# 350 S. FIFTH AVE. DEVELOPMENT

# AFFORDABLE HOUSING CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

JUNE 18, 2025 SITE PLAN FOR PLANNING COMMISSION APPROVAL

SmithGroup Project Number: 15412

#### APPLICANT AND CO-OWNER:

## RELATED

RELATED MIDWEST
350 W. HUBBARD STREET
SUITE 300
CHICAGO, IL 60654
www.relatedmidwest.com

CONTACT: DENISE HAL

EMAIL: DHALL@RELATEDMIDWEST.COM

PHONE: 312.832.4255

#### CO-OWNER:



ANN ARBOR HOUSING COMMISSION 727 MILLER AVENUE ANN ARBOR, MI 48103

CONTACT: JENNIFER HALL, EXECUTIVE DIRECTOR

EMAIL JHALL@A2GOV.ORG PHONE: 734.794.6720 X 47201

#### PREPARED BY:

## **SMITHGROUP**

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

CONTACT: LINDSAY FERCHO, PLA

MAIL: LINDSAY.FERCHO@SMITHGROUP.COM

PHONE: 734.669.2721

## SHEET LIST:

- 1 COVER
- 2 GENERAL NOTES\*
- 03 ALTA SURVEY
- 04 EXISTING CONDITIONS PLAN
- 05 DEMOLITION PLAN
- 06 DIMENSIONAL LAYOUT PLAN
- 07 UTILITY PLAN
- 08 GRADING, DRAINAGE, AND SOIL EROSION AND SEDIMENTATION CONTROL PLAN
- STORMWATER CALCULATIONS AND DETAILS
- 10 SESC NOTES AND DETAILS
- 11 FIRE PROTECTION PLAN
- 2 SOLID WASTE AND LOADING PLAN
- 13 SITE DETAILS
- 14 LANDSCAPE PLAN
- 15 LANDSCAPE NOTES AND DETAILS
- 16 PHOTOMETRIC PLAN

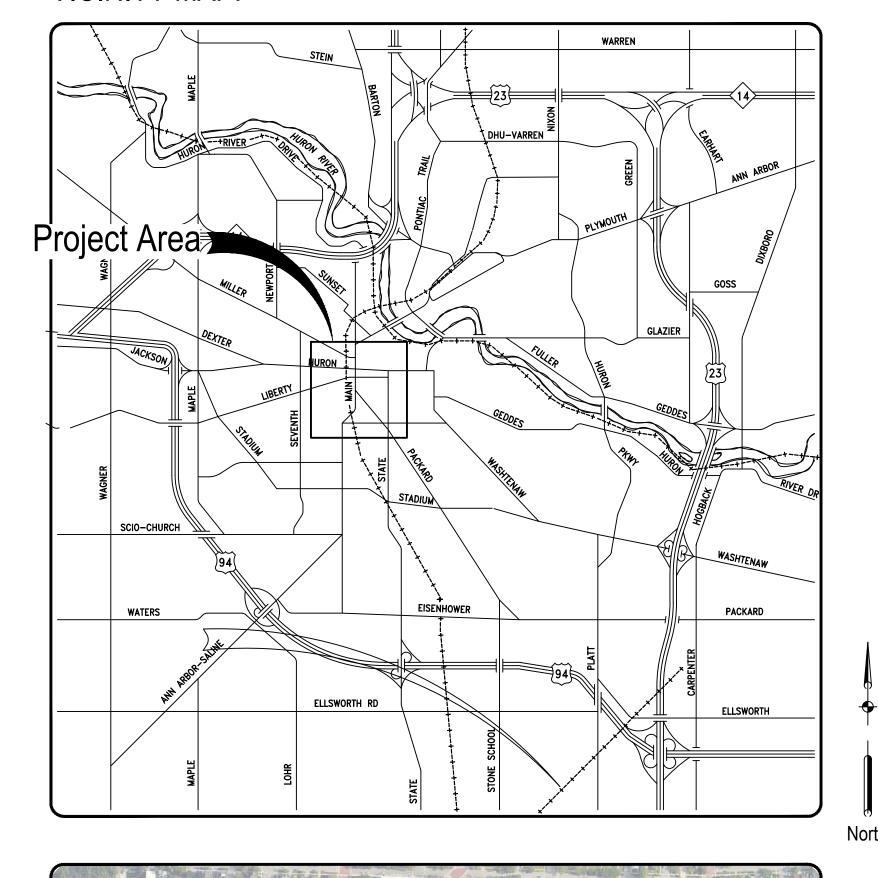
#### ARCHITECTURAL PLANS

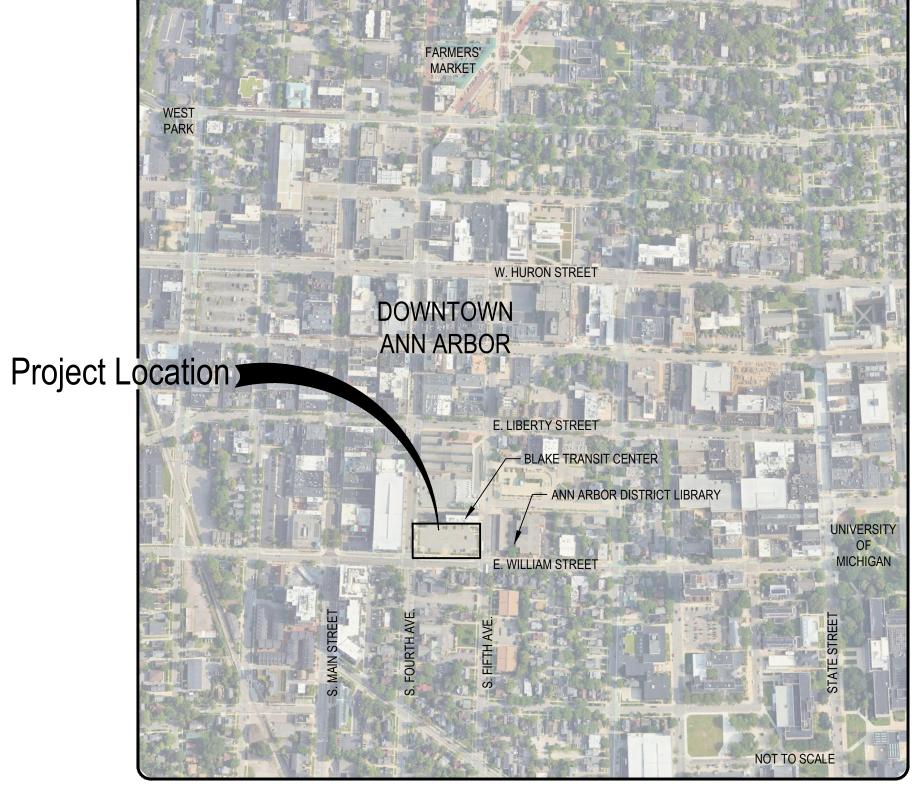
- 17 BUILDING AREA AND FAR PLANS
- ARCHITECTURAL SITE PLAN OVERALL
- 19 SOUTH BUILDING ELEVATION
- NORTH BUILDING ELEVATION
- 21 EAST AND WEST BUILDING ELEVATIONS
- 22 PROJECT RENDERINGS

\*SEE GENERAL NOTES SHEET FOR REQUIRED SITE PLAN INFORMATION INCLUDING COMPARISON CHART, DEVELOPMENT PROGRAM, COMMUNITY ANALYSIS, AND ASSOCIATED APPLICATIONS



#### VICINITY MAP:





#### REQUIRED SITE PLAN INFORMATION:

COVER SHEET  Project name, address, and location	See Cover
Applicant and agent information, including name, address, and contact information. If applicant is not landowner, also provide a letter of authorization	See Cover; the Ann Arbor Housing Commission is the owner of the land; a letter of authorization is not required
Statement of interest in the land  Vicinity man identifying location of the site within the city	See General Notes Sheet
Vicinity map identifying location of the site within the city  North indicator and a drawing scale in bar form	See Cover See Plans
Legal description of the site	See ALTA Survey
Sheet index and date of plan set  Identification of associated applications or special circumstances associated with the	See Cover See General Notes Sheet
application that require additional procedures or specifical approvals  Proposed development program	See General Notes Sheet  See General Notes Sheet
Community analysis	See General Notes Sheet
Comparison chart of requirements between existing and proposed conditions  EXISTING CONDITIONS PLAN	See General Notes Sheet
Existing and proposed contours	Existing contours are provided on the Existing Conditions Plan; see Grading Plan
ALTA LAND SURVEY	proposed contours Provided
DIMENSIONAL LAYOUT PLAN	
Existing and proposed lot lines, yards, and building footprints  Minimum and maximum required setback lines	See Plans; there are no existing buildings on site  There are no required setbacks
ldentify:	·
Vehicle parking spaces Aisles	No parking is provided  Not applicable
Driveways	Not applicable
"No parking" areas	"No parking" signs will be provided on the building along the service drive
Fire lanes Bicycle parking	Not applicable  See Dimensional Layout Plan. See Architectural Plans for bike storage location
Existing curb cuts	One curb cut on E. William to be closed; refer to Existing Conditions Plan
Proposed curb cuts  Proposed open space, active, open space, natural features buffer, and conflicting	See Dimensional Layout Plan
land use buffer  Perspective sketch of building showing street wall height and offset, if applicable	Not applicable  See Architectural Plans
NATURAL FEATURES PLAN	
Location and description of all natural features	There are no natural features on site; refer to Existing Conditions Plan
Natural features buffer boundary with impacts identified  Justification for any activity within the natural features buffer	Not applicable  Not applicable
Protection measures for any natural feature that will remain undisturbed	Not applicable
Identification of all natural features to be impacted or removed  Alternatives analysis for any natural feature to be impacted	Not applicable  Not applicable
Proposed mitigation measures for any natural feature to be impacted	Not applicable  Not applicable
If floodplain is proposed for disturbance, provide information required by UDC 5.29.1.D	Not applicable
If wetland is proposed for disturbance, provide information required by UDC 5.29.4  OVERLAY OF DIMENSIONAL LAYOUT PLAN & NATURAL FEATURES PLAN	Not applicable  Not applicable
LANDSCAPE PLAN	
List location, size and species of existing trees, vegetation, and natural features, including a list of Landmark Trees	Existing trees to remain are shown on the Landscape Plan; refer to Existing Con- Plan for all existing trees
Location of light poles, solid waste enclosures, mechanical equipment and hydrants	Provided on Landscape Plan; there are no proposed solid waste enclosures - so waste will be rolled out of the building at collection time
Limits and size of vehicular use area  Proposed location of required landscaping, screening and buffers, street trees, and	There is no proposed vehicular use area
plantings  Table of existing, required, and proposed vehicular use areas, interior landscape	Required street trees are shown on the Landscape Plan  A table of required street trees is provided on the Landscape Plan; there are no
islands, right-of-way screenings, conflicting land use buffers, and street tree plantings	landscape requirements
List of proposed plants Sight triangles are shown	See Landscape Plan See Landscape Plan
Notation of requested modifications, if any	Not applicable
Planting and staking details  Specification for treatment of compacted soil on entire site	Refer to Landscape Notes and Details  Refer to Landscape Notes and Details
Specification for planting media in landscape area	Refer to Landscape Notes and Details
Irrigation plan or water outlets  Landscape maintenance program	Refer to Landscape Notes and Details  Refer to Landscape Notes and Details
Identify snow storage area	Not applicable
Show berms, retaining walls, screen walls, fences, tree wells, culverts, and any other construction detail necessary to resolve specific site conditions	Not applicable
A six-foot high opaque wall or fence surrounding the outside storage area of the containers, carts, and dumpsters	Not applicable; dumpsters will be stored inside the building
Buffering required for outside storage areas visible from a public right-of-way	Not applicable
UTILITY PLAN  Public water, sanitary sewer, storm sewer main and leads - existing and proposed,	Coo I William Diag
including invert elevations  Location of existing and proposed fire hydrants, fire department connections, firewalls,	See Utility Plan
and Knox box, if applicable; include top-of-casting elevations  All fire hydrants located at least 15 feet away from all structures	See Utility Plan  Not applicable
If no firewalls, provide notation that none are existing or proposed	No firewalls are proposed
Location and dimension of existing and proposed public utility easements labeled with	A DTE easement is located along the north property line and is indicated on the particle a proposed access easement shall be pursued for use of the bus loading by AAA
liber, page number, and a statement of purpose	The legal description of the proposed easement will be provided with constructio drawings and engineering plan submittals as required
Ensure all public utility easements are free of any existing or proposed structures	The existing and proposed DTE easements shall remain free of structures
Sanitary sewer flow mitigation calculations  Only final grade contour lines and final spot elevations are shown	See Utility Plan See Utility Plan
GRADING AND SOIL EROSION CONTROL AND STORM WATER MANAGEMENT P	·
Soil investigation report	A geotechnical report has been submitted to STREAM; refer to Existing Conditio Plan for general description of soils.
Topography at two-foot intervals - existing and proposed	See Grading, Drainage, and SESC Plan
Existing and proposed structures and natural features  Proposed temporary and permanent SESC measures	See Grading, Drainage, and SESC Plan See Grading, Drainage, and SESC Plan
	See Grading, Drainage, and SESC Plan; and SESC Notes and Details Sheet
	See SESC Notes and Details Sheet
Estimated total cost of required controls during construction	Con CECC Nation and Details Object
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue	See SESC Notes and Details Sheet See Grading, Drainage, and SESC Plan
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill	See SESC Notes and Details Sheet See Grading, Drainage, and SESC Plan See Grading, Drainage, and SESC Plan
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill  Amount of existing and proposed impervious area  Provide computations and design of the Stormwater Management System	See Grading, Drainage, and SESC Plan See Grading, Drainage, and SESC Plan See Stormwater Calculations and Details Sheet
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill  Amount of existing and proposed impervious area  Provide computations and design of the Stormwater Management System  Construction sequence, including schedule of SESC measures	See Grading, Drainage, and SESC Plan See Grading, Drainage, and SESC Plan
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill  Amount of existing and proposed impervious area  Provide computations and design of the Stormwater Management System  Construction sequence, including schedule of SESC measures  Continuous maintenance plans for all permanent SESC measures  MASSING AND ARCHITECTURAL PLANS	See Grading, Drainage, and SESC Plan  See Grading, Drainage, and SESC Plan  See Stormwater Calculations and Details Sheet  See Grading, Drainage, and SESC Plan
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill  Amount of existing and proposed impervious area  Provide computations and design of the Stormwater Management System  Construction sequence, including schedule of SESC measures  Continuous maintenance plans for all permanent SESC measures  MASSING AND ARCHITECTURAL PLANS  Dimensioned floor plans identifying areas excluded from floor area and FAR calculations	See Grading, Drainage, and SESC Plan  See Grading, Drainage, and SESC Plan  See Stormwater Calculations and Details Sheet  See Grading, Drainage, and SESC Plan  See SESC Notes and Details Sheet  See Architectural Plans
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill  Amount of existing and proposed impervious area  Provide computations and design of the Stormwater Management System  Construction sequence, including schedule of SESC measures  Continuous maintenance plans for all permanent SESC measures  MASSING AND ARCHITECTURAL PLANS  Dimensioned floor plans identifying areas excluded from floor area and FAR calculations  Vertical sections of existing and proposed elevations	See Grading, Drainage, and SESC Plan See Grading, Drainage, and SESC Plan See Stormwater Calculations and Details Sheet See Grading, Drainage, and SESC Plan See SESC Notes and Details Sheet
Plans, section, and construction quality details of all SESC measures  Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill  Amount of existing and proposed impervious area  Provide computations and design of the Stormwater Management System  Construction sequence, including schedule of SESC measures  Continuous maintenance plans for all permanent SESC measures  MASSING AND ARCHITECTURAL PLANS  Dimensioned floor plans identifying areas excluded from floor area and FAR calculations  Vertical sections of existing and proposed elevations  Dimensioned architectural design and labeled material details  Perspective renderings	See Grading, Drainage, and SESC Plan  See Grading, Drainage, and SESC Plan  See Stormwater Calculations and Details Sheet  See Grading, Drainage, and SESC Plan  See SESC Notes and Details Sheet  See Architectural Plans  See Architectural Plans
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill  Amount of existing and proposed impervious area  Provide computations and design of the Stormwater Management System  Construction sequence, including schedule of SESC measures  Continuous maintenance plans for all permanent SESC measures  MASSING AND ARCHITECTURAL PLANS  Dimensioned floor plans identifying areas excluded from floor area and FAR calculations  Vertical sections of existing and proposed elevations  Dimensioned architectural design and labeled material details  Perspective renderings  PHOTOMETRIC PLAN	See Grading, Drainage, and SESC Plan  See Grading, Drainage, and SESC Plan  See Stormwater Calculations and Details Sheet  See Grading, Drainage, and SESC Plan  See SESC Notes and Details Sheet  See Architectural Plans
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill  Amount of existing and proposed impervious area  Provide computations and design of the Stormwater Management System  Construction sequence, including schedule of SESC measures  Continuous maintenance plans for all permanent SESC measures  MASSING AND ARCHITECTURAL PLANS  Dimensioned floor plans identifying areas excluded from floor area and FAR calculations  Vertical sections of existing and proposed elevations  Dimensioned architectural design and labeled material details  Perspective renderings  PHOTOMETRIC PLAN  Location, type, and details of proposed lighting fixtures, ensuring all fixtures conform to UDC 5.25 standards	See Grading, Drainage, and SESC Plan  See Grading, Drainage, and SESC Plan  See Stormwater Calculations and Details Sheet  See Grading, Drainage, and SESC Plan  See SESC Notes and Details Sheet  See Architectural Plans  See Photometric Plan
Estimated total cost of required controls during construction  Estimated total cost of protecting exposed soil surfaces from erosion should construction discontinue  Estimated quantity of excavation and fill  Amount of existing and proposed impervious area  Provide computations and design of the Stormwater Management System  Construction sequence, including schedule of SESC measures  Continuous maintenance plans for all permanent SESC measures  MASSING AND ARCHITECTURAL PLANS  Dimensioned floor plans identifying areas excluded from floor area and FAR calculations  Vertical sections of existing and proposed elevations  Dimensioned architectural design and labeled material details  Perspective renderings  PHOTOMETRIC PLAN  Location, type, and details of proposed lighting fixtures, ensuring all fixtures conform to	See Grading, Drainage, and SESC Plan  See Grading, Drainage, and SESC Plan  See Stormwater Calculations and Details Sheet  See Grading, Drainage, and SESC Plan  See SESC Notes and Details Sheet  See Architectural Plans

#### STATEMENT OF INTEREST IN THE LAND:

The property is owned by the Ann Arbor Housing Commission.

Per the requirements of the PUD approved on April 4, 2022, a provision of 30 feet in depth, 25 feet in height, and extending fully between Fourth and Fifth Avenue rights-of way shall be provided to the Ann Arbor Area Transportation Authority, or successors, for the purpose of expanding and/or improving public transit access at the site and adjacent Blake Transit Center.

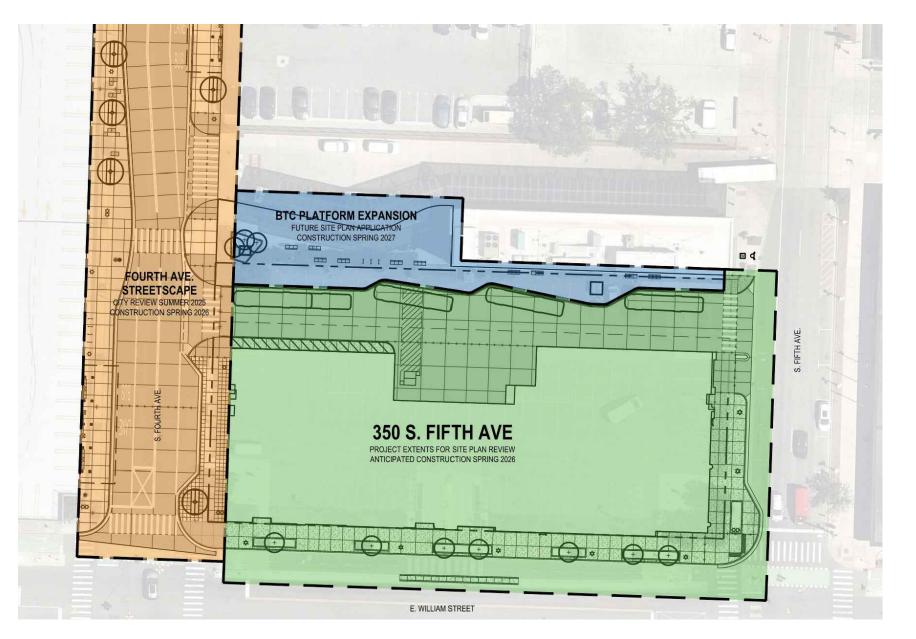
#### ASSOCIATED APPLICATIONS:

PUD Zoning: The site was approved for PUD zoning in accordance with 350 S. Fifth Avenue Supplemental Regulations by City Council on April 4, 2022.

Transit improvements within the proposed AAATA easement are shown for reference only and will be submitted for site plan approval in the

Fourth Avenue Streetscape: The Fourth Avenue Streetscape project is is targeting concurrent construction with 350 S. Fifth Ave., starting in March 2026. Project work

is being reviewed by required City departments.



#### **COMPARISON CHART:**

	REQUIREMENTS	EXISTING	PROPOSED
Zoning Classification		PUD	PUD
Lot area		0.8 acres	0.8 acres (34,928 SF)
Floor area	None		312,907 GSF
Floor area ratio	None		896%
Open space	None		None
Active open space	None		None
Setbacks			
Front adjacent to William Street	*0-20 feet		0 feet
Side setbacks	Not applicable		Fifth Ave. = 8.3 feet Fourth Ave. = 9.1 feet
Streetwall	*Up to 50% of the property frontage may exceed required setbacks		34 feet
Height	*Max. 275 feet		228 feet
Stories	No requirement		20 + penthouse
Off-street vehicular parking	*0 spaces	85 spaces	0 spaces
Bicycle Parking Spaces			
Class A	1 space per 2,500 SF residential 246,000 SF residential / 2,500 = 99 spaces		101 spaces
Class C	1 space per 10,000 SF non-residential 33,629 SF non-residentail / 10,000 = 4 spaces	19 bike hoops = 38 spaces	9 bike hoops = 18 spaces
ADDITIONAL REQUIREMENTS PER	R PUD:		
Public Transit	*30-feet deep and 25-feet tall area provided to Ann Arbor Area Transit Authority		Provided - see Plans
Driveways	*No limitiation on number or width; no driveways permissable along William Street	25-foot driveway on William St. 16-foot curb cut on Fifth Ave.	30-foot driveway on Fifth Ave. 16.5-foot driveway on Fifth Ave. 28.3-foot driveway on Fourth Ave.
Landscaping and Screening	*One Street Tree along Fourth Ave.	0	1
	*One Street Tree along Fifth Ave.	0	0
	One street tree per 45 LF along William Street	4	8
Affordable Housing	*Min. 100 Affordable Dwelling Units and a minimum of 40% of the total number of dwelling units as Affordable Dwelling Units		330 Affordable Dwelling Units
Sustainability	*Fully electric building; natural gas connection permissible for back-up emergency generator		Building will be fully electric with a diesel back-up generator
	*Meet or exceed Target Energy Use Intensity consistent with 2030 Zero-Carbon Goals of the City		Building will meet the City's Target EUI for affordable housing units: 30-40 per correspondence with OSI on 4/1/2024
	*Meet or exceed the 2021 Internation Energy Conservation Code, inclusive of the Zero Code Appendix		Compliant with the 2021 IECC following the ASHRAE 90.1 compliance path
	*Meet or exceed the Enterprise Green Communities		Project will meet Enterprise Green

<sup>\*</sup> Requirements per the PUD Supplemental Regulations

#### DEVELOPMENT PROGRAM:

Mixed-use development (retail and residential)

Number of dwelling units: 330 dwelling units

220 one-bedroom units + 110 two-bedroom units = 440 total bedrooms Number of bedrooms:

Access and circulation: The residential lobby will be accessed from the sidewalk along Fifth Avenue. Retail space will be accessible from E. William Street.

The bike room for residential use is accessible within the building and off the William Street sidewalk and is adjacent to the William Street Bikeway. Exterior bike parking is provided in the amenity zones of all sidewalks to support transit, retail, and residential uses.

Solid waste is accessed via a service drive along the north side of the building. This drive will be shared with a future bus lane and platform on the north portion of the site. Residential loading and pickups are located outside the residential lobby on Fifth Avenue.

Additionally, a loading dock for residential use is located on Fifth Avenue.

A bus stop is provided adjacent to the development on Fourth Avenue and has been designed as part of the Fourth Avenue

Streetscape Project, which is anticipated to be built concurrently with 350 S. Fifth.

Off-street parking: Not provided

Preliminary construction phasing: The development will be constructed in a single phase. Streetscape improvements along S. Fourth Ave. will be constructed concurrently as part of the Fourth Avenue Streetscape Project. Improvements for the Blake Platform Expansion will be constructed

separately and are not part of this Site Plan.

\$220 million Probable construction cost:

#### COMMUNITY ANALYSIS:

#### 1. Impact of proposed development on public schools:

The proposed development consists of 330 Affordable Dwelling Units. The building will provide 220 one-bedroom units and 110 two-bedroom units. It is anticipated some families will live in the two-bedroom units, increasing the number of school-age children downtown.

#### 2. Relationship of intended use to neighboring uses:

The proposed residential units benefit from a walkable downtown location with access to transit and other downtown amenities. Proposed retail on the ground floor has the potential to benefit transit riders and the surrounding community. The development will add vibrancy to the Midtown Character District.

#### 3. Impact of adjacent uses on proposed development:

The adjacent Blake Transit Center provides accessible transit opportunities to the residents that do not have a car or choose to use public transit. The site is also located on the William Street Bikeway, providing the opportunity to safely commute via bike.

#### 4. Impact of proposed development on the air and water quality, and on existing natural features on the site and neighboring sites:

or other green building standard

The proposed development has rigorous sustainability goals outlined in the Supplement Regulations of the PUD. The building will be fully electric with the capacity to become Net Zero in the future. The proposed plan meets City requirements for stormwater. The project provides 30-feet of area adjacent to the Blake Transit Center to be devoted to the future expansion of AAATA operations. The project does not provide on-site parking and supports commuting via walking, cycling, and public transit. The existing site was formerly developed as a YMCA and is currently an asphalt parking lot. There are no natural features on or adjacent to the site.

#### 5. Impact of the proposed use on historic sites or structures: There will be no impact to historic sites or structures.

#### 6. Transportation Impact Statement:

Refer to the Multimodal Traffic Impact Analysis.

#### 7. Public Sidewalk Maintenance Statement:

All sidewalks shall be kept and maintained in good repair by the Owner of the land adjacent to and abutting the same. Prior to the issuance of the final certificate of occupancy for the site, all existing sidewalks in need of repair must be repaired in accordance with City standards.

#### 8. Natural Features general descriptions and impacts:

Woodlands: not present. Wetlands: not present. Water courses: not present. Landmark trees: not present. Steep slopes: not present. Endangered species habitat: not present.

## RELATED



350 S. Fifth Ave.

Ann Arbor, MI 48104

## **SMITHGROUP**

35 EAST WACKER DRIVE SUITE 900 CHICAGO, IL 60601 312.641.0770 smithgroup.com

SR + A STRUCTURAL 231 S. Lasalle St., Suite 2100 Chicago, IL 60604 312.380.9277

JENKINS & HUNTINGTON, INC VERTICAL TRANSPORT CONSULTANT 17W106 91st. St. Willowbrook, IL 60527 630.325.4450

	<del></del>
-	<del></del>
SITE PLAN REVISION 1	10SEPT2025
DESIGN DEVELOPMENT	21AUG2025
SITE PLAN SUBMITTAL	18JUNE2025

27MAR2025

SCHEMATIC DESIGN

Communities criteria

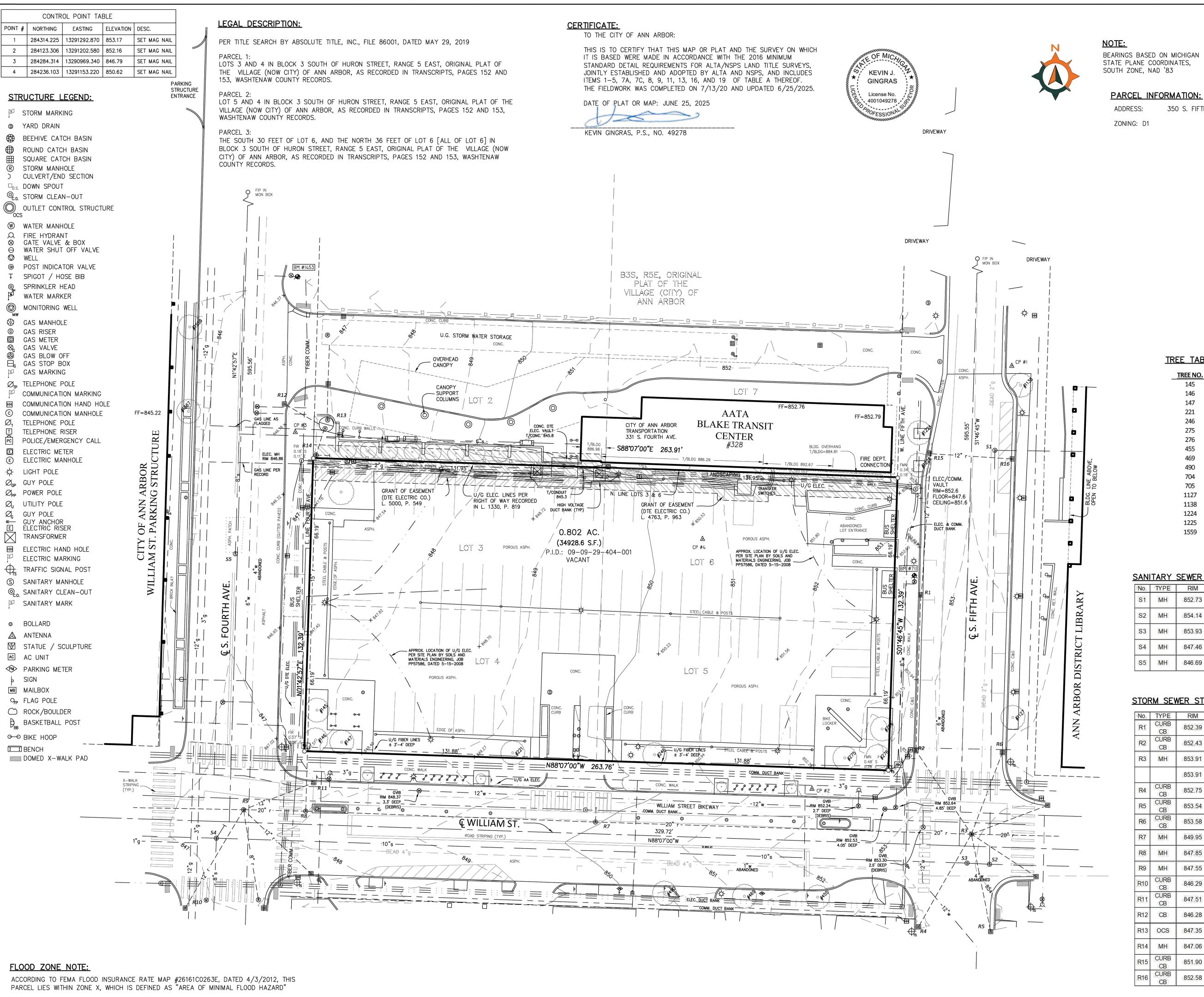
ISSUED FOR



DRAWING TITLE

**GENERAL NOTES** 

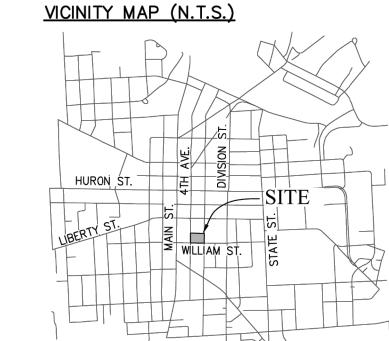
15412 PROJECT NUMBER



BEARINGS BASED ON MICHIGAN STATE PLANE COORDINATES, SOUTH ZONE, NAD '83

#### **PARCEL INFORMATION:**

350 S. FIFTH AVE.





SITE SITE			Profes	יים ייסקיים כששש
	NOIS	<b>&gt;</b> :		

#### TREE TABLE:

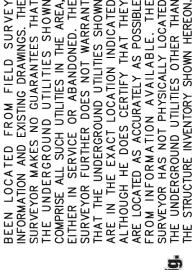
TREE NO.	SIZE (DBH)	SPECIES
145	4	PEAR
146	5	PEAR
147	4	PEAR
221	2	PEAR
246	2	PEAR
275	5	PEAR
276	5	PEAR
455	12	MAPLE
469	8	BASSWOOD
490	8	BASSWOOD
704	5	PEAR
705	5	CHERRY
1127	6	CRAB APPLE
1138	6	CRAB APPLE
1224	2	GINKO
1225	2	GINKO
1559	2	CHERRY

#### SANITARY SEWER STRUCTURE:

No.	TYPE	RIM			INVERTS	·	·
S1	МН	852.73	6" E	8" S			
31	IVIT	002.73	845.03	843.73			
S2	МН	854.14	10" E	10" W	8" N		
52	IVIT	034.14	842.09	842.04	842.54		
S3	МН	853.93	10" E	10" W			
33	IVI	000.90	841.83	841.83			
S4	МН	847.46	10" E	10" W	8" S	8" NE	BULKHEA
34	IVII	047.40	834.96	834.96	835.26	835.26	
S5	МН	946 60	8" N	4" SW			
33	IVIT	846.69	839.69	841.49			

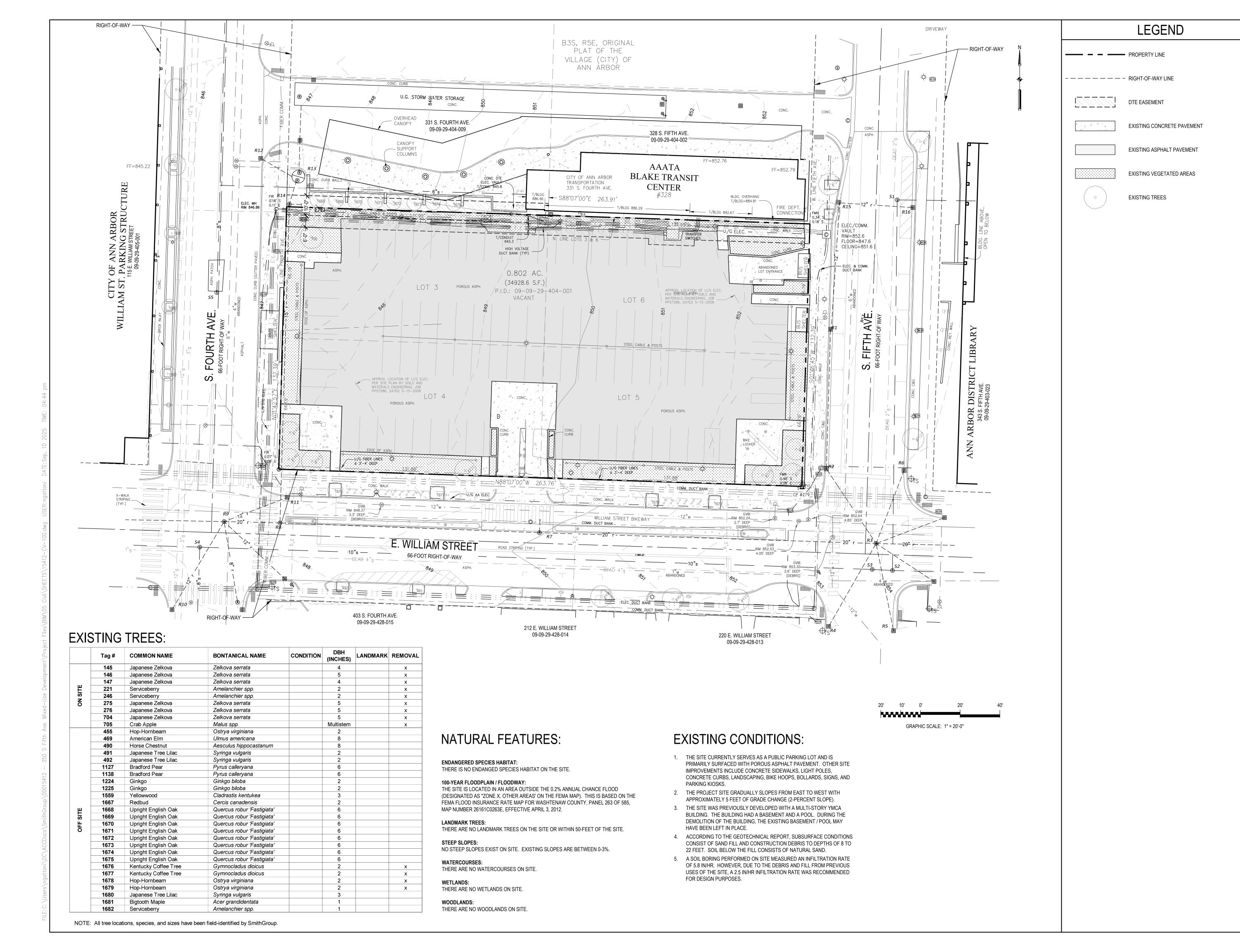
#### STORM SEWER STRUCTURE:

No.	TYPE	RIM			INVERTS							
R1	CURB	852.39	12 N-S									
L.	CB	652.59	849.59									
R2	CURB	852.43	12" N	12" SE								
KZ	CB	032.43	849.03	848.83								
R3	МН	853.91	20" E-W	12" NW	12" NNE	12" SW	12" SSE					
KO	IVITI	600.91	846.34	847.69	847.69	846.99	847.64					
		052 04	12" SE	12" NE								
		853.91	847.64	847.67								
R4	CURB	050.75	12" NE									
K4	CB	852.75	847.45									
R5	CURB	853.54	12" NW									
Ko	CB	633.34	849.54									
R6	CURB	052.50	12" SW									
Ko.	СВ	853.58	849.38									
R7	MH	849.95	20" E-W									
K/	IVIH	849.95										
R8	50 500	NUL	NALL	MILL	NALL	N/0 1	0.47 05	20" E-W	15" N			
K0	МН	847.85	840.35	840.55								
R9	МН	847.55	20" E-W	12" NE	12" ESE	8" SSE	12" SW					
K9	IVIFI	047.55	839.51	842.51	840.85	842.25	841.15					
R10	CURB	846.29	12" NE									
KIU	CB	040.29	842.49									
R11	CURB	847.51	12" SW									
LZT I	CB	047.31	844,11									
R12	СВ	846.28	12" SE									
KIZ	CD	040.20	843.68									
R13	ocs	847.35	12" S	12" N								
KIS	UUS	047.33	843.30	843.25								
R14	NAI-I	-0.47-00	12" N	15" S								
K14	MH	847.06	843.41	843.16								
DAE	CURB	054 00	12" S	12" E								
R15	СВ	851.90	849.50	849.50								
D4C	CURB	050.50	12" W									
R16	СВ	852.58	849.88									



⑤ ao ⊕ me~@☆ダ日回







350 S. Fifth Ave.
Ann Arbor, MI 48104

## **SMITHGROUP**

35 EAST WACKER DRIVE SUITE 900 CHICAGO, IL 60601 312.641.0770 smithgroup.com

SR + A STRUCTURAL 231 S. Lasalle St., Suite 2100 Chicago, IL 60604 312.380.9277

JENKINS & HUNTINGTON, INC VERTICAL TRANSPORT CONSULTANT 17W106 91st. St. Willowbrook, IL 60527 630.325.4450

SITE PLAN REVISION 1
DESIGN DEVELOPMENT
SITE PLAN SUBMITTAL
SCHEMATIC DESIGN
21MAR2025
27MAR2025

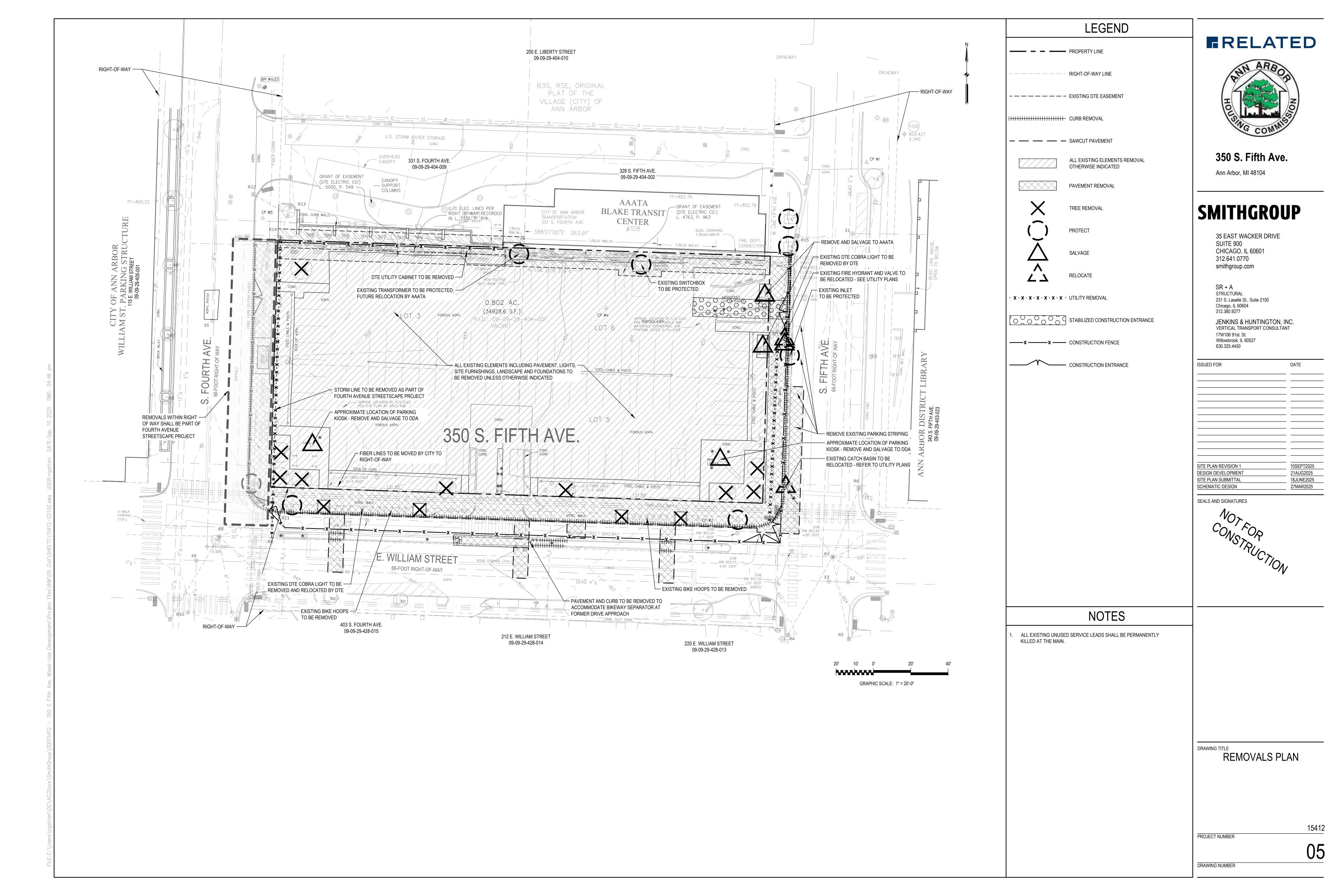
SEALS AND SIGNATURES

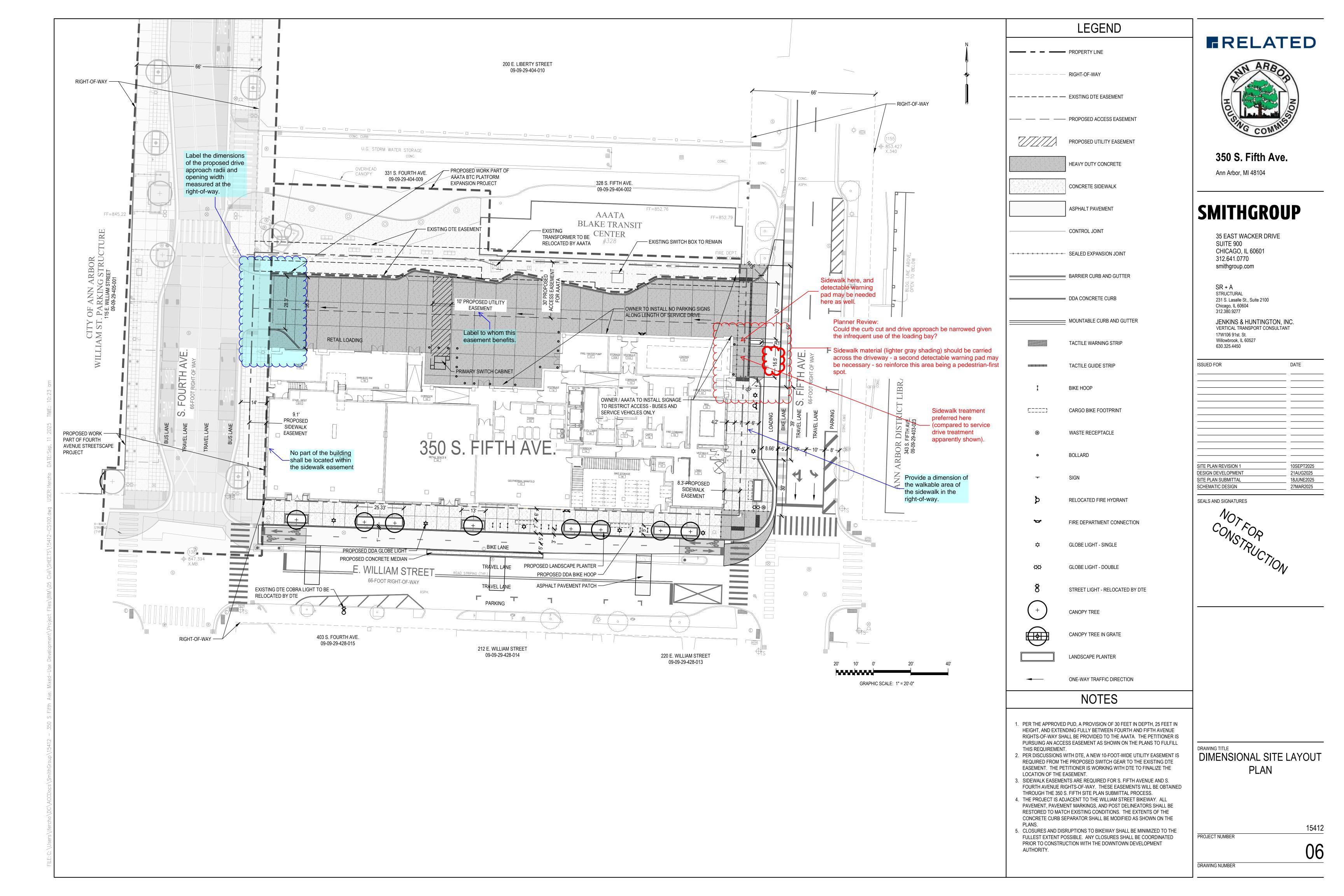
ISSUED FOR

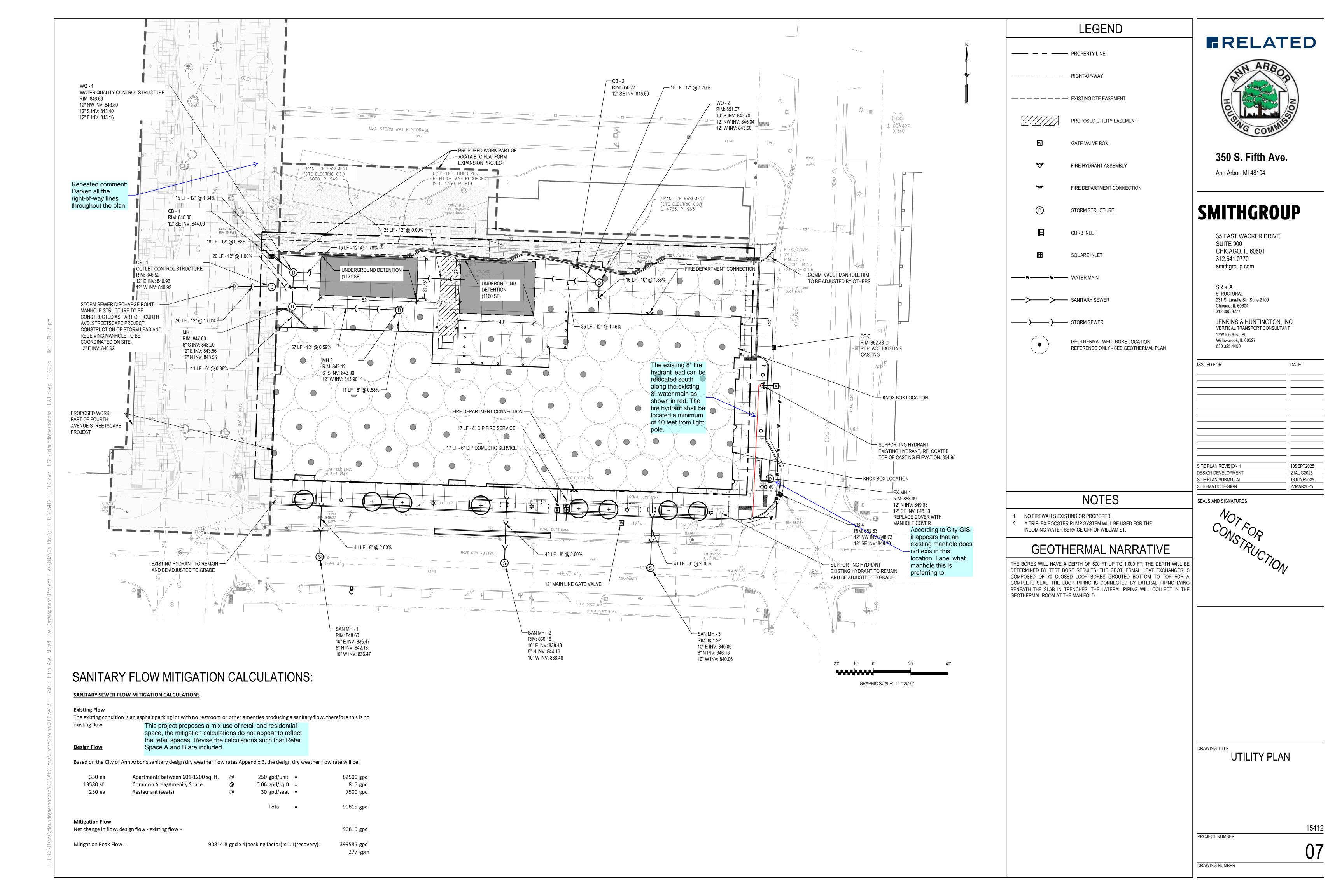


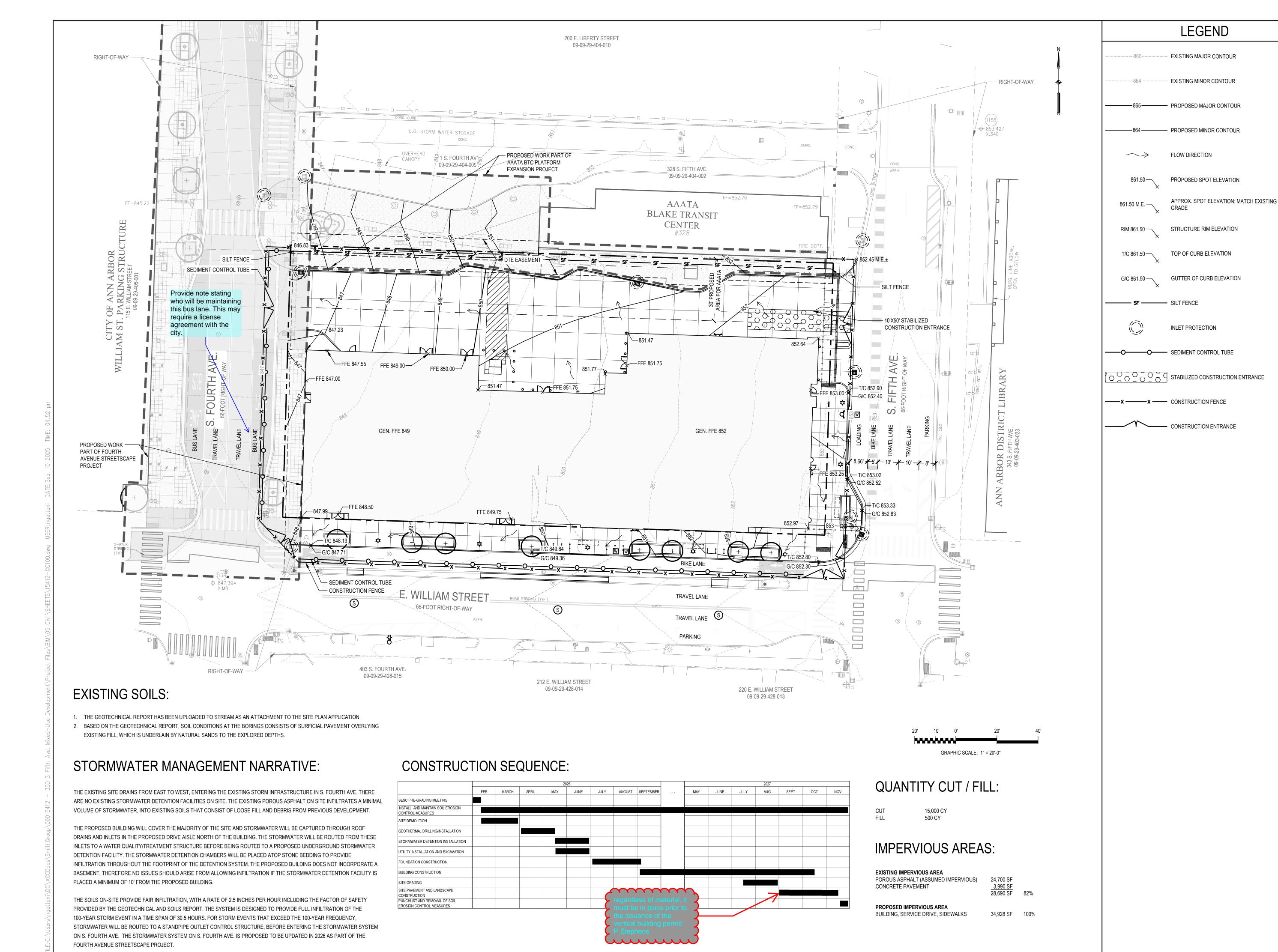
DRAWING TITLE
EXISTING CONDITIONS PLAN

 $\frac{15412}{\text{PROJECT NUMBER}}$ 











350 S. Fifth Ave.
Ann Arbor, MI 48104

## **SMITHGROUP**

35 EAST WACKER DRIVE SUITE 900 CHICAGO, IL 60601 312.641.0770 smithgroup.com

SR + A STRUCTURAL 231 S. Lasalle St., Suite 2100 Chicago, IL 60604 312.380.9277

JENKINS & HUNTINGTON, INC VERTICAL TRANSPORT CONSULTANT 17W106 91st. St. Willowbrook, IL 60527 630.325.4450

SITE PLAN REVISION 1 10SEPT2025
DESIGN DEVELOPMENT 21AUG2025
SITE PLAN SUBMITTAL 18JUNE2025
SCHEMATIC DESIGN 27MAR2025

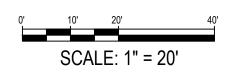
SEALS AND SIGNATURES

ISSUED FOR





GRADING, DRAINAGE, AND SESC PLAN



PROJECT NUMBER

OB

DRAWING NUMBER

### STORMWATER CALCUATIONS:

First Flush Runoff Calculation (Vff)

W4

Vff = (1") (1'/12") (43560 sf/1ac) (A)( C ) Vff = 3630\* A \* C Vff = 2,728 cf

C = Weighted runoff Coefficient from W1

Pervious Cover Post-Development Bankfull Runoff Calculations (Vbf-per-post)

Pre-Development Bankfull runoff Calculations (Vbf-pre)

S = (1000 / CN) - 10  $Q = (P-0.2S)^2 / (P + 0.8S)$ 

Total Site Area (sf)

Vbf-pre = Q(1/12)Area

2 year / 24 hour storm event

Pervious Cover CN from W1

 $Q = (P-0.2S)^2 / (P + 0.8S)$ Pervious Cover Area from W1

Vbf-per-post = Q (1/12)Area

S = (1000 / CN) - 10

2 year / 24 hour storm event

Good Cover Meadow - Type B

A = Total Site Areas (ac) excluding "self-crediting" BMPs from W1

Standard Method Runoff Volume Calculations

**Standard Method Runoff Volume Calculations** 

P =

CN =

Area =

CN =

Area =

Vbf-per-post=

Vbf-pre=

2.35 in

58.0 7.24 in

0.100 in

34,928 sf

290.64 cf

2.35 in 61.0

6.39 in

0.15 in

600 sf

7.69 cf

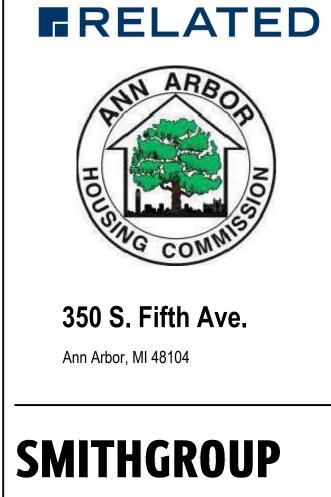
			<b>350 S FIFT</b>	Н						
			water Calc							
Design Storm:	100-year, 24 ho									
References:		Washtenaw County, Rules and Guidelines - Procedures and Design Criteria for Stormwater Manage Systems, 10/17/2016								
W1	Determini	ng Post - Deve	=	er Types, Area	a, Curve Numbers ar	nd Runoff				
		To	tal Site Area =	0.80	) AC					
Tot	al Site Area Exclu	uding "Self-Cred	liting" BMPs =	0.00	) AC					
	Cover Type	Soil Type	Area (sf)	Area (AC)	Runoff Coefficient (C)	C * Area				
Rational	Pavement	В	34,328	0.79	0.95	0.75				
Method	Gravel	В	0	0.00	0.85	0.00				
Variables	Building	В	0	0.00	0.95	0.00				
	Open Space	В	600	0.01	0.20	0.00				
	Tot	al = ∑(Area) =	34928							
				٦	otal = ∑( C ) (Area) =	0.75				
					Area Total = ∑ac =	0.80				
				Weighted CN =	= ∑( C )(Area) / ∑ac =	0.94				
	Pervious Cover Type	Soil Type	Area (sf)	Area (AC)	Curve Number (CN)	CN * Area				
NRCS Variables	Open Space	В	600	0.01	61	0.84				
				To	tal = ∑( CN ) (Area) =	0.8				
					Area Total = ∑ac =	0.01				
				Weighted C = 2	( CN )(Area) / ∑ac =	61.0				
	Impervious Cover Type	Soil Type	Area (sf)	Area (AC)	Curve Number (CN)	CN * Area				
NRCS Variables	Pavement	В	34,328	0.79	98	77.23				
co variables	Gravel	В	0	0.00	85	0.00				
	Building	В	0	0.00	98	0.00				
				Тс	tal = ∑( CN ) (Area) =	77.23				
					Area Total = ∑ac =	0.79				
			W	eighted CN = 2	<u>∑(</u> CN )(Area) / ∑ac =	98.0				

A.	100 year / 24	hour storm even	it	P =	5.11	. in	
В.	Impervious C	over CN from W1	L	CN =	98.0	)	
C.	S = (1000 / CN	N) - 10		S =	0.20	) in	
D.	$Q = (P-0.2S)^{1}$	2 / (P + 0.8S)		Q =	4.87	' in	
E.	Impervious C	over Area from V	V1	Area =	34,328	sf	
F.	V100-imp-po	st = Q (1/12)Area	\	/100-imp-post=	13,940.03	cf	
W8		Standa	rd Method Ru	unoff Volume Cal	culations		
Determine tim	e of Concentrati	on for Applicable	Flow types (To	c-hrs)			
Flow Type	К	Change in Elevation	Length (L)	Slope % (S)	\$^0.5	V = K*\$^0.5	Tc=L/(V 0)
Sheet Flow	0.48	5.35	264.0	2.03%	1.424	0.68	0.1
	nnot exceed 300 his is considered	O feet. Anything I waterway		Total T	ime of Concentr	ation (Tc-hrs) =	0.1
W9		Standa	rd Method Ru	unoff Volume Cal	culations		
	ıry & Onsite Infil	<b>Standa</b> tration Requirem		unoff Volume Cal	culations		
Runoff Summa	,		ent		culations		
	,	tration Requirem	ent us Worksheets		culations 2,728	cf	
Runoff Summa  A.  Pre-Developme	Runoff Summ	tration Requirem  nary from Previou  off Volume (Vbf-)	ent us Worksheets First Flus pre)	sh Volume (Vff)			
Runoff Summa  A.  Pre-Developmo Pervious Cover	Runoff Summ ent bankfull Run Post-Developm	tration Requirem nary from Previou off Volume (Vbf- <sub>1</sub> ent Bankfull Volu	ent Is Worksheets First Flus pre) me (Vbf-per-p	<b>sh Volume (Vff)</b> ost)	<b>2,728</b> 291 8	cf cf	
Runoff Summa  A.  Pre-Developmo Pervious Cover	Runoff Summ ent bankfull Run Post-Developm	tration Requirem  nary from Previou  off Volume (Vbf-)	ent us Worksheets First Flue pre) me (Vbf-per-p olume (Vbf-im	<b>sh Volume (Vff)</b> ost) p-post)	<b>2,728</b> 291 8 6,069	cf cf cf	
Runoff Summa  A.  Pre-Developmore Pervious Cover Impervious Co	Runoff Summ ent bankfull Run Post-Developm ver Post-Develop	tration Requirem nary from Previou off Volume (Vbf-) ent Bankfull Volu oment Bankfull Vo	ent  us Worksheets First Flue pre) me (Vbf-per-p olume (Vbf-im	sh Volume (Vff) ost) p-post) ume (Vbf-post)	<b>2,728</b> 291 8 6,069 <b>6,077</b>	cf cf cf	
A.  Pre-Developmore Pervious Cover Impervious Cover Pervious Cover	Runoff Summent bankfull Rune Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Developmer Runoff Summer Post-Developmer Runoff Summer	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volu  oment Bankfull Vo	ent  Sis Worksheets  First Flue  pre)  me (Vbf-per-polume (Vbf-im)  Total BF Volume (V100-per	sh Volume (Vff) ost) p-post) lume (Vbf-post) r-post)	<b>2,728</b> 291 8 6,069 <b>6,077</b> 72	cf cf cf cf	
A.  Pre-Developmore Pervious Cover Impervious Cover Pervious Cover	Runoff Summent bankfull Rune Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Developmer Runoff Summer Post-Developmer Runoff Summer	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volu pment Bankfull Volu ent 100-year Volu pment 100-year V	ent  Is Worksheets  First Flue  pre)  me (Vbf-per-polume (Vbf-im)  Total BF Volume (V100-per  Volume (V100-i	sh Volume (Vff)  ost) p-post) ume (Vbf-post) r-post) mp-post)	<b>2,728</b> 291 8 6,069 <b>6,077</b> 72 13,940	cf cf cf cf cf	
A.  Pre-Developme Pervious Cover Impervious Cover Pervious Cover Impervious Cover	Runoff Summent bankfull Runer Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Develop	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volu pment Bankfull Volu ent 100-year Volu pment 100-year V	ent  Is Worksheets First Flust  pre)  me (Vbf-per-polume (Vbf-im)  Total BF Volume (V100-per  Yolume (V100-i	sh Volume (Vff) ost) p-post) lume (Vbf-post) r-post)	<b>2,728</b> 291 8 6,069 <b>6,077</b> 72	cf cf cf cf cf	
A.  Pre-Developme Pervious Cover Impervious Cover Impervious Cover Impervious Cover Impervious Cover Impervious Cover	Runoff Summent bankfull Run Post-Developm ver Post-Developm Post-Developm ver Post-Develop Determine O	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volu oment Bankfull Vo ent 100-year Volu oment 100-year V	ent  Is Worksheets First Flustere)  In (Vbf-per-polume (Vbf-importal BF Volume (V100-per Volume (V100-importal 100-year Requirement	ost) p-post) lume (Vbf-post) l-post) mp-post) Volume (V100)	2,728 291 8 6,069 6,077 72 13,940 14,012	cf cf cf cf cf	
A.  Pre-Developme Pervious Cover Impervious Cover	Runoff Summent bankfull Run Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Developmer Post-Development	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volu oment Bankfull Vo ent 100-year Volu oment 100-year V  nsite Infiltration I Bankfull from the	ent  Sis Worksheets First Flue  pre) me (Vbf-per-polume (Vbf-im) Total BF Volume (V100-per  Yolume (V100-i Total 100-year Requirement	sh Volume (Vff)  ost) p-post) ume (Vbf-post) r-post) mp-post)	2,728 291 8 6,069 6,077 72 13,940 14,012	cf cf cf cf cf	
A.  Pre-Developme Pervious Cover Impervious Cover	Runoff Summent bankfull Runoff Post-Developmer Post-Developmer Post-Developmer Post-Development Bankfer Bunner Bankfer	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volu pment Bankfull Volu ent 100-year Volu pment 100-year Volu pment Infiltration I Bankfull from the ull Volume (Vbf-)	ent  Sis Worksheets First Flue  pre) me (Vbf-per-polume (Vbf-im) Total BF Volume (V100-per  Yolume (V100-i Total 100-year Requirement	ost) p-post) lume (Vbf-post) l-post) mp-post) Volume (V100)	2,728 291 8 6,069 6,077 72 13,940 14,012	cf cf cf cf cf	
A.  Pre-Developme Pervious Cover Impervious Cover Impervi	Runoff Summent bankfull Runoff Post-Development Post-Development Bankfull Volument Bankfull B	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volu oment Bankfull Volu ent 100-year Volu oment 100-year Volume (Vbf-) ume (Vbf-pre)	ent  Sis Worksheets First Flue  pre) me (Vbf-per-polume (Vbf-im) Total BF Volume (V100-per  Yolume (V100-i Total 100-year Requirement	ost) p-post) lume (Vbf-post) l-post) mp-post) Volume (V100)	2,728 291 8 6,069 6,077 72 13,940 14,012	cf cf cf cf cf	
A.  Pre-Developme Pervious Cover Impervious Cover B. Subtract the Pr Total Post-Dev Pre-Developme Bankfull Volum	Runoff Summent bankfull Runoff Post-Development Post-Development Bankfull Volume Difference (Vb.	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volu pment Bankfull Volu ent 100-year Volu pment 100-year Volu pment Infiltration I Bankfull from the ull Volume (Vbf-)	ent  Sis Worksheets First Flue  pre) me (Vbf-per-polume (Vbf-im) Total BF Volume (V100-per  Yolume (V100-i Total 100-year Requirement	ost) p-post) lume (Vbf-post) l-post) mp-post) Volume (V100)	2,728 291 8 6,069 6,077 72 13,940 14,012	cf cf cf cf cf cf	
A.  Pre-Developme Pervious Cover Impervious Cover Impervi	Runoff Summent bankfull Runoff Post-Development Post-Development Bankfull Volume (Vff)	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volu oment Bankfull Volu ent 100-year Volu oment 100-year Volume (Vbf-) ume (Vbf-pre)	ent  Is Worksheets First Flusters  pre)  me (Vbf-per-polume (Vbf-im)  Total BF Volume (V100-per/olume (V100-im)  Total 100-year  Requirement  Post-Develop	sh Volume (Vff)  ost) p-post) lume (Vbf-post) r-post) mp-post) Volume (V100)  ment bankfull volu	2,728 291 8 6,069 6,077 72 13,940 14,012 time 6,077 290.64 5,786.45	cf cf cf cf cf cf	
Runoff Summa  A.  Pre-Developme Pervious Cover Impervious	Runoff Summent bankfull Runor Post-Developmer Post-Developmer Post-Developmer Post-Development Bankfull Volume (Vff)	tration Requirem  nary from Previou  off Volume (Vbf-) ent Bankfull Volument Bankfull Volument 100-year Volument 100-year Volument 100-year Volume (Vbf-) ume (Vbf-pre) of-post - Vbf-pre)  Difference with the side infiltration	ent  Is Worksheets First Flue  pre) me (Vbf-per-polume (Vbf-im) Total BF Volume (V100-per  Yolume (V100-i Total 100-year Requirement Post-Develop post)	sh Volume (Vff)  ost) p-post) lume (Vbf-post) r-post) mp-post) Volume (V100)  ment bankfull volu	2,728 291 8 6,069 6,077 72 13,940 14,012 time 6,077 290.64 5,786.45	cf cf cf cf cf cf	

<b>W</b> 5		Standa	rd Method R	unoff Volume Cald	culations		
mpervious Cov	ver Post-Develop	ment Bankfull R	unoff Calculati	ions (Vbf-imp-post)			
	2	ur storm event		D	2.21	- :	
A.				P =	2.35 98.0		
3.	•	over CN from W1	•	CN =			
	S = (1000 / CN	· - · · · · · · · · · · · · · · · · · ·		S =	0.20		
).	$Q = (P-0.2S)^2$			Q =	2.122		
	•	over Area from V	V1	Area =	34,328		
	Vbf-imp-post :	= Q (1/12)Area		Vbf-imp-post=	6,069.40	cf	
W6		Standa	rd Method R	unoff Volume Cald	culations		
ervious Cover	Post-Developme	ent 100-year Stor	m Runoff Cald	culations (V100-per-	post)		
	100 year / 24 l	hour storm even	t	P =	5.13	l in	
	Pervious Cove	r CN from W1		CN =	61.0	)	
•	S = (1000 / CN	) - 10		S =	6.39	) in	
	$Q = (P-0.2S)^2$	:/(P+0.8S)		Q =	1.436	5 in	
•		r Area from W1		Area =	600		
		t = Q (1/12)Area		V100-per-post=	71.78		
		G: 1	100 11 10	(CV   C	1		
W7	ver Post-Dovalos			unoff Volume Cald Calculations (V100-ir			
irpervious COV	ver i ost-bevelop	ment 100-year 3	COTTO NUTION C	carculations (VIOO-II	np-post/		
<b>.</b> .	100 year / 24 l	hour storm even	t	P =	5.13	l in	
•		over CN from W1		CN =	98.0	)	
	S = (1000 / CN			S =	0.20	) in	
· ·	$Q = (P-0.2S)^2$			Q =	4.87		
·•	•	over Area from V	./1	ر = Area =			
•	•				34,328		
	V100-imp-pos	t = Q (1/12)Area	,	V100-imp-post=	13,940.03	ст	
				unoff Volume Cald	uiations		
Petermine time  Flow Type	e of Concentratio <b>K</b>	on for Applicable  Change in			\$^0.5	V = K*S^0.5	Tc=L/(V*360
Flow Type		on for Applicable	Flow types (T	c-hrs)		<b>V = K*S^0.5</b> 0.68	Tc=L/(V*360 0) 0.11
Flow Type Sheet Flow *Sheet flow ca	К	on for Applicable  Change in  Elevation  5.35  feet. Anything	Flow types (To	c-hrs) Slope % (S) 2.03%	<b>S^0.5</b> 1.424		<b>0)</b> 0.11
Flow Type heet Flow 'Sheet flow ca beyond th	<b>K</b> 0.48 nnot exceed 300	Change in Elevation 5.35 feet. Anything waterway	Flow types (Tournell Length (L) 264.0	c-hrs) Slope % (S) 2.03% Total Ti	S^0.5 1.424 ime of Concentr	0.68	<b>0)</b> 0.11
Flow Type heet Flow  Sheet flow ca beyond th	K 0.48 nnot exceed 300 his is considered	Change in Elevation 5.35 feet. Anything waterway	Flow types (Tournell Length (L) 264.0	c-hrs) Slope % (S) 2.03%	S^0.5 1.424 ime of Concentr	0.68	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem	Flow types (Tour Length (L) 264.0	c-hrs)  Slope % (S)  2.03%  Total Ti	S^0.5 1.424 ime of Concentr	0.68	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti	Change in Elevation 5.35 feet. Anything waterway	Flow types (Tour Length (L)) 264.0  rd Method Roment  is Worksheets	c-hrs) Slope % (S) 2.03% Total Ti	S^0.5 1.424 ime of Concentr	0.68 ration (Tc-hrs) =	<b>0)</b> 0.11
Flow Type heet Flow Sheet flow ca beyond the W9 unoff Summa	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilta  Runoff Summa	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previous	Flow types (Tour Length (L)) 264.0  rd Method Resent us Worksheets First Flu	c-hrs)  Slope % (S)  2.03%  Total Ti	S^0.5 1.424 ime of Concentriculations	0.68  ration (Tc-hrs) =	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti  Runoff Summa	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou	Flow types (Tour Length (L)) 264.0  rd Method Referent as Worksheets First Fluctore)	c-hrs)  Slope % (S)  2.03%  Total Ti  unoff Volume Calc  sh Volume (Vff)	S^0.5 1.424 ime of Concentriculations 2,728 291	0.68  ration (Tc-hrs) =  cf cf	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti  Runoff Summa	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou	Flow types (Tour Length (L)) 264.0  rd Method Referent  is Worksheets First Fluctore) me (Vbf-per-per-per-per-per-per-per-per-per-per	Slope % (S) 2.03%  Total Ti unoff Volume Calc sh Volume (Vff)	\$^0.5  1.424  ime of Concentrations  2,728  291 8	0.68  ration (Tc-hrs) =  cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa re-Developme	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti  Runoff Summa	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im	Slope % (S) 2.03%  Total Ti unoff Volume Calc sh Volume (Vff) p-post)	\$^0.5  1.424  ime of Concentr  culations  2,728  291  8 6,069	cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa . re-Developme ervious Cover npervious Cover	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti  Runoff Summa ent bankfull Runo Post-Developme ver Post-Develop	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf-	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Vo	Slope % (S) 2.03%  Total	\$^0.5 1.424 ime of Concentr culations 2,728 291 8 6,069 6,077	cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa re-Developme ervious Cover npervious Cover	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti  Runoff Summa	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf-	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Vo	Slope % (S) 2.03%  Total	\$^0.5 1.424 ime of Concentr culations 2,728 291 8 6,069 6,077	cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa re-Developme ervious Cover	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti  Runoff Summa ent bankfull Runo Post-Developme ver Post-Develop	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull	rd Method Reent  Is Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Vo	sh Volume (Vff) p-post) lume (Vbf-post) r-post)	\$^0.5 1.424 ime of Concentr culations 2,728 291 8 6,069 6,077	cf cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa re-Developme ervious Cover npervious Cover	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti  Runoff Summa ent bankfull Runo Post-Developme ver Post-Developme	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull Volument 100-year	rd Method Reent  S Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Volume (V100-per V100-per	sh Volume (Vff) p-post) lume (Vbf-post) r-post)	\$^0.5 1.424 ime of Concentr culations 2,728 291 8 6,069 6,077 72	cf cf cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa re-Developme ervious Cover npervious Cover npervious Cover	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilte  Runoff Summa ent bankfull Runo Post-Developme ver Post-Developme ver Post-Developme ver Post-Developme	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull Volument Bankfull Volument 100-year	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Vo	Slope % (S) 2.03%  Total Ti unoff Volume Calc sh Volume (Vff) p-post) lume (Vbf-post) r-post) imp-post)	\$^0.5 1.424 ime of Concentr culations 2,728 291 8 6,069 6,077 72 13,940	cf cf cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow  Sheet flow ca beyond th  W9  unoff Summa  re-Developme ervious Cover npervious Cover npervious Cover	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilte  Runoff Summa ent bankfull Runce Post-Developme ver Post-Develop Post-Developme ver Post-Develop  Determine On	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previous off Volume (Vbf- ent Bankfull Volument Bankfull Volument Bankfull Volument 100-year Volument 100-yea	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Voume (V100-jolume (V100-jolume (V100-jolume (V100-jolume) Total 100-year Requirement	Slope % (S) 2.03%  Total Ti unoff Volume Calc sh Volume (Vff) p-post) lume (Vbf-post) r-post) imp-post) v Volume (V100)	\$^0.5 1.424 ime of Concentrations 2,728 291 8 6,069 6,077 72 13,940 14,012	cf cf cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow  Sheet flow ca beyond th  W9 unoff Summa  re-Developme ervious Cover npervious Cover npervious Cover npervious Cover ubtract the Pro-	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti  Runoff Summa ent bankfull Runo Post-Developme ver Post-Develop Post-Develop ver Post-Develop  Determine On e-Development E	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull Volument Bankfull Volument 100-year	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Vocume (V100-Fotal 100-year Requirement	Slope % (S) 2.03%  Total Ti unoff Volume Calc sh Volume (Vff) p-post) lume (Vbf-post) r-post) imp-post)	\$^0.5 1.424 ime of Concentrations 2,728 291 8 6,069 6,077 72 13,940 14,012	cf cf cf cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa re-Developme ervious Cover npervious Cover npervious Cover npervious Cover npervious Cover npervious Cover	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilti  Runoff Summa ent bankfull Runo Post-Developme ver Post-Development Eelopment Bankfu	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull Volument 100-year	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Vocume (V100-Fotal 100-year Requirement	Slope % (S) 2.03%  Total Ti unoff Volume Calc sh Volume (Vff) p-post) lume (Vbf-post) r-post) imp-post) v Volume (V100)	\$^0.5 1.424 ime of Concentrations 2,728 291 8 6,069 6,077 72 13,940 14,012 me	cf cf cf cf cf cf	<b>0)</b> 0.11
Flow Type heet Flow  Sheet flow ca beyond th  W9 unoff Summa  re-Developme ervious Cover npervious Cover npervious Cover cotal Post-Developme re-Developme	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilte  Runoff Summa ent bankfull Runce Post-Developme ver Post-Developme ver Post-Develop  Determine On e-Development E elopment Bankfull ent Bankfull Volui	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull Volument 100-year	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Vocume (V100-Fotal 100-year Requirement	Slope % (S) 2.03%  Total Ti unoff Volume Calc sh Volume (Vff) p-post) lume (Vbf-post) r-post) imp-post) v Volume (V100)	\$^0.5 1.424 ime of Concentrations 2,728 291 8 6,069 6,077 72 13,940 14,012 me 6,077 290.64	cf cf cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow Sheet flow ca beyond th  W9 unoff Summa re-Developme ervious Cover npervious Cover npervious Cover cotal Post-Developme ankfull Volum	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilte  Runoff Summa ent bankfull Runce Post-Developme ver Post-Developme ver Post-Develop  Determine On e-Development E elopment Bankful ent Bankfull Voluite Difference (Vbf	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull Volument 100-year	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Vocume (V100-Fotal 100-year Requirement Post-Develop	Slope % (S) 2.03%  Total Ti unoff Volume Calc sh Volume (Vff) p-post) lume (Vbf-post) r-post) imp-post) v Volume (V100)	\$^0.5 1.424 ime of Concentrations 2,728 291 8 6,069 6,077 72 13,940 14,012 me 6,077 290.64 5,786.45	cf cf cf cf cf cf	<b>0)</b> 0.11
Flow Type heet Flow  Sheet flow ca beyond th  W9 unoff Summa  re-Developme ervious Cover mpervious Cover mpervious Cover ubtract the Protal Post-Developme re-Developme	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilte  Runoff Summa ent bankfull Runce Post-Developme ver Post-Developme ver Post-Develop  Determine On e-Development E elopment Bankful ent Bankfull Voluite Difference (Vbf	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull Volument 100-year	rd Method Reent  s Worksheets First Fluctore) me (Vbf-per-polume (Vbf-im Total BF Vocume (V100-Fotal 100-year Requirement Post-Develop	Slope % (S) 2.03%  Total Ti unoff Volume Calc sh Volume (Vff) p-post) lume (Vbf-post) r-post) imp-post) v Volume (V100)	\$^0.5 1.424 ime of Concentrations 2,728 291 8 6,069 6,077 72 13,940 14,012 me 6,077 290.64	cf cf cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow  Sheet flow ca beyond th  W9 unoff Summa  re-Developme ervious Cover npervious Cover npervious Cover cotal Post-Developme ankfull Volum irst Flush Volu	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilte  Runoff Summa ent bankfull Runo Post-Developme ver Post-Developme ver Post-Develop  Determine On e-Development Bankfull ent Bankfull Volume ine Difference (Vbf	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull Volument 100-year Volument 100-year Volument 100-year Volument 100-year Volument Volume (Vbf- ent Volume (Vbf- ent Volume (Vbf- ent Volume (Vbf- ent Sankfull from the fill Volume (Vbf- ent (Vbf- ent Volume (Vbf- ent Vbf-	rd Method Reent  Is Worksheets First Fluore) me (Vbf-per-polume (Vbf-im Total BF Voume (V100-per Volume (V100-ger Requirement Post-Developers)	Slope % (S) 2.03%  Total	\$^0.5 1.424 ime of Concentrations 2,728 291 8 6,069 6,077 72 13,940 14,012 me 6,077 290.64 5,786.45	cf cf cf cf cf cf	<b>0)</b> 0.11
Flow Type neet Flow  Sheet flow ca beyond th  W9 unoff Summa re-Developme ervious Cover npervious Cover npervi	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilte  Runoff Summa ent bankfull Runo Post-Developme ver Post-Developme ver Post-Develop  Determine On e-Development Bankfull ent Bankfull Volume the Difference (Vbfume (Vff) ankfull Volume D	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previou off Volume (Vbf- ent Bankfull Volument Bankfull Volument 100-year Volument 100-year Volument 100-year Volument 100-year Volument Volume (Vbf- ent Sankfull from the off Volume (Vbf- ent Vbf-	rd Method Reent  s Worksheets First Fluore) me (Vbf-per-polume (Vbf-im Total BF Voume (V100-per/olume (V100-per/olume (V100-per/olume (V100-per/olume)) Total 100-year Requirement Post-Developers Total Post-Developers Total Post-Developers Total Post-Developers Total Post-Developers	Slope % (S) 2.03%  Total	\$^0.5 1.424 ime of Concentrations 2,728 291 8 6,069 6,077 72 13,940 14,012 me 6,077 290.64 5,786.45	cf cf cf cf cf cf	<b>0)</b> 0.11
reet Flow  heet flow ca beyond th  W9  noff Summa  e-Developme rvious Cover pervious Cover pervious Cover pervious Cover pervious Cover pervious Cover pervious Cover tal Post-Developme nkfull Volum st Flush Volu mpare the B. e greater of the	K 0.48  nnot exceed 300 his is considered  ry & Onsite Infilte  Runoff Summa ent bankfull Runo Post-Developme ver Post-Developme ver Post-Develop  Determine On e-Development Bankfull ent Bankfull Volume ine Difference (Vbf	Change in Elevation 5.35  feet. Anything waterway  Standa ration Requirem ary from Previous off Volume (Vbf- ent Bankfull Volument Bankfull Volument Bankfull Volument 100-year Volument 100-year Volument Vbf- ent Sankfull from the off Volume (Vbf- ent Volume (Vbf- ent Sankfull from the off Vbf- ent Sankfull from the off Vbf	rd Method Reent  s Worksheets First Fluore) me (Vbf-per-polume (Vbf-im Total BF Voume (V100-per/olume (V100-per/olume (V100-per/olume (V100-per/olume)) Total 100-year Requirement Post-Developers Total Post-Developers Total Post-Developers Total Post-Developers Total Post-Developers	Slope % (S) 2.03%  Total	\$^0.5 1.424 ime of Concentrations 2,728 291 8 6,069 6,077 72 13,940 14,012 me 6,077 290.64 5,786.45	cf cf cf cf cf cf cf cf cf	<b>0)</b> 0.11

W10		Stand	ard Method R	unoff Volume Ca	alculations	
Detention Requ	uirement					
	Qp=238	3.6(Tc)^-0.82	2	Qp=	1487.68	cfs/in -mi^2
	Total S	ite Area (Ac	)	Area =	0.80	ac
	Q100 = Q100-per	+ Q100-im	0	Q100=	6.31	in
ı	Peak Flow = Qp(Q10	00)Area/640	ס	Peak Flow (PF)=	11.76	cfs
	Delta = PF	- 0.15(Area	)	Delta=	11.64	cfs
		lta/PF)V100		Vdet=	13,868.49	cf
Retention Requ		ret=2(V100	)	Vret=	28,023.62	cf
W11			Infiltrati	on Calculations		
Detention infiltr	ration					_
				d area (el 839) =	1,993	
				Safety Factor =	2.3	
			Infiltration Unf	actored (IT-1) =	5.800	
			Infiltrat	ion design rate =	2.500	in/hr
				iltration Period =		hr
				tration Volume =	2,491	
14/12						
W13			r ett.			•
۹.	Minim			uirement, Vinf =	5,786.45	
		Designed	/Provided infilt	ration Volume =	2,491	cf
	%	Minimum I	Required infiltra	ation provided =	43.06	%
		Total Calcu	lated Detention	Volume, Vdet =	13,868	cf
				ention Volume =	11,377	
	(Vo			tration volume)	11,377	
В.		% Regu	ired infiltration	NOT provided =	56.94	%
ь.	(100%	=		ration provided)	30.34	70
	(100%-	-70111111111111111111	rrequired initial	•	44.00	0/
				Net % penalty =	11.39	%
	•			n NOT provided)		
Т	otal Required Deter	ntion Volun	ne, including pe	nalty Vdet,req=	12,672.71	cf
	[(100% + Net% P	enalty) x Ne	et Required Det	ention volume)]		
			Out	let Design		
Standning Outle	et Structure Design	Calculation		<del>-</del>	1)	
standpipe Outi	et structure besign	Calculation		discharge, Qa =	0.12	cfs
				ume, Vbf-post =	6,077	
		Design !				U
		_		ration Volume =	2,491	•
	Total Poquired D	etention Vo		g penalty V100 =	12,673	
	Total Required D		Vdet.red		844.86	
	Total Required Di		,	$ $ elevation, $x_{100}$ =	844.80	
В	-	t - Designed				cf
В	F detained, Vbf-pos		d/Provided Infil		3,586 840.30	
B Detention basir	F detained, Vbf-pos		d/Provided Infil	tration Vol, $V_{bf}$ =	3,586	
Detention basir	T volume		d/Provided Infil	tration Vol, $V_{bf}$ =	3,586	
Detention basir	T volume  Area (square feet)	Barbara Barbar	d/Provided Infil ankfull detained Average Volume (cf)	tration Vol, $V_{bf}$ = d elevation, $x_{bf}$ =  Total Volume (cf)	3,586	
<b>Detention basin</b> Pond Elevation 846	Area (square feet)  1,993	Barrenth (feet)	Average Volume (cf) 1,993	tration Vol, $V_{bf}$ = d elevation, $x_{bf}$ =  Total Volume (cf)  14,949	3,586	
Detention basin Pond Elevation 846 845	Area (square feet)  1,993 1,993	epth (feet)  1 1	Average Volume (cf) 1,993 1,993	tration Vol, $V_{bf}$ = d elevation, $x_{bf}$ =  Total Volume (cf)  14,949 12,956	3,586	
Detention basin Pond Elevation 846 845 844	Area (square feet)  1,993 1,993 1,993	epth (feet)  1 1 1	Average Volume (cf) 1,993 1,993 1,993	tration Vol, $V_{bf}$ = d elevation, $x_{bf}$ =  Total Volume (cf)  14,949  12,956  10,962	3,586	
Pond Elevation  846  845  844  843	Area (square feet)  1,993 1,993 1,993 1,993 1,993	epth (feet)  1 1 1 1	Average Volume (cf) 1,993 1,993 1,993 1,993	tration Vol, $V_{bf}$ = d elevation, $x_{bf}$ = Total Volume (cf)  14,949 12,956 10,962 8,969	3,586	
Pond Elevation  846 845 844 843 842	Area (square feet)  1,993 1,993 1,993 1,993 1,993 1,993	epth (feet)  1 1 1	Average Volume (cf)  1,993 1,993 1,993 1,993 1,993 1,993	Total Volume (cf)  14,949 12,956 10,962 8,969 6,976	3,586	
Pond Elevation  846  845  844  843	Area (square feet)  1,993 1,993 1,993 1,993 1,993	epth (feet)  1 1 1 1	Average Volume (cf) 1,993 1,993 1,993 1,993	tration Vol, $V_{bf}$ = d elevation, $x_{bf}$ = Total Volume (cf)  14,949 12,956 10,962 8,969	3,586	
Pond Elevation  846 845 844 843 842	Area (square feet)  1,993 1,993 1,993 1,993 1,993 1,993	epth (feet)  1 1 1 1 1	Average Volume (cf)  1,993 1,993 1,993 1,993 1,993 1,993	Total Volume (cf)  14,949 12,956 10,962 8,969 6,976	3,586	
Pond Elevation  846 845 844 843 842 841	Area (square feet)  1,993 1,993 1,993 1,993 1,993 1,993 1,993 1,993 1,993	epth (feet)  1 1 1 1 1 1	Average Volume (cf)  1,993 1,993 1,993 1,993 1,993 1,993 1,993 1,993	Total Volume (cf)  14,949 12,956 10,962 8,969 6,976 4,983	3,586	
Pond Elevation  846 845 844 843 842 841 840	Area (square feet)  1,993 1,993 1,993 1,993 1,993 1,993 1,993 1,993 1,993 1,993	epth (feet)  1 1 1 1 1 1 1 1	Average Volume (cf)  1,993 1,993 1,993 1,993 1,993 1,993 1,993 1,993 1,993	Total Volume (cf)  14,949 12,956 10,962 8,969 6,976 4,983 2,990	3,586	

First Flush Infiltration First Flush Volume =	2728 cf	
Infiltration Area =	1993 sf	
Infiltration Rate =	2.50 in/hr	
Infiltration Flow Rate =	415.24 cft/hr	
Time to Fully Drain =	6.57 hr	ОК
,		
Bankfull Infiltration		
Bankfull Volume =	6077 cf	
Infiltration Area =	1993 sf	
Infiltration Rate =	2.50 in/hr	
Infiltration Flow Rate =	415.24 cft/hr	
Time to Fully Drain =	14.63 hr	OK
100-Year Infiltration		
100-Year Volume =	14012 cf	
Infiltration Area =	1993 sf	
Infiltration Rate =	2.50 in/hr	
Infiltration Flow Rate =	415.24 cft/hr	
Time to Fully Drain =	33.74 hr	ОК
Check flow/Detention Time - Must be 24 Hours minimum		
Qact,bf = $0.62*N_{bf,orf}*A_{bf}*sqrt(2gH_{avg})=$	0.04 cfs	
Tbf = Vbf cf / (Qact,bf* 3600 sec/hr) =	24.8 hr	ок
101 - VDI CI / (Qaccidi 3000 sec/iii) -	24.0 111	OK
100-year storm Discharge		
Allowable discharge, Qa =	0.12 cfs	
$Q = 0.62*Norf*Abf*sqrt(2g(x_{100}-x_{bot})) =$	0.1069 cfs	
Qmax,100= Qa-Q	0.0134 cfs	
Amax,100 = Qmax,100/ $(0.62*sqrt (2g(x_{100}-x_{843}))=$	0.0020 cfs	
Diameter of orifice, Dia =	1.250 in	
Diameter of orifice, Dia =	0.104 ft	
Area of orifice, Aorf =	0.0085 sf	
Max. Norf =	0.23	
Norf=	1.00	
A <sub>100</sub> = Aorf*Norf =	0.01 sf	
Height between 100-year and orifice, $H100 = X100_{\circ}X_{843} =$	1.86	
Check Discharge flow rate		
Qact,100 = Qbf+0.62*Norf*Abf*sqrt(2gH <sub>100</sub> )=	0.10 cfs	ОК
Check detention time Discharge through bankfull orifices and 100-year orifices are contributing		
$h_{\text{both ave}} = 1/2 * (x_{100} - x_{\text{bf}}) + (x_{\text{bf}} - x_{\text{bot}}) =$	4.08 ft	
$Q_{both} = 0.62*A_{bf}*sqrt(2gh_{both,ave}) =$	0.09 cfs	
,		
Average discharge through 100-year orifice while other orfices are contributing	=	
$h_{100,ave} = 2/3*(x_{100}-x_{bf}) =$	3.04 ft	
0 0000000000000000000000000000000000000	0.07 cfs	
$Q_{100,ave} = 0.62*A_{100}*sqrt(2gh_{100ave}) = 0.62*A_{100}*sqrt(2gh_{100ave})$		
Discharge is less than 72 hours	0.007 -4	
Discharge is less than 72 hours  Vrem = V100-Vbf =	9,087 cf	C1/*
Discharge is less than 72 hours $\mbox{Vrem} = \mbox{V100-Vbf} = $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$	40.59 hr	OK*
Discharge is less than 72 hours $Vrem = V100-Vbf = \\ T100 = Tbf+Vrem/(Q_{both}+Q_{100,ave}) = \\ *This detention time applies when an orifice is used in the outlet control structure.                                    $	<b>40.59 hr</b> ture; an orfice is not required since	e the 100-
Discharge is less than 72 hours $Vrem = V100-Vbf = \\ \textbf{T100} = Tbf+Vrem/(Q_{both}+Q_{100,ave}) = \\ ^*This detention time applies when an orifice is used in the outlet control structive year storm is fully infiltrated but is recommended to provide an additional outliness of the control of t$	<b>40.59 hr</b> ture; an orfice is not required since	e the 100-
Discharge is less than 72 hours $Vrem = V100-Vbf = \\ T100 = Tbf+Vrem/(Q_{both}+Q_{100,ave}) = \\ *This detention time applies when an orifice is used in the outlet control structure.                                    $	<b>40.59 hr</b> ture; an orfice is not required since	e the 100-
Discharge is less than 72 hours $Vrem = V100-Vbf = \\ \textbf{T100} = Tbf+Vrem/(Q_{both}+Q_{100,ave}) = \\ ^*This detention time applies when an orifice is used in the outlet control struct year storm is fully infiltrated but is recommended to provide an additional out rates are compromised in the future$	<b>40.59 hr</b> ture; an orfice is not required since	e the 100-
Discharge is less than 72 hours $Vrem = V100-Vbf = \\ \textbf{T100} = Tbf+Vrem/(Q_{both}+Q_{100,ave}) = \\ ^*This detention time applies when an orifice is used in the outlet control struct year storm is fully infiltrated but is recommended to provide an additional out rates are compromised in the future  $	<b>40.59 hr</b> ture; an orfice is not required since let for the system and redunancy	e the 100-
Discharge is less than 72 hours $Vrem = V100-Vbf = \\ \textbf{T100} = Tbf+Vrem/(Q_{both}+Q_{100,ave}) = \\ ^*This detention time applies when an orifice is used in the outlet control structive year storm is fully infiltrated but is recommended to provide an additional out rates are compromised in the future  $	40.59 hr ture; an orfice is not required since let for the system and redunancy  12,673 cf	e the 100-
Discharge is less than 72 hours $Vrem = V100-Vbf = \\ \textbf{T100} = Tbf+Vrem/(Q_{both}+Q_{100,ave}) = \\ *This detention time applies when an orifice is used in the outlet control struct year storm is fully infiltrated but is recommended to provide an additional out rates are compromised in the future  $	40.59 hr ture; an orfice is not required since let for the system and redunancy 12,673 cf 14,949 cf	e the 100-
Discharge is less than 72 hours  Vrem = V100-Vbf =  T100 = Tbf+Vrem/(Q <sub>both</sub> +Q <sub>100,ave</sub> ) =  *This detention time applies when an orifice is used in the outlet control struct year storm is fully infiltrated but is recommended to provide an additional out rates are compromised in the future  Summary:  Total Required Detention Volume (100-year), including penalty V100 =  Volume provided in detention basin =  Infiltration Time =	40.59 hr ture; an orfice is not required since let for the system and redunancy 12,673 cf 14,949 cf 33.74 hr	e the 100-
Discharge is less than 72 hours  Vrem = V100-Vbf =  T100 = Tbf+Vrem/(Q <sub>both</sub> +Q <sub>100,ave</sub> ) =  *This detention time applies when an orifice is used in the outlet control struct year storm is fully infiltrated but is recommended to provide an additional out rates are compromised in the future  Summary:  Total Required Detention Volume (100-year), including penalty V100 =  Volume provided in detention basin =  Infiltration Time =	40.59 hr ture; an orfice is not required since let for the system and redunancy 12,673 cf 14,949 cf	e the 100-



35 EAST WACKER DRIVE SUITE 900 CHICAGO, IL 60601 312.641.0770 smithgroup.com

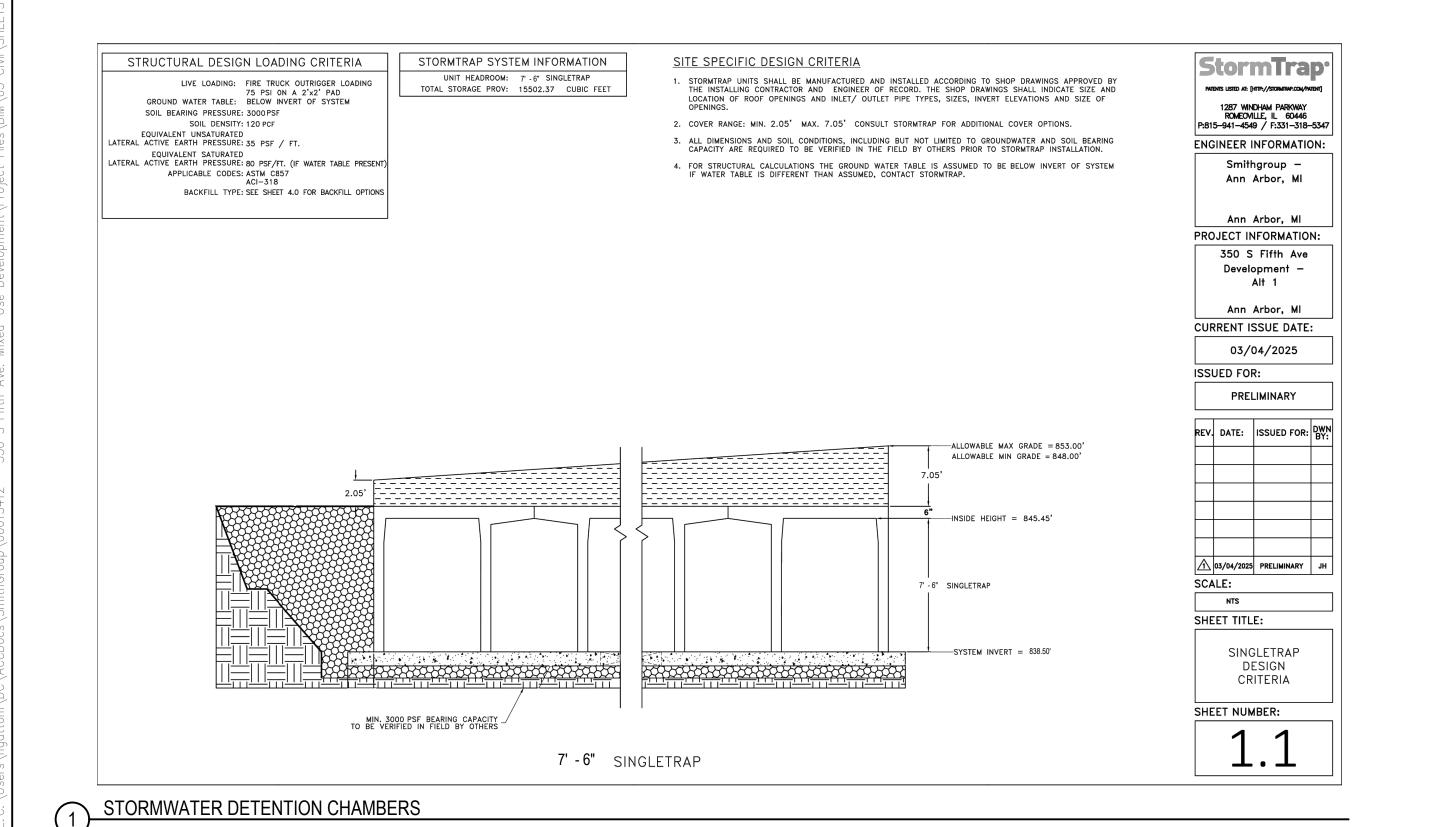
SR + A STRUCTURAL 231 S. Lasalle St., Suite 2100 Chicago, IL 60604 312.380.9277

JENKINS & HUNTINGTON, INC. VERTICAL TRANSPORT CONSULTANT 17W106 91st. St. Willowbrook, IL 60527 630.325.4450

ISSUED FOR DATE

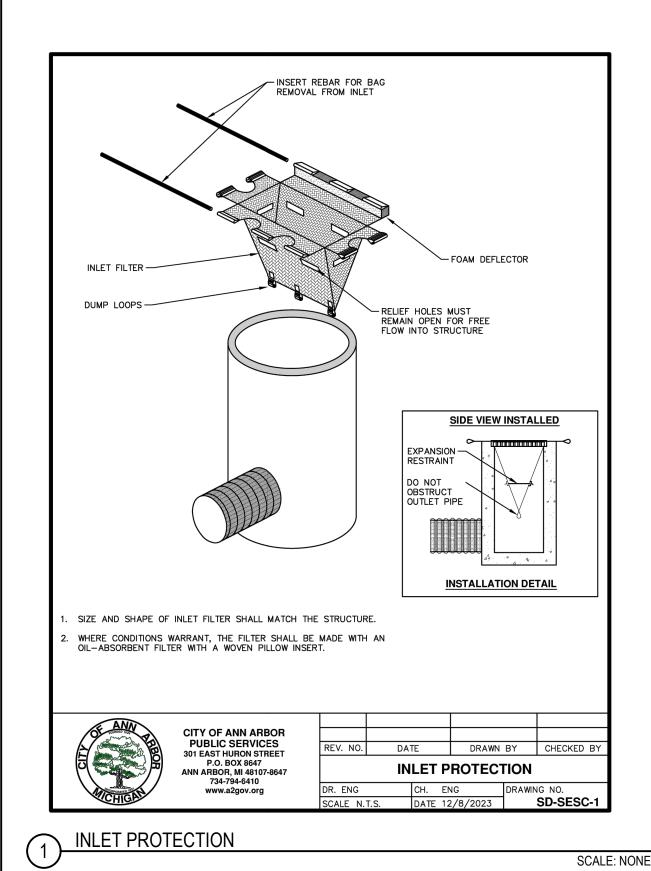
TE PLAN REVISION 1	10SEPT2025
ESIGN DEVELOPMENT	21AUG2025
TE PLAN SUBMITTAL	18JUNE2025
CHEMATIC DESIGN	27MAR2025

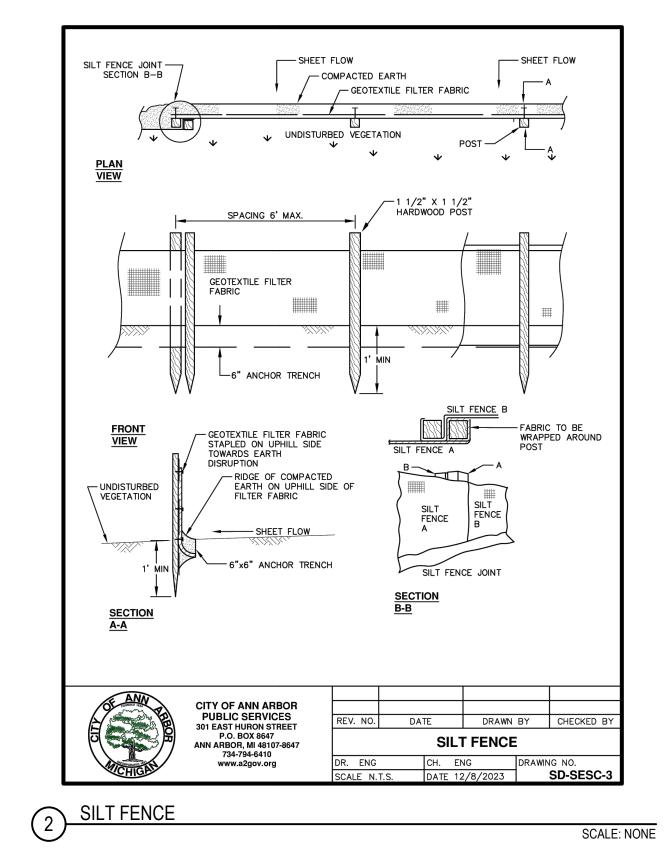


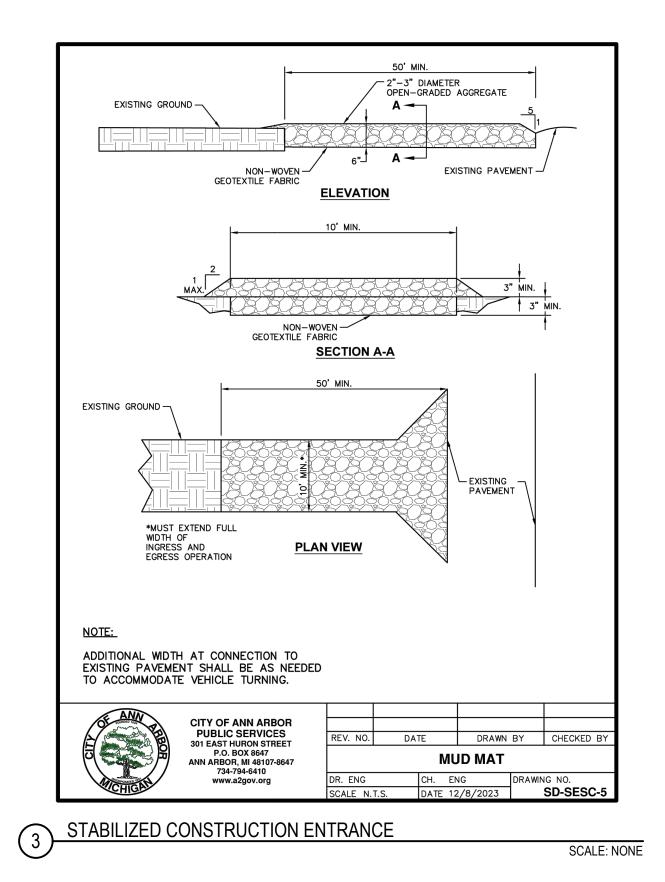


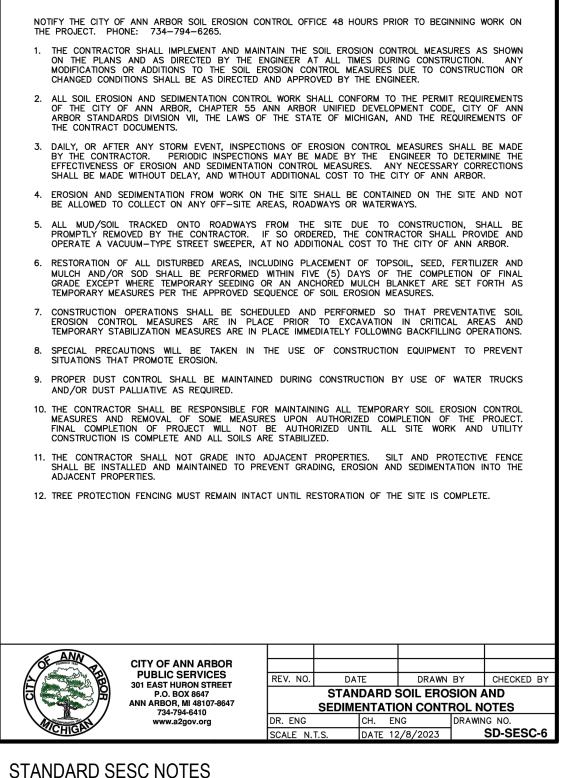
DRAWING TITLE STORMWATER CALCULATIONS AND **DETAILS** 

15412 PROJECT NUMBER









STANDARD SESC NOTES

#### SESC MAINTENANCE PROGRAM:

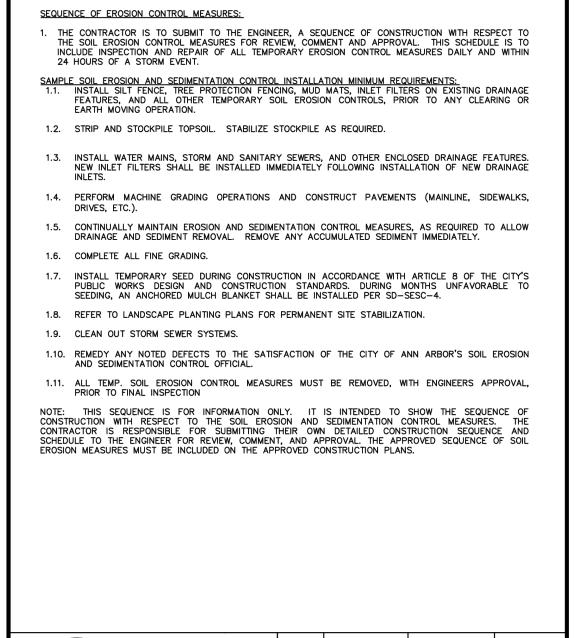
FENCING DAMAGED BY CONSTRUCTION MACHINERY.

#### TEMPORARY MEASURES

- I. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TEMPORARY SESC MEASURES DURING CONSTRUCTION.
- 2. DESIGN, CONSTRUCT, AND COMPLETE THE EARTH CHANGE IN A MANNER THAT LIMITS THE EXPOSED AREA OF DISTURBED LAND FOR THE SHORTEST PERIOD OF TIME.
- REMOVE SEDIMENT CAUSED BY SOIL EROSION BEFORE IT LEAVES THE SITE OF THE EARTH CHANGE. 4. INSTALL TEMPORARY SOIL AND SEDIMENTATION CONTROL MEASURES BEFORE OR UPON COMMENCEMENT OF
- THE EARTH CHANGE ACTIVITY AND MAINTAIN THE MEASURES ON A DAILY BASIS. INSTALL SILT FENCE AS INDICATED ALONG THE LIMITS OF WORK. SILT FENCE SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD. IF REPAIR OR REPLACEMENT IS NECESSARY, IT SHALL BE PERFORMED ACCORDING TO THE DETAIL. MAINTENANCE INCLUDES THE REMOVING OF BUILT-UP SEDIMENT ACCUMULATES TO ½ THE HEIGHT OF THE FENCE. CONTRACTOR SHALL REMOVE, REPLACE, RETRENCH, OR RE-BACKFILL THE FENCE IF IT FAILS. ADDITIONALLY, THE CONTRACTOR SHALL REINSTALL ANY PORTION OF THE
- INSTALL INLET PROTECTION AT ALL ADJACENT AND DOWN-GRADIENT STORM WATER INLETS, CATCH BASINS AND MANHOLES THAT MAY BE IMPACTED. INLET PROTECTION SHALL BE MAINTAINED CLEAN AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD. IF INLET PROTECTION HAS HOLES OR IS INUNDATED WITH SEDIMENT, THE INLET PROTECTION WILL REQUIRE REPLACEMENT.
- . PLACE STOCKPILES AND OTHER SPOIL PILES AWAY FROM THE DRAINAGE SYSTEM TO MINIMIZE SEDIMENT TRANSPORT. IF THE STOCKPILE AND/OR SPOIL PILE MUST REMAIN ON-SITE OVERNIGHT, OR IF THE WEATHER CONDITIONS INDICATE THE CHANCE FOR PRECIPITATION, A) COVER THE PILE WITH WATER REPELLENT MATERIAL TO PREVENT EROSION AND/OR B) INSTALL SILT FENCING AROUND THE BASE OF THE PILE TO PREVENT TRANSPORT OF SEDIMENT TO THE STORM WATER SYSTEM, OR APPLY OTHER CONTROL METHODS APPROPRIATE TO THE SITE. CONTROL MEASURES TO GUARD AGAINST WIND EROSION MUST ALSO BE EMPLOYED, SUCH AS WETTING OR COVERING THE STOCKPILES. KEEP AS FEW STOCKPILES AS POSSIBLE DURING THE COURSE OF THE PROJECT.
- 10. THROUGHOUT THE CONSTRUCTION PERIOD, ALL MUD/SILT TRACKED ONTO EXISTING ROADS FROM THE SITE DUE TO CONSTRUCTION SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR.
- 11. THE CONTRACTOR SHALL MAINTAIN DUST CONTROL ON THE SITE THROUGHOUT THE DURATION OF THE CONSTRUCTION PROCESS.
- 12. THE ESTIMATED COST OF TEMPORARY SOIL EROSION CONTROL MEASURES IS \$11,500.
- 13. THE ESTIMATED COST TO COVER THE SITE SHOULD CONSTRUCTION DISCONTINUE IS \$5,000.
- 14. WEEKLY INSPECTIONS BY THE CONTRACTOR'S CERTIFIED STORM WATER MANAGEMENT OPERATOR AS WELL AS INSPECTIONS WITHIN 24 HOURS OF ANY RAIN EVENT WILL BE REQUIRED. THESE INSPECTIONS MAY RESULT IN RECOMMENDATIONS FOR ROUTINE MAINTENANCE OF THE SOIL EROSION CONTROL DEVICES, AS WELL AS
- 15. REMOVE TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AFTER PERMANENT SOIL EROSION MEASURES ARE IN PLACE AND THE AREA IS STABILIZED. (STABILIZED MEANS THE ESTABLISHMENT OF VEGETATION OR THE PROPER PLACEMENT, GRADING OR COVERING OF SOIL TO ENSURE RESISTANCE TO SOIL EROSION, SLIDING OR OTHER EARTH MOVEMENT.)

#### PERMANENT MEASURES

- COMPLETE PERMANENT SOIL EROSION CONTROL MEASURES FOR THE EARTH CHANGE WITHIN FIFTEEN (15) CALENDAR DAYS AFTER FINAL GRADING OR UPON COMPLETION OF FINAL EARTH CHANGE. IF IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE THE EARTH CHANGE, THEN MAINTAIN TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IN PLACE
- 2. COMPONENTS OF THE UNDERGROUND STORMWATER MANAGEMENT SYSTEM SHALL BE INSPECTED FOR SEDIMENT AND DEBRIS ACCUMULATION ANNUALLY. THIS INCLUDES CATCH BASIN INLETS AND SUMPS, WATER QUALITY CONTROL STRUCTURES, AND DETENTION CHAMBERS. OWNER SHALL BE RESPONSIBLE FOR MAINTAINING THE STORMWATER MANAGEMENT SYSTEM PER RECOMMENDATIONS OF THE MANUFACTURER.
- THE SERVICE DRIVE AND ALL SIDEWALKS SHALL BE CLEARED OF DEBRIS AS NEEDED THROUGHOUT THE YEAR. ANY COLLECTED SEDIMENT SHALL BE REMOVED FROM PAVED SURFACES ANNUALLY.
- 4. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF PERMANENT SESC MEASURES. MAINTENANCE RESPONSIBILITIES SHALL BECOME PART OF ANY SALES OR EXCHANGE AGREEMENT FOR THE LAND ON WHICH THE PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE LOCATED.



SEQUENCE OF SOIL EROSION

CONTROL MEASURES

DATE 12/8/2023 SD-SESC-7

SCALE: NONE

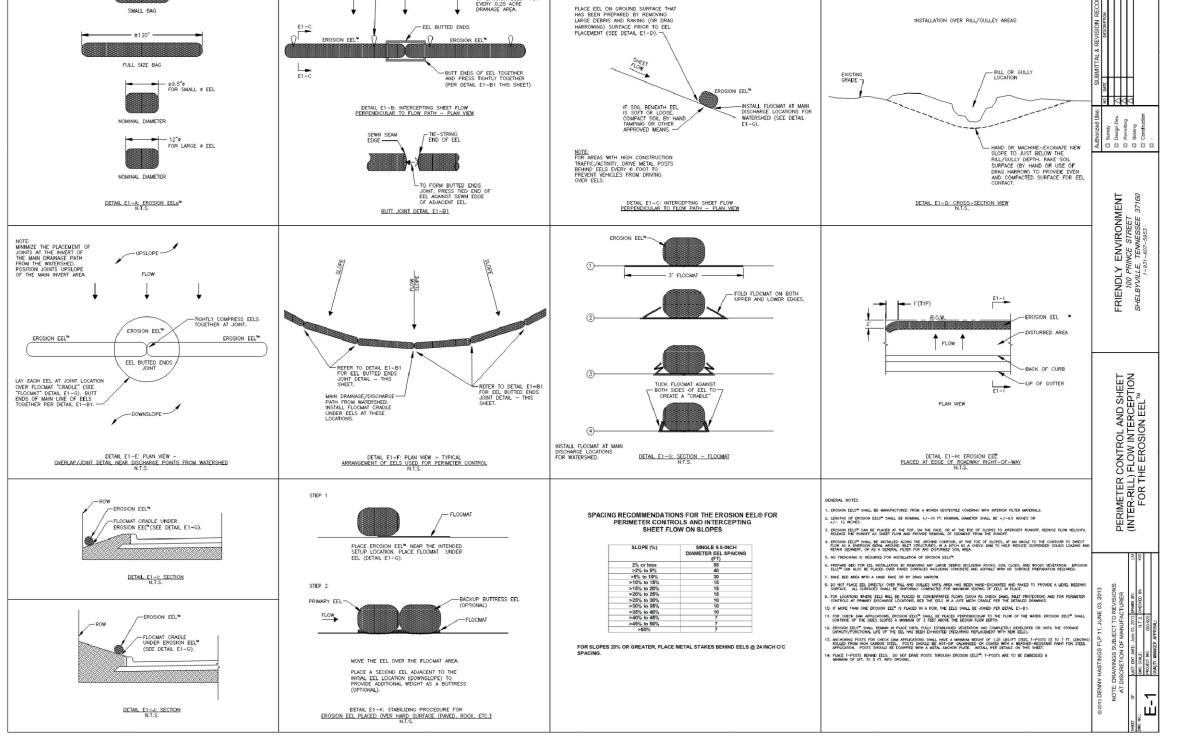
SEQUENCE OF SOIL EROSION CONTROL MEASURES

CITY OF ANN ARBOR

**PUBLIC SERVICES** 

ANN ARBOR, MI 48107-8647

734-794-6410 www.a2gov.org



SEDIMENT CONTROL TUBE

SCALE: NONE

SCALE: NONE

### RELATED



350 S. Fifth Ave.

Ann Arbor, MI 48104

## **SMITHGROUP**

35 EAST WACKER DRIVE SUITE 900 CHICAGO, IL 60601 312.641.0770 smithgroup.com

SR + A STRUCTURAL 231 S. Lasalle St., Suite 2100 Chicago, IL 60604 312.380.9277

JENKINS & HUNTINGTON, INC VERTICAL TRANSPORT CONSULTANT 17W106 91st. St. Willowbrook, IL 60527 630.325.4450

DATE

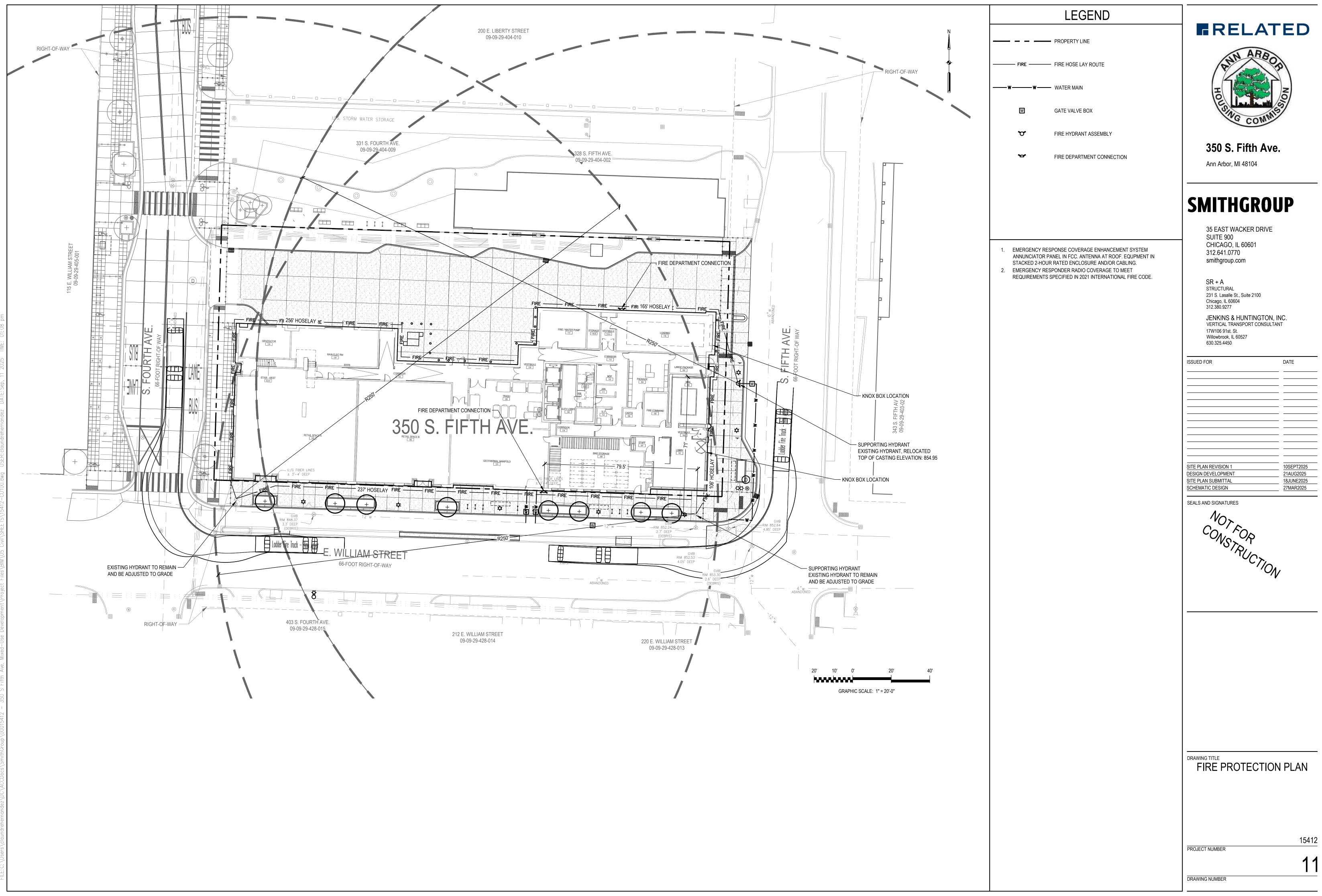
SITE PLAN REVISION 1	10SEPT2025
DESIGN DEVELOPMENT	21AUG2025
SITE PLAN SUBMITTAL	18JUNE2025
SCHEMATIC DESIGN	27MAR2025
SEALS AND SIGNATURES	
Λ.	

ISSUED FOR

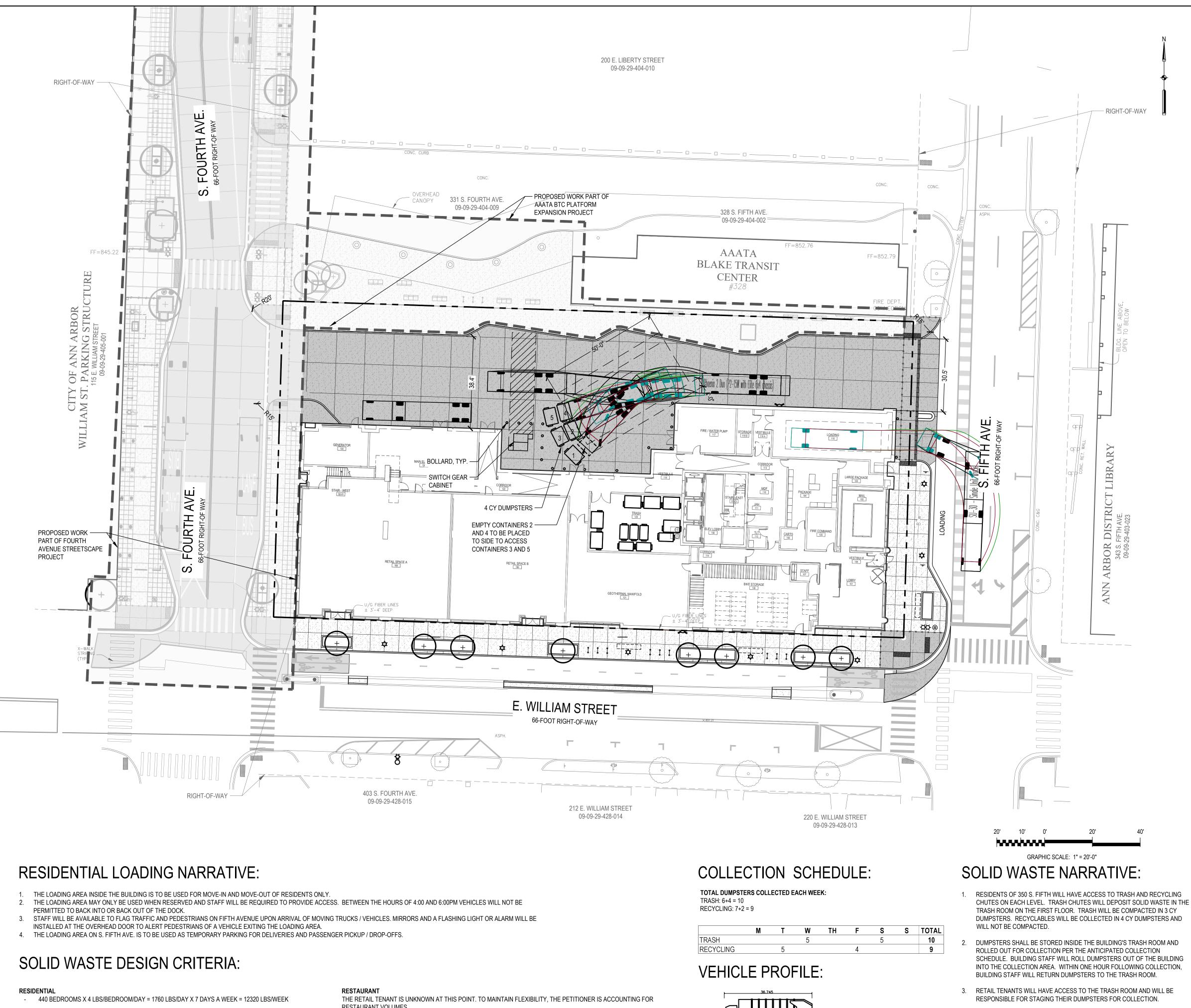


SESC NOTES AND DETAILS

PROJECT NUMBER DRAWING NUMBER



ISSUED FOR	DATE
SITE PLAN REVISION 1	10SEPT2025
DESIGN DEVELOPMENT	21AUG2025
SITE PLAN SUBMITTAL	18JUNE2025
SCHEMATIC DESIGN	27MAR2025



4. REFER TO THE COLLECTION SCHEDULE FOR ANTICIPATED SERVICING EACH WEEK. PICKUP TIMES WILL BE COORDINATED WITH WASTE MANAGEMENT, THE CITY, AND AATA.

Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
Overall Length 36.745ft
Overall Width 8.301ft
Overall Body Height 12.307ft
Min Body Ground Clearance 0.996ft
Track Width 8.202ft

5. SOLID WASTE VEHICLES SHALL ENTER THE SITE FROM S. FIFTH AVENUE AND LEAVE THE SITE ON S. FOURTH AVENUE.

## RELATED



350 S. Fifth Ave. Ann Arbor, MI 48104

## **SMITHGROUP**

35 EAST WACKER DRIVE SUITE 900 CHICAGO, IL 60601 312.641.0770 smithgroup.com

SR + A STRUCTURAL 231 S. Lasalle St., Suite 2100 Chicago, IL 60604 312.380.9277

JENKINS & HUNTINGTON, INC VERTICAL TRANSPORT CONSULTANT 17W106 91st. St. Willowbrook, IL 60527 630.325.4450

ISSUED FOR 103EP12023 DESIGN DEVELOPMENT 21AUG2025

SITE PLAN SUBMITTAL

SCHEMATIC DESIGN



18JUNE2025

27MAR2025

#### **NOTES**

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.

LEGEND

PROPOSED UTILITY EASEMENT

CARGO BIKE FOOTPRINT

WASTE RECEPTACLE

RELOCATED FIRE HYDRANT

GLOBE LIGHT - SINGLE

GLOBE LIGHT - DOUBLE

CANOPY TREE

CANOPY TREE IN GRATE

LANDSCAPE PLANTER

3 CUBIC YARD DUMPSTER

4 CUBIC YARD POLY FRONT LOAD DUMPSTER

FIRE DEPARTMENT CONNECTION

STREET LIGHT - RELOCATED BY DTE

RIGHT-OF-WAY

---- EXISTING DTE EASEMENT

--- PROPOSED ACCESS EASEMENT

**BIKE HOOP** 

- THE PAVEMENT SURFACE OF THE SOLID WASTE SERVICE ROUTE SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF SOLID WASTE VEHICLES (79,500
- THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF NO PARKING SIGNS ALONG THE SOLID WASTE INGRESS / EGRESS ROUTE TO ENSURE THE ROUTE REMAINS FREE OF VEHICLES.

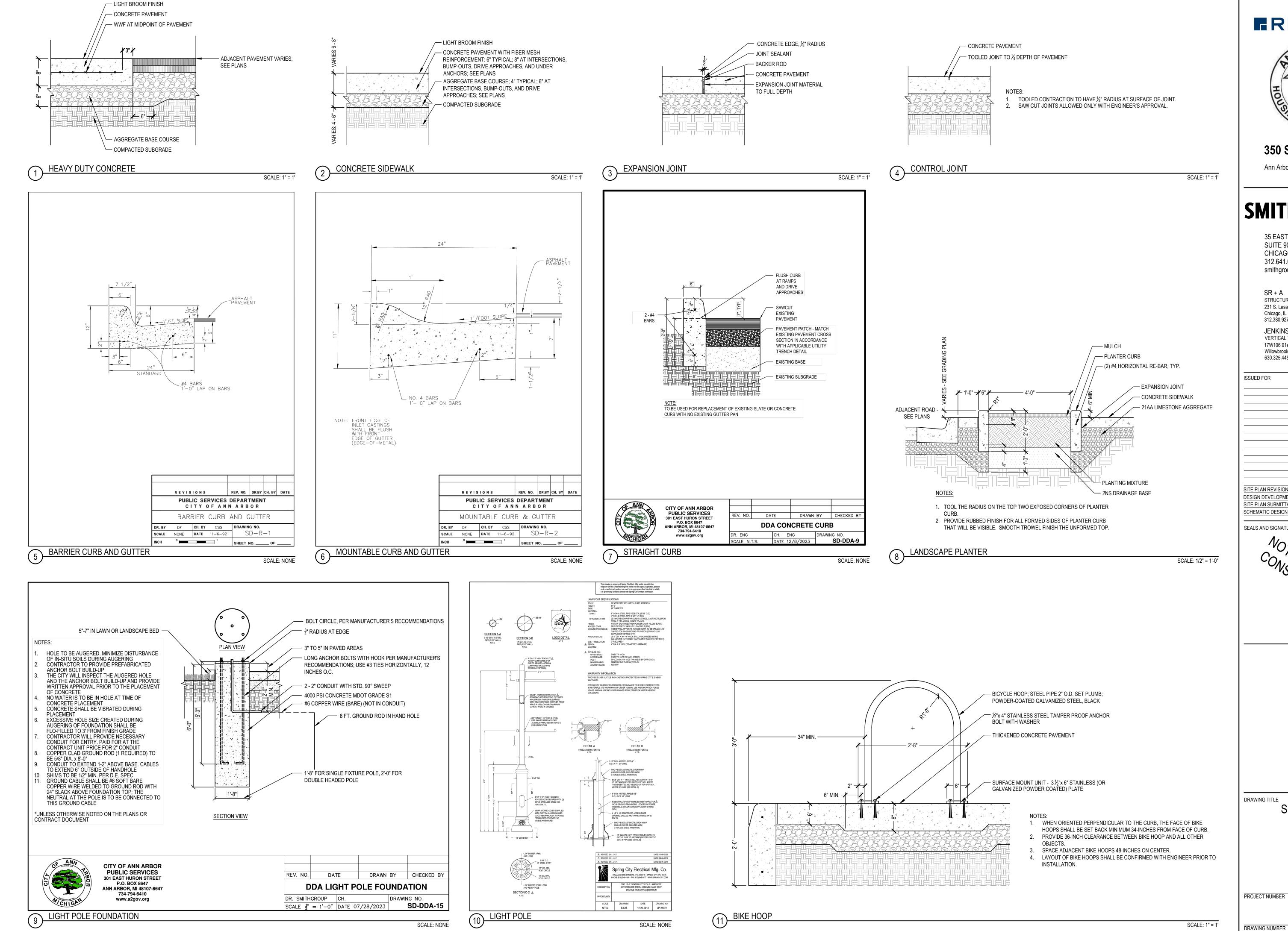
SOLID WASTE MANAGEMENT **PLAN** 

15412 PROJECT NUMBER DRAWING NUMBER

- TRASH GENERATION:
- 12320 LBS/WEEK X 80% = 9856 LBS/WEEK - 9856 LBS/WEEK / 225 LBS/CUBIC YARD = 43.8 CY UNCOMPACTED TRASH 43.8 CY UNCOMPACTED TRASH/WEEK / 2.44 (OPTIMAL COMPACTION) = 18 CY COMPACTED TRASH/WEEK
- RECYCLE GENERATION:
- 12320 LBS/WEEK X 20% = 2464 LBS/WEEK

- SIX 3 CY DUMPSTERS NEED TO BE COLLECTED PER WEEK

- 2464 LBS/WEEK / 100 LBS/CUBIC YARD = 25 CY UNCOMPACTED RECYCLING/WEEK SEVEN 4 CY UNCOMPACTED DUMPSTERS TO BE COLLECTED PER WEEK
- RESTAURANT VOLUMES.
- 6467 SQ FT X 0.65 CUBIC YARDS / 1000 SQ FT / DAY= 4.2 CUBIC YARDS/DAY X 7 DAYS A WEEK = 29.4 CY/WEEK TRASH GENERATION:
- 29.4 CY/WEEK X 80% = 23.5 CY/WEEK - 23.5 CY/WEEK / 2.44 (OPTIMAL COMPACTION) = 10 CY COMPACTED TRASH/WEEK FOUR 3 CY DUMPSTERS NEED TO BE COLLECTED PER WEEK
- **RECYCLE GENERATION:** 29.4 CY/WEEK X 20% = 6 UNCOMPACTED CY/WEEK - TWO 4 CY UNCOMPACTED DUMPSTERS TO BE COLLECTED PER WEEK





350 S. Fifth Ave. Ann Arbor, MI 48104

## **SMITHGROUP**

35 EAST WACKER DRIVE SUITE 900 CHICAGO, IL 60601 312.641.0770 smithgroup.com

SR + A STRUCTURAL 231 S. Lasalle St., Suite 2100 Chicago, IL 60604 312.380.9277

JENKINS & HUNTINGTON, INC. VERTICAL TRANSPORT CONSULTANT 17W106 91st. St. Willowbrook, IL 60527 630.325.4450

ISSUED FOR ITE PLAN REVISION 1 1035712023 DESIGN DEVELOPMENT 21AUG2025 SITE PLAN SUBMITTAL 18JUNE2025 SCHEMATIC DESIGN 27MAR2025

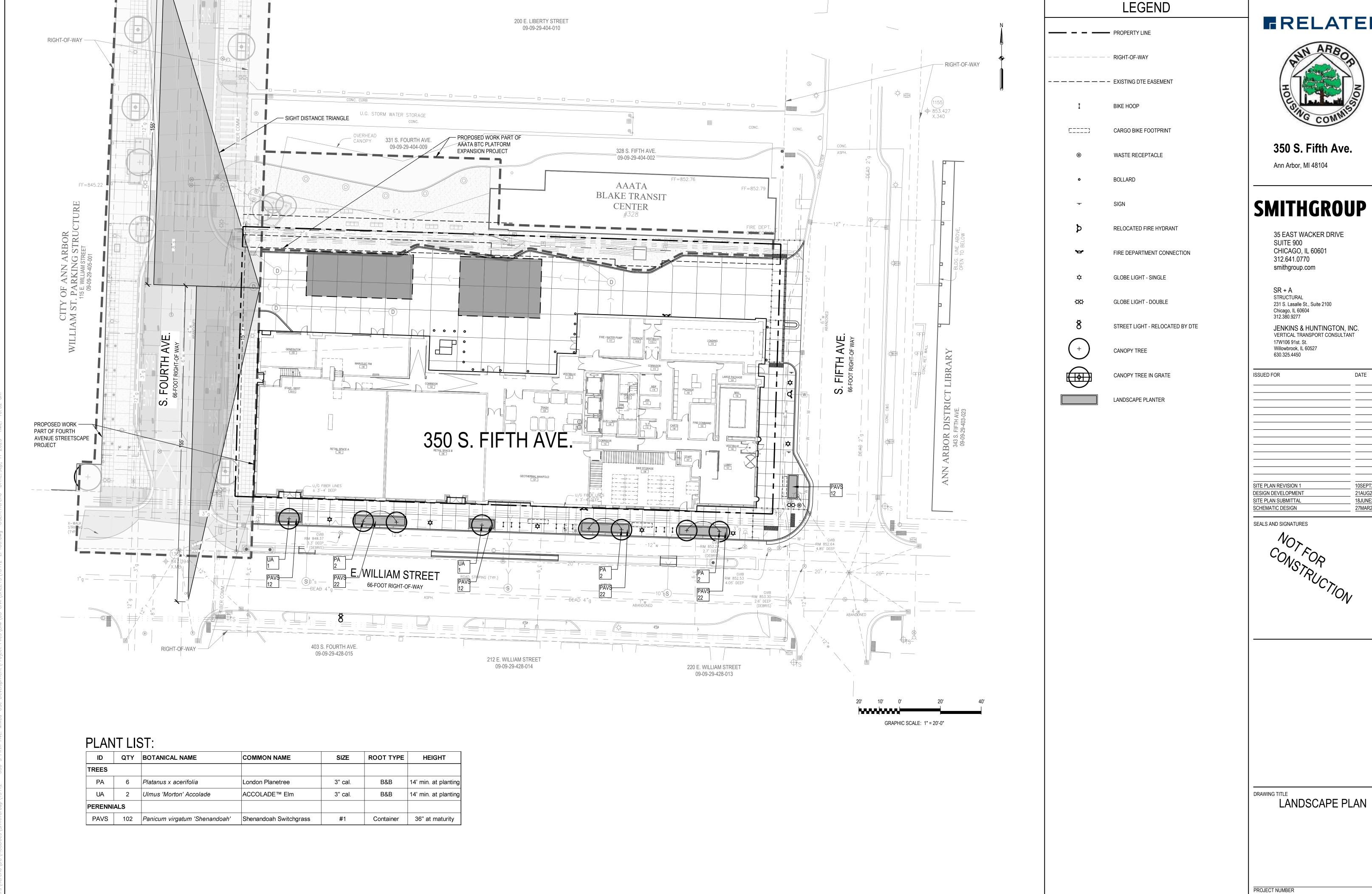
SEALS AND SIGNATURES



DRAWING TITLE

SITE DETAILS

15412 PROJECT NUMBER





## **SMITHGROUP**

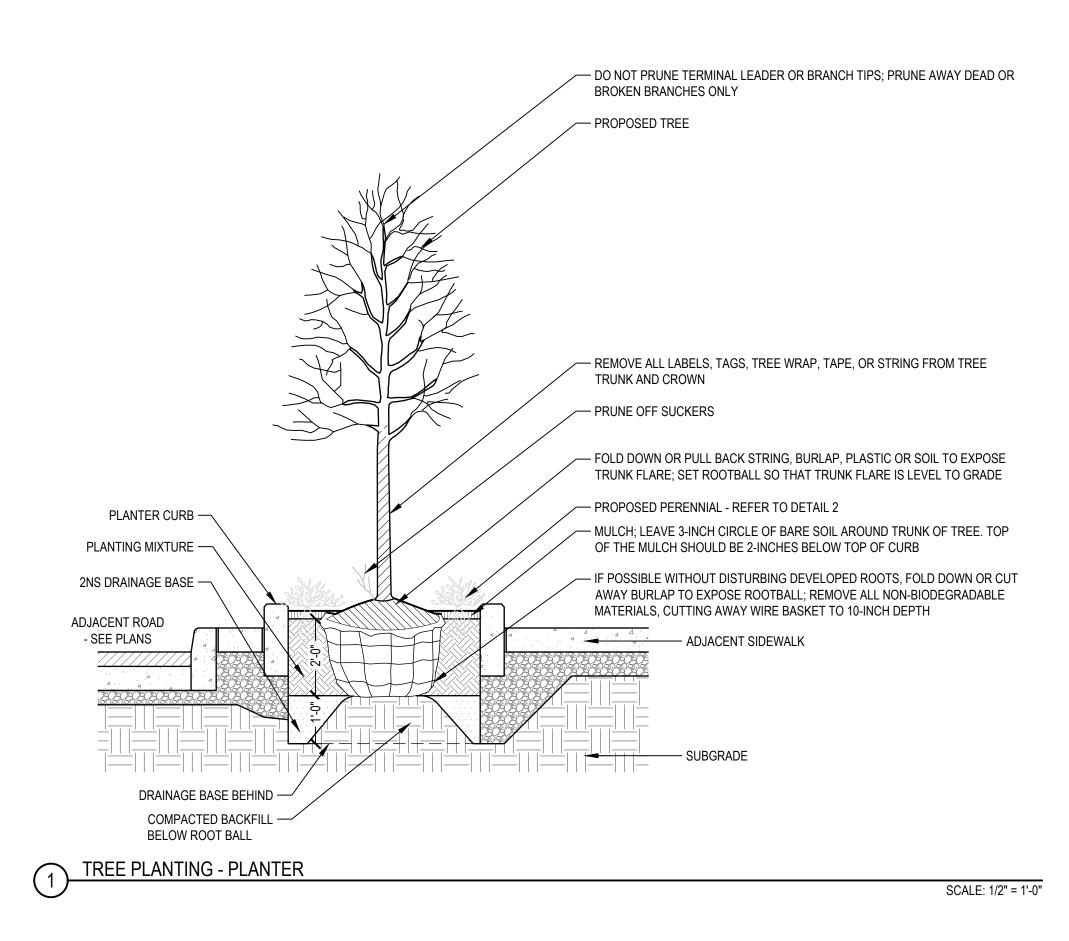
35 EAST WACKER DRIVE

JENKINS & HUNTINGTON, INC. VERTICAL TRANSPORT CONSULTANT

10SEP12025 21AUG2025 18JUNE2025



15412

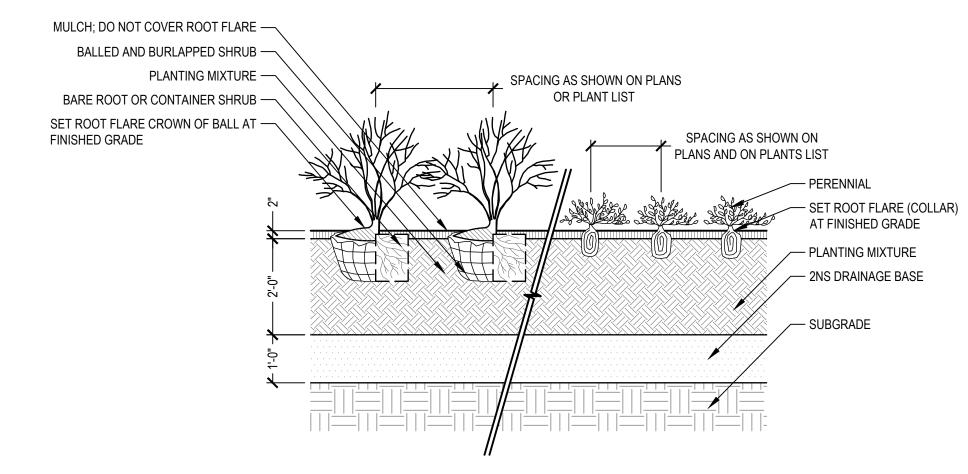


LANDSCAPE NOTES:

- 1. ALL MATERIAL SUPPLIED FOR AN INDIVIDUAL ITEM ON THE PLANT SCHEDULE SHALL MATCH SIZE, SHAPE, FORM, AND NOTED REQUIREMENTS. IN ADDITION THE PLANT MATERIAL SHALL CONFORM TO THE SPECIFICATIONS AND CITY OF ANN ARBOR STANDARDS. LANDSCAPE ARCHITECT WILL REVIEW PLANT MATERIAL AND RESERVES THE RIGHT TO REJECT ANY MATERIAL THAT DOES NOT MEET THE SPECIFICATIONS, PLANT SCHEDULE, OR DESIGN REQUIREMENTS OF THE PROJECT. PLANTS INSTALLED THAT DO NOT COMPLY TO BE IMMEDIATELY REMOVED AND REPLACED.
- 2. PLANT MATERIALS SIZES SHALL BE THE MINIMUM INDICATED ON THE PLANT SCHEDULE OR LARGER. INSTALLATION OF LARGER PLANTS AT NO ADDITIONAL COST TO OWNER TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING. ALL MEASUREMENTS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ANLA "STANDARDS FOR NURSERY
- 3. SPACE PLANT MATERIALS AS SHOWN ON PLANS AND INDICATED IN PLANT SCHEDULE. LANDSCAPE ARCHITECT SHALL REVIEW PLACEMENT OF PLANT MATERIAL PRIOR TO INSTALLATION, AND RESERVES THE RIGHT TO ADJUST LAYOUT TO ACCOMMODATE SITE CONDITIONS AND DESIGN INTENT AT NO ADDITIONAL COST. ALL PLANTINGS SHALL BE INSTALLED IN A LOGICAL SEQUENCE WITHIN THE SAME PLANTING TIME FRAME. IF THE PLANT MATERIAL IS INSTALLED WITHOUT PRIOR APPROVAL THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REQUEST LAYOUT ADJUSTMENTS AT NO ADDITIONAL COST.
- 4. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT PLANTS AND ENSURE HEALTH AND PLANT QUALITY DURING SHIPMENT, HANDLING, INSTALLATION, AND ESTABLISHMENT.
- 5. ALL LANDSCAPE BEDS WITH CONTAINER PLANTS SHALL RECEIVE A MIN. DEPTH OF 2 INCHES OF DOUBLE PROCESSED SHREDDED HARDWOOD BARK MULCH. KEEP MULCH 4 INCHES FROM TREE TRUNKS, AND SHRUB AND PERENNIAL CROWNS.
- 6. FINISH GRADES SHOWN ARE FINAL SURFACE GRADES AFTER COMPLETION OF ALL SURFACE IMPROVEMENTS AND PLACEMENT OF TOPSOIL AND PLANTING MIX. IN LANDSCAPE BEDS ADJACENT TO PAVEMENT THE FINISH GRADE OF THE SOIL TO BE SET 3 INCHES BELOW THE FINISHED GRADE OF THE PAVEMENT TO ACCOMMODATE 2 INCHES OF HARDWOOD BARK MULCH.
- 7. SPACE PLANT MATERIALS AS SHOWN ON PLANS AND INDICATED IN PLANT SCHEDULE.
- 8. SELECT DECIDUOUS TREES AS INDICATED ON THE PLANS SHALL BE MATCHED SPECIMEN TREES WITH SIMILAR FORMS, SIZES, AND BRANCHING PATTERNS.
- 9. REFER TO REMOVAL AND SOIL EROSION CONTROL PLANS FOR EROSION CONTROL MEASURES.
- 10. REFER TO REMOVAL AND SOIL EROSION CONTROL PLANS FOR TREE REMOVALS. CONTRACTOR TO PROVIDE AND MAINTAIN TREE PROTECTION FOR ALL EXISTING TREES TO REMAIN AS REQUIRED AND DIRECTED BY THE LANDSCAPE ARCHITECT. 11. LEGALLY DISPOSE OF DEBRIS ASSOCIATED WITH PLANTING OFF-SITE.
- 12. COMPACTED SUBGRADE SOILS SHALL BE SCARFIED TO A MINIMUM 12-INCH DEPTH PRIOR TO PLACEMENT OF PLANTING MEDIA IN LANDSCAPE BEDS. DO NOT SCARIFY SOILS
- UNDER ROOT BALLS OF PROPOSED TREES.
- 13. PLANTING MEDIA FOR LANDSCAPE BEDS SHALL CONSIST TWO PARTS PARTS APPROVED OFF-SITE TOPSOIL THOROUGHLY BLENDED WITH ONE PART COMPOST. 14. PRIOR TO OR DURING PLANTING, AMEND ALL PLANTING MEDIA BY INCORPORATING FERTILIZER AT RATES REQUIRED BY SOIL TEST REPORTS.

#### LANDSCAPE MAINTENANCE:

- 1. MAINTAIN ALL LANDSCAPE BEDS AND TREE GRATES WEED FREE.
- 2. COLLECT ALL LITTER AND DEBRIS FROM LANDSCAPE BEDS AND DISPOSE OFF-SITE.
- 3. IN EARLY SPRING, PRIOR TO THE START OF THE GROWING SEASON, CUT ALL ORNAMENTAL GRASSES FLUSH WITH THE GROUND AND REMOVE CUTTINGS FROM SITE. 4. HAND-WATER OR UTILIZE HORTICULTURAL TREE WATERING BAGS FOR PLANTED TREES THROUGHOUT THE TWO-YEAR WARRANTY PERIOD. WATER OR REPLENISH TREE
- WATERING BAGS REGULARLY SO THAT TREES RECEIVE 1 INCH OF WATER PER WEEK.
- 5. ALL DISEASED, DAMAGED OR DEAD MATERIALS SHOWN ON THE SITE PLAN AS PROPOSED PLANTINGS SHALL BE REPLACED BY THE END OF THE FOLLOWING GROWING SEASON AS A CONTINUING OBLIGATION FOR THE DURATION OF THE SITE PLAN.



SHRUB OR PERENNIAL PLANTING

SCALE: 1/2" = 1'-0"

#### **CANOPY LOSS FEE:**

Canopy Loss Fee:	\$0	16-inches of caliper gained)	
Proposed street trees (8) @ 3-inch caliper:	24	inches	
Total caliper of trees to be removed:	8	inches	
	2	inch	Hop-Hornbeam
	2	inch	Hop-Hornbeam
	2	inch	Kentucky Coffee Tree
Street trees to be removed:	2	inch	Kentucky Coffee Tree

#### LANDSCAPE REQUIREMENTS:

- 1. THE PROJECT DOES NOT INCLUDE A VEHICULAR USE AREA. INTERIOR LANDSCAPE ISLANDS, CONFLICTING LAND USE BUFFER, AND RIGHT-OF-WAY-SCREENINGS ARE NOT APPLICABLE.
- 2. STREET TREES ARE PROPOSED AS INDICATED BELOW:

STREET	FRONTAGE (LF)	EXISTING	REQUIREMENT (1 TREE / 45 LF)	PROPOSED	NOTES
E. William Street	264	4	6	8	
S. Fourth Ave.	132	0	1*	1	A minimum of one stree tree is required per the PUD supplemental regulations; the tree is provided as part of the Fourth Avenue Streetscape Project.
S. Fifth Ave.	132	0	1*	0	A street tree along S. Fifth Ave. will be in conflict with the existing water main and storm sewer line. Per discussion with the DDA, the required tree has been moved to E. William Street, and a landscape planter with perennials is proposed for S. Fifth Ave.

\*A minimum of one stree tree is required per the PUD supplemental regulations.

### RELATED



350 S. Fifth Ave.

Ann Arbor, MI 48104

## **SMITHGROUP**

35 EAST WACKER DRIVE SUITE 900 CHICAGO, IL 60601 312.641.0770 smithgroup.com

SR + A STRUCTURAL 231 S. Lasalle St., Suite 2100 Chicago, IL 60604 312.380.9277

JENKINS & HUNTINGTON, INC VERTICAL TRANSPORT CONSULTANT 17W106 91st. St. Willowbrook, IL 60527 630.325.4450

ISSUED FOR	DATE
SITE PLAN REVISION 1	10SEPT2025
DESIGN DEVELOPMENT	21AUG2025
SITE PLAN SUBMITTAL	18JUNE2025
SCHEMATIC DESIGN	27MAR2025

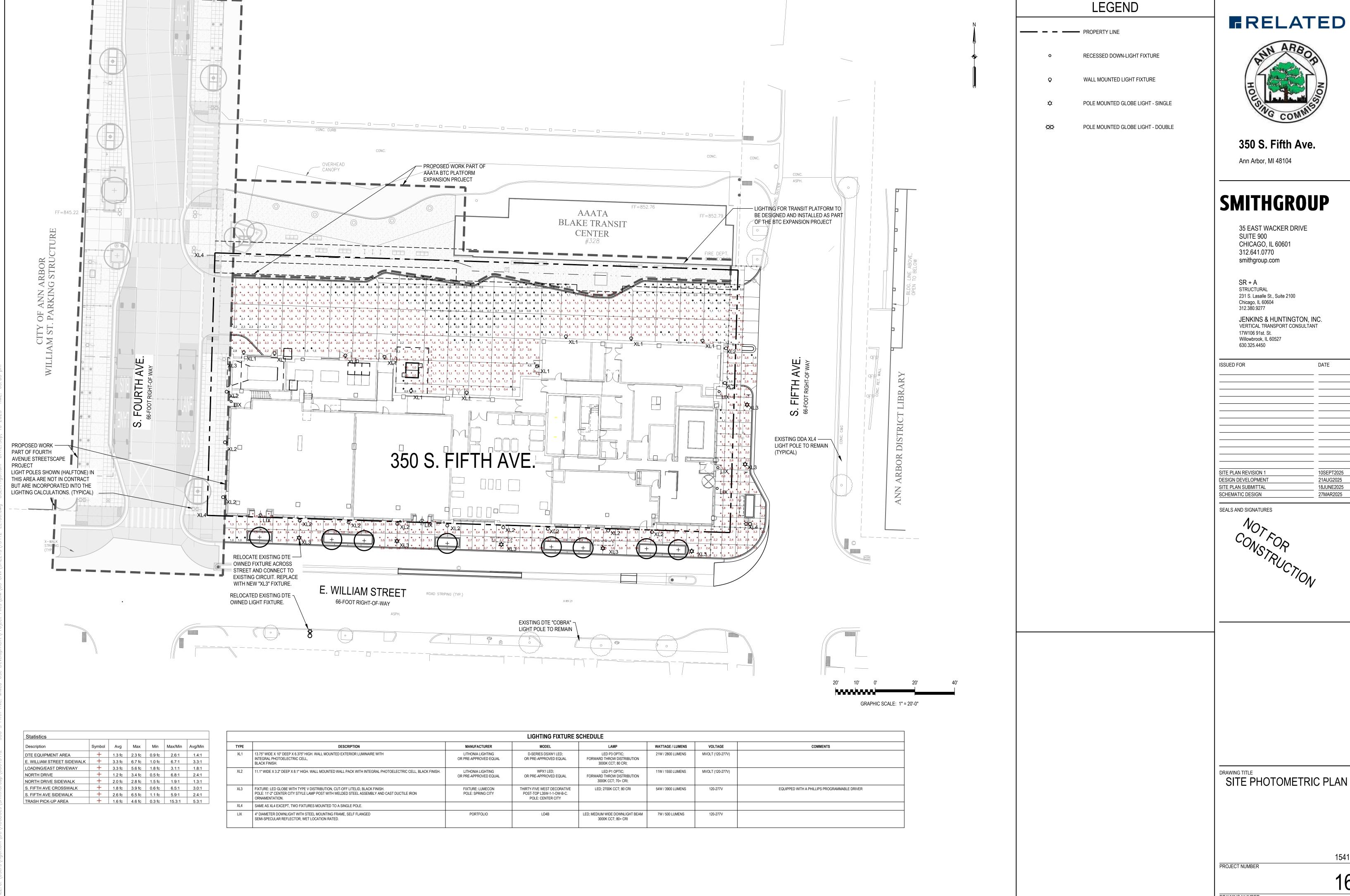
SEALS AND SIGNATURES

ICCLIED EOD



LANDSCAPE NOTES AND **DETAILS** 

15412 PROJECT NUMBER

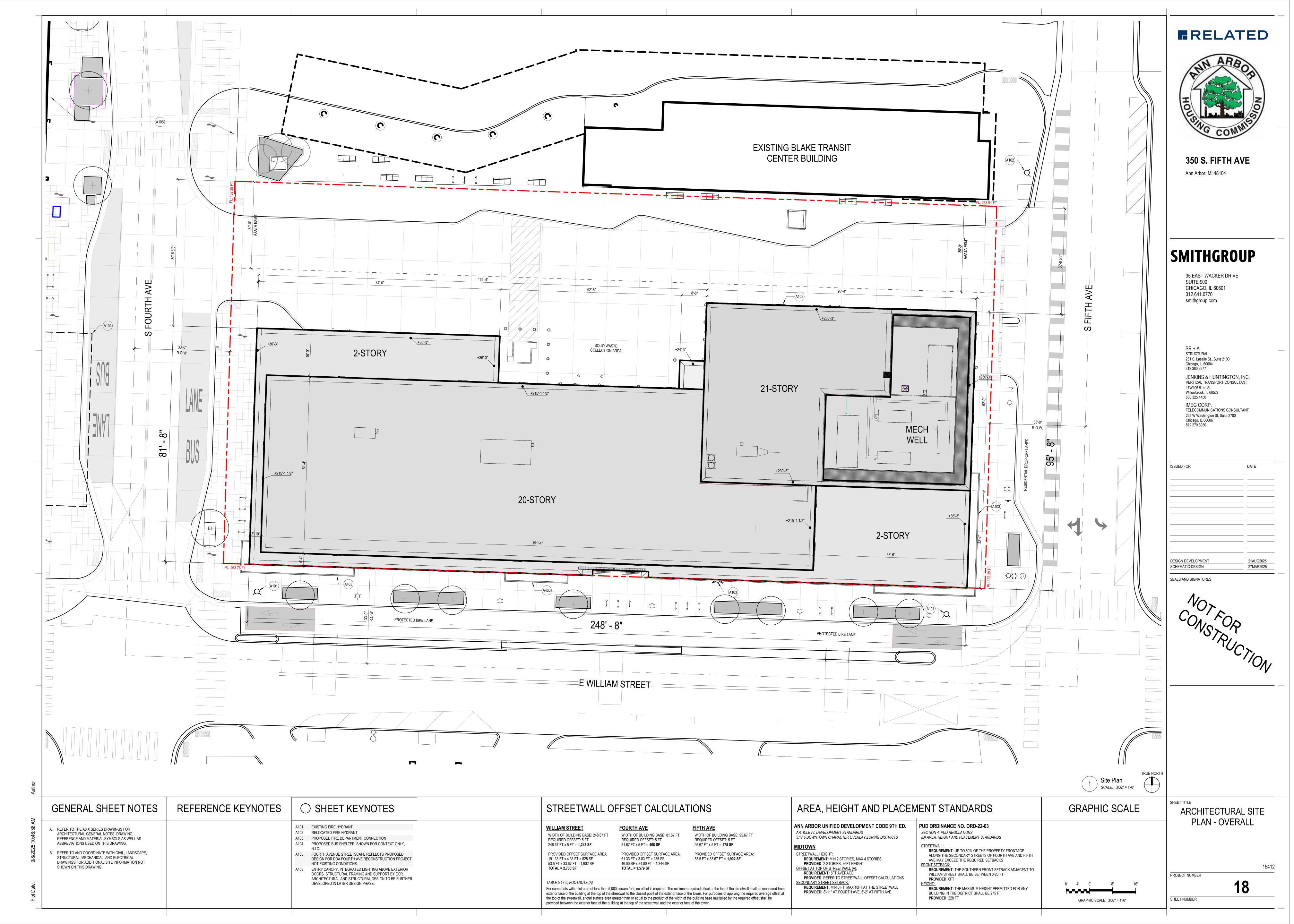


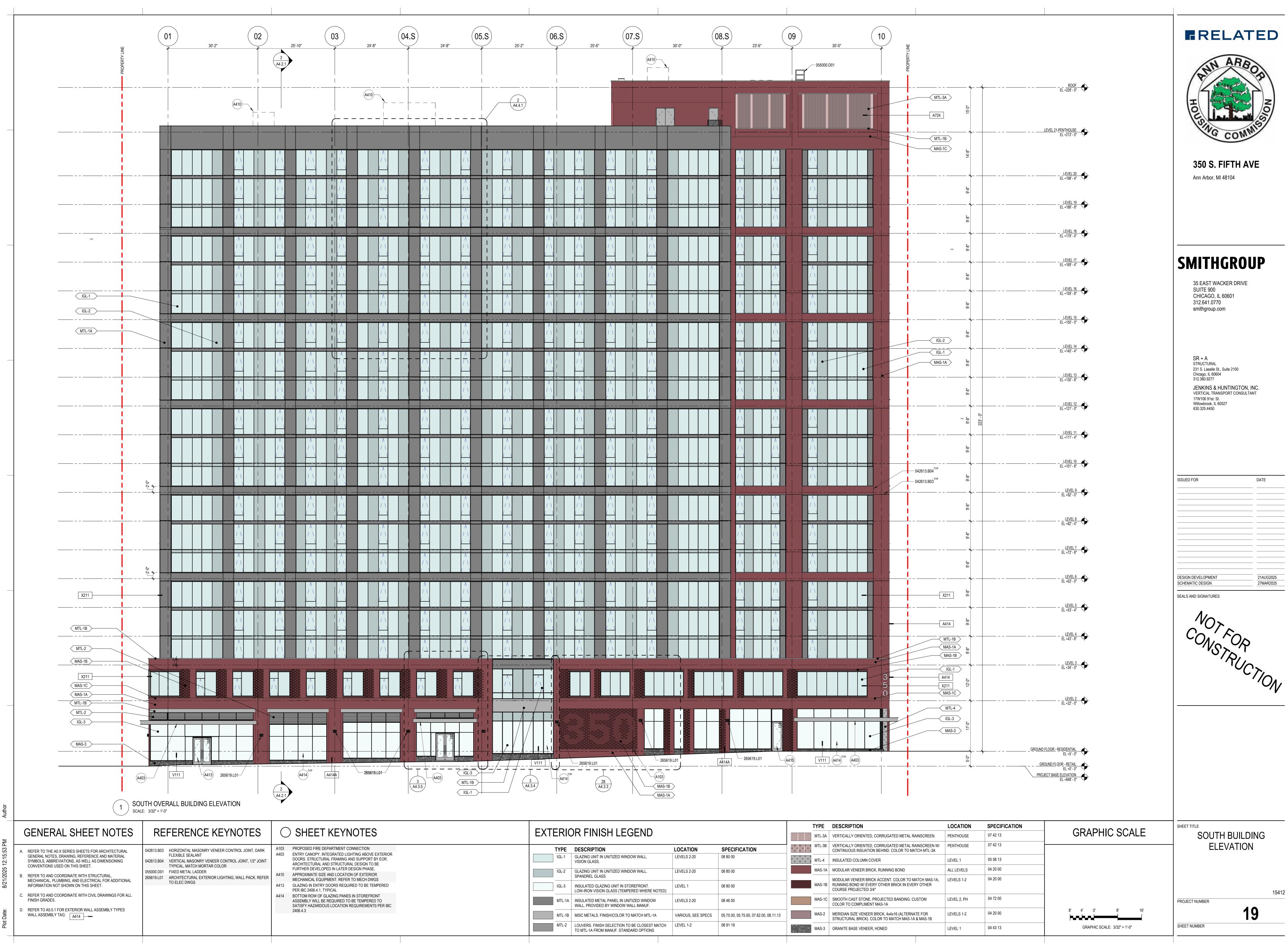


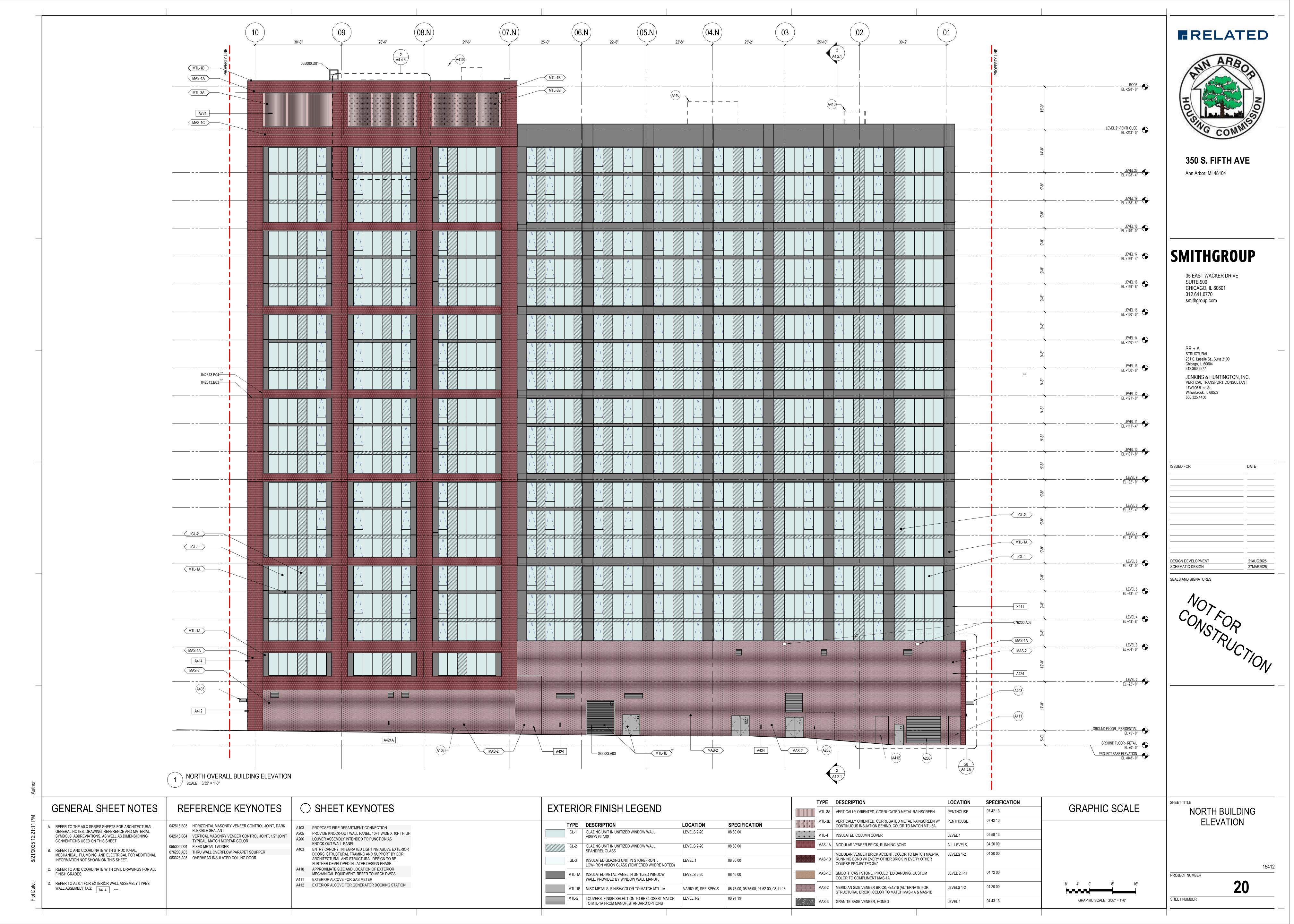
	-
TE PLAN REVISION 1	10SEPT2025
ESIGN DEVELOPMENT	21AUG2025
TE PLAN SUBMITTAL	18JUNE2025
CHEMATIC DESIGN	27MAR2025

15412



















3 PERSPECTIVE LOOKING NORTH ALONG FIFTH AVE SCALE: NOT TO SCALE



1 RESIDENTIAL LOBBY ENTRANCE AT FIFTH AVE AND WILLIAMS ST SCALE: NOT TO SCALE

_		_
GENERAL	SHEET	NOTE

A. PROJECT RENDERINGS FOR REFERENCE ONLY

RELATED

350 S. FIFTH AVE Ann Arbor, MI 48104

## **SMITHGROUP**

35 EAST WACKER DRIVE SUITE 900 CHICAGO, IL 60601 312.641.0770 smithgroup.com

SR + A STRUCTURAL 231 S. Lasalle St., Suite 2100 Chicago, IL 60604 312.380.9277

JENKINS & HUNTINGTON, INC. VERTICAL TRANSPORT CONSULTANT 17W106 91st. St. Willowbrook, IL 60527 630.325.4450

SCHEMATIC DESIGN SEALS AND SIGNATURES



/PLAN			NORTH

PROJECT RENDERINGS

PROJECT NUMBER

SHEET NUMBER