan - ALTA Survey

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

SEAL:

STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-201

21500282.PREL2-SURVEY.dwg CB 2/24/2026 12:08

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NATURAL FEATURES ANALYSIS NOTES:

1. 100-YEAR FLOODPLAIN: THERE IS NO FEMA MAPPED FLOOD PLAIN ON THE SITE.
2. LANDMARK TREES: SEE NATURAL FEATURES PLAN (THIS SHEET) AND EXISTING TREE TABLE (THIS SHEET). THERE ARE NINE (9) LANDMARK TREES TO BE REMOVED. THE CITY HAS REMOVED TWO (2) LANDMARK STREET TREES AND REPLACED THEM WITH NEW TREES.
3. STEEP SLOPES: THERE ARE NO STEEP SLOPES ON THE PROJECT SITE.
4. EXISTING WATERCOURSE: THERE ARE NO WATERCOURSES ON THE SITE.
5. BOUNDARY AND BASAL AREA ESTIMATE WOODLANDS: THERE ARE NO WOODLANDS ON THE SITE.
6. BOUNDARY AND CHARACTER OF ALL WETLANDS: THERE ARE NO WETLANDS ON THE SITE.

TREE SURVEY

Tree ID	Scientific Name	Common Name	DBH	Landmark	Conditon/Notes	Invasive	Remove
2301	*Acer saccharinum*	Silver Maple	30.5"	Yes			x
2302	*Thuja occidentalis*	Arborvitae	10"	No			x
2303	*Ulmus pumila*	Siberian Elm	27.5"	No		Class 1 invasive	x
2304	*Acer platanoides*	Norway Maple	8"	No		Class 2 invasive	x
2305	*Ulmus pumila*	Siberian Elm	13.6"	No	multi-stem	Class 1 invasive	x
2306	*Acer platanoides*	Norway Maple	11"	No		Class 2 invasive	x
2307	*Ulmus pumila*	Siberian Elm	9"	No		Class 1 invasive	x
2308	*Ulmus pumila*	Siberian Elm	14"	No		Class 1 invasive	x
2309	*Ulmus pumila*	Siberian Elm	16"	No		Class 1 invasive	x
2310	*Ulmus pumila*	Siberian Elm	7.5"	No		Class 1 invasive	x
2311	*Ulmus pumila*	Siberian Elm	9"	No		Class 1 invasive	x
2312	*Ulmus pumila*	Siberian Elm	8"	No		Class 1 invasive	x
2313	*Ulmus pumila*	Siberian Elm	17"	No		Class 1 invasive	x
2314	*Ulmus pumila*	Siberian Elm	21.7"	No	multi-stem	Class 1 invasive	x
2315	*Acer platanoides*	Norway Maple	13.5"	No		Class 2 invasive	x
2316	*Ulmus americana*	American Elm	8.5"	No			x
2317	*Acer platanoides*	Norway Maple	24.5"	No		Class 2 invasive	x
2318	*Acer platanoides*	Norway Maple	28"	No		Class 2 invasive	x
2319	*Acer platanoides*	Norway Maple	19"	No		Class 2 invasive	x
2320	*Morus alba*	Muberry	25"	No		Class 2 invasive	x
2321	*Juglans nigra*	Black Walnut	7"	No			x
2322	*Acer saccharum*	Sugar Maple	20"	Yes			x
2323	*Ulmus pumila*	Siberian Elm	23.5"	No		Class 1 invasive	x
2324	*Morus alba*	Muberry	15.6"	No	multi-stem	Class 2 invasive	x
2326	*Juglans nigra*	Black Walnut	28.5"	Yes			x
2327	*Morus alba*	Muberry	24"	No		Class 2 invasive	x
2328	*Ulmus americana*	American Elm	8"	No			x
2329	*Pinus resinosa*	Red Pine	21"	No			x
2330	*Thuja occidentalis*	Arborvitae	21.3"	Yes	multi-stem		x
2331	*Juniperus virginiana*	Eastern Red Cedar	9.5"	Yes			x
2332	*Juniperus virginiana*	Eastern Red Cedar	10"	Yes			x
2333	*Thuja occidentalis*	Arborvitae	17"	Yes	multi-stem		x
2334	*Celtis occidentalis*	Common Hackberry	7"	No			x
2335			14"	No	stump		x
2336	*Thuja occidentalis*	Arborvitae	17.5"	Yes	multi-stem		x
2337	*Ulmus pumila*	Siberian Elm	8"	No		Class 1 invasive	x
2338	*Thuja occidentalis*	Arborvitae	14"	Yes	multi-stem		x
1	*Celtis occidentalis*	Common Hackberry	3"	No	Street Tree		
2	*Gingko biloba*	Gingko	3"	No	Street Tree		
3	*Prunus serrulata*	Flowering Cherry	3"	No	Steet Tree		x
4	*Acer mtyabe*	Miyabe Maple	8"	No	Steet Tree		x
5	*Quercus macrocarpa*	Bur Oack	3"	No	Steet Tree		
6	*Acer rubrum*	Red Maple	3"	No	Steet Tree		x
7	*Celtis occidentalis*	Common Hackberry	3"	No	Steet Tree		
8	*Gymnocladus dioicus*	Kentucky Coffeetree	3"	No	Steet Tree		
9	*Gymnocladus dioicus*	Kentucky Coffeetree	3"	No	Steet Tree		
10	*Acer grisuem*	Paperbark Maple	3"	No	Steet Tree		
11	*Acer platanoides*	Norway Maple	10"	No	Steet Tree	Class 2 invasive	
12	*Acer platanoides*	Norway Maple	16.5"	No	Steet Tree	Class 2 invasive	x
13	*Amelancier spp.*	Serviceberry	3"	No	Steet Tree		x

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

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

CERTIFIED ARBORIST ISA

LEGEND

EXISTING LANDMARK TREE

EXISTING TREE

PROP. TREE PROTECTION FENCE

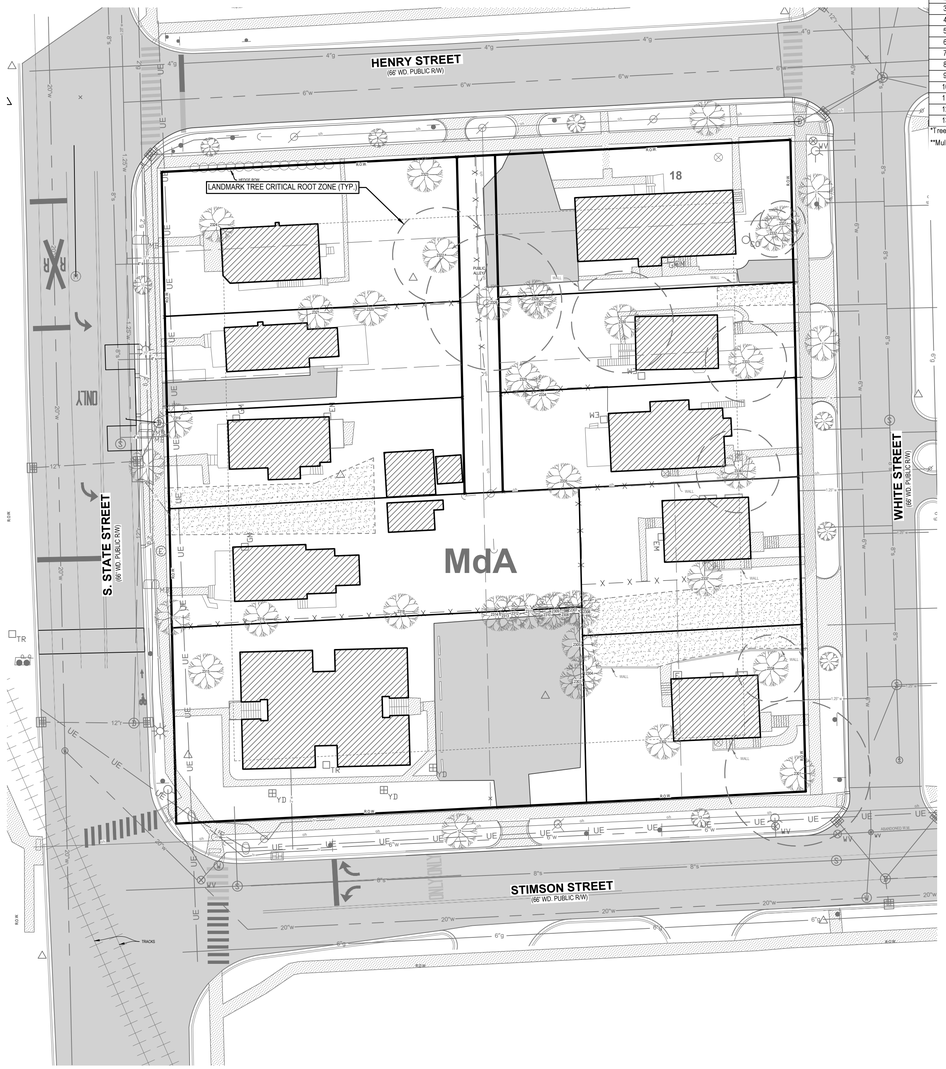
EXISTING GRADE CONTOUR

EXISTING STEEP SLOPES

SOIL TYPE LIMITS

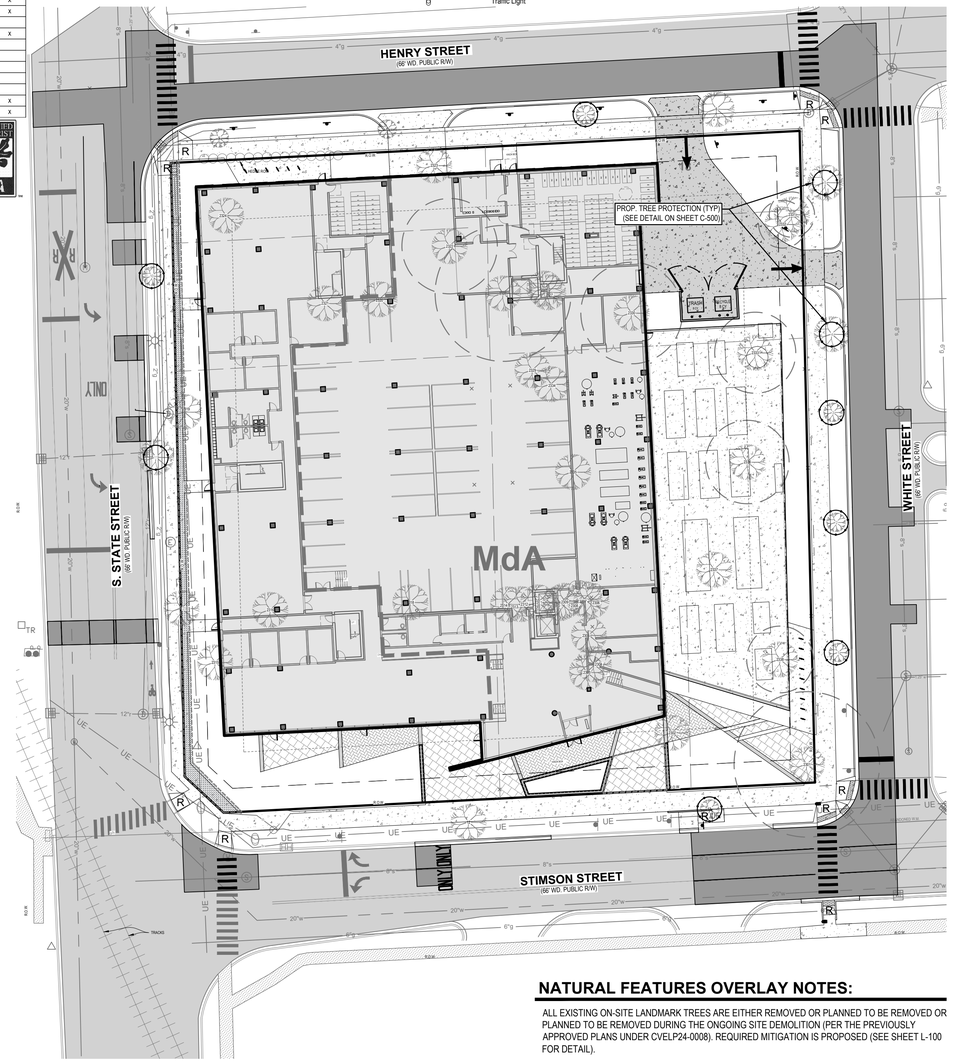
Benchmark / Control Point
Catch Basin - Square
Cleanout
Deciduous Tree
Electric Manhole
Electric Meter
Gas Meter
Guy Anchor
Hand Hole
Hydrant
Iron - Found
Light Pole
Mailbox
Miss Dig Flag - Cable
Miss Dig Flag - Gas
Manhole
Sign
Sanitary Sewer Manhole
Stormwater Manhole
Telephone Manhole
Transformer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

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



NATURAL FEATURES ANALYSIS

SCALE: 1" = 30'



NATURAL FEATURES OVERLAY

SCALE: 1" = 30'

NATURAL FEATURES OVERLAY NOTES:

ALL EXISTING ON-SITE LANDMARK TREES ARE EITHER REMOVED OR PLANNED TO BE REMOVED OR PLANNED TO BE REMOVED DURING THE ONGOING SITE DEMOLITION (PER THE PREVIOUSLY APPROVED PLANS UNDER CVELP24-0008). REQUIRED MITIGATION IS PROPOSED (SEE SHEET L-100 FOR DETAIL).

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PREPARED FOR:
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Title: Site Plan Resubmittal #2
Drawn: CB/OO Check: OO/NB/BC Date: 02.23.2026

SOUTHTOWN BY 4M

Natural Features Plan

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

SEAL:

STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-202

21500282.PRE2.dwg CB 2/24/2026 12:09

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Soil Boring No. B-1

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

CONSULTING GROUP

SUBSURFACE PROFILE | SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 842.0 ft ±

ELEV. (ft)	PRO. FILE	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
	Topsoil: Dark Brown Silty Sand with trace gravel	0.5						
	Fill: Medium Compact Brown Silty Sand with trace gravel and organic matter, occasional clay clods (Organic Content = 4.6%)	4.0	S-1	6 8 6	14			
837.0		5	S-2	7 10 17	36			
			S-3	5 12 15	27			
832.0	Medium Compact to Compact Brown Sand with trace silt and gravel	10	S-4	7 13 14	27			
827.0		15	S-5	7 14 19	33			
		18.0						
822.0		20	S-6	4 11 18	29			
817.0	Medium Compact Gray Sand with trace silt and gravel	25	S-7	11 15 15	30			
		28.0						
812.0	Medium Compact to Compact Gray Silty Sand (Finer than No. 200 Sieve @ 30 feet = 26.2%)	30	S-8	8 15 18	33			
807.0	End of Boring @ 35 ft	35.0	S-9	6 12 11	23			

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

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

Water Level Observation:
9 feet during and upon completion

Notes:
Borehole collapsed at 9 ft after auger removal

Excavation Backfilling Procedure:
Auger cuttings

Figure No. 1

Soil Boring No. B-2

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

CONSULTING GROUP

SUBSURFACE PROFILE | SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 842.0 ft ±

ELEV. (ft)	PRO. FILE	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
	Surface Gravel	0.2						
	Fill: Medium Compact Brown and Dark Brown Silty Sand with trace gravel and organic matter, occasional clay clods (Organic Content = 5.0%)	4.0	S-1	9 9 9	18			
837.0		5	S-2	13 20 24	44			
	Compact to Very Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 5 feet = 8.8%)		S-3	15 28 34	62			
832.0		10	S-4	12 16 23	39			
		13.0						
827.0	Compact Gray Sand with trace silt and gravel	15	S-5	8 15 19	34			
822.0		20	S-6	8 10 22	32			
817.0		25	S-7	10 15 20	35			
		28.0						
812.0	Medium Compact Gray Silty Sand	30	S-8	5 12 16	28	22.0		
807.0	Medium Gray Silty Clay with trace sand, frequent silt layers	33.0	S-9	9 9 12	21	23.3		1500*
	End of Boring @ 35 ft	35.0						

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

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

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

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

Excavation Backfilling Procedure:
Auger cuttings

Figure No. 2

Soil Boring No. B-3

Project Name: Southtown by 4M
Project Location: 714 Henry Street
Ann Arbor, Michigan 48104
G2 Project No. 223573
Latitude: 42.26070° Longitude: -83.73974°

CONSULTING GROUP

SUBSURFACE PROFILE | SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 839.0 ft ±

ELEV. (ft)	PRO. FILE	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
	Bituminous Concrete (Asphalt)	0.3						
	Fill: Medium Compact Brown and Dark Brown Silty Sand with trace gravel, occasional fragments and asphalt fragments	3.0	S-1	5 5 9	18			
834.0		5	S-2	8 13 8	23			
			S-3	12 18 17	35			
829.0	Medium Compact to Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 15 feet = 11.3%)	10	S-4	9 14 16	30			
824.0		15	S-5	10 17 21	38			
		18.0						
819.0	Medium Compact Gray Sand with trace silt and gravel	20	S-6	8 12 17	29			
814.0		25	S-7	3 6 6	12			
		28.0						
809.0	Medium Compact to Compact Gray Silty Sand	30	S-8	7 10 17	33			
804.0	Medium Gray Silty Clay with trace sand, frequent silt layers	32.0	S-9	8 10 13	23	24.2	114	1030
	End of Boring @ 35 ft	35.0						

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

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

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

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

Excavation Backfilling Procedure:
Auger cuttings
Capped with ashpaltic cold patch

Figure No. 3

Test Pit No. TP-01

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

CONSULTING GROUP

SUBSURFACE PROFILE | SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 842.0 ft ±

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

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

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

Water Level Observation:
Dry during and upon completion

Notes:
* Calibrated Hand Penetrometer

Excavation Backfilling Procedure:
Excavated soil; uncontrolled

Figure No. 1

Test Pit No. TP-02

Project Name: Southtown by 4M
Project Location: 714 Henry Street
Ann Arbor, Michigan 48104
G2 Project No. 223573
Latitude: 42.26081° Longitude: -83.73931°

CONSULTING GROUP

SUBSURFACE PROFILE | SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 839.0 ft ±

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

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

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

Water Level Observation:
Dry during and upon completion

Excavation Backfilling Procedure:
Excavated soil; uncontrolled

Figure No. 2

Soil Boring No. B-4

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

CONSULTING GROUP

SUBSURFACE PROFILE | SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 839.0 ft ±

ELEV. (ft)	PRO. FILE	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
	Surface Gravel	0.2						
	Fill: Medium Compact Dark Brown Silty Sand with trace gravel and organic matter, occasional clay clods (Organic Content = 1.0%)	4.0	S-1	5 7 7	12			
834.0		5	S-2	8 15 16	31			
			S-3	12 14 14	28			
829.0	Medium Compact to Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 10 feet = 6.9%)	10	S-4	6 11 9	20			
824.0		15	S-5	3 5 8	13			
		18.0						
819.0	Medium Compact Gray Sand with trace silt and gravel	20	S-6	10 7 10	17			
814.0		24.5	S-7	4 4 8	12			
	Medium Compact Gray Sandy Silt	28.0						
809.0		30	S-8	4 8 10	18			
804.0	Stiff Gray Silty Clay with trace sand, frequent sand seams	33.0	S-9	4 6 7	13	22.7	116	2860
	End of Boring @ 35 ft	35.0						

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

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

Water Level Observation:
8 feet during and upon completion

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

Excavation Backfilling Procedure:
Auger cuttings

Figure No. 4

Soil Boring No. B-5

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

CONSULTING GROUP

SUBSURFACE PROFILE | SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 839.0 ft ±

ELEV. (ft)	PRO. FILE	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
	Surface Gravel	0.2						
	Fill: Medium Compact Brown Clayey Sand with trace gravel, occasional clay clods	3.0	S-1	8 8 8	16			
834.0		5	S-2	8 10 28	47			
	Medium Compact to Compact Brown Sand with trace silt and gravel		S-3	10 15 16	31			
829.0		10	S-4	7 9 11	20			
		14.0						
824.0	Medium Compact to Compact Gray Sand with trace silt and gravel (Finer than No. 200 Sieve @ 20 feet = 5.2%)	15	S-5	7 7 18	25			
819.0		20	S-6	5 14 22	36			
		24.5						
814.0	Medium Compact Gray Sandy Silt with trace clay, frequent clay seams	25	S-7	5 8 13	21			
809.0		28.0						
	Medium to Stiff Gray Silty Clay with trace sand, occasional silt layers	30	S-8	8 8 10	18	27.3	106	1110
804.0		33.0	S-9	4 5 9	14	19.3		2550*
	End of Boring @ 35 ft	35.0						

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

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

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

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

Excavation Backfilling Procedure:
Auger cuttings

Figure No. 5

Soil Boring No. B-6

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

CONSULTING GROUP

SUBSURFACE PROFILE | SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 840.0 ft ±

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

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

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

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

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

Excavation Backfilling Procedure:
Auger cuttings
Capped with ashpaltic cold patch

Figure No. 6

Test Pit No. TP-03

Project Name: Southtown by 4M
Project Location: 714 Henry Street
Ann Arbor, Michigan 48104
G2 Project No. 223573
Latitude: 42.26065° Longitude: -83.73961°

CONSULTING GROUP

SUBSURFACE PROFILE | SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 840.0 ft ±

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

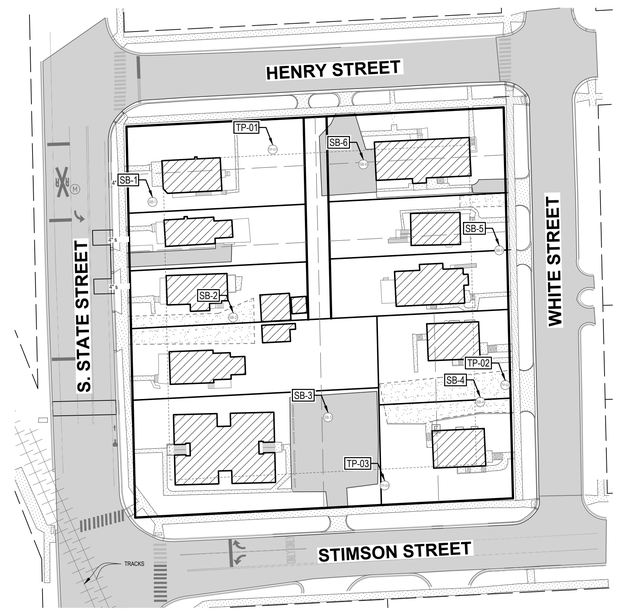
Total Depth: 5 ft
Excavation Date: March 16, 2023
Inspector: O. Rama
Contractor: Maulbetsch Excavating and Tree, LLC
Operator: P. Maulbetsch

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

Water Level Observation:
Dry during and upon completion

Excavation Backfilling Procedure:
Excavated soil; uncontrolled

Figure No. 3



SOIL BORING LOCATION MAP
SCALE: 1" = 50'

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Title: Site Plan Resubmittal #2
Drawn: CB/OO Check: OO/NB/BC Date: 02.23.2026

SOUTHTOWN BY 4M

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

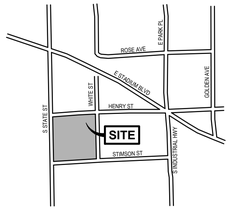
SEAL:
STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-203

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LOCATION MAP
NOT TO SCALE

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

LEGEND

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

REMOVAL / DEMOLITION NOTES

1) THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES AT LEAST THREE WEEKS PRIOR TO THE BEGINNING OF CONSTRUCTION OPERATIONS. THERE ARE EXISTING UNDERGROUND UTILITIES WHICH CROSS THE PROPOSED REPLACEMENT WORK AREAS. ALTHOUGH THEIR EXACT LOCATION CANNOT BE DETERMINED, IT IS KNOWN THESE UTILITIES ARE LOCATED WHERE DIGGING IS REQUIRED. THE CONTRACTOR SHALL CONDUCT THE REQUIRED EXCAVATION IN THESE AREAS WITH EXTREME CAUTION.
2) ALL EXISTING UTILITY INFORMATION SHOWN IS TAKEN FROM EXISTING RECORDS, AND FIELD VERIFIED WHERE ACCESSIBLE ONLY. INFORMATION OBTAINED FROM EXISTING RECORDS MAY NOT BE COMPLETE OR ACCURATE. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. THE CONTRACTOR SHALL FIELD VERIFY FOR ACCURACY, LOCATION AND CONDITION.
3) BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY AND BY THE OWNER, REPRESENTATIVES OF THE CITY, THE OWNER AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE EXISTING SEWERS WITHIN THE WORK LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING UTILITIES AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS AND EXISTING VIDEO TAPES. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE CONTRACTOR.
4) THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION WORK.
5) ALL EXISTING UTILITIES, SEWERS AND WATER LINES ARE TO REMAIN UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH ALL APPLICABLE UTILITY COMPANIES, MUNICIPALITIES AND AGENCIES BEFORE COMMENCING ANY WORK.
6) THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES REGARDING REMOVAL OF EXISTING POLES, OVERHEAD WIRES, UNDERGROUND UTILITIES, GUY WIRES, GAS LINES, ETC. ALL ADJUSTMENT OR RECONSTRUCTION WORK, EXCEPT FOR THOSE STRUCTURES OTHERWISE NOTED ON THE PLANS, SHALL BE PERFORMED BY THE CONTRACTOR. EXISTING APPURTENANCES SUCH AS UTILITY POLES AND VALVES BOX SHALL NOT BE DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION.
7) THE CONTRACTOR SHALL MAINTAIN EXISTING UTILITY SERVICE TO ALL ADJOINING PROPERTIES.
8) ALL DEBRIS SHALL BE REMOVED FROM THE SITE, AND NO STOCKPILING ON SITE SHALL BE ALLOWED UNLESS APPROVED BY THE OWNER OR THEIR REPRESENTATIVES.
9) THE CONTRACTOR SHALL LIMIT SAWCUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE REQUIRED OR AS SHOWN. ALL PAVEMENTS TO BE REMOVED SHALL BE SAWCUT AND REMOVED TO FULL DEPTH AT ALL PAVEMENT LIMITS OR EXISTING JOINTS. IF ANY DAMAGE IS INCURRED TO ANY OF THE SURROUNDING PAVEMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR AT NO ADDITIONAL COST TO ANYONE ELSE, INCLUDING THE CITY OR OWNER.
10) ASPHALT AREAS SHOWN TO BE SAWCUT AND REMOVED FULL DEPTH ARE ACTUAL FACE OF PROPOSED CURBS. IT WILL BE NECESSARY TO MAKE OFF-SET SAWCUTS TO PROVIDE CLEARANCE FOR PROPOSED CURBS. THE CONTRACTOR SHALL DETERMINE THE AMOUNT OF OFF-SET NECESSARY TO CONSTRUCT THE PROPOSED CURBS AND SHALL BE APPROVED BY THE CITY OF ANN ARBOR ENGINEERING. ADDITIONAL CUTS MAY BE REQUIRED TO FACILITATE THE REMOVAL OF PAVEMENT, BUT THERE WILL BE NO EXTRA PAYMENT FOR ADDITIONAL CUTS. PAVEMENT SHALL BE REMOVED WITHOUT DAMAGING OR UNDERMINING THE REMAINING PAVEMENT. IF ADJACENT PAVEMENT IS DAMAGED, THE CONTRACTOR SHALL MAKE ADDITIONAL FULL DEPTH SAWCUTS AND REMOVE THE DAMAGE AREAS AS NECESSARY.
11) ALL PAVEMENT REMOVAL AREAS SHALL BE FULL PAVEMENT CROSS-SECTION REMOVAL DOWN TO NATIVE SOIL LAYER IN ACCORDANCE WITH THE GEOTECHNICAL REPORT DATED OCTOBER 4, 2022. ALL TREES WITHIN THE GRADING LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.
12) IF FOOTING DRAINS FOR THE EXISTING BUILDING ARE CONNECTED TO THE SANITARY SEWER SYSTEM, DISCONNECTION IS REQUIRED IN ACCORDANCE WITH CURRENT CITY SPECIFICATIONS. FOOTING DRAINS REMOVED FROM ANY EXISTING BUILDINGS MAY OFFSET ANY REQUIRED MITIGATION. VERIFICATION OF EXISTING FOOTING DRAINS SHALL BE PERFORMED BY ENGINEERING FOR ANY BUILDING CONSTRUCTED BETWEEN 1930 AND 1982. TO SCHEDULE INSPECTION, CONTACT AMY PONSOCK AT APONSOCK@A2GOV.ORG.
13) ANY SERVICE LEADS THAT WILL NOT BE REUSED SHALL BE DISCONNECTED AT THEIR RESPECTIVE MAINS.
14) SITE DEMOLITION IS CURRENTLY ONGOING (PER PREVIOUSLY APPROVED PLANS UNDER CVLP24-0008).

LEGEND

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

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 .

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

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

NOTE:
EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "PLANS" 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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PREPARED FOR:
Southtown by 4M, LLC

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Title: Site Plan Resubmittal #2		
Drawn: CB/OO	Check: OO/NB/BC	Date: 02.23.2026

SOUTHTOWN BY 4M

Demolition Plan

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

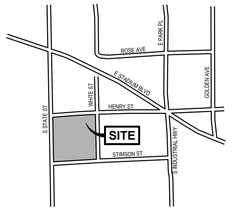
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PROJECT NO:
21500282

SHEET NO:
C-205

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LOCATION MAP
NOT TO SCALE

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

SITE NOTES

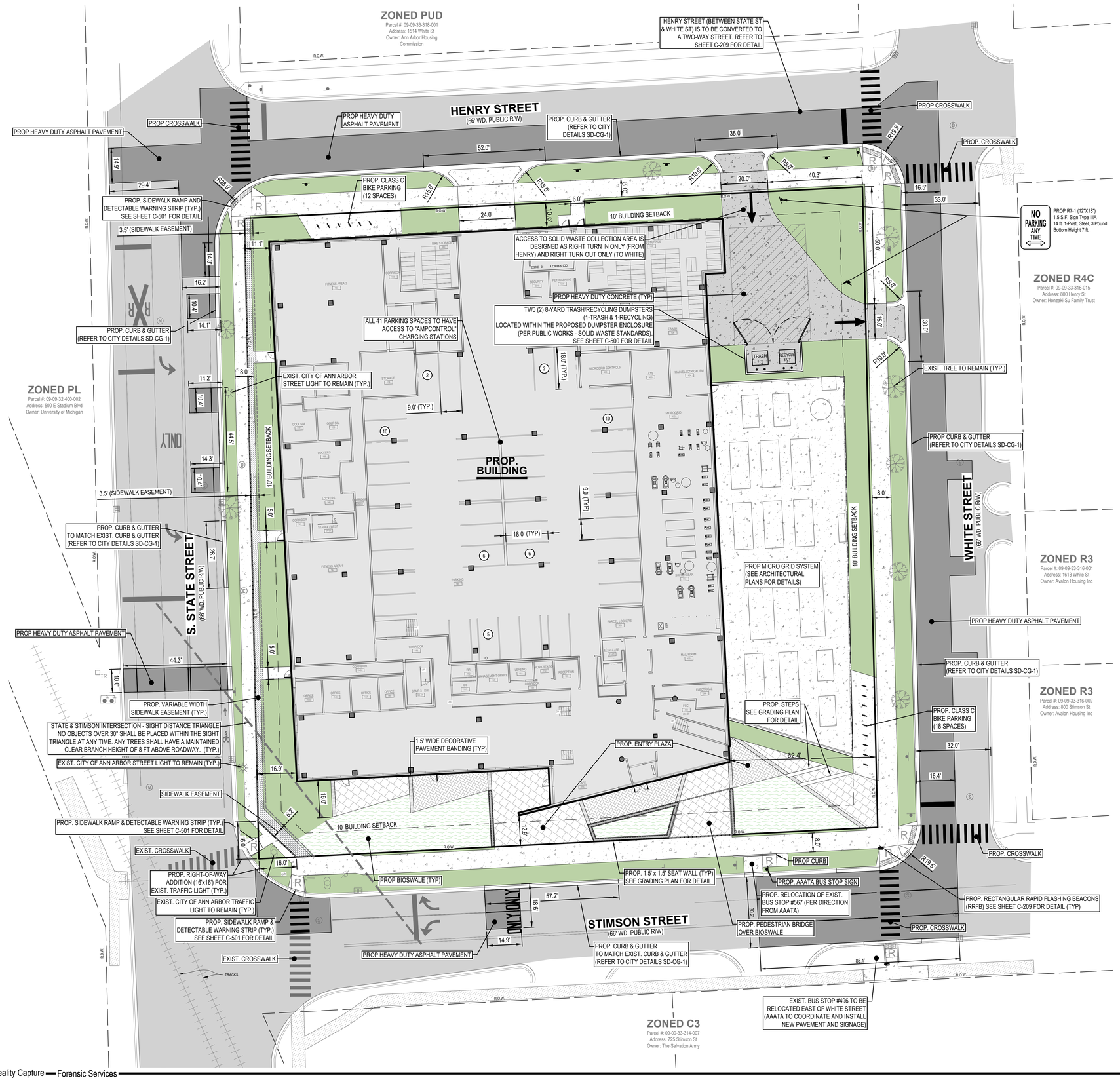
1. STORAGE AREAS FOR CONSTRUCTION SHALL NOT INTERFERE WITH FIRE / EMERGENCY SITE ACCESS.
2. ALL SIDEWALKS SHALL BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME. PRIOR TO THE ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS 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 2021 IFC 510 - EMERGENCY RESPONDER RADIO COVERAGE.
6. ANY DAMAGE TO PUBLIC STREETS AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AS DIRECTED BY CITY ENGINEERING.
7. IF A CRANE WILL BE USED IN THE RIGHT OF WAY, THE CONTRACTOR SHALL OBTAIN A TEMPORARY LICENSE AGREEMENT FROM THE CITY AS NEEDED.
8. A LOGISTICS PLAN MUST BE SUBMITTED TO THE CITY FOR REVIEW IF ANY LONG TERM LANE CLOSURE OR SIDEWALK CLOSURE IS ANTICIPATED.
9. NO PART OF STAIRS SHALL BE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY.
10. ELECTRIC TRANSFORMER SHALL NOT BE LOCATED IN THE PUBLIC RIGHT-OF-WAY.
11. PAVERS SHALL NOT BE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY.
12. THE CONSTRUCTION OF ANY PUBLIC IMPROVEMENT SHOWN ON THESE PLANS THAT IS SUBJECT TO THE CITY OF ANN ARBOR PUBLIC SERVICES AREA DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS ("STANDARDS") SHALL CONFORM TO THESE STANDARDS, APPROVED OCTOBER 20, 2025, AND ALL SUBSEQUENT UPDATES. THE OMISSION OF ANY STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR OF THEIR OBLIGATION TO CONSTRUCT ITEMS IN COMPLETE ACCORDANCE WITH THOSE STANDARDS.
13. PAVEMENT MARKINGS DISTURBED DUE TO PAVEMENT CUTS OR CONSTRUCTION RELATED ACTIVITIES SHALL BE REPLACED AS DIRECTED BY ENGINEERING. REPLACEMENT DURING CONSTRUCTION OF THE PROJECT MAY BE CONSIDERED TEMPORARY, WITH FINAL PAVEMENT MARKING RESTORATION TO OCCUR AT THE END OF THE PROJECT.
14. PLANS HAVE BEEN PREPARED USING THE MICHIGAN STATE PLANE COORDINATE SYSTEM.
15. THE OMISSION OF ANY STANDARD DETAILS DOES NOT RELIEVE THE CONTRACTORS OF THEIR OBLIGATION TO CONSTRUCT ITEMS IN COMPLETE ACCORDANCE WITH THE PUBLIC SERVICES STANDARD SPECIFICATIONS.

ADA ACCESSIBILITY NOTES

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

LEGEND

△	Benchmark / Control Point	YD	Yard Drain
▦	Catch Basin - Square	C	Cable TV
CO	Cleanout	UE	Underground Electric
	Deciduous Tree	G	Gas
E	Electric Manhole	OH	Overhead Utility
EM	Electric Meter	SS	Sanitary
GM	Gas Meter	ST	Storm
	Guy Anchor	UT	Underground Telephone
	Hand Hole	W	Watermain
	Hydrant	X	Fence
○	Iron - Found		Railroad
	Light Pole		Zoning Setback
MB	Mailbox		Asphalt
	Miss Dig Flag - Cable		Concrete
	Miss Dig Flag - Gas		Gravel
M	Manhole		Existing Building
S	Sign	M=	Measured Dimension
S	Sanitary Sewer Manhole	P=	Platted Dimension
B	Stormwater Manhole		PROPOSED PAVERS 1
T	Telephone Manhole		PROPOSED PAVERS 2
TR	Transformer		PROPOSED PAVER BANDING
	Traffic Light		PROPOSED BITUMINOUS (HEAVY DUTY)
	Utility Pole		PROPOSED CONCRETE (STANDARD DUTY)
W	Water Manhole		PROPOSED CONCRETE (HEAVY DUTY)
WV	Water Valve		PROPOSED GREENSPACE
			PROPOSED BIOSWALE



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SOUTHTOWN BY 4M

Site Layout Sheet

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

SEAL:

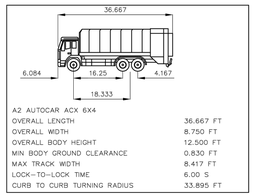


PROJECT NO:
21500282

SHEET NO:
C-206

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A2 AUTOCAR ACX 6X4	
OVERALL LENGTH	36.667 FT
OVERALL WIDTH	8.750 FT
OVERALL BODY HEIGHT	12.500 FT
MIN BODY GROUND CLEARANCE	0.830 FT
MAX TRACK WIDTH	8.417 FT
LOCK-TO-LOCK TIME	6.00 S
CURB TO CURB TURNING RADIUS	33.895 FT

SOLID WASTE NARRATIVE

PROPOSED COLLECTIONS (TRASH & RECYCLING)

A TOTAL OF TWO (2) DUMPSTERS (1 FOR TRASH [8-YARD] AND 1 FOR RECYCLING [8-YARD]) WILL BE USED TO SERVICE THE SOUTHTOWN DEVELOPMENT. THE DUMPSTERS WILL BE LOCATED WITHIN A DOUBLE BIN ENCLOSURE AT THE NORTHEAST CORNER OF THE BUILDING. ACCESS TO THE ENCLOSURE WILL BE MADE FROM HENRY STREET THROUGH TO WHITE STREET AND ALL ACCESS CLEARANCES OUTLINED IN THE CITY OF ANN ARBOR SOLID WASTE STANDARDS ARE MET. ACCESS DRIVE TO ENCLOSURE WILL BE USED FOR SOLID WASTE ONLY AND NO PARKING WILL BE PERMITTED AT ANY TIME ALONG THE ACCESS DRIVE. IT IS ANTICIPATED THAT FOUR (4) TRASH PICKUPS BY WASTE MANAGEMENT (AT THE PROPERTY OWNER'S EXPENSE) WILL BE REQUIRED PER WEEK. THE PROPERTY OWNER IS RESPONSIBLE FOR MANAGING SOLID WASTE ON-SITE. IT IS ALSO ANTICIPATED THAT THREE (3) RECYCLING PICKUPS BY THE CITY WILL BE REQUIRED (SEE SOLID WASTE CALCULATIONS BELOW).

ADDITIONAL NOTES

1) THE PROPERTY OWNER IS RESPONSIBLE FOR ALL SNOW AND ICE REMOVAL REQUIRED FOR SAFE ACCESS TO THE ENCLOSURES AND SERVICING OF ALL SOLID WASTE CONTAINERS.
2) CURB CARTS MAY NOT BE PLACED IN PROTECTED BIKE LANES OR TRAVEL LANES ON MAJOR STREETS.
3) THE PAVEMENT SURFACE OF THE SOLID WASTE SERVICE ROUTE SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF SOLID WASTE VEHICLES (79,500 GVWR).
4) THE CITY'S COMPOST PROGRAM DOES NOT CURRENTLY EXTEND TO MULTI-FAMILY COMPOST COLLECTION MAY BE SHOWN ON THE PLANS, NOTING THAT IT IS SUBJECT TO CHANGE DEPENDING ON WHAT THE COLLECTION NEEDS ARE DETERMINED TO BE. PRIVATE COMPOST SERVICE CAN BE ARRANGED THROUGH MY GREEN MICHIGAN.

SOLID WASTE CALCULATIONS

THE ASSUMED AVERAGE REFUSE GENERATED PER BEDROOM IS **4 LBS PER DAY** (PER THE NATIONAL SOLID WASTE MANAGEMENT ASSOCIATION)

323 BEDS PROPOSED X 4 LBS/BEDROOM/DAY X 7 DAYS/WEEK = **9,044 LBS OF REFUSE (PER DAY)**

9,044 LBS/WEEK X 0.80 (TRASH DIVERSION RATE) = **7,236 LBS TRASH (PER WEEK)**

7,236 LBS / 225 LBS (UNCOMPACTED TRASH) = **~32 CUBIC YARDS (PER WEEK)**

9,044 LBS/WEEK X 0.20 (RECYCLING DIVERSION RATE) = **1,809 LBS RECYCLING (PER WEEK)**

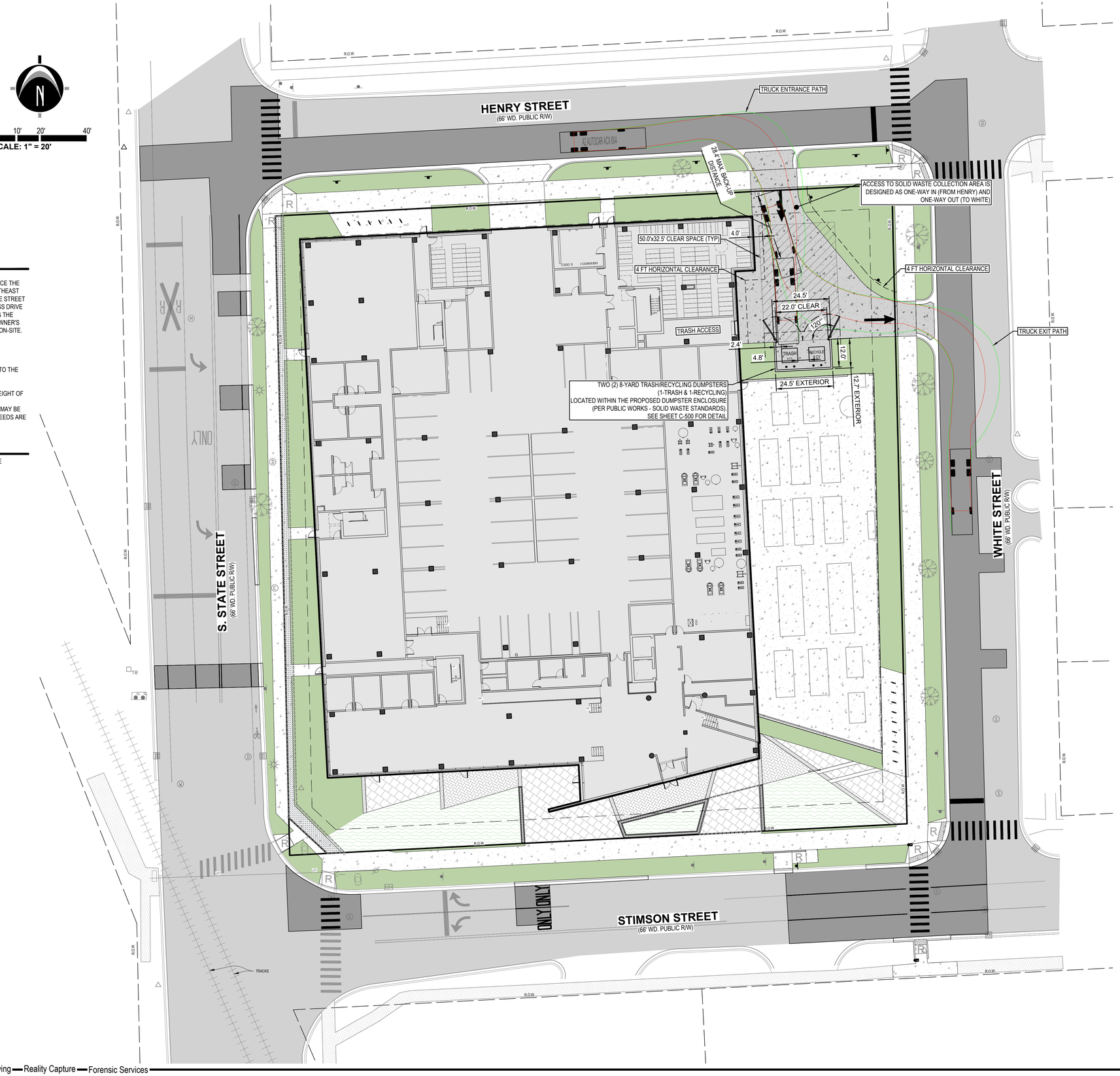
1,809 LBS / 100 LBS (UNCOMPACTED RECYCLING) = **~18 CUBIC YARDS (PER WEEK)**

TOTAL REFUSE = ~7.1 CUBIC YARDS PER DAY | ~50 CUBIC YARDS PER WEEK

PROPOSED COLLECTIONS (TRASH & RECYCLING):

FOUR (4) TRASH COLLECTIONS (PER WEEK) | ONE (1) 8-YARD DUMPSTER PER COLLECTION

THREE (3) RECYCLING COLLECTIONS (PER WEEK) | ONE (1) 8-YARD DUMPSTER PER COLLECTION



LEGEND

△	Benchmark / Control Point	YD	Yard Drain
▦	Catch Basin - Square	C	Cable TV
CO	Cleanout	UE	Underground Electric
	Deciduous Tree	G	Gas
E	Electric Manhole	OH	Overhead Utility
EM	Electric Meter	SS	Sanitary
GM	Gas Meter	ST	Storm
	Guy Anchor	UT	Underground Telephone
	Hand Hole	W	Watermain
	Hydrant	X	Fence
○	Iron - Found		Railroad
	Light Pole		Zoning Setback
MB	Mailbox		Asphalt
	Miss Dig Flag - Cable		Concrete
	Miss Dig Flag - Gas		Gravel
M	Manhole		Existing Building
	Sign	M=	Measured Dimension
S	Sanitary Sewer Manhole	P=	Platted Dimension
D	Stormwater Manhole		PROPOSED PAVERS 1
T	Telephone Manhole		PROPOSED PAVERS 2
TR	Transformer		PROPOSED PAVER BANDING
	Traffic Light		PROPOSED BITUMINOUS (HEAVY DUTY)
	Utility Pole		PROPOSED CONCRETE (STANDARD DUTY)
W	Water Manhole		PROPOSED CONCRETE (HEAVY DUTY)
WV	Water Valve		PROPOSED GREENSPACE
			PROPOSED BIOSWALE

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Phone: 616.575.5190
HOLLAND
730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449

PREPARED FOR:

Southtown by 4M, LLC

1919 S. Industrial Hwy
Ann Arbor, MI 48104

REVISIONS:

Title: Concept Design Package for OAC review		
Drawn: CB/OO	Checked: JVR	Date: 10.10.2025
Title: Draft Site Plan for Pre-Submission meeting		
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Title: Site Plan Resubmittal #2		
Drawn: CB/OO	Check: OO/NB/BC	Date: 02.23.2026

SOUTHTOWN BY 4M

Solid Waste Access Plan

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

SEAL:

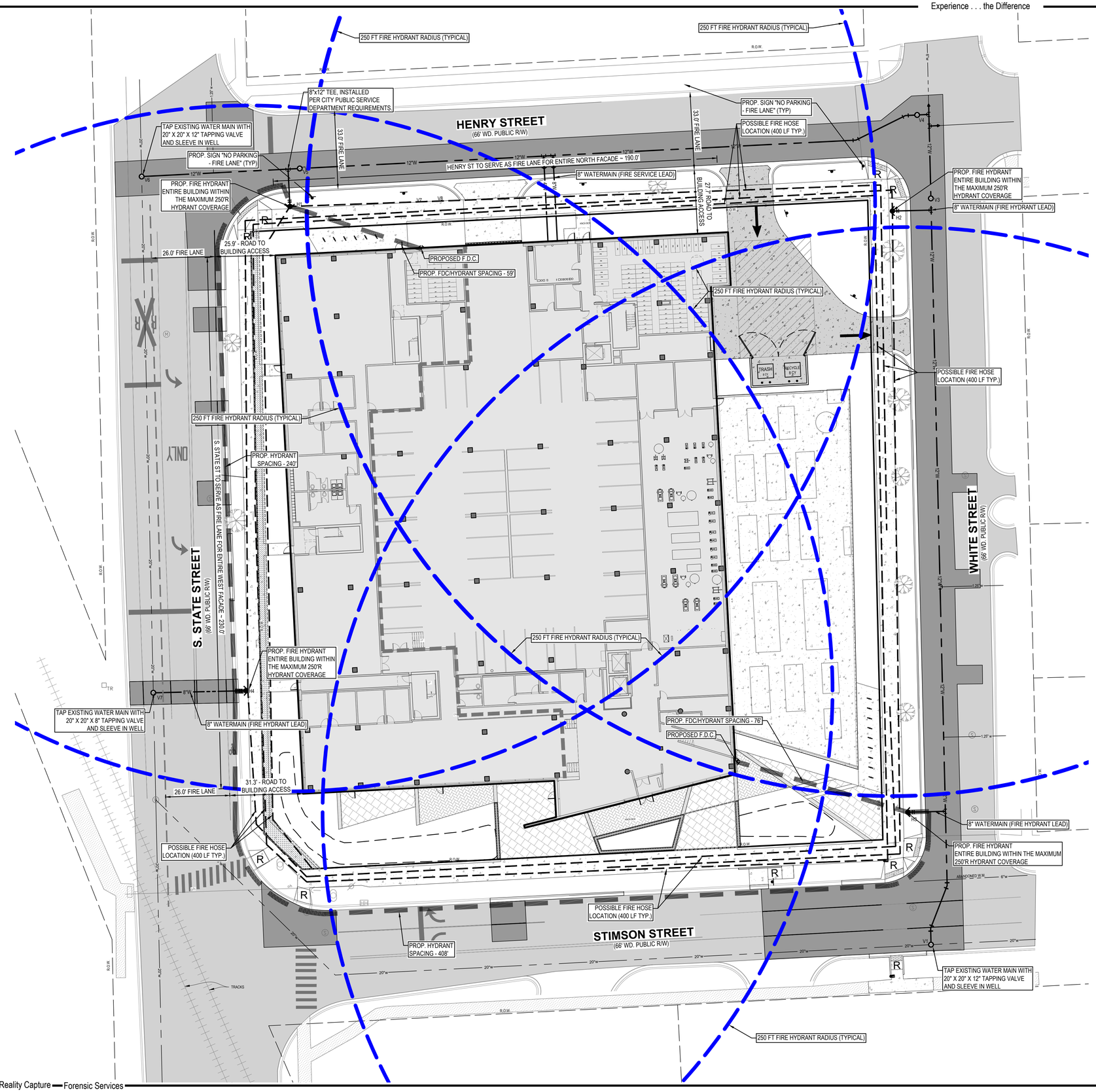
STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO: 21500282

SHEET NO: C-207

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0' 10' 20' 40'

SCALE: 1" = 20'

LEGEND

△	Benchmark / Control Point	YD	Yard Drain
▦	Catch Basin - Square	C	Cable TV
CO	Cleanout	UE	Underground Electric
❀	Deciduous Tree	G	Gas
E	Electric Manhole	OH	Overhead Utility
EM	Electric Meter	SS	Sanitary
GM	Gas Meter	ST	Storm
⊂	Guy Anchor	UT	Underground Telephone
▤	Hand Hole	W	Watermain
	Hydrant	X X	Fence
○	Iron - Found		Railroad
☼	Light Pole		Zoning Setback
MB	Mailbox		Asphalt
	Miss Dig Flag - Cable		Concrete
	Miss Dig Flag - Gas		Gravel
H	Manhole		Existing Building
	Sign	M=	Measured Dimension
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D	Stormwater Manhole		PROPOSED PAVERS 1
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	Utility Pole		PROPOSED CONCRETE (STANDARD DUTY)
W	Water Manhole		PROPOSED CONCRETE (HEAVY DUTY)
WV	Water Valve		PROPOSED GREENSPACE
			PROPOSED BIOSWALE

GENERAL NOTES

1. A FIREWALL WILL NOT BE INCORPORATED IN THIS PROJECT AS IT IS NOT REQUIRED.
2. THE ENTIRE STRUCTURE WILL BE TYPE 1A OR 1B CONSTRUCTION.
3. THE STRUCTURE IS DESIGNED TO HAVE AN NFPA 13 AUTOMATIC FIRE SUPPRESSION SYSTEM (THROUGHOUT).
4. THE STRUCTURE IS DESIGNED WITH A SMOKE REMOVAL SYSTEM.
5. A TYPE 1 (CLASS 1) STANDPIPE SYSTEM FROM THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS TO ALL ROOF SURFACES THROUGH AN ENCLOSED STAIRWAY IS PROVIDED.

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Title: Site Plan Resubmittal #2
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SOUTHTOWN BY 4M

Fire Protection Plan

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

SEAL:

STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-208

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PLANT SCHEDULE

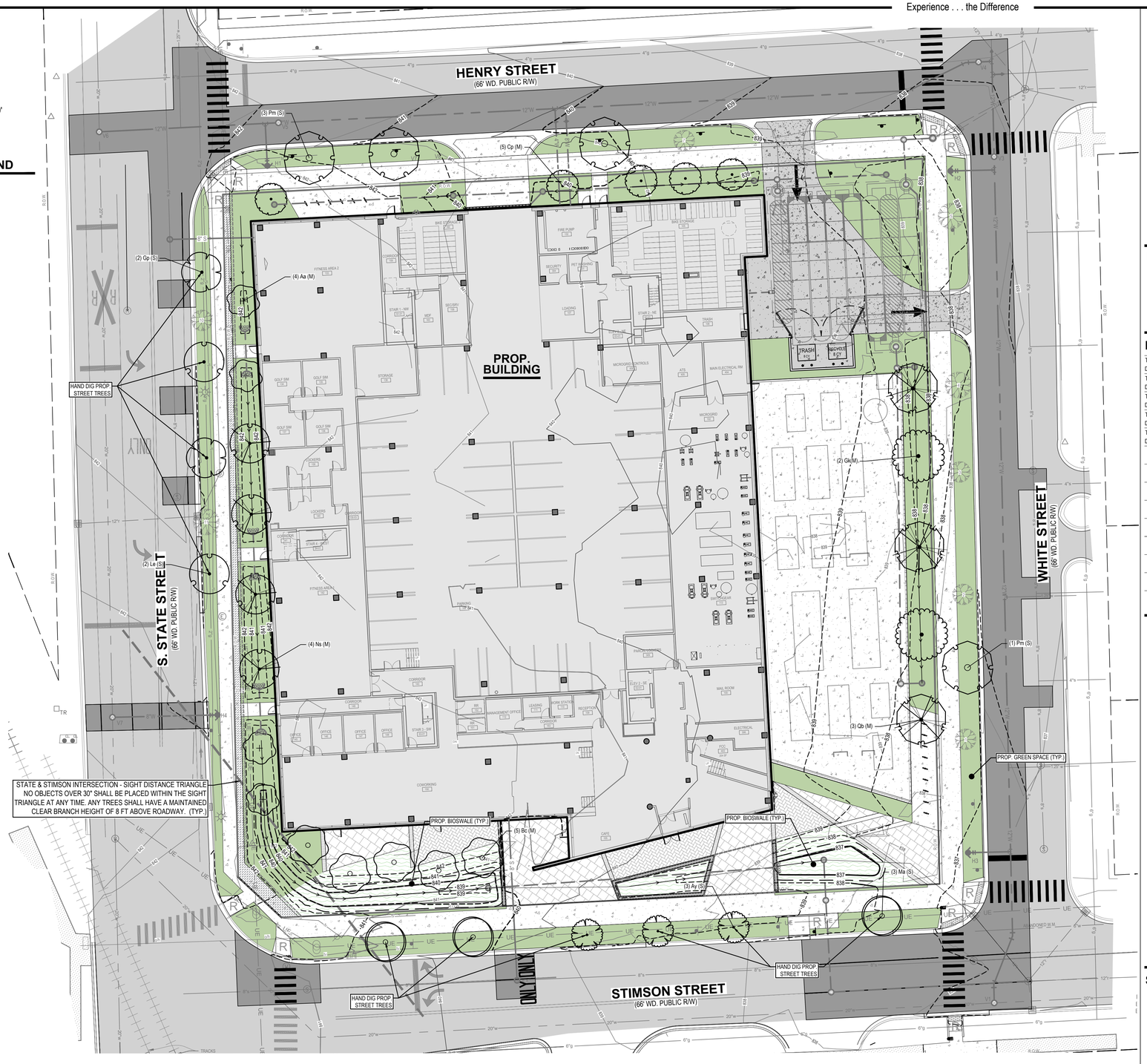
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES					
	Aa (M)	4	Acer rubrum 'JFS-KW78'	Armstrong Gold® Maple	4" cal. min.
	Ay (S)	3	Amelanchier x grandiflora 'Autumn Brilliance' Single Stem/Tree Form	Autumn Brilliance Serviceberry	2.5" cal. min.
	Bc (M)	5	Betula nigra 'Cully'	Heritage® River Birch	4" cal. min.
	Cp (M)	5	Celtis occidentalis 'JFS-KSU1'	Prairie Sentinel® Hackberry	3" cal. min.
	Gk(M)	2	Gymnocladus dioicus	Kentucky Coffeetree	4" cal. min.
	Gp (S)	2	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Maidenhair Tree	2.5" cal. min.
	Le (S)	2	Liriodendron tulipifera 'JFS-Oz'	Emerald City® Tulip Poplar	2.5" cal. min.
	Ma (S)	3	Maackia amurensis	Amur Maackia	2.5" cal. min.
	Ns (M)	4	Nyssa sylvatica	Tupelo	4" cal. min.
	Pm (S)	4	Platanus x acerifolia 'Morton Circle'	Exclamation!™ London Plane Tree	2.5" cal. min.
	Qb (M)	3	Quercus bicolor	Swamp White Oak	4" cal. min.

0' 10' 20' 40'

SCALE: 1" = 20'

PLANT LABEL LEGEND

(M) MITIGATION PLANTINGS
(S) STREET TREE PLANTINGS



LANDSCAPE CALCULATIONS

STREET TREES: SEC. 5.20.10 (B)

1 TREE OF THE MINIMUM SIZE AND SPECIES FOR EVERY 45 LINEAR FEET OF PUBLIC STREET RIGHT-OF-WAY ABUTTING A SITE PLAN SITE. EXISTING TREES MEETING CITY STANDARDS MAY BE USED.	
HENRY ST FRONTAGE (MINUS CURB CUTS): 162 LF	
REQUIRED: 4 TREES	PROPOSED: 3 TREES & 1 EXISTING TREE TO REMAIN
WHITE ST FRONTAGE (MINUS CURB CUT): 237 LF	
REQUIRED: 6 TREES	PROPOSED: 1 TREE & 5 EXISTING TREES TO REMAIN
STIMSON ST FRONTAGE: 264 LF	
REQUIRED: 6 TREES	PROPOSED: 6 TREES
STATE ST FRONTAGE: 273 LF	
REQUIRED: 6 TREES	PROPOSED: 4 TREES & 2 EXISTING TREES TO REMAIN

LANDMARK TREE MITIGATION: SEC. 5.23.6 (E)

A REPLACEMENT TREE OR COMBINATION OF TREES OF A SPECIES NATIVE TO MICHIGAN SHALL BE PROVIDED TO EQUAL A MINIMUM OF 50% OF THE ORIGINAL DBH FOR EACH LANDMARK TREE THAT IS REMOVED	
REQUIRED: 84.15" DBH FOR PROPOSED REMOVAL OF 168.3 DBH OF EXISTING LANDMARK TREES	PROPOSED: 87" DBH REPLACEMENT

LANDSCAPE NOTES

PLANTING NOTES:

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

TOPSOIL AND TURF NOTES:

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

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SOUTHTOWN BY 4M

Landscape Plan

Block surrounded by S. State, Henry, White, and Stimson Streets
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CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

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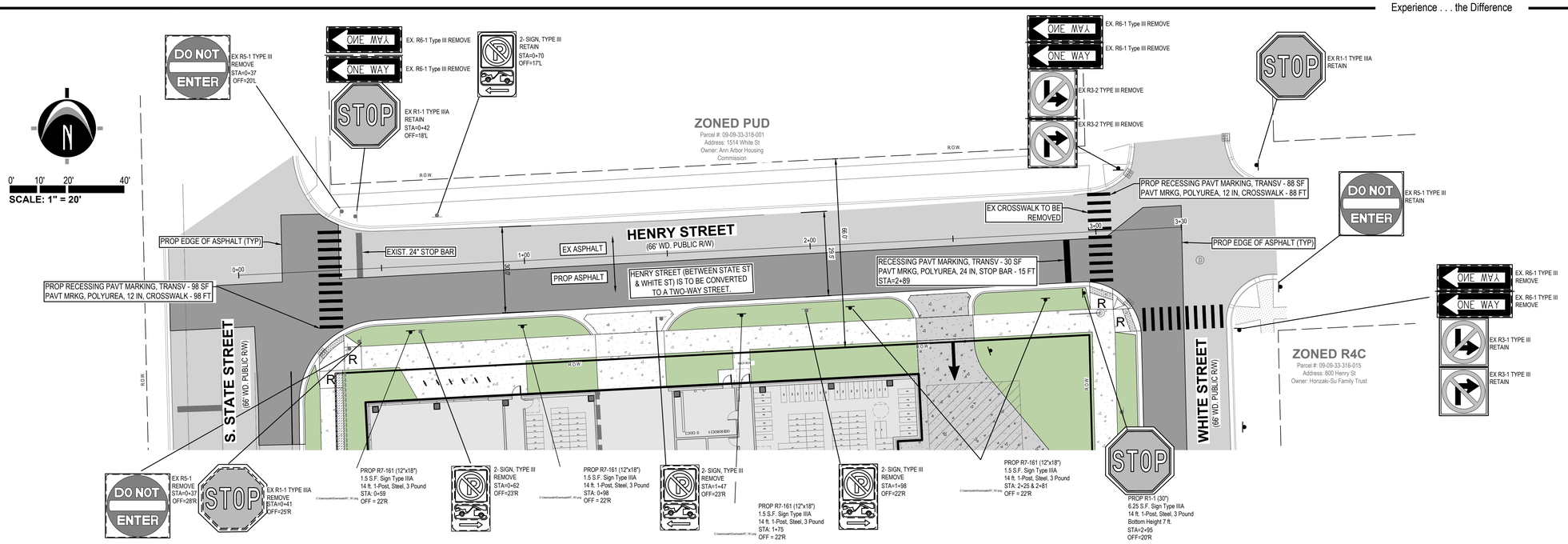
STATE OF MICHIGAN
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21500282

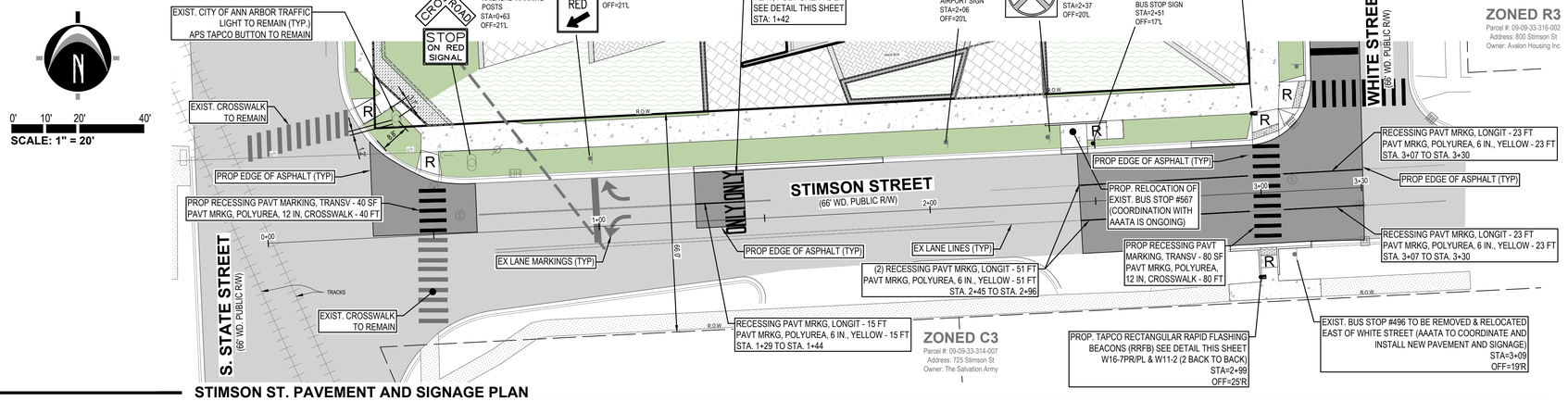
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HENRY ST. PAVEMENT AND SIGNAGE PLAN



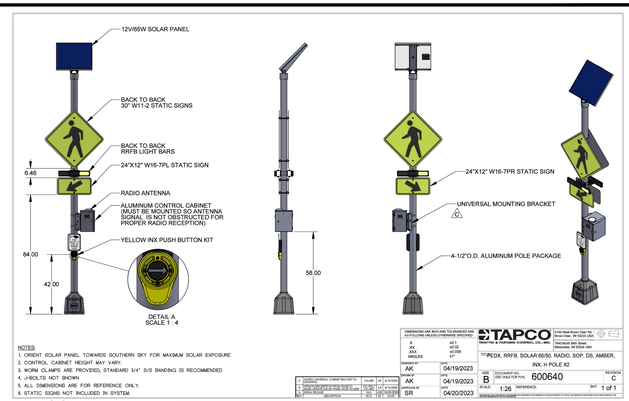
STIMSON ST. PAVEMENT AND SIGNAGE PLAN

LEGEND

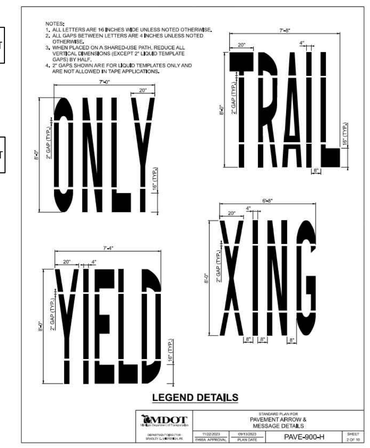
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	Miss Dig Flag - Cable		PROPOSED CONCRETE (STANDARD DUTY)
	Miss Dig Flag - Gas		PROPOSED CONCRETE (HEAVY DUTY)
Ⓜ	Manhole		PROPOSED GREENSPACE
			PROPOSED BIOSWALE
			PROPOSED SIGN

PROP PERMANENT SIGN QUANTITIES THIS SHEET

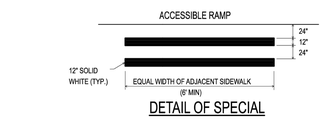
84	FT.	POST, STEEL 3LB
13.75	S.F.	TYPE IIIA SIGNS



TAPCO RRFB DETAIL



"ONLY" PAVEMENT SYMBOL DETAILS



DETAIL OF SPECIAL EMPHASIS CROSSWALK MARKING

CROSSWALK PAVEMENT MARKING DETAILS

MDOT — Michigan Department of Transportation
STANDARD PLAN FOR: INTERSECTION, STOP BAR, & CROSSWALK MARKINGS

DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	11/22/2023 FHWA APPROVAL	09/13/2023 PLAN DATE	PAVE-945-E	SHEET 3 OF 3

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SOUTHTOWN BY 4M

Signage & Pavement Markings

Block surrounded by S. State, Henry, White, and Stimson Streets
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CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

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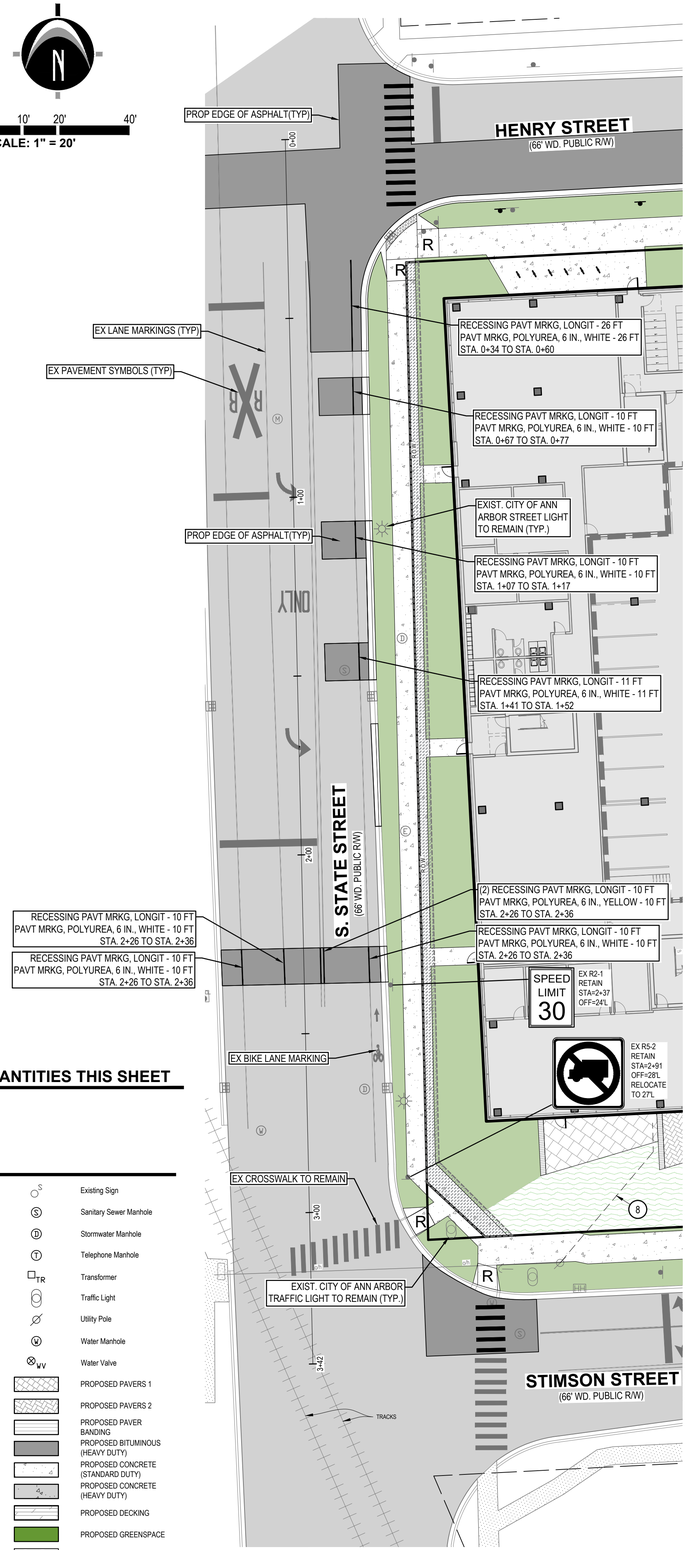
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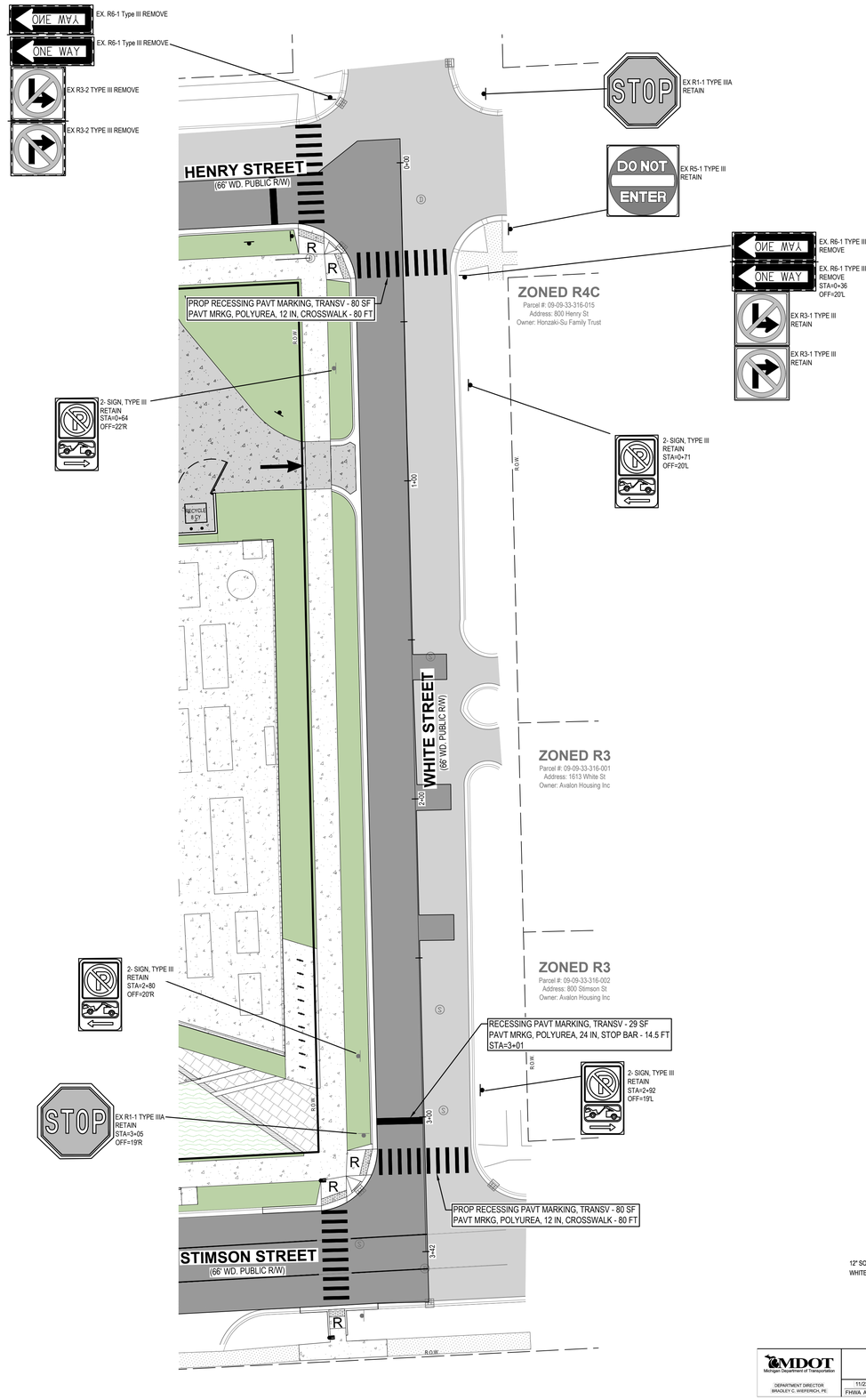
PROP PERMANENT SIGN QUANTITIES THIS SHEET

NO PROPOSED SIGNAGE THIS SHEET

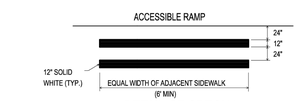
LEGEND

△	Benchmark / Control Point	○ S	Existing Sign
▦	Catch Basin - Square	Ⓢ	Sanitary Sewer Manhole
○ CO	Cleanout	Ⓓ	Stormwater Manhole
	Deciduous Tree	Ⓣ	Telephone Manhole
Ⓔ	Electric Manhole	□ TR	Transformer
□ EM	Electric Meter		Traffic Light
□ GM	Gas Meter		Utility Pole
	Guy Anchor	Ⓦ	Water Manhole
HH	Hand Hole	⊗ WV	Water Valve
	Hydrant		PROPOSED PAVERS 1
○	Iron - Found		PROPOSED PAVERS 2
	Light Pole		PROPOSED PAVER BANDING
MB	Mailbox		PROPOSED BITUMINOUS (HEAVY DUTY)
	Miss Dig Flag - Cable		PROPOSED CONCRETE (STANDARD DUTY)
	Miss Dig Flag - Gas		PROPOSED CONCRETE (HEAVY DUTY)
Ⓜ	Manhole		PROPOSED DECKING
			PROPOSED GREENSPACE
			PROPOSED BIOSWALE
			PROPOSED SIGN

STATE ST. PAVEMENT AND SIGNAGE



WHITE ST. PAVEMENT AND SIGNAGE



DETAIL OF SPECIAL
EMPHASIS CROSSWALK MARKING

MDOT Michigan Department of Transportation	STANDARD PLAN FOR INTERSECTION, STOP BAR, & CROSSWALK MARKINGS		
DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	11/22/2023 FHWA APPROVAL	09/13/2023 PLAN DATE	PAVE-945-E SHEET 3 OF 3

CROSSWALK PAVEMENT MARKING DETAILS

NEDERVELD
www.nederveld.com
800.222.1868

ANN ARBOR
3037 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.6963

GRAND RAPIDS
217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190

HOLLAND
730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449

PREPARED FOR:
Southtown by 4M, LLC

1919 S. Industrial Hwy
Ann Arbor, MI 48104

REVISIONS:

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Drawn: CB/OO Check: OO/NB/BC Date: 02.23.2026

SOUTHTOWN BY 4M

Signage & Pavement Markings

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

SEAL:

STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

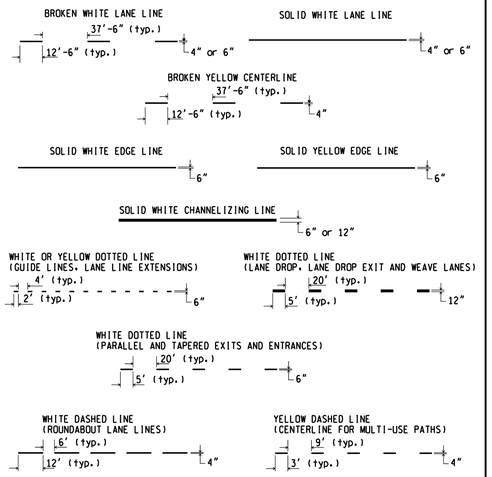
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21500282

SHEET NO:
C-210

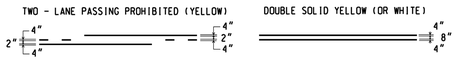
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TYPES OF PERMANENT LONGITUDINAL LINES



LINE PATTERNS



DEPARTMENT DIRECTOR
Paul C. Ajegba

PREPARED BY TSMO DIVISION
DRAWN BY: JNF
CHECKED BY: JGM

APPROVED BY: Gregg Brunner, P.E. Nov 2 2020 12:04 PM
DIRECTOR, BUREAU OF FIELD SERVICES

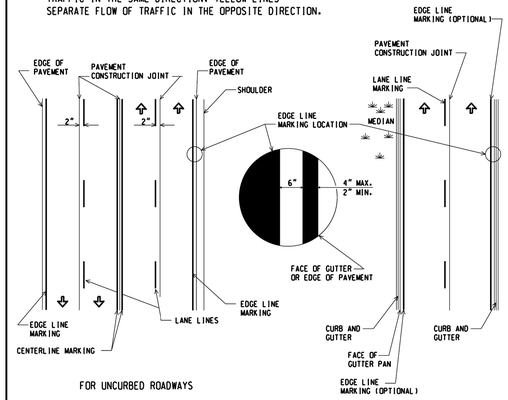
APPROVED BY: Bradley C. Wieferich Nov 5 2020 9:46 AM
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

LONGITUDINAL LINE TYPES & PLACEMENT

09/21/20	03/25/20	PAVE-905-E	SHEET
F.H.W.A. APPROVAL	PLAN DATE		1 OF 2

BASIC COLOR RULE: WHITE LINES SEPARATE FLOW OF TRAFFIC IN THE SAME DIRECTION. YELLOW LINES SEPARATE FLOW OF TRAFFIC IN THE OPPOSITE DIRECTION.



FOR UNCURBED ROADWAYS

FOR CURBED ROADWAYS

PLACEMENT OF LINES

Notes:

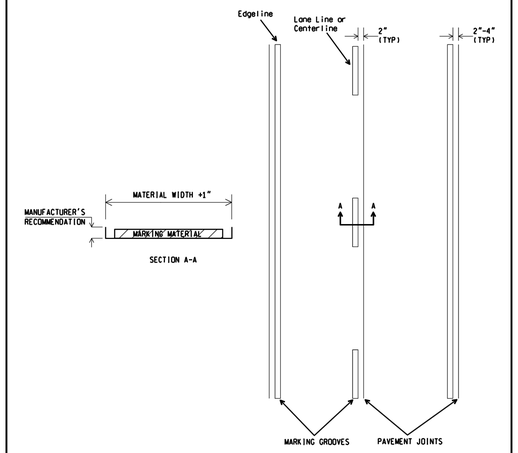
1. On all divided highways, lane lines shall be offset 2 inches from pavement construction joints toward the median side.
2. On 2-lane, 2-way north - south roadways a broken yellow centerline shall be offset 2 inches to the left of pavement construction joints when facing northward. Double solid yellow or solid and broken yellow centerline may straddle the construction joint.
3. On 2-lane, 2-way east - west roadways, a broken yellow centerline shall be offset 2 inches to the left of pavement construction joints when facing eastward. Double solid yellow or solid and broken yellow centerlines may straddle the construction joint.
4. When a centerline construction joint does not correspond to the geometric centerline of the roadway for roadway segments over ½ mile, place the centerline in the location that will provide lanes of equal width unless directed otherwise by the Engineer.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

09/21/20	03/25/20	PAVE-905-E	SHEET
F.H.W.A. APPROVAL	PLAN DATE		2 OF 2

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



RECESSING LONGITUDINAL MARKINGS

NOTES:
1. Tolerance on all transverse dimensions is ± 1/8".
2. Tolerance on all recessing depths is ± 5 mils.

DEPARTMENT DIRECTOR
Paul C. Ajegba

PREPARED BY TSMO DIVISION
DRAWN BY: MCL
CHECKED BY: CMW

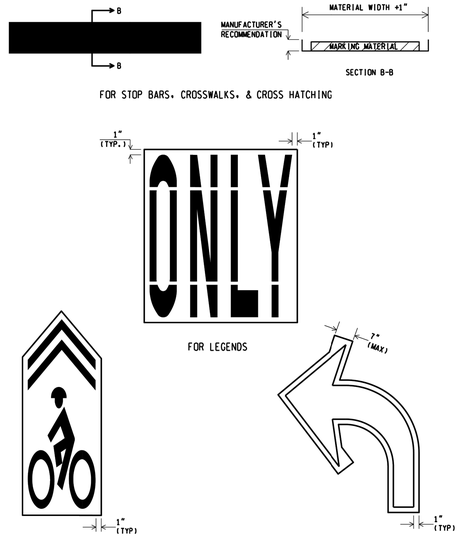
APPROVED BY: Gregg Brunner, P.E. Nov 2 2020 12:07 PM
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: Bradley C. Wieferich Nov 5 2020 9:46 AM
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

PAVEMENT MARKING RECESSING DETAILS

09/21/20	03/25/20	PAVE-901-A	SHEET
F.H.W.A. APPROVAL	PLAN DATE		1 OF 2



RECESSING SPECIAL MARKINGS

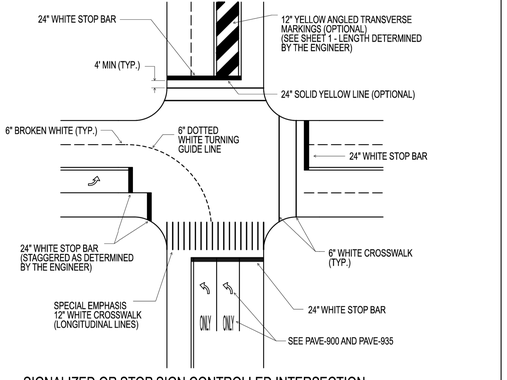
NOTES:
1. Tolerance on all transverse dimensions is ± 1/8".
2. Tolerance on all recessing depths is ± 5 mils.
3. The recess should follow the shape of the special marking as closely as possible. Where the shape cannot be followed, use a grinder head with a maximum width of 7 inches.
4. For irregular shapes agree upon a recessing layout with the Engineer. See Special Marking Symbols and Legends (CAD drawing) for recommendations.
5. See PAVE-900 for special marking recessing payment areas.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

09/21/20	03/25/20	PAVE-901-A	SHEET
F.H.W.A. APPROVAL	PLAN DATE		2 OF 2

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SIGNALIZED OR STOP SIGN CONTROLLED INTERSECTION

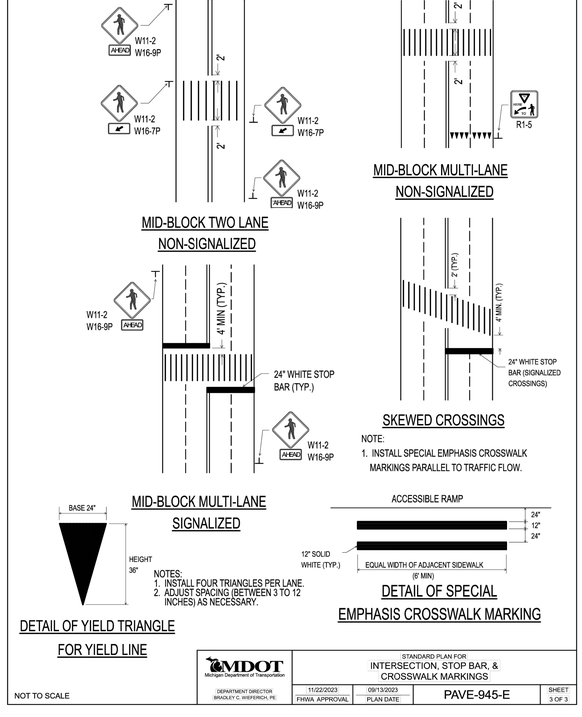
NOTES:
1. STOP BARS SHOULD BE LOCATED 40-150 FT FROM THE SIGNAL HEAD. OPTIONAL STOP BARS, IF USED AT STOP CONTROLLED INTERSECTIONS, SHOULD BE 4-30 FT FROM THE EDGE OF THE INTERSECTING ROADWAY. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.
2. STANDARD CROSSWALK IS TWO 6 INCH WHITE TRANSVERSE LINES. SPECIAL EMPHASIS CROSSWALK IS 12 INCH WHITE LONGITUNDINAL LINES.
3. INSTALL SPECIAL EMPHASIS CROSSWALKS AT MID-BLOCK CROSSINGS, ESTABLISHED SCHOOL CROSSINGS (AS DEFINED BY THE MMUTCD), WHERE CROSSING UNCONTROLLED TRAFFIC AT AN INTERSECTION OR RAMP, OR WHEN DIRECTED BY THE ENGINEER. SEE SHEET 3 FOR DETAIL OF SPECIAL EMPHASIS CROSSWALK MARKINGS.
4. WIDTH OF CROSSWALK SHOULD EQUAL WIDTH OF THE ADJACENT SIDEWALK, BUT SHALL NOT BE LESS THAN 6 FT (MEASURED INSIDE THE LINES).
5. WHEN PRACTICAL, CROSSWALK LOCATION SHOULD AVOID CONFLICT WITH DRAINAGE INLETS.
6. TURNING GUIDE LINES SHOULD BE PLACED TO DIRECT THE DRIVER INTO THE CLOSEST THROUGH LANE. INCLUDE A DOTTED TURNING GUIDE LINE FOR ALL DOUBLE TURN MOVEMENTS.

NOT TO SCALE

MDOT Michigan Department of Transportation
DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
INTERSECTION, STOP BAR, & CROSSWALK MARKINGS

11/22/2023	09/13/2023	PAVE-945-E	SHEET
FHWA APPROVAL	PLAN DATE		2 OF 3



NOT TO SCALE

MDOT Michigan Department of Transportation
DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
INTERSECTION, STOP BAR, & CROSSWALK MARKINGS

11/22/2023	09/13/2023	PAVE-945-E	SHEET
FHWA APPROVAL	PLAN DATE		3 OF 3

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Phone: 616.575.5190

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

SEAL:

STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-211

21500282.PRS12.dwg CB 2/24/2026 12:10

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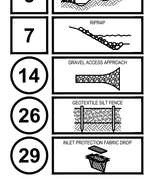
SITE CONSTRUCTION SEQUENCE & TIMING

2026

	1	2	3	4	5	6	7	8	9	10
INSTALL SOIL EROSION CONTROL MEASURES										
DEMOLITION & REMOVALS										
ROUGH GRADE SITE										
CONSTRUCT STORM WATER MANAGEMENT SYSTEM										
CONSTRUCT UTILITY LINES TO BUILDING										
CURBING AND FIRST COURSE OF ASPHALT PAVING										
CONSTRUCT BUILDING FOUNDATION AND BUILDING										
CONSTRUCT IMPROVEMENTS AROUND BUILDING										
FINISH GRADE SITE										
PAVE SITE										
RESPREAD TOPSOIL/COMPACTION										
SEED DISTURBED AREAS										
SITE RESTORATION/CLEAN UP										

SOIL EROSION & SEDIMENTATION CONTROL NOTES/LEGEND

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



REFER TO MDOT STANDARD PLAN R-96-D

GRADING NOTES:

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

MAINTENANCE TASKS & SCHEDULE

DURING CONSTRUCTION

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

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

PERMANENT LONG-TERM MAINTENANCE

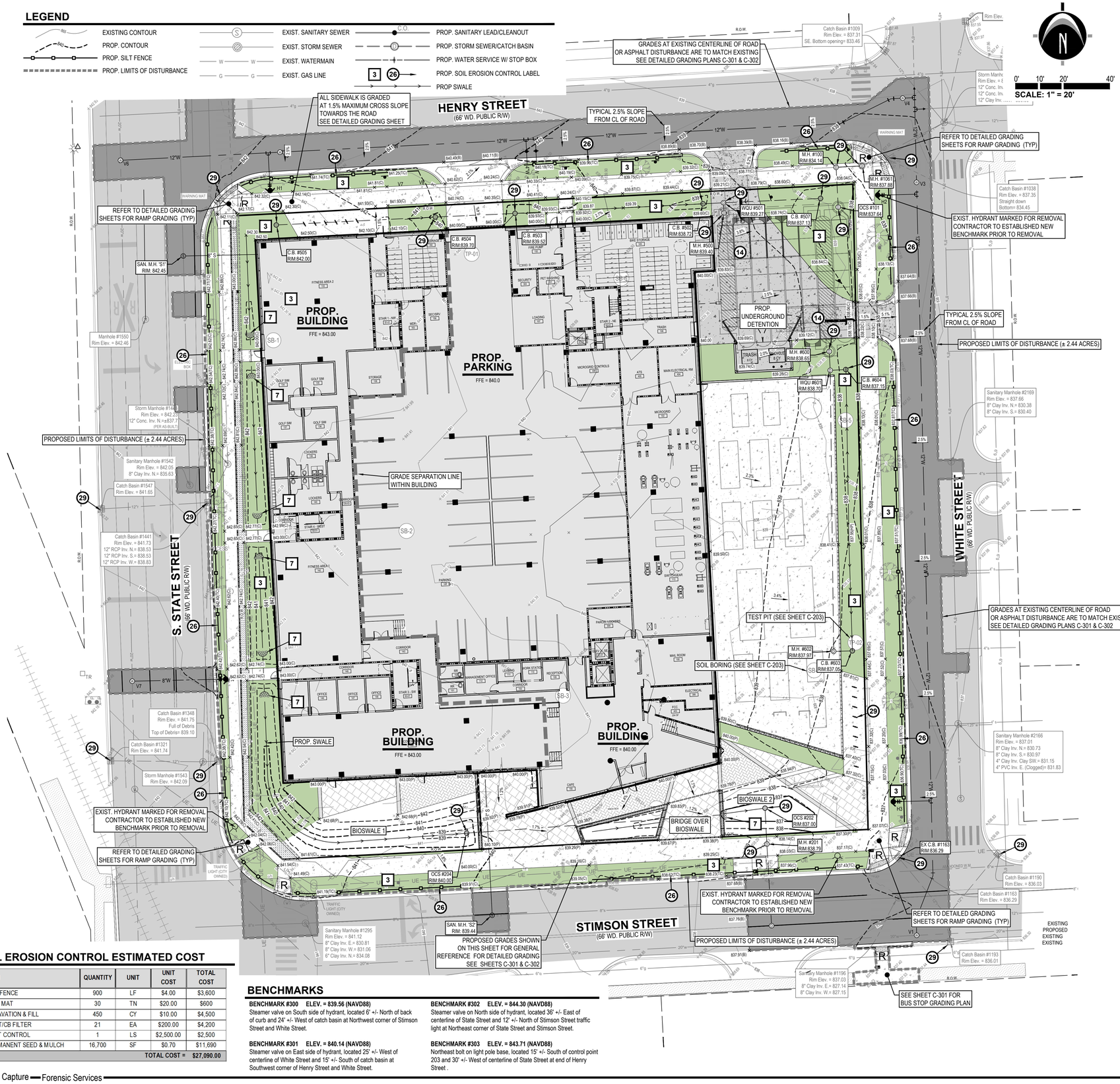
RESPONSIBLE PARTY FOR MAINTENANCE: SOUTHTOWN BY 4M (OWNER)

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

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

LEGEND

EXISTING CONTOUR
PROP. CONTOUR
PROP. SILT FENCE
PROP. LIMITS OF DISTURBANCE
EXIST. SANITARY SEWER
EXIST. STORM SEWER
EXIST. WATERMAIN
EXIST. GAS LINE
PROP. SANITARY LEAD/CLEANOUT
PROP. STORM SEWER/CATCH BASIN
PROP. WATER SERVICE W/ STOP BOX
PROP. SOIL EROSION CONTROL LABEL
PROP SWALE



SOIL EROSION CONTROL ESTIMATED COST

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL COST
SILT FENCE	900	LF	$4.00	$3,600
MUD MAT	30	TN	$20.00	$600
EXCAVATION & FILL	450	CY	$10.00	$4,500
INLET/CB FILTER	21	EA	$200.00	$4,200
DUST CONTROL	1	LS	$2,500.00	$2,500
PERMANENT SEED & MULCH	16,700	SF	$0.70	$11,690
			TOTAL COST =	$27,090.00

BENCHMARKS

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

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

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

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

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PREPARED FOR:
Southtown by 4M, LLC

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Ann Arbor, MI 48104

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SOUTHTOWN BY 4M

Grading & Soil Erosion Control Plan

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

SEAL:

STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-300

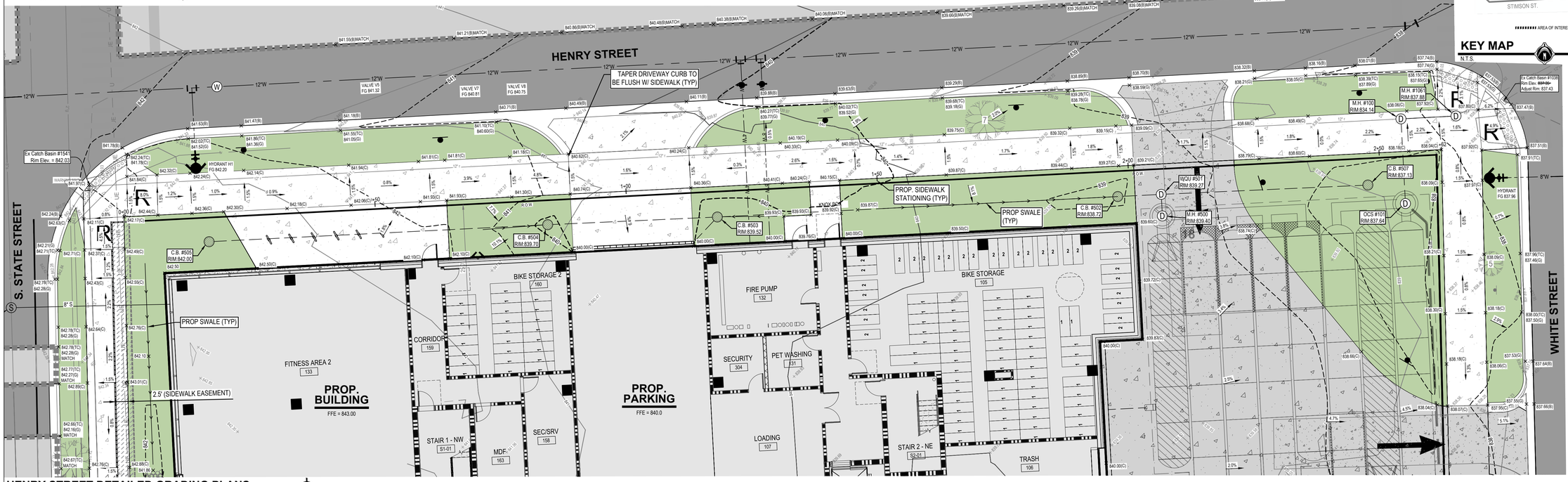
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Experience . . . the Difference

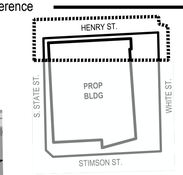
EXISTING LEGEND

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

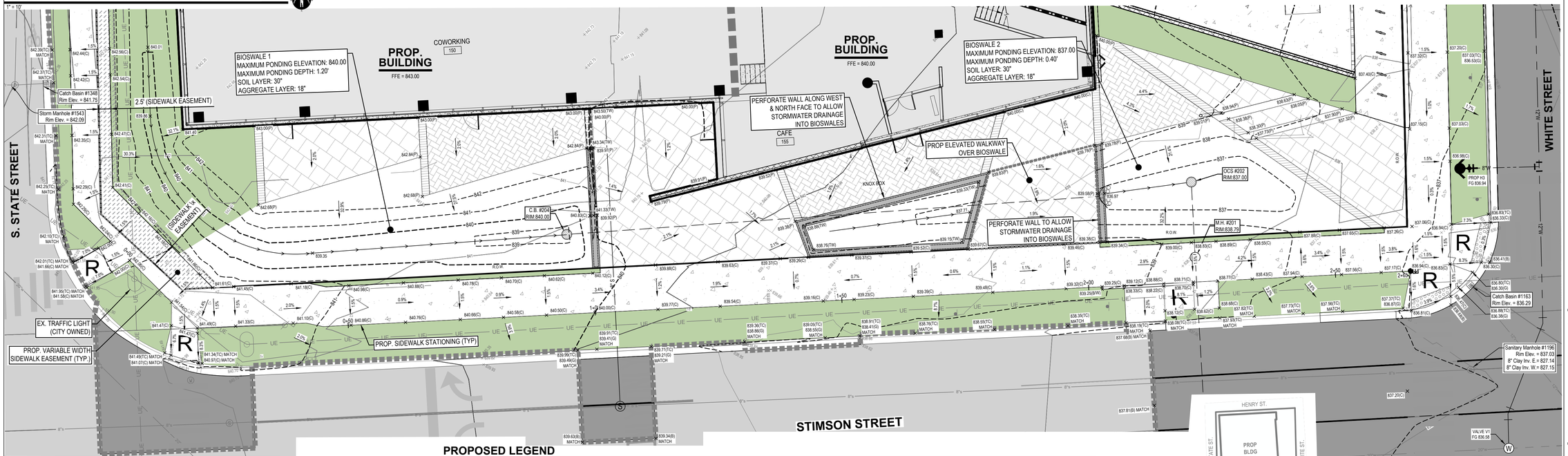


AREA OF INTEREST

KEY MAP
N.T.S.



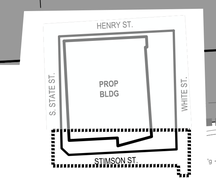
HENRY STREET DETAILED GRADING PLANS
1" = 10'



STIMSON STREET DETAILED GRADING PLAN
1" = 10'

PROPOSED LEGEND

EXISTING CONTOUR	PROP. SANITARY LEAD/CLEANOUT	PROPOSED BITUMINOUS (HEAVY DUTY)	PROPOSED PAVERS 1
PROP. CONTOUR	PROP. STORM SEWER/CATCH BASIN	PROPOSED CONCRETE (STANDARD DUTY)	PROPOSED PAVERS 2
PROP. LIMITS OF DISTURBANCE	PROP. WATER SERVICE W/ STOP BOX	PROPOSED CONCRETE (HEAVY DUTY)	PROPOSED PAVER BANDING
PROP. GRADE ELEV. (BLACKTOP)	PROP SWALE	PROPOSED GREENSPACE	
PROP. GRADE ELEV. (CONCRETE)	PROP. GRADE ELEV. (RIM)	PROPOSED BIOSWALE	
PROP. GRADE ELEV. (PAVER)	MATCH EXISTING GRADE		
PROP. GRADE ELEV. (TOP OF CURB)	TOP OF WALL GRADE		



AREA OF INTEREST

KEY MAP
N.T.S.

Land Planning — Landscape Architecture — Civil Engineering — Land Surveying — Reality Capture — Forensic Services

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Phone: 616.393.0449

PREPARED FOR:
Southtown by 4M, LLC

1919 S. Industrial Hwy
Ann Arbor, MI 48104

REVISIONS:

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Title: Site Plan Resubmittal #2			
Drawn: CB/OO	Check: OO/NB/BC	Date: 02.23.2026	

SOUTHTOWN BY 4M

Detailed Grading Plan (Stimson & Henry)

Block surrounded by S. State, Henry, White, and Stimson Streets
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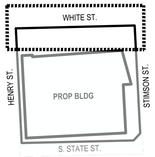
SHEET NO:
C-301

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LEGEND

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



KEY MAP
N.T.S.

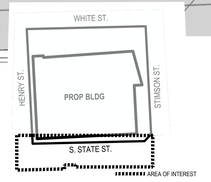
0' 5' 10' 20'
SCALE: 1" = 10'

WHITE STREET DETAILED GRADING PLANS

1" = 10'

S. STATE STREET DETAILED GRADING PLAN

1" = 10'



KEY MAP
N.T.S.

PROPOSED LEGEND

EXISTING CONTOUR	PROP. SANITARY LEAD/CLEANOUT	PROPOSED BITUMINOUS (HEAVY DUTY)	PROPOSED PAVERS 1
PROP. CONTOUR	PROP. STORM SEWER/CATCH BASIN	PROPOSED CONCRETE (STANDARD DUTY)	PROPOSED PAVERS 2
PROP. LIMITS OF DISTURBANCE	PROP. WATER SERVICE W/ STOP BOX	PROPOSED CONCRETE (HEAVY DUTY)	PROPOSED PAVER BANDING
788.00(B) PROP. GRADE ELEV. (BLACKTOP)	PROP SWALE	PROPOSED GREENSPACE	
788.00(C) PROP. GRADE ELEV. (CONCRETE)	788.00(RIM) PROP. GRADE ELEV. (RIM)	PROPOSED BIOSWALE	
788.00(P) PROP. GRADE ELEV. (PAVER)	788.00(MATCH EX.) MATCH EXISTING GRADE		
788.00(TC) PROP. GRADE ELEV. (TOP OF CURB)	788.00(TW)		

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Title: Site Plan Resubmittal #2 Drawn: CB/OO Check: OO/NB/BC Date: 02.23.2026

SOUTHTOWN BY 4M

Detailed Grading Plan (State & White)

Block surrounded by S. State, Henry, White, and Stimson Streets

PART OF THE SOUTHWEST 1/4 OF SECTION 33, T2S, R6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

SEAL:

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PROJECT NO:
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SHEET NO:
C-302

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SANITARY SEWER MITIGATION CALCULATIONS

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

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

		Quantity of Base Unit	Unit	Flow Rate For Given Use (gpd/unit)	Avg. Flow (gpd)	Avg. Flow (gpm)
Proposed Site (Table A Designation)						
	Studio & One Bedroom Unit (<600 s.f.)	208	Units	175	36,400	25.28
	Two Bedroom Unit (600-1200 s.f.)	81	Units	250	20,250	14.06
	Fitness/Leisure	6,619	sq. ft.	0.30	1,986	1.38
	Lobby Space	2,950	sq. ft.	0.06	177	0.12
	Coworking Space	4,282	sq. ft.	0.06	257	0.18
	Offices	757	sq. ft.	0.06	45	0.03
Total Proposed Flow (Sewer Connection #1)					**59,115**	**41.05**

Existing Flows		
Existing Avg. Flow =	6,650	gpd
6,650 gpd x 4 (Peaking Factor) x 1.1 (System Recovery Factor) =	29,260	gpd
29,260 x (1 day / 24 hrs) x (1 hr / 60 min) =	20	gpm

Proposed Flows		
Proposed Avg. Flow =	59,115	gpd
59,115 gpd x 4 (Peaking Factor) x 1.1 (System Recovery Factor) =	260,106	gpd
260,106 x (1 day / 24 hrs) x (1 hr / 60 min) =	181	gpm

Sanitary Flow Offset Mitigation Summary		
Proposed - Existing Flows		
Proposed Site Average Flow (181) - Existing Site Average Flow (20) =	161	gpd
161 gpm Peak Flow to be mitigated		

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

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

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

LEGEND

- EXIST. STORM SEWER
- EXIST. SANITARY SEWER
- EXIST. WATER MAIN
- EXIST. GAS LINE
- EXIST. OVERHEAD LINE
- PROP. STORM SEWER W/ MANHOLE/END SECTION
- PROP. UNDERDRAIN W/ CLEAN-OUT
- PROP. WATER SERVICE W/ STOP BOX
- PROP. WATER MAIN W/ VALVE/HYDRANT
- PROP. UNDERGROUND ELECTRIC SERVICE
- PROP. GAS SERVICE
- PROP. SANITARY SEWER LEAD W/ CLEANOUT
- PROP. SANITARY SEWER MANHOLE

SCALE: 1" = 20'



UTILITY NOTES

GENERAL

1. CONSTRUCTION MUST CONFORM TO THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS AND STANDARD DETAILS.
2. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
3. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITY DURING CONSTRUCTION.
4. UTILITY TRENCHES WITHIN A 1 ON 1 INFLUENCE OF CITY OF ANN ARBOR R.O.W. SHALL BE BACKFILLED IN ACCORDANCE WITH THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR DATA CUT SHEETS FOR PIPE MATERIALS, VALVES, CASTINGS, STEPS, AND MANHOLE STRUCTURES FOR REVIEW.
6. MAINTAIN A MINIMUM OF 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN WATER AND SEWERS, AND A MINIMUM OF 5' HORIZONTAL AND 12" VERTICAL SEPARATION BETWEEN WATER AND OTHER UTILITIES.
7. SUMP PUMPS PROPOSED IN ELEVATOR PITS ONLY. SEE ARCHITECTURAL PLANS FOR DETAIL.
8. IN CASES WHERE BACKFILL OF NATIVE MATERIAL IS APPROVED BY THE PUBLIC SERVICES AREA ADMINISTRATOR, THERE SHALL BE NO DEBRIS, HIGHLY COMPRESSIBLE SOILS, OR OTHER DELETERIOUS MATERIAL WHICH WOULD CAUSE DIFFERENTIAL SETTLEMENT OF THE PIPE TRENCH, ARE ENCOUNTERED AT THE BOTTOM OF THE TRENCH.
8. AIR TESTING FOR PVC PIPE SHALL CONFORM WITH ASTM F1417

WATER SERVICE

1. HYDRANTS SHALL BE IN SERVICE DURING CONSTRUCTION.
2. THE PROPOSED BUILDING WILL BE SERVICED BY A NEW 4" DUCTILE IRON WATER LINE AND 8" DUCTILE IRON FIRE SUPPRESSION SERVICE LINE.
3. WATER SERVICE LINE IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ANN ARBOR ENGINEERING DESIGN STANDARDS.
4. THE 4-INCH DOMESTIC WATER SERVICE SHALL BE CONSTRUCTED OF DUCTILE IRON AND INSTALLED BY THE CONTRACTOR UNDER CITY OF ANN ARBOR INSPECTION.
5. ALL WATER SERVICE PIPES MUST BE LAID WITH A MINIMUM OF FIVE AND ONE-HALF (5.5) FEET, OF FINAL EARTH GRADE COVER, TYPICAL.
6. WATER SERVICE METERING SHALL OCCUR AT THE POINT THE SERVICE LEAD ENTERS THE BUILDING.
7. A BOOSTER PUMP SHALL BE USED FOR BUILDINGS WATER SERVICE LEADS.
8. CONTACT CITY TO COORDINATE CONNECTION TO ASBESTOS CONCRETE WATERMAIN ON STIMSON STREET. CONNECTION MUST BE MADE BY A CITY APPROVED CONTRACTOR.
9. USE OF LINE STOPS IS REQUIRED WHERE EXISTING WATER
10. MAINS CANNOT BE SUFFICIENTLY ISOLATED TO COMPLETE THE WORK. THE COST OF ANY LINE STOP INSTALLATION IS THE RESPONSIBILITY OF THE DEVELOPER AND/OR CONTRACTOR.
11. ANY EXISTING WATER MAIN THAT IS EXPOSED AS PART OF A NEW CONNECTION TO THE MAIN MAY REQUIRE ANODES TO BE INSTALLED PRIOR TO BACKFILLING. ENGINEERING WILL DETERMINE IF ANODES WILL BE REQUIRED AFTER EXISTING WATER MAIN(S) ARE EXPOSED. THE COST OF THE ANODES AND INSTALLATION IS THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR.
12. ALL WATER MAINS AND SERVICE LEADS SHALL BE POLYWRAPPED PER ANN ARBOR STANDARDS, SEE STANDARD DETAIL SD-W-7 ON SHEET C-501.
13. WATER SERVICE METERING SHALL OCCUR AT THE POINT THE SERVICE LEADS ENTER THE BUILDING. NOTE THAT EACH WATER SERVICE WILL HAVE ONE WATER METER.

SANITARY SERVICE

1. SANITARY SEWER IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ANN ARBOR ENGINEERING DESIGN STANDARDS.
2. THE PROPOSED SANITARY SEWER LEAD SHALL BE PVC SDR-26 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. ALL PVC SANITARY SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.
7. ALLOWABLE LEAKAGE FOR SANITARY SEWER INFILTRATION TESTING IS 100 GALLONS PER INCH DIAMETER OF PIPE PER MILE OF SEWER PER DAY.

STORM WATER MANAGEMENT

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

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SOUTHTOWN BY 4M

Utility Plan

Block surrounded by S. State, Henry, White, and Stimson Streets
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PROJECT NO:
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SHEET NO:
C-400

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STORM WATER MANAGEMENT CALCULATIONS (BUILDING)

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

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

Total Drainage Area of Building	=	**61,529**	sf
Total Drainage Area Excluding "Self-Crediting" BMPs	=	61,529	sf

Rational Method Variables

Cover Type	Slope	Soil Group	Area (sq. ft)	C factor	(C) x (Area)
Building Roof	-	C	30,736	0.90	27,662
Building Open Area Pavement: Community Terrace	-	C	8,776	0.90	7,898
Building Open Area Semi-pervious: Community Terrace	-	C	4,165	0.35	1,458
Pavement: Site	-	C	13,178	0.90	11,860
Gravel	-	C	0	0.80	0
Semi-pervious	-	C	4,674	0.35	1,636
Water Surface	-	C	0	1.00	0
				Total = ∑(C)(Area) =	50,515
				Area Total = ∑sf =	61,529
				Weighted C = ∑ (C)(Area)/∑sf =	0.82

W1 — NRCS Variables (Pervious)

Cover Type	Hydrologic Condition	Soil Group	Area (sq. ft)	Curve Number	(C) x (Area)
Open Space: lawns & planting beds	Poor (grass cover < 50%)	C		86	0
Open Space: lawns & planting beds	Fair (grass cover 50% to 75%)	C		79	0
Open Space: lawns & planting beds	Good (grass cover > 75%)	C	8,839	74	654,086
				Total = ∑(C)(Area) =	654,086
				Area Total = ∑sf =	8,839
				Weighted C = ∑ (C)(Area)/∑sf =	74

NRCS Variables (Impervious)

Cover Type	Hydrologic Condition	Soil Group	Area (sq. ft)	Curve Number	(C) x (Area)
Roof & Pavement	-	C	52,690	98	5,163,620
Gravel	-	C	0	89	0
Water Surface	-	C	0	98	0
				Total = ∑(C)(Area) =	5,163,620
				Area Total = ∑sf =	52,690
				Weighted C = ∑ (C)(Area)/∑sf =	98

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

Volume of 1 inch rain over total site area

$V_{ff}=(1")\left(\frac{1'}{12"}\right)\left(\frac{43560\ ft^2}{1\ ac}\right) \times A \times C$ = **4,210** ft³

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

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN) (Cover Description: Meadow, Good, Hydrologic Soil Group C)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q = (P-0.2S)²/(P+0.8S)	=	0.526	in
E. Total Site Area	=	61,529	ft²
F. V_{bfpre} = Q(1/12)(site area)	=	**2,696**	ft³

W4 — Pervious Cover Post-Development Bankfull Runoff Calculations ($V_{bf\text{-}per\text{-}post}$)

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q = (P-0.2S)²/(P+0.8S)	=	0.526	in
E. Pervious Cover Area	=	8,839	ft²
F. $V_{bf\text{-}per\text{-}post}$ = Q(1/12)(site area)	=	**387**	ft³

W5 — Impervious Cover Post-Development Bankfull Runoff Calculations ($V_{bf\text{-}imp\text{-}post}$)

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN)	=	98	
C. S = 1000/CN - 10	=	0.20	in
D. Q = (P-0.2S)²/(P+0.8S)	=	2.122	in
E. Impervious Cover Area	=	52,690	ft²
F. $V_{bf\text{-}imp\text{-}post}$ = Q(1/12)(proposed impervious area)	=	**9,316**	ft³

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

A. 100-year / 24 hour storm event = P	=	5.11	in
B. Curve Number (CN)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. $Q_{100\text{-}per}$ = (P-0.2S)²/(P+0.8S)	=	2.452	in
E. Pervious Cover Area	=	8,839	ft²
F. $V_{100\text{-}per\text{-}post}$ = Q(1/12)(proposed impervious area)	=	**1,806**	ft³

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

A. 100-year / 24 hour storm event = P	=	5.11	in
B. Curve Number (CN)	=	98	
C. S = 1000/CN - 10	=	0.20	in
D. $Q_{100\text{-}post}$ = (P-0.2S)²/(P+0.8S)	=	4.873	in
E. Impervious Cover Area	=	52,690	ft²
F. $V_{100\text{-}imp\text{-}post}$ = Q(1/12)(proposed impervious area)	=	**21,397**	ft³

W8 — Determine Time of Concentration for Applicable Flow Types ($T_{c\text{-}flw}$)

Total Time of Concentration ($T_{c\text{-}flw}$)	=	**0.17**	hrs

W9 — Runoff Summary and Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets			
Total Post-Development Bankfull Volume (V_{bfpost})	=	**9,703**	ft³
Total 100-year Volume (V_{100})	=	**23,203**	ft³
B. Determine Onsite Infiltration Requirement			
Bankfull Volume Difference (V_{bfpost} - V_{bfpre})	=	**7,007**	ft³
Onsite Infiltration Requirement = Greater of Bankfull Volume Difference and First Flush Volume = (V_{eff})	=	**7,007**	ft³

W10 — Detention/Retention Requirement

A. Peak of Unit Hydrograph = $Q_u = 238.6T_c^{-0.82}$	=	**1,036.94**	cfs/in-mi²
B. Total Site Area (ac) excluding "Self-Crediting" BMPs	=	**1.41**	acres
C. $Q_{100} = Q_{100\text{-}per} + Q_{100\text{-}imp}$	=	**7.33**	in
D. Peak Flow (PF) = $\left(\frac{Q_p \times Q_{100} \times \text{Area (ac)}}{640}\right)$	=	**16.76**	ft³/s
E. Δ = PF - 0.15*(area)	=	**16.55**	ft³/s
F. $V_{det} = \left(\frac{\Delta}{PF} \times V_{100}\right)$	=	**22,910**	ft³

W11 — Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Runoff Storage Volume (ft³) Surface	Runoff Storage Volume (ft³) Soil	Ave. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm (ft³)	Total Volume Reduction (ft³)
Porous Pavement w/Infiltration Bed						
Infiltration Basin						
Subsurface Infiltration Bed	3,423			7	11,981	11,981
Infiltration Trench						
Rain Garden						
Dry Well						
Bioswale						
Vegetated Filter Strip						
Total Volume Reduction Credit by Proposed Structural BMPs (ft³) =						11,981
Runoff Volume Infiltration Requirement (V_{eff}) from Worksheet 9 =						7,007
Total Designed/Provided Infiltration Volume =						11,981

W13 — Site Summary of Infiltration & Detention

A. Stormwater Management Summary			
Minimum Onsite Infiltration Requirement (V_{eff})	=	**7,007**	ft³
Total Designed/Provided Infiltration Volume from Building	=	**11,981**	ft³
% Minimum Required Infiltration Provided	=	**171.0**	%
Total Calculated Detention Volume, V_{det}	=	**22,910**	ft³
Net Required Detention Volume (V_{det} - Designed/Provided Infiltration Volume)	=	**10,929**	ft³
B. Detention Volume Increase for site if required infiltration volume not achieved			
% Required Infiltration NOT provided (100% - % Minimum Required Infiltration Provided)	=	**0.0**	%
Net % Penalty (20% x % Required Infiltration Not Provided)	=	**0.0**	%
Total Required Detention Volume, including penalty	=	**10,929**	ft³
[(100% + Net % Penalty) × Net Required Detention Volume)]			

Underground Detention Storage Volume

Storage Elevations	X_0 = 831.25	X_f = 833.17
	X_{0f} = 835.63	X_{100} = 836.53

Outlet Control Structure

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

$Q_{ff} = V_{ff}$ / 24 hrs / 3600 sec	Q_{ff} =	0.049	ft³/s
$h_{hve} = {}^2/_3 \times (X_{ff} - X_o)$	h_{hve} =	1.277	ft
$A = Q_{ff}$ / .62 x sqrt(2 x 32.2 x h_{hve})	A =	0.0087	ft²
Area of an orifice with diameter (in) = **1 1/4**		0.0085	ft²
Number of orifice holes	=	1	holes at elev = 831.25
Q_d design	=	0.048	ft³/s
Time to Discharge (greater than 24 hours)	=	24.4	hrs > 24 hrs

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

Bankfull should discharge within 36 to 48 hours

$h_{hve} = {}^2/_3 \times (X_{bf} - X_o)$	h_{hve} =	2.922	ft
Release from first flush holes only			
Q=a x .62 x sqrt(2 x 32.2 x $^2/_3 h_{hve}$) =	Q =	0.072	ft³/s
T_{bf} with first flush holes only =		37	hrs < 44 hrs
The first flush volume will discharge in	=	24.4	hrs > 24 hrs
Time is between 36-48 hours, therefore no additional Bankfull orifices are required			

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

Peak Flow, Q_a = 0.15 cfs/acre x drainage area (A)	Q_a =	0.212	ft³/s
$h_{tot} = (X_{100} - X_o)$	h_{tot} =	5.28	ft
$h^W_{tot} = (X_{100} - X_{ff})$	h^W_{tot} =	3.36	ft
$Q_{ff} + Q_{bf}$ = a x 0.62 x sqrt(2 x 32.2 x h_{hv})+a x .62 x sqrt(2 x 32.2 x h^W_{tot}) =	$Q_{ff} + Q_{bf}$ =	0.097	ft³/s
$Q_{100} = Q_a$-(Q_{ff}-Q_{bf}) =	Q_{100} =	0.114	ft³/s
$A_{100} = Q_{100}$ / (.62 x sqrt(2 x 32.2 x h_{tot}))	A_{100} =	0.0244	ft²
Area of an orifice with diameter (in) = **2**		0.0218	ft²
Number of orifice holes	=	1	holes at elev = 835.63
Confirm allowable flow rate is not exceeded			
$Q_{ff} + Q_{bf} + 0.62 \times \#_{orif} \times A_{100} \times \text{sqrt}(2 \times g \times h^{100}_{tot}) < Q_{allow}$	=	0.200	cfs < 0.212 cfs
100-year storm volume discharge < 72 hours			
$h^W_{ave} = {}^2/_3(X_{100} - X_{ff}) + (X_{ff} - X_o)$	=	4.98	ft
$Q_{eff} = 0.62 \times \#^F_{orif} \times A^F_{orif} \times \text{sqrt}(2 \times g \times h^W_{ave})$	=	0.095	ft³/s
Calculate $Q_{bf\text{-}100}$			
$h^W_{ave} = {}^2/_3(X_{100} - X_{ff}) + (X_{ff} - X_o)$	=	3.06	ft
$Q_{bf\text{-}100} = 0.62 \times \#^F_{orif} \times A^W_{orif} \times \text{sqrt}(2 \times g \times h^W_{ave})$	=	0.000	ft³/s
Average Discharge through 100-year Orifice(s) when other Orifice (s) are contributing			
$h^{100}_{ave} = {}^2/_3(X_{100} - X_{ff})$	=	0.59	ft
$Q^{100}_{ave} = 0.62 \times \#^F_{orif} \times A^{100}_{orif} \times \text{sqrt}(2 \times g \times h^{100}_{ave})$	=	0.084	ft³/s
Check to confirm 100-year storm volume discharge in less than 72 hours			
V_{100} = Total Required Detention - BMP Volume Reduction (W11)	=	10,929	ft³
$V_{rem} = V_{100} - V_{ff}$	=	1,226	ft³
$T_{100} = T_{bf} + V_{rem}$ / ($Q_{eff} + Q_{bf\text{-}100} + Q^{100}_{ave}$) <= 72 hrs	=	45	hrs <= 72 hrs
Design meets both the time of detention and flow rate requirements			

ADS MC-3500 CHAMBER SYSTEM VOLUME CALCULATIONS

Version 1.1

Project: **21500282.1**

Chamber Model -	MC-3500	
Units -	Imperial	
Number of Chambers -	54	
Number of End Caps -	16	
Voids in the stone (porosity) -	40	%
Base of Stone Elevation -	831.25	ft
Amount of Stone Above Chambers -	12	in
Amount of Stone Below Chambers -	9	in
Area of system -	3423	sf Min. Area - 2937 sf min. area

StormTech MC-3500 Cumulative Storage Volumes

Height of System (inches)	Incremental Single Chamber (cubic feet)	Incremental Single End Cap (cubic feet)	Incremental Chambers (cubic feet)	Incremental End Cap (cubic feet)	Incremental Stone (cubic feet)	Incremental Ch, EC and Stone (cubic feet)	Cumulative System	Elevation
66	0.00	0.00	0.00	0.00	114.10	114.10	11236.46	836.75
65	0.00	0.00	0.00	0.00	114.10	114.10	11122.36	836.67
64	0.00	0.00	0.00	0.00	114.10	114.10	11008.26	836.58
63	0.00	0.00	0.00	0.00	114.10	114.10	10894.16	836.50
62	0.00	0.00	0.00	0.00	114.10	114.10	10780.06	836.42
61	0.00	0.00	0.00	0.00	114.10	114.10	10665.96	836.33
60	0.00	0.00	0.00	0.00	114.10	114.10	10551.86	836.25
59	0.00	0.00	0.00	0.00	114.10	114.10	10437.76	836.17
58	0.00	0.00	0.00	0.00	114.10	114.10	10323.66	836.08
57	0.00	0.00	0.00	0.00	114.10	114.10	10209.56	836.00
56	0.00	0.00	0.00	0.00	114.10	114.10	10095.46	835.92
55	0.00	0.00	0.00	0.00	114.10	114.10	9981.36	835.83
54	0.06	0.00	0.00	3.14	0.00	112.85	115.98	9867.26	835.75
53	0.19	0.02	10.48	0.38	109.75	120.62	9751.28	835.67
52	0.29	0.04	15.87	0.60	107.51	123.98	9630.66	835.58
51	0.40	0.05	21.80	0.82	105.05	127.67	9506.68	835.50
50	0.69	0.07	37.11	1.08	98.82	137.01	9379.00	835.42
49	1.03	0.09	55.53	1.41	91.32	148.26	9241.99	835.33
48	1.25	0.11	67.47	1.71	86.42	155.61	9093.73	835.25
47	1.42	0.13	76.80	2.02	82.57	161.39	8938.11	835.17
46	1.57	0.14	84.95	2.31	79.20	166.46	8776.72	835.08
45	1.71	0.16	92.19	2.61	76.18	170.97	8610.26	835.00
44	1.83	0.18	98.74	2.91	73.44	175.09	8439.29	834.92
43	1.94	0.20	104.64	3.21	70.96	178.81	8264.20	834.83
42	2.04	0.22	110.20	3.49	68.62	182.32	8085.39	834.75
41	2.13	0.23	115.27	3.76	66.49	185.52	7903.07	834.67
40	2.22	0.25	120.11	4.01	64.45	188.57	7717.56	834.58
39	2.31	0.27	124.57	4.25	62.57	191.39	7528.99	834.50
38	2.38	0.28	128.78	4.48	60.80	194.05	7337.60	834.42
37	2.46	0.29	132.79	4.70	59.10	196.60	7143.54	834.33
36	2.53	0.31	136.52	4.93	57.52	198.97	6946.95	834.25
35	2.59	0.32	140.06	5.14	56.02	201.22	6747.98	834.17
34	2.66	0.33	143.43	5.35	54.59	203.37	6546.76	834.08
33	2.72	0.35	146.62	5.55	53.23	205.40	6343.39	834.00
32	2.77	0.36	149.65	5.76	51.94	207.35	6137.99	833.92
31	2.82	0.37	152.53	5.96	50.70	209.19	5930.64	833.83
30	2.88	0.38	155.27	6.15	49.53	210.95	5721.45	833.75
29	2.92	0.40	157.90	6.34	48.40	212.64	5510.50	833.67
28	2.97	0.41	160.37	6.52	47.34	214.24	5297.85	833.58
27	3.01	0.42	162.67	6.70	46.35	215.72	5083.62	833.50
26	3.05	0.43	164.88	6.87	45.40	217.15	4867.89	833.42
25	3.09	0.44	167.09	7.05	44.44	218.58	4650.74	833.33
24	3.13	0.45	169.05	7.21	43.59	219.86	4432.16	833.25
23	3.17	0.46	170.95	7.37	42.77	221.09	4212.30	833.17
22	3.20	0.47	172.77	7.53	41.98	222.28	3991.21	833.08
21	3.23	0.48	174.48	7.68	41.24	223.40	3768.93	833.00
20	3.26	0.49	176.12	7.83	40.52	224.47	3545.53	832.92
19	3.29	0.50	177.67	7.97	39.84	225.48	3321.07	832.83
18	3.32	0.51	179.17	8.10	39.19	226.46	3095.58	832.75
17	3.34	0.51	180.58	8.23	38.57	227.39	2869.12	832.67
16	3.37	0.52	181.91	8.36	38.00	228.26	2641.73	832.58
15	3.39	0.53	183.20	8.47	37.43	229.10	2413.48	832.50
14	3.41	0.54	184.39	8.58	36.91	229.88	2184.37	832.42
13	3.44	0.54	185.60	8.69	36.38	230.67	1954.49	832.33
12	3.46	0.55	186.72	8.79	35.90	231.40	1723.82	832.25
11	3.48	0.56	187.85	8.88	35.41	232.14	1492.41	832.17
10	3.51	0.59	189.27	9.52	34.58	233.38	1260.28	832.08
9	0.00	0.00	0.00	0.00	114.10	114.10	1026.90	832.00
8	0.00	0.00	0.00	0.00	114.10	114.10	912.80	831.92
7	0.00	0.00	0.00	0.00	114.10	114.10	798.70	831.83
6	0.00	0.00	0.00	0.00	114.10	114.10	684.60	831.75
5	0.00	0.00	0.00	0.00	114.10	114.10	570.50	831.67
4	0.00	0.00	0.00	0.00	114.10	114.10	456.40	831.58
3	0.00	0.00	0.00	0.00	114.10	114.10	342.30	831.50
2	0.00	0.00	0.00	0.00	114.10	114.10	228.20	831.42
1	0.00	0.00	0.00	0.00	114.10	114.10	114.10	831.33

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

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

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

STORM WATER MANAGEMENT CALCULATIONS (SITE)

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

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

Total Drainage Area	=	**9,984**	sf
Total Drainage Area Excluding "Self-Crediting" BMPs	=	9,984	sf

Rational Method Variables

Cover Type	Slope	Soil Group	Area (sq. ft)	C factor	(C) x (Area)
Paver Areas	-	C	4,171	0.90	3,754
Pavement	-	C	122	0.90	110
Semi-pervious: lawns & planting beds	-	C	5,691	0.35	1,992
Water Surface	-	C	0	1.00	0
				Total = ∑(C)(Area) =	5,856
				Area Total = ∑sf =	9,984
				Weighted C = ∑ (C)(Area)/∑sf =	0.59

W1 — NRCS Variables (Pervious)

Cover Type	Hydrologic Condition	Soil Group	Area (sq. ft)	Curve Number	(C) x (Area)
Open Space: lawns & planting beds	Poor (grass cover < 50%)	C		86	0
Open Space: lawns & planting beds	Fair (grass cover 50% to 75%)	C		79	0
Open Space: lawns & planting beds	Good (grass cover > 75%)	C	5,691	74	421,134
				Total = ∑(C)(Area) =	421,134
				Area Total = ∑sf =	5,691
				Weighted C = ∑ (C)(Area)/∑sf =	74

NRCS Variables (Impervious)

Cover Type	Hydrologic Condition	Soil Group	Area (sq. ft)	Curve Number	(C) x (Area)
Pavers and Pavement	-	C	4,293	98	420,714
Gravel	-	C	0	89	0
Water Surface	-	C		98	0
				Total = ∑(C)(Area) =	420,714
				Area Total = ∑sf =	4,293
				Weighted C = ∑ (C)(Area)/∑sf =	98

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

Volume of 1 inch rain over total site area

$V_{ff}=(1")\left(\frac{1'}{12"}\right)\left(\frac{43560\ ft^2}{1\ ac}\right) \times A \times C$ = **488** ft³

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

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN) (Cover Description: Meadow, Good, Hydrologic Soil Group C)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q = (P-0.2S)²/(P+0.8S)	=	0.526	in
E. Total Site Area	=	9,984	ft²
F. V_{bfpre} = Q(1/12)(site area)	=	**437**	ft³

W4 — Pervious Cover Post-Development Bankfull Runoff Calculations ($V_{bf\text{-}per\text{-}post}$)

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. Q = (P-0.2S)²/(P+0.8S)	=	0.526	in
E. Pervious Cover Area	=	5,691	ft²
F. $V_{bf\text{-}per\text{-}post}$ = Q(1/12)(site area)	=	**249**	ft³

W5 — Impervious Cover Post-Development Bankfull Runoff Calculations ($V_{bf\text{-}imp\text{-}post}$)

A. 2-year / 24 hour storm event = P	=	2.35	in
B. Curve Number (CN)	=	98	
C. S = 1000/CN - 10	=	0.20	in
D. Q = (P-0.2S)²/(P+0.8S)	=	2.122	in
E. Impervious Cover Area	=	4,293	ft²
F. $V_{bf\text{-}imp\text{-}post}$ = Q(1/12)(proposed impervious area)	=	**759**	ft³

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

A. 100-year / 24 hour storm event = P	=	5.11	in
B. Curve Number (CN)	=	74	
C. S = 1000/CN - 10	=	3.51	in
D. $Q_{100\text{-}per}$ = (P-0.2S)²/(P+0.8S)	=	2.452	in
E. Pervious Cover Area	=	5,691	ft²
F. $V_{100\text{-}per\text{-}post}$ = Q(1/12)(proposed impervious area)	=	**1,163**	ft³

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

A. 100-year / 24 hour storm event = P	=	5.11	in
B. Curve Number (CN)	=	98	
C. S = 1000/CN - 10	=	0.20	in
D. $Q_{100\text{-}post}$ = (P-0.2S)²/(P+0.8S)	=	4.873	in
E. Impervious Cover Area	=	4,293	ft²
F. $V_{100\text{-}imp\text{-}post}$ = Q(1/12)(proposed impervious area)	=	**1,743**	ft³

W8 — Determine Time of Concentration for Applicable Flow Types ($T_{c\text{-}flw}$)

Total Time of Concentration ($T_{c\text{-}flw}$)	=	**0.17**	hrs

W9 — Runoff Summary and Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets			
Total Post-Development Bankfull Volume (V_{bfpost})	=	**1,008**	ft³
Total 100-year Volume (V_{100})	=	**2,906**	ft³
B. Determine Onsite Infiltration Requirement			
Bankfull Volume Difference (V_{bfpost} - V_{bfpre})	=	**571**	ft³
Onsite Infiltration Requirement = Greater of Bankfull Volume Difference and First Flush Volume = (V_{eff})	=	**571**	ft³

W10 — Detention/Retention Requirement

A. Peak of Unit Hydrograph = $Q_u = 238.6T_c^{-0.82}$	=	**1,036.94**	cfs/in-mi²
B. Total Site Area (ac) excluding "Self-Crediting" BMPs	=	**0.23**	acres
C. $Q_{100} = Q_{100\text{-}per} + Q_{100\text{-}imp}$	=	**7.33**	in
D. Peak Flow (PF) = $\left(\frac{Q_p \times Q_{100} \times \text{Area (ac)}}{640}\right)$	=	**2.72**	ft³/s
E. Δ = PF - 0.15*(area)	=	**2.69**	ft³/s
F. $V_{det} = \left(\frac{\Delta}{PF} \times V_{100}\right)$	=	**2,870**	ft³

W11 — Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Runoff Storage Volume (ft³) Surface	Runoff Storage Volume (ft³) Soil	Ave. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm (ft³)	Total Volume Reduction (ft³)
Porous Pavement w/Infiltration Bed						
Infiltration Basin						
Subsurface Infiltration Bed						
Infiltration Trench						
Dry Well						
Bioswale 1	226	271.2	0	7.5	847.50	1,118.70
Bioswale 2	149	59.6	0	7.5	558.75	618.35
Vegetated Filter Strip						
Green Roof						
Total Volume Reduction Credit by Proposed Structural BMPs (ft³) =						1,737
Runoff Volume Infiltration Requirement (V_{eff}) from Worksheet 9 =						571
Total Designed/Provided Infiltration Volume from Site BMPs =						1,737

W12 — Natural Features Inventory

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

W13 — Site Summary of Infiltration & Detention

A. Stormwater Management Summary			
Minimum Onsite Infiltration Requirement (V_{eff})	=	**571**	ft³
Total Designed/Provided Infiltration Volume from Site BMPs	=	**1,406**	ft³
% Minimum Required Infiltration Provided	=	**246.3**	%
Total Calculated Detention Volume, V_{det}	=	**2,870**	ft³
Net Required Detention Volume (V_{det} - Designed/Provided Infiltration Volume)	=	**1,133**	ft³
B. Detention Volume Increase for site if required infiltration volume not achieved			
% Required Infiltration NOT provided (100% - % Minimum Required Infiltration Provided)	=	**0.0**	%
Net % Penalty (20% x % Required Infiltration Not Provided)	=	**0.0**	%
Total Required Detention Volume, including penalty	=	**1,133**	ft³
[(100% + Net % Penalty) × Net Required Detention Volume)]			

Bioswale 1

Ponding Area =	671	ft²	Top of Surface Storage Elev. =	840.00	
Bed Area =	226	ft²	Lowest Bed Elevation =	838.80	
			Maximum Depth of Ponding =	1.20	ft
			Bottom of Soil Layer (30") =	836.30	
			Bottom of Practice (18" Aggregate) =	834.80	

Vegetated Swale ID	Storage Volume (ft3)	Ave. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm (ft³)	Total Volume Reduction (ft³)
1	271.2	7.5	847.5	1118.7

Bioswale 2

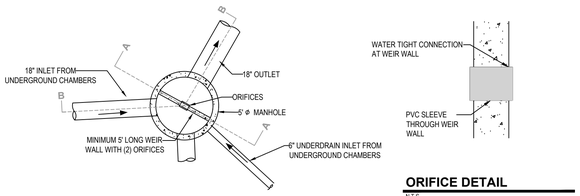
Ponding Area =	312	ft²	Top of Surface Storage Elev. =	837.00	
Bed Area =	149	ft²	Lowest Bed Elevation =	836.60	
			Maximum Depth of Ponding =	0.40	ft
			Bottom of Soil Layer (30") =	834.10	
			Bottom of Practice (18" Aggregate) =	832.60	

Vegetated Swale ID	Storage Volume (ft3)	Ave. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm (ft³)	Total Volume Reduction (ft³)
1	59.6	7.5	558.75	618.35

Bioswale Outlet Control Structure (OCS #201)

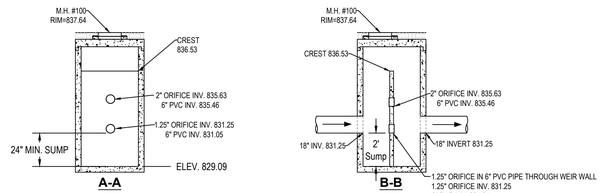
Size Flood Control Release: (allowable release rate of 0.15cfs/acre 0.034 cfs)

Orifice Equation: Q = Cd A (2GY)^1/2 Cd = 0.6



PLAN VIEW

ORIFICE DETAIL
N.T.S.



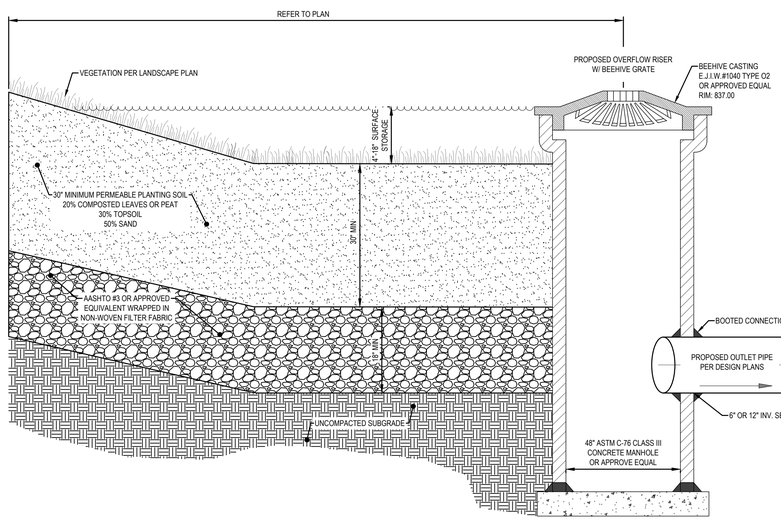
SECTION VIEWS

STORM SEWER CONVEYANCE TABLE

PIPE RUN		HYDROLOGY							HYDRAULICS											H.G. ELEVATION [1]		F.G. ELEVATION		INVERT ELEV.	
FROM STR	TO STR	INCRE-MENT ARES (A)	RUNOFF COEFF. (C)	EQUIV. AREA 100% (CA)	TOTAL AREA 100% ACRES SUM(CA)	TIME (T) MIN.	10 YR INTENSITY (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 (%)	ENERGY GRADE SLOPE	VELOCITY ACTUAL	HG BASED 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
801	**800**	0.01	0.95	0.01	0.01	10.00	5.00	0.0	0.6	6	15.0	HDPP	1.00	1.652%	2.22	0.01	0.94	1.65%	3.1	0.1	842.03	841.78	841.84	841.69	841.84	841.69
701	**700**	1.00	0.95	0.95	0.95	10.00	5.00	4.8	4.9	15	7.4	HDPP	0.50	0.454%	4.37	0.46	0.28	0.46%	4.0	0.0	834.83	834.79	840.00	839.79	833.79	833.75
604	**601**	0.13	0.80	0.10	0.10	10.00	5.00	0.5	2.7	12	6.6	HDPP	0.50	0.141%	1.69	0.02	0.37	0.14%	3.5	0.0	832.67	832.66	837.15	838.71	832.27	832.24
603	**602**	0.13	0.80	0.10	0.10	10.00	5.00	0.5	2.7	12	7.9	HDPP	0.50	0.513%	2.68	0.02	0.37	0.51%	3.5	0.0	833.17	833.13	837.05	837.97	832.88	832.84
602	**601**	0.00	0.80	0.00	0.10	10.00	5.00	0.5	2.7	12	119.0	HDPP	0.50	0.139%	1.67	0.02	0.37	0.14%	3.5	0.6	833.13	832.66	837.97	838.71	832.84	832.24
601	**600**	0.00	0.80	0.00	0.20	10.60	4.92	1.0	2.7	12	8.0	HDPP	0.50	0.542%	3.30	0.07	0.37	0.54%	3.5	0.0	832.66	832.62	838.71	838.66	832.24	832.20
506	**503**	0.01	0.95	0.01	0.01	10.00	5.00	0.0	0.6	6	6.9	HDPP	1.00	0.369%	1.12	0.00	0.94	0.37%	3.1	0.0	833.93	833.91	840.00	839.52	833.88	833.81
507	**501**	0.08	0.95	0.08	0.08	10.00	5.00	0.4	0.6	6	41.1	HDPP	1.00	0.410%	1.98	0.41	0.94	0.41%	3.1	0.2	833.67	833.50	837.13	839.28	833.33	832.92
505	**504**	0.01	0.30	0.00	0.00	10.00	5.00	0.0	0.6	6	67.4	HDPP	1.00	7.926%	2.52	0.00	0.94	7.93%	3.1	0.4	839.53	834.18	842.00	839.70	834.82	834.15
504	**503**	0.01	0.30	0.00	0.00	10.40	4.94	0.0	0.6	6	33.8	HDPP	1.00	0.197%	0.82	0.00	0.94	0.20%	3.1	0.2	834.18	833.91	839.70	839.52	834.15	833.81
503	**502**	0.01	0.30	0.00	0.01	10.60	4.92	0.1	0.6	6	79.7	HDPP	1.00	0.008%	0.30	0.01	0.94	0.01%	3.1	0.4	833.91	833.50	839.52	838.72	833.81	833.01
502	**501**	0.02	0.40	0.01	0.02	11.00	4.86	0.1	0.6	6	8.7	HDPP	1.00	0.022%	0.46	0.02	0.94	0.02%	3.1	0.0	833.50	833.50	838.72	839.28	833.01	832.92
501	**500**	0.00	0.30	0.00	0.10	11.00	4.86	0.5	2.7	12	4.3	HDPP	0.50	0.015%	0.60	0.01	0.37	0.01%	3.5	0.0	833.50	833.50	839.28	839.38	832.52	832.50
401	**400**	0.04	0.30	0.01	0.01	10.00	5.00	0.1	0.6	6	15.0	HDPP	1.00	0.996%	2.01	0.01	0.94	1.00%	3.1	0.1	840.51	840.36	840.40	840.25	840.40	840.25
301	**300**	0.02	0.30	0.01	0.01	10.00	5.00	0.0	0.6	6	15.0	HDPP	1.00	14.456%	4.09	0.00	0.94	14.46%	3.1	0.1	843.08	840.91	841.02	840.87	841.02	840.87
203	**202**	0.13	0.40	0.05	0.05	10.00	5.00	0.3	0.6	6	108.0	HDPP	1.00	1.064%	3.01	0.17	0.94	1.06%	3.1	0.6	838.37	837.22	840.00	837.00	838.08	837.00
201	**200**	0.23	0.80	0.18	0.18	10.00	5.00	0.9	2.7	12	15.2	HDPP	0.50	0.068%	1.45	0.06	0.37	0.07%	3.5	0.1	832.93	832.92	837.00	838.67	832.25	832.17
200	**1163**	0.00	0.80	0.00	0.18	10.00	5.00	0.9	2.7	12	55.8	HDPP	0.50	0.056%	1.17	0.06	0.37	0.06%	3.5	0.3	832.92	832.89	838.67	836.29	832.17	831.89
101	**100**	0.00	0.80	0.00	0.00	10.00	5.00	6.2	8.4	18	16.9	HDPP	0.55	0.575%	5.32	0.30	0.22	0.58%	4.8	0.1	832.21	832.11	837.64	834.14	831.25	831.16
100	**1061**	0.00	0.80	0.00	0.00	10.00	5.00	6.2	8.4	18	11.0	HDPP	0.55	0.575%	5.32	0.30	0.22	0.58%	4.8	0.0	832.11	832.05	834.14	837.88	831.16	831.10

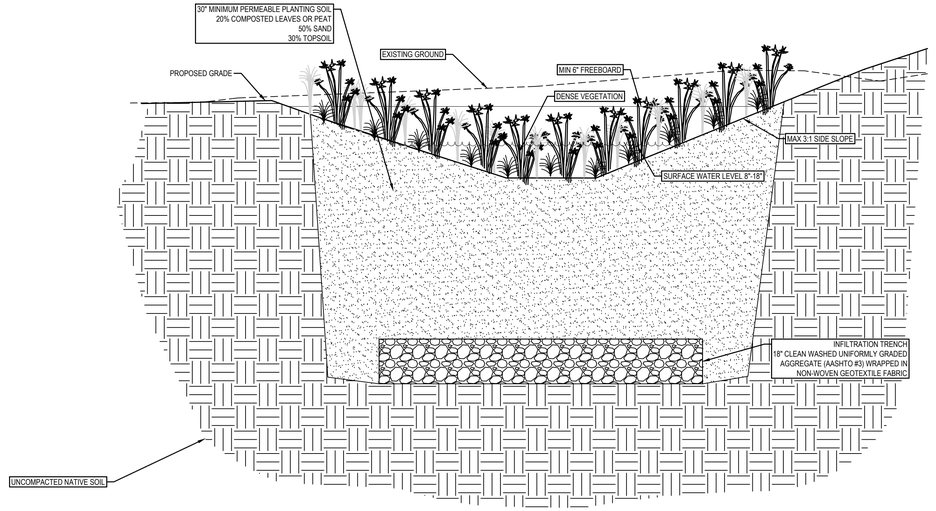
60"Ø PRECAST OUTLET CONTROL STRUCTURE - #101

N.T.S.



BIOSWALE OVERFLOW STRUCTURE DETAIL - OCS #201

N.T.S.



BIOSWALE TYPICAL CROSS SECTION

N.T.S.

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

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

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

NEDERVELD
www.nederveld.com
800.222.1868

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3037 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.6963

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217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190

HOLLAND
730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449

PREPARED FOR:
Southtown by 4M, LLC

1919 S. Industrial Hwy
Ann Arbor, MI 48104

REVISIONS:
Title: Concept Design Package for OAC review
Drawn: CB/OO Checked: JVR Date: 10.10.2025
Title: Draft Site Plan for Pre-Submission meeting
Drawn: CB/OO Checked: JVR Date: 10.31.2025
Title: Site Plan Submittal
Drawn: CB/OO Check: OO/NB/BC Date: 11.20.2025
Title: Site Plan Resubmittal
Drawn: CB/OO Check: OO/NB/BC Date: 01.21.2026
Title: Site Plan Resubmittal #2
Drawn: CB/OO Check: OO/NB/BC Date: 02.23.2026

SOUTHTOWN BY 4M

Stormwater Management Details

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

SEAL:
STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

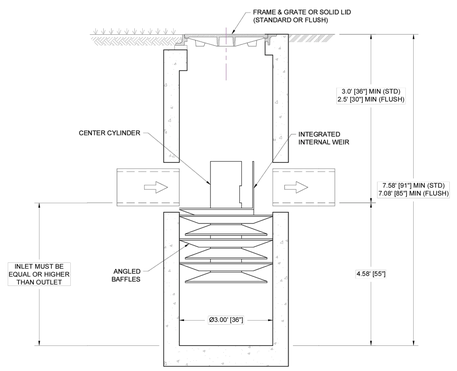
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SHEET NO:
C-402

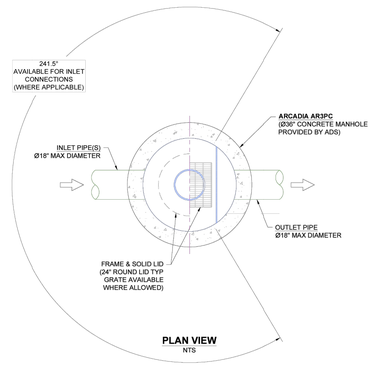
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ARCADIA AR3PC



PROFILE VIEW
NTS



PLAN VIEW
NTS

PRODUCT SPECIFICATIONS

- THE STORMWATER TREATMENT UNIT SHALL BE AN INLINE UNIT CAPABLE OF CONVEYING 100% OF THE DESIGN PEAK FLOW. IF PEAK FLOW RATES EXCEED MAXIMUM HYDRAULIC RATE, THE UNIT SHALL BE INSTALLED OFFLINE.
- THE ARCADIA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 80% OF THE SUSPENDED SOLIDS ON AN ANNUAL AGGREGATE REMOVAL BASIS. SAID REMOVAL SHALL BE BASED ON FULL-SCALE THIRD PARTY VERIFIED TESTING USING OK-110 MEDIA GRADATION OR EQUIVALENT AND 300 MG/L INFLUENT CONCENTRATION. FULL SCALE TESTING SHALL HAVE INCLUDED SEDIMENT CAPTURE BASED ON ACTUAL TOTAL MASS COLLECTED BY THE STORMWATER TREATMENT UNIT.

  -OR -

  THE ARCADIA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS USING A MEDIA MIX WITH D50=75 MICRON AND 200 MG/L INFLUENT CONCENTRATION.

NOTES:

- ENGINEER / CONTRACTOR TO CONFIRM PIPE MATERIALS AND APPLICABLE ADAPTERS.
- CONTRACTOR IS RESPONSIBLE FOR MATERIAL AND LABOR TO BRING CASTINGS TO FINISHED GRADE.
- CONTRACTOR TO MEASURE HEIGHT OF STRUCTURE TO ENSURE THAT DEPTH OF EXCAVATION IS CORRECT.
- UNIT SHALL CONFORM TO HS20-44 LOAD RATINGS.

ARCADIA AR3PC
CONCRETE MANHOLE
DATE: 04/23/25 DRAWN: JLM
DRAWING # 530-310 CHECKED: CJD/AT

DATE	BY	TD	DESCRIPTION
08/13/25	JLM	TD	CORRUGATION & SPEC'S UPDATED

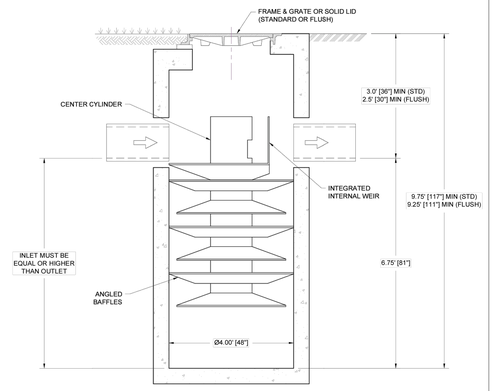
ARCADIA
Stormwater Separator

4640 TRUEMAN BLVD
HILLIARD, OH 43026

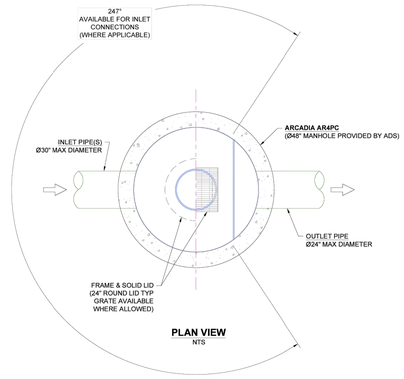
SHEET 1 OF 1

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ARCADIA AR4PC



PROFILE VIEW
NTS



PLAN VIEW
NTS

PRODUCT SPECIFICATIONS

- THE STORMWATER TREATMENT UNIT SHALL BE AN INLINE UNIT CAPABLE OF CONVEYING 100% OF THE DESIGN PEAK FLOW. IF PEAK FLOW RATES EXCEED MAXIMUM HYDRAULIC RATE, THE UNIT SHALL BE INSTALLED OFFLINE.
- THE ARCADIA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 80% OF THE SUSPENDED SOLIDS ON AN ANNUAL AGGREGATE REMOVAL BASIS. SAID REMOVAL SHALL BE BASED ON FULL-SCALE THIRD PARTY VERIFIED TESTING USING OK-110 MEDIA GRADATION OR EQUIVALENT AND 300 MG/L INFLUENT CONCENTRATION. FULL SCALE TESTING SHALL HAVE INCLUDED SEDIMENT CAPTURE BASED ON ACTUAL TOTAL MASS COLLECTED BY THE STORMWATER TREATMENT UNIT.

  -OR -

  THE ARCADIA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS USING A MEDIA MIX WITH D50=75 MICRON AND 200 MG/L INFLUENT CONCENTRATION.

NOTES:

- ENGINEER / CONTRACTOR TO CONFIRM PIPE MATERIALS AND APPLICABLE ADAPTERS.
- CONTRACTOR IS RESPONSIBLE FOR MATERIAL AND LABOR TO BRING CASTINGS TO FINISHED GRADE.
- CONTRACTOR TO MEASURE HEIGHT OF STRUCTURE TO ENSURE THAT DEPTH OF EXCAVATION IS CORRECT.
- UNIT SHALL CONFORM TO HS20-44 LOAD RATINGS.

ARCADIA AR4PC
CONCRETE MANHOLE
DATE: 04/23/25 DRAWN: JLM
DRAWING # 540-410 CHECKED: CJD/AT

DATE	BY	TD	DESCRIPTION
08/13/25	JLM	TD	CORRUGATION & SPEC'S UPDATED

ARCADIA
Stormwater Separator

4640 TRUEMAN BLVD
HILLIARD, OH 43026

SHEET 1 OF 1

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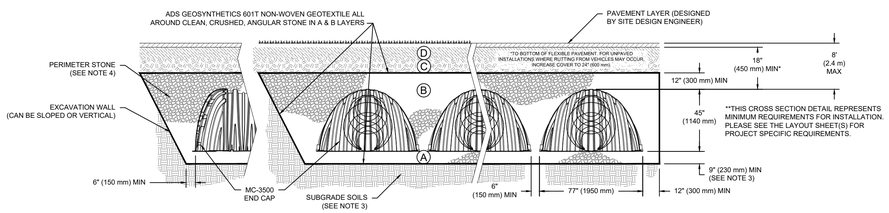
WATER QUALITY UNT #501

N.T.S.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/% THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	18" BOTTOM PRE-CORED END CAP. PART#: MC3500IEPP18BC / TYP OF ALL 18" BOTTOM CONNECTIONS	1.77"	
PREFABRICATED END CAP	B	24" BOTTOM PRE-CORED END CAP. PART#: MC3500IEPP24BC / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.06"	
PREFABRICATED END CAP	C	24" TOP PRE-CORED END CAP. PART#: MC3500IEPP24TC / TYP OF ALL 24" TOP CONNECTIONS	14.48"	
FLAMP	D	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP (TYP 2 PLACES)		
MANIFOLD	E	18" x 18" BOTTOM MANIFOLD, ADS N-12	1.77"	
MANIFOLD	F	18" x 18" BOTTOM MANIFOLD, ADS N-12	1.77"	
MANIFOLD	G	24" x 24" TOP MANIFOLD, ADS N-12	14.48"	
PIPE CONNECTION	H	18" BOTTOM CONNECTION	1.77"	
INSERTA TEE	I	12" DIAMETER	6.00"	
CONCRETE STRUCTURE	J	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		8.0 CFS OUT
CONCRETE STRUCTURE	K	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		4.2 CFS IN
CONCRETE STRUCTURE W/WEIR	L	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		20.9 CFS IN
UNDERDRAIN	M	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		

PROPOSED LAYOUT		
54	STORMTECH MC-3500 CHAMBERS	
16	STORMTECH MC-3500 END CAPS	
12	STONE ABOVE (in)	
9	STONE BELOW (in)	
40	STONE VOID	
11236	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	
3423	SYSTEM AREA (SF)	
258.2	SYSTEM PERIMETER (ft)	

PROPOSED ELEVATIONS	
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	843.75
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	837.75
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	837.25
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	837.25
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	837.25
TOP OF STONE:	836.75
TOP OF MC-3500 CHAMBER:	835.75
24" x 24" TOP MANIFOLD INVERT:	833.21
12" INSERTA TEE INVERT:	832.50
24" ISOLATOR ROW PLUS INVERT:	832.17
24" ISOLATOR ROW PLUS INVERT:	832.17
18" x 18" BOTTOM MANIFOLD INVERT:	832.15
18" x 18" BOTTOM MANIFOLD INVERT:	832.15
18" BOTTOM CONNECTION INVERT:	832.15
BOTTOM OF MC-3500 CHAMBER:	832.00
UNDERDRAIN INVERT:	831.25
BOTTOM OF STONE:	831.25

NOTE: ALL DIMENSIONS ARE NOMINAL

ADS MC-3500 STORM CHAMBER SYSTEM

N.T.S.

21500282.1
ANN ARBOR, MI, USA
DRAWN: OO
DATE: 10/09/2025
CHECKED: N/A
PROJECT #
THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK IN ACCORDANCE WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS. THE CONTRACTOR ACKNOWLEDGES THAT IT ACCEPTS RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

DATE	DWN	CHK

StormTech®
Chamber System

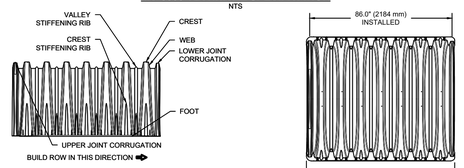
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HILLIARD, OH 43026
1-800-733-7473

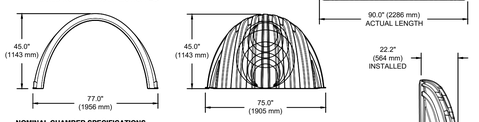
SHEET 3 OF 5

WATER QUALITY UNT #601

N.T.S.

MC-3500 TECHNICAL SPECIFICATION
NTS





NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

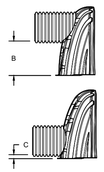
SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 m³)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST
INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

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

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

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

NEDERVELD
www.nederveld.com
800.222.1868

ANN ARBOR
3037 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.6963

GRAND RAPIDS
217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190

HOLLAND
730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449

PREPARED FOR:
Southtown by 4M, LLC

1919 S. Industrial Hwy
Ann Arbor, MI 48104

REVISIONS:

Title: Concept Design Package for OAC review
Drawn: CB/OO Checked: JVR Date: 10.10.2025
Title: Draft Site Plan for Pre-Submission meeting
Drawn: CB/OO Checked: JVR Date: 10.31.2025
Title: Site Plan Submittal
Drawn: CB/OO Check: OO/NB/BC Date: 11.20.2025
Title: Site Plan Resubmittal
Drawn: CB/OO Check: OO/NB/BC Date: 01.21.2026
Title: Site Plan Resubmittal #2
Drawn: CB/OO Check: OO/NB/BC Date: 02.23.2026

SOUTHTOWN BY 4M

Stormwater Management Details

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

SEAL:

STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-403

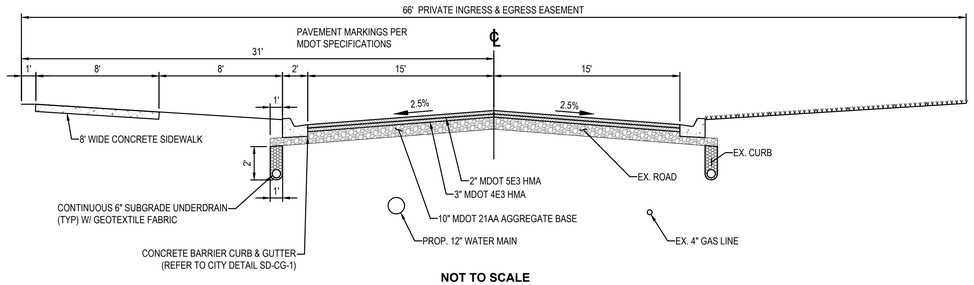
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811 Know what's below. CALL before you dig.

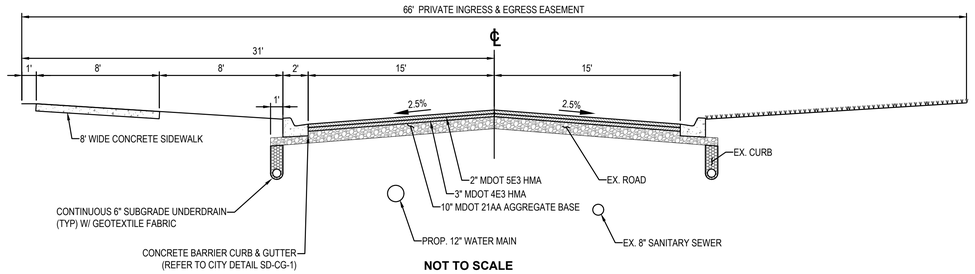
UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

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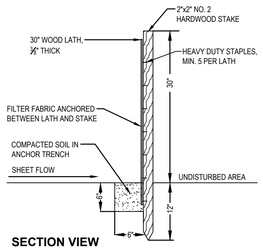
NOT TO SCALE

HENRY ST. CROSS-SECTION

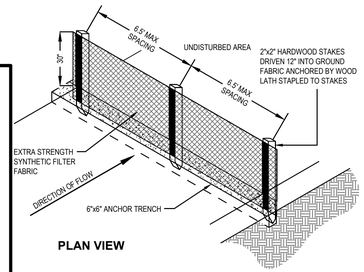


NOT TO SCALE

WHITE ST. CROSS SECTION



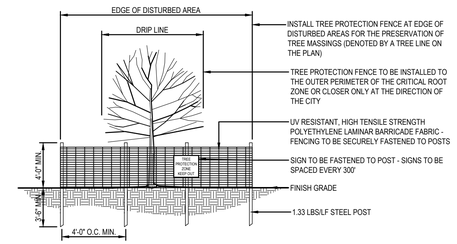
SECTION VIEW



PLAN VIEW

SILT FENCE DETAIL

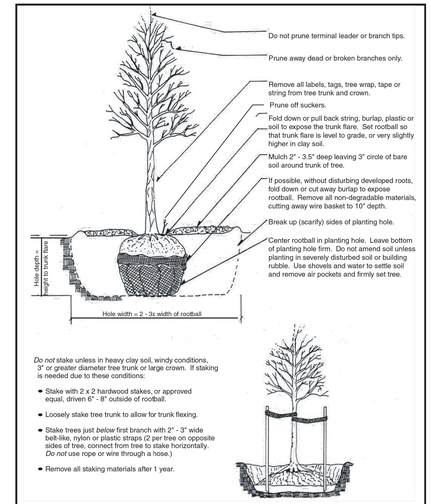
N.T.S.



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

TREE PROTECTION FENCING DETAIL

N.T.S.



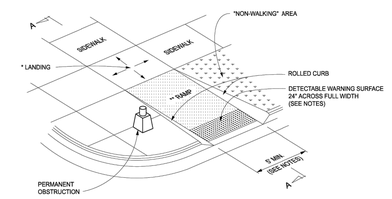
TREE PLANTING DETAIL

SCALE: NOT SCALE

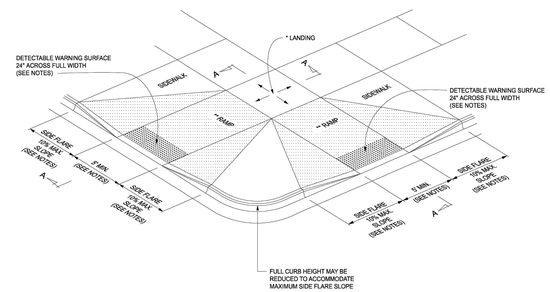
Original: Dr. Bonnie Appleton, Virginia Polytechnic Institute and State University, modified by the Michigan Department of Natural Resources, Forest Management Division, and the City of Ann Arbor

* MAXIMUM LANDING SLOPE IS 2.1% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.1%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE R
(ROLLED SIDES)

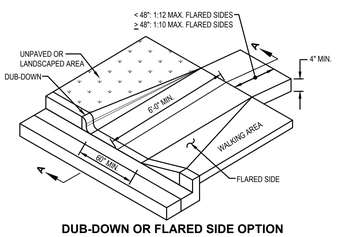


CURB RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)

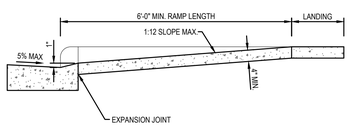
APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES	MDOT Michigan Department of Transportation	STANDARD PLAN FOR: CURB RAMP AND DETECTABLE WARNING DETAILS	
APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT	DEPARTMENT DIRECTOR: BRADLEY C. WIEFFERICH, PE	(SPECIAL DETAIL) FHWA APPROVAL: 11/08/2023 PLAN DATE: R-28-K	SHEET 1 OF 7

SIDEWALK CURB RAMP DETAIL

N.T.S.



DUB-DOWN OR FLARED SIDE OPTION

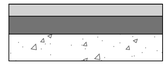


SECTION A-A

NOTE

CONSTRUCTION OF ITEMS LOCATED WITHIN THE CITY RIGHT-OF-WAY SHALL FOLLOW PUBLISHED CITY DETAILS AND STANDARDS

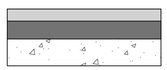
STORM, SANITARY, AND WATER MAIN ITEMS TO FOLLOW CITY DETAILS AND STANDARDS. CONSTRUCTION DETAILS TO BE PROVIDED WITH CONSTRUCTION PLAN PERMIT SET.



NOTE:
1. REFER TO GEOTECHNICAL REPORT FOR FINAL PAVEMENT DESIGN SPECIFICATION
2. HMA MIXTURE TO BE TIER I OR TIER II
3. BINDER GRADE TO BE A MINIMUM OF PG 58-28
4. MINIMUM SPECIFICATIONS ARE TO FOLLOW THE MOST RECENT PUBLISHED SPECIFICATIONS BY THE CITY OR MDOT
5. PROPOSED ROADWAY SECTIONS ARE TO MATCH EXISTING SECTIONS IF THEY ARE THICKER THAN 5 INCHES

HENRY & WHITE ST. BITUMINOUS PAVEMENT CROSS SECTION DETAIL

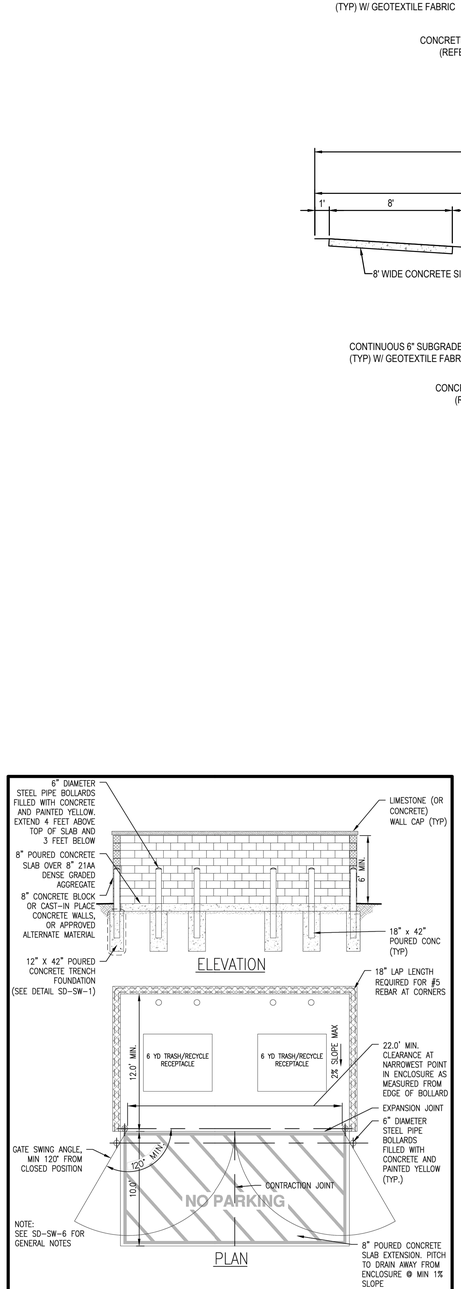
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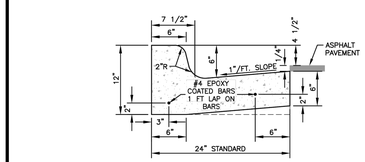
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STATE & STIMSON ST. BITUMINOUS PAVEMENT CROSS SECTION DETAIL

N.T.S.

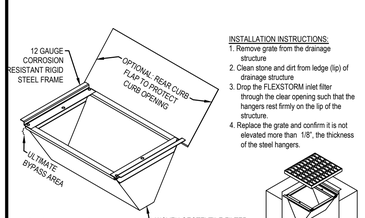


CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org	REV. NO.	DATE	DRAWN BY	CHECKED BY
DOUBLE BIN ENCLOSURE	DR. ENG	CH. ENG	DRAWING NO.	
	SCALE N.T.S.	DATE 12/8/2023		SD-SW-2



NOTES:
1. BARRIER CURB AND GUTTER ON ASPHALT STREETS SHALL CONFORM TO THIS DETAIL.
2. BARRIER CURB AND GUTTER ON CONCRETE STREETS SHALL CONFORM TO MDOT CURB AND GUTTER DETAIL F3.

CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org	REV. NO.	DATE	DRAWN BY	CHECKED BY
BARRIER CURB AND GUTTER	DR. ENG	CH. ENG	DRAWING NO.	
	SCALE N.T.S.	DATE 12/8/2023		SD-CG-1

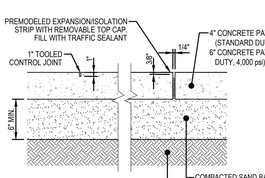


MEETS ASTM D8057 STANDARDS

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

FLEXSTORM INLET FILTER LITE DETAIL

N.T.S.



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

CONCRETE PAVEMENT DETAIL (PRIVATE USE)

N.T.S.

NEDERVELD
www.nederveld.com
800.222.1868

ANN ARBOR
3037 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.6963

GRAND RAPIDS
217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190

HOLLAND
730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449

PREPARED FOR:
Southtown by 4M, LLC

1919 S. Industrial Hwy
Ann Arbor, MI 48104

REVISIONS:

Title: Concept Design Package for OAC review			
Drawn: CB/OO	Checked: JVR	Date: 10.10.2025	
Title: Draft Site Plan for Pre-Submission meeting			
Drawn: CB/OO	Checked: JVR	Date: 10.31.2025	
Title: Site Plan Submittal			
Drawn: CB/OO	Check: OO/NB/BC	Date: 11.20.2025	
Title: Site Plan Resubmittal			
Drawn: CB/OO	Check: OO/NB/BC	Date: 01.21.2026	
Title: Site Plan Resubmittal #2			
Drawn: CB/OO	Check: OO/NB/BC	Date: 02.23.2026	

SOUTHTOWN BY 4M

Details & Specifications

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

SEAL:

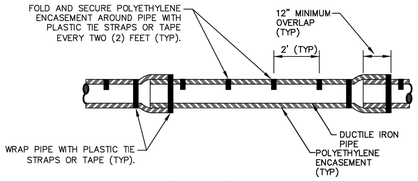
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OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-500

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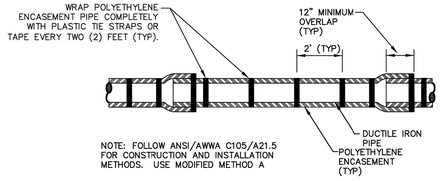
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NOTE: FOLLOW ANSI/AWWA C105/A21.5 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

APPLIES TO: POLYETHYLENE WRAPPED D.I. WATERMAIN SEE PLANS FOR LOCATIONS

POLYETHYLENE ENCASEMENT (DRY INSTALLATION)



NOTE: FOLLOW ANSI/AWWA C105/A21.5 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

APPLIES TO: POLYETHYLENE WRAPPED D.I. WATERMAIN SEE PLANS FOR LOCATIONS

POLYETHYLENE ENCASEMENT (WET INSTALLATION)

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

REV. NO.	DATE	DRAWN BY	CHECKED BY

POLYETHYLENE ENCASEMENT

DR. ENG	CH. ENG	DRAWING NO.
SCALE N.T.S.	DATE 12/8/2023	SD-W-7

NEDERVELD
www.nederveld.com
800.222.1868
ANN ARBOR
3037 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.6963
GRAND RAPIDS
217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190
HOLLAND
730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449

PREPARED FOR:
Southtown by 4M, LLC

1919 S. Industrial Hwy
Ann Arbor, MI 48104

REVISIONS:

Title: Concept Design Package for OAC review
Drawn: CB/OO Checked: JVR Date: 10.10.2025
Title: Draft Site Plan for Pre-Submission meeting
Drawn: CB/OO Checked: JVR Date: 10.31.2025
Title: Site Plan Submittal
Drawn: CB/OO Check: OO/NB/BC Date: 11.20.2025
Title: Site Plan Resubmittal
Drawn: CB/OO Check: OO/NB/BC Date: 01.21.2026
Title: Site Plan Resubmittal #2
Drawn: CB/OO Check: OO/NB/BC Date: 02.23.2026

SOUTHTOWN BY 4M

Details and Specificaitons

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

SEAL:

STATE OF MICHIGAN
OSAMA ODEH
License No. 6201314909
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:
21500282

SHEET NO:
C-501

21500282-PRELS.dwg CB 2/24/2026 12:11

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Plot Date: 1/14/2026 3:35:56 PM

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT

2082 S. State Street
Ann Arbor, MI 48104

SMITHGROUP

201 DEPOT STREET
SECOND FLOOR
ANN ARBOR, MI 48104
734.662.4457
smithgroup.com

ISSUED FOR	DATE
Site Plan Review Response	*1/16/2026*
Preliminary Site Plan Review	*11/4/2025*

SEALS AND SIGNATURES

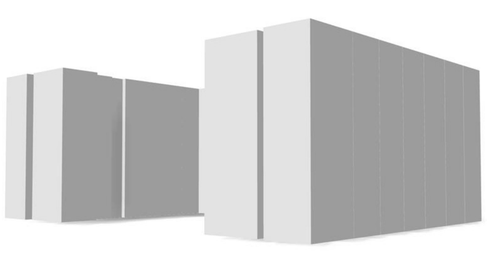
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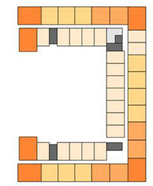
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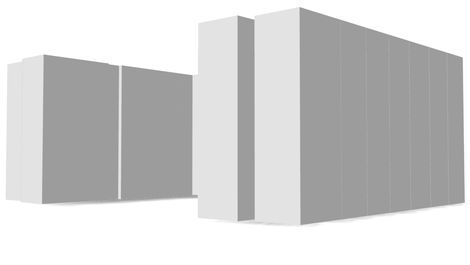
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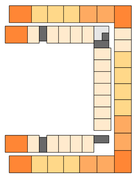
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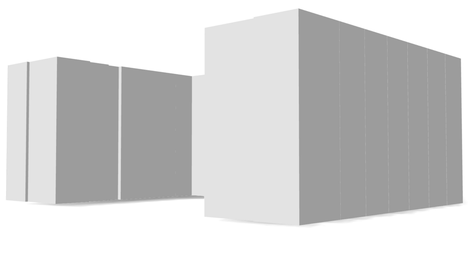


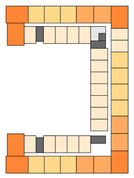
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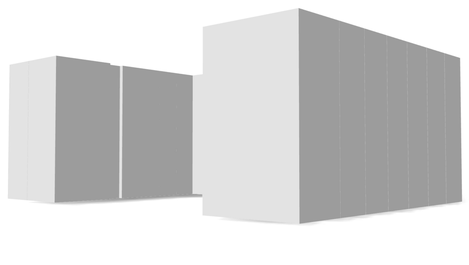


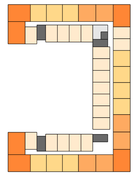
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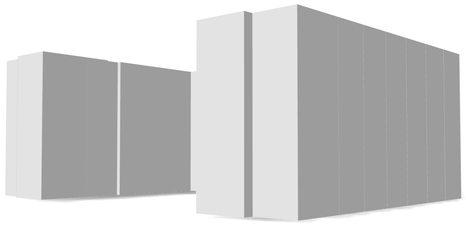


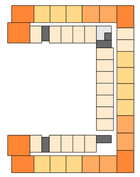
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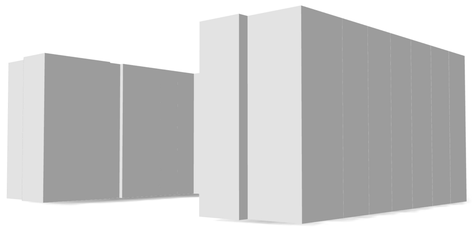


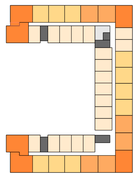
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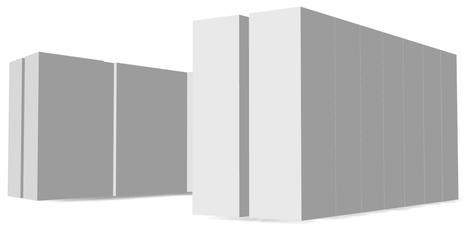


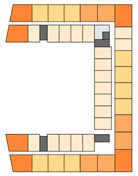
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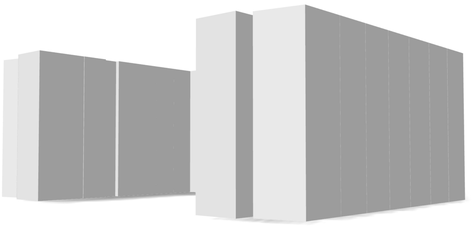


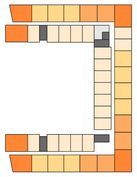
SCHEME 6





SCHEME 7





SCHEME 8

1 ALTERNATIVE MASSING OPTIONS
SCALE: 6" = 1'-0"

Plot Date: 1/14/2026 3:35:57 PM

SOUTHTOWN
RESIDENTIAL HOUSING
DEVELOPMENT

2082 S. State Street
Ann Arbor, MI 48104

SMITHGROUP

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734.662.4457
smithgroup.com

ISSUED FOR	DATE
Site Plan Review Response	*1/16/2026*
Final Site Plan Review	*11/20/2025*

SEALS AND SIGNATURES

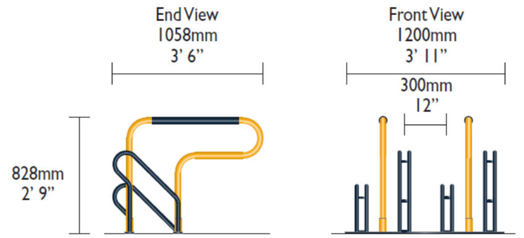
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SHEET TITLE
ALTERNATIVE OPTIONS EXPLORED

00100060.000
PROJECT NUMBER

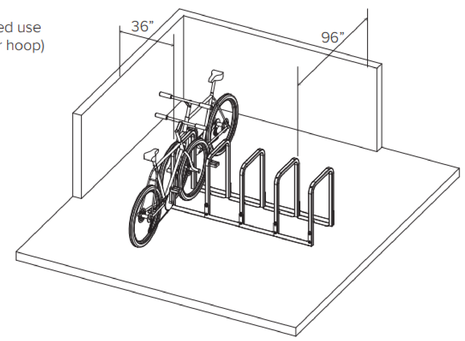
SD **G7.0.0**
SHEET NUMBER



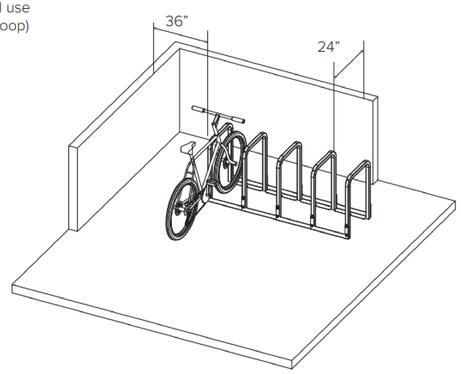


3 CLASS A TYPE 2
SCALE: NOT TO SCALE

Double sided use
(2 bikes per hoop)

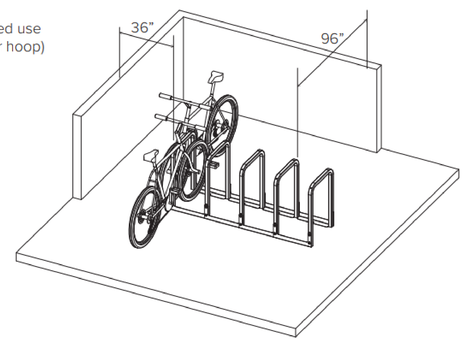


Single sided use
(1 bike per hoop)

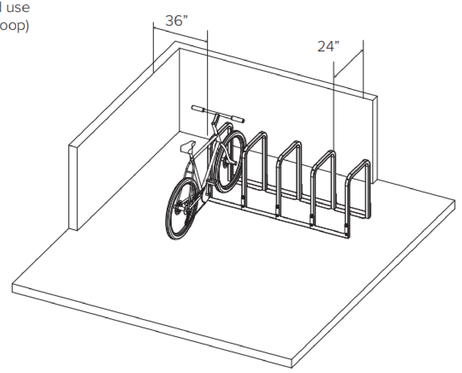


2 CLASS A TYPE 1
SCALE: NOT TO SCALE

Double sided use
(2 bikes per hoop)



Single sided use
(1 bike per hoop)



1 CLASS A BARRIER FREE
SCALE: NOT TO SCALE

UDC CLASS A BIKE COUNT

CLASS A TYPE 1 BIKE SPACES	85
CLASS A TYPE 2 BIKE SPACES	58
CLASS A BARRIER-FREE BIKE SPACES	02
TOTAL CLASS A BIKE SPACES	**145**

Plot Date: 1/14/2026 3:35:57 PM

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT

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Site Plan Review Response	*1/15/2026*

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

SHEET TITLE
CLASS A BIKE STORAGE SYSTEMS

PROJECT NUMBER
00100060.000

SHEET NUMBER
SD **G7.1.0**



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

GRAPHIC LEGEND

GENERAL SHEET NOTES

A. REFER TO THE A0.X SERIES SHEETS FOR ARCHITECTURAL GENERAL NOTES, DRAWING, REFERENCE AND MATERIAL SYMBOLS, ABBREVIATIONS, AS WELL AS DIMENSIONING CONVENTIONS USED ON THIS SHEET.

B. FOR BASIC LIFE SAFETY AND CODE INFORMATION APPLYING TO THIS PROJECT, REFER TO THE G2.X SERIES SHEETS LOCATED PER THE PROJECT SHEET INDEX.

C. REFER TO THE A3.X SERIES SHEETS FOR THE REFLECTED CEILING PLANS.

D. REFER TO THE A9.2.X SERIES SHEETS FOR PARTITION SYSTEMS TYPES AND DETAILS.

E. REFER TO THE A9.3.X SERIES SHEETS FOR THE INTERIOR OPENING SCHEDULE(S), TYPES, AND DETAILS.

F. REFER TO THE 'A' SERIES SHEETS FOR INTERIOR FINISH INFORMATION.

G. REFER TO THE 'AF' SERIES SHEETS FOR INTERIOR FURNISHING INFORMATION.

REFERENCE KEYNOTES

SHEET KEYNOTES

8' 4' 0' 8' 16'
GRAPHIC SCALE: 1/8" = 1'-0"

4m

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT

2082 S. State Street
Ann Arbor, MI 48104

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ANN ARBOR, MI 48104
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smithgroup.com

ISSUED FOR	DATE
Site Plan Review Response	*1/16/2026*
Final Site Plan Review	*11/20/2025*
Preliminary Site Plan Review	*11/4/2025*

SEALS AND SIGNATURES

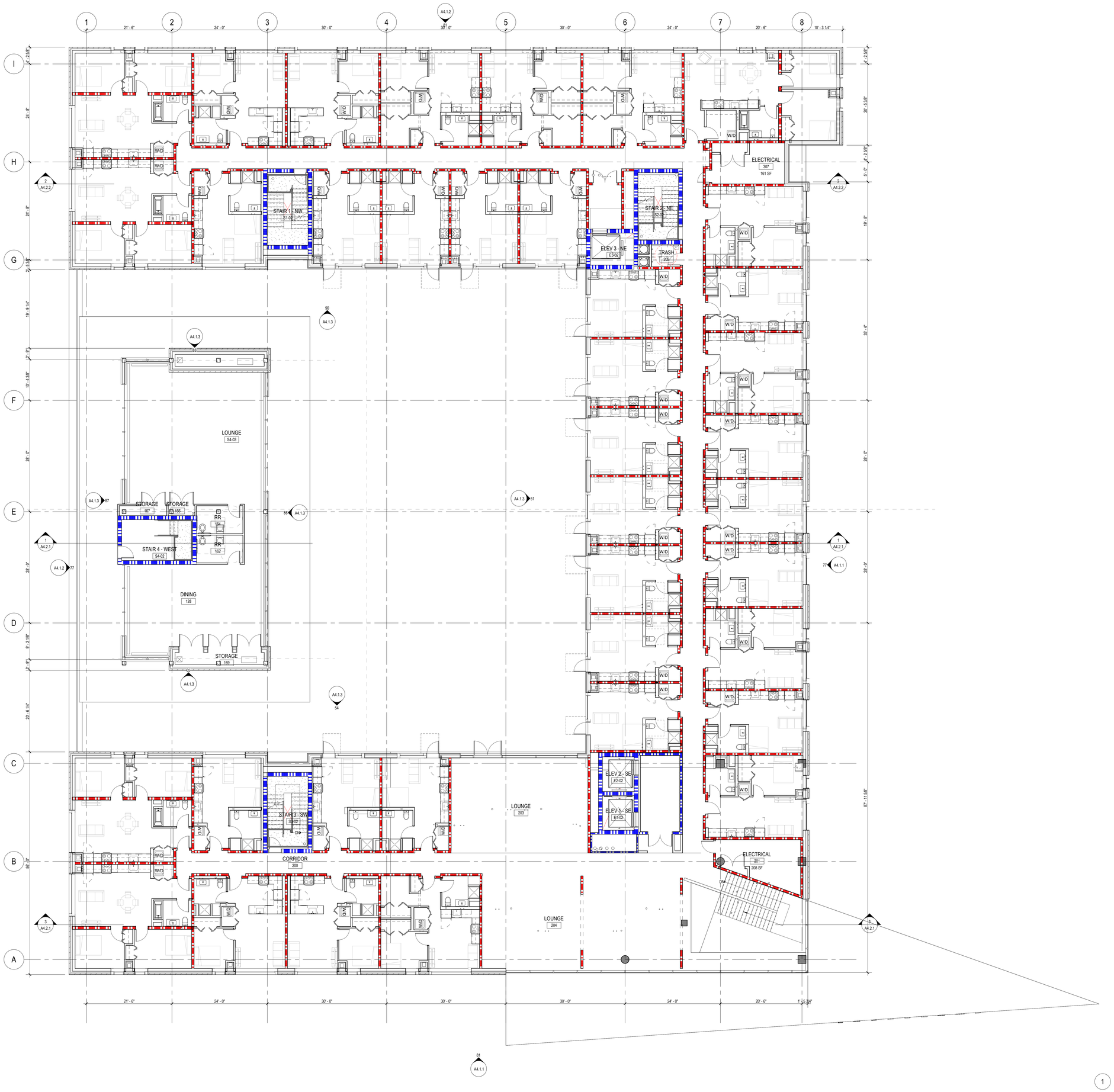
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SHEET TITLE
LEVEL 1 FLOOR PLAN

PROJECT NUMBER
00100060.000

SD **A2.1.1**
SHEET NUMBER

Plot Date: 1/14/2026 3:36:04 PM



1 LEVEL 2 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

8' 4' 0' 8' 16'
GRAPHIC SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

GENERAL SHEET NOTES

A. REFER TO THE A0.X SERIES SHEETS FOR ARCHITECTURAL GENERAL NOTES, DRAWING, REFERENCE AND MATERIAL SYMBOLS, ABBREVIATIONS, AS WELL AS DIMENSIONING CONVENTIONS USED ON THIS SHEET.

B. FOR BASIC LIFE SAFETY AND CODE INFORMATION APPLYING TO THIS PROJECT, REFER TO THE G2.X SERIES SHEETS LOCATED PER THE PROJECT SHEET INDEX.

C. REFER TO THE A3.X SERIES SHEETS FOR THE REFLECTED CEILING PLANS.

D. REFER TO THE A9.2.X SERIES SHEETS FOR PARTITION SYSTEMS TYPES AND DETAILS.

E. REFER TO THE A9.3.X SERIES SHEETS FOR THE INTERIOR OPENING SCHEDULE(S), TYPES, AND DETAILS.

F. REFER TO THE 'AI' SERIES SHEETS FOR INTERIOR FINISH INFORMATION.

G. REFER TO THE 'AF' SERIES SHEETS FOR INTERIOR FURNISHING INFORMATION.

REFERENCE KEYNOTES

SHEET KEYNOTES

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT
2082 S. State Street
Ann Arbor, MI 48104

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ANN ARBOR, MI 48104
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smithgroup.com

ISSUED FOR	DATE
Site Plan Review Response	*1/15/2026*
Final Site Plan Review	*11/20/2025*
Preliminary Site Plan Review	*11/4/2025*

SEALS AND SIGNATURES

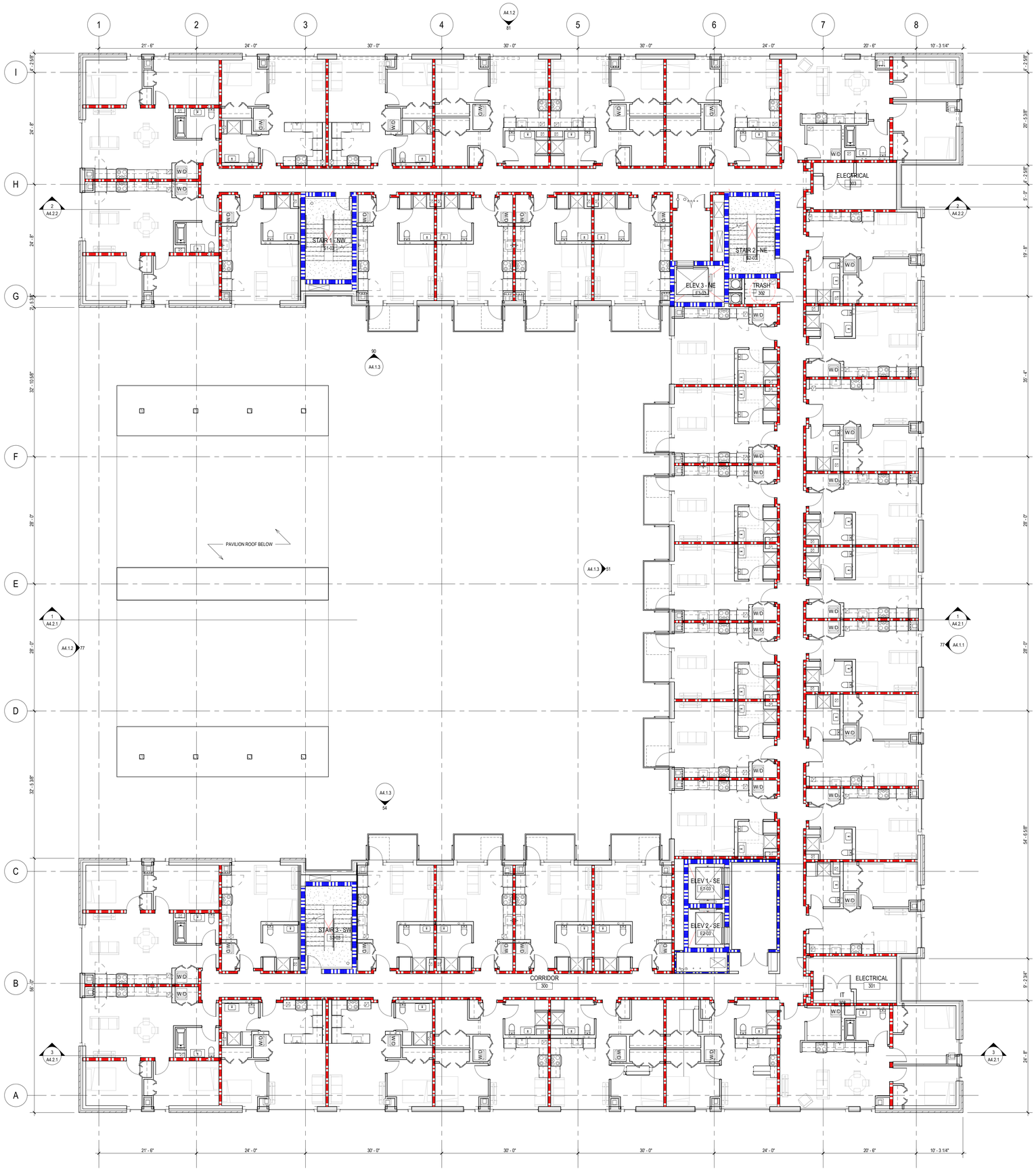
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SHEET TITLE
LEVEL 2 FLOOR PLAN

00100060.000
PROJECT NUMBER

SD **A2.1.2**
SHEET NUMBER

Plot Date: 1/14/2026 3:36:31 PM



1 LEVEL 3 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

8' 4' 0' 8' 16'
GRAPHIC SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

GENERAL SHEET NOTES

A. REFER TO THE A0.X SERIES SHEETS FOR ARCHITECTURAL GENERAL NOTES, DRAWING, REFERENCE AND MATERIAL SYMBOLS, ABBREVIATIONS, AS WELL AS DIMENSIONING CONVENTIONS USED ON THIS SHEET.

B. FOR BASIC LIFE SAFETY AND CODE INFORMATION APPLYING TO THIS PROJECT, REFER TO THE G2.X SERIES SHEETS LOCATED PER THE PROJECT SHEET INDEX.

C. REFER TO THE A3.X SERIES SHEETS FOR THE REFLECTED CEILING PLANS.

D. REFER TO THE A9.2.X SERIES SHEETS FOR PARTITION SYSTEMS TYPES AND DETAILS.

E. REFER TO THE A9.3.X SERIES SHEETS FOR THE INTERIOR OPENING SCHEDULE(S), TYPES, AND DETAILS.

F. REFER TO THE 'A' SERIES SHEETS FOR INTERIOR FINISH INFORMATION.

G. REFER TO THE 'A' SERIES SHEETS FOR INTERIOR FURNISHING INFORMATION.

REFERENCE KEYNOTES

SHEET KEYNOTES

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT

2082 S. State Street
Ann Arbor, MI 48104

SMITHGROUP

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SECOND FLOOR
ANN ARBOR, MI 48104
734.662.4457
smithgroup.com

ISSUED FOR	DATE
Site Plan Review Response	*1/16/2026*
Final Site Plan Review	*11/20/2025*
Preliminary Site Plan Review	*11/4/2025*

SEALS AND SIGNATURES

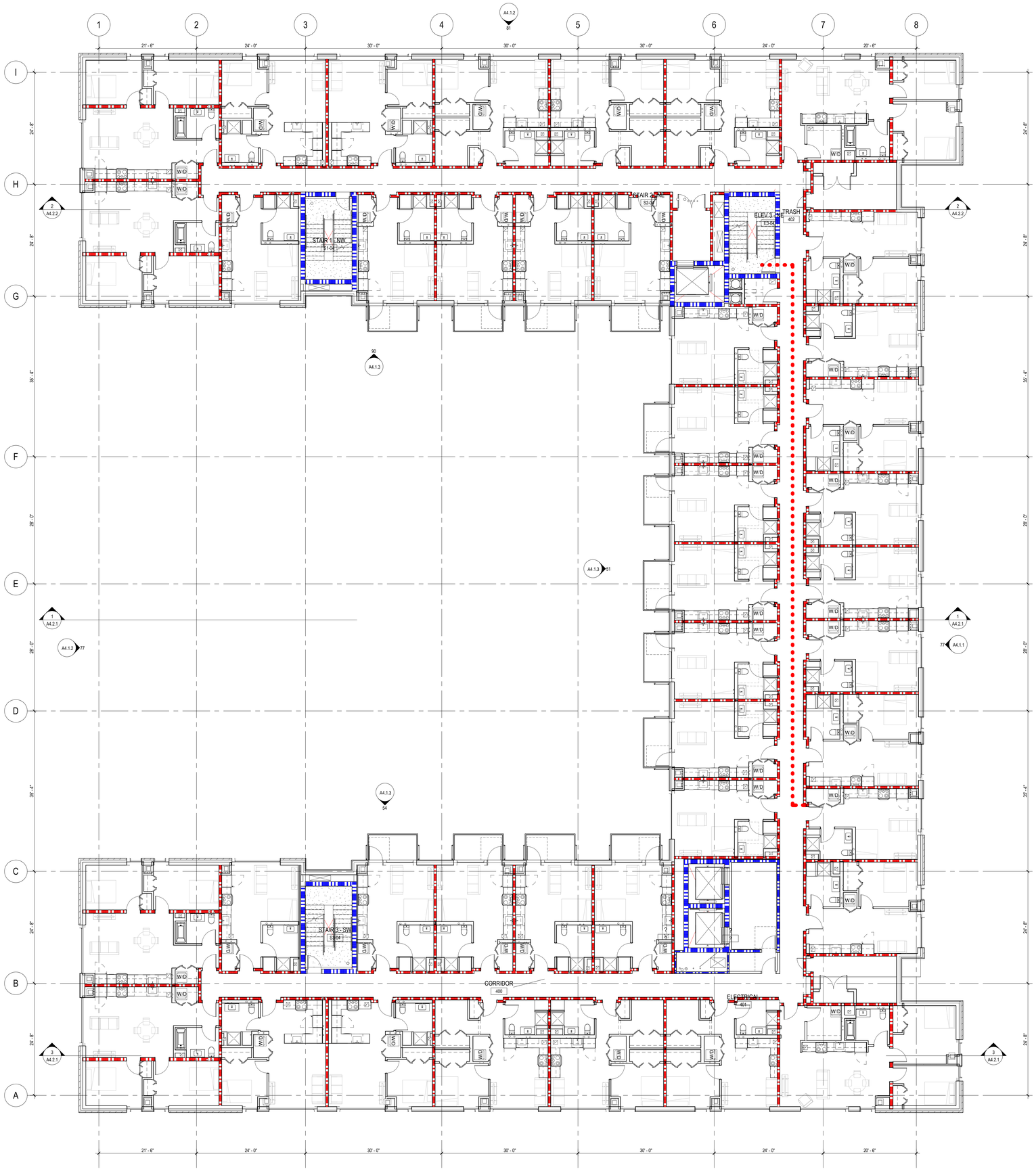
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SHEET TITLE
LEVEL 3 FLOOR PLAN

00100060.000
PROJECT NUMBER

SD **A2.1.3**
SHEET NUMBER

Plot Date: 1/14/2026 3:36:54 PM



1 LEVEL 4 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

GENERAL SHEET NOTES

A. REFER TO THE A0.X SERIES SHEETS FOR ARCHITECTURAL GENERAL NOTES, DRAWING, REFERENCE AND MATERIAL SYMBOLS, ABBREVIATIONS, AS WELL AS DIMENSIONING CONVENTIONS USED ON THIS SHEET.

B. FOR BASIC LIFE SAFETY AND CODE INFORMATION APPLYING TO THIS PROJECT, REFER TO THE G2.X SERIES SHEETS LOCATED PER THE PROJECT SHEET INDEX.

C. REFER TO THE A3.X SERIES SHEETS FOR THE REFLECTED CEILING PLANS.

D. REFER TO THE A9.2.X SERIES SHEETS FOR PARTITION SYSTEMS TYPES AND DETAILS.

E. REFER TO THE A9.3.X SERIES SHEETS FOR THE INTERIOR OPENING SCHEDULE(S), TYPES, AND DETAILS.

F. REFER TO THE 'AI' SERIES SHEETS FOR INTERIOR FINISH INFORMATION.

G. REFER TO THE 'AF' SERIES SHEETS FOR INTERIOR FURNISHING INFORMATION.

REFERENCE KEYNOTES

SHEET KEYNOTES

8' 4' 0' 8' 16'
GRAPHIC SCALE: 1/8" = 1'-0"

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT
2082 S. State Street
Ann Arbor, MI 48104

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Site Plan Review Response	*1/15/2026*
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Preliminary Site Plan Review	*11/4/2025*

SEALS AND SIGNATURES

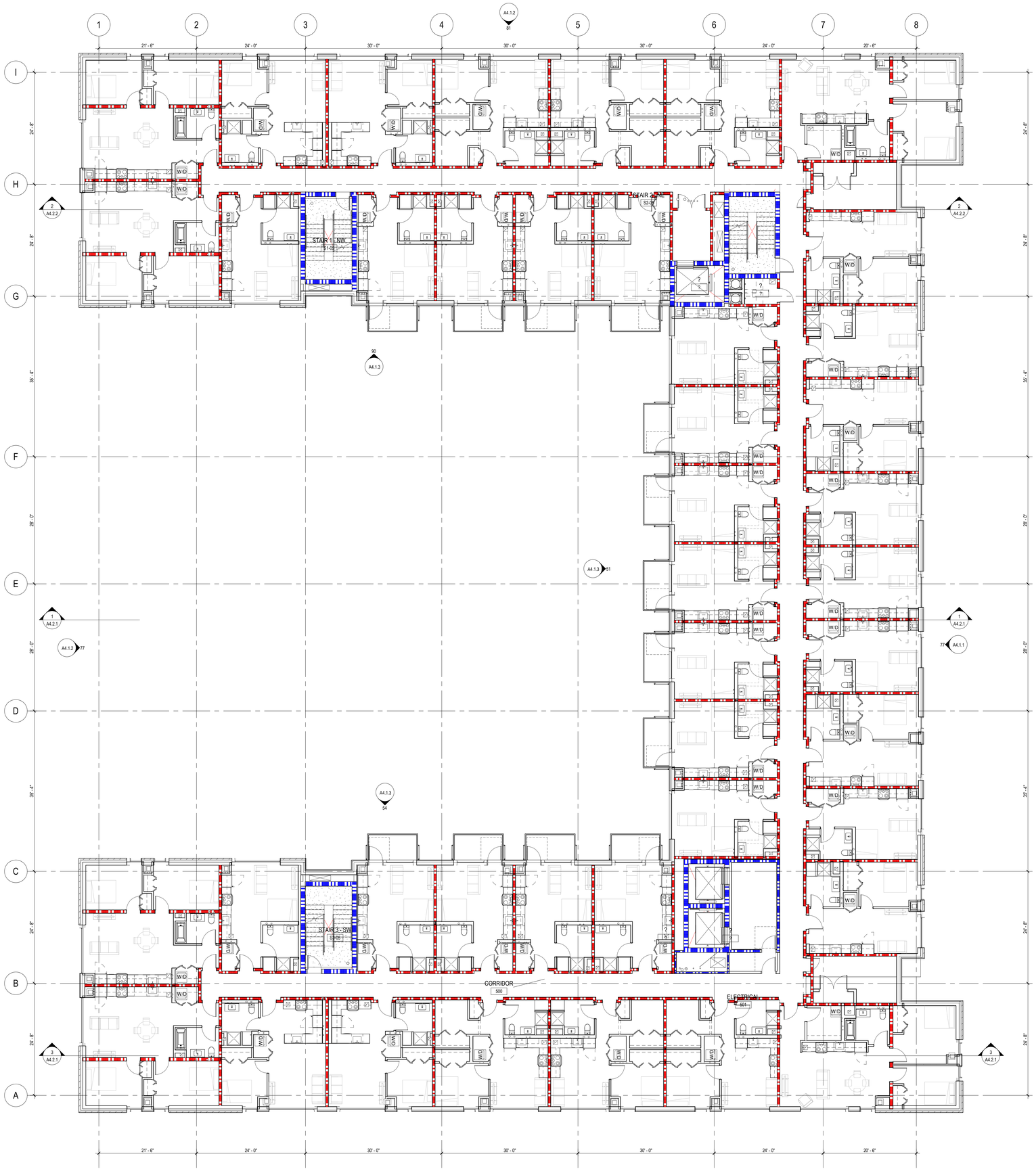
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SHEET TITLE
LEVEL 4 FLOOR PLAN

00100060.000
PROJECT NUMBER

SD **A2.1.4**
SHEET NUMBER

Plot Date: 1/14/2026 3:37:23 PM



1 LEVEL 5 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

GENERAL SHEET NOTES

A. REFER TO THE A0.X SERIES SHEETS FOR ARCHITECTURAL GENERAL NOTES, DRAWING, REFERENCE AND MATERIAL SYMBOLS, ABBREVIATIONS, AS WELL AS DIMENSIONING CONVENTIONS USED ON THIS SHEET.

B. FOR BASIC LIFE SAFETY AND CODE INFORMATION APPLYING TO THIS PROJECT, REFER TO THE G2.X SERIES SHEETS LOCATED PER THE PROJECT SHEET INDEX.

C. REFER TO THE A3.X SERIES SHEETS FOR THE REFLECTED CEILING PLANS.

D. REFER TO THE A9.2.X SERIES SHEETS FOR PARTITION SYSTEMS TYPES AND DETAILS.

E. REFER TO THE A9.3.X SERIES SHEETS FOR THE INTERIOR OPENING SCHEDULE(S), TYPES, AND DETAILS.

F. REFER TO THE 'AI' SERIES SHEETS FOR INTERIOR FINISH INFORMATION.

G. REFER TO THE 'AF' SERIES SHEETS FOR INTERIOR FURNISHING INFORMATION.

REFERENCE KEYNOTES

SHEET KEYNOTES

8' 4' 0' 8' 16'
GRAPHIC SCALE: 1/8" = 1'-0"

4m

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT

2082 S. State Street
Ann Arbor, MI 48104

SMITHGROUP

201 DEPOT STREET
SECOND FLOOR
ANN ARBOR, MI 48104
734.662.4457
smithgroup.com

ISSUED FOR	DATE
Site Plan Review Response	*1/16/2026*
Final Site Plan Review	*11/20/2025*
Preliminary Site Plan Review	*11/4/2025*

SEALS AND SIGNATURES

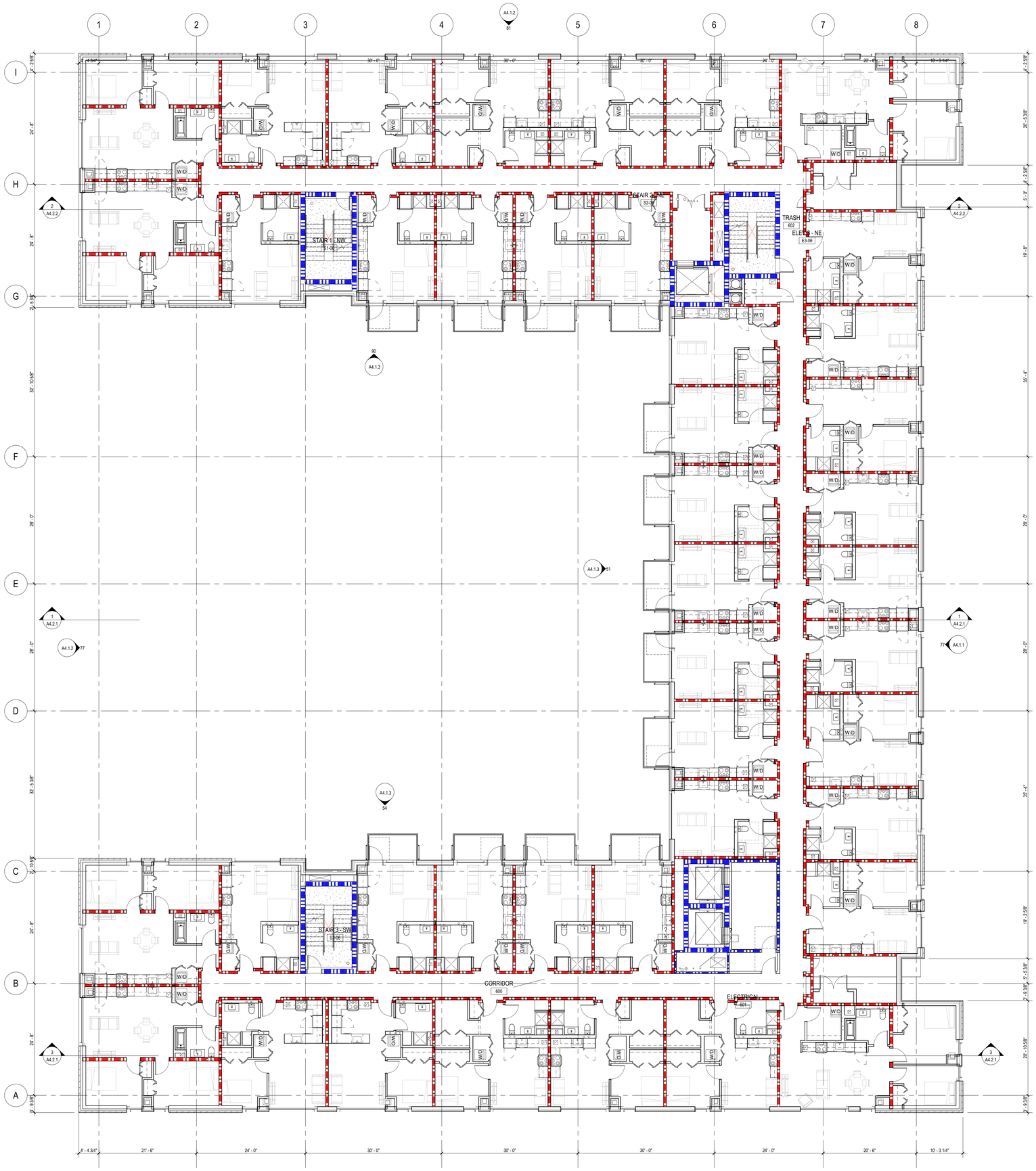
NOT FOR CONSTRUCTION

SHEET TITLE
LEVEL 5 FLOOR PLAN

00100060.000
PROJECT NUMBER

SD **A2.1.5**
SHEET NUMBER

Plot Date: 1/14/2026 3:37:51 PM



1 LEVEL 6 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

GENERAL SHEET NOTES

A. REFER TO THE A0.X SERIES SHEETS FOR ARCHITECTURAL GENERAL NOTES, DRAWING, REFERENCE AND MATERIAL SYMBOLS, ABBREVIATIONS, AS WELL AS DIMENSIONING CONVENTIONS USED ON THIS SHEET.

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D. REFER TO THE A9.2.X SERIES SHEETS FOR PARTITION SYSTEMS TYPES AND DETAILS.

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REFERENCE KEYNOTES

SHEET KEYNOTES

GRAPHIC SCALE: 1/8" = 1'-0"

4m

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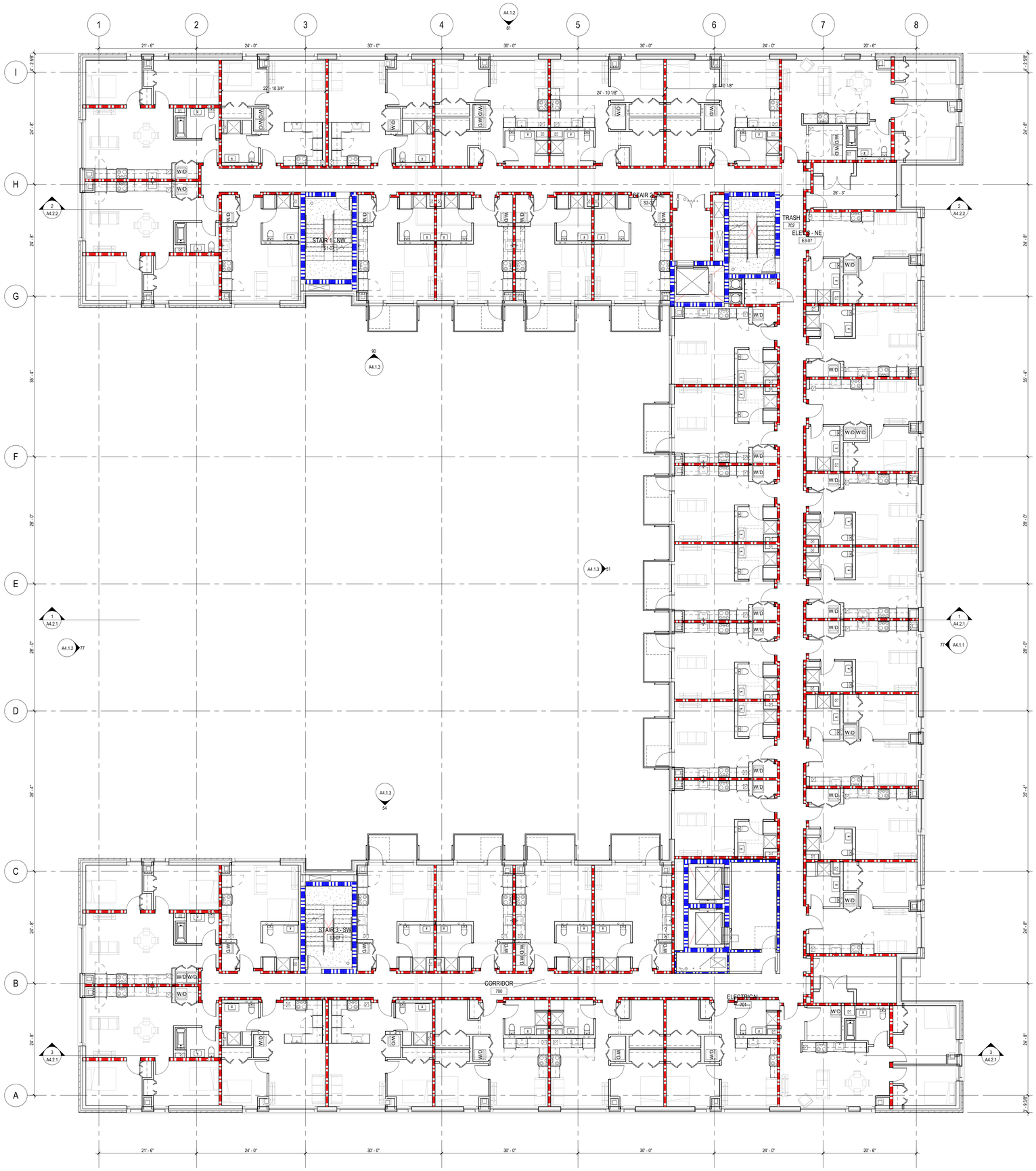
NOT FOR CONSTRUCTION

SHEET TITLE
LEVEL 6 FLOOR PLAN

PROJECT NUMBER
00100060.000

SHEET NUMBER
SD **A2.1.6**

Plot Date: 1/14/2026 3:38:34 PM



1 LEVEL 7 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

8' 4' 0' 8' 16'
GRAPHIC SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

GENERAL SHEET NOTES

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G. REFER TO THE "AF" SERIES SHEETS FOR INTERIOR FURNISHING INFORMATION.

REFERENCE KEYNOTES

SHEET KEYNOTES

4m

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Final Site Plan Review	*11/20/2025*
Preliminary Site Plan Review	*11/4/2025*

SEALS AND SIGNATURES

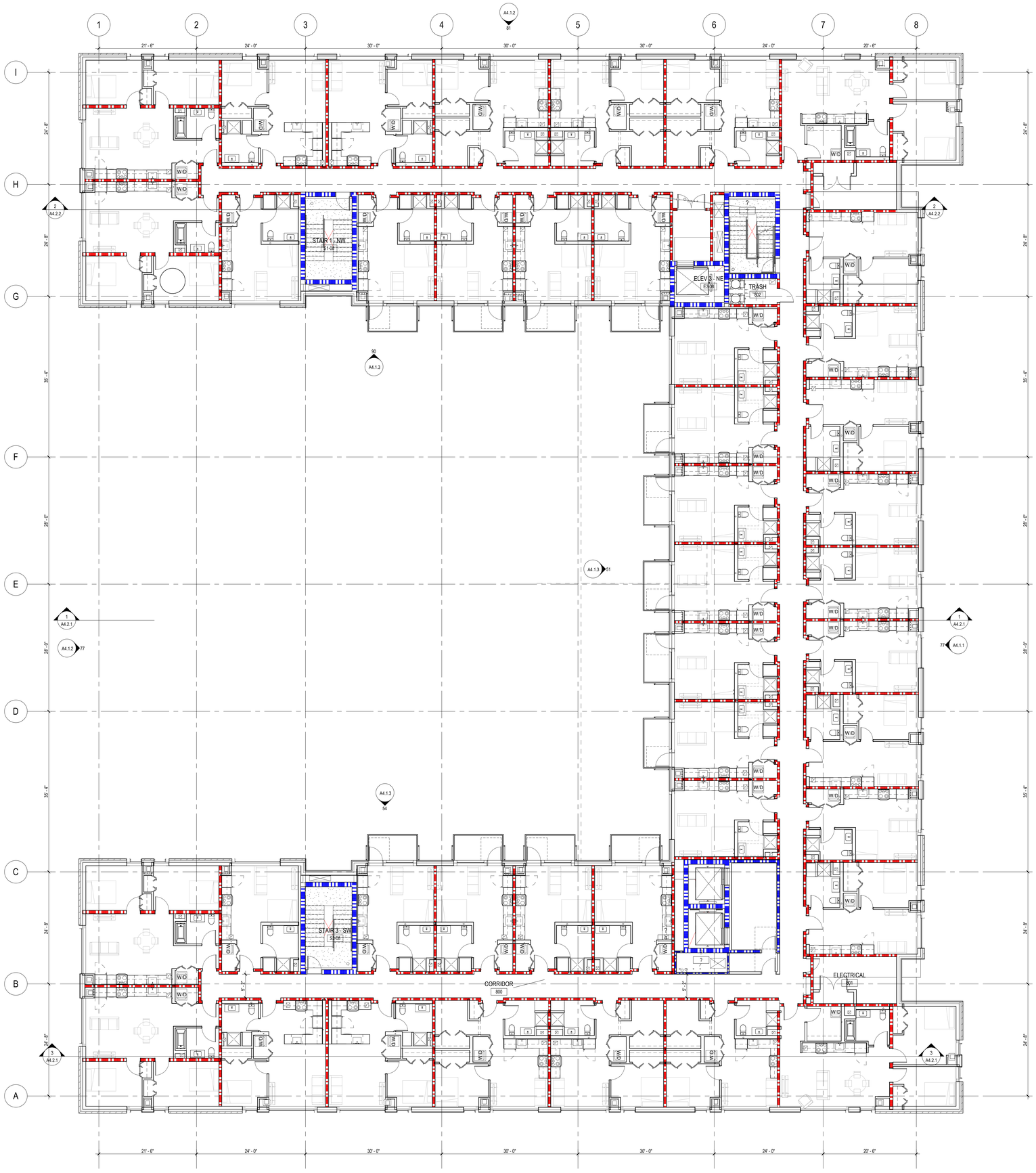
NOT FOR CONSTRUCTION

SHEET TITLE
LEVEL 7 FLOOR PLAN

00100060.000
PROJECT NUMBER

SD **A2.1.7**
SHEET NUMBER

Plot Date: 1/14/2026 3:39:31 PM



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

GRAPHIC LEGEND

GENERAL SHEET NOTES

A. REFER TO THE A0.X SERIES SHEETS FOR ARCHITECTURAL GENERAL NOTES, DRAWING, REFERENCE AND MATERIAL SYMBOLS, ABBREVIATIONS, AS WELL AS DIMENSIONING CONVENTIONS USED ON THIS SHEET.

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C. REFER TO THE A3.X SERIES SHEETS FOR THE REFLECTED CEILING PLANS.

D. REFER TO THE A9.2.X SERIES SHEETS FOR PARTITION SYSTEMS TYPES AND DETAILS.

E. REFER TO THE A9.3.X SERIES SHEETS FOR THE INTERIOR OPENING SCHEDULE(S), TYPES, AND DETAILS.

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G. REFER TO THE 'AI' SERIES SHEETS FOR INTERIOR FURNISHING INFORMATION.

REFERENCE KEYNOTES

SHEET KEYNOTES

8' 4' 0' 8' 16'
GRAPHIC SCALE: 1/8" = 1'-0"

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT

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SEALS AND SIGNATURES

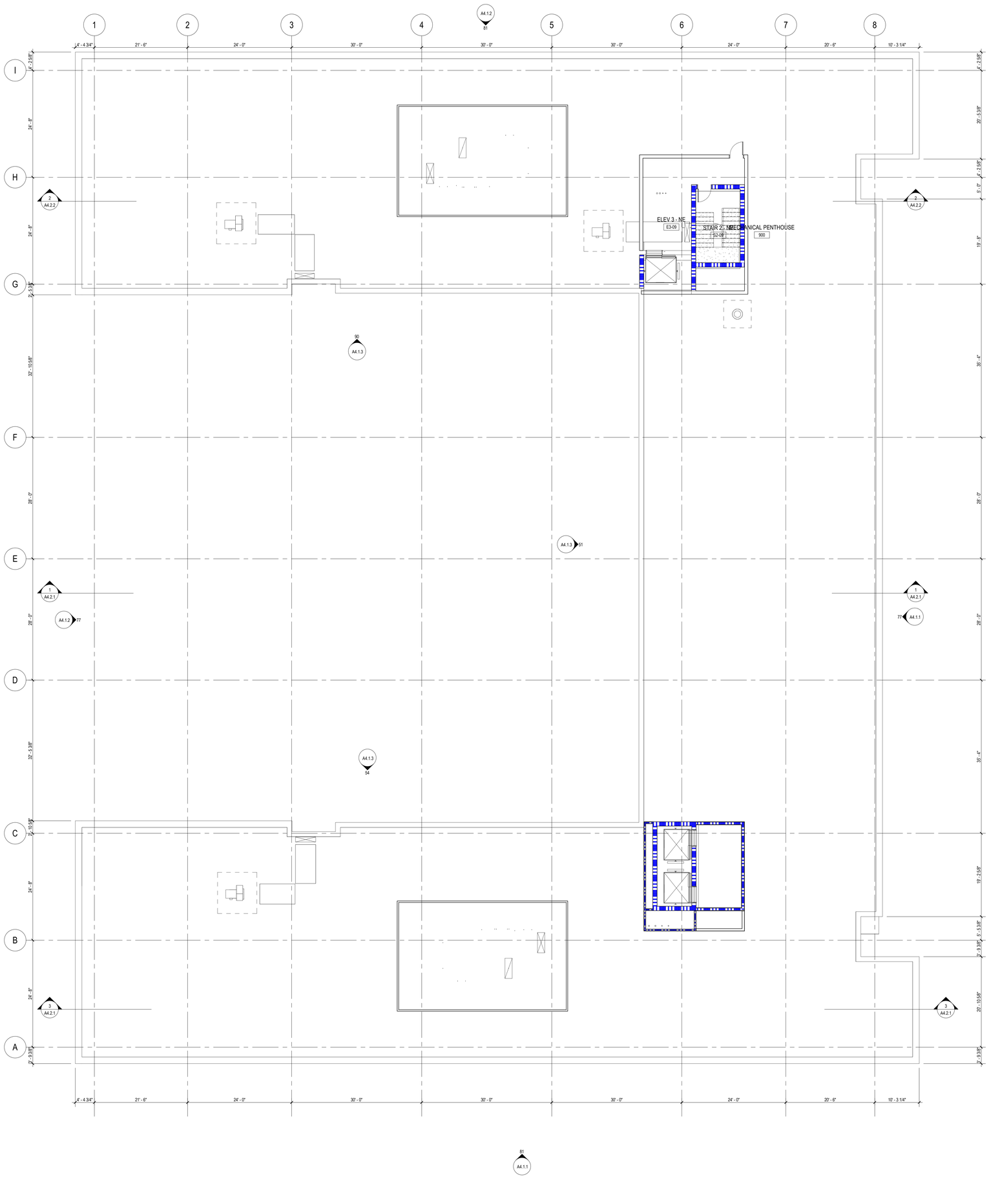
NOT FOR CONSTRUCTION

SHEET TITLE
LEVEL 8 FLOOR PLAN

PROJECT NUMBER
00100060.000

SHEET NUMBER
SD **A2.1.8**

Plot Date: 1/14/2026 3:40:31 PM



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

8' 4' 0' 8' 16'
GRAPHIC SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

GENERAL SHEET NOTES

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C. FOR BASIC LIFE SAFETY AND CODE INFORMATION APPLYING TO THIS PROJECT, REFER TO THE G2.X SERIES SHEETS LOCATED PER THE PROJECT SHEET INDEX.

D. REFER TO THE "REFERENCE ELEVATION DEFINITIONS" LOCATED IN THE A0.X SERIES SHEETS FOR ROOF ELEVATION DEFINITIONS.

E. REFER TO THE A5.X SERIES SHEETS FOR ROOFING DETAILS.

F. ROOF ASSEMBLIES SHALL BE MINIMUM OF CLASS B FIRE CLASSIFICATION, OR AS SPECIFIED IN THE PROJECT MANUAL.

G. MINIMUM ROOF SLOPE IS 1/4" PER FOOT PER IBC SECTION 1507.

REFERENCE KEYNOTES

SHEET KEYNOTES

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT

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SEALS AND SIGNATURES

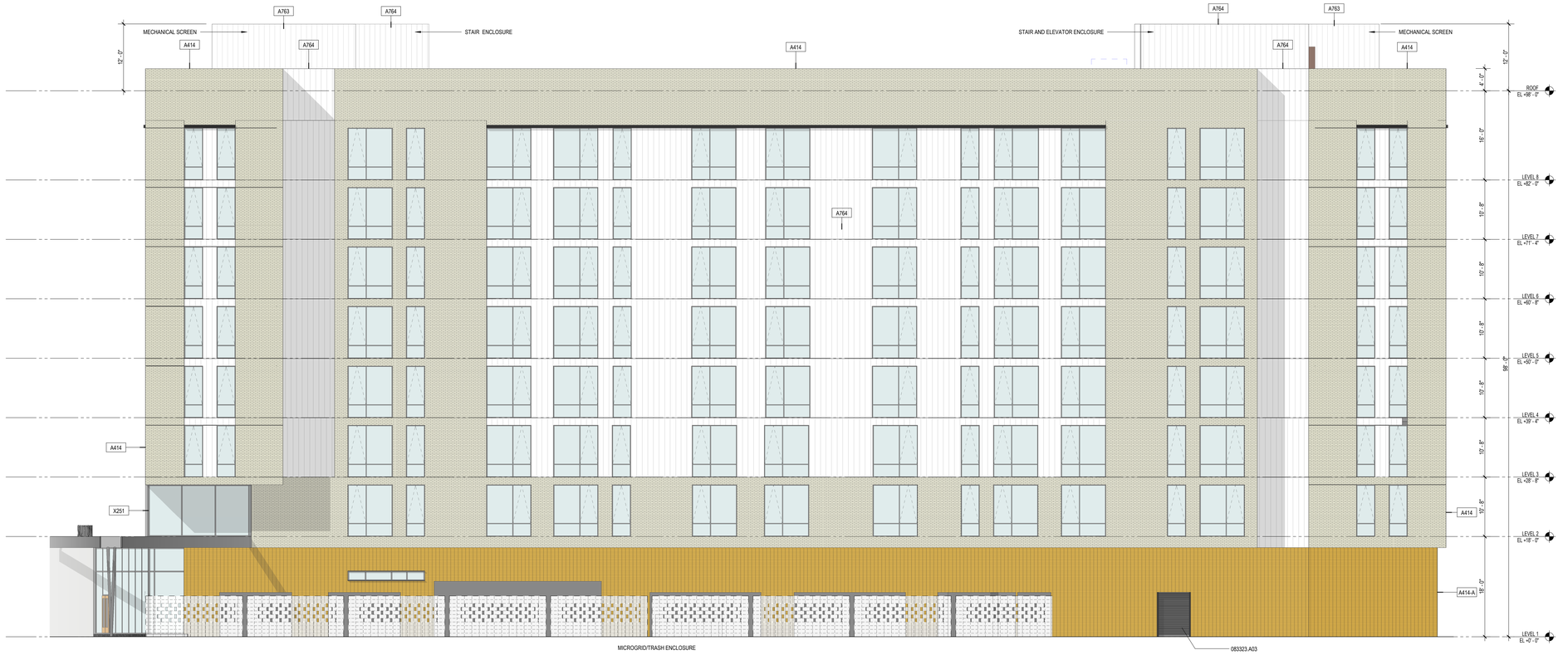
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SHEET TITLE
ROOF PLAN

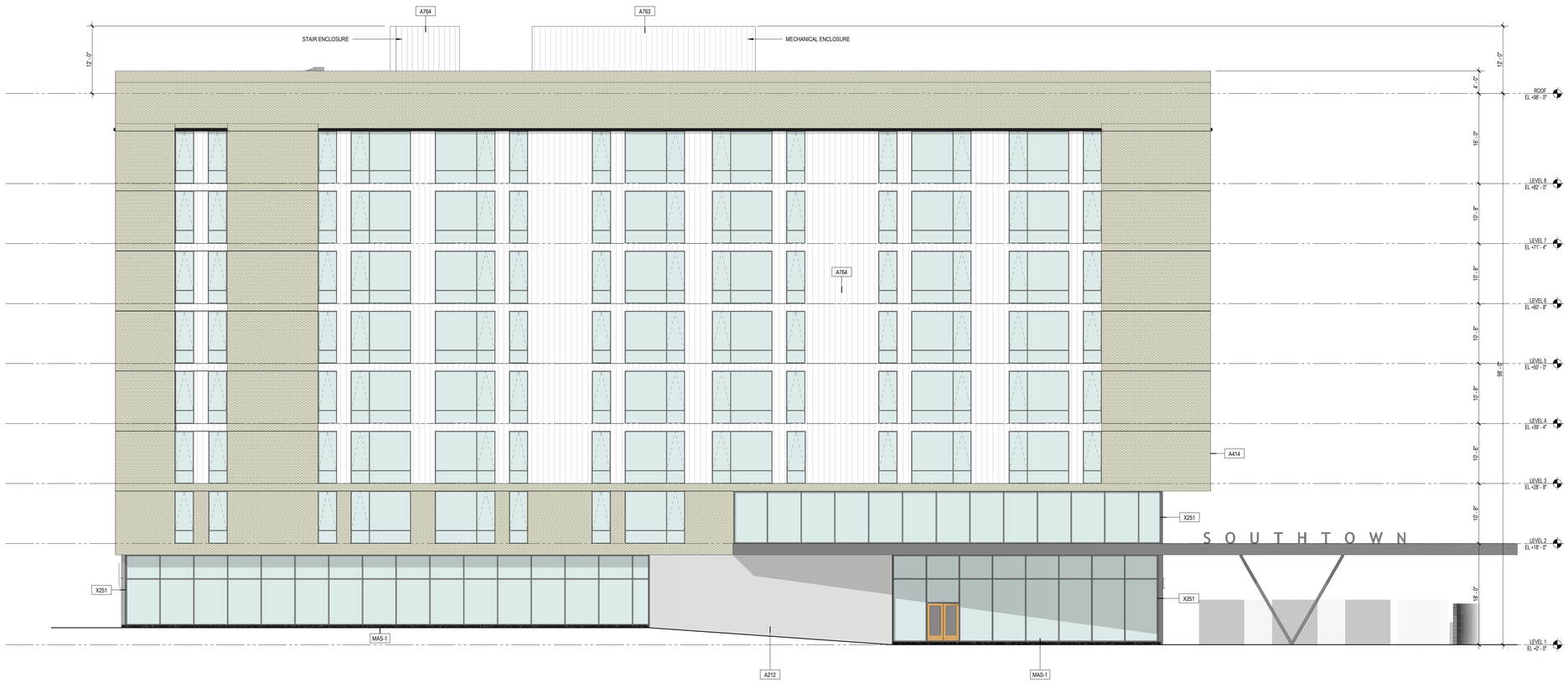
PROJECT NUMBER
00100060.000

SHEET NUMBER
A2.2.1

Plot Date: 1/14/2026 3:40:42 PM



77 EXTERIOR ELEVATION - EAST
SCALE: 1/8" = 1'-0"



81 EXTERIOR ELEVATION - SOUTH
SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

- MAS-1 - Granite Base
- A212 - EIFS Exterior Wall
- A414 - Running Bond Brick Veneer with Mineral Wool Insulation, Air Vapor Barrier, Exterior Sheathing, and Cold Form Framing
- A414A - Stacked Bond Brick Veneer with Mineral Wool Insulation, Air Vapor Barrier, Exterior Sheathing, and Cold Form Framing
- A763 - Metal Composite Material Panel, Cold Form Framing
- A764 - Metal Composite Material Panel with Mineral Wool Insulation, Thermal Sub Girts, Air Vapor Barrier, Exterior Sheathing, and Cold Form Framing
- A764A - Custom Metal Composite Material Panel with Mineral Wool Insulation, Thermal Sub Girts, Air Vapor Barrier, Exterior Sheathing, and Cold Form Framing
- IGL-1 - Insulated Clear
- IGL-1A - Insulated Spandrel

GENERAL SHEET NOTES

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C. REFER TO AND COORDINATE WITH CIVIL DRAWINGS FOR ALL FINISH GRADES.

D. REFER TO THE A4.4.X SERIES SHEETS FOR ENLARGED EXTERIOR ELEVATIONS.

E. REFER TO THE A5.4.X SERIES SHEETS FOR EXTERIOR WINDOW AND LOUVER FRAME ELEVATIONS.

REFERENCE KEYNOTES

083323.A03 OVERHEAD INSULATED COILING SERVICE DOOR

SHEET KEYNOTES

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT
2082 S. State Street
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SMITHGROUP
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FOREFRONT STRUCTURAL ENGINEERS
25 E WASHINGTON STREET
SUITE 1450
CHICAGO, IL 60602
312.376.1140
forefrontstructural.com

NEDERVELD
3037 MILLER RD.
ANN ARBOR, MI 48103
734.929.6963
nederveld.com

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Site Plan Review Response	*1/16/2026*
Preliminary Site Plan Review	*11/4/2025*

SEALS AND SIGNATURES

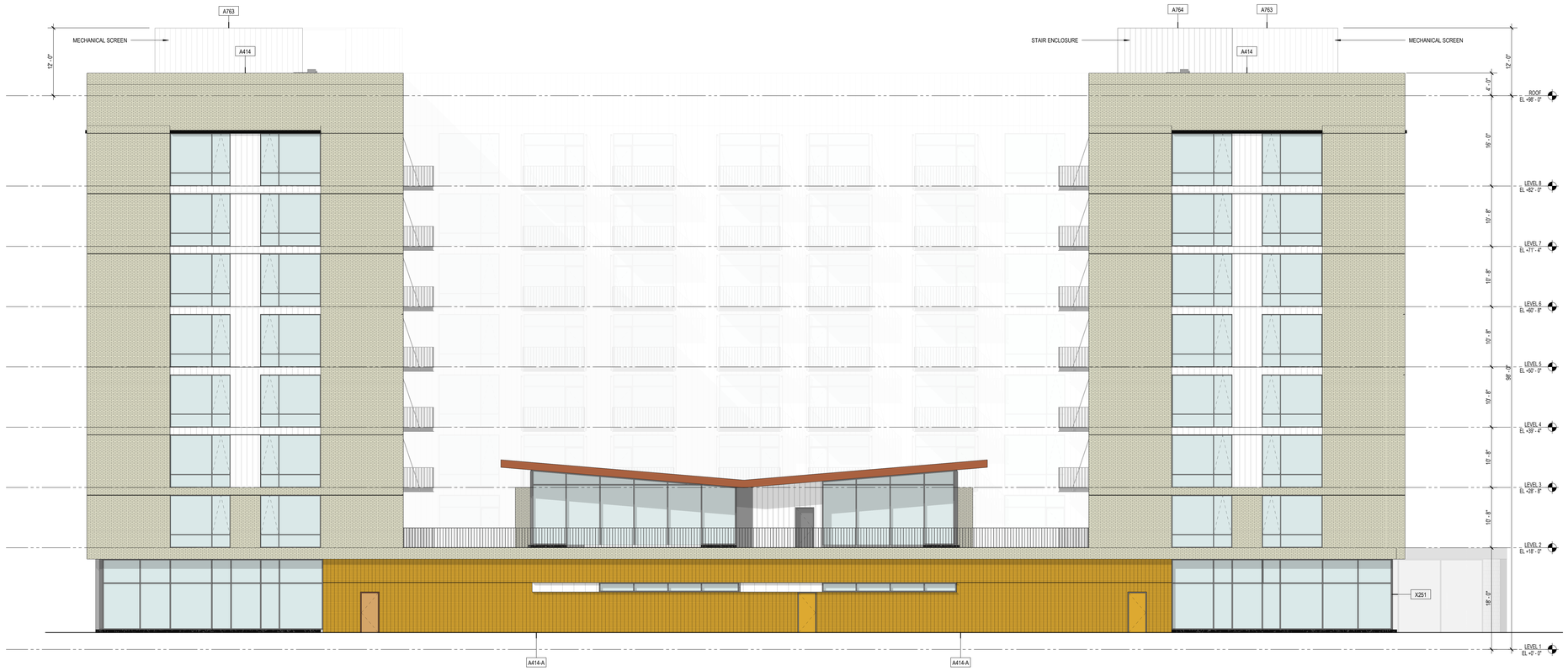
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SHEET TITLE
EXTERIOR BUILDING ELEVATIONS - SOUTH AND WEST

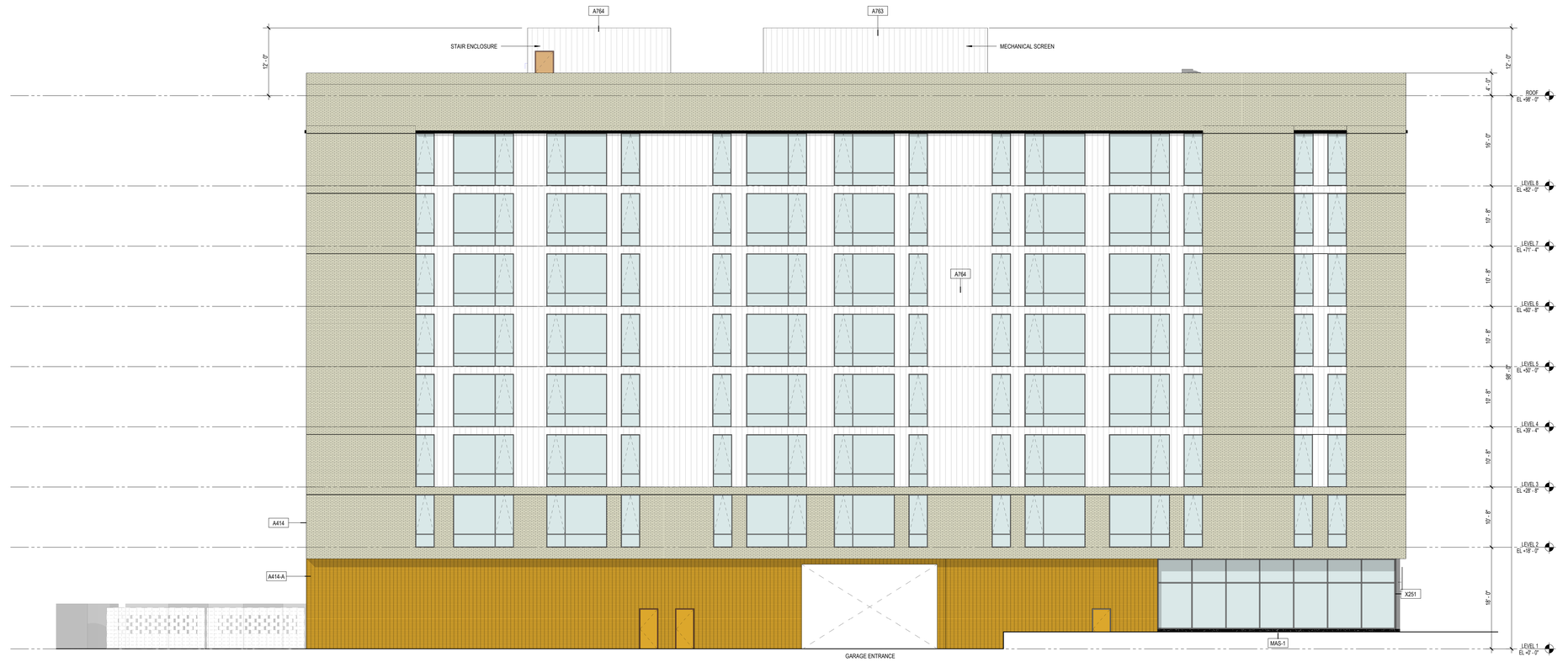
PROJECT NUMBER
00100060.000

SHEET NUMBER
A4.1.1

Plot Date: 1/21/2026 1:48:10 PM



77 EXTERIOR ELEVATION - WEST
SCALE: 1/8" = 1'-0"



81 EXTERIOR ELEVATION - NORTH
SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

- MAS-1 - Granite Base
- A212 - EIFS Exterior Wall
- A414 - Running Bond Brick Veneer with Mineral Wool Insulation, Air Vapor Barrier, Exterior Sheathing, and Cold Form Framing
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E. REFER TO THE A5.4.X SERIES SHEETS FOR EXTERIOR WINDOW AND LOUVER FRAME ELEVATIONS.

REFERENCE KEYNOTES

SHEET KEYNOTES

4m²

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT

2082 S. State Street
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SECOND FLOOR
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Preliminary Site Plan Review	*11/4/2025*

SEALS AND SIGNATURES

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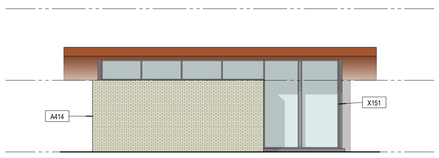
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EXTERIOR BUILDING ELEVATIONS - NORTH AND WEST

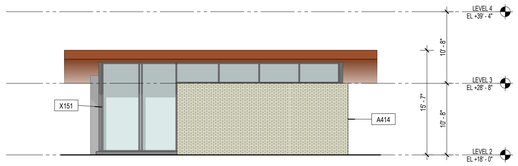
PROJECT NUMBER 00100060.000

SHEET NUMBER **A4.1.2**

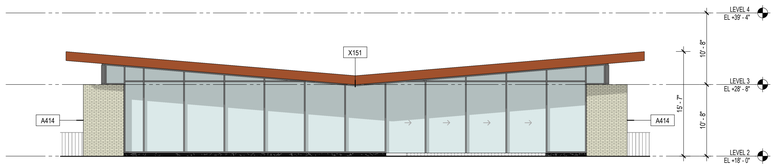
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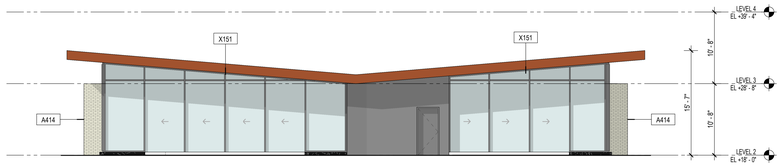
83 COURTYARD PAVILION - SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



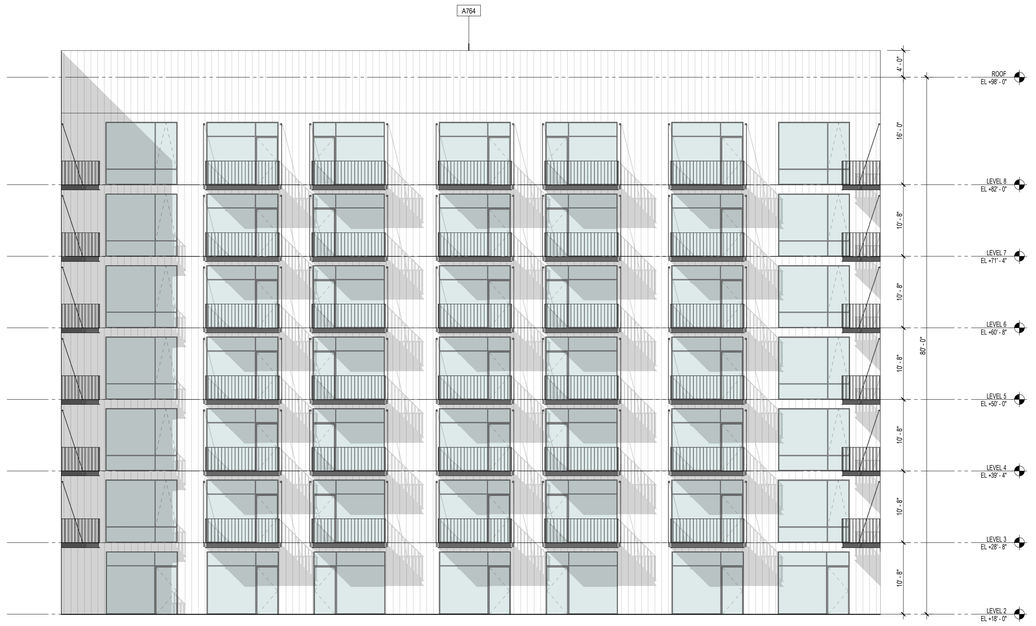
65 COURTYARD PAVILION - NORTH ELEVATION
SCALE: 1/8" = 1'-0"



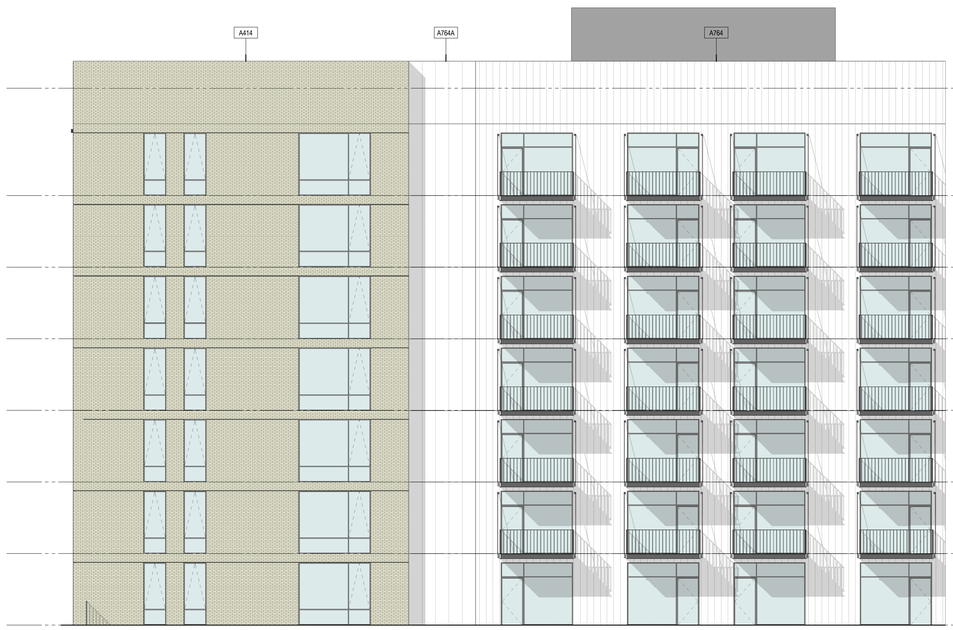
85 COURTYARD PAVILION - EAST ELEVATION
SCALE: 1/8" = 1'-0"



87 COURTYARD PAVILION - WEST ELEVATION
SCALE: 1/8" = 1'-0"



51 COURTYARD - EAST ELEVATION
SCALE: 1/8" = 1'-0"



90 EXTERIOR ELEVATION - NORTH COURTYARD
SCALE: 1/8" = 1'-0"



54 EXTERIOR ELEVATION - SOUTH COURTYARD
SCALE: 1/8" = 1'-0"

GRAPHIC LEGEND

- MAS-1 - Granite Base
- A212 - EIFS Exterior Wall
- A414 - Running Bond Brick Veneer with Mineral Wool Insulation, Air Vapor Barrier, Exterior Sheathing, and Cold Form Framing
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REFERENCE KEYNOTES

SHEET KEYNOTES

8' 4' 0' 8' 16'
GRAPHIC SCALE: 1/8" = 1'-0"

4m

SOUTHTOWN RESIDENTIAL HOUSING DEVELOPMENT

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SEALS AND SIGNATURES

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SHEET TITLE
EXTERIOR BUILDING ELEVATIONS

00100060.000
PROJECT NUMBER

A4.1.3
SHEET NUMBER

Plot Date: 1/14/2026 3:42:47 PM



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Circle Drive	+	1.9 fc	3.9 fc	0.4 fc	9.8:1	4.8:1
Equipment Yard	+	2.4 fc	4.6 fc	0.6 fc	7.7:1	4.0:1
Exit Door Corridor 141	+	1.7 fc	2.1 fc	1.4 fc	1.5:1	1.2:1
Exit Door Corridor 149	+	1.9 fc	2.0 fc	1.7 fc	1.2:1	1.1:1
Exit Door Corridor 159	+	4.7 fc	8.7 fc	2.2 fc	4.0:1	2.1:1
Garage Door	+	2.0 fc	2.9 fc	1.2 fc	2.4:1	1.7:1
Main Entrance	+	2.8 fc	6.3 fc	0.3 fc	21.0:1	9.3:1
North Bike Parking	+	0.4 fc	0.8 fc	0.1 fc	8.0:1	4.0:1
North Resident Door	+	5.3 fc	7.5 fc	3.1 fc	2.4:1	1.7:1
Patio Door	+	0.9 fc	3.3 fc	0.2 fc	16.5:1	4.5:1
Sidewalk - plan East	+	0.1 fc	0.3 fc	0.0 fc	N/A	N/A
Sidewalk - plan north	+	0.4 fc	1.8 fc	0.0 fc	N/A	N/A
Sidewalk - plan south	+	0.1 fc	0.3 fc	0.0 fc	N/A	N/A
Sidewalk - plan west	+	0.0 fc	0.4 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	QTY	Catalog Number	Description	Number Lamps	Lumens per Lamp	LLF	Wattage
◯	L1	15	EVO4 30/05 AR MD LD	EVO 4IN ROUND DOWNLIGHT, 80 CRI, 3000K, 500LM, MED DIST, CLEAR MATTE DIFFUSE	1	487	0.9	7.2
◯	L2	7	EVO4CWW 30/07 AR LD	EVO 4IN ROUND, CORNER WALLWASH, 3000K, 750LM, CLEAR, MATTE DIFFUSE, CRI80	1	680	0.9	7.9
|	S1	18		XOOLINE HYDRA HD25 W840 DH C004 S IP67 1000	1	1875	0.9	25
|	S2	2	HP-4-WM-WL-O-4ft-B-835-F		160	11	0.9	18.4
▭	X1	17	DSXW1 P3 30K 80CRI TFTM	4000 3000K 80CRI Forward Throw Medium	1	2800	0.9	21.05
▭	X2	3	131-0208_us	VLS410 LED, Wall Luminaires / Surface Mounted VLS410 [A60] IP66 LED-3/13/3K	3	165	0.9	14

1 SITE PHOTOMETRY PLAN
SCALE: 3/32" = 1'-0"

Plot Date: 11/20/2025 12:06:21 PM

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ISSUED FOR	DATE
Site Plan Review Response	1/16/2026
Final Site Plan Review	11/20/2025

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

SHEET TITLE
SITE PHOTOMETRY PLAN

00100060.000
PROJECT NUMBER

ES1.1.1
SHEET NUMBER