



MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD JSP23-47

JSP23-47 MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD

Consideration of Preliminary Site Plan, Stormwater Management Plan, and Woodland Permit approval at the request of Michigan CAT for an addition of a paved outdoor storage area to the existing Michigan CAT site. The subject property totals 32.39 acres but the affected area is 5.29 acres and is part of an approved PRO. The subject property is located north of Ten Mile Road, on the east side of Novi Road. The approved PRO rezones the portion of the parcel from Light Industrial (I-1) to General Industrial (I-2). The project requires a woodland permit for 47 woodland replacement credits, with 15 replacement proposed to be planted onsite and a donation to the tree fund for the remaining 32 credits.

Required Action

Approve/Deny the Preliminary Site Plan, Stormwater Management Plan, and Woodland Permit.

REVIEW	RESULT	DATE	COMMENTS
Planning	Approval recommended	11-15-23	<ul style="list-style-type: none"> Items to be addressed by the applicant prior to Final Site Plan approval
Engineering	Approval recommended	11-9-23	<ul style="list-style-type: none"> Items to be addressed by the applicant prior to Final Site Plan approval
Landscaping	Approval recommended	10-26-23	<ul style="list-style-type: none"> Items to be addressed by the applicant prior to Final Site Plan approval
Woodland	Approval recommended	11-8-23	<ul style="list-style-type: none"> Items to be addressed by the applicant prior to Final Site Plan approval 47 woodland replacement credits are required. 15 replacement trees are proposed to be planted onsite. A donation to the tree fund will be made for the remaining 32 required credits
Fire	Approval recommended	11-6-23	<ul style="list-style-type: none"> Items to be addressed by the applicant prior to Final Site Plan approval

MOTION SHEET

Approval – Preliminary Site Plan

In the matter of Michigan CAT Pump and Shore Maintenance Yard, JSP23-47, motion to **approve** the Preliminary Site Plan based on and subject to the following:

- a. The findings of compliance with Ordinance standards in the staff and consultant review letters and the conditions and the items listed in those letters being addressed on the Final Site Plan; and
- b. *(additional conditions here if any)*

(This motion is made because the plan is otherwise in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)

– AND –

Approval – Woodland Permit

In the matter of Michigan CAT Pump and Shore Maintenance Yard, JSP23-47, motion to **approve** the Woodland Permit based on the following findings:

- a. Any proposed woodland replacement trees shall be placed in a Woodland Conservation Easement as indicated in the Woodland Protection Ordinance and the approved PRO;
- b. The findings of compliance with Ordinance standards in the staff and consultant review letters, the approved PRO, and the conditions and items listed in those letters being addressed on the Final Site Plan; and
- c. *(additional comments here if any)*

(This motion is made because the plan is otherwise in compliance with Chapter 37 of the Code of Ordinances and all other applicable provisions of the Ordinance.)

– AND –

Approval – Stormwater Management Plan

In the matter of Michigan CAT Pump and Shore Maintenance Yard, JSP23-47, motion to **approve** the Stormwater Management Plan based on and subject to the following:

- a. The findings of compliance with Ordinance standards in the staff and consultant review letters, and the conditions and items listed in those letters being addressed on the Final Site Plan; and
- b. *(additional conditions here if any)*

(This motion is made because the plan is otherwise in compliance with Chapter 11 of the Code of Ordinances and all other applicable provisions of the Ordinance.)

- OR -

Denial – Preliminary Site Plan

In the matter of Michigan CAT Pump and Shore Maintenance Yard, JSP23-47, motion to **deny** the Preliminary Site Plan... *(because the plan is not in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)*

- AND -

Denial – Woodland Permit

In the matter of Michigan CAT Pump and Shore Maintenance Yard, JSP23-47, motion to **deny** the Woodland Permit... *(because the plan is not in compliance with Chapter 37 of the Code of Ordinances and all other applicable provisions of the Ordinance.)*

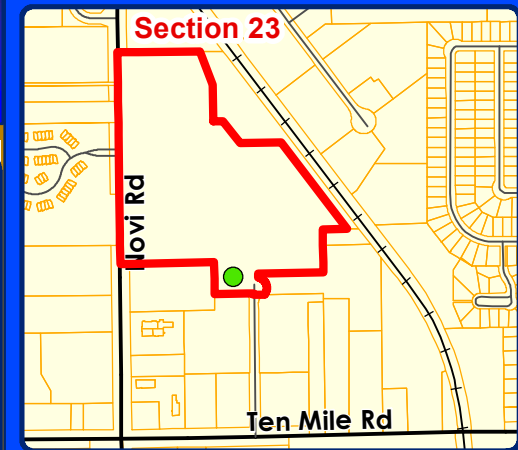
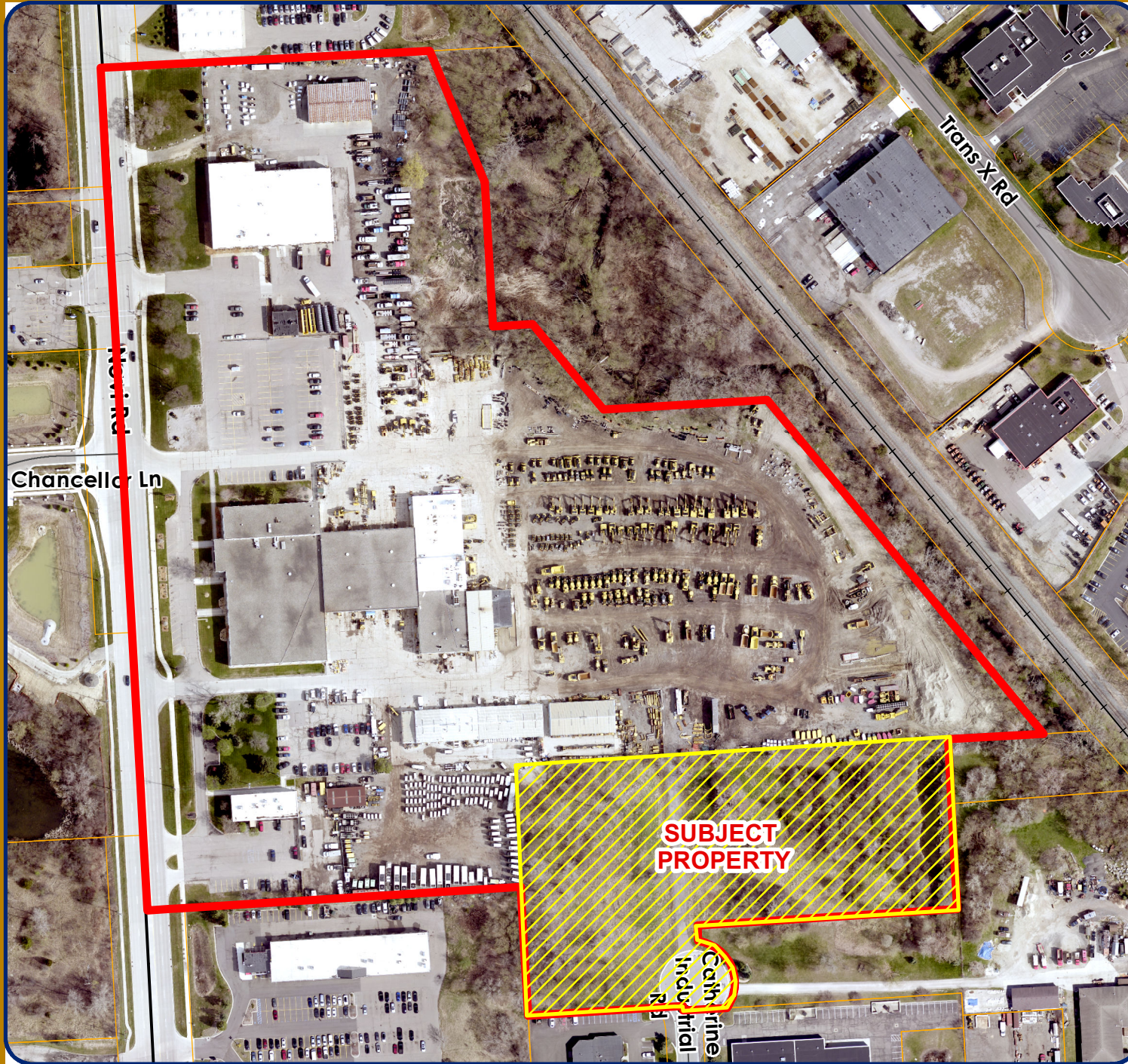
- AND -

Denial – Stormwater Management Plan


In the matter of Michigan CAT Pump and Shore Maintenance Yard, JSP23-47, motion to **deny** the Stormwater Management Plan... *(because the plan is not in compliance with Chapter 11 of the Code of Ordinances and all other applicable provisions of the Ordinance.)*


MAPS
Location
Zoning
Future Land Use
Natural Features

JSP23-47 MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD LOCATION



LEGEND


 Subject Property



City of Novi
Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

Map Author: James Hill
Date: 1/4/24
Project: JSP23-47 MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD

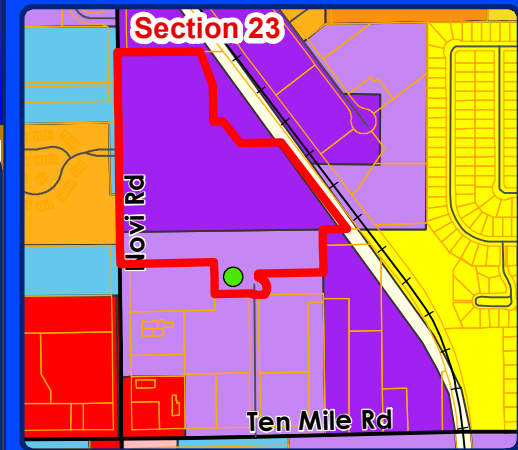
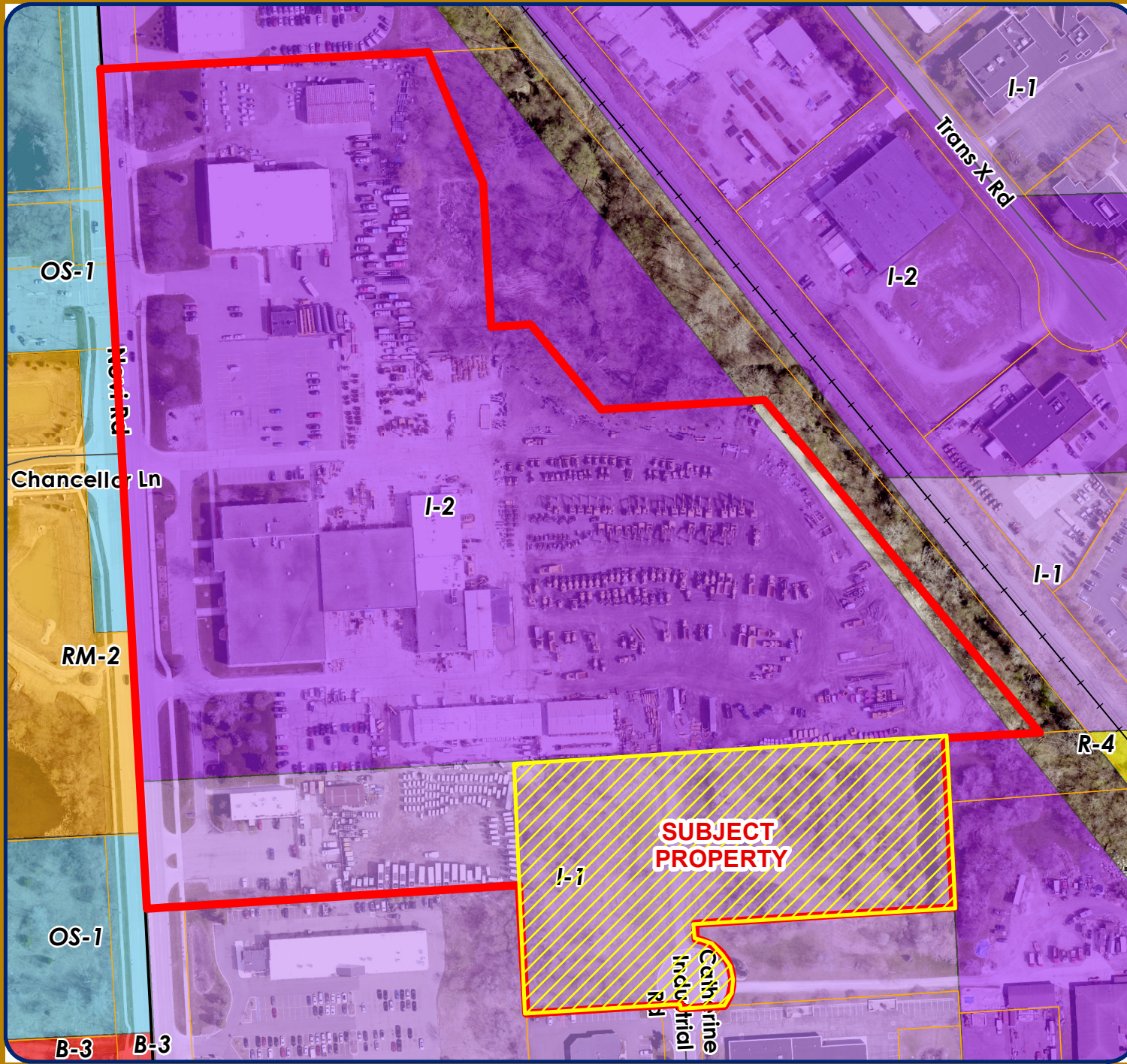
0 50 100 200 300 Feet
1 inch = 232 feet



MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

JSP23-47 MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD ZONING



LEGEND

- R-4: One-Family Residential District
- RM-1: Low-Density Multiple Family
- RM-2: High-Density Multiple Family
- B-1: Local Business District
- B-3: General Business District
- I-1: Light Industrial District
- I-2: General Industrial District
- OS-1: Office Service District
- TC-1: Town Center -1 District
- Subject Property

City of Novi
 Dept. of Community Development
 City Hall / Civic Center
 45175 W Ten Mile Rd
 Novi, MI 48375
cityofnovi.org

Map Author: James Hill
 Date: 1/4/24
 Project: JSP23-47 MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD

Feet
 0 50 100 200 300

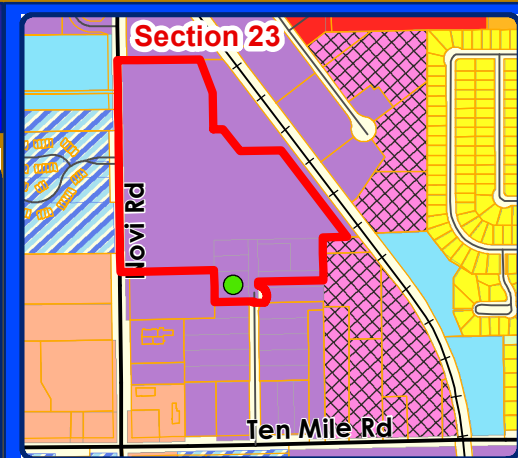
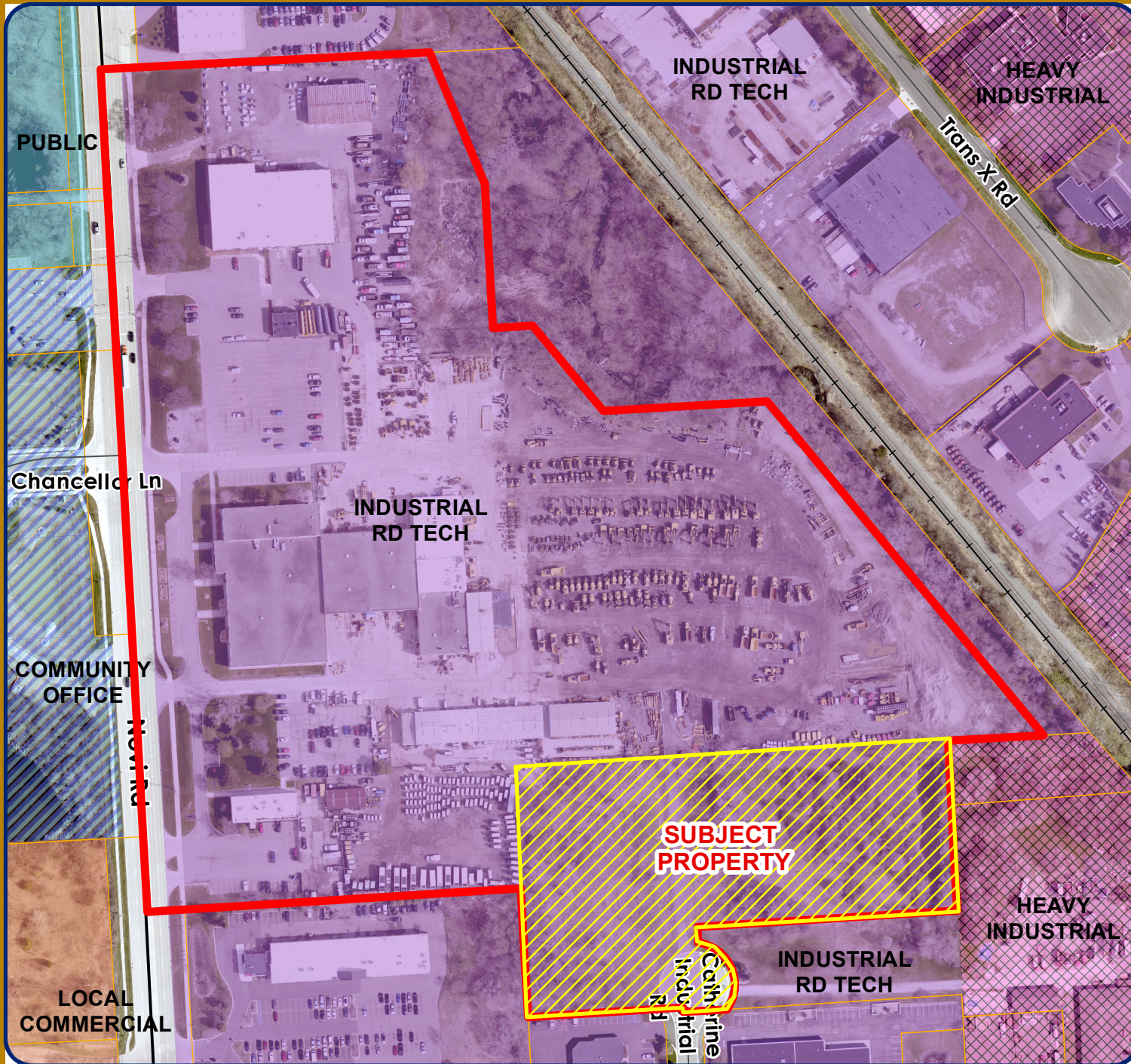
1 inch = 232 feet

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

JSP23-47 MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD

FUTURE LAND USE



LEGEND

- Single Family
- Multiple Family
- Community Office
- Industrial Research Development Technology
- Heavy Industrial
- Local Commercial
- TC Commercial
- Public
- Private Park
- Subject Property

City of Novi
 Dept. of Community Development
 City Hall / Civic Center
 45175 W Ten Mile Rd
 Novi, MI 48375
cityofnovi.org

Map Author: James Hill
 Date: 1/4/24
 Project: JSP23-47 MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD

Feet
 0 50 100 200 300

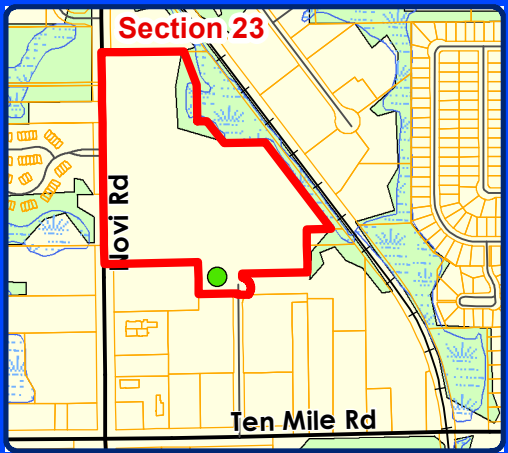
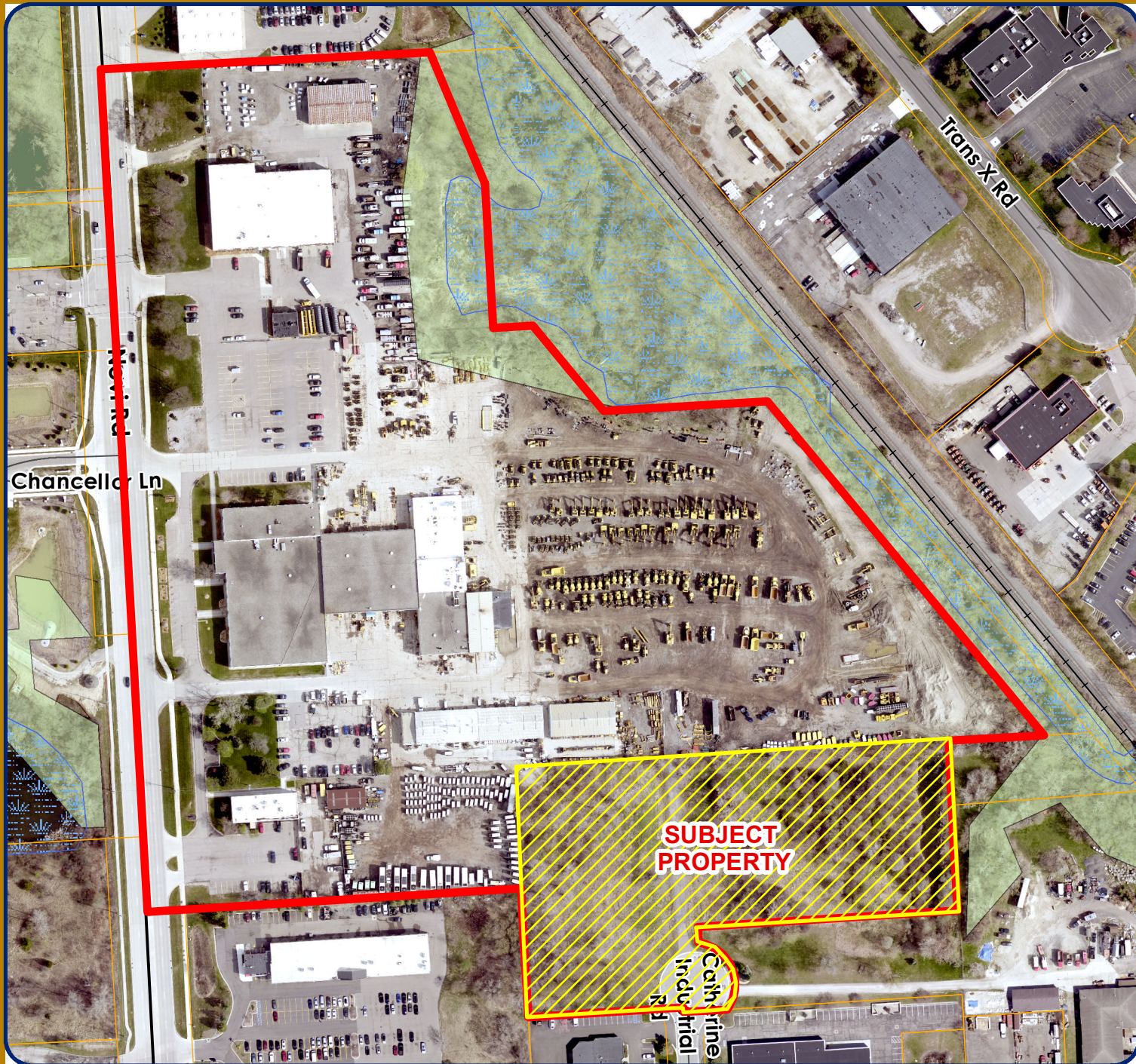
1 inch = 232 feet

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

JSP23-47 MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD

NATURAL FEATURES



- LEGEND**
- WETLANDS
 - WOODLANDS
 - Subject Property



City of Novi
Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

Map Author: James Hill
Date: 1/4/24
Project: JSP23-47 MICHIGAN CAT PUMP AND SHORE MAINTENANCE YARD



MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

PLANNING REVIEW



PLAN REVIEW CENTER REPORT

November 8, 2023

Planning Review

MI CAT Pump and Shore Maintenance Yard

JSP23-47

PETITIONER

Michigan CAT

REVIEW TYPE

Combined Preliminary and Final Site Plan

PROPERTY CHARACTERISTICS

Section	23	
Site Location	24800 Novi Rd; East of Novi Road, North of Catherine Industrial Road (Parcel 22-23-351-065)	
Site School District	Novi Community School District	
Site Zoning	I-1 Light Industrial District & I-2 General Industrial District	
Adjoining Zoning	North	I-2 General Industrial District
	East	I-1 Light Industrial, I-2 General Industrial District
	West	I-1 Light Industrial, OS-1 Office Service, RM-2 (w/PRO) High Density Multi Family with Planned Rezoning Overlay
	South	I-1 Light Industrial District
Current Site Use	Michigan CAT Campus	
Adjoining Uses	North	Enterprise Rent-A-Car, Gerber Collision & Glass
	East	Railroad Track, Industrial uses off Trans X Road
	West	US Post Office, Emerson Park, Classic Collision Repair
	South	Industrial/Office Uses off of Catherine Industrial Drive
Site Size	5.29 Acres of a site totaling 32.39 Acres	
Plan Date	August 24, 2023	

PROJECT SUMMARY

As part of the Michigan CAT PRO approved by the City Council on February 27, 2023 and executed on March 20, 2023, the applicant is submitting the combined preliminary and final site plan. The project is for a 5.29 acre portion of a 32.39 acre property located on the east side of Novi Road and north of Catherine Industrial Drive (Section 23). The approved PRO rezones the portion of the parcel from I-1 (Light Industrial) to I-2 (General Industrial). The applicant intends to develop the vacant site as an outdoor storage area, which is only permitted in the I-2 Zoning District as a principle permitted use.

PRO Conditions

Consistent with Section 503 of the Michigan Zoning Enabling Act (MZEA), the PRO option creates a "floating district" with a conceptual plan attached to the rezoning of a parcel. As part of the PRO, the underlying zoning is changed from I-1 to I-2, and the applicant enters into a PRO agreement with the City, whereby the City and the applicant agree to tentative approval of a conceptual plan for development of the site. If the development has not begun within two (2) years, the

rezoning and PRO concept plan expires, and the agreement becomes void. In this case the property would then revert to I-1 zoning.

RECOMMENDATION

Approval of the *Preliminary Site Plan is recommended, but Planning and Landscape do not recommend approval for the Final Site Plan until comments are addressed.* The plan mostly conforms to the requirements of the Zoning Ordinance and the PRO agreement, with a few matters to be addressed in a revised submittal. All reviewers, except Planning and Landscape, recommend approval of the Final Site Plan.

ORDINANCE REQUIREMENTS

The project was reviewed for compliance with the City of Novi Zoning Ordinance and any other applicable provisions of the ordinance, as noted. The plans show general compliance with ordinance requirements and the conditions listed in the PRO. Please address any items in **bold** with the next review.

1. Historical Marker & Bench: The applicant has shown a Motor City Historical Marker and bench near the existing flagpole. Landscaping has also been proposed. The plaza is now accessible via a pathway connecting to the sidewalk along Novi Road. **Please provide the dimensions and material of the proposed sidewalk. In addition, in the next submittal please submit a draft of the easement to the City for the plaza to be used by the public, as specified in the PRO agreement.**
2. Woodland Tree Removals: 47 required replacement credits, with 15 proposed to be planted onsite and the remaining 32 to be paid for via the tree fund. **Please submit a draft conservation or landscape easement for the trees planted onsite as specified in the PRO agreement.** Please note that the Woodland consultant review letter indicates that 51 replacement credits are required. Because the PRO agreement says 47 credits are required, then that will remain as the requirement.
3. Height of equipment: The approved PRO Agreement, when brought before the City Council during the second reading, included strikethrough edits to allow for the height of the equipment stored on-site to be a maximum of fifteen feet. The site notes on sheet C101 say the height of the tallest equipment stored is to be 10 feet. **Please clarify the maximum height of equipment to be stored on the site.**
4. Decorative Breakaway Emergency Gate: Per the PRO Agreement, the emergency gate is supposed to be "decorative." **Alternative gate designed should be presented in order to make it decorative in appearance per the PRO Agreement.**
5. Asphalt Millings (DCS): Asphalt millings are proposed in lieu of pavement. The following DCS Variances are included as part of the PRO Agreement:
 - a. Millings as a parking lot material, as pavement is required for parking lots.
 - b. Lack of curbs, as curb is required for parking lots.
 - c. Lack of parking lot striping, as striping is required for parking lots.
6. ROW Landscape Screening (Sec. 5.5.3.b.ii): An evergreen shrub wall is proposed along Catherine Industrial Drive instead of Canopy and Subcanopy trees, as approved in the PRO Agreement because of the better screening it provides.

7. Tree Diversity (LDM Sec. 4): Tree diversity does not meet the Landscape Design Manual to provide greater screening as approved in the PRO Agreement.

SUMMARY OF OTHER REVIEWS:

All reviewers recommend approval of the Preliminary Site Plan, with some reviewers needing their comments addressed during a revised Final Site Plan.

- a. Landscape Review (dated 10-26-23): Landscape recommends approval of the Preliminary Site Plan, with comments to be addressed during a revised Final Site Plan submittal. See detailed comments in the review letter for more information.
- b. Engineering Review (dated 11-9-23): Engineering recommends approval of the Combined Preliminary and Final Site Plan at this time. See detailed comments in the review letter for more information.
- c. Fire Review (dated 10-31-23): Fire recommends approval with conditions to be addressed with the next submittal.
- d. Woodland (dated 11-8-23): Woodland recommends approval with conditions to be addressed with the next submittal.
- e. Traffic (dated 11-10-23): Traffic recommends approval with conditions to be addressed in the next submittal.

NEXT STEP: PLANNING COMMISSION PUBLIC HEARING

The Preliminary Site Plan, Stormwater Management Plan, and Woodland Permit will need approval from the Planning Commission. Please provide the following via email one week prior to the meeting once this stage is reached:

1. Site Plan submittal in PDF format (maximum of 10MB). **NO CHANGES MADE (already have this)**
2. A response letter addressing ALL the comments from ALL the review letters and a request for waivers/variances as you see fit.

FUTURE STEP: REVISED FINAL SITE PLAN SUBMITTAL

The outstanding comments need to be addressed in a revised submittal. Please submit the following for Revised Final Site Plan review and approval after the Planning Commission meeting is held:

1. A site plan revision application
2. **Two** copies of **revised Final Site Plan**, folded, addressing all comments from this review (Only sheets that reflect changes made should be provided. Please do NOT include Standard Detail Sheets at this time.)
3. Response letter **addressing all comments and refer to sheet numbers where the change is reflected**
4. Drafts of legal documents (note that off-site easements need to be executed and any on-site easements need to be submitted in draft form before stamping sets will be stamped)

ELECTRONIC STAMPING SET SUBMITTAL AND RESPONSE LETTER

After receiving Final Site Plan approval, plans addressing the comments in all the staff and consultant review letters should be submitted electronically for informal review and approval prior to printing Stamping Sets. A letter from either the applicant or the applicant's representative addressing comments

in this and other review letters and associated charts is to be submitted with the electronic stamping set. This letter should address all comments in ALL letters and ALL charts and **refer to sheet numbers where the change is reflected.**

If required, drafts for all legal documents with a legal transmittal are to be submitted along with stamping sets.

STAMPING SET APPROVAL

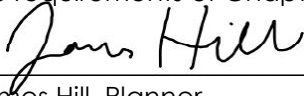
Stamping sets will be required for this project. After having received all the review letters from City staff the applicant should make the appropriate changes on the plans and submit **9 size 24" x 36" copies, folded, with signature and seal (may be electronic)** to the Community Development Department for final Stamping Set approval.

PRE-CONSTRUCTION MEETING

A Pre-Construction meeting is required for this project. Prior to the start of any work on the site, Pre-Construction (Pre-Con) meetings must be held with the applicant's contractor and the City's consulting engineer. Pre-Con meetings are generally held after Stamping Sets have been issued and prior to the start of any work on the site. There are a variety of requirements, fees and permits that must be issued before a Pre-Con can be scheduled, so it is suggested you contact Sarah Marchioni (248-347-0430 or smarchioni@cityofnovi.org) once the Final Site Plan has been approved to begin the Pre-Con checklist. If you have questions regarding the checklist or the Pre-Con itself, please contact Sarah.

CHAPTER 26.5

Chapter 26.5 of the City of Novi Code of Ordinances generally requires all projects be completed within two years of the issuance of any starting permit. Please contact Sarah Marchioni at 248-347-0430 for additional information on starting permits. The applicant should review and be aware of the requirements of Chapter 26.5 before starting construction.



James Hill, Planner



PLANNING REVIEW CHART: I-2 General Industrial District

Review Date: November 8, 2023
Review Type: Combined Preliminary and Final Site Plan Review
Project Name: MI CAT Pump and Shore Maintenance Yard
Location: 24800 Novi Road; 22-23-351-065
Plan Date: October 19, 2023
Prepared by: James Hill, Planner
Contact: E-mail: jhill@cityofnovi.org Phone: 248.347.0547

Items in **Bold** need to be addressed by the applicant with next submittal. Underlined items require Planning Commission approval. *Italicized* items are to be noted.

Item	Required Code	Proposed	Meets Code	Comments
Zoning and Use Requirements				
Master Plan <i>(Adopted July 26, 2017)</i>	Industrial Research Development Technology	I-2 General Industrial	Yes	<i>PRO approved by City Council on February 27, 2023</i>
Area Study	The site does not fall under any special category	NA		
Zoning <i>(Effective Jan. 8, 2015)</i>	I-2 General Industrial (PRO)	I-2 General Industrial		<i>PRO approved by City Council on February 27, 2023</i>
Uses Permitted <i>(Sec 3.1.19.B)</i>	Sec 3.1.12.B Principal Uses Permitted	Outdoor storage for construction equipment related to shore and pump operations	Yes	<i>PRO approved by City Council on February 27, 2023</i>
Conditions of the PRO				
20-foot wide access easement (G.iii.2)	Access aisle easement 20 feet in width across the length of the site	25-foot access aisle easement	Yes	
Motor City Historical Marker (G.iii.3)	Marker commemorating Michigan CAT's history within the City of Novi	5-foot tall Historical Marker with text and image	Yes	
Pedestrian plaza with bench and six-foot clear path (G.iii.4)	Plaza, bench, six-foot clear path with an easement to the City for public use	Landscaping around existing brick pavers and flagpole, new bench, and pathway from sidewalk along Novi Road – width and material not	Yes?	Please confirm the path is six feet wide and indicate the material. Will need draft of easement to the City in the next submittal.

Item	Required Code	Proposed	Meets Code	Comments
		indicated		
Decorative breakaway emergency access gate (G.iii.5)	Decorative breakaway emergency access gate near Catherine Industrial Drive	Breakaway gate shown and details provided	Yes	Alternative gate design is needed to make it more decorative in appearance as required in the PRO Agreement
Woodland Tree Removals (G.iii.6)	51 required replacement credits per the Ordinance, but PRO agreement says 47 required credits, with any credits planted on site protected via conservation or landscape easement	15 trees proposed to be planted onsite, with the remaining 32 credits to be paid for via the tree fund.	Yes?	Draft conservation or landscape easement for the trees planted onsite will need to be provided in the next submittal. Woodland permit will be required from Planning Commission
Existing drainageway preserved (G.iii.7)	Shall be preserved and reviewed as part of the Preliminary Site Plan	65-foot easement for surface drainage noted, in addition to surrounding existing vegetation to remain	Yes	
Site shall be properly screened (G.iii.8)	Screened as indicated in the concept plan	Screened as indicated in the concept plan	Yes	
Height, bulk, density and area limitations (Sec 3.1.12)				
Frontage on a Public Street (Sec. 5.12)	Frontage on a Public Street is required	Frontage on Novi Road, Catherine Drive	Yes	
Minimum Zoning Lot Size for each Unit in Ac (Sec 3.6.2.D)	Except where otherwise provided in this Ordinance, the minimum lot area and width, and the maximum percent of lot coverage shall be determined on the basis of off-street parking, loading, greenbelt screening, yard setback or usable open space		NA	
Minimum Zoning Lot Size for each Unit: Width in Feet			NA	
Open Space Area	----	---	---	---
Maximum % of Lot Area Covered (By All Buildings)	(Sec 3.6.2.D)	No buildings proposed in project area	Yes	
Building Height (Sec. 3.1.19.D)	60 ft	NA	Yes	

Item	Required Code	Proposed	Meets Code	Comments
Building Setbacks (Sec 3.1.19.D)				
Front (west)	100 ft	NA	NA	
Interior Side (north)	50 ft	NA	NA	
Interior Side (south)	50 ft	NA	NA	
Rear (east)	50 ft	NA	NA	
Parking Setback (Sec 3.1.19.D) & Refer to applicable notes in Sec 3.6.2				
Front (west)	20 ft (Sec. 3.6.2.E)	~600 ft	Yes	
Interior Side (north)	20 ft	~550 ft	Yes	
Interior Side (south)	20 ft	35 ft	Yes	
Rear (east)	20 ft	115 ft	Yes	
Outdoor Storage Yards (Sec. 4.55)				
Screening (Sec 4.55)	-totally obscured by a masonry wall, landscaped earth berm, chain link fence with heavy screen plantings, or combinations thereof -the height, location, and extent of which shall be in accordance to the requirements of Section 5.5 -whenever outdoor storage is the principal use of the parcel, no outdoor storage shall extend into the required front yard setback of the district and no wall, fence or other screening devices shall extend into the require front yard setback	- Complies, chain link fence & screen plantings	Yes	
		- Complies	Yes	
		- Accessory to the principal use of the entire site	NA	
Note To District Standards (Sec 3.6.2)				
Exterior Side Yard Abutting a Street (Sec 3.6.2.C)	All exterior side yards abutting a street shall be provided with a setback equal to front yard.	No side yards directly abut a street.	NA	
Off-Street Parking in Front Yard (Sec 3.6.2.E)	Off-street parking is allowed in front yard if - the site is a minimum 2 acre site, - does not extend into the minimum required front	No parking is proposed in front yard.	NA	

Item	Required Code	Proposed	Meets Code	Comments
	yard setback of the district, - cannot occupy more than 50% of the area between min. front yard setback & bldg. setback, - must be screened by brick wall or landscaped berm lighting compatible with surrounding neighborhood			
Off-Street Parking in Side and Rear Yards abutting residential (Sec 3.6.2.F)	Shall not occupy more than fifty (50) percent of the area of the side or rear yard abutting a residential district;	Side and rear yards do not abut residential.	NA	
Wetland/Watercourse Setback (Sec 3.6.2.M)	Off-street parking shall be setback no less than one-hundred (100) feet from the residential district.	No wetlands present	Yes	
Setback from Residential District (Sec 3.6.2.H)	I-1 and I-2 districts, five (5) feet of horizontal setback for each foot of building height, or one-hundred (100) feet, whichever is greater.	The property does not abut residential.	NA	
Wetland/Watercourse Setback (Sec 3.6.2.M)	A setback of 25ft from wetlands and from high watermark course shall be maintained	25-foot high water setback shown	Yes	
Additional Height (Sec 3.6.2.O)	Additional height(s) for selected building(s) is allowed based on conditions listed in Sec 3.6.2.O	No building proposed	NA	
Parking setback screening (Sec 3.6.2.P)	Required parking setback area shall be landscaped per Section 5.5.3.	Complies	Yes	See Landscape Review.
Parking, Loading, and Dumpster Requirements				
Number of Parking Spaces Industrial Establishments (Sec.5.2.12.E)	1 for each 700 square feet of usable floor area or 5 + 1 for each 1.5 employees in the largest working shift, whichever is greater.	No parking spaces indicated and no increase in usable floor area.	Yes	
Parking Space Dimensions and Maneuvering Lanes (Sec. 5.3.2)	- 90° Parking: 9 ft. x 19 ft. - 24 ft. two way drives - 9 ft. x 17 ft. parking spaces allowed along 7 ft. wide interior sidewalks as long as detail indicates a 4" curb		NA	Existing

Item	Required Code	Proposed	Meets Code	Comments
	at these locations and along landscaping			
Parking stall located adjacent to a parking lot entrance (public or private) (Sec. 5.3.13)	- shall not be located closer than twenty-five (25) feet from the street right-of-way (ROW) line, street easement or sidewalk, whichever is closer		NA	Existing
End Islands (Sec. 5.3.12)	- End Islands with landscaping and raised curbs are required at the end of all parking bays that abut traffic circulation aisles. - The end islands shall generally be at least 8 feet wide, have an outside radius of 15 feet, and be constructed 3' shorter than the adjacent parking stall as illustrated in the Zoning Ordinance		NA	
Barrier Free Spaces Barrier Free Code	To be determined if additional building area is proposed.		NA	
Barrier Free Space Dimensions Barrier Free Code	- 8' wide with an 8' wide access aisle for van accessible spaces - 8' wide with a 5' wide access aisle for regular accessible spaces		NA	
Barrier Free Signs Barrier Free Code	One sign for each accessible parking space.		NA	
Minimum number of Bicycle Parking (Sec. 5.16.1)	None required		NA	
Bicycle Parking General requirements (Sec. 5.16)	- No farther than 120 ft. from the entrance being served - When 4 or more spaces are required for a building with multiple entrances, the spaces shall be provided in multiple locations - Spaces to be paved and the bike rack shall be inverted "U" design - Shall be accessible via 6 ft. paved sidewalk		NA	

Item	Required Code	Proposed	Meets Code	Comments
Bicycle Parking Lot layout (Sec 5.16.6)	Parking space width: 6 ft. One tier width: 10 ft. Two tier width: 16 ft. Maneuvering lane width: 4 ft. Parking space depth: 2 ft. single, 2 ½ ft. double		NA	
Loading Spaces (Sec. 5.4.3)	- Loading area in the rear yard - Loading area in interior side yard if it is adjacent to I, EXPO or EXO district	70' x 100' loading area proposed (7,000 sf)	Yes	
Accessory Structures				
Dumpster (Sec 4.19.2.F)	- Located in rear yard or interior side yard in case of double frontage - Attached to the building or - No closer than 10 ft. from building if not attached - Not located in parking setback - If no setback, then it cannot be any closer than 10 ft, from property line. - Away from Barrier free Spaces	No dumpster proposed.	NA	
Dumpster Enclosure (Sec. 21-145. (c))	- Screened from public view - A wall or fence 1 ft. higher than height of refuse bin - And no less than 5 ft. on three sides - Posts or bumpers to protect the screening - Hard surface pad. - Screening Materials: Masonry, wood or evergreen shrubbery		NA	
Roof top equipment and wall mounted utility equipment (Sec. 4.19.2.E.ii)	All roof top equipment must be screened and all wall mounted utility equipment must be enclosed and integrated into the design and color of the building		NA	
Roof top appurtenances screening	Roof top appurtenances shall be screened in accordance with applicable facade regulations, and shall not be visible from any street, road or adjacent		NA	

Item	Required Code	Proposed	Meets Code	Comments
	property.			
Transformer/ Generator	Provide location of any proposed transformers/ generators etc.	Not shown		
I-2 District Required Conditions (Sec. 3.15)				
Building Setback Reductions (Sec. 3.15.1.A)	On sites located within planned industrial park > 40 acres, and is enclosed/screened, building setbacks may be reduced: Front: 50 feet Side: 30 feet Rear: 30 feet	Part of Industrial Park.	NA	<i>Industrial Park is not 40+ acres</i>
Landscape Screening Adjacent to I-2 District (Sec. 3.15.1.B)	Screening required between individual sites may be modified adjacent to other I-2 land: 3' landscape berm 5' high masonry or poured concrete with brick texture 5' high decorative fence of treated lumber, cedar or redwood		NA	<i>I-2 zoning to north and east</i>
Screening of Outdoor Storage (Sec. 3.15.2.A)	Outdoor storage of any equipment or material shall not extend to a greater height than the on-site obscuring screen (if within 40-acre+ industrial park, screening may be satisfied by perimeter screening of entire park)	Equipment height extends beyond the on-site obscuring screening, but plantings provide additional screening.	Yes	<i>Proposed fence is 8 feet tall, and the height of the tallest equipment is 15 feet. Adequate screening is provided with proposed plantings.</i>
Loading Zone Screening (Sec. 3.15.2.B)	When any loading/unloading area shall be visible from any residential or commercial district, or road or street, it shall be effectively screened from view	Loading area proposed, fully screened from the roadway	Yes	
Permitted Uses Adjacent to Residential (Sec. 3.15.2.C.)	Where adjacent to residential district, berm height 10 feet minimum		NA	Not adjacent to Residential
Sidewalks and Pathways				

Item	Required Code	Proposed	Meets Code	Comments
ARTICLE XI. OFF-ROAD NON-MOTORIZED FACILITIES (Sec. 11-256. Requirement. (c) & Sub. Ord. Sec. 4.05)	<ul style="list-style-type: none"> - New streets, sidewalks required on both sides. - Arterials and collectors: 6 feet or 8 feet wide as designated by the "Bicycle and Pedestrian Plan," - industrial service streets: no sidewalk - local streets and private roadways: five (5) feet 	None, no sidewalk required	Yes	
Pedestrian Connectivity	<ul style="list-style-type: none"> - Whether the traffic circulation features within the site and parking areas are designed to assure safety and convenience of both vehicular and pedestrian traffic both within the site and in relation to access streets - Building exits must be connected to sidewalk system or parking lot. 	Path provided connecting the Historical Marker and plaza to the sidewalk along Novi Road	Yes	Please provide details of the sidewalk to the plaza
Other Requirements				
Exterior lighting (Sec. 5.7)	Photometric plan and exterior lighting details needed at time of Final Site Plan submittal	A lighting plan is not provided		<i>No exterior lighting is proposed for this project.</i>
Design and Construction Standards Manual	Land description, Sidwell number (metes and bounds for acreage parcel, lot number(s), Liber, and page for subdivisions).	Provided		
General layout and dimension of proposed physical improvements	Location of all existing and proposed buildings, proposed building heights, building layouts, (floor area in square feet), location of proposed parking and parking layout, streets and drives, and indicate square footage of pavement area (indicate public or private).	Provided	Yes	
Economic Impact Information	<ul style="list-style-type: none"> - Total cost of the proposed building & site improvements - Number of anticipated 	<ul style="list-style-type: none"> -Estimate provided - 28 temporary construction jobs, net loss of 1 	Yes	

Item	Required Code	Proposed	Meets Code	Comments
	jobs created (during construction & after building is occupied, if known).	employee		
Development and Street Names	Development and street names must be approved by the Street Naming Committee before Preliminary Site Plan approval	Name approval for project not required at this time	NA	
Development/ Business Sign	Signage if proposed requires a permit. Can be considered during site plan review process or independently.	None shown	NA	<u>For sign permit information contact Maureen Underhill 248-735-5602.</u>
Lighting and Photometric Plan (Sec. 5.7)				
Intent (Sec. 5.7.1)	Establish appropriate minimum levels, prevent unnecessary glare, reduce spillover onto adjacent properties & reduce unnecessary transmission of light into the night sky	Not provided		<i>No exterior lighting is proposed for this project.</i>
NOTES:				
<ol style="list-style-type: none"> 1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards. 2. The section of the applicable ordinance or standard is indicated in parenthesis. Please refer to those sections in Article 3, 4, and 5 of the zoning ordinance for further details. 3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Division with future submittals. 				

ENGINEERING REVIEW



PLAN REVIEW CENTER REPORT

11/9/2023

Engineering Review

MI CAT Pump and Shore Maintenance Yard
JSP23-0047

APPLICANT

Bergmann Associate

REVIEW TYPE

Combined Preliminary and Final Site Plan

PROPERTY CHARACTERISTICS

- Site Location: North end of Catherine Industrial Road (north side of Ten Mile Road between Novi Road and Meadowbrook Road)
- Site Size: 5.3 acres accessory use parcel, as part of a 32.4 acre parcel
- Plan Date: 8/24/2023
- Design Engineer: Bergmann Architect Engineers Planners

PROJECT SUMMARY

- Proposed use of approximately 3.7 acres as outdoor heavy equipment and materials storage.
- No permanent buildings or designated parking are proposed.
- No changes to the water service are proposed.
- No changes to sanitary service are proposed.
- Other than directing surface runoff to the existing basin on the east end of the parcel, no changes to storm water collection are proposed, currently.

RECOMMENDATION

Approval of the Preliminary/Final Site Plan is recommended, with items to be addressed at Electronic Stamping Set submittal.

Comments:

The Preliminary/Final Site Plan meets the general requirements of [Chapter 11 of the City of Novi Code of Ordinances](#), the Storm Water Management Ordinance, and the [Engineering Design Manual](#) with the following exceptions, which can be addressed at Stamping Set submittal:

General

1. Label/call out the proposed bollards around the existing hydrant on sheet C110 (already noted on sheet C101).
2. **Only at the time of the printed Stamping Set submittal**, provide the City's standard detail sheets for paving (2 sheets). The most updated details can be found on the City's website under [Engineering Standards and Construction Details](#).
3. Provide a traffic control sign table listing the quantities of each **permanent** sign type proposed for the development.
4. We cannot confirm the easements shown on the plan have been recorded. Please clarify and add the Liber and Page.
5. The plans show Munro Creek, however it is the Walled Lake Branch of the Middle Rouge. Revise the plans accordingly.
6. On the soil erosion plan sheet C140, silt fence should be installed beyond the area of disturbance, and the silt fence should be extended to include the riprap area.
7. Confirm the required rim adjustments required, and revise as appropriate. Multiple locations propose a 0.02' adjustment, and one location did not appear to match the elevation of the proposed grades.

Storm Water Management Plan

8. The Storm Water Management Plan (SWMP) for this development shall be designed in accordance with the Storm Water Ordinance and Chapter 5 of the [Engineering Design Manual](#).
9. Should the site ever be paved, the required detention volume will then need to be recalculated, and a revised SWMP will be required.
10. Several items regarding the existing basin outlet structure and its outlet to the Rouge River will need to be addressed on the plans:
 - a. The existing basin outlet structure appears to be clogged/sedimented and must be cleaned.
 - b. Show the existing grading from the outlet structure to the Rouge River on the plans (this was previously shown on the topographic survey from Warner Cantrell).

Paving & Grading

11. Provide a construction materials table on the paving plan listing the quantity and material type for the millings cross section being proposed.
12. The plans shall show the hydrant and gate well adjustments as appropriate.
13. A12 inch depth of millings is noted on plan. However, also provide a detail showing the cross section, including soil preparation/compaction, gradation of millings, and any other applicable information.
14. Per MDOT Special Provision for Crushed Concrete, the use of crushed concrete is prohibited on the project within 100 feet of any water course (stream, river, county drain, etc.) and lake, regardless of the application of

location of the water course or lake relative to the project limits. Add note to use 21AA crushed limestone base for any pavement within 100 feet of a water course.

Soil Erosion and Sediment Control

15. A SESC permit is required. During the site plan review process, please submit a SESC permit application under separate cover. The application can be found on the City's website at [SESC permit application](#).

Agreements

16. A License Agreement will be required for the proposed fence within any utility easements. A plan view and cross-section shall be included with the agreement showing the relationship between the fence foundation and the existing/proposed utility.

The following must be submitted with the electronic Stamping Set:

17. A letter from either the applicant or the applicant's engineer must be submitted with the Stamping Set highlighting the changes made to the plans addressing each of the comments listed above and indicating the revised sheets involved. **Additionally, a statement must be provided stating that all changes to the plan have been discussed in the applicant's response letter.**

The following must be submitted with the Stamping Set:

(Please note that all documents must be submitted together as a package with the Stamping Set submittal with a [legal review transmittal form](#). Partial submittals will not be accepted. Links to the PDF copy of the easements are below, word document versions of each legal document can be found on the City's Website under [Forms and Permits](#))

18. A draft copy of the [Emergency Access Easement](#) for the Emergency Access Drive proposed must be submitted to the Community Development Department.
19. If not already recorded, a draft copy of the 20-foot-wide [Watermain System Easement](#) onsite must be submitted to the Community Development Department.
20. If not already recorded, a draft copy of the 20-foot-wide [Sanitary Sewer Easement](#) onsite must be submitted to the Community Development Department.

The following must be addressed prior to construction:

21. A pre-construction meeting shall be required prior to any site work being started. Please contact Sarah Marchioni in the Community Development Department to setup a meeting (248-347-0430). **Be advised that scheduling the pre-construction meeting can take 2-4 weeks.**
22. A City of Novi Grading Permit will be required prior to any grading on the site. This permit will be issued at the pre-construction meeting (no application required). No fee is required for this permit.

23. Material certifications must be submitted to Spalding DeDecker for review prior to the construction of any onsite utilities. Contact Heather Gendron at 248-844-5400 for more information.
24. Construction inspection fees in the amount of **\$11,000.00** must be paid to the Community Development Department. ****fees are subject to change.**
25. Legal escrow fees in the amount of **\$2,587.50** must be deposited with the Community Development Department. **All unused escrow will be returned to the payee at the end of the project** (except for escrows that are \$50 or less). This amount includes engineering legal fees only. There may be additional legal fees for planning legal documents. ****fees are subject to change.**
26. A street sign financial guarantee in the amount of **\$800** (\$400 per traffic control sign proposed) must be posted at the Community Development Department. Signs must be installed in accordance with MMUTCD standards.
27. A traffic control inspection fee of **\$605.00** must be paid to Community Development. This fee is the inspection of traffic control items such as signs, striping, curbs, parking stalls, sidewalk, detectable warning surfaces, and temporary pavement markings.
28. A [Soil Erosion Control Permit](#) must be obtained from the City of Novi. Contact Sarah Marchioni in the Community Development Department, Building Division (248-347-0430) for forms and information. The financial guarantee and inspection fees will be determined during the SESC review.

The following must be addressed prior to issuance of a Temporary Certificate of Occupancy (TCO) approval for the development:

29. The amount of the incomplete site work performance guarantee for any outstanding site improvement items (limited to top course of pavement and other minor items), is calculated at 1.2 times the amount required to complete the site improvements (as specified in the Performance Guarantee Ordinance).
30. All easements and agreements referenced above, if applicable, must be executed, notarized, and approved by the City Attorney and Engineering Division.
31. The City's consultant Engineer Spalding DeDecker will prepare the record drawings for this development. The record drawings will be prepared in accordance with Article XII, Design and Construction Standards, Chapter 11 of the Novi Code of Ordinances.
32. Submit an up-to-date Title Policy (dated within 90 days of City Council consideration of acceptance) for the purpose of verifying that the parties signing the Easement and Bill of Sale documents have the legal authority to do so. Please be sure that all parties of interest shown on the title policy (including mortgage holders) either sign the easement documents themselves or provide a Subordination Agreement. Please be aware that the title policy

may indicate that additional documentation is necessary to complete the acceptance process.

Prior to preparing stamping sets, the Applicant should submit the Electronic Stamping set to Planning for review, if any changes are proposed after Electronic Stamping set approval send revised sheets directly to Engineering for an informal review and approval.

To the extent this review letter addresses items and requirements that require the approval of or a permit from an agency or entity other than the City, this review shall not be considered an indication or statement that such approvals or permits will be issued.

Please contact Adam Yako at (248)735-5695 or email at ayako@cityofnovi.org with any questions.



Adam Yako
Project Engineer

cc: James Hill, Community Development
Angela Sosnowski, Community Development
Tina Glenn, Treasurers
Kristin Pace, Treasurers
Humna Anjum, Engineering
Ben Croy, City Engineer
H. Gendron, T. Meadows, M. Freckelton, T. Reynolds; Spalding DeDecker

LANDSCAPE REVIEW



PLAN REVIEW CENTER REPORT

October 26, 2023

MI CAT Pumping & Shoring Maintenance Area Combined Preliminary/Final Site Plan - Landscaping

Review Type

Preliminary/Final Site Plan - Landscape Review

Job #

JSP23-0047

Property Characteristics

- Site Location: North end of Catherine Drive
- Site Acreage: 5.29 acres
- Site Zoning: I-2 with PRO agreement
- Adjacent Zoning: North, East: I-2, South, West: I-1
- Plan Date: 8/24/2023

Ordinance Considerations

This project was reviewed for conformance with Chapter 37: Woodland Protection, Zoning Article 5.5 Landscape Standards, the Landscape Design Manual and any other applicable provisions of the Zoning Ordinance. Items in **bold** below must be addressed and incorporated as part of the revised Final Site Plan submittal. Please follow guidelines of the Zoning Ordinance and Landscape Design Guidelines. This review and the accompanying Landscape Chart are summaries and are not intended to substitute for any Ordinance.

Recommendation

This project is **recommended for approval for Preliminary Site Plan**. The remaining minor items discussed below and on the accompanying Landscape Chart can be addressed on the Final Site plans.

LANDSCAPE DEVIATIONS GRANTED BY CITY COUNCIL ON 2/27/2023 FOR THIS PROJECT:

- *Use of evergreen shrub "wall" in place of required canopy and subcanopy greenbelt trees to provide better screening of equipment – Supported by staff*
- *Tree diversity does not meet the standard of Landscape Design Manual Section 4 – Supported by staff*

Please copy the above italicized information to Sheet LP-1.

Please add the city project number, JSP23-0047, to the bottom right corner of the Cover Sheet.

Ordinance Considerations

Existing Trees (Sec 37 Woodland Protection, Preliminary Site Plan checklist #17 and LDM 2.3 (2))

1. A survey and chart are provided.
2. 47 woodland replacement credits are required. 15 replacement trees are proposed to be planted west of the detention pond. A donation to the tree fund will be made for the remaining 32 required credits.
3. Please add a tree protection fence detail to Sheet C141 of the Civil Plans.

Adjacent to Residential - Buffer (Zoning Sec. 5.5.3.B.ii and iii)

The project is not adjacent to residential property.

Adjacent to Public Rights-of-Way – Berm/Wall, Buffer and Street Trees (Zoning Sec. 5.5.3.B.ii, iii)

1. The project proposes a line of densely planted junipers to provide continuous screening from Catherine instead of the required berm and canopy trees. City Council granted a landscape deviation for this proposal.
2. Additional decorative plantings along the Novi Road frontage are proposed as a public benefit. Please consider using taller shrubs to provide some screening for Novi Road traffic.

Parking Lot Landscaping (Zoning Sec. 5.5.3.C.)

No parking landscaping is required as the parcel will be used for equipment storage, not parking.

Building foundation Landscaping (Zoning Sec 5.5.3.D)

No foundation landscaping is required as there are no buildings on the parcel.

Plant List (LDM 2.h. and t.)

1. 8 of 16 species (50%) used are native to Michigan. Please consider using more natives in place of some of the non-native species selected.
2. A landscape deviation was granted for the lack of compliance with the Landscape Design Manual's requirement for tree diversity.

Planting Notations and Details (LDM)

Provided

Storm Basin Landscape (Zoning Sec 5.5.3.E.iv and LDM 3)

The combination of existing vegetation and proposed landscaping around the pond satisfies the requirements of the ordinance.

Irrigation (LDM 1.a.(1)(e) and 2.s)

Please provide an irrigation system plan or alternative program for providing water to all proposed plantings that conforms to city and state standards with Final Site Plans.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5621 or rmeader@cityofnovi.org.



Rick Meader – Landscape Architect

LANDSCAPE REVIEW SUMMARY CHART – Combined Preliminary and Final Site Plans

Review Date: October 26, 2023
Project Name: JSP23-0047: MI CAT Pump & Shoring Maintenance area
Plan Date: August 24, 2023
Prepared by: Rick Meader, Landscape Architect E-mail: rmeader@cityofnovi.org;
 Phone: (248) 735-5621

Items in **Bold** need to be addressed by the applicant before approval of the Preliminary Site Plan.
Underlined items need to be addressed for Final Site Plan.

LANDSCAPE DEVIATIONS GRANTED BY CITY COUNCIL ON 2/27/2023 FOR THIS PROJECT:

- *Use of evergreen shrub "wall" in place of required canopy and subcanopy greenbelt trees to provide better screening of equipment – Supported by staff*
- *Tree diversity does not meet the standard of Landscape Design Manual Section 4 – Supported by staff*

Please copy the above italicized information to Sheet LP-1.

Item	Required	Proposed	Meets Code	Comments
Landscape Plan Requirements (LDM (2))				
Landscape Plan <i>(Zoning Sec 5.5.2, LDM 2.e.)</i>	<ul style="list-style-type: none"> • New commercial or residential developments • Addition to existing building greater than 25% increase in overall footage or 400 SF whichever is less. • 1"=20' minimum with proper North. Variations from this scale can be approved by LA • Consistent with plans throughout set 	<ul style="list-style-type: none"> • Storage area scale: 1"=40' • Novi Road Frontage scale: 1/16" = 1' 	Yes	<u>Please convert the Novi Road drawings to an engineering scale.</u>
Project Information <i>(LDM 2.d.)</i>	Name and Address	Yes	Yes	
Owner/Developer Contact Information <i>(LDM 2.a.)</i>	Name, address and telephone number of the owner and developer or association	Yes	Yes	
Landscape Architect contact information <i>(LDM 2.b.)</i>	Name, Address and telephone number of RLA/PLA/LLA who created the plan	Steve Deak – Deak Planning & Design	Yes	
Sealed by LA. <i>(LDM 2.g.)</i>	Requires original signature	Yes	Yes	
Miss Dig Note <i>(800) 482-7171 (LDM.3.a.(8))</i>	Show on all plan sheets	Yes	Yes	

Item	Required	Proposed	Meets Code	Comments
Zoning (LDM 2.f.)	Include all adjacent zoning	<u>Parcel:</u> I-2 with PRO agreement <u>North, East:</u> I-2 <u>South, West:</u> I-1	Yes	
Survey information (LDM 2.c.)	<ul style="list-style-type: none"> • Legal description or boundary line survey • Existing topography 	<ul style="list-style-type: none"> • Sheet 1 of 1 (2nd sheet in set) 	Yes	<u>Please number the topo sheet consistently with the other sheets.</u>
Existing plant material Existing woodlands or wetlands (LDM 2.e.(2))	<ul style="list-style-type: none"> • Show location type and size. Label to be saved or removed. • Plan shall state if none exists. 	<ul style="list-style-type: none"> • Woodland impact plan shows all trees 8" dbh or larger, tree chart and impacts • The calculations indicate that 47 replacement credits are required. • 15 trees are being planted on site, near the detention pond, and a deposit for the remaining 32 credits will be made to the tree fund. 	Yes	
Soil types (LDM.2.r.)	<ul style="list-style-type: none"> • As determined by Soils survey of Oakland County • Show types, boundaries 	Sheet C100	Yes	
Existing and proposed improvements (LDM 2.e.(4))	Existing and proposed buildings, easements, parking spaces, vehicular use areas, and R.O.W	Sheet C101, LP-1	Yes	
Existing and proposed utilities (LDM 2.e.(4))	Overhead and underground utilities, including hydrants	Sheet C110	Yes	
Proposed grading. 2' contour minimum (LDM 2.e.(1))	Provide proposed contours at 2' interval	Sheet C110	Yes	
Snow deposit (LDM.2.q.)	Show snow deposit areas on plan	NA – no landscaping is inside of fenced area		
LANDSCAPING REQUIREMENTS				
Parking Area Landscape Requirements LDM 1.c. & Calculations (LDM 2.o.)				
General requirements (LDM 1.c)	<ul style="list-style-type: none"> • Clear sight distance within parking islands 	NA		

Item	Required	Proposed	Meets Code	Comments
	<ul style="list-style-type: none"> No evergreen trees 			
Name, type and number of ground cover (LDM 1.c.(5))	As proposed on planting islands	NA – no parking islands		
General (Zoning Sec 5.5.3.C.ii)				
Parking lot Islands (a, b. i)	<ul style="list-style-type: none"> A minimum of 200 SF to qualify A minimum of 200sf unpaved area per tree planted in an island 6" curbs Islands minimum width 10' BOC to BOC 	NA		
Curbs and Parking stall reduction (c)	Parking stall can be reduced to 17' and the curb to 4" adjacent to a sidewalk of minimum 7 ft.	NA		
Contiguous space limit (i)	Maximum of 15 contiguous spaces	NA		
Plantings around Fire Hydrant (d)	<ul style="list-style-type: none"> No plantings with matured height greater than 12' within 10 ft. of fire hydrants Plant trees at least 5 ft from underground utility lines Plantings near hydrants or FDCs should be no taller than 12" 	NA – no hydrants are shown in landscaped areas		
Landscaped area (g)	Areas not dedicated to parking use or driveways exceeding 100 sq. ft. shall be landscaped	NA		
Clear Zones (LDM 2.3.(5))	<ul style="list-style-type: none"> 25 ft corner clearance required. Refer to Zoning Section 5.5.9 Road Commission for Oakland County zone for RCOC jurisdiction roads 	<ul style="list-style-type: none"> NA – Catherine Drive will only be used for emergency access, and has clear vision at the end of the cul-de-sac The proposed landscaping enhancements along Novi Road are outside of the clear vision zone. 	Yes	

Item	Required	Proposed	Meets Code	Comments
Category 1: For OS-1, OS-2, OSC, OST, B-1, B-2, B-3, NCC, EXPO, FS, TC, TC-1, RC, Special Land Use or non-residential use in any R district (Zoning Sec 5.5.3.C.iii)				
A = Total square footage of vehicular use areas up to 50,000sf x 7.5%	<ul style="list-style-type: none"> A = x sf * 7.5 % = A sf 50,000 * 7.5% = 3750 sf 	NA		
B = Total square footage of additional paved vehicular use areas (not including A or B) over 50,000 SF) x 1 %	<ul style="list-style-type: none"> B = x sf * 1% = B sf (xxx – 50000) * 1% = xx sf 	NA		
Category 2: For: I-1 and I-2 (Zoning Sec 5.5.3.C.iii)				
A. = Total square footage of vehicular use area up to 50,000 sf x 5%	A = x sf * 6% = A sf	NA – only use for site will be equipment and material storage		
B = Total square footage of additional paved vehicular use areas over 50,000 SF x 0.5%	B = 0.5% x 0 sf = B SF	NA		
All Categories				
C = A+B Total square footage of landscaped islands	<ul style="list-style-type: none"> C = A + B C = xxx + xxx = xx SF 	NA		
D = C/200 Number of canopy trees required	<ul style="list-style-type: none"> D = C/200 trees xx/200 = xx Trees 	0 trees	Yes	
Perimeter Green space	<ul style="list-style-type: none"> 1 Canopy tree per 35 lf xx /35 = xx trees 	0 trees	Yes	
Accessway perimeter	<ul style="list-style-type: none"> 1 canopy tree per 35 lf on each side of road, less widths of access drives. (xx lf)/35 = xx trees 	NA		
Parking land banked	<ul style="list-style-type: none"> NA 	None		
Berms, Walls and ROW Planting Requirements				
Berms				
<ul style="list-style-type: none"> All berms shall have a maximum slope of 33%. Gradual slopes are encouraged. Show 1ft. contours Berm should be located on lot line except in conflict with utilities. Berms should be constructed with 6" of topsoil. 				
Residential Adjacent to Non-residential (Sec 5.5.3.A) & (LDM 1.a)				
Berm requirements (Zoning Sec 5.5.A)	NA – not adjacent to residential	None	Yes	
Planting requirements (LDM 1.a.)	LDM Novi Street Tree List	NA		
Adjacent to Public Rights-of-Way (Sec 5.5.B) and (LDM 1.b)				

Item	Required	Proposed	Meets Code	Comments
Berm requirements (Zoning Sec 5.5.3.A.(5))	An undulating berm a minimum of 3 feet high with a 3 foot wide crest is required	<ul style="list-style-type: none"> • 0 trees • Line of junipers provided for screening along the Catherine Drive cul-de-sac 	No	A Landscape deviation was granted for this substitution.
Cross-Section of Berms (LDM 2.j)				
Slope, height and width	<ul style="list-style-type: none"> • Label contour lines • Maximum 33% • Min. 3 feet flat horizontal area • Minimum 3 feet high • Constructed of loam with 6' top layer of topsoil. 	No berm is proposed		
Type of Ground Cover		NA		
Setbacks from Utilities	Overhead utility lines and 15 ft. setback from edge of utility or 20 ft. setback from closest pole	NA		
Walls (LDM 2.k & Zoning Sec 5.5.3.vi)				
Material, height and type of construction footing	Freestanding walls should have brick or stone exterior with masonry or concrete interior	No wall is proposed		
Walls greater than 3 ½ ft. should be designed and sealed by an Engineer				
ROW Landscape Screening Requirements (Sec 5.5.3.B. ii)				
Greenbelt width (2)(3) (5)	Parking: 20 ft. No Pkg: 25 ft	40 ft	Yes	
Min. berm crest width	None	No	No	
Minimum berm height (9)	None	No	No	
3' wall	(4)(7)	No		
Canopy deciduous or large evergreen trees Notes (1) (10)	<ul style="list-style-type: none"> • No Pkg: 1 per 60 ft • 139/60 = 2 trees 	<ul style="list-style-type: none"> • 0 trees • Line of 38 junipers provided for screening • Additional decorative plantings are proposed along Novi Road as a public benefit 	No	A landscape deviation was granted for the substitution of multiple evergreens along the Catherine Drive cul-de-sac.

Item	Required	Proposed	Meets Code	Comments
Sub-canopy deciduous trees Notes (2)(10)	<ul style="list-style-type: none"> No Pkg: 1 per y ft 139/40 = 4 trees 	4 flowering crabapples are proposed in front of the line of junipers	Yes	
Canopy deciduous trees in area between sidewalk and curb (Novi Street Tree List)	<ul style="list-style-type: none"> Parking & No Parking: 1 tree per 45 lf 139/45 = 3 trees 	3 elm trees	Yes	
Non-Residential Zoning Sec 5.5.3.E.iii & LDM 1.d (2)				
Refer to Planting in ROW, building foundation landscape, parking lot landscaping and LDM				
Interior Street to Industrial subdivision (LDM 1.d.(2))	<ul style="list-style-type: none"> 1 canopy deciduous or 1 large evergreen per 35 l.f. along ROW No evergreen trees closer than 20 ft. 3 sub canopy trees per 40 l.f. of total linear frontage Plant massing for 25% of ROW 	Landscaping is satisfactory	Yes	See the landscape discussion above.
Screening of outdoor storage, loading/unloading (Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)		Double rows of large evergreens are proposed along all property borders except for greenbelt which is discussed above	Yes	
Transformers/Utility boxes (LDM 1.e from 1 through 5)	<ul style="list-style-type: none"> A minimum of 2ft. separation between box and the plants Ground cover below 4" is allowed up to pad. No plant materials within 8 ft. from the doors 	No	No	If any new transformers are located outside of the storage area, please screen them with shrubs per the standard detail.
Building Foundation Landscape Requirements (Sec 5.5.3.D)				
Interior site landscaping SF	<ul style="list-style-type: none"> Equals to entire perimeter of the building x 8 with a minimum width of 4 ft. A: x lf x 8ft = x SF 	NA		
Zoning Sec 5.5.3.D.ii. All items from (b) to (e)	If visible from public street a minimum of 60% of the exterior building perimeter should be covered in green space	NA		
Detention/Retention Basin Requirements (Sec. 5.5.3.E.iv)				
Planting requirements (Sec. 5.5.3.E.iv)	<ul style="list-style-type: none"> Clusters of large native shrubs shall cover 70-75% of the basin rim 	<ul style="list-style-type: none"> It appears that at least 70% of the basin rims will be 	Yes	

Item	Required	Proposed	Meets Code	Comments
	area at 10 lf from permanent water level <ul style="list-style-type: none"> • 10" to 14" tall grass along sides of basin • Refer to wetland for basin mix • Deciduous canopy tree 1/35 of east, south and west sides of pond at 10 feet from permanent water level 	landscaped with large native shrubs or existing vegetation <ul style="list-style-type: none"> • Existing trees around the pond will meet the tree requirement 		
Phragmites and Japanese Knotweed Control (Sec 5.5.6.C)	<ul style="list-style-type: none"> • Any and all populations of Phragmites australis and/or Japanese Knotweed on site shall be included on tree survey. • Treat populations per MDEQ guidelines and requirements to eradicate the weed from the site. 	A note indicates that no Phragmites or Knotweed was found on the site.	Yes	<u>If any is found, please add plans to eliminate it and follow those plans</u>
LANDSCAPING NOTES, DETAILS AND GENERAL REQUIREMENTS				
Landscape Notes – Utilize City of Novi Standard Notes				
Installation date (LDM 2.i. & Zoning Sec 5.5.5.B)	Provide intended date	Between Apr 15 and Nov 15.	Yes	
Maintenance & Statement of intent (LDM 2.m & Zoning Sec 5.5.6)	<ul style="list-style-type: none"> • Include statement of intent to install and guarantee all materials for 2 years. • Include a minimum one cultivation in June, July and August for the 2-year warranty period. 	Yes	Yes	
Plant source (LDM 2.n & LDM 3.a.(2))	Shall be northern nursery grown, No.1 grade.	Yes	Yes	
Irrigation plan (LDM 2.s.)	<ul style="list-style-type: none"> • A fully automatic irrigation system or a method of providing sufficient water for plant establishment and survival is required on Final Site Plans. • If irrigation won't be used, note how trees will get sufficient water for establishment and 	A note indicates that an automatic irrigation system will be used	Yes	1. <u>Please add an irrigation plan or information as to how plants will be watered sufficiently for establishment and long- term survival.</u> 2. <u>If a new irrigation system will be installed, it must</u>

Item	Required	Proposed	Meets Code	Comments
	long-term survival			<u>meet the rules listed below.</u> 3. <u>If xeriscaping or alternative means of providing water to the plants will be used, please provide information about that on the Final Site Plans.</u>
Other information (LDM 2.u)	Required by Planning Commission	NA		
Establishment period (Zoning Sec 5.5.6.B)	2 yr. Guarantee	Yes	Yes	
Approval of substitutions. (Zoning Sec 5.5.5.E)	City must approve any substitutions in writing prior to installation.	Yes	Yes	
Plant List (LDM 4) – Include all cost estimates				
Quantities and sizes	Refer to LDM suggested plant list	Yes	Yes	
Root type		Yes	Yes	
Botanical and common names		<ul style="list-style-type: none"> • 8 of 16 species (50%) used are native to Michigan • Tree diversity does not meet the standard of LDM 4 • Picea glauca composes 33% of the trees • All of the woodland tree replacements are approved 	<ul style="list-style-type: none"> • Yes • No • No • Yes 	1. A landscape deviation was granted for the lack of tree diversity. 2. <u>Please consider using more native species in place of some of the non-native species where possible.</u>
Type and amount of lawn		Included in the plant list		
Cost estimate (LDM 2.t)		For all new plantings, mulch and sod as listed on the plan	Provided	Yes
Planting Details/Info (LDM 2.i) – Utilize City of Novi Standard Details				
Canopy Deciduous Tree	Refer to LDM for detail drawings	Yes	Yes	
Evergreen Tree		Yes	Yes	
Shrub		Yes	Yes	
Perennial/ Ground Cover		Yes	Yes	
Tree stakes and guys. (Wood stakes, fabric guys)		Yes	Yes	

Item	Required	Proposed	Meets Code	Comments
Tree protection fencing	Located at Critical Root Zone (1' outside of dripline)	Indicated with a note on the landscape plan.	Yes	<u>Please add the tree protection fence detail (below) to Sheet C141</u>
Other Plant Material Requirements (LDM 3)				
General Conditions (LDM 3.a)	Plant materials shall not be planted within 4 ft. of property line	Yes	Yes	
Plant Materials & Existing Plant Material (LDM 3.b)	Clearly show trees to be removed and trees to be saved.	Yes	Yes	
Landscape tree credit (LDM3.b.(d))	<ul style="list-style-type: none"> Substitutions to landscape standards for preserved canopy trees outside woodlands/ wetlands should be approved by LA. Refer to Landscape tree Credit Chart in LDM 	No		
Plant Sizes for ROW, Woodland replacement and others (LDM 11)	<ul style="list-style-type: none"> Size determined by use detailed in LDM Table 11.b.(2)a.i Indicate on plant list 	Yes	Yes	
Plant size credit (LDM3.c.(2))	NA	No		
Prohibited Plants (LDM 3.d)	No plants on City Invasive Species List	None used		
Recommended trees for planting under overhead utilities (LDM 3.e)	Label the distance from the overhead utilities			
Collected or Transplanted trees (LDM 3.f)		None		
Nonliving Durable Material: Mulch (LDM 4)	<ul style="list-style-type: none"> Trees shall be mulched to 3" depth and shrubs, groundcovers to 2" depth Specify natural color, finely shredded hardwood bark mulch. Include in cost estimate. Refer to section for additional information 	Yes	Yes	

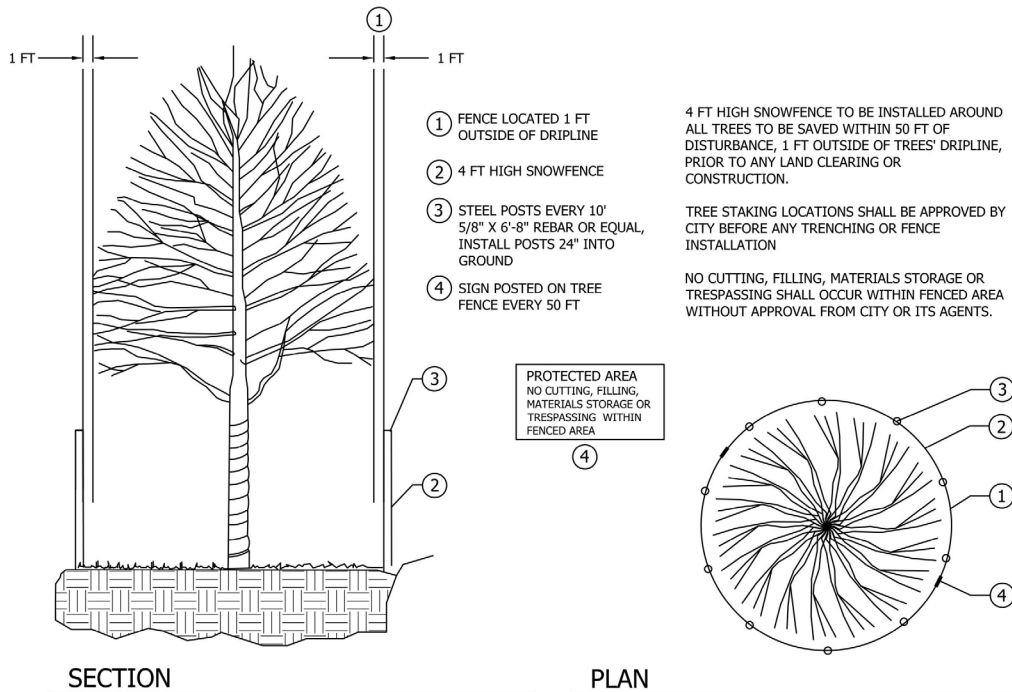
NOTES:

- This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards.
- The section of the applicable ordinance or standard is indicated in parenthesis. For the landscape requirements, please see the Zoning Ordinance landscape section 5.5 and the Landscape Design

Item	Required	Proposed	Meets Code	Comments
Manual for the appropriate items under the applicable zoning classification. 3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.				

Irrigation System Requirements

1. Any booster pump installed to connect the project's irrigation system to an existing irrigation system must be downstream of the RPZ.
2. The RPZ must be installed in accordance with the 2015 Michigan Plumbing Code.
3. The RPZ must be installed in accordance with the manufacture installation instructions for winterization that includes drain ports and blowout ports.
4. The RPZ must be installed a minimum of 12-inches above FINISHED grade.
5. Attached is a handout that addresses winterization installation requirements to assist with this.
6. A plumbing permit is required.
7. The assembly must be tested after installation with results recorded on the City of Novi test report form.



CITY OF NOVI TREE PROTECTION DETAIL

NOT TO SCALE

TRAFFIC REVIEW



AECOM
 39575 Lewis Dr, Ste. 400
 Novi
 MI, 48377
 USA
 aecom.com

Project name:
 JSP23-47 – MI CAT Pump and Shore
 Maintenance Yard Preliminary/Final Traffic
 Review

From:
 AECOM

Date:
 November 10, 2023

To:
 Barbara McBeth, AICP
 City of Novi
 45175 10 Mile Road
 Novi, Michigan 48375

CC:
 Lindsay Bell, James Hill, Ian Hogg, Heather Zeigler,
 Humna Anjum, Diana Shanahan, Adam Yako

Memo

Subject: JSP23-47 – MI CAT Pump and Shore Maintenance Yard Preliminary/Final Traffic Review

The combined preliminary and final site plan was reviewed to the level of detail provided and AECOM recommends **approval** for the applicant to move forward until the comments are addressed to the satisfaction of the City.

GENERAL COMMENTS

1. The applicant, Bergmann, is proposing improvements to a portion of the vacant land on the southeast side of the site for equipment storage.
2. The development is located on the east side of Novi Road, north of 10 Mile Road. Novi Road is under the jurisdiction of the Road Commission for Oakland County.
3. The site is zoned I-2 (General Industrial).
4. There are no traffic related deviations required at this time.

TRAFFIC IMPACTS

1. AECOM did not perform an initial trip generation based on the ITE Trip Generation Manual, 11th Edition, as no building footprint changes are proposed.
2. The City of Novi generally requires a traffic impact study/statement if the number of trips generated by the proposed development exceeds the City's threshold of more than 750 trips per day or 100 trips per either the AM or PM peak hour, or if the project meets other specified criteria.

Trip Impact Study Recommendation	
Type of Study:	Justification
None	N/A

TRAFFIC REVIEW

The following table identifies the aspects of the plan that were reviewed. Items marked O are listed in the City's Code of Ordinances. Items marked with ZO are listed in the City's Zoning Ordinance. Items marked with ADA are listed in the Americans with Disabilities Act. Items marked with MMUTCD are listed in the Michigan Manual on Uniform Traffic Control Devices.

The values in the 'Compliance' column read as 'met' for plan provision meeting the standard it refers to, 'not met' stands for provision not meeting the standard and 'inconclusive' indicates applicant to provide data or information for review and 'NA' stands for not applicable for subject Project. The 'remarks' column covers any comments reviewer has and/or 'requested/required variance' and 'potential variance'. A potential variance indicates a variance that will be required if modifications are not made or further information provided to show compliance with the standards and ordinances. The applicant should put effort into complying with the standards; the variances should be the last resort after all avenues for complying have been exhausted. Indication of a potential variance does not imply support unless explicitly stated.

EXTERNAL SITE ACCESS AND OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
1	Driveway Radii O Figure IX.3	N/A	-	No proposed changes to existing access.
2	Driveway Width O Figure IX.3	N/A	-	No proposed changes to existing access.
3	Driveway Taper O Figure IX.11	N/A	-	No proposed changes to existing access.
3a	Taper length			
3b	Tangent			
4	Emergency Access O 11-194.a.19	N/A	-	No proposed changes to existing access.
5	Driveway sight distance O Figure VIII-E	N/A	-	No proposed changes to existing access.
6	Driveway spacing	N/A	-	No proposed changes to existing access.
6a	Same-side O 11.216.d.1.d			
6b	Opposite side O 11.216.d.1.e			
7	External coordination (Road agency)	N/A	-	No proposed changes to existing access.
8	External Sidewalk Master Plan & EDM	N/A	-	No changes proposed.
9	Sidewalk Ramps EDM 7.4 & R-28-J	N/A	-	No changes proposed.
10	Any Other Comments:			

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
11	Loading zone ZO 5.4	7000 SF in vacant area	Met	In addition to existing loading areas on site.
12	Trash receptacle ZO 5.4.4	N/A	-	No changes proposed.
13	Emergency Vehicle Access	2 access points	Met	Applicant has included details for emergency access gate from Catherine Industrial Dr.
14	Maneuvering Lane ZO 5.3.2	20'	Met	Considered marginal access (non-residential).
15	End islands ZO 5.3.12	N/A	-	
15a	Adjacent to a travel way			
15b	Internal to parking bays			
16	Parking spaces ZO 5.2.12	N/A	-	No parking proposed.
17	Adjacent parking spaces ZO 5.5.3.C.ii.i	N/A	-	

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
18	Parking space length ZO 5.3.2	N/A	-	
19	Parking space Width ZO 5.3.2	N/A	-	
20	Parking space front curb height ZO 5.3.2	N/A	-	
21	Accessible parking – number ADA	N/A	-	
22	Accessible parking – size ADA	N/A	-	
23	Number of Van-accessible space ADA	N/A	-	
24	Bicycle parking	N/A	-	
24a	Requirement ZO 5.16.1			
24b	Location ZO 5.16.1			
24c	Clear path from Street ZO 5.16.1			
24d	Height of rack ZO 5.16.5.B			
24e	Other (Covered / Layout) ZO 5.16.1			
25	Sidewalk – min 5' wide Master Plan	N/A	-	
26	Sidewalk ramps EDM 7.4 & R-28-J	N/A	-	
27	Sidewalk – distance back of curb EDM 7.4	N/A	-	
28	Cul-De-Sac O Figure VIII-F	N/A	-	
29	EyeBrow O Figure VIII-G	N/A	-	
30	Turnaround ZO 5.10	N/A	-	
31	Any Other Comments:			

SIGNING AND STRIPING				
No.	Item	Proposed	Compliance	Remarks
32	Signing: Sizes MMUTCD	Not indicated	Not Met	Include size of proposed sign as well as layout in future submittal.
33	Signing table: quantities and sizes	2 proposed	Met	
34	Signs 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post MMUTCD	Not indicated	Not Met	Include note in future submittal.
35	Signs greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post MMUTCD	Not indicated	Not Met	Include note in future submittal.
36	Sign bottom height of 7' from final grade MMUTCD	Indicated	Met	
37	Signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign MMUTCD	N/A	-	
38	FHWA Standard Alphabet series used for all sign language MMUTCD	Not indicated	Not Met	Include note in future submittal.
39	High-Intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity MMUTCD	Not indicated	Not Met	Include note in future submittal.
40	Parking space striping notes	N/A	-	
41	The international symbol for accessibility pavement markings ADA	N/A	-	
42	Crosswalk pavement marking detail	N/A	-	

SIGNING AND STRIPING				
No.	Item	Proposed	Compliance	Remarks
43	Any Other Comments:			

Note: Hyperlinks to the standards and Ordinances are for reference purposes only, the applicant and City of Novi to ensure referring to the latest standards and Ordinances in its entirety.

Should the City or applicant have questions regarding this review, they should contact AECOM for further clarification.

Sincerely,

AECOM



Paula K. Johnson, PE
Senior Transportation Engineer



Saumil Shah, PMP
Project Manager

WOODLAND REVIEW



Corporate Headquarters
 295 South Water Street, Suite 300
 Kent, OH 44240
 800-828-8312

Local Office
 24301 Catherine Industrial Dr., Suite 124
 Novi, MI 48375

To: James Hill, City of Novi Planner
 Community Development Department

From: Kerry Gray, Principal Consultant
 Davey Resource Group

CC: Barbara McBeth, City Planner
 Lindsay Bell, City of Novi Senior Planner
 Rick Meader, City of Novi Landscape Architect
 Ian Hogg, City of Novi Planner
 Heather Zeigler, City of Novi Planner
 Douglas Repen, Mannik and Smith Group
 Peter Murray, Davey Resource Group

Date: November 7, 2023

RE: MI CAT Pump and Shore Maintenance Yard
 Woodland Review #1– JSP23-47

Davey Resource Group, Inc. (DRG) has conducted a review of the Preliminary Site Plan submittal for the MI CAT Pump and Shore Maintenance Yard located at 24800 Novi Road (Parcel No. 22-23-351-065). The plan set, prepared by Bergmann (dated: 08/24/2023) and landscape plan prepared by Deak Planning and Design (dated: 07/14/2023), proposes expansion of the CAT facility to add a maintenance yard on the undeveloped southeastern area of the parcel. DRG reviewed the preliminary site plan for conformance with the City of Novi’s Woodland Protection Ordinance, Chapter 37. Based on our review of the preliminary site plan, landscape plan, and the City of Novi Official Regulated Woodlands Map -- City regulated woodlands are present on the site but outside the area of the proposed new construction (Figure 1) but there are City regulated trees (greater than 36” in DBH) within the proposed area of construction

Recommendation: DRG **recommends contingent approval** of the CAT Pump Shore Maintenance Yard preliminary plan based on addressing minor Woodland Review comments. The following Woodland Regulations apply to this site:

Woodland Regulation	Required
Woodland Permit (Chapter 37, Section 37-26)	YES
Tree Replacement (Chapter 37, Section 37-8) & Financial Guarantee (Chapter 26.5-5)	YES
Tree Protection (Fence) (Chapter 37, Section 37-9) & Financial Guarantee (Chapter 26.5-5)	YES
Woodland Conservation Easement (Chapter 37-30 (e))	YES

Woodland Impacts

The MI CAT Pump and Shore Maintenance Yard expansion proposes the disturbance and removal of City of Novi Regulated trees. Trees regulated by Chapter 37 of Novi City Code include those that are 8-inches or greater DBH (diameter at breast height, 4.5-feet above existing grade) located within a regulated woodland and **any tree 36-inches or greater DBH, irrespective of whether it is located in a regulated woodland**. Sheet TL-1 identifies 74 trees to be removed on site, DRG conducted a site visit on November 3, 2023 (see site photos) to verify site conditions. There are no regulated woodlands within the area of the proposed construction but there are eight (8) City regulated trees that are greater than 36”DBH proposed to be removed that require mitigation.

- Tree #234: 18”,13”,10” (multi-stem) honeylocust (*Gleditsia triancathos*)
- Tree #236: 16”, 12”, 16” (multi-stem) Siberian elm (*Ulmus pumila*)
- Tree #243: 12”,19”,15”,15” (multi-stem) boxelder (*Acer negundo*)
- Tree #251: 40” cottonwood (*Populus deltoides*)
- Tree #252: 38” cottonwood (*Populus deltoides*)
- Tree #253: 36” cottonwood (*Populus deltoides*)
- Tree #604: 21”,24” (multi-stem) boxelder (*Acer negundo*)
- Tree #606: 20”,20”,17”,12” cottonwood (*Populus deltoides*)

The following woodland tree replacements are required:

Tree Size (DBH)	Number of Trees	Ratio Replacement/ Removed Tree	Total Replacements Required
8-11”	0	1	0
12-20”	0	2	0
21-29”	0	3	0
30+”	3	4	12
Multi-Stem	5	For each tree: Add Stems /8	39
Total			51
Credits for Preserved Non-Regulated Trees Outside of Regulated Woodland			0
Total Replacements (Required Replacements less Credits)			51

***Note Sheets TL1 incorrectly calculated the tree replacement credits required for multi-stem trees #604 and 606 – see Woodland Review Comment #2 – the total number of replacement credits required is 51 not 47.**

The applicant proposes to plant 15 woodland replacements on site and pay into the City of Novi Tree Fund for the remaining required woodland replacement credits. On sheets LP-1 and LP-2 the following 15 woodland replacement trees are to be installed on site:

- 4 hackberry (*Celtis occidentalis*), 2.5” caliper, balled and burlapped
- 5 tuliptree (*Liriodendron tulipifera*), 2.5” caliper, balled and burlapped
- 6 sour gum (black gum) (*Nyssa sylvatica*), 2.5” caliper, balled and burlapped

Woodland Review Comments

1. A **Woodland Use Permit is required** to perform construction on any site containing regulated woodlands or City regulated trees. The permit for this site requires Planning Commission approval.
2. **Sheet TL-1. Woodland Replacement Calculations.** The tree replacements calculations for Tree #605 and Tree #606 are incorrect. The required woodland replacement trees for Tree #605 are 8 $((21+24)/8)$ and Tree #606 are 12 $((20+20+17+12)/8)$. The total number of required tree replacements for the site should be 51 not 49. Revise plan sheets.
3. **Financial Guarantees.** The following Financial Guarantees and/or City of Novi Tree Fund payments are required prior to issuance of the City of Novi Woodland Use Permit.
 - a) A **woodland fence guarantee is not required** because the four (4) trees proposed to be preserved are not regulated.
 - b) **Note:** This woodland replacement financial guarantee, Tree Fund payment, and two-year maintenance bond are based on correct woodland replacement requirement of 51 trees. If additional trees are to be planted on site, the financial guarantee, Novi Tree Fund payment, and maintenance bond must be recalculated.
 - c) A **Woodland Replacement Financial Guarantee of \$6,000** (15 woodland replacements x \$400 per woodland replacement credit) is required as part of the Woodland Use Permit fees to ensure planting of on-site Woodland Replacement tree credits.

Based on inspection of the installed on-site Woodland Replacement trees, the Woodland Replacement Financial Guarantee shall be returned to the Applicant. The Applicant is responsible for requesting this inspection. Following acceptance of the planted woodland replacement trees, a 2-year performance maintenance bond must be paid to ensure the continued health and survival of the replacement trees (see comment 3e).

- d) The applicant will be required to pay **\$ 14,400 into the City of Novi Tree Fund (36 trees x \$400 per woodland replacement credit)** for woodland replacements not planted on site. This payment is non-refundable.
- e) **The applicant shall guarantee trees for two (2) growing seasons after installation and the City's acceptance**, per The City's Performance Guarantees Ordinance. **A two-year maintenance bond in the amount \$1,500** (twenty-five (25) percent of the value of the trees but in no case less than one thousand dollars (\$1,000.00)), shall be required to ensure the continued health of the trees following acceptance (Chapter 26.5, Section 26.5-37). Based on a successful inspection two (2) years after installation of the on-site Woodland Replacement trees, the Woodland Replacement Performance Guarantee shall be returned to the Applicant. The Applicant is responsible for requesting this inspection.

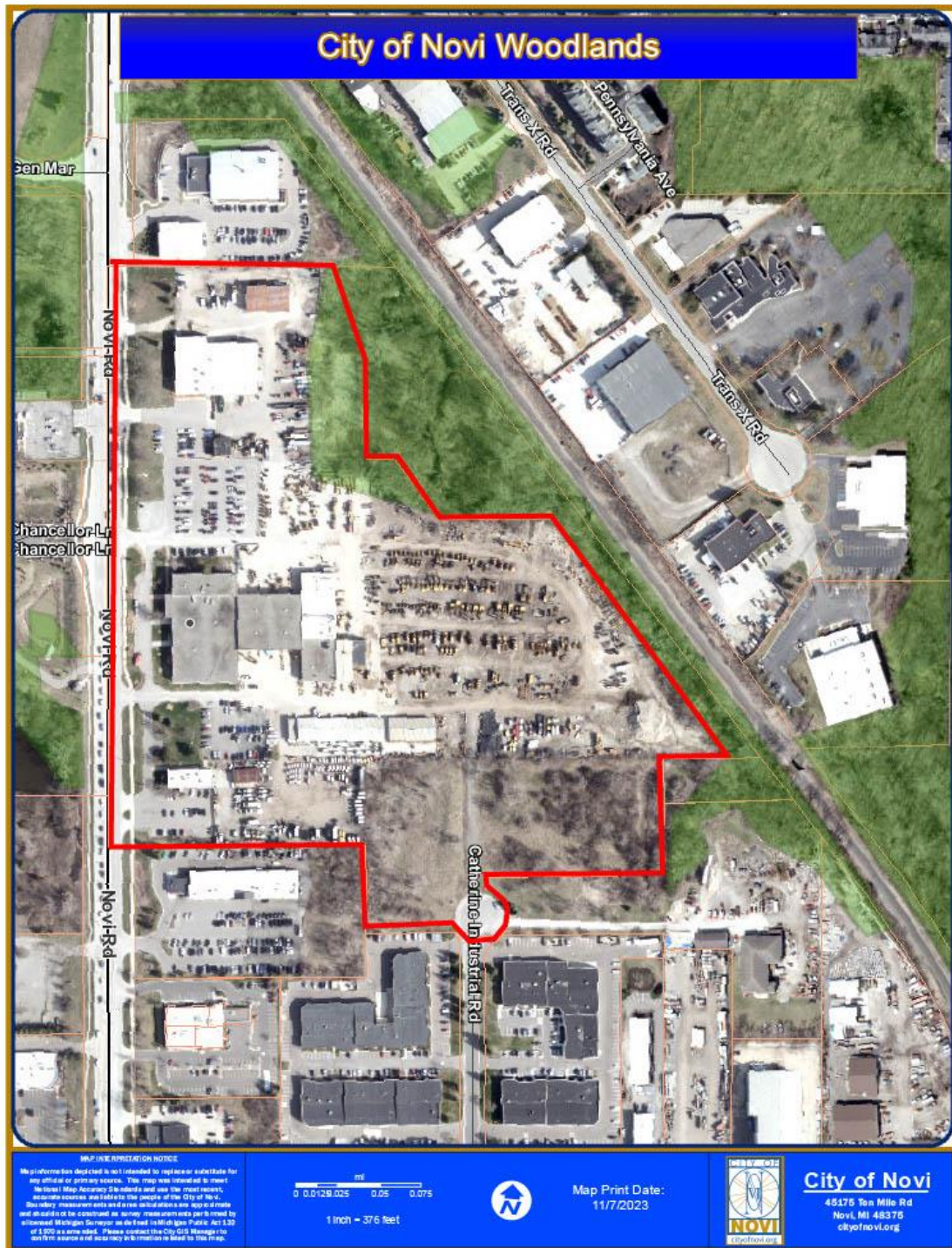


Figure 1. MI CAT Site
Figure 1. City of Novi Regulated Woodland Map
*Bold red line = property boundary;
Green areas = City-regulated woodlands*

Site Photos



Site Photos. Clockwise from upper left views of the site looking North, South, West, East

FIRE REVIEW



October 31, 2023

TO: Barbara McBeth - City Planner
Lindsay Bell - Plan Review Center
Ian Hogg – Plan Review Center
James Hill – Plan Review Center
Heather Zeigler – Plan Review Center
Diana Shanahan – Planning Assistant

CITY COUNCIL

Mayor
Bob Gatt

Mayor Pro Tem
Dave Staudt

Laura Marie Casey

Hugh Crawford

Justin Fischer

Brian Smith

Ericka Thomas

City Manager
Victor Cardenas

**Director of Public Safety
Chief of Police**
Erick W. Zinser

Fire Chief
John B. Martin

Assistant Chief of Police
Scott R. Baetens

Assistant Fire Chief
Todd Seog

RE: MI CAT Pump and Shore Maintenance Yard

PSP# 23-0047

Project Description:

Redo maintenance yard and add a gate off Catherine Industrial Dr.

Comments:

- Shall provide a Knox Lock for the gate off Catherine Industrial Dr.

Recommendation:

Approved

Sincerely,

Kevin S. Pierce-Fire Marshal
City of Novi – Fire Dept.

cc: file

Novi Public Safety Administration
45125 Ten Mile Road
Novi, Michigan 48375
248.348.7100
248.347.0590 fax

cityofnovi.org

APPLICANT'S RESPONSE LETTER



January 2, 2024

Mr. James Hill
City of Novi Community Development – Planning Division
45175 West Ten Mile Road
Novi, MI 48375

RE: MI CAT Catherine Access Parcel – JSP23-0047
Final Site Plan Review Submittal

Dear Mr. Hill,

Please find below the follow-up responses to the City's review dated November 8, 2023.

ORDINANCE REQUIREMENTS

1. Historical Marker & Bench: The applicant has shown a Motor City Historical Marker and bench near the existing flagpole. Landscaping has also been proposed. The plaza is now accessible via a pathway connecting to the sidewalk along Novi Road. Please provide the dimensions and material of the proposed sidewalk. In addition, in the next submittal please submit a draft of the easement to the City for the plaza to used by the public, as specified in the PRO agreement.

The access path width is 6 feet as shown and will be noted on the Final Ste Plan. Paver detail to be added to Final Site Plan.

2. Woodland Tree Removals: 47 required replacement credits, with 15 proposed to be planted onsite and the remaining 32 to be paid for via the tree fund. Please submit a draft conservation or landscape easement for the trees planted onsite as specified in the PRO agreement.

See responses below. 47 credits per PRO agreement will remain as requirement. Draft conservation easement to be provided at Final Site Plan.

3. Height of equipment: The approved PRO Agreement, when brought before the City Council during the second reading, included strikethrough edits to allow for the height of the equipment stored on-site to be a maximum of fifteen feet. Please clarify the maximum height of equipment to be stored on the site.

Proposed fence is 8 feet tall and the height of the tallest equipment is 15 feet (update on sheet C101). Adequate screening is provided with proposed plantings.

4. Decorative Breakaway Emergency Gate: Per the PRO Agreement, the emergency gate is supposed to be "decorative." Alternative gate designed should be presented in order to make it decorative in appearance per the PRO Agreement.

Alternative gate design to be added to Final Site Plan.

5. Tree Diversity (LDM Sec. 4): Tree diversity does not meet the Landscape Design Manual to provide greater screening as approved in the PRO Agreement.

See Landscape responses below.

ENGINEERING REVIEW

General

1. Label/call out the proposed bollards around the existing hydrant on sheet C110 (already noted on sheet C101). **Proposed bollards will be called out on sheet C110.**
2. Only at the time of the printed Stamping Set submittal, provide the City's standard detail sheets for paving (2 sheets). The most updated details can be found on the City's website under Engineering Standards and Construction Details. **Noted. Sheets will be added to the set.**
3. Provide a traffic control sign table listing the quantities of each permanent sign type proposed for the development. **Traffic control sign table will be listed on sheet C500.**
4. We cannot confirm the easements shown on the plan have been recorded. Please clarify and add the Liber and Page. **Noted.**
5. The plans show Munro Creek, however it is the Walled Lake Branch of the Middle Rouge. Revise the plans accordingly. **Sheet C100 will change from Munro Creek to Walled Lake Branch of the Middle Rouge.**
6. On the soil erosion plan sheet C140, silt fence should be installed beyond the area of disturbance, and the silt fence should be extended to include the riprap area. **Silt fence will be moved to the outside of the limits of disturbance and extended to the Walled Lake Branch of the Middle Rouge**
7. Confirm the required rim adjustments and revise as appropriate. Multiple locations propose a 0.02' adjustment, and one location did not appear to match the elevation of the proposed grades. **Existing and proposed rim elevations will be confirmed and revised where applicable on sheet C110.**
8. The Storm Water Management Plan (SWMP) for this development shall be designed in accordance with the Storm Water Ordinance and Chapter 5 of the Engineering Design Manual. **Noted.**
9. Should the site ever be paved, the required detention volume will then need to be recalculated, and a revised SWMP will be required. **Noted.**
10. Several items regarding the existing basin outlet structure and its outlet to the Rouge River will need to be addressed on the plans:
 - a. The existing basin outlet structure appears to be clogged/sedimented and must be cleaned. **Note on sheet C110 will be added, instructing contractor to expose and clean existing outlet structure.**
 - b. Show the existing grading from the outlet structure to the Rouge River on the plans (this was previously shown on the topographic survey from Warner Cantrell). **Sheet C110 will be enlarged to show existing grading from proposed site to the banks of the Middle River Rouge.**

Paving & Grading

11. Provide a construction materials table on the paving plan listing the quantity and material type for the millings cross section being proposed. **Table will be added to final site plan.**



12. The plans shall show the hydrant and gate well adjustments as appropriate. **Existing and proposed elevations will be shown for both on sheet C110.**

13. A 12-inch depth of millings is noted on plan. However, also provide a detail showing the cross section, including soil preparation/compaction, gradation of millings, and any other applicable information. **Detail will be provided on final site plan.**

14. Per MDOT Special Provision for Crushed Concrete, the use of crushed concrete is prohibited on the project within 100 feet of any water course (stream, river, county drain, etc.) and lake, regardless of the application of location of the water course or lake relative to the project limits. **Add note to use 21AA crushed limestone base for any pavement within 100 feet of a water course.**

Soil Erosion and Sediment Control

15. A SESC permit is required. During the site plan review process, please submit a SESC permit application under separate cover. The application can be found on the City's website at SESC permit application. **Noted. The process of obtaining an SESC permit has begun.**

Agreements

16. A License Agreement will be required for the proposed fence within any utility easements. A plan view and cross-section shall be included with the agreement showing the relationship between the fence foundation and the existing/proposed utility. **A plan sheet will be added to the set to show utility easement cross-sections.**

LANDSCAPING REVIEW

1. Please copy the below information to Sheet LP-1.

- Use of evergreen shrub "wall" in place of required canopy and subcanopy greenbelt trees to provide better screening of equipment – Supported by staff
- Tree diversity does not meet the standard of Landscape Design Manual Section 4 – Supported by staff **Statements will be added to final site plan.**

2. Please add the city project number, JSP23-0047, to the bottom right corner of the Cover Sheet. **Cover sheet will be updated to reflect new city project number.**

3. No transformers needed or proposed. **Note to be added to plans for Final Site Plan.**

4. Invasive species not present. **Noted.**

5. A landscape deviation was granted for the lack of compliance with the Landscape Design Manual's requirement for tree diversity. **Berm and Evergreen screen deviation granted. Noted.**

6. Please convert the Novi Road drawings to an engineering scale. **Plan scales meet requirements. No changes.**



7. Please number the topo sheet consistently with the other sheets. **Sheet C010 will be numbered to match the rest of the set.**
8. Please add an irrigation plan or information as to how plants will be watered sufficiently for establishment and long- term survival. **Irrigation plan to be provided at Final Site Plan**
9. Please add the tree protection fence detail (below) to Sheet C141. **Detail will be placed on Sheet C141.**

TRAFFIC

SIGNAGE

1. Include size of proposed sign as well as layout in future submittal. **Note will be added.**
2. Add note "Signs 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post". **Note will be added.**
3. Add note "Signs greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post" **Note will be added.**
4. Add note "FHWA Standard Alphabet series used for all sign language." **Note will be added.**
5. Add note "High-Intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity." **Note will be added.**

DAVEY RESOURCE GROUP LANDSCAPING

1. Tree credits to be revised per requirements for Final Site Plan.
 - a. Tree #604 - $21''+24'' = 45''/8 = 6$ credits – **Correct on plans**
 - b. Tree #605 – $21''+10'' = 31''$ – No credits required. Must equal 36" or greater.
 - c. Tree #606 – $20''+20''+17''+12'' = 69''/8 = 9$ Credits not 10 as shown on plans.
 - d. Final tree credits required for replacement = 46
2. Financial Guarantees –
 - a) A woodland fence guarantee is not required – **Noted.**
 - b) Woodland replacement financial guarantee to be revised per 46 tree replacements required with 15 Trees planted on site and 31 credits at \$400 or \$12,400.00 paid to City Tree Fund.
 - c) Woodland Replacement Financial Guarantee – **Noted.**
 - d) The applicant will be required to pay \$ 12,400 into the City of Novi Tree Fund (31 trees x \$400 per woodland replacement credit).
 - e) Tree guarantee – **Noted.** Performance bond – **Noted.**

FIRE

1. Shall provide a Knox Lock for the gate off Catherine Industrial Dr. **Noted.**



FEES

1. *Construction inspection fees in the amount of \$11,000.00 must be paid to the Community Development Department. **fees are subject to change. **Noted.***
2. *Legal escrow fees in the amount of \$2,587.50 must be deposited with the Community Development Department. All unused escrow will be returned to the payee at the end of the project (except for escrows that are \$50 or less). This amount includes engineering legal fees only. There may be additional legal fees for planning legal documents. **fees are subject to change. **Noted.***
3. *A street sign financial guarantee in the amount of \$800 (\$400 per traffic control sign proposed) must be posted at the Community Development Department. Signs must be installed in accordance with MMUTCD standards. **Noted.***
4. *A traffic control inspection fee of \$605.00 must be paid to Community Development. This fee is the inspection of traffic control items such as signs, striping, curbs, parking stalls, sidewalk, detectable warning surfaces, and temporary pavement markings. **Noted.***

Sincerely,

Jennifer Smith

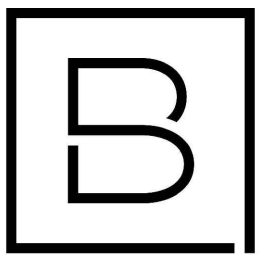
Jennifer Smith, EIT

BERGMANN

SITE PLAN

(Full plan set available for viewing at the Community Development Department)

DEVELOPMENT PLANS FOR PROPOSED MICHIGAN CAT NOVI PUMP & SHORING MAINTENANCE 24800 NOVI ROAD NOVI, MICHIGAN 48375



BERGMANN
ARCHITECTS ENGINEERS PLANNERS

7050 West Saginaw Hwy.
Suite 200
Lansing, MI 48917

www.bergmannpc.com



MICHIGAN CAT NOVI PUMP & SHORING MAINTENANCE

24800 NOVI ROAD
NOVI, MI 48375

SW 1/4 OF SECTION 23, T1N, R8E

Date Revised	Description
08/17/2021	CITY OF NOVI RESUBMITTAL
09/16/2021	CITY OF NOVI RESUBMITTAL
02/28/2022	CITY OF NOVI RESUBMITTAL
03/15/2022	CITY OF NOVI RESUBMITTAL
08/24/2023	CITY OF NOVI SITE PLAN REVIEW

PROJECT CONTACTS

CIVIL ENGINEER

BERGMANN ASSOCIATES
7050 W SAGINAW HWY
LANSING, MI 48917
PAUL FURTAW, P.E.
(517) 272-9835

OWNER

MACALLISTER MACHINERY
6300 SOUTHEASTERN AVE
INDIANAPOLIS, IN 46203
BRIAN SCHULZ
(989) 245-5655

DEVELOPER

GRANGER CONSTRUCTION COMPANY
6267 AURELIUS RD
LANSING, MI 48911
DAN GERMAN
(517) 393-1382

LANDSCAPE ARCHITECT

DEAK PLANNING & DESIGN
143 CADYCENTRE #79
NORTHVILLE, MI 48167
STEPHEN DEAK
(866) 355-4204

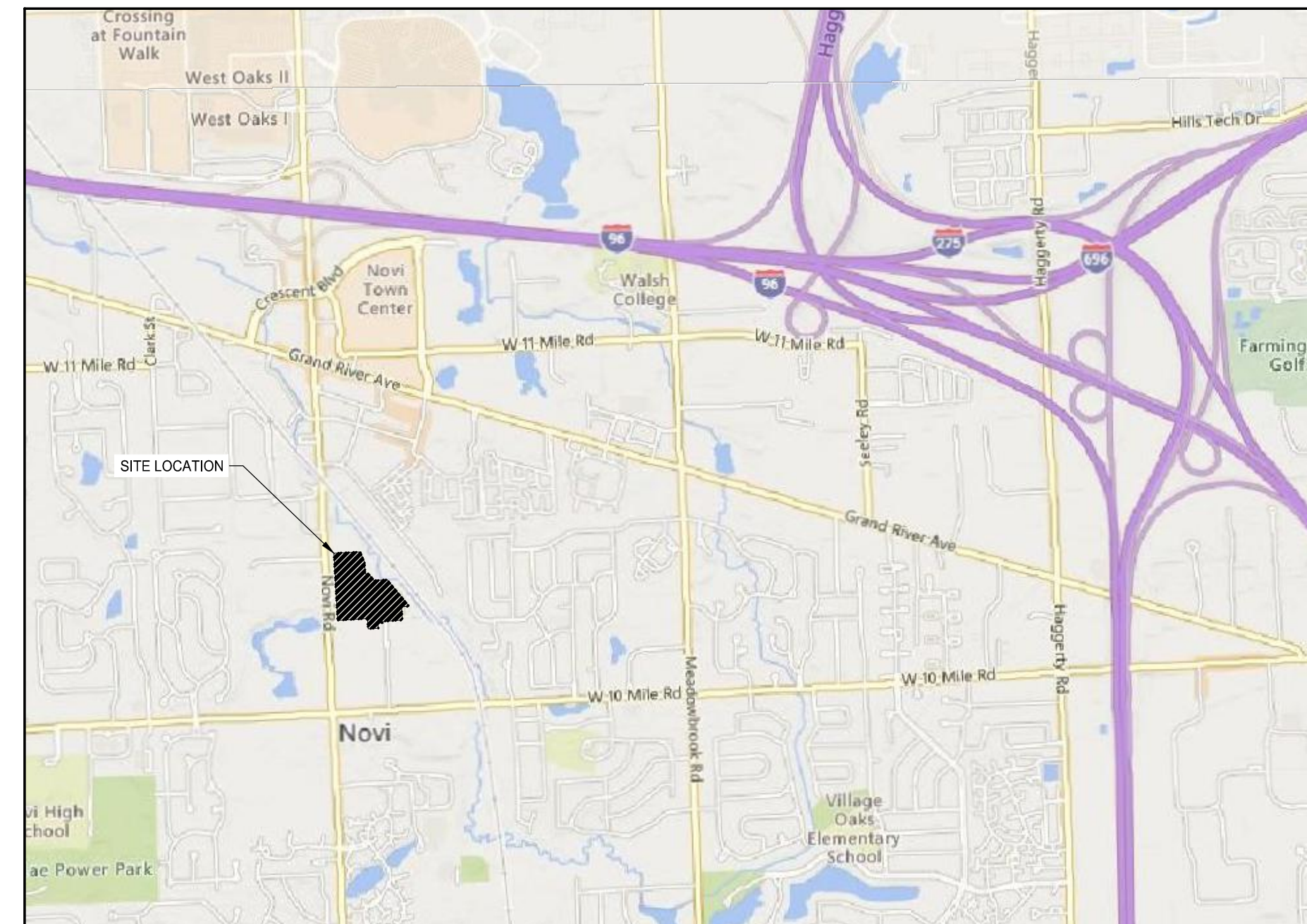
UTILITY AND JURISDICTIONAL CONTACTS

PLANNING AND ZONING

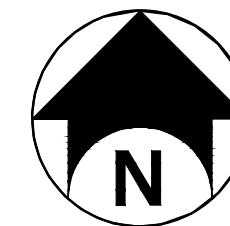
CITY OF NOVI
45175 TEN MILE RD
NOVI, MI 48375
CHRISTIAN CARROLL
(248) 735-5607

ENGINEERING

CITY OF NOVI
45175 TEN MILE RD
NOVI, MI 48375
VICTOR BORON
(248) 735-5695



SITE LOCATION MAP
1" = 2000'



Sheet List Table

Sheet Number	Sheet Title
■ C000	COVER
■ C010	TOPOGRAPHIC SURVEY PLAN
■ C100	OVERALL SITE PLAN
■ C101	SITE PLAN
■ C110	GRADING & UTILITY PLAN
■ C140	SESC PLAN
■ C141	SESC DETAILS
■ C500	SITE DETAILS
■ LP-1	SITE LANDSCAPE PLAN
■ LP-2	LANDSCAPE DETAILS
■ LP-3	FRONTAGE DETAIL
■ LP-4	FRONTAGE DETAIL
■ WP-1	WOODLAND IMPACT PLAN
■ TL-1	TREE INVENTORY

DRAWING KEY

- INCLUDED IN PLAN SET
- NOT INCLUDED IN PLAN SET

LEGAL DESCRIPTION:

PART OF THE SW 1/4 OF SECTION 23, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE W 1/4 CORNER OF SECTION 23; THENCE S03°10'28"E 165.44 FEET ALONG THE WEST LINE OF SAID SECTION 23, BEING APPROXIMATE CENTER LINE OF NOVI ROAD (120' WIDE RIGHT-OF-WAY), TO THE POINT OF BEGINNING; THENCE N87°01'31"E 527.86 FEET; THENCE S22°42'42"E 228.37 FEET; THENCE S03°19'33"E 231.34 FEET; THENCE N86°40'27"E 63.20 FEET; THENCE S39°46'18"E 177.77 FEET; THENCE N86°40'27"E 263.12 FEET; S39°38'42"E 693.34 FEET ALONG AND IN PART OF THE "TEN NOVI INDUSTRIAL PARK SUBDIVISION", (L.178 OF PLATS, PAGE 22, OAKLAND COUNTY RECORDS); THENCE S86°24'42"W 849.70 FEET ALONG AND IN PART OF SAID "TEN NOVI INDUSTRIAL PARK SUBDIVISION"; THENCE S03°10'48"E 193.60 FEET; THENCE S86°24'42"W 599.62 FEET, TO THE WEST LINE OF ; THENCE N03°10'28"W 1351.89 FEET, ALONG THE WEST LINE OF SAID SECTION 23, TO THE POINT OF BEGINNING.

ALSO, PART OF THE SOUTHWEST 1/4 OF SECTION 23, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, TEN-NOVI INDUSTRIAL PARK LOTS 6 TO 9 INCLUSIVE, ALSO VACATED ROAD ADJACENT TO SAME, ALSO PART OF LOTS 15 AND 16, ALSO ALL OF LOT 17, ALSO OUTLOT A, ALL DESCRIBED AS:

BEGINNING AT A POINT DISTANT NORTH 89 DEGREES 34 MINUTES 50 SECONDS EAST 400.00 FEET AND NORTH 00 DEGREES 02 MINUTES 50 SECONDS WEST 812.00 FEET AND NORTH 89 DEGREES 32 MINUTES 20 SECONDS EAST 199.65 FEET AND NORTH 00 DEGREES 03 MINUTES 10 SECONDS WEST 100.00 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 23 AND PROCEEDING THENCE NORTH 00 DEGREES 03 MINUTES 10 SECONDS WEST 400.00 FEET FROM: THENCE 89 DEGREES 32 MINUTES 20 SECONDS EAST 696.65 FEET; THENCE SOUTH 00 DEGREES 02 MINUTES 50 SECONDS WEST 272.38 FEET; THENCE SOUTH 89 DEGREES 32 MINUTES 20 SECONDS WEST 417.00 FEET; THENCE SOUTH 00 DEGREES 02 MINUTES 50 SECONDS WEST 25.42 FEET; THENCE ALONG A CURVE TO THE RIGHT, RADIUS 68.00 FEET (REC. AS 68.60 FEET), CENTRAL ANGLE I17 DEGREES 35 MINUTES 04 SECONDS (REC. AS I17 DEGREES 34 MINUTES 51 SECONDS), AN ARC LENGTH OF 139.55 FEET, WHOSE CHORD BEARS SOUTH 20 DEGREES 03 MINUTES 00 SECONDS EAST 116.32 FEET; THENCE SOUTH 89 DEGREES 32 MINUTES 20 SECONDS WEST 69.97 FEET, THENCE NORTH 00 DEGREES 02 MINUTES 50 SECONDS EAST 7.38 FEET; THENCE SOUTH 89 DEGREES 32 MINUTES 20 SECONDS WEST 248.95 FEET TO THE POINT OF BEGINNING. CONTAINING 5.29 ACRES OF LAND AND BEING SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD AS THEY MAY AFFECT SAID LAND.

CITY PROJECT # JZ21-0022

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

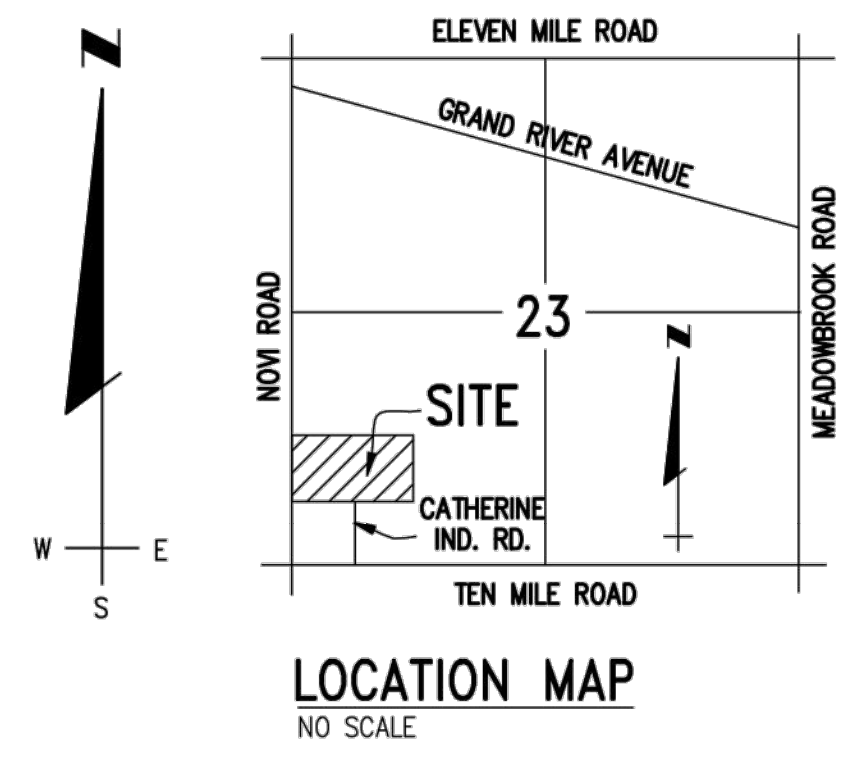
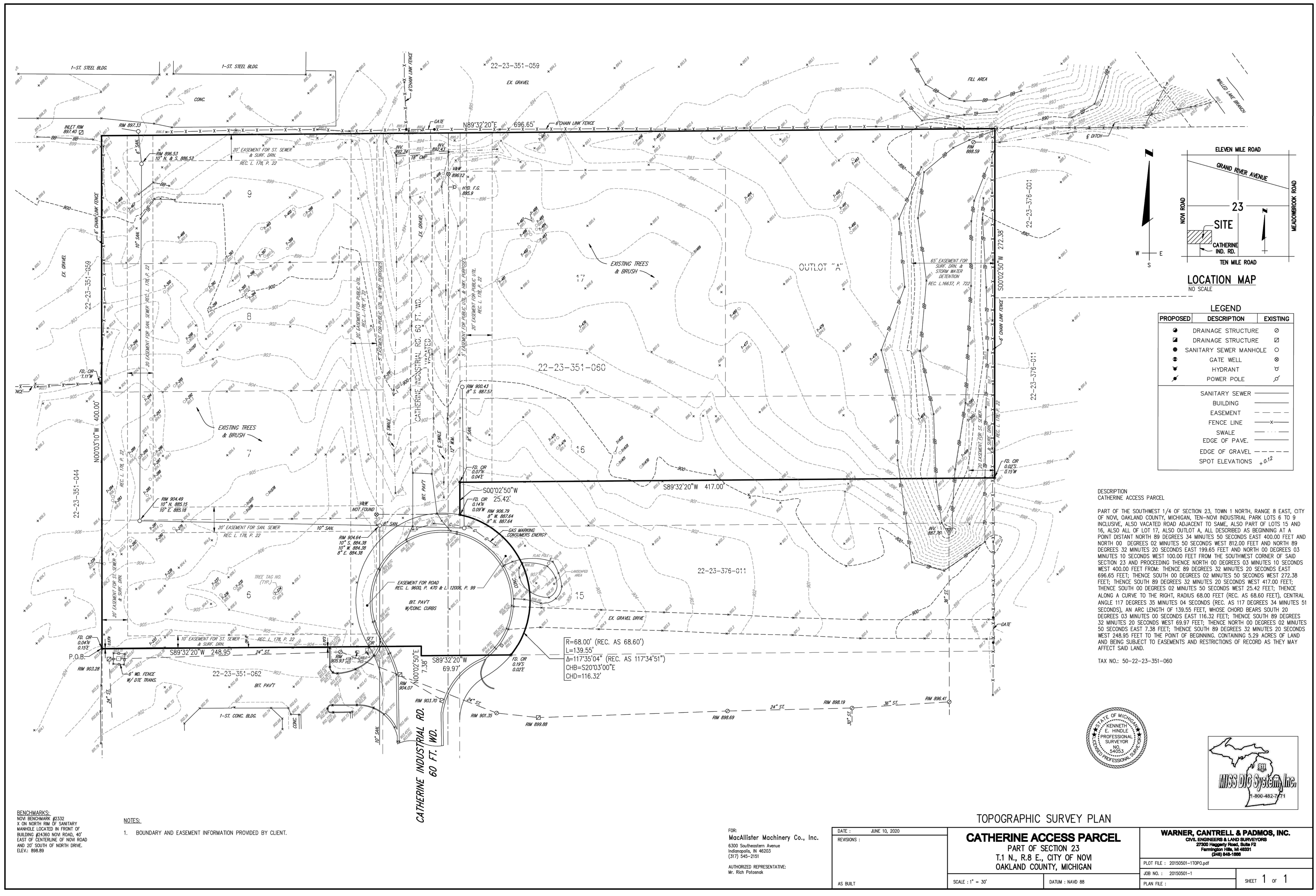
Project Manager	Discipline Lead
T. REDER	P. FURTAW, PE
Designer	Reviewer
J. SMITH	P. FURTAW, PE
Date Issued	Project Number
AUG 17, 2021	015181.00

Sheet Name

COVER

Drawing Number

C000



LEGEND

PROPOSED	DESCRIPTION	EXISTING
	DRAINAGE STRUCTURE	
	SANITARY SEWER MANHOLE	
	GATE WELL	
	HYDRANT	
	POWER POLE	
SANITARY SEWER		
BUILDING		
EASEMENT		
FENCE LINE		
SWALE		
EDGE OF PAVE.		
EDGE OF GRAVEL		
SPOT ELEVATIONS +0.12		

DESCRIPTION
CATHERINE ACCESS PARCEL

PART OF THE SOUTHWEST 1/4 OF SECTION 23, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOV, OAKLAND COUNTY, MICHIGAN, TEN-NOVI INDUSTRIAL PARK LOTS 6 TO 9 INCLUSIVE, ALSO VACATED ROAD ADJACENT TO SAME, ALSO PART OF LOTS 15 AND 16, ALSO ALL OF LOT 17, ALSO OUTLOT A, ALL DESCRIBED AS BEGINNING AT A POINT DISTANT NORTH 89 DEGREES 34 MINUTES 50 SECONDS EAST 400.00 FEET AND NORTH 00 DEGREES 02 MINUTES 50 SECONDS WEST 812.00 FEET AND NORTH 89 DEGREES 32 MINUTES 20 SECONDS EAST 199.65 FEET AND NORTH 00 DEGREES 03 MINUTES 10 SECONDS WEST 100.00 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 23 AND PROCEEDING THENCE NORTH 00 DEGREES 03 MINUTES 10 SECONDS WEST 400.00 FEET FROM: THENCE 89 DEGREES 32 MINUTES 20 SECONDS EAST 696.65 FEET; THENCE SOUTH 00 DEGREES 02 MINUTES 50 SECONDS WEST 25.42 FEET; THENCE SOUTH 89 DEGREES 32 MINUTES 20 SECONDS WEST 417.00 FEET; THENCE SOUTH 00 DEGREES 02 MINUTES 50 SECONDS WEST 25.42 FEET; THENCE ALONG A CURVE TO THE RIGHT, RADIUS 68.00 FEET (REC. AS 68.60 FEET), CENTRAL ANGLE 117 DEGREES 35 MINUTES 04 SECONDS (REC. AS 117 DEGREES 34 MINUTES 51 SECONDS), AN ARC LENGTH OF 139.55 FEET, WHOSE CHORD BEARS SOUTH 20 DEGREES 03 MINUTES 00 SECONDS EAST 116.32 FEET; THENCE SOUTH 89 DEGREES 32 MINUTES 20 SECONDS WEST 69.97 FEET; THENCE NORTH 00 DEGREES 02 MINUTES 50 SECONDS EAST 7.38 FEET; THENCE SOUTH 89 DEGREES 32 MINUTES 20 SECONDS WEST 248.95 FEET TO THE POINT OF BEGINNING; CONTAINING 5.29 ACRES OF LAND AND BEING SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD AS THEY MAY AFFECT SAID LAND.

TAX NO.: 50-22-23-351-060

BENCHMARKS:
NOV BENCHMARK #2332
X ON NORTH RM OF SANITARY MANHOLE LOCATED IN FRONT OF BUILDING #24360 NOV ROAD, 40' EAST OF CENTERLINE OF NOV ROAD AND 20' SOUTH OF NORTH DRIVE. ELEV.: 898.89

NOTES:
1. BOUNDARY AND EASEMENT INFORMATION PROVIDED BY CLIENT.

FOR:
MacAllister Machinery Co., Inc.
6300 Southwestern Avenue
Indianapolis, IN 46203
(317) 545-2151
AUTHORIZED REPRESENTATIVE:
Mr. Rich Potosnak

DATE: JUNE 10, 2020
REVISIONS:
AS BUILT

CATHERINE ACCESS PARCEL
PART OF SECTION 23
T.1 N., R.8 E., CITY OF NOV
OAKLAND COUNTY, MICHIGAN

WARNER, CANTRELL & PADMOS, INC.
CIVIL ENGINEERS & LAND SURVEYORS
27000 Haggerty Road, Suite F2
Farmington Hills, MI 48331
(248) 848-1086
PLOT FILE: 20150501-1TOP0.pdf
JOB NO.: 20150501-1
SHEET 1 OF 1

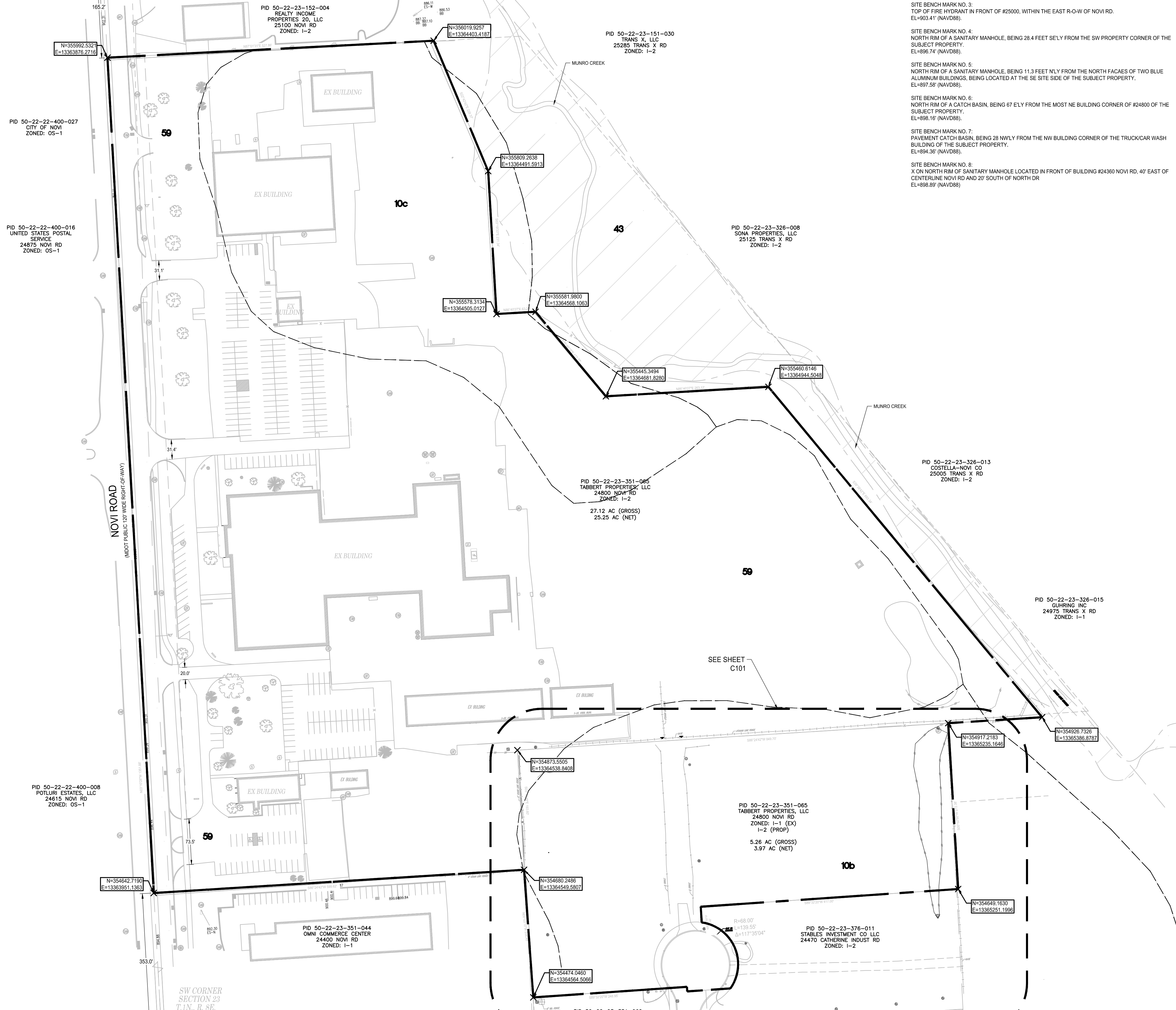


TOPOGRAPHIC SURVEY PLAN

SCALE: 1" = 30'

DATUM: NAVD 88

W 1/4 CORNER
SECTION 23
T.1N., R. 8E.
CITY OF NOVI, OAKLAND COUNTY
STATE OF MICHIGAN, U S A



- SITE BENCH MARK NO. 1:
TOP CHISELED "X" IN NORTH CONCRETE CURB OF THE SITE ACCESS AT THE BUILDING #24800, BEING 3.9 FEET NELY FROM THE EAST EDGE OF SIDE WALK, WITHIN THE EAST R-O-W OF NOVI RD.
EL=904.50' (NAVD88).
- SITE BENCH MARK NO. 2:
TOP OF FIRE HYDRANT IN FRONT OF #24800, WITHIN THE EAST R-O-W OF NOVI RD.
EL=904.75' (NAVD88).
- SITE BENCH MARK NO. 3:
TOP OF FIRE HYDRANT IN FRONT OF #25000, WITHIN THE EAST R-O-W OF NOVI RD.
EL=903.41' (NAVD88).
- SITE BENCH MARK NO. 4:
NORTH RIM OF A SANITARY MANHOLE, BEING 28.4 FEET SELY FROM THE SW PROPERTY CORNER OF THE SUBJECT PROPERTY.
EL=896.74' (NAVD88).
- SITE BENCH MARK NO. 5:
NORTH RIM OF A SANITARY MANHOLE, BEING 11.3 FEET NLY FROM THE NORTH FACIES OF TWO BLUE ALUMINUM BUILDINGS, BEING LOCATED AT THE SE SITE SIDE OF THE SUBJECT PROPERTY.
EL=897.59' (NAVD88).
- SITE BENCH MARK NO. 6:
NORTH RIM OF A CATCH BASIN, BEING 67' ELY FROM THE MOST NE BUILDING CORNER OF #24800 OF THE SUBJECT PROPERTY.
EL=898.16' (NAVD88).
- SITE BENCH MARK NO. 7:
PAVEMENT CATCH BASIN, BEING 28' NWLY FROM THE NW BUILDING CORNER OF THE TRUCK/CAR WASH BUILDING OF THE SUBJECT PROPERTY.
EL=894.36' (NAVD88).
- SITE BENCH MARK NO. 8:
X ON NORTH RIM OF SANITARY MANHOLE LOCATED IN FRONT OF BUILDING #24360 NOVI RD, 40' EAST OF CENTERLINE NOVI RD AND 20' SOUTH OF NORTH DR.
EL=898.89' (NAVD88).

SITE LEGEND:

- PROPERTY LINE
- REFERS TO THE APPROPRIATE M.D.M.B. S.E.S.C. KEYING SYSTEM DETAIL
- SOIL BOUNDARY

SOIL TYPES:

- 10c** MARLETTE SANDY LOAM, 6 TO 12 PERCENT SLOPES
- 10b** MARLETTE SANDY LOAM, 1 TO 6 PERCENT SLOPES
- 43** SLOAN-MARLETTE ASSOCIATION
- 59** URBAN LAND



7050 West Saginaw Hwy.
Suite 200
Lansing, MI 48917
www.bergmannpc.com



**MICHIGAN CAT
NOVI
PUMP & SHORING
MAINTENANCE**

24800 NOVI ROAD
NOVI, MI 48375
SW 1/4 OF SECTION 23, T1N, R8E

Date Revised	Description
08/17/2021	CITY OF NOVI RESUBMITTAL
09/16/2021	CITY OF NOVI RESUBMITTAL
02/28/2022	CITY OF NOVI RESUBMITTAL
03/15/2022	CITY OF NOVI RESUBMITTAL
08/24/2023	CITY OF NOVI SITE PLAN REVIEW

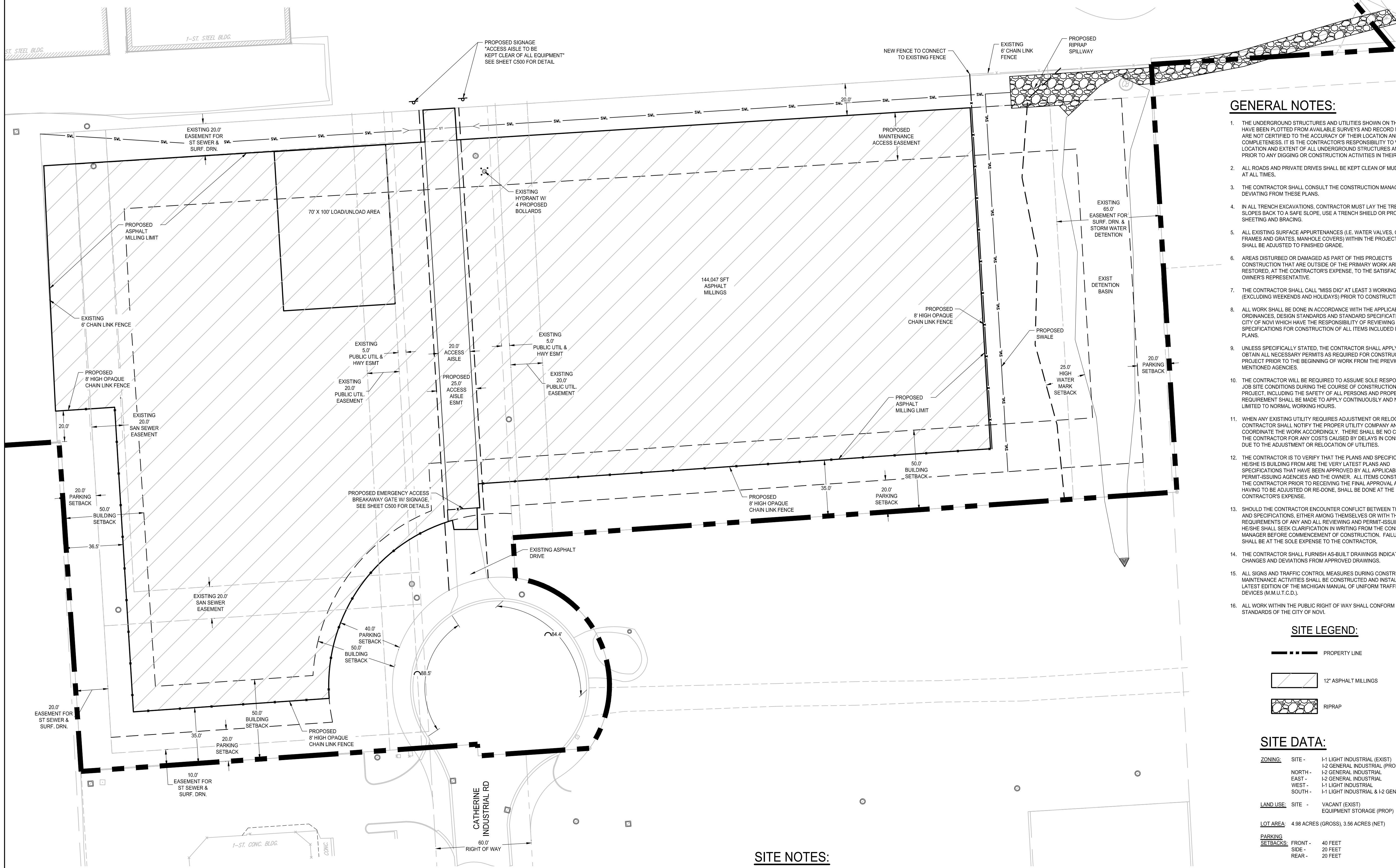
Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
T. REDER	P. FURTAW, PE
Designer	Reviewer
J. SMITH	P. FURTAW, PE
Date Issued	Project Number
AUG 17, 2021	015181.00

Sheet Name

OVERALL SITE PLAN

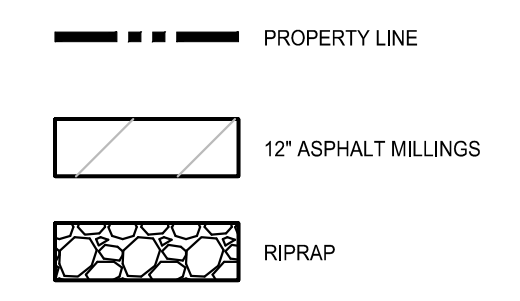
Drawing Number
C100



GENERAL NOTES:

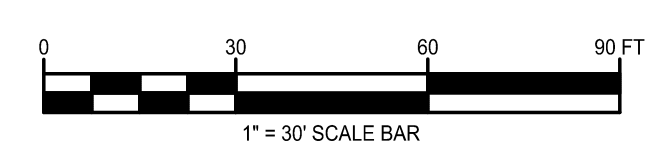
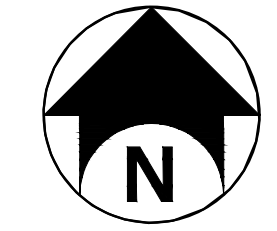
1. THE UNDERGROUND STRUCTURES AND UTILITIES SHOWN ON THESE PLANS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORD MAPS. THEY ARE NOT CERTIFIED TO THE ACCURACY OF THEIR LOCATION AND/OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENT OF ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION ACTIVITIES IN THEIR VICINITY.
2. ALL ROADS AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF MUD, DEBRIS ETC. AT ALL TIMES.
3. THE CONTRACTOR SHALL CONSULT THE CONSTRUCTION MANAGER BEFORE DEVIATING FROM THESE PLANS.
4. IN ALL TRENCH EXCAVATIONS, CONTRACTOR MUST LAY THE TRENCH SIDE SLOPES BACK TO A SAFE SLOPE, USE A TRENCH SHIELD OR PROVIDE SHEETING AND BRACING.
5. ALL EXISTING SURFACE APPURTENANCES (I.E. WATER VALVES, CATCH BASIN FRAMES AND GRATES, MANHOLE COVERS) WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO FINISHED GRADE.
6. AREAS DISTURBED OR DAMAGED AS PART OF THIS PROJECT'S CONSTRUCTION THAT ARE OUTSIDE OF THE PRIMARY WORK AREA SHALL BE RESTORED, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
7. THE CONTRACTOR SHALL CALL "MISS DIG" AT LEAST 3 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO CONSTRUCTION.
8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE CODES, ORDINANCES, DESIGN STANDARDS AND STANDARD SPECIFICATIONS OF THE CITY OF NOVI WHICH HAVE THE RESPONSIBILITY OF REVIEWING PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF ALL ITEMS INCLUDED IN THESE PLANS.
9. UNLESS SPECIFICALLY STATED, THE CONTRACTOR SHALL APPLY FOR AND OBTAIN ALL NECESSARY PERMITS AS REQUIRED FOR CONSTRUCTION OF THIS PROJECT PRIOR TO THE BEGINNING OF WORK FROM THE PREVIOUSLY MENTIONED AGENCIES.
10. THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
11. WHEN ANY EXISTING UTILITY REQUIRES ADJUSTMENT OR RELOCATION, THE CONTRACTOR SHALL NOTIFY THE PROPER UTILITY COMPANY AND COORDINATE THE WORK ACCORDINGLY. THERE SHALL BE NO CLAIM MADE BY THE CONTRACTOR FOR ANY COSTS CAUSED BY DELAYS IN CONSTRUCTION DUE TO THE ADJUSTMENT OR RELOCATION OF UTILITIES.
12. THE CONTRACTOR IS TO VERIFY THAT THE PLANS AND SPECIFICATIONS THAT HE/SHE IS BUILDING FROM ARE THE VERY LATEST PLANS AND SPECIFICATIONS THAT HAVE BEEN APPROVED BY ALL APPLICABLE PERMIT-ISSUING AGENCIES AND THE OWNER. ALL ITEMS CONSTRUCTED BY THE CONTRACTOR PRIOR TO RECEIVING THE FINAL APPROVAL AND PERMITS HAVING TO BE ADJUSTED OR RE-DONE, SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
13. SHOULD THE CONTRACTOR ENCOUNTER CONFLICT BETWEEN THESE PLANS AND SPECIFICATIONS, EITHER AMONG THEMSELVES OR WITH THE REQUIREMENTS OF ANY AND ALL REVIEWING AND PERMIT-ISSUING AGENCIES, HE/SHE SHALL SEEK CLARIFICATION IN WRITING FROM THE CONSTRUCTION MANAGER BEFORE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT THE SOLE EXPENSE TO THE CONTRACTOR.
14. THE CONTRACTOR SHALL FURNISH AS-BUILT DRAWINGS INDICATING ALL CHANGES AND DEVIATIONS FROM APPROVED DRAWINGS.
15. ALL SIGNS AND TRAFFIC CONTROL MEASURES DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES SHALL BE CONSTRUCTED AND INSTALLED PER THE LATEST EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.M.U.T.C.D.).
16. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL CONFORM TO THE STANDARDS OF THE CITY OF NOVI.

SITE LEGEND:



SITE DATA:

ZONING:	SITE - I-1 LIGHT INDUSTRIAL (EXIST) I-2 GENERAL INDUSTRIAL (PROP)
	NORTH - I-2 GENERAL INDUSTRIAL EAST - I-2 GENERAL INDUSTRIAL WEST - I-1 LIGHT INDUSTRIAL SOUTH - I-1 LIGHT INDUSTRIAL & I-2 GENERAL INDUSTRIAL
LAND USE:	SITE - VACANT (EXIST) EQUIPMENT STORAGE (PROP)
LOT AREA:	4.98 ACRES (GROSS), 3.56 ACRES (NET)
PARKING SETBACKS:	FRONT - 40 FEET SIDE - 20 FEET REAR - 20 FEET



SITE NOTES:

1. NO BUILDINGS ARE PROPOSED TO BE CONSTRUCTED ON THE ACCESSORY USE PARCEL.
2. DESIRED TRAFFIC FLOW WILL BOTH INGRESS AND EGRESS THROUGH THE NOVI ROAD ENTRANCE. CATHERINE INDUSTRIAL DRIVE WILL BE USED AS EMERGENCY ACCESS ONLY.
3. NO SANITARY SEWER AND NO WATERMAIN LINES ARE PROPOSED TO BE INSTALLED.
4. HEIGHT OF TALLEST EQUIPMENT STORED = 10'
5. NO SITE LIGHTING IS PROPOSED.
6. CITY OF NOVI RIGHT-OF-WAY PERMIT IS REQUIRED FOR WORK WITHIN ANY PUBLIC ROAD RIGHT-OF-WAY AND/OR CITY EASEMENT.

SETBACKS I-2 PER ZONING ORDINANCE:

BUILDING SETBACKS:	FRONT 100 FT REAR 50 FT SIDE 50 FT	PARKING SETBACKS:	FRONT 40 FT REAR 20 FT SIDE 20 FT
---------------------------	--	--------------------------	---

7050 West Saginaw Hwy.
Suite 200
Lansing, MI 48917
www.bergmannpc.com

GRANGER
ADVANCE THE ART OF BUILDING

**MICHIGAN CAT
NOVI
PUMP & SHORING
MAINTENANCE**

24800 NOVI ROAD
NOVI, MI 48375

SW 1/4 OF SECTION 23, T1N, R8E

Date Revised	Description
08/17/2021	CITY OF NOVI RESUBMITTAL
09/16/2021	CITY OF NOVI RESUBMITTAL
02/28/2022	CITY OF NOVI RESUBMITTAL
03/15/2022	CITY OF NOVI RESUBMITTAL
08/24/2023	CITY OF NOVI SITE PLAN REVIEW

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
T. REDER	P. FURTAW, PE
Designer	Reviewer
J. SMITH	P. FURTAW, PE
Date Issued	Project Number
AUG 17, 2021	015181.00

Sheet Name

SITE PLAN

Drawing Number

C101



GRADING NOTES

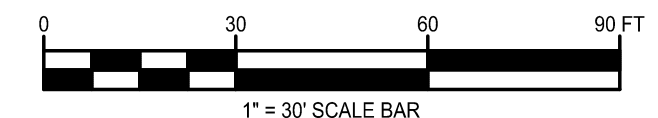
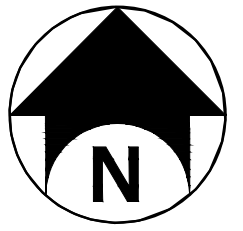
- REFER TO EROSION AND SEDIMENT CONTROL PLAN FOR REQUIRED EROSION AND SEDIMENT CONTROL MEASURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROL MEASURES. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE VEGETATION HAS OCCURRED COMPLETELY.
- ALL SILT FENCE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED AT A MINIMUM OF EVERY 3 MONTHS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
- SILT FENCE, JUTE MESH, AND/OR EROSION CONTROL BLANKETS WILL BE USED ON STEEP SLOPES AND WHEREVER NECESSARY TO CONTROL EROSION AND SILTATION OF EXISTING DRAINAGE SYSTEMS AS ORDERED BY THE ENGINEER OR SPECIFIED ON PLANS.
- THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/FER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL, EROSION CONTROL STRUCTURES, TREE PROTECTION AND PRESERVATION THROUGHOUT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE PROTECTED FROM EROSION EITHER BY MULCH OR TEMPORARY SEEDING WITHIN 2 WEEKS OF DISTURBANCE.
- ALL SITE GRADING MUST BE PERFORMED TO INSURE POSITIVE DRAINAGE ACROSS THE ENTIRE SITE, THROUGHOUT THE PERIOD OF CONSTRUCTION AND AFTER PROJECT COMPLETION.
- ALL SEDIMENTATION AND SOIL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF SITE GRADING AND MUST CONFORM TO PART 91 OF ACT 451 OF THE PUBLIC ACTS OF 1994 AS AMENDED. ALL APPLICABLE PERMITS SHALL BE OBTAINED BEFORE IMPLEMENTING THESE MEASURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SEDIMENTATION AND SOIL EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION.
- IN GENERAL, EARTHWORK AND PAVEMENT CONSTRUCTION SHOULD BE PERFORMED IN ACCORDANCE WITH THE LATEST MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNLESS OTHERWISE NOTED.
- REMOVE ANY EXISTING TOPSOIL, ORGANIC SOILS, UNSUITABLE FILL, VEGETATION, TREES OR OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREE ROOTS SHOULD BE COMPLETELY REMOVED.
- EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE RECOMMENDED PAVEMENT SYSTEM.
- ON SITE FILL MATERIAL CAN BE USED IF THE SPECIFIED COMPACTION REQUIREMENTS CAN BE ACHIEVED. IF ON SITE MATERIAL IS USED, IT SHOULD BE CLEAN AND FREE OF FROZEN SOIL, ORGANICS, OR OTHER DELETERIOUS MATERIALS.
- THE FINAL SUBGRADE SHOULD BE THOROUGHLY PROOFROLLED USING A LOADED TANDERABLE TRUCK UNDER THE OBSERVATION OF GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS.
- IF DEWATERING IS ANTICIPATED OR ENCOUNTERED DURING CONSTRUCTION, A DEWATERING PLAN MUST BE SUBMITTED TO THE ENGINEER DIVISION FOR REVIEW.
- EXISTING BASIN OUTLET STRUCTURE AND PIPE OUTLET TO BE CLEANED OF ALL DEBRIS AND SEDIMENT.

GRADING LEGEND:

- 75 — PROPOSED MAJOR CONTOUR
- 76 — PROPOSED MINOR CONTOUR
- × 77.73 PROPOSED SPOT ELEVATION
- × EG-77.73 EXISTING ELEVATION
- × HP-77.73 PROPOSED HIGH POINT ELEVATION
- × TG-77.73 PROPOSED TOP OF GRATE ELEVATION
- 2.5% — PROPOSED SLOPE
- 72 — EXISTING CONTOUR

UTILITY LEGEND:

- ⊙ HYDRANT
- ⊙ VALVE/CURB BOX
- W — WATER MAIN
- S — SANITARY SEWER
- SANITARY SEWER MANHOLE



**MICHIGAN CAT
NOVI
PUMP & SHORING
MAINTENANCE**

24800 NOVI ROAD
NOVI, MI 48375

SW 1/4 OF SECTION 23, T1N, R8E

Date Revised	Description
08/17/2021	CITY OF NOVI RESUBMITTAL
09/16/2021	CITY OF NOVI RESUBMITTAL
02/28/2022	CITY OF NOVI RESUBMITTAL
03/15/2022	CITY OF NOVI RESUBMITTAL
08/24/2023	CITY OF NOVI SITE PLAN REVIEW

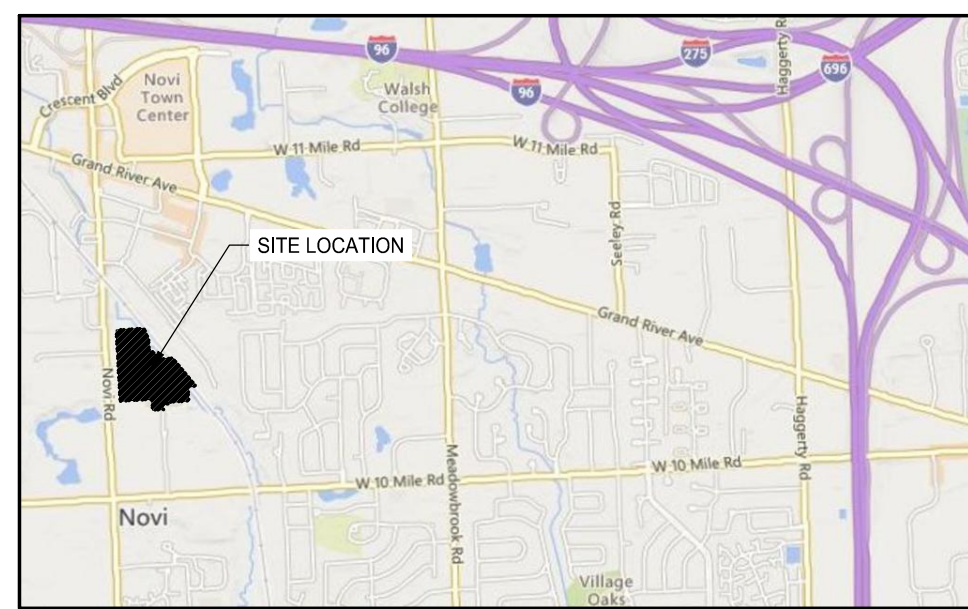
Project Manager	Discipline Lead
T. REDER	P. FURTAW, PE
Designer	Reviewer
J. SMITH	P. FURTAW, PE
Date Issued	Project Number
AUG 17, 2021	015181.00

Sheet Name

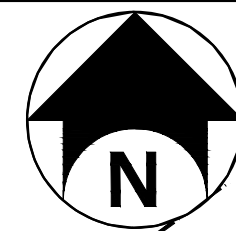
GRADING & UTILITY PLAN

Drawing Number

C110



SITE LOCATION MAP
1" = 3000'



SESC NOTES:

- CONTRACTOR IS TO CONTACT THE CITY OF NOVI COMMUNITY DEVELOPMENT DEPARTMENT OFFICE AT LEAST THREE (3) DAYS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL SOIL EROSION CONTROL MEASURES DURING CONSTRUCTION. SEESC MEASURES SHOULD BE CHECKED DAILY AND AFTER STORM EVENTS FOR EFFECTIVENESS. OWNER SHALL MAINTAIN ALL PERMANENT SEESC MEASURES AFTER CONSTRUCTION IS COMPLETE. ALL SEESC MEASURES SHALL BE CHECKED MONTHLY FOR ONE YEAR FOR EFFECTIVENESS. ANY MEASURES THAT HAVE FAILED SHALL BE REPAIRED AND/OR REPLACED.
- ALL TEMPORARY S.E.C. MEASURES SHALL BE MAINTAINED 30 DAYS AFTER CONSTRUCTION IS COMPLETE OR UNTIL GRADED AREAS ARE STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING TEMPORARY SEESC MEASURES.
- ALL GRADED AREAS EXPOSED FOR MORE THAN 20 DAYS SHALL HAVE STRAW MULCH APPLIED AT THE RATE OF 1 TONS / ACRE. AREAS NOT AT FINISHED GRADE AND WHICH WILL BE DISTURBED AGAIN WITHIN ONE YEAR MUST BE SEEDED AND MULCHED WITH QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. AREAS WHICH ARE AT FINISHED GRADE AND WILL NOT BE DISTURBED FOR A YEAR MUST BE SEEDED AND MULCHED WITH A PERMANENT SEED MIXTURE.
- ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO THE SITE FOR GRADING AND TO CONSTRUCT SEDIMENT BASINS, SEDIMENT TRAPS, DIVERSION TERRACES, INTERCEPTOR CHANNELS, AND/OR CHANNELS OF CONVEYANCE AS APPROPRIATE.
- EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE WITH THE TRIBUTARY AREAS OF THOSE CONTROLS.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROL ON A DAILY BASIS AND AFTER EACH STORM EVENT. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RESGRADING, RESEEDING, REMULCHING, AND RETENING, MUST BE PERFORMED IMMEDIATELY.
- CONTACT INFORMATION FOR THE ON-SITE EXCAVATING CONTRACTORS, HAULING CONTRACTORS, ETC., PERSON AND COMPANY, INCLUDING OFFICE, MOBILE AND FAX PHONE NUMBERS, SHALL BE SUBMITTED TO THE CITY OF NOVI COMMUNITY DEVELOPMENT DEPARTMENT PRIOR TO COMMENCEMENT OF EARTH DISTURBANCE.
- APPROVAL OF THE SOIL EROSION PERMIT DOES NOT AUTHORIZE ANY EARTH DISTURBANCE ACTIVITY OFF-SITE WITHOUT WRITTEN PERMISSION FOR THAT EARTH DISTURBANCE ACTIVITY FROM THE LANDOWNER.
- AS THE PROJECT WILL RESULT IN THE DISTURBANCE OF MORE THAN FIVE ACRES, OF LAND, A NOTICE OF COVERAGE PERMIT IS REQUIRED FROM EGLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO THE CONDITIONS OF THE NOC PERMIT AND SHALL BE REQUIRED TO COMPLETE THE NECESSARY DOCUMENTATION. UNTIL THE SITE IS PERMANENTLY STABILIZED AND THE SEESC AND THE NOC PERMITS ARE CLOSED, THE CLINTON COUNTY BUILDING DEPARTMENT SHALL BE COPIED ON THE REQUIRED WEEKLY LOG REPORTS BY THE SECOND AND FOURTH FRIDAYS OF EACH MONTH.

SEQUENCE OF CONSTRUCTION NOTES:

NOTE: THIS TEXT IS NOT INTENDED TO DICTATE A METHODS AND MEANS TO THE CONTRACTOR. IT IS THE SUGGESTED PROCESS FOR CONSTRUCTION ACTIVITIES IN ORDER TO MINIMIZE THE AMOUNT OF SOIL EROSION TO THE SITE AND TO COMPLY WITH THE REQUIREMENTS OF THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT. AS PART OF THE PERMIT CONDITIONS, THE CONTRACTOR WILL BE HELD TO THIS SCHEDULE AND TO THE SOIL EROSION PLAN. IF THE CONTRACTOR SEES FIT, HE OR SHE MAY AMEND THIS SCHEDULE AND/OR PLAN, BUT A REVISED WRITTEN SEQUENCING SCHEDULE AND/OR SOIL EROSION PLAN MUST BE SUBMITTED TO THE CITY OF NOVI COMMUNITY DEVELOPMENT DEPT FOR APPROVAL PRIOR TO DEVIATING TO THIS SCHEDULE AND/OR PLAN.

- STEP 1: INSTALL TEMPORARY SOIL EROSION CONTROL MEASURES
- STEP 2: ROUGH GRADING, STRIPPING AND STOCKPILING TOPSOIL. AREAS THAT WILL NOT BE FURTHER DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY SEEDED WITH MULCH. EXCESS MATERIAL SHALL EITHER BE STOCKPILED IN THE AREAS SHOWN ON THE DRAWINGS, LEVELLED ON SITE, OR DISPOSED OF OFF-SITE IN A LEGAL MANNER. STOCKPILES SHALL BE TEMPORARILY STABILIZED WITH SILT FENCE AND/OR TEMPORARY SEEDING.
- STEP 3: UNDERGROUND UTILITIES, EXCAVATED MATERIAL FOR UTILITIES SHALL EITHER BE STOCKPILED, LEVELLED ON SITE, OR DISPOSED OF OFF-SITE IN A LEGAL MANNER.
- STEP 4: FINAL GRADING (1) - AREAS OUTSIDE THE INFLUENCE OF FURTHER CONSTRUCTION ACTIVITIES SHALL BE FINAL GRADED AND STABILIZED WITH PERMANENT SEED AND MULCH.
- STEP 5: PAVING.
- STEP 6: FINAL GRADING (2) ALL REMAINING AREAS SHALL BE SEEDED AND MULCHED WITHIN 5 DAYS OF FINAL GRADING.
- STEP 7: TEMPORARY SOIL EROSION CONTROL MEASURES ARE TO BE REMOVED WHEN PERMANENT MEASURES ARE IN PLACE AND THE AREA IS STABILIZED.

CONTINUED MAINTENANCE OF ALL PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE OWNER. MAINTENANCE RESPONSIBILITIES SHALL BECOME A PART OF ANY SALES OR EXCHANGE AGREEMENT FOR THE LAND ON WHICH THE PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE LOCATED.

SESC KEYING SYSTEM

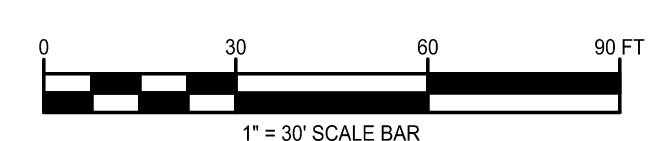
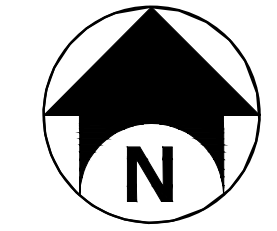
KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
E5	DUST CONTROL		For use on construction sites, unpaved roads, etc. to reduce dust and sedimentation from wind and construction activities.
E6	MULCH		For use in areas subject to erosive surface flows or severe wind or on newly seeded areas.
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).
E12	RIPRAP		Use along shorelines, waterways, or where concentrated flows occur. Slows velocity, reduces sediment load, and reduces erosion.
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.

SESC LEGEND:

- S53** REFERS TO THE APPROPRIATE M.D.M.B. S.E.S.C. KEYING SYSTEM DETAIL
- SILT** SILT FENCE
- LD** LIMITS OF EARTH DISTURBANCE (4.40 ACRES)
- SOIL BOUNDARY

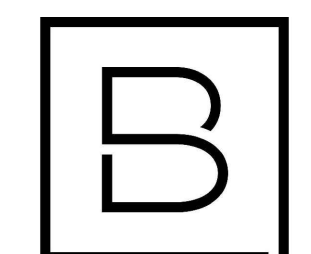
SOIL TYPES:

- 10b** MARLETTE SANDY LOAM, 1 TO 6 PERCENT SLOPES



	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL
CONSTRUCTION SEQUENCE	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
TEMPORARY CONSTRUCTION EXITS												
TEMPORARY CONTROL MEASURES												
SEDIMENT CONTROL BASIN(S)/TRAP(S)												
STRIP & STOCKPILE TOPSOIL												
ROUGH GRADING												
STORM FACILITIES												
SITE CONSTRUCTION												
FINISH GRADING												
PERMANENT CONTROL STRUCTURES												
LANDSCAPING/SEED/FINAL STABILIZATION												

1) CONTRACTOR MUST COMPLETE TABLE WITH ESTIMATED DATES OF PROJECT ACTIVITIES PRIOR TO BMP CERTIFICATION.
2) TIME SCHEDULE MUST CONCLUDE WITH THE SWPPP IMPLEMENTATION SEQUENCE.



BERGMANN
ARCHITECTS ENGINEERS PLANNERS

7050 West Saginaw Hwy.
Suite 200
Lansing, MI 48917

www.bergmannpc.com



**MICHIGAN CAT
NOVI
PUMP & SHORING
MAINTENANCE**

24800 NOVI ROAD
NOVI, MI 48375

SW 1/4 OF SECTION 23, T1N, R8E

Date Revised	Description
08/17/2021	CITY OF NOVI RESUBMITTAL
09/16/2021	CITY OF NOVI RESUBMITTAL
02/28/2022	CITY OF NOVI RESUBMITTAL
03/15/2022	CITY OF NOVI RESUBMITTAL
08/24/2023	CITY OF NOVI SITE PLAN REVIEW

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
T. REDER	P. FURTAU, PE
Designer	Reviewer
J. SMITH	P. FURTAU, PE
Date Issued	Project Number
AUG 17, 2021	015181.00

Sheet Name

SESC PLAN

Drawing Number

C140

ARCH D 24436

E5 DUST CONTROL SPECIFICATIONS

When

- On construction sites during periods of low precipitation, low humidity, and high temperature or high winds.

Why

- To reduce dust and sedimentation from wind and construction activities.

Where

- Use on unpaved roadways, construction sites with vehicle traffic, soil stockpile areas, and general areas with unstabilized, or fine soils.

How

1. Dust control applications can include watering, chemical dust suppression, gravel or asphalt surfacing, temporary aggregate cover, and haul truck covers.
2. Minimize length of time vulnerable areas are exposed on construction site.
3. Identify and stabilize key access points prior to initiating construction.
4. Quickly stabilize exposed soil by vegetation, mulch, soil erosion control blankets, spray-on adhesives, sprinkling, or stone layering to minimize areas in need of dust control.
5. Follow manufacturers instructions regarding application of any dust palliative. Pay particular attention to mixing details.
6. Apply dust suppressant to surfaces using a pressure type water distributor truck equipped with a spray system.
7. The number of applications to be determined by site engineer.
8. Immediately clean-up sediment tracked onto paved roads.
9. Limit vehicle traffic to 15 miles per hour.
10. Utilize aggregate cover on access, parking, and paved roads.
11. Keep construction traffic directed to stabilized site roadways when possible.

DUST CONTROL SPECIFICATIONS E5

Maintenance

- Frequent, even daily application may be required to increase effectiveness.
- Do not overwater, as overwatering may cause erosion.
- Oil should not be used for dust control, as it may enter a drainageway through runoff or seeping into the soil.

Limitations

- To continue its effectiveness, dust control application needs to be applied on a regular schedule.
- Applying too much water to surface may cause erosion.
- Some types of dust suppressants may make soil water repellent, increasing runoff.

E6 MULCHING SPECIFICATIONS

When

- When areas are subject to erosive surface sheet flows or severe wind.

Why

- Temporarily protects seeded areas and slopes against erosion from rain or wind. Holds soil moisture to allow for seed germination and reduces wind desiccation of germinated seeds. Inhibits seed consumption by birds.

Where

- Use on exposed slopes, newly seeded areas and other areas subject to erosion.

How

1. Other surface runoff control measures should be installed prior to mulching.
2. Prepare surface to proper grade and compaction requirements.
3. If treatment area is to be revegetated immediately, spread or drill seed, or install vegetative sprigs into planting surface.
4. Select mulch material appropriate for site characteristics, including grade, level of traffic, installation method, and accessibility.
 - Straw** - Most common and widely used material. Provides organic matter as it breaks down. Effectiveness of sediment reduction high for at least 3 months. Subject to windblow and washout. For straw, apply a minimum of 2 tons/acre or approx. 50 lbs./1000 sq. ft. to cover the surface. Increase application rates 50% for dormant seeding.
 - Rock** - Crushed stone and gravel maintain effectiveness indefinitely if maintained to repair compaction. Cover 2"-3" in depth (approx. 2.27 tons/1000 sq. ft.).
 - Wood chips/bark** - Chips decompose slowly but may require nitrogen fertilizer application to avoid nutrient deficiency. Tend to wash down slopes over 6% and may clog inlet grates. Cover 2"-3" in depth.
5. Mulches should not be applied if free surface water is present but may be applied to wet soil.

E6 MULCHING SPECIFICATIONS

When

- When areas are subject to erosive surface sheet flows or severe wind.

Why

- Temporarily protects seeded areas and slopes against erosion from rain or wind. Holds soil moisture to allow for seed germination and reduces wind desiccation of germinated seeds. Inhibits seed consumption by birds.

Where

- Use on exposed slopes, newly seeded areas and other areas subject to erosion.

How

1. Other surface runoff control measures should be installed prior to mulching.
2. Prepare surface to proper grade and compaction requirements.
3. If treatment area is to be revegetated immediately, spread or drill seed, or install vegetative sprigs into planting surface.
4. Select mulch material appropriate for site characteristics, including grade, level of traffic, installation method, and accessibility.
 - Straw** - Most common and widely used material. Provides organic matter as it breaks down. Effectiveness of sediment reduction high for at least 3 months. Subject to windblow and washout. For straw, apply a minimum of 2 tons/acre or approx. 50 lbs./1000 sq. ft. to cover the surface. Increase application rates 50% for dormant seeding.
 - Rock** - Crushed stone and gravel maintain effectiveness indefinitely if maintained to repair compaction. Cover 2"-3" in depth (approx. 2.27 tons/1000 sq. ft.).
 - Wood chips/bark** - Chips decompose slowly but may require nitrogen fertilizer application to avoid nutrient deficiency. Tend to wash down slopes over 6% and may clog inlet grates. Cover 2"-3" in depth.
5. Mulches should not be applied if free surface water is present but may be applied to wet soil.

S51 SILT FENCE

When

- A temporary measure for preventing sediment movement.

Why

- Used to prevent sediment suspended in runoff from leaving an earth change area.

Where

- Use adjacent to critical areas, wetlands, base of slopes, and watercourses.

How

1. Install parallel to a contour.
2. The silt fence should be made of woven geotextile fabric.
3. Silt fence should accommodate no more than 1/2 to 1 acre of drainage per 100' of fence and on slopes less than 1:2 (v:h).
4. Dig a 6" trench along the area where the fence is to be installed.
5. Place 6" of the silt fence bottom flap into the trench.
6. Backfill the trench with soil and compact the soil on both sides. Create a small ridge on the up-slope side of the fence.
7. Install wooden stakes 6 - 10' apart and drive into the ground a minimum of 12".
8. Staple the geotextile fabric to the wooden stakes.
9. Join sections of silt fence by wrapping ends together (See drawing).

Maintenance

- Inspect frequently and immediately after each storm event. Check several times during prolonged storm events. If necessary, repair immediately.
- If the sediment has reached 1/3 the height of the fence, the soil should be removed and disposed of in a stable upland site.
- The fence should be re-installed if water is seeping underneath it or if the fence has become ineffective.
- Silt fence should be removed once vegetation is established and up-slope area has stabilized.

SILT FENCE SPECIFICATIONS S51

When

- A temporary measure for preventing sediment movement.

Why

- Used to prevent sediment suspended in runoff from leaving an earth change area.

Where

- Use adjacent to critical areas, wetlands, base of slopes, and watercourses.

How

1. Install parallel to a contour.
2. The silt fence should be made of woven geotextile fabric.
3. Silt fence should accommodate no more than 1/2 to 1 acre of drainage per 100' of fence and on slopes less than 1:2 (v:h).
4. Dig a 6" trench along the area where the fence is to be installed.
5. Place 6" of the silt fence bottom flap into the trench.
6. Backfill the trench with soil and compact the soil on both sides. Create a small ridge on the up-slope side of the fence.
7. Install wooden stakes 6 - 10' apart and drive into the ground a minimum of 12".
8. Staple the geotextile fabric to the wooden stakes.
9. Join sections of silt fence by wrapping ends together (See drawing).

Maintenance

- Inspect frequently and immediately after each storm event. Check several times during prolonged storm events. If necessary, repair immediately.
- If the sediment has reached 1/3 the height of the fence, the soil should be removed and disposed of in a stable upland site.
- The fence should be re-installed if water is seeping underneath it or if the fence has become ineffective.
- Silt fence should be removed once vegetation is established and up-slope area has stabilized.



E8 PERMANENT SEEDING SPECIFICATIONS

When

- To finalize stabilization of temporary seeding areas or when an area needs permanent stabilization following completion of construction. Also used when vegetative establishment can correct existing soil erosion or sedimentation problem.
- Within 5 days of final grade.

Why

- To stabilize soil and prevent or reduce soil erosion/sedimentation problems from developing.

Where

- Used on construction and earth change sites which require permanent vegetative stabilization.

How

1. Review SESC plan and construction phasing to identify areas in need of permanent vegetative stabilization.
2. Select perennial grass and ground cover for permanent cover.
3. Seed mixes vary. However, they should contain native species.
4. Seed mixes should be selected through consultation with a certified seed provider and with consideration of soil type, light, moisture, use applications, and native species content.
5. Soil tests should be performed to determine the nutrient and pH levels in the soil. The pH may need to be adjusted to between 6.5 and 7.0.
6. Prepare a 3"-5" deep seedbed, with the top 3"-4" consisting of topsoil.
7. Slopes steeper than 1:3 should be roughened.
8. Apply seed as soon as possible after seedbed preparation. Seed may be broadcast by hand, hydroseeding, or by using mechanical drills.
9. Mulch immediately after seeding.
10. Dormant seed mixes are for use after the growing season, using seed which lies dormant in the winter and begins growing as soon as site conditions become favorable.

PERMANENT SEEDING SPECIFICATIONS E8

How (cont.)

11. Protect seeded areas from pedestrian or vehicular traffic.
12. Divert concentrated flows away from the seeded area until vegetation is established.

Maintenance

- Inspect weekly and within 24 hours following each rain event in the first few months following installation to be sure seed has germinated and permanent vegetative cover is being established.
- Add supplemental seed as necessary.

Limitations

- Seeds need adequate time to establish.
- May not be appropriate in areas with frequent traffic.
- Seeded areas may require irrigation during dry periods.
- Seeding success is site specific, consider mulching or sodding when necessary.

E8 PERMANENT SEEDING

Planting Zones	Lower Peninsula (South of U.S. 10)	Lower Peninsula (North of U.S. 10)	Upper Peninsula
Seeding Window (Permanent Seeding)	4/15 - 10/10	5/1 - 10/1	5/1 - 9/20
Seeding Window (Dormant Seeding*)	11/15 - Freeze	11/01 - Freeze	11/01 - Freeze

Source: Adapted from MDOT Interim 2003 Standard Specifications for Construction

	Zone 1 Lower Peninsula (South of U.S. 10)	Zone 2 Lower Peninsula (North of U.S. 10)	Zone 3 Upper Peninsula
Seeding Dates (with irrigation or mulch)	4/1 - 8/1	5/1 - 9/20	5/1 - 9/10
Seeding Dates (w/o irrigation or mulch)	4/1 - 5/20 or 8/10 - 10/1	5/1 - 6/10 or 8/1 - 9/20	5/1 - 6/15 or 8/1 - 9/20
Dormant Seeding Dates*	11/1 - Freeze	10/25 - Freeze	10/25 - Freeze

Source: Adapted from USDA NRCS Technical Guide #542 (1999)

- * Dormant seeding is for use in the late fall after the soil temperature remains consistently below 50°F, prior to the ground freezing. This practice is appropriate if construction on a site is completed in the fall but the seed was not planted prior to recommended seeding dates. No seed germination will take place until spring. A cool season annual grass may be added in an attempt to have some fall growth.
- Mulch must be used with dormant seed.
- Do not seed when the ground is frozen or snow covered.
- Do not use a dormant seed mix on grassed waterways.

E12 RIPRAP

When

- When concentrated water flows have the potential to create scour, down-cutting, or lateral cutting.

Why

- To prevent loss of land or damage to utilities or structures. In aquatic applications, riprap is used to control channel meander and maintain capacity, protect against wave attack, and reduce sediment load.

Where

- In natural or constructed channels with areas susceptible to erosion from the action of water, ice, or debris, or to damage by livestock or vehicular traffic.
- In shoreline areas where the erosion problem may be solved through simple structural measures.
- On slopes with profiles measuring 1:1.5 or less.

How

1. Review subject site to identify areas subject to concentrated flows or wave/current attack.
2. The appropriateness and extent of riprap placement is site specific and should be determined in the field.
3. The area under review for riprap placement must be shaped and contoured appropriately by grading prior to material placement.
4. Non-woven geotextile fabric should be installed prior to riprap placement, with upper end and toe end of fabric buried or anchored to prevent movement.
5. Riprap placement should be started at a stabilized location and ended at a stabilized or contoured point.
6. Material selected for riprap should be hard, angular, and resistant to weathering. Appropriate material size depends on expected water energy and intended function of the material.

RIPRAP SPECIFICATIONS E12

When

- When concentrated water flows have the potential to create scour, down-cutting, or lateral cutting.

Why

- To prevent loss of land or damage to utilities or structures. In aquatic applications, riprap is used to control channel meander and maintain capacity, protect against wave attack, and reduce sediment load.

Where

- In natural or constructed channels with areas susceptible to erosion from the action of water, ice, or debris, or to damage by livestock or vehicular traffic.
- In shoreline areas where the erosion problem may be solved through simple structural measures.
- On slopes with profiles measuring 1:1.5 or less.

How

1. Review subject site to identify areas subject to concentrated flows or wave/current attack.
2. The appropriateness and extent of riprap placement is site specific and should be determined in the field.
3. The area under review for riprap placement must be shaped and contoured appropriately by grading prior to material placement.
4. Non-woven geotextile fabric should be installed prior to riprap placement, with upper end and toe end of fabric buried or anchored to prevent movement.
5. Riprap placement should be started at a stabilized location and ended at a stabilized or contoured point.
6. Material selected for riprap should be hard, angular, and resistant to weathering. Appropriate material size depends on expected water energy and intended function of the material.

RIPRAP SPECIFICATIONS E12

How (cont.)

7. Riprap mixture should be an even mixture of stone sizes based on the average, or D_{50} . This means 50% of the stone, by size, will be larger than the diameter specified, and 50% will be smaller than the size specified. The diameter of the largest stone should not be more than 1.5 times the D_{50} stone size.
8. See table on the following page for typical riprap stone sizes.
9. Rock shall be placed so that larger rocks are uniformly distributed and in contact with one another. Smaller rocks should fill the voids.
10. When in contact with moving water, riprap will tie into a stable bank at the downstream end and will be keyed into the bank at the upstream end. Riprap should extend 3 ft. above the ordinary high water mark or to the top of the bank on short slopes. Extend riprap a minimum 10 ft. beyond active erosion area.

Maintenance

- All installations should be inspected immediately after the first rainfall to confirm the stability of the placed material. Follow-up inspections should occur regularly and provisions made for prompt repair if needed.

Limitations

- Area is cleared prior to the addition of riprap, therefore no areas are preserved with native vegetation.

Height (ft.)	Average Spherical Diameter (in.) D_{50}	Typical Rectangular Stone Length (ft.)	Width (Depth) (ft.)
50	24	18	12
100	36	24	18
150	48	30	24
200	60	36	30
250	72	42	36
300	84	48	42
350	96	54	48
400	108	60	54
450	120	66	60
500	132	72	66
550	144	78	72
600	156	84	78
650	168	90	84
700	180	96	90

Source: Adapted from USDA NRCS

STABILIZED CONSTRUCTION ACCESS SPECIFICATIONS S53

When

- Construction traffic is expected to leave a construction site.
- Stabilization of interior construction roads is desired.

Why

- To minimize tracking of sediment onto public roadways and to minimize disturbance of vegetation.

Where

- Stabilized construction entrances shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must be routed over the rock ingress/egress corridor.

How

1. Stabilized construction access road should be established at the onset of the construction activities and maintained in place for the duration of the construction project.
2. Installation of this practice should be the responsibility of the site clearing or excavating contractor.
3. Access location should be cleared of woody vegetation.
4. Non-woven geotextile fabric shall be placed over the existing ground prior to placing stone.

When

- 5. Access size should be a minimum of 50'. (30' for single residence lot).
- 6. Access width should be 12' minimum, flared at the existing road to provide a turning radius.
- 7. Crushed aggregate (2" to 3"), or reclaimed or recycled concrete equivalent, shall be placed at least 8" deep over the length and width of the ingress/egress corridor.

Maintenance

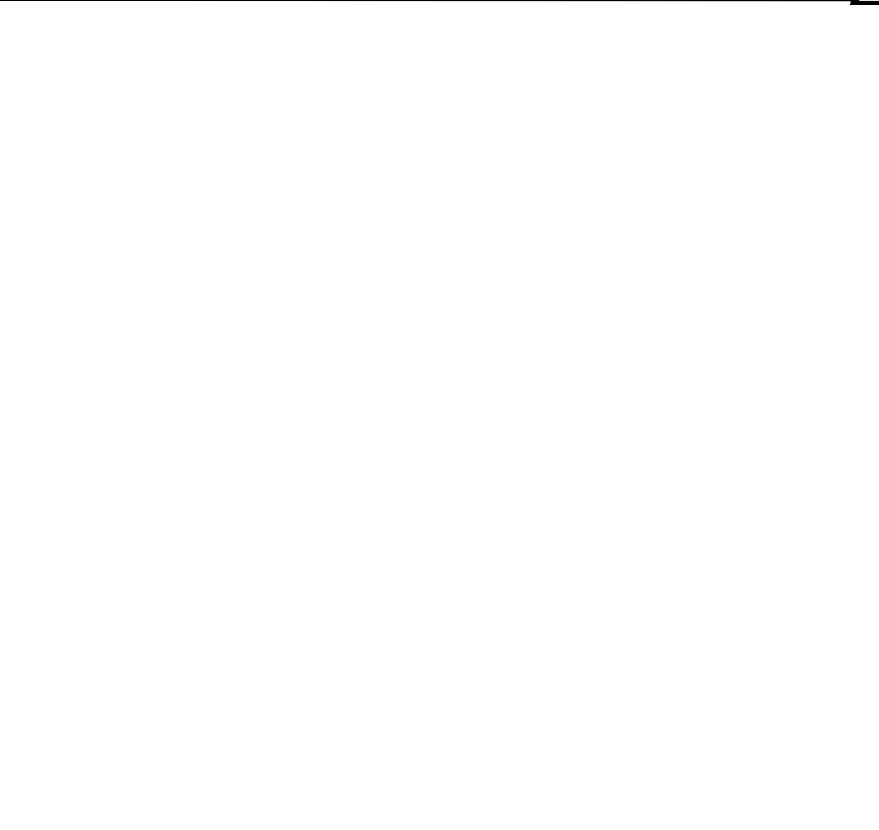
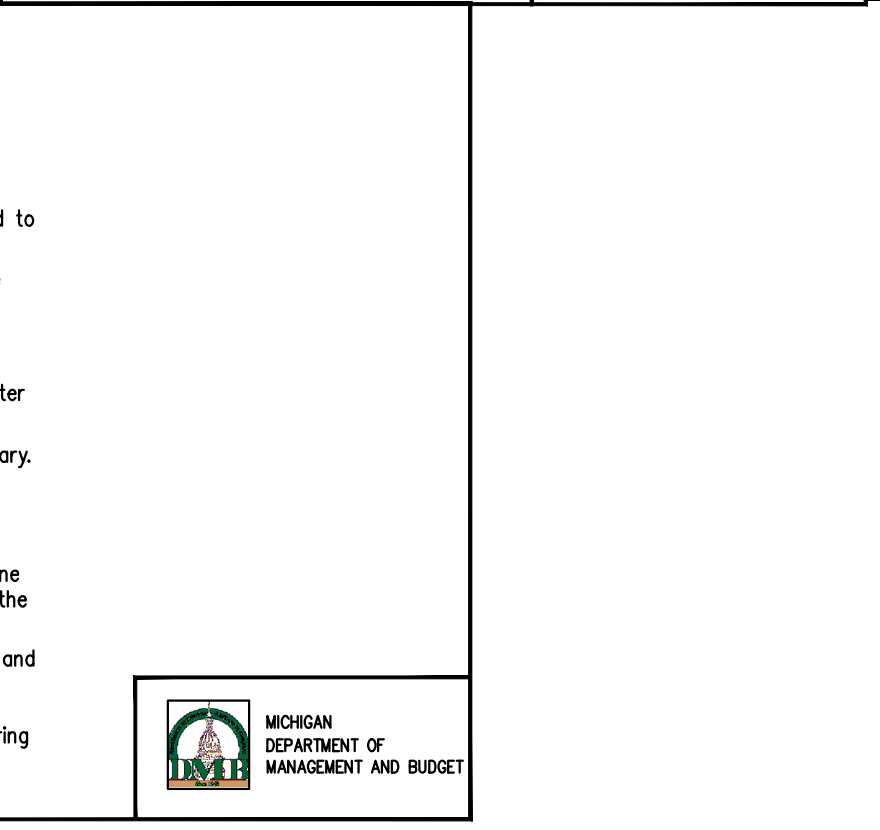
- Periodic inspection and needed maintenance shall be provided after each rain event.
- Stabilized entrances shall be repaired and rock added as necessary.

Maintenance (cont.)

- Sediment deposited on public rights-of-way shall be removed immediately and returned to the construction site.
- If soils are such that washing of tires is required, it shall be done in a wash rack area, stabilized with stone, immediately prior to the construction access stabilized corridor.
- At the project completion, rock access road should be removed and disposed of unless utilized as subgrade for final road.

Limitations

- Effectiveness limited, sediment may be tracked onto roads requiring additional action.



7050 West Saginaw Hwy.
Suite 200
Lansing, MI 48917
www.bergmanmp.com



MICHIGAN CAT NOVI PUMP & SHORING MAINTENANCE

24800 NOVI ROAD
NOVI, MI 48375
SW 1/4 OF SECTION 23, T1N, R8E

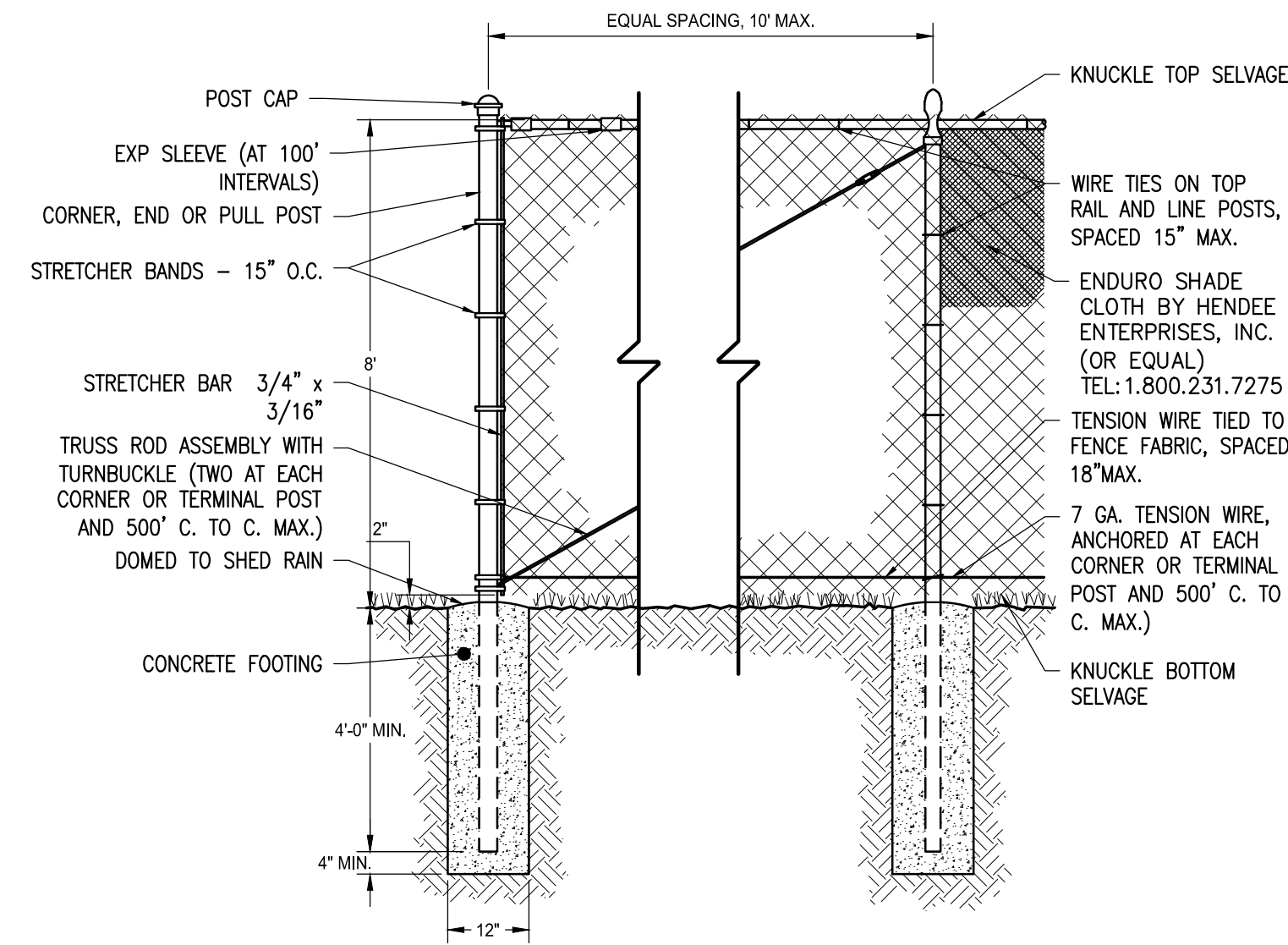
Date Revised	Description
08/17/2021	CITY OF NOVI RESUBMITTAL
09/16/2021	CITY OF NOVI RESUBMITTAL
02/28/2022	CITY OF NOVI RESUBMITTAL
03/15/2022	CITY OF NOVI RESUBMITTAL
08/24/2023	CITY OF NOVI SITE PLAN REVIEW

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
T. REDER	P. FURTAUW, PE
Designer	Reviewer
J. SMITH	P. FURTAUW, PE
Date Issued	Project Number
AUG 17, 2021	015181.00

Sheet Name

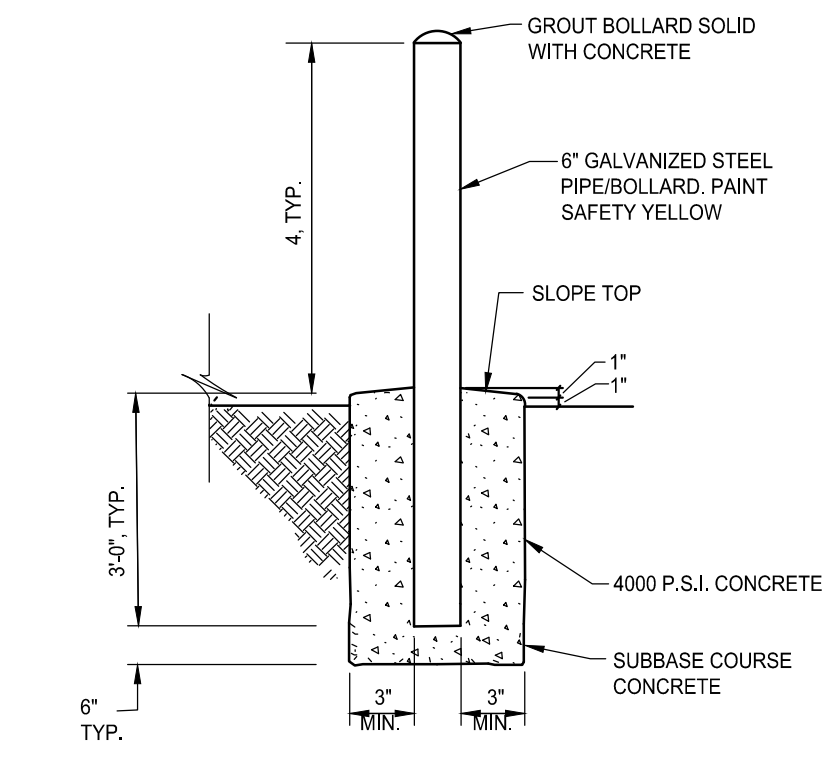
SESC DETAILS
Drawing Number
C141



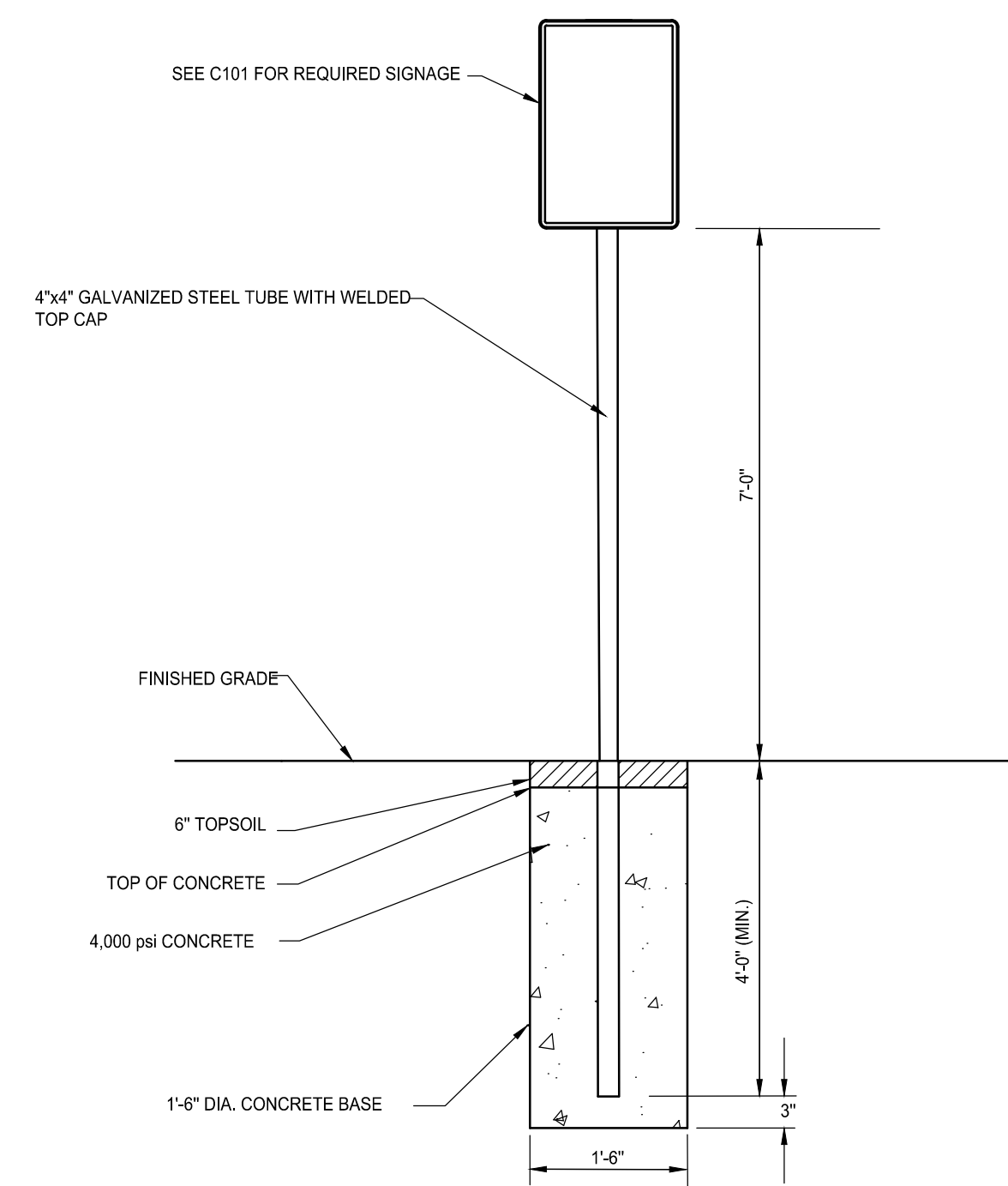
- NOTES:**
1. ALL POSTS SHALL BE PLUMB
 2. WIRE TIES SHALL BE PLACED 15" ON CENTER ALONG TOP RAIL AND LINE POSTS.

USE	NOM. OD.
LINE POSTS	2 1/2"
CORNER, END, GATE, & PULL POSTS	3"
RAILS	1 5/8"
GATE FRAMES	2"

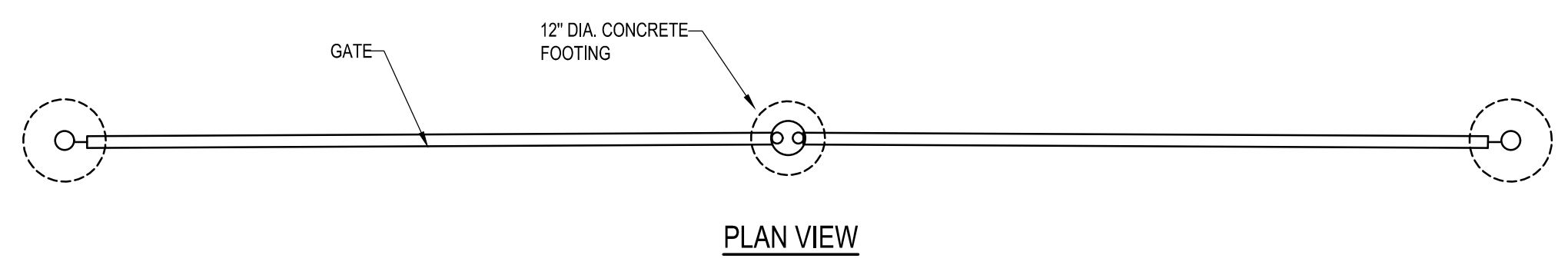
8'-0" CHAIN-LINK FENCE DETAIL
N.T.S.



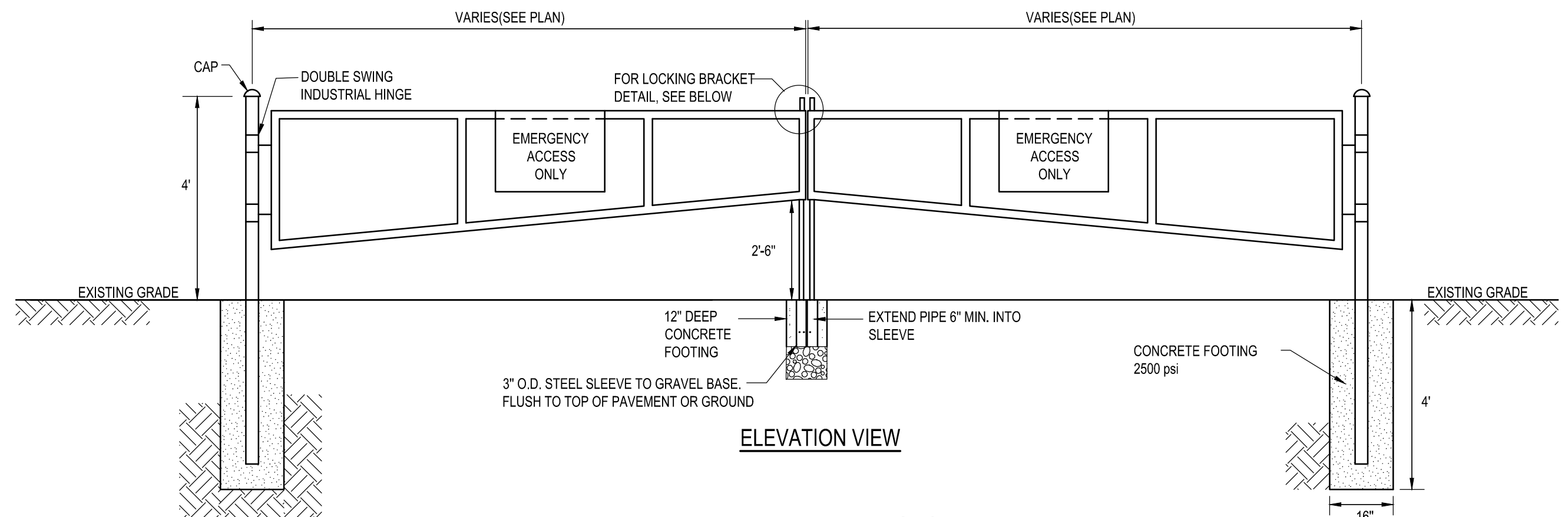
6" GALV. STEEL PIPE BOLLARD DETAIL
NO SCALE



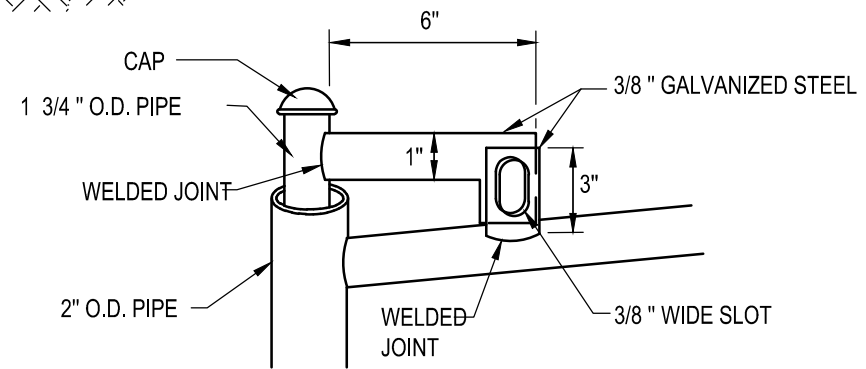
TYPICAL SITE SIGNAGE
N.T.S.



PLAN VIEW

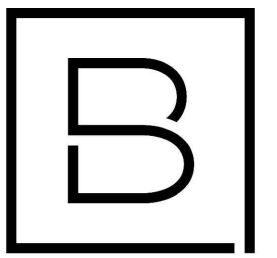


ELEVATION VIEW



- NOTES:**
1. PROVIDE SHOP DRAWING FOR GATE AND LOCK ASSEMBLY
 2. PROVIDE EXTERIOR (2) KEY LOCKS W/ THREE SETS OF KEYS.
 3. ALL PIPES SHALL BE GALVANIZED. ALL WELDS REPAIRED WITH COLD GALVANIZED. 20" GATE TO HAVE 4" O.D. GATE POST.

EMERGENCY ACCESS BREAKAWAY GATE W/ SIGNAGE
N.T.S.



BERGMANN
ARCHITECTS ENGINEERS PLANNERS

7050 West Saginaw Hwy.
Suite 200
Lansing, MI 48917

www.bergmannpc.com



**MICHIGAN CAT
NOVI
PUMP & SHORING
MAINTENANCE**

24800 NOVI ROAD
NOVI, MI 48375

SW 1/4 OF SECTION 23, T1N, R8E

Date Revised	Description
08/17/2021	CITY OF NOVI RESUBMITTAL
09/16/2021	CITY OF NOVI RESUBMITTAL
02/28/2022	CITY OF NOVI RESUBMITTAL
03/15/2022	CITY OF NOVI RESUBMITTAL
08/25/2023	CITY OF NOVI SITE PLAN REVIEW

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

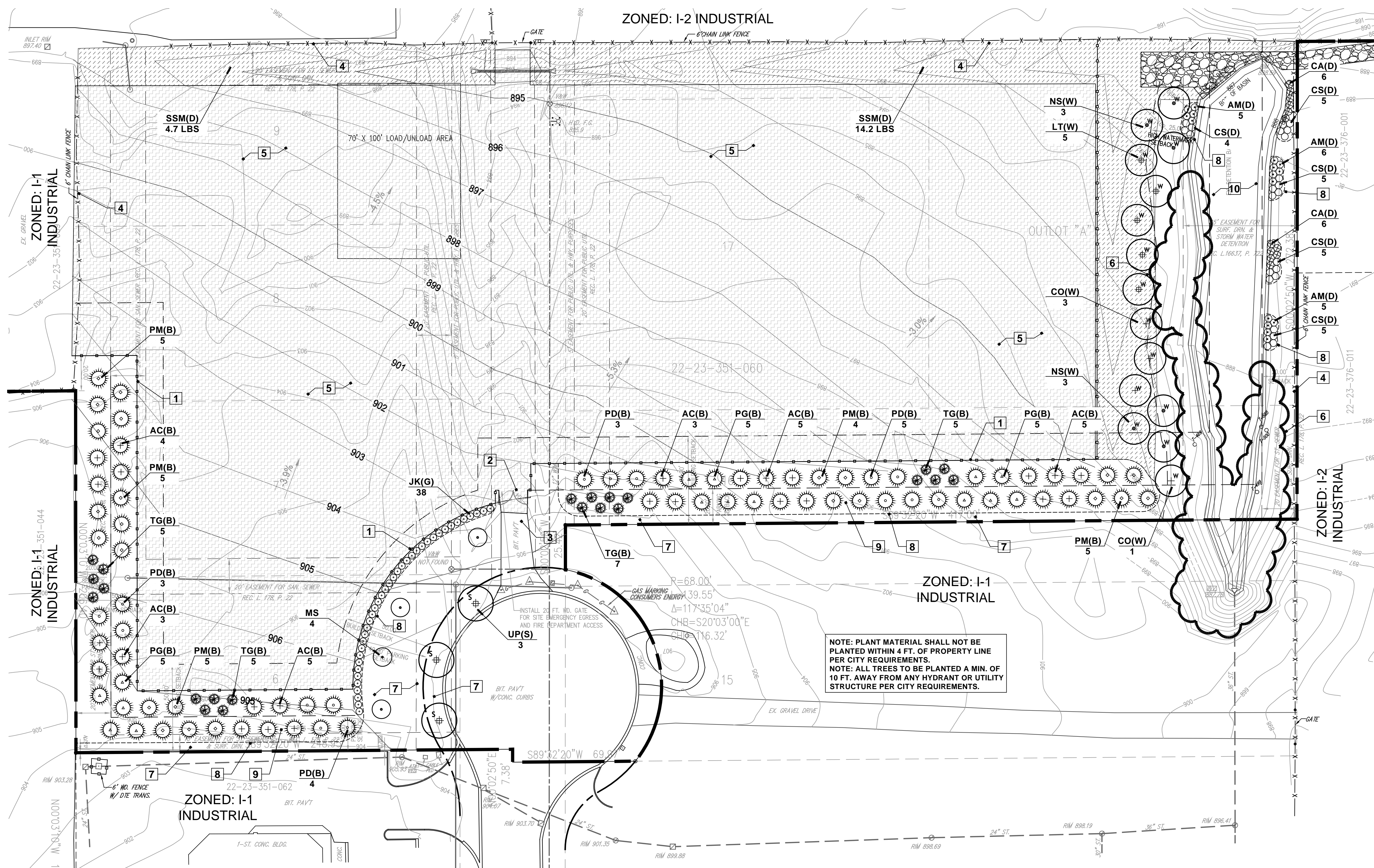
Project Manager	Discipline Lead
T. REDER	P. FURTAW, PE
Designer	Reviewer
J. SMITH	P. FURTAW, PE
Date Issued	Project Number
AUG 17, 2021	015181.00

Sheet Name

SITE DETAILS

Drawing Number

C500



SITE PLANTING PLAN

SCALE: 1" = 40'

LANDSCAPE DATA

R.O.W. Greenbelt		Street Trees	
Catherine Dr. Frontage:	139 In. ft.	Twelve Mile Road Frontage:	139 In. ft.
(158 In. ft. - 19 In. ft.)		(158 In. ft. less 19 In. ft.)	
Canopy/Evergreen Trees Req.:	3 Trees	(1 Tree/ 45 In. ft.)	
(1 Tree/ 60 In. ft.)		Trees Required:	3 Trees
Canopy/ Evergreen Trees Prov.:	*None	Total Trees Provided:	3 Trees
Sub-Canopy Trees Req.:	4 Trees		
(1 Tree/ 40 In. ft.)			
Sub-Canopy Trees Prov.:	4 Trees		
*Provided: Continuous tall evergreen hedge to screen storage area			

- NOTES:
- NO OVERHEAD UTILITIES EXIST OR ARE PROPOSED ON SITE.
 - SEE CIVIL DRAWINGS FOR SOIL MAP AND TYPES PRESENT ON SITE.
 - NO PHRAGMITES OBSERVED ON SITE.
 - NO JAPANESE KNOTWEED OBSERVED ON SITE.

NOTE KEY:

- PROPOSED FENCE - SEE CIVIL DRAWINGS
- PROPOSED GATE - SEE CIVIL DRAWINGS
- EXISTING DRIVE TO REMAIN
- EXISTING FENCE TO REMAIN
- PROPOSED STORAGE AREA/ SURFACE - SEE CIVIL DRAWINGS
- EXISTING VEGETATION TO REMAIN
- NEW SEEDED LAWN
- SHOVEL CUT BED EDGE- TYP.
- CONTINUOUS MULCH BED
- EXISTING STORM WATER BASIN - SEE CIVIL DWGS.

GENERAL PLANTING REQ.:

- THE WORK SHALL CONSIST OF PROVIDING ALL NECESSARY MATERIAL, LABOR, EQUIPMENT, TOOLS, AND SUPERVISION REQUIRED FOR THE COMPLETION AS SHOWN ON THE DRAWING.
- ALL PLANT MATERIALS SHALL CONFORM TO THE TYPE STATED ON THE PLANT LIST OR LARGER. ALL MEASUREMENTS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "NURSERY STANDARDS FOR GRADE NO. 1 NURSERY STOCK" AND NORTHERN NURSERY GROWN.
- ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
- ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER. TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
- ALL MULTI-STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL NOT BE ACCEPTED.
- ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
- THE CONTRACTOR IS RESPONSIBLE FOR PLANTING THE MATERIALS AT THE CORRECT GRADES AND SPACING. THE PLANTS SHALL BE ORIENTED AS TO GIVE THE BEST APPEARANCE.
- WHEN THE PLANT HAS BEEN PROPERLY SET, THE PIT SHALL BE BACKFILLED WITH A TOPSOIL AND NATIVE SOIL MIXTURE, GRADUALLY FILLING, PATTING AND SETTLING WITH WATER.
- ALL PLANT MATERIALS SHALL BE PRUNED AND INJURIES REPAIRED. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE REMOVAL OF DEAD OR INJURED TWIGS AND TO COMPENSATE FOR THE LOSS OF ROOTS FROM TRANSPANTING. CUTS SHOULD BE FLUSH, LEAVING NO STUBS.
- THE CONTRACTOR AGREES TO GUARANTEE ALL PLANT MATERIALS FOR THE PERIOD OF TWO (2) YEARS. ALL PLANT MATERIAL SHALL HAVE A MINIMUM OF ONE CULTIVATION IN JUNE, JULY, AND AUGUST FOR THE TWO YEAR WARRANTY. AT THAT TIME THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT FOR A FINAL INSPECTION. PLANT MATERIAL WITH 25% DIE BACK, AS DETERMINED BY THE OWNER'S REPRESENTATIVE SHALL BE REPLACED. THIS GUARANTEE INCLUDES THE FURNISHING OF NEW PLANTS, LABOR AND MATERIALS. THESE NEW PLANTS SHALL ALSO BE GUARANTEED FOR THE PERIOD OF ONE YEAR.
- TOPSOIL SHALL BE FERTILE, FERTILE TOPSOIL OF CLAY LOAM CHARACTER CONTAINING AT LEAST 5% BUT NOT MORE THAN 20% BY WEIGHT OF ORGANIC MATTER WITH A PH RANGE FROM 6.0 TO 7.0. SOIL SHALL BE FREE FROM CLAY LUMPS, COARSE SAND, PLANT ROOTS, STICKS AND OTHER FOREIGN MATERIALS.
- NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES. HAND GRADE ALL LAWN AREAS WITHIN DRIP LINE OF EXISTING TREES.
- IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS, WALKS AND PAVED AREAS.
- ALL PLANTING BEDS SHALL RECEIVE 4" SHREDDED BARK MULCH. SEE SPECIFICATIONS.
- SOD/ SEED LAWN AREAS - ALL LAWN AREAS BETWEEN CURBS AND BUILDINGS OR BETWEEN BUILDINGS, DISK SOIL TO 4" DEEP BEFORE TOPSOIL PLACEMENT
- SOD SHALL BE TWO YEAR OLD "BARONCHERIDELPH" KENTUCKY BLUE GRASS GROWN IN A SOD NURSERY ON LOAM SOIL.

PLANT MIX

ALL PLANTING/ PERENNIAL BEDS TO RECEIVE:

- 1 - 6 CU FT. QTY. OF COMPOST
- 1 - 40 LB BAG DRIMAMURE
- 1 - 1 LB BAG SHERMINS 13-13-13 MULTI PURPOSE FERTILIZER

PER 100 SQ FT BED AREA, HAND TILL INTO SOIL TO A DEPTH OF 12" MINIMUM

MULCH

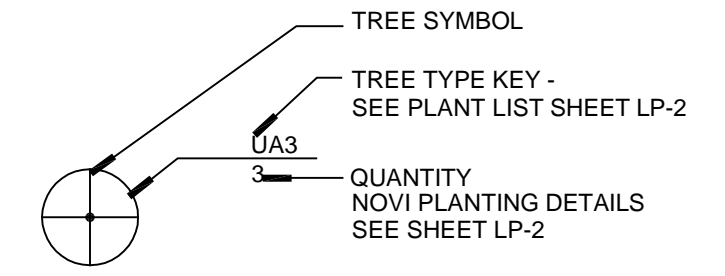
MULCH TO BE DOUBLE SHREDDED HARDWOOD BARK MULCH

NO GROUND WOOD PALLETTE MULCH PERMITTED

TOPSOIL

CONTRACTOR TO TILL OR DISK SUBGRADE TO 4" DEPTH AND INSTALL 4" COMPACTED DEPTH TOPSOIL IN ALL LAWN AREAS - TOPSOIL SHALL BE PROVIDED BY CONTRACTOR

PLANT KEY



IRRIGATION

ALL LANDSCAPE AREAS WILL BE IRRIGATED WITH A FULLY AUTOMATIC IRRIGATION SYSTEM.



NOT TO BE USED AS CONSTRUCTION DRAWING



project sponsor:
MacAllister Machinery Co., Inc.
6300 Southeastern Ave.
Indianapolis, IN 46203
317.545.2151

Copyright 2023 Deak Planning + Design, LLC.

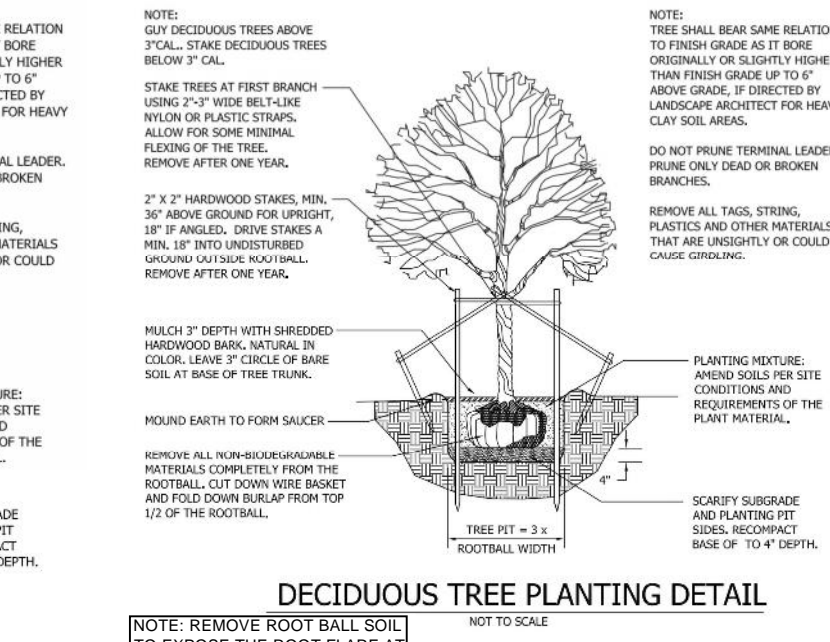
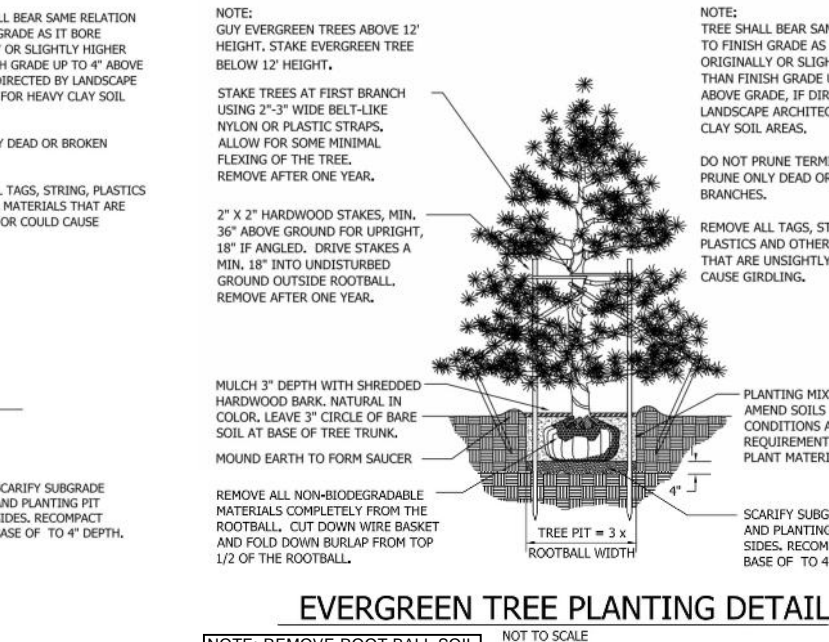
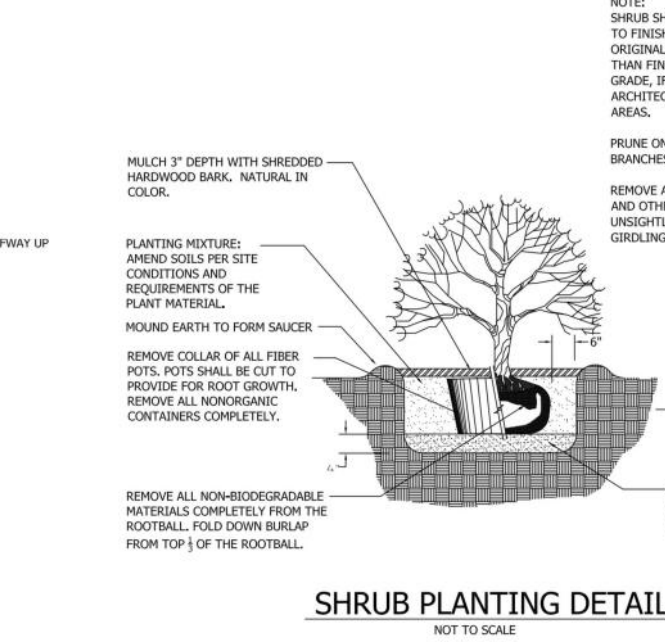
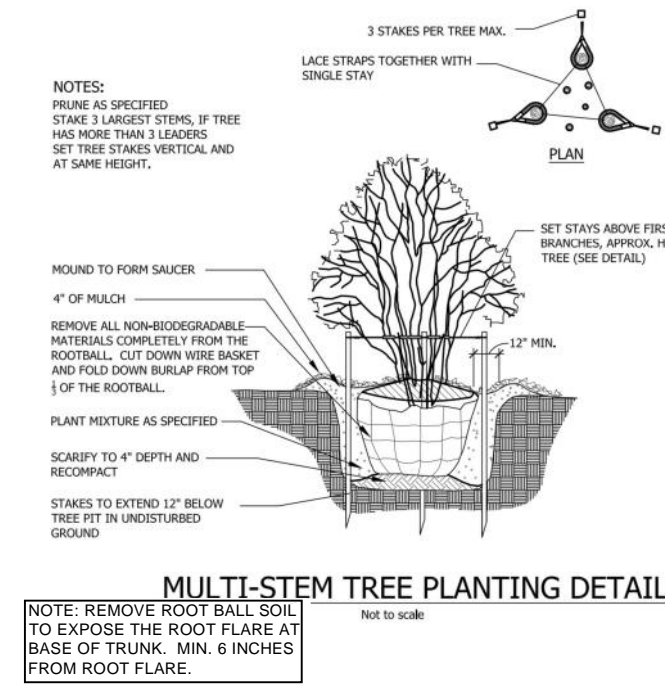
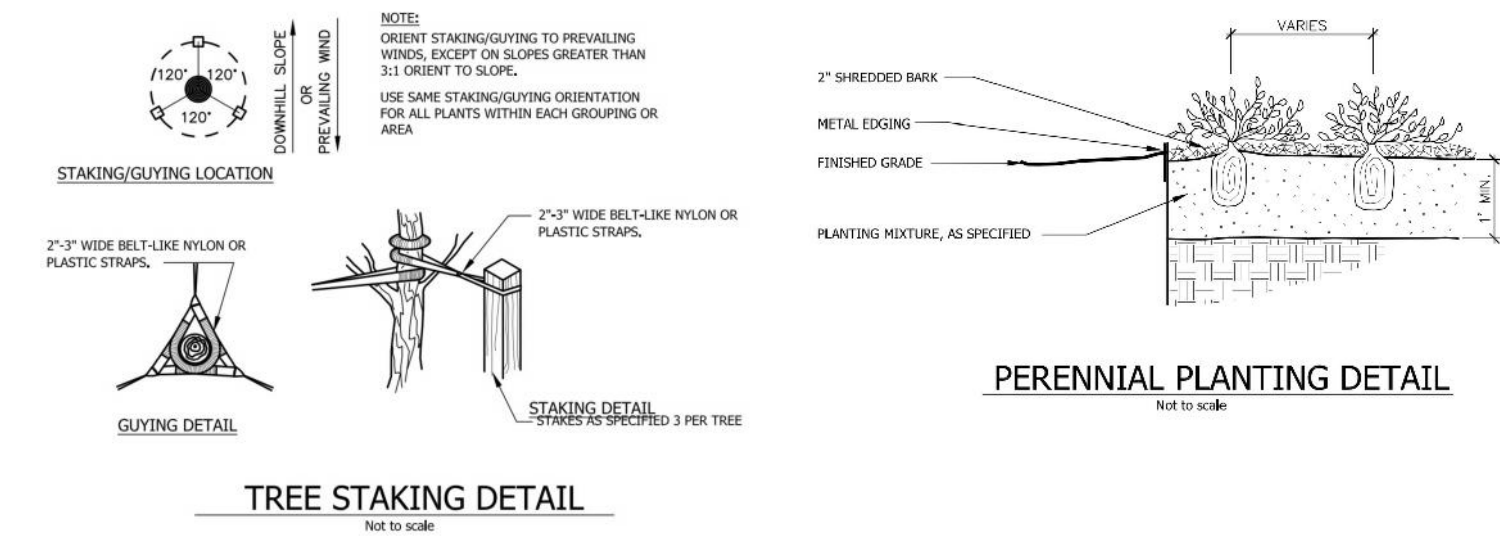
revisions:
SITE PLAN APPROVAL 07/01/23

sheet title:
SITE LANDSCAPE PLAN

project no.
162109

sheet no.
LP-1

NOVI PLANTING DETAILS



NOVI SPECIFICATIONS

- Wherever in this Ordinance landscape plantings are required or permitted, they shall be planted in accordance with the approved final stamped landscape plan.
- All plant materials shall be installed between April 15th and November 15th. All installed landscapes including plant materials, mulch, staking, irrigation, and sodding must be installed and inspected by the City prior to issuance of a Temporary Certificate of Occupancy. At that time, a financial guarantee of 1.2 times the cost of any deficiencies will be held until inspection occurs for a Final Certificate of Occupancy. In order to receive a Final Certificate of Occupancy, the deficiencies must be addressed within 30 days during the April 15th to November 15th planting season. If the deficiencies are not addressed in the time period outlined above, the City will cash in the amount being held for the outstanding items and remedy those items.
- A City representative will perform landscape inspections following a request from the developer or owner. The inspection time period is from April 15th to November 15th. If an inspection is requested between November 16 and April 14, a financial guarantee is to be provided based on 1.2 times the percent incomplete for a Temporary Certificate of Occupancy as outlined above. Beginning April 15th, the Applicant then has 30 days to complete items or the City will cash in the amount being held and finish the job.
- The establishment period for the plant material guarantee will occur beginning at the Final Certificate of Occupancy inspection approval to 2 years from that date. All plantings shall be properly planted as to be in a healthy, growing condition at the commencement of the establishment period. At the end of the establishment period, any plantings, which are 20% dead or greater, shall be replaced.
- Notice of installation/Minor changes:
 - The owner or developer must notify the City of the installation schedule. The City may reject any material which is defective or in generally poor condition.
 - Minor changes regarding plant materials per the approved and stamped landscape plan may be altered upon written notification to, and written sign-off by, the City Landscape Architect of species, size, change, and location.
 - Minor changes due to seasonal planting problems and lack of plant availability may be approved in writing by the City Landscape Architect when there is no reduction in the quality of plant materials, no significant change in size or location of plant material, the new plant material is compatible with the area and is the same general type (deciduous/evergreen), exhibiting same design characteristics (mature height, crown), as the material being replaced. If these criteria are not fulfilled or changes are significant from approved plan, the landscape plan shall be revised and resubmitted for plan approval.
- Maintenance:
 - Maintenance of required plantings by the owner shall be carried out so as to present a healthy, neat and orderly appearance, free from refuse and debris
 - To insure proper maintenance and as a condition of Final Site Plan approval, the property owner shall enter into and record with the office of the Oakland County Register of Deeds a Landscape Maintenance Agreement, or include such provisions as part of subdivision restrictions or condominium master deed, each of which shall be approved by the City Attorney. Such instrument shall identify the minimum plan of maintenance, the person or entity responsible for maintenance, and shall provide the procedure, authority and finance for City cure of breaches by the responsible entity. Such instrument shall also include provisions that all unhealthy and dead material shall be replaced within one (3) months, or the next appropriate planting period, whichever occurs first; all landscaped areas shall be provided with sufficient water for establishment and long-term survival; tree stakes, guy wires and tree wrap are to be removed after one winter season; plantings shall be guaranteed for two (2) growing seasons after date of the acceptance of the installation; if grass or weeds exceed the height specified in Chapter 21 of the Novi Code of Ordinances, or if shrubs are allowed to obstruct vision across any portion of the island and the responsible party is unwilling to rectify the problem, the City will abate such violations and shall assess the cost of such abatement measures in the manner proposed by the developer and approved by the City in such instrument.
 - Responsibility and Certificates of Occupancy: The owner of the property subject to the requirements of this Section shall be responsible for installing and maintaining per landscaping the approved final landscape plan as specified in this Section. Where the property is occupied by a person other than the owner, the occupant shall also be responsible for maintenance. All landscaping work required pursuant to this Section shall be treated as a site improvement for purposes of Subsections 3005-9 and 9 to be maintained on an ongoing basis by the occupant and/or landowner.

* These requirements supersede all other planting requirements or specifications.

SWALE MIX - INCLUDE S150 BLANKET ENTIRE AREA

Botanical Name	Common Name	Ounces/Acre
Permanent Grasses/Sedges:		
<i>Andropogon gerardii</i>	Big Bluestem	12.00
<i>Carex comosa</i>	Bristly Sedge	2.00
<i>Carex cristatella</i>	Crested Oval Sedge	1.00
<i>Carex lurida</i>	Bottlebrush Sedge	2.50
<i>Carex spp.</i>	Prairie Sedge Mix	2.00
<i>Elymus virginicoidea</i>	Brown Fox Sedge	4.00
<i>Elymus virginicus</i>	Virginia Wild Rye	8.00
<i>Glyceria striata</i>	Fowl Manna Grass	1.00
<i>Panicum virgatum</i>	Switch Grass	2.00
<i>Scirpus atrovirens</i>	Dark Green Rush	2.00
<i>Scirpus cyperinus</i>	Wood Grass	0.50
<i>Spartina pectinata</i>	Prairie Cord Grass	3.00
		Total 40.00
Temporary Cover:		
<i>Avena sativa</i>	Common Oat	360.00
<i>Lolium multiflorum</i>	Annual Rye	100.00
		Total 460.00
Forbs:		
<i>Alisma spp.</i>	Water Plantain (Various)	1.00
<i>Asclepias incarnata</i>	Swamp Milkweed	2.00
<i>Aster novae-angliae</i>	New England Aster	0.50
<i>Coneopsis tripteris</i>	Tail Coneopsis	1.00
<i>Eupatorium maculatum</i>	Spotted Joe-Pye Weed	0.25
<i>Iris virginica</i>	Blue Flag	4.00
<i>Liatis spicata</i>	Marsh Blazing Star	1.00
<i>Lobelia cardinalis</i>	Cardinal Flower	0.25
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.50
<i>Lycopus americanus</i>	Common Water Horeh	0.25
<i>Lythium latifolia</i>	Common Arrowhead	0.75
<i>Silphium terebinthinaceu</i>	Prairie Dock	1.00
<i>Verbena hastata</i>	Blue Vervain	1.50
<i>Zizia aurea</i>	Golden Alexanders	0.75
		Total 14.75

SEED CONVERSION:
S.Y. = LBS./ (LBS. PER AC. - I.E. 37.7) x 43,560 / 9
EXAMPLE:
58.6 LBS. / 37.7 x 43,560 / 9 = 7,523 S.Y.

EROSION CONTROL BLANKET

Material and Performance Specification Sheet
\$150 Erosion Control Blanket
The sheet listed shall not contain metal hardware or require removal and if contemplated otherwise, a standard quantity of #10 rebar, 2012E, stainless-steel, may be required. The blanket shall be installed in a manner that will allow for a minimum of 10% water infiltration. The blanket shall be installed in a manner that will allow for a minimum of 10% water infiltration. The blanket shall be installed in a manner that will allow for a minimum of 10% water infiltration.

NATIVE SEEDING MAINTENANCE

Long term management may include prescribed burning, mowing, hand pulling, and selective herbicide applications. If burning is not allowed or feasible, the planting may be mowed to a short height and the clippings removed in the early spring before ground nesting birds begin nesting.

SEED MIX NOTES

- The seed mixes shall be applied at the specified rate of for each mix.
- Must be installed to manufacturer's specification and requirements.
- The planting mix for the rain garden shall be 70% sharp sand and 30% compost.

PLANT LIST - Greenbelt

QUAN.	KEY	COMMON/ BOTANICAL NAME	SIZE	SPEC.	UNIT	TOTAL
38	JK	Ketler Juniper <i>J. Ketterlii</i>	6' ht.	B&B	\$ 50.00	\$ 1,900.00
5		SHREDDED HARD BARK MULCH (C.Y.)			\$ 35.00	\$ 175.00
					TOTAL:	\$ 2,075.00

PLANT LIST - Buffer

QUAN.	KEY	COMMON/ BOTANICAL NAME	SIZE	SPEC.	UNIT	TOTAL
25	AC(B)	Concolor Fir <i>Abies concolor</i>	8-10' ht.	B&B	\$ 375.00	\$ 9,375.00
15	PD(B)	Black Hills Spruce <i>Picea g. 'Densata'</i>	8-10' ht.	B&B	\$ 375.00	\$ 5,625.00
15	PG(B)	White Spruce <i>Picea glauca</i>	8-10' ht.	B&B	\$ 375.00	\$ 5,625.00
24	PM(B)	Douglas Fir <i>Pseudotsuga menziesii</i>	8-10' ht.	B&B	\$ 375.00	\$ 9,000.00
22	TG(B)	Green Giant Arborvitae <i>Thuja standishii x plicata</i>	6' Ht.	B&B	\$ 250.00	\$ 5,500.00
18		SHREDDED HARD BARK MULCH (C.Y.)			\$ 35.00	\$ 630.00
					TOTAL:	\$ 35,755.00

PLANT LIST - Detention Basin & Swale

QUAN.	KEY	COMMON/ BOTANICAL NAME	SIZE	SPEC.	UNIT	TOTAL
16	AM(D)	Iriquois Beauty Chokeberry <i>Aronia m. 'Irigois Beauty'</i>	36" ht.	Cont.	\$ 50.00	\$ 800.00
24	CS(D)	Red Osier Dogwood <i>Cornus serica</i>	36" ht.	Cont.	\$ 50.00	\$ 1,200.00
12	CA(D)	American hazelnut <i>Corylus americana</i>	36" ht.	Cont.	\$ 50.00	\$ 600.00
18.9	SSM(D)	Swale Seed Mix	37 lbs/ac.	LBS.	\$ 21.50	\$ 406.35
8		SHREDDED HARD BARK MULCH (C.Y.)			\$ 35.00	\$ 280.00
					TOTAL:	\$ 3,286.35

PLANT LIST - Street Trees

QUAN.	KEY	COMMON/ BOTANICAL NAME	SIZE	SPEC.	UNIT	TOTAL
3	UP(S)	Princeton Elm <i>Ulmus americana 'Princeton'</i>	3" Cal.	B&B	\$ 400.00	\$ 1,200.00
4	MS(S)	Sugar Tyme Crabapple <i>Malus 'Sugartyme'</i>	2" Cal.	B&B	\$ 375.00	\$ 1,500.00
1.5		SHREDDED HARD BARK MULCH (C.Y.)			\$ 35.00	\$ 52.50
1,260		SEEDED LAWN (S.Y.)			\$ 3.00	\$ 3,780.00
					TOTAL:	\$ 6,532.50

PLANT LIST - Woodland

QUAN.	KEY	COMMON/ BOTANICAL NAME	SIZE	SPEC.	UNIT	TOTAL
4	CQ(W)	Hackberry <i>Celtis occidentalis</i>	2.5" Cal.	B&B	\$ 400.00	\$ 1,600.00
5	LT(W)	Tulip Tree <i>Liriodendron tulipifera</i>	2.5" Cal.	B&B	\$ 400.00	\$ 2,000.00
6	NS(W)	Sour Gum <i>Nyssia sylvatica</i>	2.5" Cal.	B&B	\$ 400.00	\$ 2,400.00
5		SHREDDED HARD BARK MULCH (C.Y.)			\$ 35.00	\$ 175.00
					TOTAL:	\$ 6,175.00

NOTE: 1. CONTRACTOR TO VERIFY ALL PLANT QUANTITIES ON PLANS.
2. ANY PLANT SUBSTITUTIONS MUST BE APPROVED BY THE CITY IN WRITING PRIOR TO INSTALLATION.
3. PLANT SPECIES SELECTIONS PROVIDED TO MEET CITY REQUIREMENTS.
4. DO NOT USE DWARF SPECIES OF CORNUS SERICEA.



Know what's below
Call before you dig.

NOT TO BE USED AS CONSTRUCTION DRAWING

MICHIGAN CAT STORAGE
24800 Novi Road, Novi, Michigan



project sponsor:
MacAllister Machinery Co., Inc.
6300 Southeastern Ave.
Indianapolis, IN 46203
317.545.2151

Copyright 2023 Deak Planning + Design, LLC.

revisions:

SITE PLAN APPROVAL 07/14/23

sheet title:

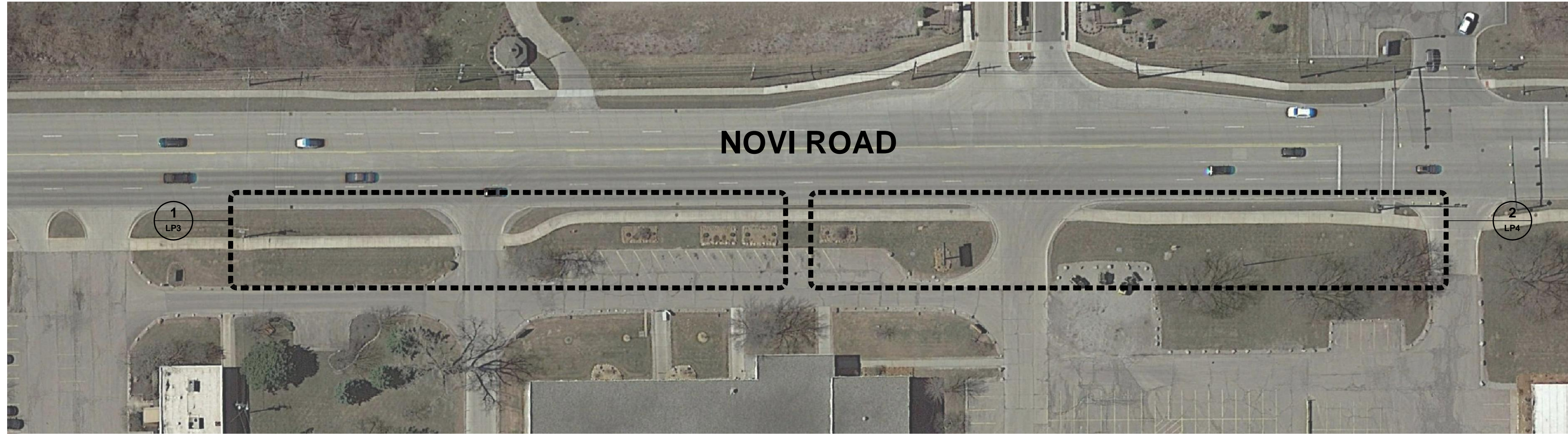
LANDSCAPE DETAILS

project no.

162109

sheet no.

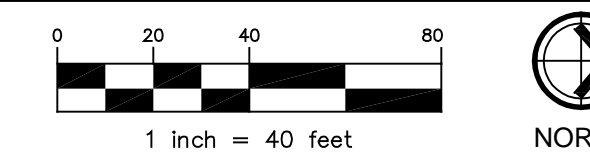
LP-2



NOVI ROAD

FRONTAGE KEY MAP

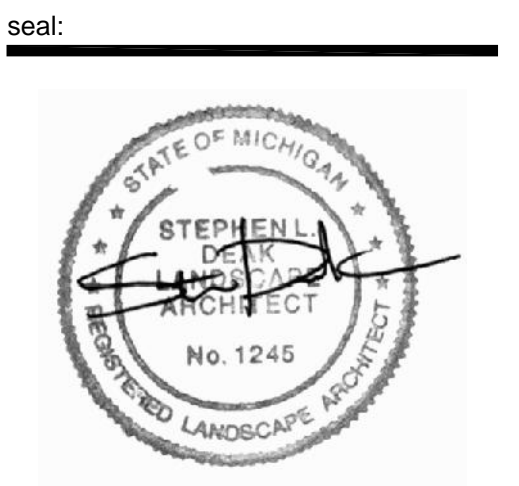
SCALE: 1" = 40'



- NOTE KEY:**
- 1 EXISTING SIGN
 - 2 EXISTING FLAG POLE
 - 3 EXISTING TREE TO REMAIN
 - 4 EXISTING ORN. GRASS TO REMAIN
 - 5 EXISTING ORN. TREE TO REMAIN
 - 6 EXISTING BOULDERS TO REMAIN
 - 7 PROPOSED BOULDERS TO MATCH EXISTING
 - 8 SHOVEL CUT BED EDGE
 - 9 PROPOSED MOTOR CITY MARKER SIGN
 - 10 EXISTING BRICK PAVERS TO REMAIN
 - 11 BENCH - "SCARBOROUGH 48" BACKED BENCH - STRAPPED SURFACE MOUNT PER MANUFACTURER COLOR - BUTTERFLY W/ OWNER APPROVAL LANDSCAPE FORMS 800-821-2546 WWW.LANDSCAPEFORMS.COM

GENERAL PLANTING REQ.:

- A THE WORK SHALL CONSIST OF PROVIDING ALL NECESSARY MATERIAL, LABOR, EQUIPMENT, TOOLS, AND SUPERVISION REQUIRED FOR THE COMPLETION AS SHOWN ON THE DRAWING.
- B ALL PLANT MATERIALS SHALL CONFORM TO THE TYPE STATED ON THE PLANT LIST. SIZES SHALL BE THE MINIMUM STATED ON THE PLANT LIST OR LARGER. ALL MEASUREMENTS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "A.L.S." STANDARDS FOR GRADE NO. 1 NURSERY STOCK" AND NORTHERN NURSERY GROWN.
- C ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
- D ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER. TREES WITH FORKED OR IRREGULAR TRUNKS **WILL NOT BE ACCEPTED**. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
- E ALL MULTI-STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL **NOT BE ACCEPTED**.
- F ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
- G THE CONTRACTOR IS RESPONSIBLE FOR PLANTING THE MATERIALS AT THE CORRECT GRADES AND SPACING. THE PLANTS SHALL BE ORIENTED AS TO GIVE THE BEST APPEARANCE.
- H WHEN THE PLANT HAS BEEN PROPERLY SET, THE PIT SHALL BE BACKFILLED WITH A TOPSOIL AND NATIVE SOIL MIXTURE, GRADUALLY FILLING, PATTING AND SETTLING WITH WATER.
- I ALL PLANT MATERIALS SHALL BE PRUNED AND INJURIES REPAIRED. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE REMOVAL OF DEAD OR INJURED TWIGS AND TO COMPENSATE FOR THE LOSS OF ROOTS FROM TRANSPANTING. CUTS SHOULD BE FLUSH, LEAVING NO STUBS.
- J THE CONTRACTOR AGREES TO GUARANTEE ALL PLANT MATERIALS FOR THE PERIOD OF TWO (2) YEARS. ALL PLANT MATERIAL SHALL HAVE A MINIMUM OF ONE CULTIVATION IN JUNE, JULY, AND AUGUST FOR THE TWO YEAR WARRANTY. AT THAT TIME THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT FOR A FINAL INSPECTION. PLANT MATERIAL WITH 25% DIE BACK, AS DETERMINED BY THE OWNER'S REPRESENTATIVE SHALL BE REPLACED. THIS GUARANTEE INCLUDES THE FURNISHING OF NEW PLANTS, LABOR AND MATERIALS. THESE NEW PLANTS SHALL ALSO BE GUARANTEED FOR THE PERIOD OF ONE YEAR.
- K TOPSOIL SHALL BE FRIBLE, FERTILE TOPSOIL OF CLAY LOAM CHARACTER CONTAINING AT LEAST 5% BUT NOT MORE THAN 20% BY WEIGHT OF ORGANIC MATTER WITH A PH RANGE FROM 6.0 TO 7.0. SOIL SHALL BE FREE FROM CLAY LUMPS, COARSE SAND, PLANT ROOTS, STICKS AND OTHER FOREIGN MATERIALS.
- L NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES. HAND GRADE ALL LAWN AREAS WITHIN DRIP LINE OF EXISTING TREES.
- M IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS, WALKS AND PAVED AREAS.
- N ALL PLANTING BEDS SHALL RECEIVE 4" SHREDDED BARK MULCH. SEE SPECIFICATIONS.
- O SOD/SEED LAWN AREAS - ALL LAWN AREAS BETWEEN CURBS AND BUILDINGS OR BETWEEN BUILDINGS, DISK SOIL TO 4" DEEP BEFORE TOPSOIL PLACEMENT
- P SOD SHALL BE TWO YEAR OLD "BARONCHERIADELPHI" KENTUCKY BLUE GRASS GROWN IN A SOD NURSERY ON LOAM SOIL.



project sponsor:
MacAllister Machinery Co., Inc.
6300 Southeastern Ave.
Indianapolis, IN 46203
317.545.2151

Copyright 2023 Deak Planning + Design, LLC.

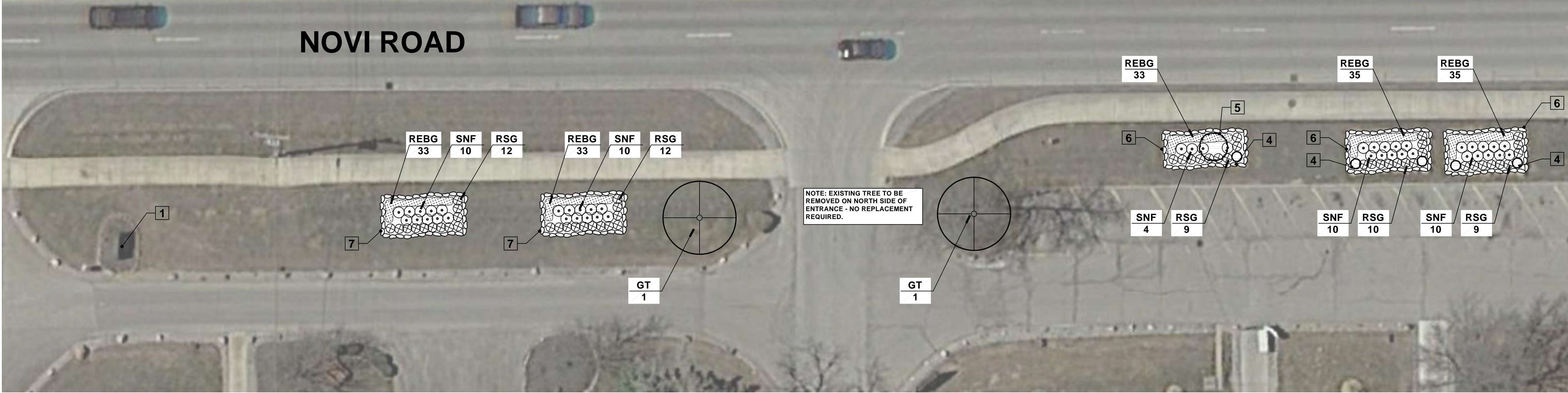
revisions:

SITE PLAN APPROVAL	07/14/23

sheet title:
FRONTAGE DETAIL

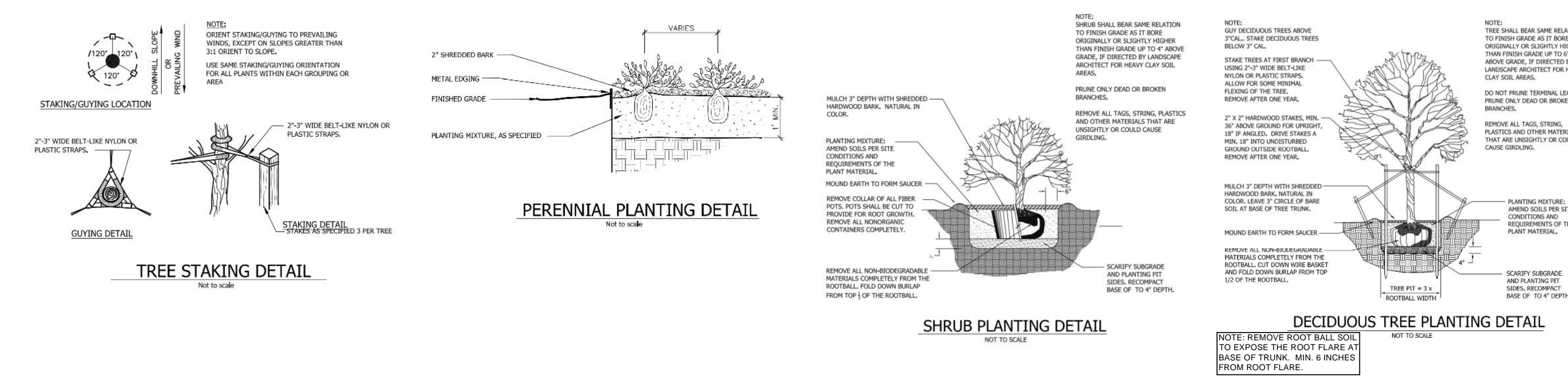
project no.
162109

sheet no.
LP-3



1 **PLANTING PLAN DETAIL**
 LP3 SCALE 1/16" = 1'-0"

NOVI PLANTING DETAILS



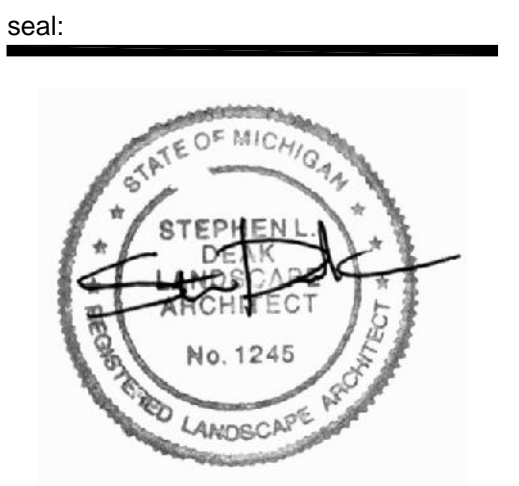
TOPSOIL
 CONTRACTOR TO TILL OR DISK SUBGRADE TO 4" DEPTH AND INSTALL 4" COMPACTED DEPTH TOPSOIL IN ALL LAWN AREAS - TOPSOIL SHALL BE PROVIDED BY CONTRACTOR

PLANT KEY

- TREE SYMBOL
- TREE TYPE KEY - SEE PLANT LIST SHEET LP-4
- QUANTITY NOVI PLANTING DETAILS SEE THIS SHEET

NOT TO BE USED AS CONSTRUCTION DRAWING





project sponsor:
 MacAllister Machinery Co., Inc.
 6300 Southeastern Ave.
 Indianapolis, IN 46203
 317.545.2151

Copyright 2023 Deak Planning + Design, LLC.

revisions:
 SITE PLAN APPROVAL 07/14/23

sheet title:
**FRONTAGE
 DETAIL**

project no.
 162109

sheet no.
LP-4

NOTE KEY:

- 1 EXISTING SIGN
- 2 EXISTING FLAG POLE
- 3 EXISTING TREE TO REMAIN
- 4 EXISTING ORN. GRASS TO REMAIN
- 5 EXISTING ORN. TREE TO REMAIN
- 6 EXISTING BOULDERS TO REMAIN
- 7 PROPOSED BOULDERS TO MATCH EXISTING
- 8 SHOVEL CUT BED EDGE
- 9 PROPOSED MOTOR CITY MARKER SIGN
- 10 EXISTING BRICK PAVERS TO REMAIN
- 11 BENCH - "SCARBOROUGH 48" BACKED BENCH - STRAPPED SURFACE MOUNT PER MANUFACTURER COLOR - BUTTERFLY W/ OWNER APPROVAL LANDSCAPE FORMS 800-821-2546 WWW.LANDSCAPE FORMS.COM

GENERAL PLANTING REQ.:

- A THE WORK SHALL CONSIST OF PROVIDING ALL NECESSARY MATERIAL, LABOR, EQUIPMENT, TOOLS, AND SUPERVISION REQUIRED FOR THE COMPLETION AS SHOWN ON THE DRAWING.
- B ALL PLANT MATERIALS SHALL CONFORM TO THE TYPE STATED ON THE PLANT LIST. SIZES SHALL BE THE MINIMUM STATED ON THE PLANT LIST OR LARGER. ALL MEASUREMENTS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "A.L.S." STANDARDS FOR GRADE NO. 1 NURSERY STOCK AND NORTHERN NURSERY GROWN.
- C ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
- D ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER. TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
- E ALL MULTI-STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL NOT BE ACCEPTED.
- F ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
- G THE CONTRACTOR IS RESPONSIBLE FOR PLANTING THE MATERIALS AT THE CORRECT GRADES AND SPACING. THE PLANTS SHALL BE ORIENTED AS TO GIVE THE BEST APPEARANCE.
- H WHEN THE PLANT HAS BEEN PROPERLY SET, THE PIT SHALL BE BACKFILLED WITH A TOPSOIL AND NATIVE SOIL MIXTURE. GRADUALLY FILLING, PATTING AND SETTLING WITH WATER.
- I ALL PLANT MATERIALS SHALL BE PRUNED AND INJURIES REPAIRED. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE REMOVAL OF DEAD OR INJURED TWIGS AND TO COMPENSATE FOR THE LOSS OF ROOTS FROM TRANSPLANTING. CUTS SHOULD BE FLUSH, LEAVING NO STUBS.
- J THE CONTRACTOR AGREES TO GUARANTEE ALL PLANT MATERIALS FOR THE PERIOD OF TWO (2) YEARS. ALL PLANT MATERIAL SHALL HAVE A MINIMUM OF ONE CULTIVATION IN JUNE, JULY, AND AUGUST FOR THE TWO YEAR WARRANTY. AT THAT TIME THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT FOR A FINAL INSPECTION. PLANT MATERIAL WITH 25% DIE BACK, AS DETERMINED BY THE OWNER'S REPRESENTATIVE SHALL BE REPLACED. THIS GUARANTEE INCLUDES THE FURNISHING OF NEW PLANTS, LABOR AND MATERIALS. THESE NEW PLANTS SHALL ALSO BE GUARANTEED FOR THE PERIOD OF ONE YEAR.
- K TOPSOIL SHALL BE FRIABLE, FERTILE TOPSOIL OF CLAY LOAM CHARACTER CONTAINING AT LEAST 5% BUT NOT MORE THAN 20% BY WEIGHT OF ORGANIC MATTER WITH A PH RANGE FROM 6.0 TO 7.0. SOIL SHALL BE FREE FROM CLAY LUMPS, COARSE SAND, PLANT ROOTS, STICKS AND OTHER FOREIGN MATERIALS.
- L NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES. HAND GRADE ALL LAWN AREAS WITHIN DRIP LINE OF EXISTING TREES.
- M IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS, WALKS AND PAVED AREAS.
- N ALL PLANTING BEDS SHALL RECEIVE 4" SHREDDED BARK MULCH. SEE SPECIFICATIONS.
- O SOD/SEED LAWN AREAS - ALL LAWN AREAS BETWEEN CURBS AND BUILDINGS OR BETWEEN BUILDINGS, DISK SOIL TO 4" DEEP BEFORE TOPSOIL PLACEMENT
- P SOD SHALL BE TWO YEAR OLD "BARONCHERIADELPHI" KENTUCKY BLUE GRASS GROWN IN A SOD NURSERY OR LOAM SOIL.

PLANT MIX

- ALL PLANTING/PERENNIAL BEDS TO RECEIVE:
- 1 - 6 CU FT. QTY. OF COMPOST
 - 1 - 40 LB BAG DRIMANURE
 - 1 - 1 LB BAG SHERMINS 13-13-13 MULTI PURPOSE FERTILIZER

PER 100 SQ FT BED AREA, HAND TILL INTO SOIL TO A DEPTH OF 12" MINIMUM

MULCH

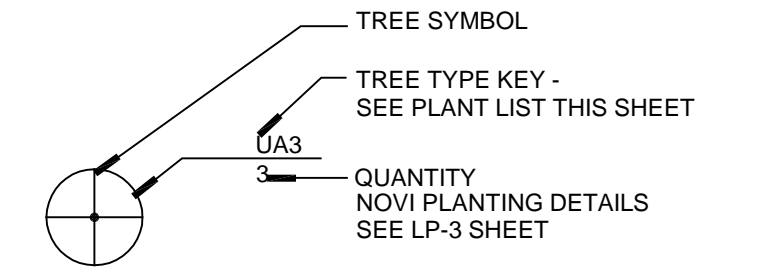
MULCH TO BE DOUBLE SHREDDED HARDWOOD BARK MULCH

NO GROUND WOOD PALLETTE MULCH PERMITTED

TOPSOIL

CONTRACTOR TO TILL OR DISK SUBGRADE TO 4" DEPTH AND INSTALL 4" COMPACTED DEPTH TOPSOIL IN ALL LAWN AREAS - TOPSOIL SHALL BE PROVIDED BY CONTRACTOR

PLANT KEY



NOT TO BE USED AS CONSTRUCTION DRAWING



2 PLANTING PLAN DETAIL
 LP3 SCALE 1/16" = 1'-0"

PLANT LIST - Novi Road Frontage

QUAN.	KEY	COMMON/BOTANICAL NAME	SIZE	SPEC.	UNIT	TOTAL
2	GT	Skyline Thornless Honeylocust <i>Gleditsia t. 'Skyline'</i>	3" cal.	B&B	\$ 400.00	\$ 800.00
59	SNF	Neon Flash Spirea <i>Spiraea j. 'Neon Flash'</i>	3 Gal.	Cont.	\$ 50.00	\$ 2,950.00
64	RSG	Red Switch Grass <i>Panicum virgatum 'Rotstrahlbush'</i>	2 Gal.	Cont.	\$ 15.00	\$ 375.00
25	PAV	Early Blooming Blk. Flowered Ftn.Grass <i>Pennisetum a. 'Viridescens'</i>	2 Gal.	Cont.	\$ 15.00	\$ 1,215.00
81	HHR	Happy Returns Daylily <i>Heemerocallis 'Happy Returns'</i>	1 Gal. 3 Fan min.	Cont.	\$ 15.00	\$ 3,090.00
206	REBG	Early Bird Gold Oranges Coneflower <i>Rudbeckia f. 'Early Bird Gold'</i>	1 Gal.	Cont.	\$ 15.00	\$ 135.00
9	SHREDDED	HARD BARK MULCH (C.Y.)			\$ 35.00	\$ 315.00
TOTAL:						\$ 8,880.00

- NOTE:
1. CONTRACTOR TO VERIFY ALL PLANT QUANTITIES ON PLANS.
 2. ANY PLANT SUBSTITUTIONS MUST BE APPROVED BY THE CITY IN WRITING PRIOR TO INSTALLATION.
 3. PLANT SPECIES SELECTIONS PROVIDED TO MEET CITY REQUIREMENTS.
 4. DO NOT USE DWARF SPECIES OF CORNUS SERICEA.

BENCH



LANDSCAPE FORMS - SCARBOROUGH BENCH

TEXT ENLARGEMENT

A History of Michigan CAT

Michigan CAT was founded as Michigan Tractor and Machinery Co. in 1944 by Jermold A. Frost Sr. "Jack" Frost served as Chief Executive Officer until 1971 when his son-in-law, Mark Jung, was elected President.

His son, Jermold M. Jung, was elected president on July 18, 1988 and held this post until January 31, 2011 upon sale to MacAllister Machinery Co. Inc. The company was initially located in Detroit, Michigan and in 1965, was moved to Novi.

MacAllister Machinery is the primary dealer of Caterpillar Equipment in Indiana and Michigan.

Since 1944 Michigan CAT has been servicing, renting and selling construction equipment such as scrapers, agricultural equipment, graders, dozers, excavators, backhoes, and paving machinery as well as generators.

We also handle an extensive line of compact construction equipment (CCE) including skid steer loaders, mini excavators, and small wheel loaders, aggregate processing equipment and rent electric-combustion-powered equipment.

Michigan Tractor and Machinery Company

NOTE: FINAL GRAPHIC AND FULL SHOP DRAWINGS TO BE SUBMITTED FOR OWNER AND CITY REVIEW AND APPROVAL.

CITY LOGO

CITY STANDARD FRAME

1 HISTORY SIGN CONCEPT
 SCALE 1" = 1'-0"



P L A N N I N G + D E S I G N
143 cadycentre #79
northville, mi 48167

deakplanningdesign.com

MICHIGAN CAT STORAGE
24800 Novi Road, Novi, Michigan

Tag No.	DBH (in.)	Common Name	Botanical Name	Condition	Remove	Multi Stem Rteplac. Credits	Replacement Credits
233	18,16	Cottonwood	<i>Populus deltoides</i>	Good	R		
234	18,13,10	Honeylocust	<i>Gleditsia triacanthos</i>	Good	R	5	
235	16,8	Cottonwood	<i>Populus deltoides</i>	Good	R		
236	16,12,16	Siberian Elm	<i>Ulmus pumila</i>	Good	R	6	
237	15,16	Cottonwood	<i>Populus deltoides</i>	Good	R		
238	14,8	Cottonwood	<i>Populus deltoides</i>	Good	R		
239	14,17	Cottonwood	<i>Populus deltoides</i>	Good	R		
240	14,14	Cottonwood	<i>Populus deltoides</i>	Good	R		
241	13,11	Honeylocust	<i>Gleditsia triacanthos</i>	Good	R		
242	12,9	Boxelder	<i>Acer negundo</i>	Good	R		
243	12,19,15,15	Boxelder	<i>Acer negundo</i>	Good	R	8	
244	12,14	Boxelder	<i>Acer negundo</i>	Good	R		
245	12,14	Cottonwood	<i>Populus deltoides</i>	Good	R		
246	10,9	Boxelder	<i>Acer negundo</i>	Poor	R		
247	10,8	Boxelder	<i>Acer negundo</i>	Good	R		
248	10,8	Boxelder	<i>Acer negundo</i>	Good	R		
249	10,17	Boxelder	<i>Acer negundo</i>	Good	R		
250	10,10	Cottonwood	<i>Populus deltoides</i>	Good	R		
251	40	Cottonwood	<i>Populus deltoides</i>	Good	R		4
252	38	Cottonwood	<i>Populus deltoides</i>	Good	R		4
253	36	Cottonwood	<i>Populus deltoides</i>	Fair	R		4
254	33	Cottonwood	<i>Populus deltoides</i>	Good	R		
255	28	Honeylocust	<i>Gleditsia triacanthos</i>	Good	R		
256	24	Cottonwood	<i>Populus deltoides</i>	Good	R		
257	24	Cottonwood	<i>Populus deltoides</i>	Good	R		
258	22	Cottonwood	<i>Populus deltoides</i>	Dead	R		
259	22	Cottonwood	<i>Populus deltoides</i>	Good	R		
260	22	Cottonwood	<i>Populus deltoides</i>	Good	R		
276	21	Cottonwood	<i>Populus deltoides</i>	Good	R		
392	20,14	Cottonwood	<i>Populus deltoides</i>	Good	R		
465	21	Cottonwood	<i>Populus deltoides</i>	Good	R		
466	20	Cottonwood	<i>Populus deltoides</i>	Good	R		
467	20	Siberian Elm	<i>Ulmus pumila</i>	Good	R		
468	19	Cottonwood	<i>Populus deltoides</i>	Good	R		
469	18	Cottonwood	<i>Populus deltoides</i>	Dead	R		
470	18	Cottonwood	<i>Populus deltoides</i>	Good	R		
471	18	Cottonwood	<i>Populus deltoides</i>	Good	R		
472	18	Boxelder	<i>Acer negundo</i>	Good	R		
473	18	Siberian Elm	<i>Ulmus pumila</i>	Good			
474	18	Cottonwood	<i>Populus deltoides</i>	Poor	R		
475	15	Cottonwood	<i>Populus deltoides</i>	Good	R		
476	15	Cottonwood	<i>Populus deltoides</i>	Good	R		
477	15	Cottonwood	<i>Populus deltoides</i>	Good	R		
478	15	Cottonwood	<i>Populus deltoides</i>	Good	R		
479	15	Boxelder	<i>Acer negundo</i>	Good	R		
480	15	Cottonwood	<i>Populus deltoides</i>	Good	R		
481	15	Siberian Elm	<i>Ulmus pumila</i>	Good	R		
482	14	Cottonwood	<i>Populus deltoides</i>	Fair	R		
483	14	Cottonwood	<i>Populus deltoides</i>	Good	R		
484	14	Cottonwood	<i>Populus deltoides</i>	Good	R		
485	14	Cottonwood	<i>Populus deltoides</i>	Good	R		
486	14	Siberian Elm	<i>Ulmus pumila</i>	Good			
487	14	Cottonwood	<i>Populus deltoides</i>	Poor	R		
488	13	Cottonwood	<i>Populus deltoides</i>	Good	R		
489	13	Cottonwood	<i>Populus deltoides</i>	Good	R		
490	13	Siberian Elm	<i>Ulmus pumila</i>	Good	R		
585	12	Siberian Elm	<i>Ulmus pumila</i>	Good			
586	12	Siberian Elm	<i>Ulmus pumila</i>	Poor			
587	12	Boxelder	<i>Acer negundo</i>	Good	R		
588	12	Boxelder	<i>Acer negundo</i>	Good	R		
589	12	Cottonwood	<i>Populus deltoides</i>	Good	R		
590	12	Boxelder	<i>Acer negundo</i>	Good	R		
591	12	Siberian Elm	<i>Ulmus pumila</i>	Good	R		
592	12	Cottonwood	<i>Populus deltoides</i>	Good	R		
593	11	Boxelder	<i>Acer negundo</i>	Good	R		
594	11	Cottonwood	<i>Populus deltoides</i>	Good	R		
595	11	Cottonwood	<i>Populus deltoides</i>	Good	R		
596	11	Cottonwood	<i>Populus deltoides</i>	Poor	R		
597	10	Boxelder	<i>Acer negundo</i>	Good	R		
598	10	Boxelder	<i>Acer negundo</i>	Good	R		
599	9	Cottonwood	<i>Populus deltoides</i>	Good	R		
600	8	Cottonwood	<i>Populus deltoides</i>	Fair	R		
601	8	Cottonwood	<i>Populus deltoides</i>	Poor	R		
602	8,23	Cottonwood	<i>Populus deltoides</i>	Good	R		
603	8,10	Cottonwood	<i>Populus deltoides</i>	Poor	R		
604	21,24	Boxelder	<i>Acer negundo</i>	Good	R	6	
605	21,10	Cottonwood	<i>Populus deltoides</i>	Good	R		
606	20,20,17,12	Cottonwood	<i>Populus deltoides</i>	Good	R	10	

seal:



project sponsor:

MacAllister Machinery Co., Inc.
6300 Southeastern Ave.
Indianapolis, IN 46203
317.545.2151

Copyright 2023 Deak Planning + Design, LLC.

revisions:

SITE PLAN APPROVAL 07/14/23

sheet title:

TREE INVENTORY

project no.

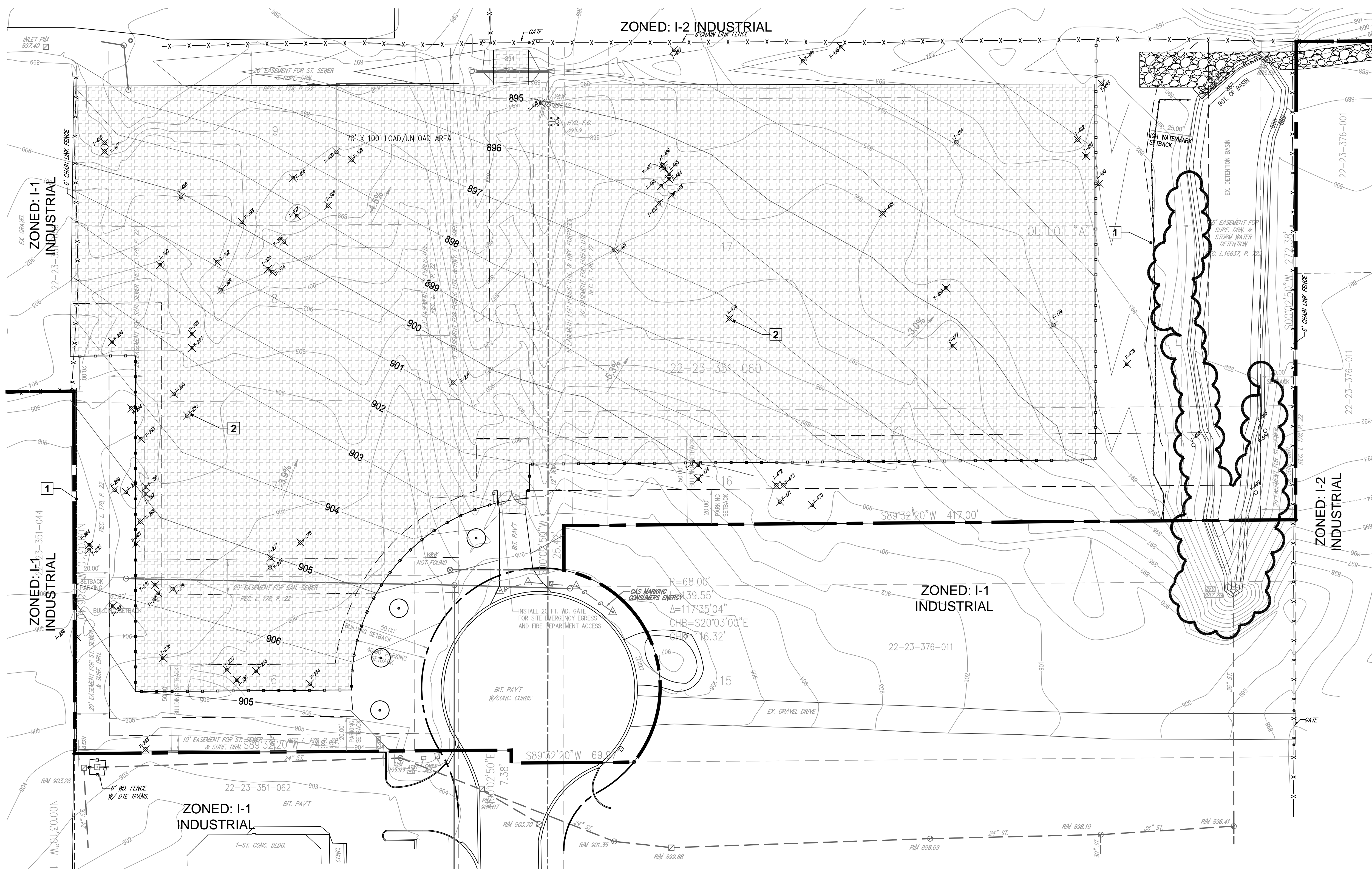
162109

sheet no.

TL-1



NOT TO BE USED AS CONSTRUCTION DRAWING



NOTE KEY:

- 1 TREE PROTECTION FENCING - SEE CIVIL DRAWINGS
- 2 TREE REMOVED TYP. - SEE INVENTORY LIST SHEET TL-1 FOR REPLACEMENT CREDITS PER TREE

WOODLAND DATA

Total Trees Surveyed: 78 Trees
 Total Trees Preserved: 4 Trees

WOODLAND IMPACT

Trees Removed:
 Dead Trees Removed: 2 Trees
 Very Poor Cond. Trees Removed: 6 Trees
 Non-Reg. Trees Removed: 58 Trees

Trees Req. Repl. Removed: 3 Trees
 Multi Stem Trees Req. Repl. Removed: 5 Trees

WOODLAND REPLACEMENT

Replacement Trees:
 Trees 8"-10.9": 0 Trees x 1 Credit = 0 Credits
 Trees 11"-19.9": 0 Trees x 2 Credit = 0 Credits
 Trees 20"-29.9": 0 Trees x 3 Credit = 0 Credits
 Trees 30" or Greater: 3 Trees x 4 Credit = 12 Credits

Trees Multi Stem Req. Credits: 35 Credits

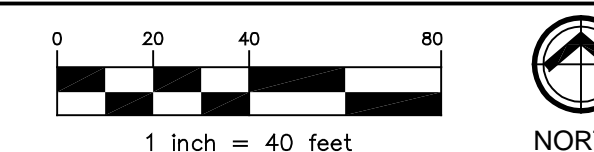
TOTAL CREDITS REQUIRED: 47 Credits

REPLACEMENT TREES PROVIDED: 15 Trees

PROP. REPLC. CREDITS: 32 Credits
 (Paid to City Tree Fund)

WOODLAND IMPACT PLAN

SCALE: 1" = 40'



MINUTES
to be sent
