



Planning & Development Division
Planning & Economic Development Department

Room 160
 411 West First Street
 Duluth, Minnesota 55802

218-730-5580

planning@duluthmn.gov

File Number	PLSUP-2412-0029	Contact	Jason Mozol, jmozol@duluthmn.gov	
Type	Special Use Permit- Automobile Service	Planning Commission Date	May 13, 2025	
Deadline for Action	Application Date	April 16, 2025	60 Days	June 15, 2025
	Date Extension Letter Mailed	April 16, 2025	120 Days	August 14, 2025
Location of Subject	421 Anderson Rd			
Applicant	Take 5	Contact		
Agent	Sambatek	Contact	Joseph Bailey	
Legal Description	010-2589-00020			
Site Visit Date	April 21, 2025	Sign Notice Date	April 25, 2025	
Neighbor Letter Date	April 15, 2025	Number of Letters Sent	40	

Proposal

Applicant proposes to construct a 1,740 sq/ft oil change business.

Recommended Action: Approve with conditions.

	Current Zoning	Existing Land Use	Future Land Use Map Designation
Subject	MU-N	Undeveloped	Neighborhood Mixed Use
North	MU-C	Hotel/Clinic/Bank	Neighborhood Mixed Use/ Large Scale Commercial
South	R-1	Residential	Traditional Neighborhood/ Open Space
East	MU-N	Proposed Coffee Shop	Neighborhood Mixed Use
West	MU-N	Restaurant	Neighborhood Mixed Use

Summary of Code Requirements:

50-37.10 – Special Use Permits: Planning Commission shall approve the application or approve it with modifications, if it is determined that the application meets the following criteria:

1. The application is consistent with the Comprehensive Land Use Plan;
2. The application complies with all applicable provisions ... including any use-specific standards ..., and is consistent with any approved district plan for the area.
3. The Commission may deny any application that would result in a random pattern of development with little contiguity to existing or programmed development or would cause anticipated negative fiscal or environmental impacts.

50-20.3.C- Relevant use Specific Standards for Automobile Service in MU-N:

1. No displays or storage of merchandise, parts or refuse may be located closer than 20 feet from any public right-of-way.
2. A dense urban screen must be installed and maintained along all side and rear property lines abutting a residential or mixed use district.

3. All areas for outdoor storage of automobiles or light vehicles shall be screened from adjacent properties by a dense urban screen regardless of the use on the adjacent property.

Comprehensive Plan Governing Principle and/or Policies and Current History (if applicable):

Principle #8- Encourage mix of activities, uses, and densities. This development brings a commercial use to an area that is transitional between large scale retailers and residential neighborhoods.

Future Land Use: Neighborhood Mixed Use – A transitional use between more intensive commercial uses and purely residential neighborhoods. Includes conversions of houses to office or live-work spaces. May include limited commercial-only space oriented to neighborhood or specialty retail markets.

History: This area was re-platted in 2018 for future mixed-use development. The first two parcels in this plat are currently under development for a carwash and a fast-food restaurant. A proposal to divide a section of this property into separate parcels is also on this agenda under application PLSUB-2501-0001.

Review and Discussion Items:

Staff finds:

1. Applicant proposes to open an oil change business. The proposed business is classified by the UDC as an automobile and light vehicle repair and service use. The proposed building will have a net footprint of 1,740 sq/ft.
2. UDC Sec. 50-20.3.C (Use-specific Standards).
 - a. The rear property line will be screened by a vegetation and required fencing meeting the standard of a dense urban screen. Side property lines do not need to be screened since this is part of a single, coordinated development in one plat by a single developer intended to operate as one unit with vehicle and pedestrian traffic moving freely between sites.
 - b. There is not any proposed outdoor storage of vehicles.
3. UDC Sec. 50-24 (Parking and loading). The site is proposed to contain 6 off-street parking spaces, one identified as ADA accessible. The project must provide two bike parking spaces that are proposed to be located to the rear of the building.
4. UDC Sec. 50-25 (Landscaping and Tree Preservation). Landscaping responsibilities are divided between the overall site developer (Jigsaw LLC) and the applicant (Take 5). Previous development within the larger Jigsaw Subdivision has resulted in areas of non-compliant landscaping in the rear of the site and along the retaining wall in the front. Two separate landscape plans are attached that, in aggregate, meet minimum landscaping standards for street frontage landscaping, parking lot landscaping, buffering between land uses and tree preservation. The attached landscape plan proposed by Jigsaw LLC remedies the areas of non-compliance and Jigsaw LLC has provided financial security to the City to complete the work.
5. During a recent site visit, staff noted that the site has been poorly managed, (see attached photos), and resulted in trash blowing into the neighbor's yard and gaps where all native vegetation has been cleared. To adequately reduce negative impacts to neighboring properties, staff recommends that a 6' tall, opaque fence is built along the rear of the property in addition to the proposed vegetative screening.
6. UDC Sec. 50-26 (Screening, Walls and Fences). Trash and recycling containers will be screened by proposed fencing. If any exterior mechanicals are added, these will need to be screened as well. All oil changes will be conducted within the building and no additional auto service will occur on the site. No exterior storage of vehicles or supplies is proposed.
7. UDC Sec. 50-29 (Sustainability Standards) and UDC Sec. 50-30 (Building Design Standards). These sections do not apply because the gross floor area of the development does not exceed 10,000 sq/ft.
8. UDC Sec. 50-31 (Exterior Lighting). The applicant has submitted a photometric plan with light fixtures that are not fully code compliant. Lighting to the rear of the building exceeds the allowable maximum levels. A compliant photometric plan with light fixtures must be submitted to the Land Use Supervisor prior to building permit issuance.
9. As demonstrated in the governing principles above, this proposal is consistent with the goals of the comprehensive plan.
10. The proposed auto service use will not result in a random pattern of development and negative fiscal or environmental impacts are mitigated.
11. Staff spoke with one neighbor on the phone that expressed concern regarding the project and how adequate

screening will be provided.

12. No agency, or City comments were received.

Staff Recommendation:

Based on the above findings, Staff recommends that Planning Commission approve the Planning Review with the following conditions:




1. The project, as modified by the conditions summarized below, be limited, constructed, and maintained consistent with plans submitted with the application.
2. The auto service use may operate between 7am and 8pm.
3. In addition to the proposed vegetative screening, 6' tall, opaque fencing must be installed along the rear of the site.
4. Final, compliant exterior lighting and landscaping plans must be submitted to and approved by the Land Use Supervisor prior to a building permit being issued.
5. Any alterations to the approved plans that do not alter major elements of the plan may be approved by the Land Use Supervisor without further Planning Commission; however, no such administration approval shall constitute a variance from the provisions of Chapter 50.



PLSUP-2412-0029
PLSUP-2412-0030

Special Use Permits
 421 Anderson Rd

Legend

-  Zoning Boundaries
-  Road or Alley ROW
-  County Parcel Data

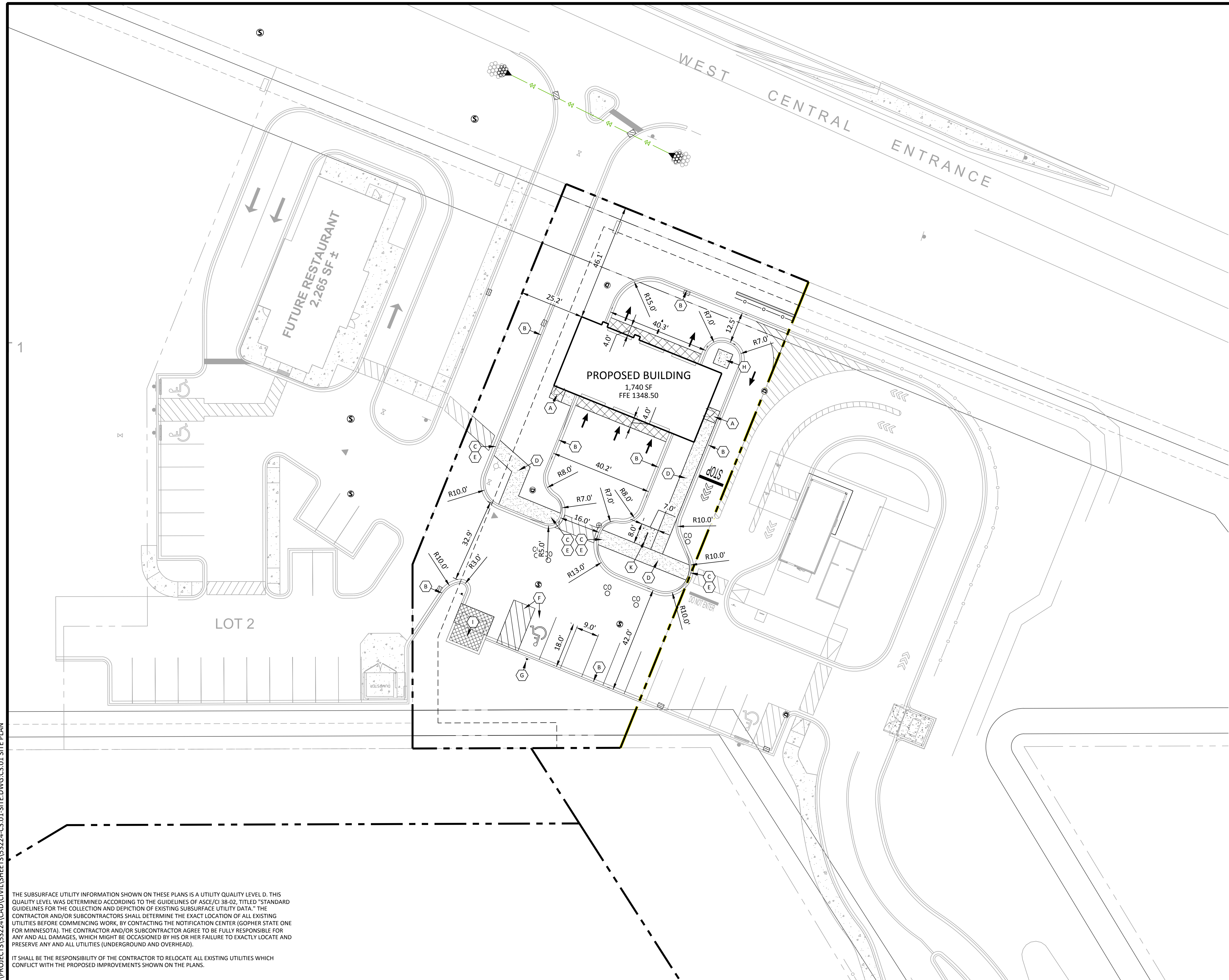


The City of Duluth has tried to ensure that the information contained in this map or electronic document is accurate. The City of Duluth makes no warranty or guarantee concerning the accuracy or reliability. This drawing/data is neither a legally recorded map nor a survey and is not intended to be used as one. The drawing/data is a compilation of records, information and data located in various City, County and State offices and other sources affecting the area shown and is to be used for reference purposes only. The City of Duluth shall not be liable for errors contained within this data provided or for any damages in connection with the use of this information contained within.

Aerial Imagery Captured 2019

Prepared by: City of Duluth Planning & Economic Development, March 6, 2025; Source: City of Duluth,

74.15 (LWS TECH) | JOSEPH BAILEY | 4/7/2025 3:45:32 PM | \\SAMBATEK\ES\PROJECTS\PROJECTS\53224-C3.01-SITE.DWG\C3.01-SITE.DWG\C3.01-SITE PLAN



LEGEND	
	PROPOSED BOUNDARY LINE
	EXISTING BOUNDARY LINE
	PROPOSED CONCRETE CURB
	EXISTING CONCRETE CURB
	PROPOSED EASEMENT LINE
	EXISTING EASEMENT LINE
	PROPOSED BUILDING LINE
	EXISTING BUILDING LINE
	PROPOSED RETAINING WALL
	EXISTING RETAINING WALL
	PROPOSED WETLAND
	EXISTING WETLAND
	PROPOSED TREE LINE
	EXISTING TREE LINE
	PROPOSED SAW CUT LINE
	EXISTING SAW CUT LINE
	PROPOSED SIGN
	EXISTING SIGN
	PROPOSED BOLLARD
	EXISTING BOLLARD
	PROPOSED PARKING STALL COUNT
	EXISTING PARKING STALL COUNT
	PROPOSED KEY NOTE
	EXISTING KEY NOTE
	PROPOSED LIGHT POLE (BY OTHERS)
	EXISTING LIGHT POLE (BY OTHERS)
	STANDARD DUTY ASPHALT PAVING
	HEAVY DUTY ASPHALT PAVING
	CONCRETE PAVING
	CONCRETE SIDEWALK
	PAVEMENT BY OTHERS (SEE ARCHITECTURAL PLANS)

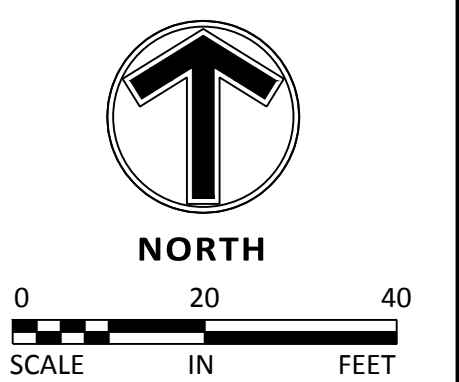
DEVELOPMENT SUMMARY		COMMERCIAL	
AREA		SETBACKS	
GROSS SITE AREA	000 SF 00.00 AC	FRONT YARD	10 FT
LESS OUTLOT A	000 SF 00.00 AC	REAR YARD	15 FT
LESS OUTLOT B	000 SF 00.00 AC	SIDE YARD	15 FT
LESS R-O-W	000 SF 00.00 AC		
NET SITE AREA	000 SF 00.00 AC	ZONING	
		EXISTING ZONING	MU-N
		PROPOSED ZONING	MU-N
PARKING SUMMARY		GREEN SPACE REQUIREMENTS	
STANDARD REQUIRED (3 SPACES/1000 SF)	000 STALLS	PROPOSED PERVIOUS	00 SF
ADA REQUIRED	00 STALLS	PROPOSED IMPERVIOUS	00 FT
STANDARD PROVIDED	000 STALLS		
ADA PROVIDED	00 STALLS		

- DEVELOPMENT NOTES**
- ALL DIMENSIONS ARE ROUNDED TO THE NEAREST TENTH FOOT.
 - ALL DIMENSIONS SHOWN ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL REVIEW PAVEMENT GRADIENT AND CONSTRUCT "GUTTER OUT" WHERE WATER DRAINS AWAY FROM CURB. ALL OTHER AREAS SHALL BE CONSTRUCTED AS "GUTTER IN" CURB. COORDINATE WITH GRADING CONTRACTOR.
 - ALL AREAS ARE ROUNDED TO THE NEAREST SQUARE FOOT.
 - ALL PARKING STALLS TO BE 9' IN WIDTH AND 18' IN LENGTH UNLESS OTHERWISE INDICATED.
 - CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF EXIT PORCHES, RAMPS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
 - LIGHT STANDARD LOCATIONS ARE FOR REFERENCE ONLY, SITE LIGHTING PLAN IS DESIGN BUILD BY CONTRACTOR. CONTRACTOR SHALL CONFIRM LIGHT STANDARD LOCATION WITH LIGHTING VENDOR.
 - ALL GRADIENT ON SIDEWALKS ALONG THE ADA ROUTE SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5% (1:20), EXCEPT AT CURB RAMPS (1:12), AND A MAXIMUM CROSS SLOPE OF 2.00% (1:50). MAXIMUM SLOPE IN ANY DIRECTION ON AN ADA PARKING STALL OR ACCESS AISLE SHALL BE IN 2.00% (1:50). CONTRACTOR SHALL REVIEW AND VERIFY THE GRADIENT IN THE FIELD ALONG THE ADA ROUTES PRIOR TO PLACING CONCRETE OR BITUMINOUS. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THERE IS A DISCREPANCY BETWEEN THE GRADIENT IN THE FIELD VERSUS THE DESIGN GRADIENT. COORDINATE ALL WORK WITH PAVING CONTRACTOR.
 - "NO PARKING" SIGNS SHALL BE PLACED ALONG ALL DRIVEWAYS AS REQUIRED BY CITY.
 - CONTRACTOR SHALL PROVIDE RECORD PLANS AS REQUIRED BY PERMITTING AGENCIES.
 - EXISTING SITE IS CURRENTLY UNDER CONSTRUCTION. SITE IS DESIGN TO MATCH INTO PROPOSED ELEVATIONS, UTILITIES, AND SITE PLAN PER JIGSAW DEVELOPMENT PLANS.

CIVIL 3D MODEL LIMITATIONS

SAMBATEK'S DELIVERABLE AND GOVERNING DOCUMENTS FOR CONSTRUCTION SHALL BE A HARD COPY AND/OR PDF PLAN SHEETS. IF A CIVIL 3D MODEL IS GENERATED IN THE PROCESS OF PREPARING THE PLAN SHEETS, IT IS AS A DESIGN TOOL ONLY AND NOT AS A SEPARATE DELIVERABLE. AT THE OWNER'S REQUEST, WE WILL RELEASE OUR CIVIL 3D MODEL FOR THE CONTRACTOR'S USE. HOWEVER, ITS USE IS AT THE CONTRACTOR'S RISK AND SHALL NOT BE USED FOR STAKING OF CURB, SIDEWALK, OR OTHER HARD SURFACE IMPROVEMENTS. IF A CIVIL 3D MODEL FOR STAKING HARD SURFACE IMPROVEMENTS IS REQUIRED, WE CAN PROVIDE A SUPPLEMENTAL AGREEMENT FOR REFINEMENT AND PREPARATION OF THE CIVIL 3D MODEL.

- KEY NOTES**
- A. BUILDING, STOOPS, STAIRS (SEE ARCHITECTURAL PLANS)
 - B. B-612 CONCRETE CURB AND GUTTER
 - C. FLAT CURB SECTION
 - D. CONCRETE SIDEWALK
 - E. ADA ACCESS LOCATION
 - F. ACCESSIBLE STALL STRIPING
 - G. ACCESSIBLE PARKING SIGN
 - H. TRANSFORMER
 - I. TRASH ENCLOSURE (SEE ARCHITECTURAL PLANS)
 - J. BOLLARD
 - K. BIKE RACK



THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF ASCE/CI 38-02, TITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, BY CONTACTING THE NOTIFICATION CENTER (GOPHER STATE ONE FOR MINNESOTA). THE CONTRACTOR AND/OR SUBCONTRACTOR AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MIGHT BE OCCASIONED BY HIS OR HER FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES (UNDERGROUND AND OVERHEAD).

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

NO	DATE	BY	CKD	APPR	COMMENT
	12/10/2024	EJC	JDB	JDB	SITE PLAN SUBMITTAL
	02/24/2025	EJC	JDB	JDB	SITE PLAN RESUBMITTAL
	04/08/2025	EJC	JDB	JDB	SITE PLAN RESUBMITTAL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Emily J. Castanias

Date: _____ License # 60741

PRELIMINARY
12/10/2024
DESIGN REVIEW
02/20/2025
PERMIT SUBMITTAL

DRAWN BY _____
DESIGNED BY _____
CHECKED BY _____
PROJECT NO. 53224

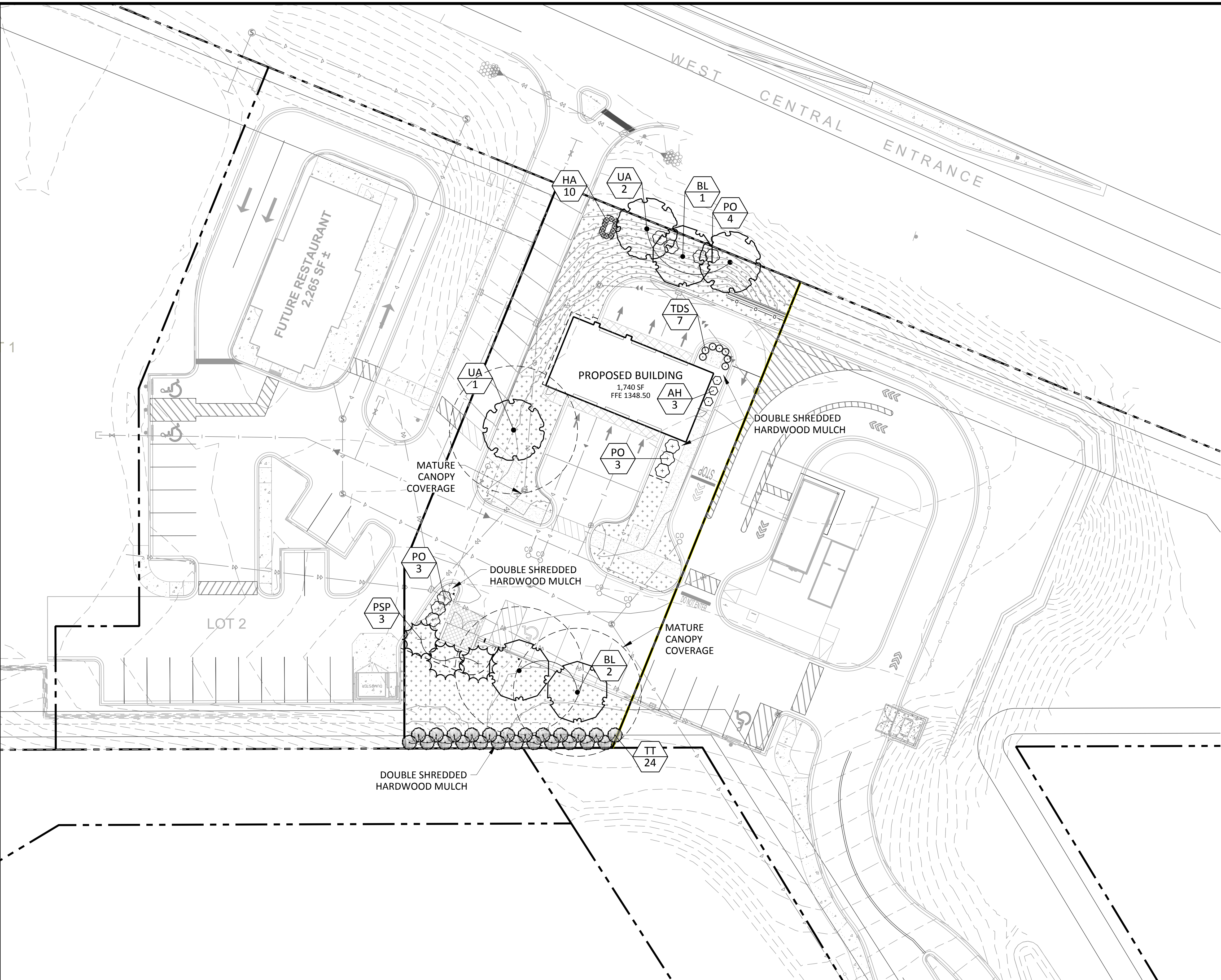


SITE PLAN

JARMAN DEVELOPMENT
TAKE 5 OIL CHAGE
PRELIMINARY
DULUTH, MN

SHEET
C3.01
3 OF 13
REV.

24.15 (LWS TECH) | JOSEPH BAILEY | 4/3/2025 12:24:45 PM
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LEGEND		PROPOSED	EXISTING	
PROPERTY LIMIT	---	---	---	STANDARD DUTY ASPHALT PAVING
CURB & GUTTER	---	---	---	CONCRETE PAVING
EASEMENT	---	---	---	CONCRETE SIDEWALK
BUILDING	---	---	---	
RETAINING WALL	---	---	---	
WETLAND LIMITS	---	---	---	
TREELINE	---	---	---	
LANDSCAPE EDGING	---	---	---	
STORM SEWER	---	---	---	
SANITARY SEWER	---	---	---	
FORCEMAIN (SAN.)	---	---	---	
WATERMAIN	---	---	---	
YARDDRAIN	---	---	---	
LIMITS OF DISTURBANCE	---	---	---	
TREE PROTECTION FENCE	---	---	---	
TREE TO BE REMOVED	---	---	---	
SIGN	---	---	---	
PIPE BOLLARD	---	---	---	
RIPRAP	---	---	---	

DULUTH LANDSCAPE CODE

SEE 'THE JIGSAW' LANDSCAPE PLAN L1.0 BY KIMLEY HORN ASSOCIATES, PROJECT #160734013, 02/25/23, FOR OVERALL LANDSCAPE CODE REQUIREMENTS AND CALCULATIONS.

USE SPECIFIC STANDARDS:
 EVERGREEN SCREENING BUFFER ALONG RESIDENTIAL PROPERTY BOUNDARY, 6' HT, 75% OPACITY
 PROPOSED : 8 THUJA OCCIDENTALIS, 6' HT

SITE CALCULATIONS:
INTERIOR LANDSCAPING REQUIREMENTS
 PARKING LOT AREA : 4,800 SF
REQUIRED: 1,440 SF / 4,800 SF = 30% TREE CANOPY COVERAGE
PROPOSED: 1,525 SF / 4,800 SF = 31.7% TREE CANOPY COVERAGE

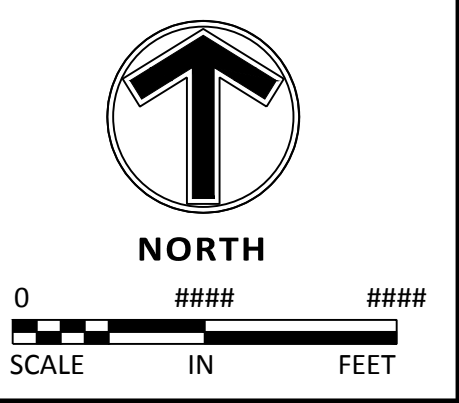
*BASED ON MATURE CANOPY SPREAD SIZE AREA OVERLAP WITH PARKING AREA.

STREET FRONTAGE : 100 LF
REQUIRED: 3 TREES, 4 LARGE SHRUBS
PROPOSED: 3 TREES, 4 LARGE SHRUBS

TREE PRESERVATION:
 SEE 'THE JIGSAW' LANDSCAPE PLAN NOTED ABOVE FOR FULL TREE PRESERVATION REQUIREMENTS AND CALCULATIONS,
 TAKE 5 SITE PROPOSED SPECIAL INTEREST TREES : 17 TREES, 42.5" TOTAL DIAMETER

PLANT SCHEDULE

PLANT SCHEDULE				
SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	QTY
TREES				
BL		Tilia americana 'Boulevard' / Boulevard Linden	B & B	2.5" Cal 3
UA		Ulmus americana 'Lewis & Clark' / Prairie Expedition* American Elm	B & B	2.5" Cal 3
CONIFERS				
PSP		Pinus strobus 'Patton's Silver Splendor' / Silver Splendor White Pine	B & B	3
TT		Thuja occidentalis 'Techy' / Techy Arborvitae	B & B	6" 24
SHRUBS				
AH		Hydrangea arborescens 'Annabelle' / Annabelle Smooth Hydrangea	5 gal	3
PO		Physocarpus opulifolius 'SMPTW' / 'Tiny Wine' Ninebark	5 gal	10
TDS		Thuja occidentalis 'Degroot's Spire' / Degroot's Spire Arborvitae	5 gal	7
PERENNIALS				
HA		Hemerocallis x 'Apricot Sparkles' / Apricot Sparkles Daylily	1 gal	10
GROUND COVERS				
TUR HIG		Turf Sod Highland Sod / Sod	Sod	



NO	DATE	BY	CKD	APPR	COMMENT
	12/10/2024	EJC	JDB	JDB	SITE PLAN SUBMITTAL
	02/24/2025	EJC	JDB	JDB	SITE PLAN RESUBMITTAL
	04/08/2025	EJC	JDB	JDB	SITE PLAN RESUBMITTAL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Landscape Architect under the laws of the State of Minnesota.

Print Name: John R. Workman

Date: _____ License # 59119

PRELIMINARY
 12/10/2024
 DESIGN REVIEW
 02/20/2025
 PERMIT SUBMITTAL
 CONSTRUCTION DOCUMENTS

DRAWN BY
 SIG
 DESIGNED BY
 SIG
 CHECKED BY
 JRW
 PROJECT NO.
 53224



LANDSCAPE PLAN
 JARMAN DEVELOPMENT
 TAKE 5 OIL CHAGE
 PRELIMINARY
 DULUTH, MN

SHEET
L1.01
 12 OF 13
 REV.

K:\TWC_LDEV\LAUNCH PROPERTIES\DULUTH-JIGSAW3 Design\CAD\PlanSheets\CITY LANDSCAPE PLAN-post construction.dwg April 15, 2025 - 4:37pm

This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Jigsaw Landscape Requirements (For Reference Only)

	Overall Site Required	Overall Site Provided	Developer (Launch) Provided	Mister Carwash Required	Mister Carwash Provided	Popeye's Required	Popeye's Provided	Take 5 Required	Take 5 Provided	7 Brew Required	7 Brew Provided
Street Frontage Trees & Shrubs	22 Total Street Trees 31 Total Shrubs 18 Trees=628 L.F. W. Central Entrance /35 26 Shrubs=628 L.F. W. Central Entrance /25 4 Trees=106 L.F. Anderson Rd. /35 5 Shrubs=106 L.F. Anderson Rd. /25	24 TREES 43 SHRUBS	14 TREES 18 SHRUBS	7 TREES=214 L.F./35 9 Shrubs=214 L.F./35	7 Trees 21 Shrubs	4 TREES=123 L.F./35 5 Shrubs=123 L.F./25	0	3 TREES= (103 L.F.-14 L.F. DRIVEWAY)/35 4 SHRUBS= (103 L.F.-14 L.F. DRIVEWAY)/25	3 TREES 4 SHRUBS	6 TREES= 189 L.F./35 8 SHRUBS= 189 L.F./25	0 TREES 0 SHRUBS
Interior Parking Lot Trees	53 Special Trees	49 Special Trees	20 Special Trees	5 TREES=1,372/300	6	7 TREES=2083/300	7		17	1 TREE=209/300	1
Replacement Trees					6		7 Special Trees				6

BASED ON PLANS DATED 8/11/21 BY WOOLPERT

BASED ON PLANS BY SAVBATEK DATED 12/10/2024

REQUIRED POPEYE'S INTERIOR PARKING LOT LANDSCAPE CALCULATIONS:

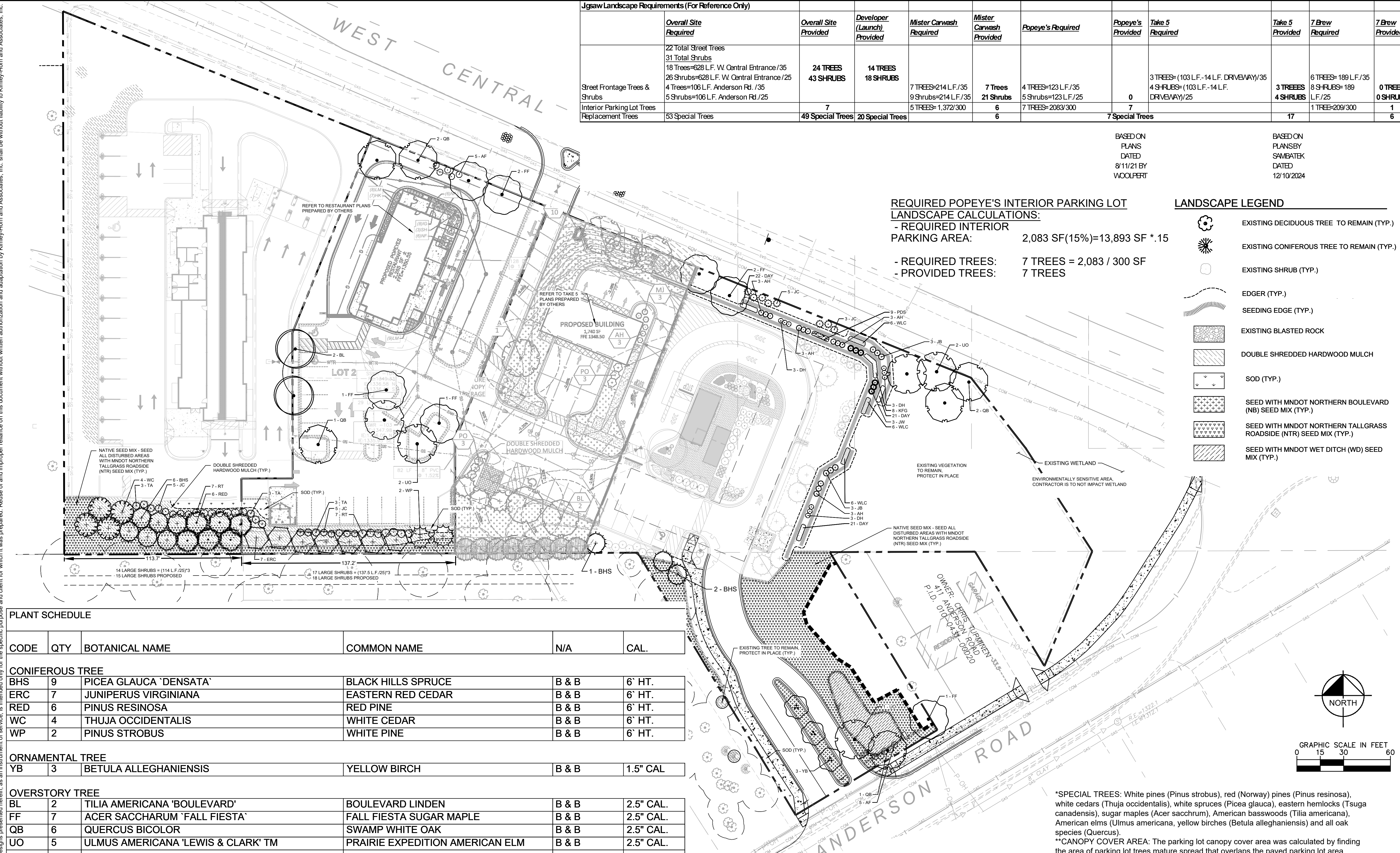
- REQUIRED INTERIOR PARKING AREA: 2,083 SF (15%)=13,893 SF * .15

- REQUIRED TREES: 7 TREES = 2,083 / 300 SF

- PROVIDED TREES: 7 TREES

LANDSCAPE LEGEND

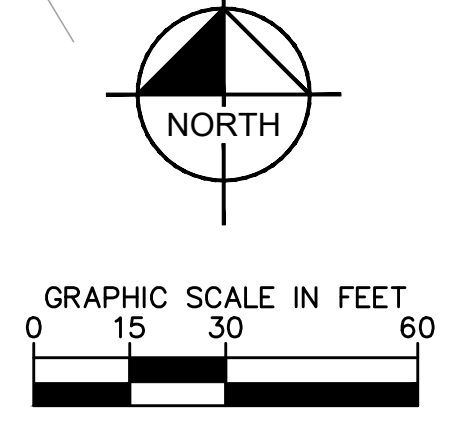
- EXISTING DECIDUOUS TREE TO REMAIN (TYP.)
- EXISTING CONIFEROUS TREE TO REMAIN (TYP.)
- EXISTING SHRUB (TYP.)
- EDGER (TYP.)
- SEEDING EDGE (TYP.)
- EXISTING BLASTED ROCK
- DOUBLE SHREDDED HARDWOOD MULCH
- SOD (TYP.)
- SEED WITH MNDOT NORTHERN BOULEVARD (NB) SEED MIX (TYP.)
- SEED WITH MNDOT NORTHERN TALLGRASS ROADSIDE (NTR) SEED MIX (TYP.)
- SEED WITH MNDOT WET DITCH (WD) SEED MIX (TYP.)



PLANT SCHEDULE

CODE	QTY	BOTANICAL NAME	COMMON NAME	N/A	CAL.
CONIFEROUS TREE					
BHS	9	PICEA GLAUCA 'DENSATA'	BLACK HILLS SPRUCE	B & B	6' HT.
ERC	7	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	B & B	6' HT.
RED	6	PINUS RESINOSA	RED PINE	B & B	6' HT.
WC	4	THUJA OCCIDENTALIS	WHITE CEDAR	B & B	6' HT.
WP	2	PINUS STROBUS	WHITE PINE	B & B	6' HT.
ORNAMENTAL TREE					
YB	3	BETULA ALLEGHANIENSIS	YELLOW BIRCH	B & B	1.5" CAL
OVERSTORY TREE					
BL	2	TILIA AMERICANA 'BOULEVARD'	BOULEVARD LINDEN	B & B	2.5" CAL.
FF	7	ACER SACCHARUM 'FALL FIESTA'	FALL FIESTA SUGAR MAPLE	B & B	2.5" CAL.
QB	6	QUERCUS BICOLOR	SWAMP WHITE OAK	B & B	2.5" CAL.
UO	5	ULMUS AMERICANA 'LEWIS & CLARK' TM	PRAIRIE EXPEDITION AMERICAN ELM	B & B	2.5" CAL.
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SPACING
SHRUBS					
AF	10	CORNUS SERICEA 'ARTIC FIRE'	ARTIC FIRE DOGWOOD	#5 CONT.	4' O.C.
AH	12	HYDRANGEA ARBORESCENS 'ANNABELLE'	ANNABELLE SMOOTH HYDRANGEA	#5 CONT.	3.5' O.C.
DH	9	DIERVILLA LONICERA	DWARF BUSH HONEYSUCKLE	#5 CONT.	3' O.C.
JB	6	JUNIPERUS HORIZONTALIS 'BLUE PRINCE'	BLUE PRINCE JUNIPER	#5 CONT.	4' O.C.
JC	18	JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	#5 CONT.	5' O.C.
JW	6	JUNIPERUS HORIZONTALIS 'WILTONII'	BLUE RUG JUNIPER	#5 CONT.	4' O.C.

RT	14	CORNUS SERICEA 'ISANTI'	ISANTI RED TWIG DOGWOOD	#5 CONT.	5' O.C.
TA	9	THUJA OCCIDENTALIS 'TECHNY'	TECHNY ARBORVITAE	#5 CONT.	5' O.C.
CODE	QTY	BOTANICAL NAME	COMMON NAME	CTNR.	SPACING
PERENNIALS					
DAY	64	HEMEROCALLIS X 'APRICOT SPARKLES'	APRICOT SPARKLES DAYLILY	#1 CONT.	15" O.C.
KFG	8	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	#1 CONT	30" O.C.
PDS	9	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	#1 CONT	24" O.C.
WLC	18	NEPETA X FAASSENII 'WALKERS LOW'	WALKERS LOW CATMINT	#1 CONT	30" O.C.



*SPECIAL TREES: White pines (Pinus strobus), red (Norway) pines (Pinus resinosa), white cedars (Thuja occidentalis), white spruces (Picea glauca), eastern hemlocks (Tsuga canadensis), sugar maples (Acer sacchrum), American basswoods (Tilia americana), American elms (Ulmus americana, yellow birches (Betula alleghaniensis) and all oak species (Quercus).

**CANOPY COVER AREA: The parking lot canopy cover area was calculated by finding the area of parking lot trees mature spread that overlaps the paved parking lot area.

THE JIGSAW
PREPARED FOR
LAUNCH
PROPERTIES

DULUTH

DATE: 02/25/2023

DATE: 02/25/2023

DESIGNED BY: RAH

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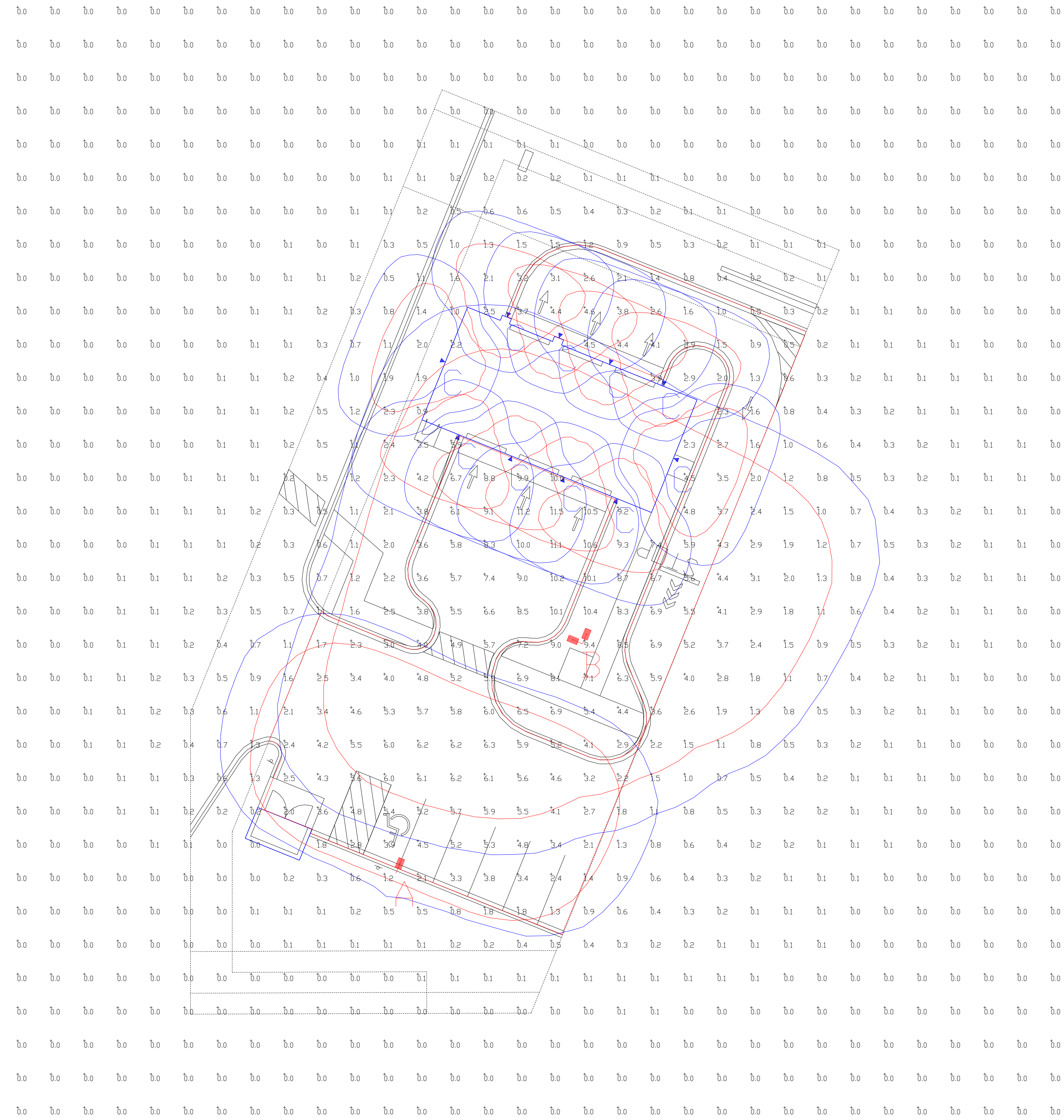
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PHOTOMETRIC EVALUATION
NOT FOR CONSTRUCTION

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

The IES no longer uses the Cutoff Classification System for LED fixtures. The IES classifies LED fixtures with the BUG rating which refers to the Backlight-Uplight-Glare system. An Uplight of "U0" most closely matches the old Full Cutoff rating.

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Grid Z
ALL CALCS AT GRADE	Illuminance	Fc	0.95	11.5	0.0	N.A.	N.A.	0
INSIDE CURB	Illuminance	Fc	4.86	11.5	0.5	9.72	23.00	0

Luminaire Schedule										
Symbol	Qty	Label	Arrangement	Description	Mounting Height	LLF	Arr. Lum. Lumens	Arr. Watts	BUG Rating	
	1	A	Single	MRS-LED-24L-SIL-FT-50-70CRI-IL-SINGLE	25'	0.950	14615	196	B1-U0-G2	
	1	B	2 @ 90	MRS-LED-24L-SIL-FT-50-70CRI-D90	25'	0.950	45162	392	B3-U0-G3	
	10	C	Single	XWS-LED-02L-SIL-FT-50-70CRI	10'	0.950	2017	13	B1-U0-G1	

Total Project Watts
Total Watts = 718



LIGHTING PROPOSAL LO-161771-1			
TAKE 5	DULUTH, MN		
BY/OK	DATE/1/13/25	REV/2/18/25	SHEET 1 OF 1
SCALE: 1"=16'		0	16

Dimensions of drawings that have been scaled or converted from PDF files or scanned /submitted images are approximate.



