



MORGAN PLACE (FKA TRIANGLE PLACE) JZ19-17, JSP19-21

MORGAN PLACE JZ19-17 WITH REZONING 18.731

Public hearing at the request of Trowbridge Companies for Planning Commission's recommendation to City Council for a Zoning Map amendment from Freeway Service (FS) to General Business (B-3) with a Planned Rezoning Overlay, as well as Preliminary Site Plan consideration. The subject property is approximately 0.48 acres and is located on the east side of Haggerty Road, north of Eight Mile Road (Section 36). The applicant is proposing to develop an approximately 2,420 square foot single story building.

REQUIRED ACTION

Recommendation to City Council for approval or denial of the rezoning request from Freeway Service (FS) to General Business (B-3) with a Planned Rezoning Overlay, and concurrent Preliminary Site Plan and Stormwater Management Plan, subject to the City Council's approval of the requested Rezoning with Planned Rezoning Overlay.

REVIEW	RESULT	DATE	COMMENTS
Planning	Approval recommended	3-5-20	<ul style="list-style-type: none"> • Deviation for minimum distance requirement between parking and the street ROW <i>(Supported)</i> • Deviation for rear yard building setback <i>(Supported)</i> • Deviation for minimum front yard parking setback <i>(Supported)</i> • Deviation for width of paved path to bike racks <u>(Applicant indicates standards will be met with Final Site Plan submittal)</u> • Deviation for lack of loading zone <i>(Supported with condition that uses restricted in PRO Agreement)</i> • Deviation for dumpster to be located in interior side yard <i>(Supported with condition)</i> • Deviation to minimum required lighting and photometric standards <u>(Applicant indicates standards will be met with Final Site Plan submittal)</u> • Items to be addressed on the Final Site Plan submittal
Engineering	Approval recommended	2-28-20	<ul style="list-style-type: none"> • Items to be addressed on the Final Site Plan submittal
Landscaping	Conditional	1-29-20	<ul style="list-style-type: none"> • Deviation for deficiency of parking lot

	Approval recommended		<p>perimeter canopy trees (<i>Supported due to underground utility easements</i>)</p> <ul style="list-style-type: none"> • Deviation for deficiency of greenbelt plantings (<i>Supported due to gas line easements</i>) • Deviation for lack of greenbelt plantings south of parking lot (<i>Supported due to insufficient space</i>) • Deviation for lack of greenbelt berm (<i>Supported with hedge alternative</i>) • Items to be addressed on the Site Plan submittal
Traffic	Approval recommended	3-4-20	<ul style="list-style-type: none"> • Deviation for lack of loading zone • Deviation for parking setback • Deviation if all bicycle parking facilities are not made accessible via 6' paved route • Items to be addressed on the Site Plan submittal
TIS Review	Approval Not recommended	5-17-19	<ul style="list-style-type: none"> • Revisions to the RTIS required • Updates should be provided to city
Façade	Approval recommended	3-19-20	<ul style="list-style-type: none"> • Section 9 waiver for overage of asphalt shingles (Supported)
Fire	Conditional Approval recommended	1-30-20	<ul style="list-style-type: none"> • Hazardous Chemical Survey to be submitted • Items to be addressed on the Final Site Plan submittal

MOTION SHEET

Approval

In the matter of Morgan Place, JZ19-17, with Zoning Map Amendment 18.731, motion to **recommend approval** to City Council to rezone the subject property from Freeway Service (FS) to General Business (B-3) with a Planned Rezoning Overlay Concept Plan.

Part 1: The recommendation includes the following ordinance deviations for consideration by the City Council:

1. Landscape deviation from section 5.5.3.C.(3) Chart footnote for lack of three perimeter parking lot trees, *because underground utility easements occupy 90 linear feet of parking lot perimeter.*
2. Landscape deviation from section 5.5.3.B.ii and iii for underage of greenbelt plantings by two large evergreen or canopy trees and three subcanopy trees, *because the trees cannot be planted in 90 linear foot wide gas pipeline easements*
3. Landscape deviation from section 5.5.3.B.ii and iii for lack of berm along Haggerty Road, *due to the unusual shape of the site.*
4. Planning deviation from section 5.3.13 for not meeting the minimum distance requirement between the parking from the street ROW. A minimum of 25 feet is required, varied widths from 16 feet to 20 feet proposed, *because less traffic is expected in and out the site.*
5. A section 9 waiver for overage of Asphalt shingles on the west and east facades (25% maximum allowed, 48% on West and 46% on east proposed), *because the proposed elevations meet the intent of the façade ordinance.*
6. Planning deviation from section 3.1.12.D for not meeting the minimum required rear yard building setback (minimum of 20 feet is required, four feet is proposed), *as the proposed building location is limited by the existing gas line easement on the site.*
7. Planning deviation from section 3.1.12.D for not meeting the minimum required front yard parking setback (minimum of 20 feet is required, ten feet is proposed), *due to the unusual shape of the lot.*
8. Planning deviation from section 5.4.2 for lack of required loading zone, because the proposed conditions include restricting the uses permitted on the site to those that would not require a loading zone.
9. Planning deviation from section 4.19.2.F for allowing the dumpster in the interior side yard in lieu of required rear yard, *as the applicant has committed to comply with trash pick-up services so as not to interfere with site operations or traffic along Haggerty Road.*

Part 2: If the City Council approves the rezoning, the Planning Commission recommends the following conditions be made part of the PRO Agreement:

1. The applicant offers installation of sidewalk in front of the detention basin, immediately south of the subject site, to connect with right-of-way sidewalk improvements for this development (approximately 180 linear feet).
2. The applicant offers the planting of native shrubs along the right-of-way in front of the detention ponds to the south of the subject site and on the opposite side of Haggerty Road (5 native shrubs);
3. Applicant offers a pedestrian connection and landscaped seating feature is located in front of the building, providing an additional pedestrian amenity to the area.
4. The following uses are **not** permitted on the property, unless otherwise approved by the City of Novi with a finding that adequate parking is available:
 - a. Retail business and retail business service uses;
 - b. Off-street parking lots;
 - c. Restaurants having the character of a drive in or having a drive-through window;
 - d. Theaters, assembly halls, concert halls, museums or similar places of assembly;
 - e. Business schools and colleges or private schools operated for profit;
 - f. Day Care Centers and Adult Day Care Centers;
 - g. Private clubs, fraternal organizations, and lodge halls;
 - h. Hotels and motels;
 - i. Mortuary establishments;
 - j. Auto wash;
 - k. Bus passenger stations;
 - l. New and used car salesroom, showroom, or office
 - m. Tattoo parlors;
 - n. Outdoor space for sale of new or used automobiles, campers, recreation vehicles, mobile homes, or rental of trailers or automobiles;
 - o. Businesses in the character of a drive-in or open front store;
 - p. Plant materials nursery for the retail sale of plant materials and sales of lawn furniture, playground equipment and garden supplies;
 - q. Public or private indoor recreational facilities;
 - r. Mini-lube or quick oil change establishments;
 - s. Gasoline service station and automobile repair; and
 - t. Microbrewery or brew-pub.
5. The applicant shall provide an updated Rezoning Traffic Impact Study as requested in the AECOM review letter dated May 17, 2019.

Part 3: This motion is made because the proposed the General Business (B-3) zoning district is a reasonable alternative to the Master Plan for Land Use, and because:

1. The proposed rezoning will remove the potential for many of the high-traffic uses allowed in the FS, Freeway Service District while permitting those office uses that are more appropriate for the site;
2. The requested PRO overlay and deviations requested will allow flexibility with meeting the dimensional challenges of this site;
3. The project is consistent with the Master Plan goal to retain and support the growth of existing businesses and attract new businesses to the City of Novi.
4. There is no negative impact expected on public utilities as compared with the current development potential as stated in the Engineering memo.

-OR-

Denial

In the matter of Morgan Place, JZ19-17, with Zoning Map Amendment 18.731, motion to **recommend denial** to City Council to rezone the subject property from Freeway Service (FS) to General Business (B-3) with a Planned Rezoning Overlay Concept Plan... because *[insert any reasons]*

-AND-

Approval – Preliminary Site Plan

In the matter of Morgan Place, JSP19-21, motion to **approve** the Preliminary Site Plan based on and subject to the following:

- a. The City Council granting final approval of the PRO Agreement and PRO Concept Plan;
- b. All conditions and deviations in the final PRO Agreement and PRO Concept Plan being addressed on the Final Site Plan;
- c. 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
- d. *(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 – Stormwater Management Plan

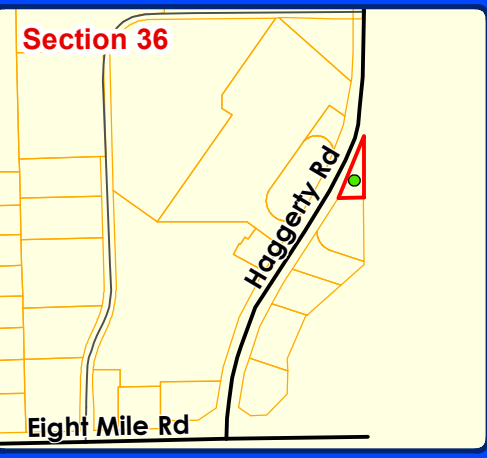
In the matter of Morgan Place, JSP19-21, motion to **approve** the Stormwater Management Plan, based on and subject to:

- a. The City Council granting final approval of the PRO Agreement and PRO Concept Plan;
- b. 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
- c. *(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.)

MAPS
Location
Zoning
Future Land Use
Natural Features

JZ19-17 TRIANGLE PLACE 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: Lindsay Bell
Date: 3/18/2020
Project: TRIANGLE PLACE
Version #: 1

0 25 50 100 150 Feet
1 inch = 126 feet

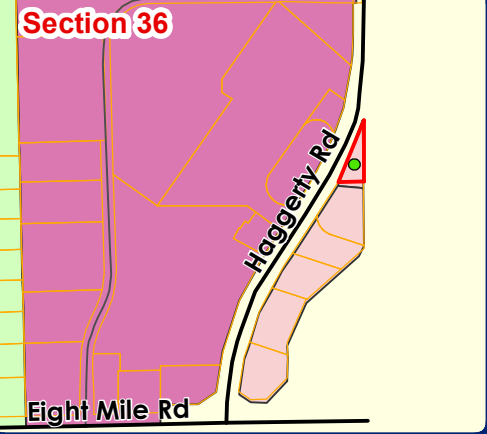


MAP INTERPRETATION NOTICE

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.

JZ19-17 TRIANGLE PLACE

Zoning



LEGEND

- R-A: Residential Acreage
- FS: Freeway Service District
- OSC: Office Service Commercial
- Subject Property



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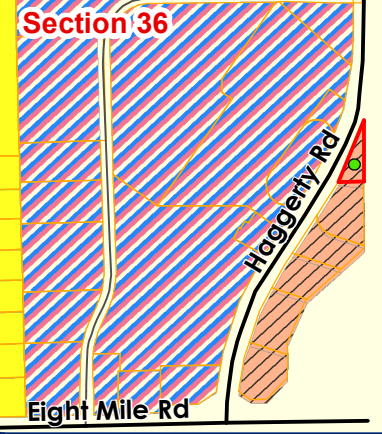
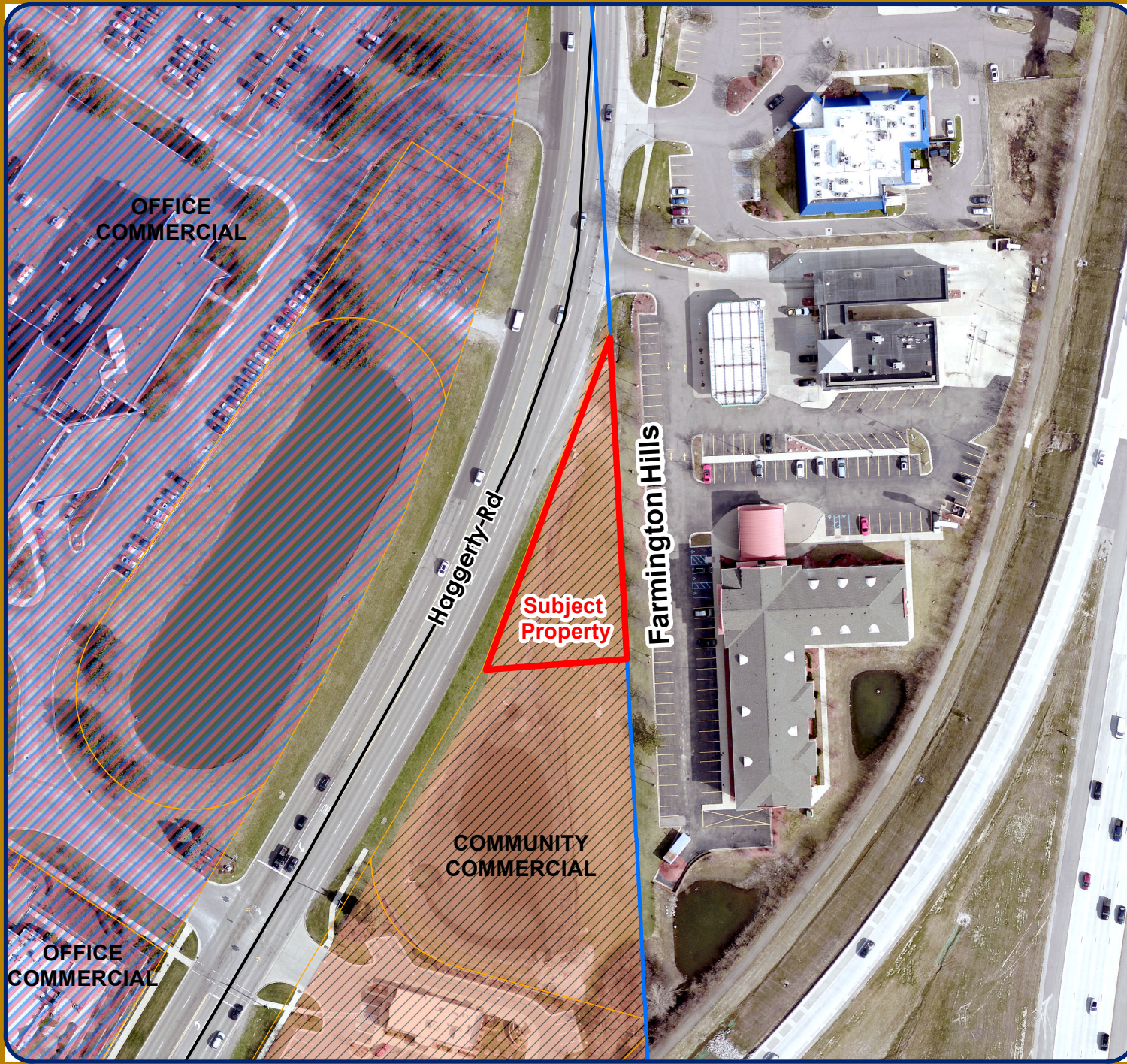


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JZ19-17 TRIANGLE PLACE

Future Land Use



LEGEND

- Single Family
- Office Commercial
- Community Commercial
- Subject Property

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

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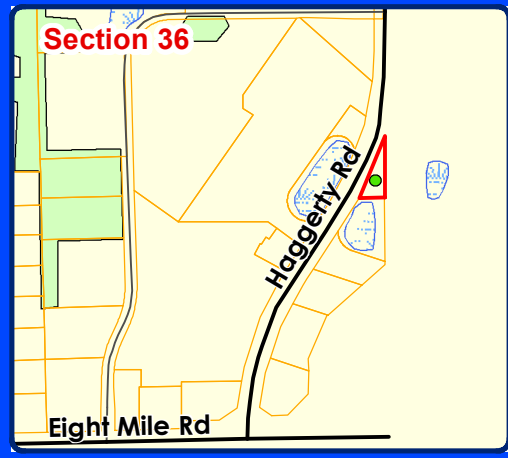
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JZ19-17 TRIANGLE PLACE

Natural Features



LEGEND

- WETLANDS
- WOODLANDS
- Subject Property



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PRO CONCEPT PLAN
JANUARY 14, 2020

SITE PLANS FOR "TRIANGLE PLACE" CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

SCALE 1"=20'



LEGEND	
---	EXISTING STORM
---	EXISTING WATER MAIN
---	EXISTING SANITARY
---	EXISTING GAS
---	EX. CATCH BASIN
---	EX. MANHOLE
---	EX. END SECTION
---	SET IRON
---	EX. GUY WIRE
---	EX. POLE
---	EX. MANHOLE
---	EX. POLE HOLE
---	EX. SOIL
---	EX. TREE
---	PROP. SAN. STR. NUMBER
---	PROP. STA. STR. NUMBER
---	PROP. GATE VALVE NUMBER
---	EX. EX. HOLE
---	PROP. DOWNSPOUTS
---	FINISH FLOOR
---	PROP. DRAINAGE ARROW
---	PROP. TOP OF PAVEMENT ELEV.
---	PROP. TOP OF CURB ELEV.
---	PROP. GUTTER ELEV.
---	PROP. TOP OF WALK ELEV.
---	PROP. SPOT ELEV.
---	PROP. CONTOUR
---	PROP. CATCH BASIN
---	PROP. YARD BASIN
---	PROP. MANHOLE
---	PROP. END SECTION
---	PROP. DOWNSPOUT/YARD DRAIN PIPING
---	PROP. STORM SEWER
---	PROP. SANITARY SEWER
---	PROP. WATER MAIN
---	PROP. GATE VALVE
---	PROP. HYDRANT
---	PROP. HYDRANT NUMBER
---	SILT FENCE
---	TREE PROTECTION FENCE
---	C.D. (CLEAN OUT)

PAVING LEGEND	
[Pattern]	PARKING AREA
[Pattern]	CONCRETE

LEGAL DESCRIPTION

A PARCEL OF LAND IN THE SOUTHEAST 1/4 OF SECTION 36, TOWN 1 NORTH, RANGE 8 EAST, IN THE CITY OF NOVI, OAKLAND COUNTY, MICHIGAN BEGINNING AT A POINT DISTANT NORTH 01 DEGREES 52 MINUTES 04 SECONDS WEST 1175.00 FEET FROM THE SOUTHEAST CORNER, THENCE NORTH 86 DEGREES 04 MINUTES 35 SECONDS WEST 129.87 FEET, THENCE SOUTH 31 DEGREES 07 MINUTES 56 SECONDS WEST 94.67 FEET TO THE EASTERLY RIGHT OF WAY LINE, HAGGERTY ROAD, THENCE NORTH 27 DEGREES 21 MINUTES 11 SECONDS EAST 195.67 FEET, THENCE NORTH 18 DEGREES 36 MINUTES 25 SECONDS EAST 243.28 FEET TO THE EAST SECTION LINE, THENCE SOUTH 01 DEGREES 52 MINUTES 04 SECONDS EAST 332.54 FEET TO THE POINT OF BEGINNING.

NOTES:

- 1) ROOFTOP LIGHTING MUST BE SCREENED PER ORDINANCE REQUIREMENTS.
- 2) EXTERIOR LIGHTING MUST COMPLY WITH SECTION 2511 OF THE CITY OF NOVI CODE.
- 3) RIGHT OF WAY PERMIT IS REQUIRED FROM THE ROAD COMMISSION FOR OAKLAND COUNTY FOR ANY WORK IN THE HAGGERTY ROAD RIGHT-OF-WAY.
- 4) ALL SIGNS SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES (CHAPTER 28) OF THE CITY OF NOVI, AND WHERE REQUIRED SHALL BE REVIEWED AND APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY AND A PERMIT ISSUED.
- 5) ALL PARKING AND TRAFFIC CONTROL SIGNS SHALL COMPLY WITH THE DESIGN AND PLACEMENT REQUIREMENTS OF THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
- 6) NOTIFY THE CITY OF NOVI A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- 7) ALL CONSTRUCTION MUST BE CONFORMING TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF NOVI.
- 8) ALL UTILITIES TO BE UNDERGROUND.
- 9) CALL MISS DIG (800) 412-7171 A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- 10) ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON-SITE.
- 11) ALL EXCAVATION UNDER OR WITHIN A 1 ON 1 INFLUENCE OF PUBLIC PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED AND COMPACTED WITH SAND (CLASS II MDT).
- 12) THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
- 13) PRIOR TO ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.
- 14) NO DEWATERING IS ANTICIPATED. IF ANY DEWATERING IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE A DEWATERING PLAN TO THE CITY FOR REVIEW AND APPROVAL.

FIRE DEPARTMENT NOTES:

- 1) THE BUILDING ADDRESS IS TO BE POSTED FACING THE STREET THROUGHOUT CONSTRUCTION. THE ADDRESS IS TO BE AT LEAST 3 INCHES HIGH ON A CONTRASTING BACKGROUND.

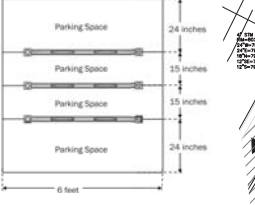
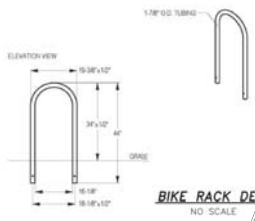
FLOODPLAIN NOTE:

ACCORDING TO THE NATIONAL FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 260175000S DATED MAY 3, 1993 THE SUBJECT PARCEL IS LOCATED IN ZONE "C" WHICH IS NOT A DESIGNATED FLOOD HAZARD AREA.

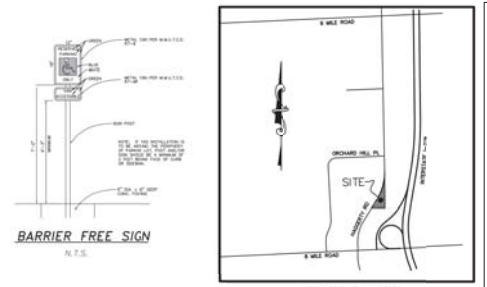
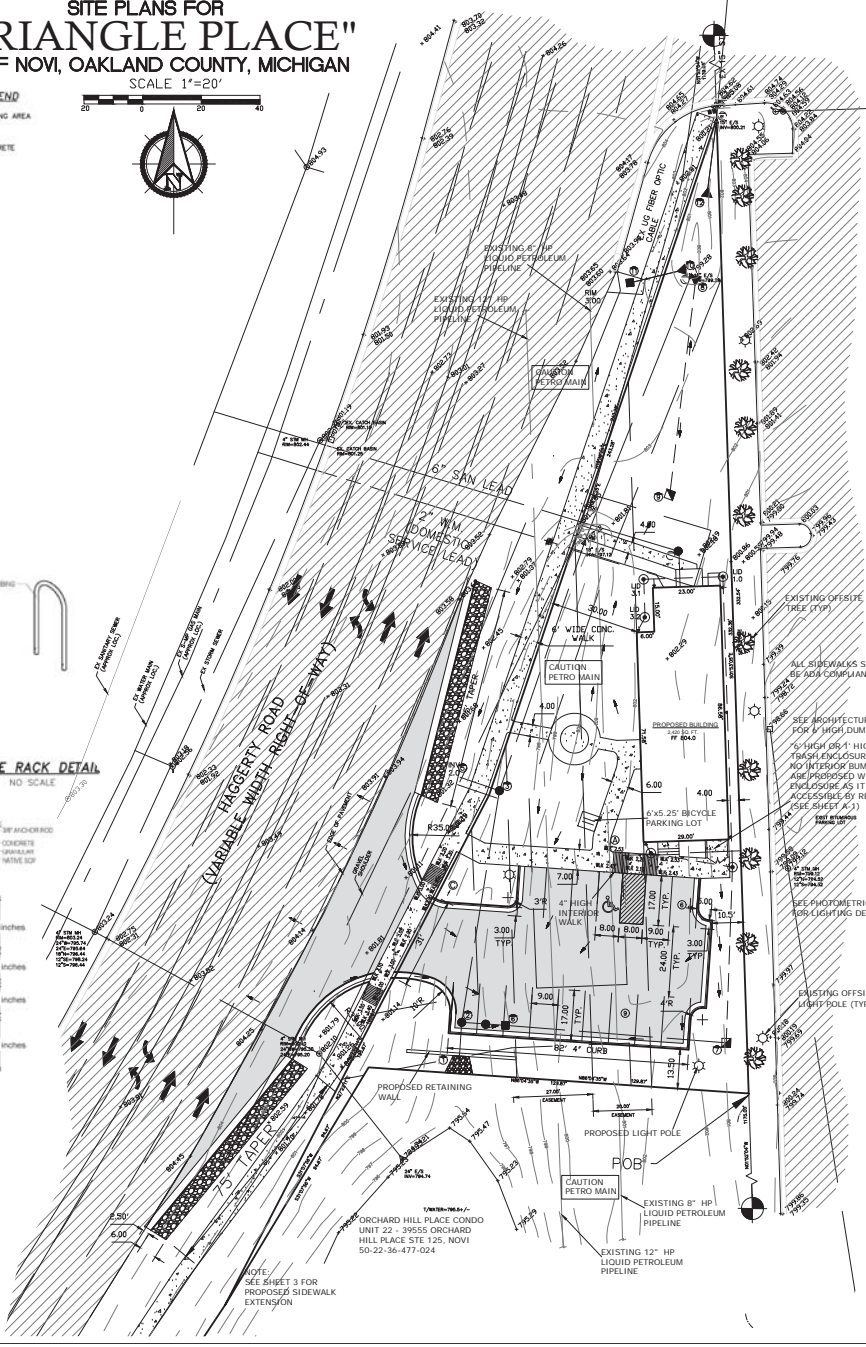
NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK OF PERSONS ENGAGED IN THE WORK OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

NOTE:

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.



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OWNER/APPLICANT:
TROWBRIDGE COMPANIES
2617 BEACON HILL
AUBURN HILLS, MI 48326
(248) 373-4623 PH
(248) 373-6260 FAX

SITE PLAN:

EXISTING ZONING: FS
PROPOSED ZONING: OS-1 (WITH P.R.O.)
TAX ID: 50-22-36-476-006
GROSS ACREAGE: 0.48 AC
EXISTING WETLANDS: NONE
EXISTING WOODLANDS: NONE
BUILDING SETBACKS REQUIRED:
HAGGERTY ROAD: 30' MIN
EAST SIDE: 15' MIN
SOUTH SIDE: 20' MIN
PARKING SETBACKS REQUIRED:
HAGGERTY ROAD: 20' MIN
EAST SIDE: 10' MIN
SOUTH SIDE: 10' MIN.
OPEN SPACE: 0.27 AC, -0.27 AC, 0.48 AC, = 56%
BUILDING HEIGHT = 20'-3" FT.

REQUIRED PARKING CALCULATION:
- TWO ENTRY DOORS
- PLANNED COMMERCIAL OR SHOPPING CENTERS
- 1 SPACE PER 250 GROSS LEASABLE AREA
- 2,220 SF GROSS LEASABLE AREA (GLA)
PARKING REQUIRED = 11 SPACES

PARKING SPACE PAINT NOTES:
THE BARRIER FREE PARKING SPACE AND ACCOMPANYING ACCESS AISLE WILL BE MARKED IN BLUE. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY (WHEELCHAIR) SHOWN ON THE PAVEMENT MARKED IN WHITE. AND UNDESIGNATED PARKING SPACES MARKED IN WHITE. WHERE THE BARRIER FREE PARKING SPACE ABUTS THE FIRST UNDESIGNATED SPACE, THERE SHOULD BE ABUTTING BLUE AND WHITE LINES.

THE HATCH INDICATED IN THE TURNAROUND BAY SHOULD BE BORDERED ON THE SOUTH AND EAST SIDES AND CROSS-HATCHED WITH 4" HIGH YELLOW STRIPING 4 FOOT ON CENTER.

PROPRIETOR/DEVELOPER:
TROWBRIDGE HOMES OF HIDEAWAY, LLC
AGENT: BRECK MICHAEL
TROWBRIDGE COMPANIES
247 BRACON HILLS DRIVE
AUBURN HILLS, MI 48326
248-365-2240

ENGINEER:
CIVIL ENGINEERING
MR. MICHAEL POWELL
POWELL ENGINEERING & ASSOCIATES
4700 CORNERSTONE DRIVE
WHITE LAKE, MI 48381

LANDSCAPE ARCHITECTURE SURVEYOR:
VERT VERDE LANDSCAPE ARCHITECTURE, LLC
JAMES GRAY
4900 ALBERT DRIVE
PLYMOUTH, MI 48170
734-398-5064
GREENTECH
5147 PONTIAC TRAIL
WYOMI, MI 48388
PHONE 248-668-6700

SHEET INDEX

- S1) SITE PLAN
- S2) EXISTING CONDITIONS PLAN
- S3) GRADING PLAN
- S4) UTILITY PLAN
- S5) STORM SEWER PROFILES
- S6) SOIL EROSION CONTROL PLAN
- S7) STORM WATER MANAGEMENT PLAN
- LS-1) LANDSCAPE PLAN
- LS-2) LANDSCAPE PLAN
- A1) COVER SHEET
- A2) FLOOR PLAN
- A3) ELEVATIONS
- A4) ELEVATIONS
- A5) DETAILS
- A6) DETAILS
- 10F1) PHOTOMETRIC PLAN
- 20F1) CITY OF NOVI SANITARY SEWER DETAILS
- 20F2) CITY OF NOVI SANITARY SEWER DETAILS
- 10F1) CITY OF NOVI STORM SEWER DETAILS
- 10F2) CITY OF NOVI WATER MAIN DETAILS
- 20F2) CITY OF NOVI WATER MAIN DETAILS

TRAFFIC SIGNAGE

ITEM	MUTCD CODE	QUANTITY	SIZE	DESCRIPTION
R7-B		1	12" X 18"	WHEEL CHAIR SYMBOL
R7-BP		1	12" X 6"	VAN ACCESSIBLE SIGN
R1-1		1	24"	STOP SIGN

Consulting Civil Engineers
"Engineering 4 Better Michigan"



BEFORE YOU DIG
CALL MISS DIG
1-800-452-7171

TRIANGLE PLACE SITE PLAN CITY OF NOVI

ISSUE DATES

ISSUE	DATE
SITE PLAN	05-26-24
SITE PLAN	05-14-25

DESIGNED	ISS
APPROVED	MCP
P.E. JOB NO.	10-142
SCALE	AS SHOWN
S1	

TRIANGLE PLACE
Novi, Michigan

Project Sponsor:
Trowbridge Companies
2617 Beacon Hill Drive
Auburn Hills, MI 48326

Sheet Name:

Landscape Plan

NOT FOR CONSTRUCTION



Drawn: JG
Checked: JG
Date: 02.12.2018
Scale: 1" = 20'-0"

Project Number:

19.007

Sheet Number:

L-1

City of Novi Landscape Specifications

1. Whenever in this Ordinance landscape plantings are required or permitted, they shall be planted in accordance with the approved final stamped landscape plan.
2. All plant materials shall be installed between March 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 1.5 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 March 15th to November 15th planting season. Where exceptional circumstances related to the inability to plant during the approved installation period a financial guarantee of 1.5 times the cost of any deficiencies will be held until inspection occurs for a Final Certificate of Occupancy. 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 remove those items.
3. A City representative will perform landscape inspections following a request from the developer. The inspection time period is from March 15th to November 15th. A City representative will respond to requests between November 15th and March 31. A financial guarantee is to be provided based on 2.25 times the amount requested for a Temporary Certificate of Occupancy or called in sooner. Requesting March 31st, the Applicant then has 30 days to complete items or the City will cash in the amount being held and finish the job.
4. The establishment period for the plant materials shall occur beginning on 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 time of the establishment inspection. At the end of the establishment period, any plantings, which are 20% dead or greater, shall be replaced.
5. Notice of installation/irrigation:
 - (a) The owner or developer must notify the City of the installation schedule. The City may reject any material which is defective or in general poor condition.
 - (b) Minor changes regarding plant materials per the approved and stamped landscape plan may be allowed upon written notification to, and written sign-off by the City Landscape Architect of species, size, change, and location.
 - (c) 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 (species/variety), and having same design characteristics (mature height, color), 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.
6. Maintenance:
 - (a) 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.
 - (b) 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 the City may attach to the responsible entity. Such instrument shall also include provisions that all unhealthy and dead material shall be replaced within one (1) year or the next appropriate planting period, whichever occurs first, all landscaped areas shall be provided with an irrigation system; tree stakes, guy wires and tree wrap are to be removed after one winter season, provided with a guarantee for one (1) year from the date of 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.
 - (c) Responsibility and Certificate of Occupancy: The owner of the property subject to the requirements of this Section shall be responsible for installing and maintaining, or landscaping the approved final landscape plan as specified in this Section. Where the property is occupied by a person other than the owner, the occupier 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 3005-8-9.

Site Landscape Calculations

INTERIOR PARKING AREA LANDSCAPE REQUIREMENTS (P)

- A. TOTAL SF LANDSCAPE REQUIRED: 362 sf (4.817 / 075)
TOTAL SF LANDSCAPE PROVIDED: 600 sf

B. N/A

- C. TOTAL SF OF LANDSCAPED AREAS: 362 (C-A+B) OR (362-0 = 362SF)

D. REQUIRED CANOPY TREES IN PARKING LOT AREAS: 362 SF (C / 200)

TOTAL TREES REQUIRED: 2
TOTAL TREES PROVIDED: 2

F. A MINIMUM OF ONE CANOPY TREE PER 35 LF OF PARKING LOT PERIMETER IS REQUIRED (260 / 110) LF / 35 = 4

Note: 110 ft is in existing utility easements, applicant requests a waiver that this length not be included in the calculation

TOTAL CANOPY TREES REQUIRED: 4
TOTAL CANOPY TREES PROVIDED: 4

R.O.W. STREET TREE REQUIREMENTS (B)

HAGGERTY ROAD:
Note: 90 ft is in existing utility easements, applicant requests a waiver that this length not be included in the calculation

TOTAL R.O.W. TREES REQUIRED: 7 (255-95-90)/35
TOTAL R.O.W. TREES PROVIDED: 7

GREENBELT REQUIRED LANDSCAPE (G)

CANOPY / EVERGREEN TREES

HAGGERTY ROAD:
165 LF NOT ADJ. TO PARKING / 40 = 4 TREES (255-90)/60

85 LF ADJACENT TO PARKING / 35 = 2 TREES

Note: 90 ft is in existing utility easements, applicant requests a waiver that this length not be included in the calculation

TOTAL CANOPY / EVERGREEN TREES REQUIRED: 5
TOTAL CANOPY / EVERGREEN TREES PROVIDED: 5

SUB-CANOPY TREES

HAGGERTY ROAD:
230 LF NOT ADJ. TO PARKING / 40 = 4 TREES (218-90)/40

85 LF ADJACENT TO PARKING / 20 = 4 TREES

Note: 90 ft is in existing utility easements, applicant requests a waiver that this length not be included in the calculation

TOTAL SUB-CANOPY TREES REQUIRED: 10
TOTAL SUB-CANOPY TREES PROVIDED: 10

BUILDING FOUNDATION REQUIRED LANDSCAPE:

231 ft x 8 = 1,849 SF LANDSCAPE REQUIRED
1,849 SF LANDSCAPE PROVIDED

City of Novi Maintenance Notes

MAINTENANCE OR REQUIRED PLANTINGS BY THE OWNER SHALL BE CARRIED OUT SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPEARANCE FREE FROM REFUSE AND DEBRIS. ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN THREE MONTHS, OR THE NEXT APPROPRIATE PLANTING PRIOR, WHICHEVER OCCURS FIRST.

ALL LANDSCAPED AREAS SHALL BE PROVIDED AND AUTOMATIC IRRIGATION SYSTEM (SEE ATTACHED PLANS)

TREE STAKES, GUY WIRES AND TREE WRAP SHALL BE REMOVED AFTER ONE WINTER SEASON. PLANTINGS SHALL BE GUARANTEED FOR TWO (2) GROWING SEASONS AFTER DATE OF THE ACCEPTANCE OF 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 ACCESS THE COST OF SUCH ABATEMENT MEASURES IN THE MANNER PROPOSED BY THE DEVELOPER AND APPROVED BY THE CITY IN SUCH INSTRUMENT.

City of Novi Standard Notes

ALL LANDSCAPE MATERIALS, INSTALLATION, AND MAINTENANCE SHALL COMPLY W/ SECTION 5.5

ALL PLANT MATERIAL SHALL BE LOCALLY GROWN OR OF THIS NORTH MIDWEST AMERICAN REGION AND CONFORM TO THE CURRENT AASHTO STANDARDS, USE NO. 1 GRADE PLANT MATERIAL.

PLANTING PERIOD SHALL BE: NO EARLIER THAN MARCH 15 AND NO LATER NOV. 15 ANTICIPATED: 2019-2020

ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION FREE OF WEEDS AND DEBRIS WITH ONE CULTIVATION FOR WEED CONTROL PER MONTH DURING JUNE, JULY AND AUGUST. THIS ESTABLISHMENT PERIOD SHALL BE TWO (2) YEARS FROM THE DATE OF APPROVAL OF PLANTINGS BY THE CITY OF NOVI. REPLACEMENT OF ANY FAILING PLANT MATERIAL, INCLUDING TREES, SHALL BE GUARANTEED DURING THE TWO (2) YEAR ESTABLISHMENT PERIOD. FAILING PLANT MATERIAL SHALL BE REPLACED WITHIN THREE MONTHS, OR THE NEXT GROWING SEASON.

ALL LANDSCAPE AREAS SHALL BE IRRIGATED BY AN AUTOMATIC IRRIGATION SYSTEM.

ALL TREE WRAP, STAKES AND GUY WIRES SHALL BE REMOVED AFTER ONE WINTER SEASON.

NO PLANTINGS GREATER THAN 12" HIGH SHALL BE PLANTED WITHIN TEN (10) FEET OF FIRE HYDRANTS. PLANT MATERIAL SHALL NOT BLOCK VISIBILITY OF HYDRANT.

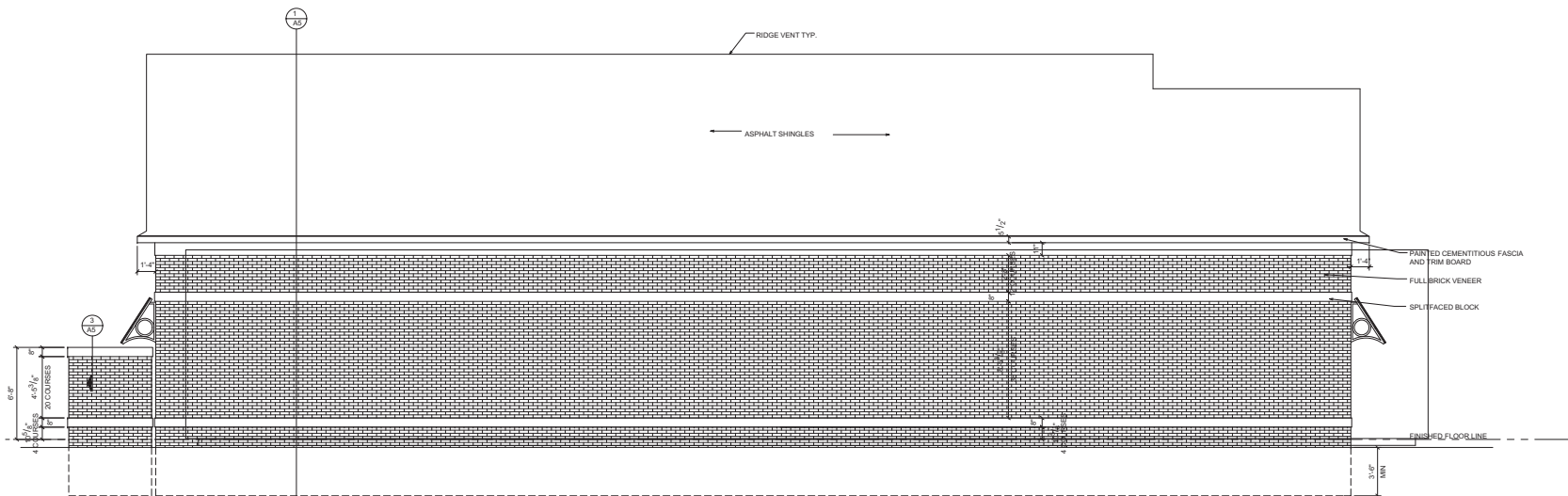
ANY AND ALL SUBSTITUTIONS OR DEVIATIONS SHALL BE APPROVED IN WRITING BY THE CITY PRIOR TO INSTALLATION.

NATURAL COLOR, FINELY SHREDED HARDWOOD BARK SEE PLANTING DETAILS FOR DEPTH

NO PLANT MATERIAL SHALL BE PLANTED WITHIN 4 FEET OF THE PROPERTY LINE

PLANT SCHEDULE

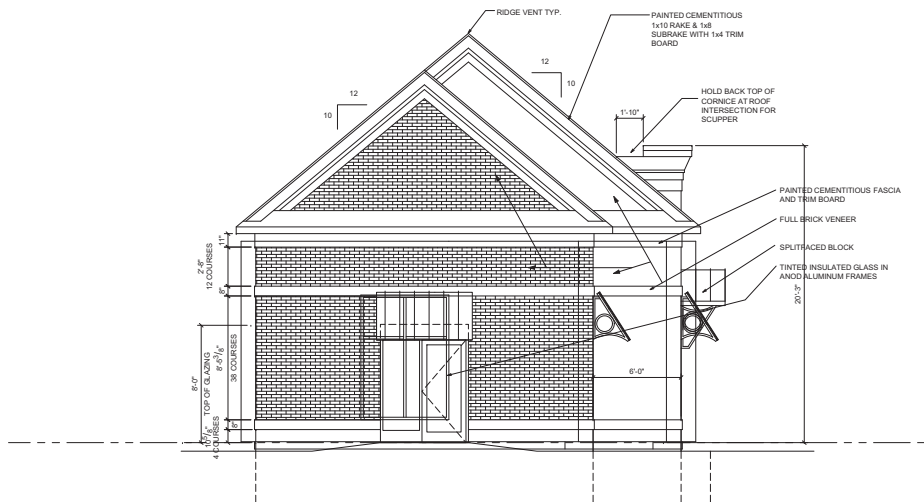
TREES	QTY	SYM	SPERMIAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS	LAST	TOTAL
1	1	TR	Pinus strobus	White Pine	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
2	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
3	1	TR	Juniperus horizontalis	Creeping Juniper	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
4	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
5	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
6	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
7	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
8	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
9	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
10	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
11	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
12	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
13	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
14	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
15	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
16	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
17	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
18	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
19	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
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55	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
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58	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
59	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
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68	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
69	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1
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73	1	TR	Thuja occidentalis	Green Cedar	12" DBH	10' x 10'	Ball	Single straight trunk	1	1



EAST ELEVATION

SCALE: 1/4" = 1'-0"

NOTE:
All roof-top appurtenances shall be full screened from view from all vantage points both on and off site with Façade Ordinance compliant materials



NORTH ELEVATION

SCALE: 1/4" = 1'-0"

NOTE:
All roof-top appurtenances shall be full screened from view from all vantage points both on and off site with Façade Ordinance compliant materials



MCA
 Multiverse/Division Association, Inc.
 4351 Delaware Court
 Chapel Hill, NC 27517
 919.286.4000 voice
 919.286.7200 fax
 www.multiverse-division.com

Trillium
 Trillium Companies, Inc.
 1817 Boulevard 108 Street
 Raleigh NC, 27603

Project Title
Tenant Space

Sheet Title
EAST & NORTH ELEVATIONS

Project Number: 177452
 Prepared By: KSH
 Checked By:
 Approved By:
 Date: 01/20/20

Sheet Number:

A-4

Date: 01/20/2020

TRIANGLE PLACE

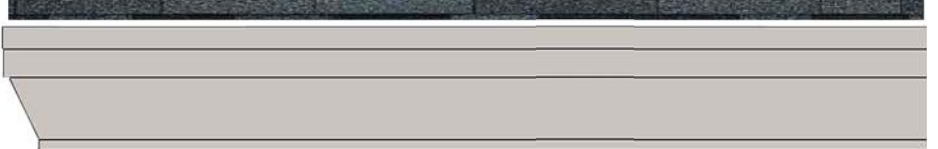
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OWENS CORNING
TRUE DEF - PACIFIC WAVE



CORNICE
FYRON OR EQUAL



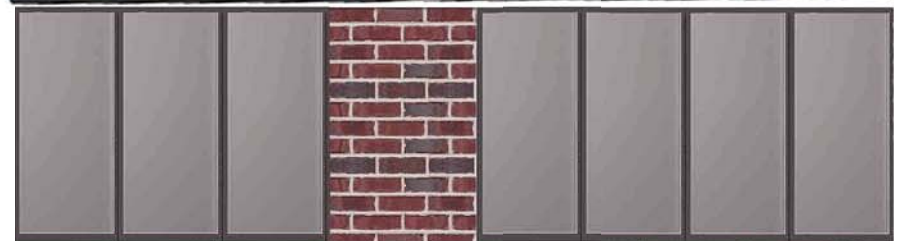
TRIM PAINT
SW - COTTONWOOD



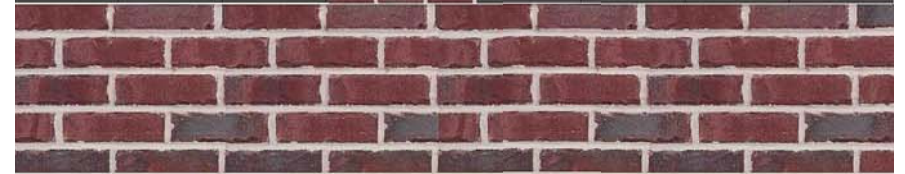
AWNINGS
STANDING SEAM



WINDOWS
GLAZING - BRONZE
FRAME - ANOD ALUM BRONZE



BRICK
MERIDIAN
GRAND HAVEN



TRIM
INDIANA LIMESTONE
BUFF



STONE
SHOULDICE ESTATE
HAMPTON



PLANNING REVIEW



PLAN REVIEW CENTER REPORT

March 05, 2020

Planning Review

Triangle Place

JZ 19-17 with Rezoning 18.730

JSP 19-21

PETITIONER

Trowbridge Companies

REVIEW TYPE

PRO Concept Plan

1st revision: Rezoning Request from FS Freeway Service to B-3, General Business with Planned Rezoning Overlay

Preliminary Site Plan

PROPERTY CHARACTERISTICS

Section	36	
Site Location	East side of Haggerty Road, north of Eight Mile Road	
Site School District	Novi School District	
Current Site Zoning	FS Freeway Service	
Proposed Site Zoning	B-3, General Business with Planned Rezoning Overlay	
Adjoining Zoning	North	Farmington Hills
	East	Farmington Hills
	West	OSC: Office Service Commercial
	South	FS Freeway Service
Current Site Use	Vacant	
Adjoining Uses	North	BP Gas station
	East	Holiday Inn
	West	Warehouse Supply Office and Vacant Lots
	South	Taco Bell(Fast food restaurant)
Site Size	0.48 Acres	
Plan Date	01-14-20	

PROJECT SUMMARY

The parcel in question is located on the east side of Haggerty Road, north of Eight Mile Road in Section 36 of the City of Novi. The property totals 0.48 acres and contains two parallel existing easements for high pressure gas pipelines running through the property's center that are 20 feet wide and 27 feet wide respectively. The applicant is proposing the construction of an approximately 2,420 sq. ft. single story building.

PROJECT REVIEW HISTORY

This property was rezoned with a Planned Rezoning Overlay (PRO) from FS to B-3, General Business. The Planning Commission gave a positive recommendation for approval of the concept plan and rezoning to City Council on June 27, 2007. The rezoning with PRO appeared before the City Council on August 13, 2007. At that meeting, City Council granted preliminary approval of the plan and rezoning. On December 17, 2007, City Council granted final approval of the Rezoning with PRO and PRO Agreement. Several extensions to the PRO Agreement have been granted by the City Council, but the most recent extension expired on May 30, 2016.

The applicant has received approval for final site plan once in 2008 and again in 2014. The applicant has restarted the site plan review again in 2017. However, it was kept on hold prior to Planning Commission consideration.

At this time, all the previous approvals/extensions for both the PRO and the site plan have expired. The subject property zoning was reverted back to FS. The applicant is therefore requesting to rezone the subject parcel from Freeway Service (FS) to General Business (B-3).

PRO OPTION

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 proposed to be changed (in this case from FS to B-3) and the applicant enters into a PRO agreement with the City, whereby the applicant submits a conceptual plan for development of the site. The City Council reviews the Concept Plan, and if the plan may be acceptable, it directs for preparation of an agreement between the City and the applicant, which also requires City Council approval. Following final approval of the PRO concept plan and PRO agreement, the applicant will submit for Preliminary and Final Site Plan approval under standard site plan review procedures. The PRO runs with the land, so future owners, successors, or assignees are bound by the terms of the agreement, absent modification by the City of Novi. If the development has not begun within two (2) years, the rezoning and PRO concept plan expires and the agreement becomes void.

RECOMMENDATION

Given the history of the approvals and because the proposed layout is the same as the previous approved site plan, staff has considered the applicants request to review both PRO Concept plan and Preliminary Site Plan at the same time. The plan will be subject to all current ordinance requirements.

Approval for the Concept Plan and the Preliminary site plan is **recommended** contingent on following information being clarified prior to Planning Commission meeting 1) allowable uses 2) public benefits and 3) justification for the deviations. Please refer to Comments section for more details.

REVIEW CONCERNS

The proposed layout is similar to the previously approved layout. The plan has to go through approval process because previous approvals have expired. Based on the applicant’s request, the current submittal is reviewed for conformance with the Planned Rezoning Overlay Plan and the Site Plan requirements.

1. **Allowable Uses:** As part of the narrative, the applicant provided a list of restricted uses for this property from B-3 allowable uses. These are the uses that would not be feasible due to site and building size. It would mean, the uses listed below are permitted for this location. Staff recommends that the uses in **bold** should be restricted as well for couple of reasons: 1) There is no loading zone proposed that would be required for such uses, 2) Traffic is currently recommending approval, because the narrative referred to office type uses 3) The possibility of uses in **bold** will increase trip generation and traffic recommendation will be most likely invalid.
 - i. **Retail business uses**
 - ii. **Retail business service uses**
 - iii. Dry cleaning establishments
 - iv. Business establishments that perform services on the premises: *such as but not limited to: banks, loan companies, insurance offices and real estate offices*

- v. Professional services: *Professional Services: Businesses which serve as offices for professional, executive, administrative, and medical uses, including the offices of architects, accountants, insurance, doctors, dentists, government and financial institutions.*
- vi. Tattoo parlors
- vii. Professional and medical offices including laboratories
- viii. Microbreweries**
- ix. Brewpubs**
- x. Veterinary hospitals or clinics

The applicant should provide a clarification of allowable uses considering available parking at this location.

2. **Public benefits:** The applicant should refer to staff comments on page 7 and provide a response.
3. **Deviations:** **The applicant's narrative or the response letter did not include the list of deviations listed below. The applicant should provide a narrative addressing "each Zoning Ordinance provision sought to be deviated would, if the deviation were not granted, prohibit an enhancement of the development that would be in the public interest, and that approving the deviation would be consistent with the Master Plan and compatible with the surrounding areas." Refer to page 6 for more details and provide response accordingly.**
4. **Gas line easement:** The building line sits on the edge of the Buckeye gasoline easement. The applicant should confirm if the foundation will be within the easement or outside. **A letter of no objection from the Buckeye gasoline should be provided prior to the approval of final site plan.**
5. **Engineering:** The Staff Engineer has reviewed the rezoning request. The review noted that the PRO Concept plan meets the general requirements of Chapter 11 of the Code of Ordinances, the Storm Water Management Ordinance and/or the Engineering Design Manual.
6. **Landscape:** Landscape review supports the two deviations that would be required. The plans should include information about off-site landscape that is being offered as a public benefit.
7. **Traffic:** According to the Traffic review, it does not appear that there are major concerns with the proposed design. Traffic recommends approval with additional comments to be addressed with final site plan.
8. **Rezoning Traffic Study:** A rezoning traffic study was provided. Traffic is currently recommending approval, because the narrative referred to office type uses only. **If retail uses are proposed, it raises serious concerns with trip generation and lack of loading zone. An update to the study should be provided at the final site plan with the final approved list of uses.**
9. **Wetlands & Woodlands:** There are no regulated wetlands and woodlands on the site.
10. **Façade:** Façade notes that the proposed elevations exceed the maximum allowable percentages for Asphalt Shingles. The deviation is supported.
11. **Fire:** Fire recommends approval.

LAND USE AND ZONING: FOR SUBJECT PROPERTY AND ADJACENT PROPERTIES

The following table summarizes the zoning and land use status for the subject property and surrounding properties.

	Existing Zoning	Existing Land Use	Master Plan Land Use Designation
Subject Property	FS Freeway Service	Vacant	Local Commercial (Uses consistent with B-2 or B-3)
Northern Parcels	Farmington Hills	Gas Station	NA
Eastern Parcels	Farmington Hills	Hotel	NA
Western Parcels (across Haggerty Road)	OSC: Office Service Commercial	Hotel	Office Commercial (Uses consistent with OSC: Office Service Commercial)
Southern Parcels	FS Freeway Service	Storm water Pond	Local Commercial (Uses consistent with B-2 or B-3)



Compatibility with Surrounding Land Use

The subject property is surrounded by compatible uses to the north, east and northwest as noted in the table above. The compatibility of the proposed rezoning with the zoning and uses on the adjacent properties should be considered by the Planning Commission in making the recommendation to City Council on the rezoning request. **Parking calculations for the proposed development indicate a Planned Shopping Center for this use. The applicant should indicate possible uses for the site. All uses permitted in B-3 may not be feasible due to available parking and building size.**

Comparison of Zoning Districts

The following table provides a comparison of the current (FS) and proposed (B-3) zoning classifications.

	FS (EXISTING)	B-3 (PROPOSED)
Principal Permitted Uses	See attached copy of Section 3.1.17.B	See attached copy of Section 3.1.12.B Outdoor Storage yards*
Special Land Uses	See attached copy of Section 3.1.17.C	See attached copy of Section 3.1.12.C
Lot Size	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 requirements as set forth in this Ordinance.	
Lot Coverage		
Building Height	25 ft or 1 story, whichever is less	30 feet
Building Setbacks	Front: 30 feet Rear: 20 feet Side: 10 feet Exterior side yard setbacks same as front yard	Front: 30 feet Rear: 20 feet Side: 15 feet Exterior side yard setbacks same as front yard
Parking Setbacks	Front: 20 feet Rear: 10 feet Side: 10 feet Exterior side yard setbacks same as front yard	Front: 20 feet Rear: 10 feet Side: 10 feet Exterior side yard setbacks same as front yard

DEVELOPMENT POTENTIAL

Current zoning would allow for small list of service uses such as gas station, motels, parking garage, minor automobile establishments. However, development under permitted may not be entirely possible due to odd shape of the site (triangle), small size (0.48 acres) and the setback requirements. As noted later in the review, the site plan as proposed would require multiple deviations from setbacks and greenbelt requirements. Therefore, the applicant is proposing to rezone to B-3 with a Planned rezoning overlay. This would allow developing the property with the required deviations as part of the PRO agreement. **The applicant should indicate possible uses for the site. All uses permitted in B-3 may not be feasible due to available parking and building size.**

2016 MASTER PLAN FOR LAND USE: GOALS AND OBJECTIVES

The proposed development could be said to follow some of the objectives listed in the 2016 Master Plan for Land Use update (adopted by Planning Commission on July 26, 2017) as listed below.

1. **General Goal: Economic Development**

Objective: Retain and support the growth of existing businesses and attract new businesses to the City of Novi.

MAJOR CONDITIONS OF PLANNED REZONING OVERLAY AGREEMENT

The Planned Rezoning Overlay process involves a PRO concept plan and specific PRO conditions in conjunction with a rezoning request. The submittal requirements and the process are codified under the PRO ordinance (Section 7.13.2). Within the process, which is initiated by the applicant, the applicant and City Council can agree on a series of conditions to be included as part of the approval which must be reflected in the Concept Plan and or the PRO agreement.

The PRO conditions must be in material respects, more strict or limiting than the regulations that would apply to the land under the proposed new zoning district. *Development and use of the property shall be subject to the more restrictive requirements shown or specified on the PRO Plan, and/or in the PRO Conditions imposed, and/or in other conditions and provisions set forth in the PRO Agreement.* **The applicant should continue working with the staff to finalize the list of conditions. Timing of completion of offered benefits is recommended condition. The narrative lists conditions which are also listed as public benefits.**

ORDINANCE DEVIATIONS

Section 7.13.2.D.i.c(2) permits deviations from the strict interpretation of the Zoning Ordinance within a PRO agreement. These deviations must be accompanied by a finding by City Council that ***“each Zoning Ordinance provision sought to be deviated would, if the deviation were not granted, prohibit an enhancement of the development that would be in the public interest, and that approving the deviation would be consistent with the Master Plan and compatible with the surrounding areas.”*** Such deviations must be considered by City Council, who will make a finding of whether to include those deviations in a proposed PRO agreement. A proposed PRO agreement would be considered by City Council only after tentative approval of the proposed concept plan and rezoning.

The Concept Plan submitted with an application for a rezoning with a PRO is not required to contain the same level of detail as a preliminary site plan. Staff has reviewed the applicant's Concept Plan in as much detail as possible to determine what deviations from the Zoning Ordinance are currently shown. The applicant may choose to revise the concept plan to better comply with the standards of the Zoning Ordinance, or may proceed with the plan as submitted with the understanding that those deviations would have to be approved by City Council in a proposed PRO agreement. The following are deviations from the Zoning Ordinance and other

applicable ordinances shown on the concept plan. **The applicant's narrative or the response letter did not include the list of deviations listed below. The applicant should provide a narrative addressing "each Zoning Ordinance provision sought to be deviated would, if the deviation were not granted, prohibit an enhancement of the development that would be in the public interest, and that approving the deviation would be consistent with the Master Plan and compatible with the surrounding areas."**

SUPPORTED BY STAFF

1. Landscape deviation from section 5.5.3.C.(3) Chart footnote for lack of three perimeter parking lot trees. **This is supported because underground utility easements occupy 90lf of parking lot perimeter.**
2. Landscape deviation from section 5.5.3.B.ii and iii for underage of greenbelt plantings by two large evergreen or canopy trees and three subcanopy trees. **This is supported because the trees cannot be planted in 90lf wide gas pipeline easements**
3. Landscape deviation from section 5.5.3.B.ii and iii for lack of berm along Haggerty Road. **This is supported due to impractical shape of the site.**
4. Planning deviation from section 5.3.13 for not meeting the minimum distance requirement between the parking from the street ROW. A minimum of 25 feet is required, varied widths from 16 feet to 20 feet proposed. **This is supported because of the fewer traffic expected in and out the site.**
5. A section 9 waiver for overage of Asphalt shingle on the west and east facades. 25% maximum allowed, 48% on West and 46% on east proposed. **This is supported because the proposed elevations meet the intent of the façade ordinance.**
6. Planning deviation from section 3.1.12.D for not meeting the minimum required rear yard building setback. A minimum of 20 feet is required, four feet is proposed. **This is supported as the proposed building location is limited by the existing gasoline easement on the site.**
7. Planning deviation from section 3.1.12.D for not meeting the minimum required front yard parking setback. A minimum of 20 feet is required, ten feet is proposed. **This is supported due to unusual shape of the lot.**

SUPPORTED BY STAFF IF SATISFACTORY REVISIONS COMPLETED PRIOR TO PLANNING COMMISSION MEETING

1. Planning deviation from section 5.16 for not meeting the minimum required width for access path to the bike racks. A minimum of 20 feet is required, five to six feet is proposed. **Please refer to traffic review for more details. Staff recommends revising the plan to conform.**
2. Planning deviation from section 5.4.2 for lack of required loading zone contingent on the restricted uses for this site. **This can be supported if list of allowable uses is revised per staff's recommendation. Refer to comments for more details.**
3. Planning deviation from section 4.19.2.F for allowing the dumpster in the interior side yard in lieu of required rear yard. **The dumpsters are not accessible by the truck. Staff contacted the trash collection services and they indicated that the occupants should place the dumpsters in a convenient location. The applicant should indicate how and where dumpsters will be rolled out for trash pick-up. The applicant should contact the trash pick-up services to identify the times of pick up for this location and provide how it will be handled for this site. Staff wanted to make sure that the temporary location does not conflict with site operations or traffic along Haggerty Road.**

4. Planning deviation from section 5.7 for not meeting the minimum required standards for the lighting and photometric plan. **Please refer to Plan review chart for more comments. The lighting and photometric plan currently does not meet the Ordinance standards. Staff strongly recommends revising to comply. Or provide justification for the deviations required. A final list will be determined based on the response letter.**

All deviations from the ordinance requirements are preferred to be identified and included in PRO Agreement. Any deviations identified during later reviews after Concept Plan approval will restart the PRO concept process.

APPLICANT'S BURDEN UNDER PRO ORDINANCE

The Planned Rezoning Overlay ordinance (PRO) requires the applicant to demonstrate that certain requirements and standards are met. The applicant should be prepared to discuss these items, especially in number 1 below, where the ordinance suggests that the enhancement under the PRO request would be unlikely to be achieved or would not be assured without utilizing the Planned Rezoning Overlay. Section 7.13.2.D.ii states the following:

1. (Sec. 7.13.2.D.ii.a) Approval of the application shall accomplish, among other things, and as determined in the discretion of the City Council, the integration of the proposed land development project with the characteristics of the project area, and result in an enhancement of the project area as compared to the existing zoning, and such enhancement would be unlikely to be achieved or would not be assured in the absence of the use of a Planned Rezoning Overlay.
2. (Sec. 7.13.2.D.ii.b) Sufficient conditions shall be included on and in the PRO Plan and PRO Agreement on the basis of which the City Council concludes, in its discretion, that, as compared to the existing zoning and considering the site specific land use proposed by the applicant, it would be in the public interest to grant the Rezoning with Planned Rezoning Overlay; provided, in determining whether approval of a proposed application would be in the public interest, the benefits which would reasonably be expected to accrue from the proposal shall be balanced against, and be found to clearly outweigh the reasonably foreseeable detriments thereof, taking into consideration reasonably accepted planning, engineering, environmental and other principles, as presented to the City Council, following recommendation by the Planning Commission, and also taking into consideration the special knowledge and understanding of the City by the City Council and Planning Commission.

PUBLIC INTEREST/ BENEFITS TO PUBLIC UNDER PRO ORDINANCE

Section 7.13.2.D.ii states that the City Council must determine that the proposed PRO rezoning would be in the public interest and the benefits to public of the proposed PRO rezoning would clearly outweigh the detriments. Staff comments in **bold** are provided below

Below are the key project benefits supporting the PRO rezoning request as listed in the applicant's narrative:

1. The proposed rezoning will remove the potential for many of the high intensity uses allowed in the FS, Freeway Service District while permitting those office uses that are more appropriate for the site; **please refer to the comments about allowable uses under page 2.**
2. Development of the property for office use eliminates the need for an unsightly loading zoning in the front yard, since large deliveries are not anticipated; **this is an incidental benefit due to restricted uses.**
3. This project includes the installation of sidewalks, both on- and off-site, to complete the pathway connection on that stretch of Haggerty Road. This will help create a more

- walkable and bikeable corridor, in an area that is currently dominated by heavy vehicular traffic; **the applicant is referring to segments along east of Haggerty Road. The applicant should provide an estimate for the design and construction of these improvements. Also, indicate the timing of completion of these improvements. This is considered a benefit.**
4. Off-site shrubs are being planted to supplement the project and improve the aesthetics in the corridor; **this is considered a benefit.**
 5. High-quality building elevations are being provided to help ensure that the intended high-quality character of the area is being maintained; **the proposed elevations would require a section 9 waiver. While the elevations are harmonious and use good quality materials, they are not considered to be above and beyond the expected quality along a major corridor. This is not considered a benefit.**
 6. A pedestrian connection and landscaped seating feature is located in front of the building, providing an additional pedestrian amenity to the area; **while this is a good concept, there is more scope for beautification to be qualified for a public benefit. As landscape review noted, there is scope for additional shrubbery along the parking lot perimeter.**
 7. The proposed project utilizes a small, physically challenged site and adds to the tax base of the City while requiring limited additional public services; **this is an incidental benefit**

Previously approved PRO agreement included the following benefit, which is currently not included in the applicant's narrative. Please provide us with an update in your response letter if this benefit is still valid. If yes, provide additional information. If no, please indicate if any additional benefits are offered in lieu of this one.

1. If Owner is able to secure approval to discharge storm water from the Land to the storm water retention area on the west side of Haggerty Road (as opposed to dealing with it though typical on-site retention), Owner shall extend the public sidewalk approximately 500 linear feet along City-owned property on the west side of Haggerty Road as shown on the PRO plan. The developer agreed to extend the public sidewalk 500 linear feet along the City owned property on the west side of Haggerty road provided an agreement could be reached with the adjacent property owner to allow the storm water generated by the subject property to discharge into the storm water retention area on the west side of Haggerty Road.

NEXT STEP: PLANNING COMMISISON MEETING

The rezoning request is scheduled for a public hearing for Planning Commission recommendation to City Council. Given the history and multiple reviews the plan went through over the years, staff is also recommending approval of Preliminary site plan, contingent of PRO agreement approval. Please submit the following no later than 9 am on March 16, 2020.

1. A response letter addressing all staff comments
2. Site plan submittal (all sheets) dated 01-14-20 in PDF format, with no changes made to address these comments.

AFTER PLANNING COMMISISON APPROVAL

1. City Council Meeting

If Planning Commission approves, the request will be presented to the City Council twice: 1) for the tentative approval of the plan, 2), for the final approval of the plan and the PRO agreement.

2. Final Site Plan Submittal

If the receiving City Council grants approval, the applicant should submit for final site plan approval. Please submit the following for Final Site Plan review and approval:

1. Five copies of Final Site Plan addressing all comments from Preliminary review

2. Response letter **addressing all comments and refer to sheet numbers where the change is reflected**
3. [Final Site Plan Application](#)
4. [Final Site Plan Checklist](#)
5. Engineering Cost Estimate
6. Landscape Cost Estimate
7. [Other Agency Checklist](#)
8. [Hazardous Materials Packet](#) (Non-residential developments)
9. [Non-Domestic User Survey](#) (Non-residential developments)
10. [No Revision Façade Affidavit](#) (if no changes are proposed for Façade. If changes are proposed, include an additional set of plans in the submittal.)
11. Legal Documents as required
Drafts of any legal documents (note that off-site easements need to be executed and any on-site easements.

3. Electronic Stamping Set Submittal And Response Letter

After receiving Final Site Plan approval, please submit the following for Electronic stamping set approval:

1. Plans addressing the comments in all of the staff and consultant review letters in PDF format.
2. Response letter addressing all comments in ALL letters and ALL charts and **refer to sheet numbers where the change is reflected.**

4. Stamping Set Approval

Stamping sets are still required for this project. After having received all of the review letters from City staff the applicant should make the appropriate changes on the plans and submit **9 size 24" x 36" copies with original signature and original seals**, to the Community Development Department for final Stamping Set approval. Pre-Con meetings are generally held after Stamping Sets have been issued.

5. 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. **No work on the site may be commenced before a pre-construction meeting is held.** Please contact Sarah Marchioni [248.347.0430 or smarchioni@cityofnovi.org] in the Community Development Department. There are a variety of requirements, fees and permits that must be issued before a Pre-Con can be scheduled.

SIGNAGE

Exterior Signage is not regulated by the Planning Division or Planning Commission. Please contact the Ordinance Division 248.735.5678 for information regarding sign permits. **The followings items shown on the current plans would require a sign permit and are not considered as part of the current approval.**

1. Temporary mural signs of the Guernsey cow images
2. Building signage
3. Relocation of monument sign is subject to City of Novi Community relations review
4. Murals painted on the building such as the blue ribbon

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.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5607 or skomaragiri@cityofnovi.org.



Sri Ravali Komaragiri – Planner



PLANNING REVIEW CHART

B-3 Community Business District

Review Date: March 02, 2020
Review Type: PRO Concept Plan and Preliminary Site Plan (1st Revision)
Project Name: **JZ 19-17 with Rezoning 18.730 & JSP 19-21: Triangle Place**
Plan Date: 01-14-20
Prepared by: Sri Ravali Komaragiri
Contact: **E-mail:** skomaragiri@cityofnovi.org **Phone:** 248.735.5607

Items in **Bold** need to be addressed by the applicant with the next submittal
 Items in **Bold and Underlined** do not comply with the Zoning Ordinance at this time
 Items underlined need to be addressed prior to the approval of the stamping sets or later as noted

Item	Required Code	Proposed	Meets Code	Comments
Zoning and Use Requirements				
Master Plan <i>(adopted July 26, 2017)</i>	Local Commercial	Retail Center	Yes	
Area Study	None		NA	
Zoning <i>(Effective Dec. 25, 2013)</i>	B-3: General Business District	B-3: General Business District	Yes	
Uses Permitted <i>(Sec 3.1.12.B & C)</i> <i>(Sec 3.1.21.B & C)</i>	Sec 3.1.12.B: Principal Uses Permitted. Sec 3.1.12C: Special Land Uses	2,420 sq. ft. single story building	Yes?	The applicants narrative has a list of restricted uses
Phasing	Phasing is not proposed with the current proposed concept plan		NA	
PRO Concept Plan Submittal: Additional requirements				
Written Statement <i>(Site Development Manual)</i>	Potential development under the proposed zoning and current zoning	A narrative is provided	Yes	Refer to Plan review letter for more comments.
<i>The statement should describe the following</i>	Identified benefit(s) of the development	Narrative includes proposed benefits	Yes?	Refer to Plan review letter for more comments.
	Conditions proposed for inclusion in the PRO Agreement (i.e., Zoning Ordinance deviations, limitation on total units, etc.)	Narrative includes proposed conditions	Yes?	Refer to Plan review letter for more comments.
Sign Location Plan <i>(Page 23,SDM)</i>	Installed within 15 days prior to public hearing	Provided	Yes	Sign draft approved, scheduled to be

Item	Required Code	Proposed	Meets Code	Comments
	Located along all road frontages			installed by 3-6-20.
Rezoning Traffic Impact Study <i>(Site development manual)</i>	A Rezoning Traffic Impact Study as required by the City of Novi Site Plan and Development Manual.	Provided	Yes	
Community Impact Statement <i>(Sec. 2.2)</i>	<ul style="list-style-type: none"> - Over 30 acres for permitted non-residential projects - Over 10 acres in size for a special land use - All residential projects with more than 150 units - A mixed-use development, staff shall determine 	Not required	NA	
B-3 Business District Required Conditions (Sec. 3.10)				
Uses enclosed within buildings <i>(Sec. 3.10.1.B)</i>	All business, servicing or processing, except for off-street parking, loading/unloading shall be conducted within completely enclosed buildings	Unable to determine	No?	Please add this note to the site plan
Height, bulk, density and area limitations (Sec 3.1.12)				
Frontage on a Public Street. <i>(Sec. 5.12)</i>	Frontage on a Public Street is required	Frontage on Haggerty Road	Yes	
Access to Major Thoroughfare <i>(Sec. 5.12)</i>	Vehicular access shall be provided only to an existing or planned major thoroughfare or freeway service drive. Refer to Section 5.12 for exceptions	Access to Haggerty Road	Yes	
Minimum Zoning Lot Size and Lot width <i>(Sec 3.6.2.D)</i>	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. <i>(Sec 3.6.2.D)</i>			
Maximum % of Lot Area Covered <i>(By All Buildings)</i>		Not indicated	No	Provide the maximum % of lot covered under site data
Building Height <i>(Sec. 3.1.23.D)</i>	30 ft	20'-3"	Yes	
Building Setbacks (Sec 3.1.12.D)				

Item	Required Code	Proposed	Meets Code	Comments
Front (Haggerty Road)	30 ft.	30 ft.	Yes	Rear setback does not does not meet the minimum requirements. It is considered a deviation
Rear (east)	20 ft.	4 ft.	No?	
Side (south)	15 ft.	15 ft.	Yes	
Parking Setback (Sec 3.1.12.D)				
Front (Haggerty Road)	20 ft.	10 ft.	No?	Front parking setback does not meet the minimum requirements. It is considered a deviation
Rear (east)	10 ft.	15 ft.?	Yes?	
Side (south)	10 ft.	12 ft.?	Yes?	
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 the front yard setback requirement of the district in which located.	Not applicable	NA	
Minimum Lot Area (Sec. 3.6.2.D)	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 requirements	Proposed	Yes	
Off-Street Parking in Front Yard (Sec 3.6.2.E)	Off-street parking shall be permitted in the front yard, except that said parking shall observe the minimum off-street parking setback requirements in Sec. 3.1 and 5.5.3	Proposed	Yes	
Wetland/ Watercourse Setback (Sec 3.6.2.M)	Refer to Sec 3.6.2 for more details.	There are no regulated wetlands and buffers on site	NA	
Parking setback screening	Required parking setback area shall be landscaped	Landscape plan is provided	No?	See landscape letter for additional

Item	Required Code	Proposed	Meets Code	Comments
(Sec 3.6.2.P)	per sec 5.5.3.			details
Modification of parking setback requirements (Sec 3.6.2.Q)	Refer to Sec 3.6.2 for more details	None proposed	NA	
Parking setback for properties abutting residential (Sec 3.6.2.L)	Wherever property directly abuts or is adjacent to residentially zoned property, the minimum parking yard setback shall be twenty (20) feet	Not applicable	NA	
Parking, Loading, and Dumpster Requirements				
Office uses	Based on applicants calculations, 1 space for 222 GLA For 2,250 GLA, 10 spaces required	11 spaces proposed	Yes	Refer to Plan Review letter for more comments and additional information requested The applicant should contact Community Development prior to leasing space to verify parking availability
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 at these locations and along landscaping	- 90° Parking: - 24 ft. two way drives 9 ft. x 17 ft. parking spaces allowed along 7 ft. wide interior sidewalks	Yes	Refer to Traffic's comments
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	NA	

Item	Required Code	Proposed	Meets Code	Comments
End Islands (Sec. 5.3.12)	<ul style="list-style-type: none"> - 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 	Proposed	Yes	
Barrier Free Spaces <i>Barrier Free Code</i> (2012 Michigan Building Code)	<ul style="list-style-type: none"> - For 1 to 25 spaces 1 van accessible is required - 	1 van accessible proposed	Yes	
Barrier Free Space Dimensions <i>Barrier Free Code</i> (2012 Michigan Building Code)	<ul style="list-style-type: none"> - 8' wide with an 8' wide access aisle for van accessible spaces - 5' wide with a 5' wide access aisle for regular accessible spaces 	8 ft. wide spaces with 8 ft. wide access aisle proposed.	Yes	
Barrier Free Signs <i>Barrier Free Code</i>	One sign for each accessible parking space.	Sign indicated	Yes	
Minimum number of Bicycle Parking (Sec. 5.16.1)	Five (5) percent of required automobile spaces, minimum two (2) spaces Required: 2 spaces	2 spaces	Yes	
Bicycle Parking General requirements (Sec. 5.16)	<ul style="list-style-type: none"> - 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 	Appears to comply Accessible by 5 ft. sidewalk	No	<u>Refer to Planning review and Traffic review for more details.</u> <u>This is considered a deviation, but should be revised.</u>
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.	Standard layout included	No	<u>Provide a layout that meets the standards for two spaces</u>

Item	Required Code	Proposed	Meets Code	Comments
	Parking space depth: 2 ft. single, 2 ½ ft. double			
Loading Spaces (Sec. 5.4.2)	<ul style="list-style-type: none"> - Loading, unloading space shall be provided in the rear yard at a ratio of 10 sq. ft. for each front foot of building - Except in the case of a double frontage lot, loading-unloading, as well as trash receptacles may be located in an interior side yard beyond the minimum side yard setback requirement of the district; location subject to approval by the City. 	Not proposed due to office type uses	No	This is considered a deviation
Dumpster (Sec. 4.19.2.F)	<ul style="list-style-type: none"> - 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 	<p>Dumpster is located in the side yard</p> <p>Attached to the building, but closer than 10 feet from the property line</p>	Yes	<p>Location of dumpster in the side yard and not meeting the minimum distance are considered deviations.</p> <p>Provide more detail how trash pick-up will be handled</p>
Dumpster Enclosure (Sec. 21-145. (c))	<ul style="list-style-type: none"> - 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 	It is enclosed in brick	Yes	No posts or bumpers to protect the screening because it is not accessible by vehicles.
Lighting and Other Equipment Requirements				

Item	Required Code	Proposed	Meets Code	Comments
Exterior lighting (Sec. 5.7)	Photometric plan and exterior lighting details needed at time of Final Site Plan submittal	A lighting plan is provided	Yes	Refer to more comments further in this chart
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	Unable to determine	Yes	Please indicate if rooftop equipment is proposed and/or how is it screened.
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 property	Unable to determine	Yes	A façade permit is required for approval of screening
Sidewalk Requirements				
Sidewalks (Sec. 7.4.2 of the Engineering Design Manual)	- 6 foot sidewalk required along Novi Road	Six foot sidewalk proposed along Haggerty Road	Yes?	It is extended beyond the property line to the south to fill a gap. A small gap to the north is in Farmington Hills.
Pedestrian Connectivity	Whether the traffic circulation features within the site and location of automobile 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	A connection to Haggerty road sidewalk is proposed in three locations	Yes	It may seem excessive for such a small frontage. The applicant can consider eliminating the walk from the landscape cul-de-sac.
Building Code and Other Design Standard Requirements				
Building Code	Building exits must be connected to sidewalk system or parking lot.	Proposed	Yes	
Design and Construction Standards Manual	Land description, Sidwell number (metes and bounds for acreage parcel, lot number(s), Liber, and page for subdivisions).	Provided	Yes	

Item	Required Code	Proposed	Meets Code	Comments
General layout and dimension of proposed physical improvements	Location of all existing and proposed buildings, proposed building heights, building layouts, (floor area in sq. ft.), location of proposed parking and parking layout, streets and drives, and indicate sq. ft. of pavement area (indicate public or private).	Mostly provided	Yes?	Refer to all review letters for more comments
Economic Impact	<ul style="list-style-type: none"> - Total cost of the proposed building & site improvements - Number of anticipated jobs created (during construction & after building is occupied) 	Not provided at this time	No	Required prior to Planning Commission meeting
Other Permits and Approvals				
Development/ Business Sign	Signage if proposed requires a permit.	Not provided at this time	Yes	<u>For sign permit information contact Maureen Underhill at 248-347-0438.</u>
Development and Street Names	Development and street names must be approved by the Street Naming Committee before Preliminary Site Plan approval	Previous approvals may have expired	No	<u>For approval of project and street naming contact Madeleine Kopko at 248-735-0579</u>
Property Split	The proposed property split must be submitted to the Assessing Department for approval.	Not applicable	NA	
Other Legal Requirements				
Conservation easements	Conservation easements may be required for woodland impacts	Not applicable	NA	
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	A lighting plan is provided	Yes	

Item	Required Code	Proposed	Meets Code	Comments
Lighting Plan (Sec. 5.7.A.1)	Site plan showing location of all existing & proposed buildings, landscaping, streets, drives, parking areas & exterior lighting fixtures	Provided	Yes	
Building Lighting (Sec. 5.7.2.A.iii)	Relevant building elevation drawings showing all fixtures, the portions of the walls to be illuminated, illuminance levels of walls and the aiming points of any remote fixtures.	It is unclear whether building lighting is proposed	No	Please show light levels on building elevation
Lighting Plan (Sec.5.7.A.2)	Specifications for all proposed & existing lighting fixtures	Partly provided	Yes?	The schedule shows two types of lighting, but the plan and spec sheet refers to one light. Please clarify
	Photometric data	Provided	Yes	
	Fixture height	Not provided	No	Provide the height
	Mounting & design	Pole mounted	Yes	
	Glare control devices	Unable to determine. Specification sheets not included	No	
	Type & color rendition of lamps	LED for Pole lights		
	Hours of operation	Not indicated	No	Provide hours of operation in the response letter prior to PC meeting
Maximum Height of the Poles (Sec. 5.7.3.A)	Height not to exceed maximum height of zoning district (or 25 ft. where adjacent to residential districts or uses)	25 feet	Yes	
Lighting Notes (Sec. 5.7.3.B)	<ul style="list-style-type: none"> ▪ Electrical service to light fixtures shall be placed underground ▪ Flashing light shall not be permitted ▪ Only necessary lighting for security purposes & limited operations shall be permitted after a site's hours of operation 	Notes not added	No	Please add the notes to the lighting plan

Item	Required Code	Proposed	Meets Code	Comments
Security Lighting <i>(Sec. 5.7.3.H)</i> Lighting for security purposes shall be directed only onto the area to be secured.	- All fixtures shall be located, shielded, and aimed at the areas to be secured. - Fixtures mounted on the building and designed to illuminate the facade are preferred.	Unable to determine	No	Indicate hours of operation and identify what lights will be turned on after hours for security purposes in the response letter prior to PC meeting
Avg/Min Ratio <i>(Sec.5.7.3.E)</i>	Average to minimum light level of the surface being lit to the lowest light of the surface being lit not to exceed 4:1	5.8:1	No	This is considered a deviation
Required Conditions <i>(Sec. 5.7.3.F)</i>	Use of true color rendering lamps such as metal halide is preferred over high & low pressure sodium lamps	Appears to be LED	Yes?	Please clarify
Min. Illumination <i>(Sec. 5.7.3.k)</i>	Parking areas: 0.2 min	Complies	Yes	
	Loading & unloading areas: 0.4 min	Complies	Yes	
	Walkways: 0.2 min	Northern sidewalk connecting the building exit to Haggerty Road sidewalk does not meet the minimum	No	Please revise. This is considered a deviation
	Building entrances, frequent use: 1.0 min	Light levels are 0.7 at the main entrance	No	Revise the plan to comply. This is considered a deviation
	Building entrances, infrequent use: 0.2 min	Complies	Yes	
Max. Illumination adjacent to Non-Residential <i>(Sec. 5.7.3.K)</i>	When site abuts a non-residential district, maximum illumination at the property line shall not exceed 1 foot candle	Property line is not shown at the correct location	No	Show the property line in the right location
Max. Illumination adjacent to Residential <i>(Sec. 5.7.3.L)</i>	<ul style="list-style-type: none"> ▪ Cut off angles of fixtures must be 90° adjacent to residential districts ▪ Max illumination at the property line shall not exceed 0.5 foot candle 	Not applicable	NA	

Item	Required Code	Proposed	Meets Code	Comments
<p>NOTES:</p> <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

February 28, 2020

Engineering Review

Triangle Place 2019
JZ19-0017/JSP19-0021

Applicant

ACR Investments LLC

Review Type

PRO Concept Plan + Preliminary Site Plan

Property Characteristics

- Site Location: North of Eight Mile Road, East of Haggerty Road
- Site Size: 0.48 acres
- Plan Date: 03/06/2019
- Design Engineer: Powell Engineering & Associates, LLC

Project Summary

- Construction of an approximately 2,420 square-foot building and associated parking. Site access would be provided via Haggerty Road.
- Water service would be provided by a 2-inch lead from the existing 12-inch water main along the west side of Haggerty Road.
- Sanitary sewer service would be provided by a 6-inch lead from the existing 10-inch sanitary sewer along the west side of Haggerty Road.
- Storm water would be collected by a single storm sewer collection system and either discharged to the detention basin on the property to the South or discharged to the swale in the northern portion of the site.

Recommendation

Approval of the Preliminary Site Plan and Preliminary Storm Water Management Plan is recommended, with items to be addressed at the time of Final Site Plan submittal.

Comments:

The Preliminary Site Plan meets the general requirements of Chapter 11 of the Code of Ordinances, the Storm Water Management Ordinance and the Engineering Design Manual with the following exceptions, which can be addressed the time of Final Site Plan submittal:

General

1. Revise the plan set to reference at least one city established benchmark. An interactive map of the City's established survey benchmarks can be found under the 'Map Gallery' tab on www.cityofnovi.org.
 - a. The closest City benchmark is #3644, which is at an elevation of 815.96.
2. Provide a note on the plans that all work shall conform to the current City of Novi standards and specifications.
3. Clearly distinguish between proposed improvements and existing features of the site.
 - a. Remove any line work on the utility sheet that muddles the plan. It should be clear whenever or not there is a swale or closed pipe storm sewer along the entirety of the Haggerty Road frontage.
4. The Non-domestic User Survey form shall be submitted to the City so it can be forwarded to Oakland County.
5. Provide sight distance measurements for the Haggerty Road entrance in accordance with Figure VIII-E of the Design and Construction Standards.
6. Show and label the master planned 60-foot half right-of-way width for Haggerty Road. The dedication of the master-planned half right-of-way is requested for the project. Label the additional right-of-way width to be dedicated along Haggerty Road as "proposed" right-of-way.
7. A right-of-way permit will be required from the City of Novi and the Oakland County Road Commission.
8. Provide a traffic control sign table listing the quantities of each sign type proposed for the development. Provide a note along with the table stating all traffic signage will comply with the current MMUTCD standards.
9. Traffic signs in the RCOC right-of-way will be installed by RCOC.
10. Light poles in a utility easement will require a License Agreement. Light poles in the public right-of-way are discouraged.
11. Coordinate with Buckeye Pipeline for all proposed work over the Buckeye Pipeline easements.
12. Coordinate with the Oakland County Road Commission for all proposed paving of Haggerty Road.
13. Provide the City's standard detail sheets for water main (5 sheets-rev. 02/16/2018), sanitary sewer (3 sheets- rev. 02/16/2018), storm sewer (2 sheets-rev. 02/16/2018) and paving (2 sheets-rev. 03/05/2018) at the time of the **Stamping Set submittal**. These details can be found on the City's website at this location: <http://cityofnovi.org/Government/City-Services/Public->

[Services/Engineering-Division/Engineering-Standards-and-Construction-Details.aspx](#)

Water Main

14. A tapping sleeve, valve and well is required at the connection to the existing water main.

Sanitary Sewer

15. Label the sanitary sewer monitoring manhole and label the width of the 20-foot wide access easement.
16. Place cleanouts along the sanitary sewer lead as necessary (every 75 feet).

Storm Sewer

17. A minimum cover depth of 3 feet shall be maintained over all proposed storm sewer. Currently, a few pipe sections do not meet this standard. Grades shall be elevated and minimum pipe slopes shall be used to maximize the cover depth. In situations where the minimum cover cannot be achieved, Class V pipe must be used with an absolute minimum cover depth of 2 feet. An explanation shall be provided where the cover depth cannot be provided.
18. Match the 0.80 diameter depth above invert for pipe size increases.
19. The minimum slope of a 24-inch storm sewer is 0.12 feet per 100 feet. Revise the plans accordingly.

Storm Water Management Plan

20. The Storm Water Management Plan for this development shall be designed in accordance with the Storm Water Ordinance and Chapter 5 of the new Engineering Design Manual.
21. Provide a 20-foot wide access easement for maintenance over the pretreatment structure.
22. An off-site drainage easement may be required for the storm sewer outlet that discharges directly onto the southern property. This easement would be required to be approved by the City and executed prior to stamping set approval.

Paving & Grading

23. Remove all paving details on sheet S3 that do not meet City standards and replace with details that meet/exceed City Standard Paving Detail requirements.
24. Detectable warning plates are required at all barrier free ramps, hazardous vehicular crossings and other areas where the sidewalk is flush with the adjacent drive or parking pavement. The barrier-free ramps shall comply with current MDOT specifications for ADA Sidewalk Ramps. Provide the latest version of the MDOT standard detail for detectable surfaces.
25. Verify the slopes along the ingress/egress routing to the building from the barrier-free stalls. All barrier-free stalls shall comply with Michigan Barrier-Free regulations.

26. Provide existing and proposed contours on the Grading Plan at the time of the Final Site Plan submittal.
27. The grade of the drive approach shall not exceed 2-percent within the first 25 feet of the intersection. Provide spot grades as necessary to establish this grade.
28. Provide additional spot grades as necessary to demonstrate that a minimum 5-percent slope away from the building is provided for a minimum distance of ten feet around the perimeter of the building.
29. Provide the standard MDOT detail 'M' approach at the Haggerty Road driveway.

Soil Erosion and Sediment Control

30. A SESC permit is required. A full review has not been completed at this time. Please address the comments below and submit a SESC permit application under separate cover. The application can be found on the City's website at <http://cityofnovi.org/Reference/Forms-and-Permits.aspx>.

Off-Site Easements

31. Any off-site utility easements anticipated must be executed **prior to final approval of the plans**. If you have not already done so, drafts of the easements and a recent title search shall be submitted to the Community Development Department as soon as possible for review, and shall be approved by the Engineering Division and the City Attorney prior to executing the easements.
32. Approval from the neighboring property owner for the work associated with the off-site storm sewer outlet shall be forwarded to the Engineering Division **prior to site plan approval**.

The following must be submitted with the Final Site Plan:

33. 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.**
34. An itemized construction cost estimate must be submitted to the Community Development Department for the determination of plan review and construction inspection fees. This estimate should only include the civil site work and not any costs associated with construction of the building or any demolition work. **The estimate must be itemized** for each utility (water, sanitary, storm sewer), on-site paving (square yardage), right-of-way paving (including proposed right-of-way), grading, and the storm water basin (basin construction, control structure, pre-treatment structure and restoration).

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 that can be found on the City's website. Partial submittals will not be accepted.)

35. A draft copy of the Storm Drainage Facility Maintenance Easement Agreement (SDFMEA), as outlined in the Storm Water Management Ordinance, must be submitted to the Community Development Department. Once the agreement is approved by the City's Legal Counsel, this agreement will then be sent to City Council for approval/acceptance. The SDFMEA will then be recorded at the office of the Oakland County Register of Deeds. This document is available on our website.
36. A draft copy of the 20-foot wide access easement for the sanitary sewer monitoring manhole to be constructed onsite must be submitted to the Community Development Department. This document is available on our website.
37. A draft copy of the warranty deed for the additional proposed right-of-way along Haggerty Road must be submitted for review and acceptance by the City.
38. A 20-foot wide easement where storm sewer or surface drainage crosses lot boundaries must be shown on the Exhibit B drawings of the Master Deed.
39. Executed copies of approved off-site utility easements.

The following must be addressed prior to construction:

40. 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).
41. 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.
42. Material certifications must be submitted to Spalding DeDecker for review prior to the construction of any onsite utilities. Contact Ted Meadows at 248-844-5400 for more information.
43. Construction inspection fees in an amount that is to be determined must be paid to the Community Development Department.
44. Legal escrow fees in an amount that is to be determined must be deposited with the Community Development Department. All unused escrow will be returned to the payee at the end of the project. This amount includes engineering legal fees only. There may be additional legal fees for planning legal documents.
45. A storm water performance guarantee in an amount equal to 120% of the cost required to complete the storm water management facilities, as

- specified in the Storm Water Management Ordinance, must be posted at the Community Development Department.
46. Water and Sanitary Sewer Fees must be paid prior to the pre-construction meeting. Contact the Water & Sewer Division at 248-347-0498 to determine the amount of these fees.
 47. A street sign financial guarantee in the amount of \$400 per traffic control sign proposed must be posted at the Community Development Department. Signs must be installed in accordance with MMUTCD standards.
 48. 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.
 49. A permit for all proposed work activities within the road right-of-way must be obtained from the City of Novi. This application is available from the City Engineering Division or on the City website and can be filed once the Final Site Plan has been submitted. Please contact the Engineering Division at 248-347-0454 for further information. Please submit the cover sheet, standard details and plan sheets applicable to the permit only.
 50. A permit for work within the road right-of-way of Haggerty Road must be obtained from the Road Commission for Oakland County (RCOC). Please contact the RCOC (248-858-4835) directly with any questions. The applicant must forward a copy of this permit to the City. Provide a note on the plans indicating all work within the road right-of-way will be constructed in accordance with the RCOC standards.
 51. An inspection permit for the sanitary sewer tap must be obtained from the Oakland County Water Resource Commissioner (OCWRC).

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

52. 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).
53. All easements and agreements referenced above must be executed, notarized and approved by the City Attorney and Engineering Division.
54. A Bill of Sale for the utilities conveying the improvements to the City of Novi must be submitted to the Community Development Department. This document is available on our website.

55. 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.
56. Submit to the Community Development Department, Waivers of Lien from any parties involved with the installation of each utility as well as a Sworn Statement listing those parties and stating that all labor and material expenses incurred in connection with the subject construction improvements have been paid.
57. 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.
58. Provide a warranty deed for the additional proposed road right-of-way along Haggerty Road for acceptance by the City.

Prior to preparing stamping sets, the Applicant is advised to provide any revised sheets directly to the Engineering Division 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 Kate Richardson at (248) 347-0586 with any questions.



Kate Richardson, EIT
Plan Review Engineer

cc: Sri Komaragiri, Community Development
Ben Croy, PE; Engineering
Victor Boron, Engineering

LANDSCAPE REVIEW



PLAN REVIEW CENTER REPORT

January 29, 2020

Revised PRO Concept Plan - Landscaping

Triangle Place

Review Type

PRO Concept Plan Landscape Review

Project Number

JZ19-0017

Property Characteristics

- Site Location: East of Haggerty, North of 8 Mile Road
- Site Zoning: OS-1 with PRO
- Adjacent Zoning: East: Farmington Hills Commercial, South: FS, West: OSC
- Plan Date: January 14, 2020

Recommendation:

This project is **recommended for approval for PRO Concept Plan**. There are two deviations required due to the existing site utility easements that are supported by staff.

LANDSCAPE DEVIATIONS REQUIRED:

1. Deficiency of 3 canopy parking lot perimeter trees. *Supported by staff because underground utility easements occupy 90ft of parking lot perimeter.*
2. Deficiency in required greenbelt plantings (2 large evergreen or canopy trees and 3 subcanopy trees between building and Haggerty Road. Supported by staff because the trees can't be planted in the 90ft wide gas pipeline easements.
3. Lack of required greenbelt plantings in the narrow strip of land south of the parking lot. This deviation is supported by staff because there is insufficient room to plant the required trees.
4. Lack of greenbelt berm. Supported by staff because proposed hedge will be more attractive and fit with the site better than a berm would.

Please show these deviations on Sheet L-1.

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 Preliminary Site Plan submittal. Underlined items need to be addressed on Final Site Plans. Please follow guidelines of the Zoning Ordinance and Landscape Design Guidelines. This review and the Landscape Chart are summaries and are not intended to substitute for any Ordinance.

EXISTING ELEMENTS

Existing Soils (Preliminary Site Plan checklist #10, #17)

Please provide.

Existing and proposed overhead and underground utilities, including hydrants.(LDM 2.e.(4))

Provided

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

1. There are no existing trees on the site.
2. Offsite trees very close to the property line are protected with silt fence.

LANDSCAPING REQUIREMENTS

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

1. A 20 foot wide greenbelt is required between parking and the right-of-way. 20'7" minimum greenbelt is provided.
2. A 3 foot tall berm is required between parking and the right-of-way. No berm is provided but evergreen hedges are provided to screen the parking. *Staff supports this deviation, but please add additional screening north of the sidewalk along the parking since the parking is very visible from Haggerty due to the configuration of the site.*
3. Based on the frontage, less the width of the drive and utility easements, 4 canopy trees or large evergreen trees are required and 5 evergreens are provided. Also based on the frontage, 6 subcanopy trees are required and 9 are provided. If the applicant wishes to revise the plan to reduce the number of trees provided to more closely meet the requirement, they may do so.
4. *A landscape deviation for 2 canopy trees and 3 subcanopy trees that can't be planted within the 90lf wide gas pipe line easements would be supported by staff.*
5. As there is insufficient room in the greenbelt sliver south of the driveway for plantings, that 95 lf of greenbelt does not have to have greenbelt landscaping (but it does need to have street trees). **This is a landscape deviation** but *it is supported by staff due to the lack of room for the required trees.*

Street Tree Requirements (Zoning Sec. 5.5.3.E.i.c and LDM 1.d.)

1. Based on the frontage, net of the entrance and utility easements, 7 street trees are required and 7 are provided within the right-of-way. If the Road Commission for Oakland County rules that any or all of the proposed street trees can't be planted, approval is not required to not plant them, but a copy of the ruling must be provided to the City.
2. 4 additional street trees south of the property are proposed as a public benefit.

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

1. Based on the paved vehicular use areas in the parking lots, 361sf of interior landscape area and 2 canopy trees are required (1 per 200 sf of paved area). 2 canopy trees are provided in the in the southwest and northeast corners of the parking lot.
2. **Please move the northeast corner tree to the northwest corner of the parking lot (5 feet spacing from underground utility lines must be provided).**

Parking Lot Perimeter Canopy Trees (Zoning Sec. 5.5.3.C.(3) Chart footnote)

1. Based on the 231lf perimeter, 7 canopy trees are required. 4 canopy trees are provided.
2. **A landscape deviation can be requested for the 90lf of perimeter located within the utility easements (3 trees) where canopy trees can't be planted.** *It would be supported by staff.*

Building Foundation Landscape (Zoning Sec 5.5.3.D.)

1. Based on the building perimeter of 231 lf, 1849 sf of foundation landscaping is required at the base of the building and 1849sf is provided.
2. Approximately 83% of the building foundation facing the road is landscaped. This exceeds the 60% requirement.

Storm Basin Landscape (Zoning Sec 5.5.3.E.iv and LDM 1.d.(3))

1. An underground detention system is provided.
2. A 280lf line of native shrubs along the west side of the detention pond across Haggerty is provided as a public benefit.

Transformer/Utility Box and Fire Hydrant Plantings (LDM 1.3 from 1-5, Zoning Sec 5.5.3.C.ii.d)

The utility box shown at the northeast corner of the building is properly screened.

OTHER REQUIREMENTS

Plant List, Notations and Details (LDM 2.h. and t.)

Please see the comments regarding the notes, details and plant list on the Landscape Chart.

Cost estimates for Proposed Landscaping (LDM 2.t.)

Provided

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

An irrigation plan for all landscaped areas must be provided in Final Site Plans, electronic stamping sets at the latest.

Proposed topography. 2' contour minimum (LDM 2.e.(1))

1. Proposed spot elevations are provided on Sheet S3.
2. Proposed contours are shown on the Landscape Plan.

Snow Deposit (LDM.2.q.)

Provided

Corner Clearance (Zoning Sec 5.9)

The RCOC clear vision zone is provided.

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



Rick Meader – Landscape Architect

PRO CONCEPT PLAN LANDSCAPE REVIEW SUMMARY CHART

Review Date: January 29, 2020
Project Name: JZ19-17: TRIANGLE PLACE
Plan Date: January 14, 2020
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 REQUIRED:

1. Deficiency of 3 canopy parking lot perimeter trees. *Supported by staff because underground utility easements occupy 90lf of parking lot perimeter.*
2. Deficiency in required greenbelt plantings (2 large evergreen or canopy trees and 3 subcanopy trees between building and Haggerty Road. *Supported by staff because the trees can't be planted in in the 90ft wide gas pipeline easements.*
3. Lack of required greenbelt plantings in the narrow strip of land south of the parking lot. *This deviation is supported by staff because there is insufficient room to plant the required trees.*
4. Lack of greenbelt berm. *Supported by staff because proposed hedge will be more attractive and fit with the site better than a berm would.*

Please show these deviations on Sheet L-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 	Scale: 1"=20'	Yes	
Project Information <i>(LDM 2.d.)</i>	Name and Address	Location map on cover sheet	Yes	Please copy the location map to the Landscape Plan. It can be smaller than it is on S2.
Owner/Developer Contact Information <i>(LDM 2.a.)</i>	Name, address and telephone number of the owner and developer or association	Yes	Yes	

Item	Required	Proposed	Meets Code	Comments
Landscape Architect contact information (LDM 2.b.)	Name, Address and telephone number of RLA	Yes	Yes	
Sealed by LA. (LDM 2.g.)	Requires original signature	Yes	Yes	<u>Original signature required on stamping sets.</u>
Miss Dig Note (800) 482-7171 (LDM.3.a.(8))	Show on all plan sheets	Yes	Yes	
Zoning (LDM 2.f.)	Include all adjacent zoning	Site: FS Proposed: OS-1 with PRO East: Farmington Hills Commercial South: FS West: OSC	No	Please show adjacent properties' zoning on the landscape plan.
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"> • Legal description on Sheet S1. • Existing topography on Sheet S2. 	Yes	
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"> ▪ None on site ▪ Adjacent site has trees near border. 	Yes	
Soil types (LDM.2.r.)	<ul style="list-style-type: none"> ▪ As determined by Soils survey of Oakland county ▪ Show types, boundaries 	No	No	Please provide somewhere in site plan set
Existing and proposed improvements (LDM 2.e.(4))	Existing and proposed buildings, easements, parking spaces, vehicular use areas, and R.O.W	Yes	Yes	
Existing and proposed utilities (LDM 2.e.(4))	Overhead and underground utilities, including hydrants	<ul style="list-style-type: none"> • Storm structures, underground utilities and easement lines are shown. • Light posts are shown. 	Yes	
Proposed grading. 2' contour minimum (LDM 2.e.(1))	Provide proposed contours at 2' interval	<ul style="list-style-type: none"> ▪ Proposed contours are shown on the landscape plan ▪ Relative spot elevations are shown on Sheet S3. 	Yes	

Item	Required	Proposed	Meets Code	Comments
Snow deposit (LDM.2.g.)	Show snow deposit areas on plan	Yes	Yes	
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 ▪ No evergreen trees 	Yes	Yes	
Name, type and number of ground cover (LDM 1.c.(5))	As proposed on planting islands	Sod is proposed on entire site.	Yes	
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 with a canopy tree planted in it to qualify ▪ 6" curbs ▪ Islands minimum width 10' BOC to BOC 	No interior islands are proposed but corners meet the requirements.	Yes	
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.	Yes	Yes	
Contiguous space limit (i)	Maximum of 15 contiguous spaces	Largest bay is 9 spaces	Yes	
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 ▪ Trees at least 10 feet from other utility structures, 5 feet from underground lines 	<ul style="list-style-type: none"> ▪ Fire hydrants are at extreme northern corner of site, off site, and across Haggerty Road. ▪ All trees are located at least 10 feet from utility structures. 	Yes	
Landscaped area (g)	Areas not dedicated to parking use or driveways exceeding 100 sq. ft. shall be landscaped	Yes	Yes	All areas not otherwise landscaped are to be sodded.
Clear Zones (LDM 2.3.(5))	25 ft corner clearance required. Refer to Zoning Section 5.5.9	The RCOC clear vision zones are shown and no trees are proposed within them.	Yes	
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 area up to 50,000 sf x 7.5%	<ul style="list-style-type: none"> ▪ $A = x \cdot 7.5\% = \text{sf}$ ▪ $x \cdot 7.5\% = A \text{ sf}$ ▪ $A = (4817) \cdot .075 = 361\text{sf}$ 			

Item	Required	Proposed	Meets Code	Comments
B = Total square footage of additional paved vehicular use areas over 50,000 SF) x 1 %	<ul style="list-style-type: none"> ▪ $B = (VUA - 50000) \times 1\%$ = B sf 	NA		
Category 2: For: I-1 and I-2 (Zoning Sec 5.5.3.C.iii)				
A. = Total square footage of vehicular access area x 5%	<ul style="list-style-type: none"> ▪ $A = 5\% \times xx \text{ sf} = xx \text{ sf}$ 	NA		
B= Total square footage of additional paved vehicular use areas over 50,000 SF x 0.5%	<ul style="list-style-type: none"> ▪ $B = (VUA - 50000) \times 0.5\% = B \text{ SF}$ 	NA		
All Categories				
C = Total square footage of landscaped islands C = A+B	<ul style="list-style-type: none"> ▪ $A + B = C \text{ SF}$ ▪ $361 + 0 = 361 \text{ sf}$ 	600 sf in parking lot corners	Yes	
D = C/200 Number of canopy trees required	<ul style="list-style-type: none"> ▪ $361/200 = 2 \text{ Trees}$ 	2 canopy trees in east corners	Yes	Please move the interior tree in the northeast corner to the northwest corner and spread the 4 perimeter trees on the east out more. The northwest corner will provide more shade to the lot in the hot afternoons and make the site look better from the road.
Perimeter Green space	<ul style="list-style-type: none"> ▪ 1 Canopy tree per 35 lf ▪ $(231-90)/35 = 4$ deciduous canopy trees ▪ 90lf is within existing utility easements where trees can't be planted. 	4 canopy trees	No	<i>The deviation to not include the 90lf length in the calculation (3 trees) is supported by staff.</i>
Parking land banked	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 top soil. 				
Residential Adjacent to Non-residential (Sec 5.5.3.A) & (LDM 1.a)				
Berm requirements	Site is not adjacent to	None	Yes	

Item	Required	Proposed	Meets Code	Comments
(Zoning Sec 5.5.A)	residentially zoned property so no buffering berm is required.			
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)				
Berm requirements (Zoning Sec 5.5.3.A.(5))	<ul style="list-style-type: none"> ▪ Adjacent to parking: 3 ft tall berm with 3 ft crest ▪ Not adj to parking: no berm 	<ul style="list-style-type: none"> ▪ Bayberry hedges are provided along the north section of the property, outside of the gas line easements. ▪ Junipers are provided as screening between the parking lot and the road. 	Yes	<ol style="list-style-type: none"> 1. As the OS-1 district does not require a hedge for frontage not adjacent to parking, the bayberry hedges are not required and can be removed if desired. 2. Using a hedge instead of a berm between the parking lot and Haggerty Road is a landscape deviation. <i>It is supported by staff as the proposed berm will be more attractive screening than a berm would be.</i> 3. Due to the orientation of the road and parking lot, please add a line of screening landscaping such as ornamental grasses on the north side of the parking lot sidewalk, since a hedge can't be planted in the easement, to screen the parking lot from southbound Haggerty Road.
Cross-Section of Berms (LDM 2.j)				
Slope, height and width	<ul style="list-style-type: none"> ▪ Label contour lines ▪ Maximum 33% ▪ Constructed of loam with 6" top layer of topsoil 	No berms are provided so no cross section is provided.	Yes	
Type of Ground		NA		

Item	Required	Proposed	Meets Code	Comments
Cover				
Setbacks from Utilities	Overhead utility lines and 15 ft. setback from edge of utility or 20 ft. setback from closest pole	NA		<ol style="list-style-type: none"> Underground utility lines extending the length of the property provide limitations to normal landscaping requirements. No overhead lines exist on the property.
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	A retaining wall is proposed at the south border.	NA	
Walls greater than 3 ½ ft. should be designed and sealed by an Engineer				Retaining wall will be reviewed with building plans.
ROW Landscape Screening Requirements (Sec 5.5.3.B. ii)				
Greenbelt width (2)(3) (5)	<ul style="list-style-type: none"> Adjacent to parking: 20 feet Not adjacent to parking: 25 feet 	20'7"	Yes	
Min. berm crest width	<ul style="list-style-type: none"> Adjacent to parking: 3 feet Not adjacent to parking: none 	No berm	No	<ol style="list-style-type: none"> A landscape deviation is required for the lack of the berm between parking and Haggerty Road. <i>It is supported by staff because the proposed hedge will provide more attractive screening than the small berm would.</i> Please add screening vegetation on the north side of the parking lot to screen it from southbound Haggerty Road.
Minimum berm height (9)	<ul style="list-style-type: none"> Adjacent to parking: 3 feet Not adjacent to parking: none 	<ul style="list-style-type: none"> No berm Evergreen hedge between road and parking lot 	Yes	

Item	Required	Proposed	Meets Code	Comments
3' wall	<ul style="list-style-type: none"> ▪ (4)(7) 	NA – no wall is proposed in right-of-way		
Canopy deciduous or large evergreen trees Notes (1) (10)	<ul style="list-style-type: none"> ▪ <u>Adj to Pkg</u>: 1 tree per 35 lf ▪ $(65-30)/35 = 1$ tree ▪ <u>Not adj to Pkg</u>: 1 tree per 60 lf ▪ $(278-90)/60 = 3$ trees ▪ 90lf is in easements (3 trees) ▪ 95lf is in front of detention pond to south without sufficient room for planting (3 trees) 	5 large evergreen trees	No	<ol style="list-style-type: none"> 1. A landscape deviation for the 90lf in the utility easements (2 trees) can be requested to deduct that footage from the calculation. <i>It would be supported by staff.</i> 2. A landscape deviation for the lack of trees in the 95lf strip of greenbelt south of the parking lot is also required. <i>It is supported by staff due to the lack of room for the required trees.</i>
Sub-canopy deciduous trees Notes (2)(10)	<ul style="list-style-type: none"> ▪ <u>Adj to Pkg</u>: 1 tree per 20 lf ▪ $(65-30)/20 = 2$ trees ▪ <u>Not adj to Pkg</u>: 1 tree per 60 lf ▪ $(278-90)/40 = 5$ trees ▪ 90lf is in easements (5 trees) ▪ 95lf is in front of detention pond to south without sufficient room for planting (5 trees) 	9 trees	Yes	See above.
Canopy deciduous trees in area between sidewalk and curb (Novi Street Tree List)	<ul style="list-style-type: none"> ▪ 1 tree per 35 lf ▪ $(278-90+95-30)/35 = 7$ trees 	7 trees + 4 additional trees in front of detention pond per original PRO agreement	Yes	3 trees are located just on the property due to the location of the sidewalk. This is acceptable.
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				
Screening of outdoor storage, loading/unloading (Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)		No loading zone is proposed		
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 	The box at the northeast corner of the building appears to be	Yes	

Item	Required	Proposed	Meets Code	Comments
	4" is allowed up to pad. <ul style="list-style-type: none"> No plant materials within 8 ft. from the doors 	screened effectively.		
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. 231 lf x 8ft = 1849 SF 	1849 sf	Yes	
<i>Zoning Sec 5.5.3.D.ii. All items from (b) to (e)</i>	If visible from public street a minimum of 60% of the exterior building perimeter should be covered in green space	96/115 is landscaped (83%)	Yes	
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 shall cover 70-75% of the basin rim area 10" to 14" tall grass along sides of basin Refer to wetland for basin mix 	<ul style="list-style-type: none"> No above-ground detention is provided. A 280lf line of native shrubs along the east side of the detention pond across Haggerty Road is proposed as a public benefit. 	Yes	
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 March 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	Please change the City of Novi Landscape Note #7 on L-2 to state that failing plant material shall be replaced within 3 months, not 1 year.
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 and a method of draining is 	A note has been added.	Yes	<u>The irrigation plan or alternative watering plans must be provided</u>

Item	Required	Proposed	Meets Code	Comments
	required with Final Site Plan <ul style="list-style-type: none"> Alternative means of providing sufficient water for establishment and long-term survival may be proposed. 			<u>in 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 2.h.) - Include all cost estimates				
Quantities and sizes	<ul style="list-style-type: none"> Refer to LDM suggested plant list Tree Diversity should follow guidelines of LDM Section 4 At least 50% of species used should be native to Michigan. 	Yes	Yes	
Root type		Yes	Yes	
Botanical and common names		<ul style="list-style-type: none"> 12 of 20 species (60%) used are native to Michigan. The tree diversity is acceptable. 	Yes	
Type and amount of lawn		Sod	Yes	
Cost estimate (LDM 2.t)		For all new plantings, mulch and sod as listed on the plan	Yes	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	
Tree protection fencing	Located at Critical Root Zone (1' outside of dripline)	Silt fence is proposed along the eastern property line will protect off-site trees.	Yes	Any off-site trees that are damaged during the construction will need to be replaced by the applicant.
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	

Item	Required	Proposed	Meets Code	Comments
Plant Materials & Existing Plant Material (LDM 3.b)	Clearly show trees to be removed and trees to be saved.	NA - No existing plant materials are on site.		
Landscape tree credit (LDM3.b.(d))	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 3.c)	Canopy Deciduous shall be 3" and sub-canopy deciduous shall be 2.5" caliper. Refer to section for more details	Yes	Yes	
Plant size credit (LDM3.c.(2))	NA	No		
Prohibited Plants (LDM 3.d)	No plants on City Invasive Species List	None are proposed	Yes	
Recommended trees for planting under overhead utilities (LDM 3.e)	Label the distance from the overhead utilities	NA		There are no overhead lines on the site.
Collected or Transplanted trees (LDM 3.f)		No		
Nonliving Durable Material: Mulch (LDM 4)	<ul style="list-style-type: none"> ▪ Trees shall be mulched to 4" depth and shrubs, groundcovers to 3" depth ▪ Specify natural color, finely shredded hardwood bark mulch. Include in cost estimate. ▪ Refer to section for additional information 	Yes	Yes	

NOTES:

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. For the landscape requirements, please see the Zoning Ordinance landscape section 5.5 and the Landscape Design 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.

TRAFFIC REVIEW



AECOM
 27777 Franklin Road
 Southfield
 MI, 48034
 USA
 aecom.com

Project name:
 JZ19-17 Triangle Place Revised PRO Concept
 Plan Traffic Review

From:
 AECOM

Date:
 March 4, 2020

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

CC:
 Sri Komaragiri, Lindsay Bell, Kate Richardson,
 Madeleine Kopko, Victor Boron

Memo

Subject: JZ19-17 Triangle Place Revised PRO Concept Plan Traffic Review

The revised PRO concept site plan was reviewed to the level of detail provided and AECOM recommends **approval** for the applicant to move forward with the condition that the comments provided below are adequately addressed to the satisfaction of the City.

GENERAL COMMENTS

1. The applicant, ACR Investments, LLC, is proposing a 2,420 SFT office facility on the east side of Haggerty Road, between 8 Mile Road and Orchard Hill Place.
2. Haggerty Road is under the jurisdiction of the Road Commission for Oakland County (RCOC).
3. The parcel is currently zoned FS (Freeway Services). The applicant is proposing a PRO to change the zoning to B-3 (General Business).
4. Summary of traffic-related waivers/variances:
 - a. A deviation will be required for a lack of a loading zone.
 - b. A deviation will be required for parking setback.

TRAFFIC IMPACTS

1. AECOM performed an initial trip generation based on the ITE Trip Generation Manual, 10th Edition, as follows.

ITE Code: 712 – Small Office Building
 Development-specific Quantity: 2,420 SF Gross Floor Area
 Zoning Change: FS to B-3

Trip Generation Summary				
	Estimated Trips	Estimated Peak-Direction Trips	City of Novi Threshold	Above Threshold?
AM Peak-Hour Trips	5	4	100	Yes

PM Peak-Hour Trips	6	4	100	No
Daily (One-Directional) Trips	39	N/A	750	No

2. The number of trips does not exceed the City's threshold of more than 100 trips in the AM or PM peak hour or the daily trips threshold.
3. AECOM recommends performing the following traffic impact study in accordance with the City's requirements.

Trip Impact Study Recommendation	
Type of Study:	Justification
Rezoning Traffic Study (RTS)	Applicant is proposing rezoning the site and has submitted an RTS, which is reviewed in a separate letter dated May 17, 2019. AECOM requests an addendum to that RTS that includes trip generation for the existing zoning to complete the RTS requirements, to be submitted with the final site plan.

EXTERNAL SITE ACCESS AND OPERATIONS

The following comments relate to the external interface between the proposed development and the surrounding roadway(s).

1. The applicant is proposing one driveway on Haggerty Road.
 - a. The proposed radii is within the range provided in Figure IX.1 of the City's Code of Ordinances. However, it is the extreme end of the allowable range. The applicant should consider changing it to match the standard of 20' radii or provide narrative on why a radius of 35' is required at the driveway entrance.
 - b. The 31' width is within the allowable range for driveway widths, as provided in Figure IX.1 of the City's Code of Ordinances. However, the applicant should consider changing the driveway width to the standard of 30' or provide narrative on why a width of 31' is required.
2. The applicant is proposing tapers and an additional lane on Haggerty Road.
 - a. The applicant should dimension the taper length *along the road centerline*, not along the taper. The lane lengths should also be dimensioned. Standard dimensions may be found in section 6.7.3 of RCOC's Permit Specifications, however they are identical to the standards and ranges that are provided in Figure IX.11 of the City's Code of Ordinances.
3. The applicant should include sight distance measurements for the driveway along Haggerty Road. If the minimum required sight distance cannot be met, a deviation may be required. Refer to Figure VIII-E of the City's Code of Ordinances for more information.
4. The applicant should dimension the driveway spacing along Haggerty Road. Section 11.216.d and Figure IX.12 of the City's Code of Ordinances require 230' driveway spacing for same side commercial approaches on a road with a speed limit of 45 mph.
5. There is existing sidewalk along Haggerty Road for a portion of the length of the property and the applicant is proposing tying into the existing sidewalk, with sidewalk ramps at the proposed driveway.

INTERNAL SITE OPERATIONS

The following comments relate to the on-site design and traffic flow operations.

1. General Traffic Flow
 - a. The applicant has not provided the size and location of the proposed loading zone but indicated in the project narrative that large deliveries are not anticipated. As stated in Section 5.4.1 of the City's Zoning

Ordinance, in B districts, a loading space shall be provided at a ratio of ten (10) square feet per front foot of building up to a maximum of 360 square feet. The applicant is seeking a deviation for no loading zone.

- b. The applicant has indicated aisle widths throughout the site that meet the minimum requirement.
- c. The applicant has indicated one trash receptacle location on the southeast side of the site.
 - i. The trash receptacle is not accessible by vehicles, being up the curb and adjacent to the building.
The applicant should confirm that this location is acceptable to the trash collectors for the site.
- d. The applicant could consider reducing the radius of the southwest corner of the parking lot to increase green space.

2. Parking Facilities

- a. The applicant is proposing 15 parking spaces. The applicant should refer to Section 5.2.12 of the City's Zoning Ordinance as well as the Planning Review Letter for parking quantity requirements.
- b. The applicant has ensured that there are no more than 15 parking spaces adjacent to each other without an island.
- c. The applicant has indicated 17' long parking spaces.
 - i. The applicant has indicated 4" curbs at the 17' parking spaces.
 - ii. The applicant has proposed one (1) accessible space that has been designated as van accessible.
 - iii. The accessible parking space dimensions are in compliance with City standards.
- d. The parking spaces do not meet the 25' setback from the ROW as required in section 5.3.13 of the Zoning Ordinance. A deviation will be required for a reduced parking setback. AECOM would support this deviation.
- e. Two (2) bicycle parking spaces are required per Section 5.16.1 of the City's Zoning Ordinance and the applicant is proposing three (3) spaces.
 - i. The applicant has indicated the layout of bicycle parking. However, it should be revised to reflect the dimensions listed for the bicycle parking in the site plan and accurately reflect the number of spaces.
 - ii. The applicant should revise the design of the bicycle rack to ensure compliance with the 36" minimum height requirement per Section 5.16.5.B of the City's Zoning Ordinance.
 - iii. The applicant should note that a 6' path is required from the bicycle parking to the street. The 7' sidewalk connecting the bicycle parking to the road is not sufficient due to the 2' clear overhang that is included from the parking spaces abutting it. The portion of the sidewalk from the bicycle parking to the sidewalk along Haggerty Road should be increased to 8' wide to accommodate the 2' clear overhang and the 6' bicycle path requirements. Refer to Section 5.16 of the City's Zoning Ordinance for more information regarding the City requirements.
 - 1. The applicant could widen the route to the sidewalk ramps serving the barrier free parking space as an alternative bicycle route.

3. Sidewalk Requirements

- a. The applicant has indicated where sidewalks are proposed on the site along with dimensions.
 - i. The applicant has included a sidewalk connection to the facilities from the street.
 - ii. Generally the sidewalks throughout the site meet the required minimum of 5' wide.
 - 1. There is a 4' wide sidewalk proposed connecting the building to the sidewalk along Haggerty Road. This should be widened to at least 5'.
 - iii. Note that when a 17' parking space abuts a sidewalk, the sidewalk shall be four inches in height and a minimum of 7' wide to accommodate a 2' vehicle overhang and provide 5' of unobstructed travel way for non-motorized users.
- b. The applicant has labeled all sidewalk ramps on the plans. The applicant has included the latest Michigan Department of Transportation (MDOT) sidewalk ramp detail.
 - i. Note that sidewalk ramps are required near the accessible parking spaces.

SIGNING AND STRIPING

1. All on-site signing and pavement markings shall be in compliance with the Michigan Manual on Uniform Traffic Control Devices (MMUTCD). The following is a discussion of the proposed signing and striping.
 - a. The applicant has provided a signing table that includes the MMUTCD designation, quantity, and proposed size.
 - b. The proposed stop sign (R1-1) should be increased to 30" in size.
2. The applicant should provide notes and details related to the proposed signing.
 - a. Single signs with nominal dimensions of 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post. Multiple signs and/or signs with nominal dimension greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post as dictated by the weight of the proposed signs.
 - b. The applicant should indicate a bottom height of 7' from final grade for all signs installed.
 - c. The applicant should indicate that all signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign.
 - d. Traffic control signs shall use the FHWA Standard Alphabet series.
 - e. Traffic control signs shall have High Intensity Prismatic (HIP) sheeting to meet FHWA retroreflectivity requirements.
3. The applicant has included parking space striping notes to indicate that:
 - a. The standard parking spaces shall be striped with four (4) inch white stripes.
 - b. The accessible parking space and associated aisle should be striped with four (4) inch blue stripes.
4. The applicant has included a note stating that where a standard space is adjacent to an accessible space, abutting blue and white stripes shall be installed.
5. The applicant should provide a detail for the proposed international symbol for accessibility pavement markings that may be placed in the accessible parking space.
6. The applicant should remove the note about yellow hatch striping or indicate on the site plan where this hatch is proposed.

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

Sincerely,

AECOM



Patricia Thompson, EIT
Traffic Engineer



Josh A. Bocks, AICP, MBA
Senior Transportation Planner/Project Manager

TRAFFIC IMPACT STUDY REVIEW



AECOM
27777 Franklin Road
Southfield
MI, 48034
USA
aecom.com

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

Project name:
JSP19-21 Triangle Place 2019 PRO Rezoning
Traffic Study Review Letter

From:
AECOM

Date:
May 17, 2019

CC:
Sri Komaragiri, Lindsay Bell, George Melistas, Darcy
Rechtien, Hannah Smith, Kate Richardson

Memo

Subject: JSP19-21 Triangle Place 2019 PRO Rezoning Traffic Study Review Letter

The Rezoning Traffic Study for Triangle Place 2019 PRO was reviewed to the level of detail provided and AECOM **recommends denial** of the Rezoning Traffic Study; the applicant should review the comments provided below and provide a revised rezoning study to the City.

GENERAL COMMENTS

1. The memo will provide comments on a section-by-section basis following the format of the submitted report.

BACKGROUND INFORMATION

1. The traffic volume for Haggerty Road is 26,600 vehicles.
2. Adjacent land uses include hotel, office, retail, and restaurant.

DESCRIPTION OF REQUESTED USE

1. The applicant is proposing a commercial retail building.
2. The applicant states the current zoning is B-3, however the actual current zoning for the site is FS, Freeway Services.

TRIP GENERATION

1. The applicant has provided trip generation information for the proposed development.
 - a. The applicant used average weight for the AM Peak Hour trips, instead of fitted curve. As there are more than 20 data points, the fitted curve equation is to be used as per Figure 4.2 in the *Trip Generation Handbook*, 3rd Edition. In addition, the applicant should provide more information regarding the planned tenant, as the size of the building could allow for a more accurate prediction of trips based on usage.
 - i. AM Peak Hour trips with the fitted curve equation may include a bagel or coffee shop in the shopping centers used to generate the equation.
 - b. The land uses for existing zoning should be updated to reflect the actual existing zoning (FS).

CONCLUSIONS AND RECOMMENDATIONS

1. In summary, the RTS should be revised to reflect the currently existing zoning as well as the correct number of expected AM Peak Hour trips based on the handbook.
2. The applicant should review the remaining comments contained herein and provide a rezoning study to the City.

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

Sincerely,

AECOM



Patricia A. Thompson, EIT
Traffic Engineer



Josh A. Bocks, AICP, MBA
Senior Transportation Planner/Project Manager

FAÇADE REVIEW



March 19, 2020

City of Novi Planning Department
 45175 W. 10 Mile Rd.
 Novi, MI 48375-3024

Façade Review Status:
Approved, Section 9 Waiver Recommended

Attn: Ms. Barb McBeth – Director of Community Development

Re: FACADE ORDINANCE – PRO Concept Plan and Preliminary Site Plan
Triangle Place, JSP19-21
 Façade Region: 1, Zoning District: FS, Building Size: 2,400 S.F.

Dear Ms. McBeth:

The following is the Façade Review for PRO Concept Plan and Preliminary Site Plan Approval of the above referenced project based on the drawings prepared by MGA Architect (date not legible). The percentages of materials proposed for each façade are as shown on the table below. The maximum percentages allowed by the Schedule Regulating Façade Materials of Ordinance Section 5.15 are shown in the right hand column. Materials in non-compliance with the Façade Schedule, if any, are highlighted in **bold**.

Façade Region	West (Front)	South	East	North	Ordinance Maximum (Minimum)
Brick	30%	66%	47%	66%	100% (30% Min)
Asphalt Shingles	48%	7%	46%	7%	25%
Stone	6%	0%	0%	0%	50%
EIFS	2%	1%	0%	1%	25%
Painted Trim	3%	15%	2%	15%	15%
Split Faced CMU	4%	6%	5%	6%	10%
Awnings, Standing Seam Metal	7%	5%	0%	5%	10%

As shown above the percentage of Asphalt Shingles exceeds the maximum percentage allowed by the Façade Ordinance on the west and east façades. Asphalt Shingles are allowed up to 50% on “residential style architecture” (footnote 14). However, in this case the building cannot be considered residential style architecture due to the storefront windows, awnings, and other features not typically found on residential structures. A Section 9 Waiver is therefore required for this deviation. No sample board was provided at the time of this review.

Recommendation – The percentage of Asphalt Shingles is consistent with the Section 9 Waiver previously granted by the Planning Commission during their April 30, 2008 meeting. The applicant has replaced the wood siding with brick as was a condition of that approval. It is our recommendation that the overall architectural design is consistent with the intent and purpose of the Façade Ordinance. A Section 9 Waiver is therefore recommended for the overage of Asphalt Shingles. This is contingent upon the applicant providing the sample board required by Section 5.15.4.D of the Ordinance, not less than 5 days prior to the Planning Commission Meeting.

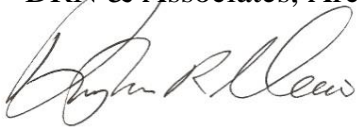
Notes to the Applicant:

1. Façade Ordinance requires inspection(s) for all projects. Materials displayed on the approved sample board will be compared to materials delivered to the site. It is the applicant's responsibility to request the inspection of each façade material at the appropriate time. Inspections may be requested using the Novi Building Department's Online Inspection Portal with the following link. Please click on "Click here to Request an Inspection" under "Contractors", then click "Façade".
<http://www.cityofnovi.org/Services/CommDev/OnlineInspectionPortal.asp>.

2. No roof- top equipment or screening is indicated on the drawings. The applicant should note that all roof-top appurtenances must be full screened from view from all vantage points both on and off site using materials compliant with the Façade Ordinance.

If you have any questions regarding this project please do not hesitate to call.

Sincerely,
DRN & Associates, Architects PC



Douglas R. Necci, AIA

FIRE REVIEW



January 30, 2020

TO: Barbara McBeth- City Planner
Sri Ravali Komaragiri- Plan Review Center
Lindsay Bell-Plan Review Center
Madeleine Kopko-Planning Assistant

CITY COUNCIL

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Bob Gatt

Mayor Pro Tem

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Scott R. Baetens

Assistant Fire Chief

John B. Martin

RE: Triangle Place 2019 Revised PRO

PSP# 20-0007

PSP# 19-0075

Project Description:

Build a 2420 S.Q.F.T. single story office building off of Haggerty Rd north of Eight Mile Rd.

Comments:

- **All fire hydrants MUST** in installed and operational prior to any combustible material is brought on site. **IFC 2015 3312.1**
- **Corrected 1/30/20 KSP**-From the loading zone to the parking lot to the south does not meet city standards, shall have a minimum fifty (50) feet outside turning radius and designed to support a minimum of thirty-five (35) tons. **(D.C.S. Sec 11-239(b)(5))**
- A hazardous chemical survey is required to be submitted to the Planning & Community Development Department for distribution to the Fire Department at the time any Preliminary Site Plan is submitted for review and approval. Definitions of chemical types can be obtained from the Fire Department at (248) 735-5674.

Recommendation:

APPROVED WITH CONDITIONS

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

PROJECT NARRATIVE

March 18, 2020

Ms. Barb McBeth, AICP, City Planner
City of Novi Development Department
47175 10 Mile Road
Novi, MI 48375

Subject: Project Narrative and Planner's Report Supporting the Rezoning Request for Triangle Place, located on the east side of Haggerty Road, north of Eight Mile Road, from FS, Freeway Service to B-3, General Business with a Planned Rezoning Overlay (PRO).

Dear Ms. McBeth:

Please accept this project narrative and planner's report for consideration by the City to re-zone the above referenced parcel of land from FS, Freeway Service to B-3, General Business with a Planned Rezoning Overlay (PRO). The project entails development of a one-story office building, associated parking lot, site amenities and public improvements along Haggerty Road. The property is currently vacant and the triangular shape, small size (.48 acres in area), and easements through the site make it challenging to develop. Access to the site will be exclusively from Haggerty Road, which is a major thoroughfare. This site was previously approved for a PRO rezoning under the B-3 zoning designation but could not be developed for those uses with the associated PRO plan, given the above-mentioned constraints of the site.

Project Narrative

The parcel of land is located on the east side of Haggerty Road, north of the intersection with Eight Mile Road, and just west of I-275, in the City of Novi, Michigan. It is located directly in front of the BP mini-mart and opposite the Sheraton Hotel on Haggerty Road. The property is currently undeveloped and abuts a large detention basin to the south. Since the property is small, triangular in shape and zoned FS, Freeway Service, there are very few uses that can be accommodated on the site and still meet ordinance requirements. This is further complicated by the number of easements that run through the site.

Due to the unusual shape of the parcel, there are limitations on where the building can be located and the parking must be to the south of the building, instead of directly in front. Retailers typically like to have some parking in front of the building and since there is none, the site is not attractive for retail use. Retail use of the site would also necessitate a loading zone, with the only possible location being the front yard. A front yard loading zone would be unsightly and further limit the already deficient number of parking spaces that could be placed on-site. The use of shared parking with the property to the east but the request was denied by the owner.

The most reasonable use of the property is for office and similar uses, and the requested B-3 zoning designation is less intense than the current F-S district. The requested PRO overlay will also allow some flexibility with meeting the dimensional challenges of this site. As shown on the attached PRO Preliminary Site Plan, additional improvements under the PRO include: an extension of the sidewalk and planting of additional street trees in front of the detention pond frontage; installation of a circular landscape bed/seating

Ms. Barb McBeth, AICP, City Planner
City of Novi, MI
Triangle Place PRO Rezoning Application
March 18, 2020

area in front of the proposed office building; and the planting of additional native shrubs in front of the detention basin on the opposite side of Haggerty Road.

PRO Rezoning Criteria

Per *Section 713, Amendments to Ordinance, Subsection 2(D)(ii)*, “The applicant shall have the burden of demonstrating that the following requirements and standards are met by the PRO Plan, Conditions, and PRO Agreement:”

a. Approval of the application shall accomplish, among other things, and as determined in the discretion of the City Council, the integration of the proposed land development project with the characteristics of the project area, and result in an enhancement of the project area as compared to the existing zoning, and such enhancement would be unlikely to be achieved or would not be assured in the absence of the use of a PRO.

The subject site is currently zoned FS, Freeway Service and permits a wide range of commercial uses that cannot be accommodated on the subject site (.48 acres) and still meet the dimensional requirements of the ordinance. By rezoning the property to B-3, General Business with a Planned Rezoning Overlay (PRO), an office building can be constructed with an acceptable amount of parking and site amenities that are appropriate for a site this size. A loading zone for tractor trailers will not be needed, due to the office use, and a pathway and seating area will be provided in front of the building instead.

PRO Benefits/Conditions

The list of additional benefits (Appendix A) and conditions (Appendix C) under the PRO rezoning include: removing the potential for many of the high intensity uses allowed in the current FS, Freeway Service District while permitting those office and similar uses that are more appropriate for the site; installation of sidewalks, both on- and off-site, to complete the pathway connection on that stretch of Haggerty Road and help create a more walkable and bikeable corridor, in an area that is currently dominated by heavy vehicular traffic; off-site shrubs are being planted to supplement the project and improve the aesthetics in the corridor; and a pedestrian connection and landscaped seating feature is located in front of the building, providing an additional pedestrian amenity to the area. Many of these features would not be attainable under the current site plan and FS, Freeway Service District zoning requirements. The off-site improvements are also listed under Appendix C and would be included in the associated PRO Development Agreement.

b. Sufficient conditions shall be included on and in the PRO Plan and PRO Agreement on the basis of which the City Council concludes, in its discretion, that, as compared to the existing zoning and considering the site specific land use proposed by the applicant, it would be in the public interest to grant the rezoning with PRO; provided, in determining whether approval of a proposed application would be in the public interest, the benefits which would reasonably be expected to accrue from the proposal shall be balanced against, and be found to clearly outweigh the reasonably foreseeable detriments thereof, taking into consideration reasonably accepted planning, engineering, environmental and other principles, as presented to the City Council, following recommendation by the Planning Commission, and also taking into consideration the special knowledge and understanding of the City by the City Council and Planning Commission.

It is anticipated that the PRO Plan and associated PRO Agreement can be adjusted to ensure that the project is developed as promised. The requested waivers will allow the unusually shaped property to be developed

Ms. Barb McBeth, AICP, City Planner
City of Novi, MI
Triangle Place PRO Rezoning Application
March 18, 2020

in an attractive fashion while still meeting the intent of the zoning ordinance. The conditions identified in Appendix C include: 1) the installation of sidewalk in front of the detention basin, immediately south of the subject site, to connect with right-of-way sidewalk improvements for this development (approximately 180 linear feet); 2) the planting of native shrubs along the right-of-way in front of the detention ponds to the south of the subject site and on the opposite side of Haggerty Road (5 native shrubs); and 3) a list of limitations on uses that would be allowed in the B-3 District. The proposed development would therefore advance the public interest by providing amenities that would normally have to be paid for by the City while permitting less intense development than would be allowed under the current FS, Freeway Service zoning district

c. In the discretion of the City Council, it shall be determined that there is compliance with all of the General Standards for the approval of uses subject to special approval are met, as enumerated in Section 6.1.2.C.

The proposed uses are all identified as either Permitted or Special Land Uses under the proposed B-3, General Business District, except those excluded in Appendix C. Should there be any future uses that require special land use approval, all conditions will be met.

Conclusion

In conclusion, we kindly request positive consideration by the City of Novi Planning Commission and City Council on this matter. The requested B-3, General Business District with a Planned Rezoning Overlay (PRO) is the best option in the ordinance to allow development of this small and unusually shaped site. It is also a good location for a high-quality office building that is easy to access and allows tenants to take advantage of the numerous retail and service amenities in the area. The benefits being offered under the PRO option will help improve the aesthetics of the area and complete sidewalk connections for pedestrians walking the corridor. We also understand that site plan approval will be still be needed and are ready to work cooperatively with the City to implement this project.

If you have any questions, please do not hesitate to contact me.

Respectfully submitted,

CIB PLANNING



Carmine P. Avantini, AICP
President

Appendix A: Summary of Key Project Benefits

Below are the key project benefits supporting the PRO rezoning request:

- ✓ The proposed rezoning will remove the potential for many of the high intensity uses allowed in the FS, Freeway Service District while permitting those office uses that are more appropriate for the site;
- ✓ This project includes the installation of sidewalks, both on- and off-site, to complete the pathway connection on that stretch of Haggerty Road. This will help create a more walkable and bikeable corridor, in an area that is currently dominated by heavy vehicular traffic;
- ✓ Off-site shrubs are being planted to supplement the project and improve the aesthetics in the corridor;
- ✓ A pedestrian connection and landscaped seating feature is located in front of the building, providing an additional pedestrian amenity to the area; and

Appendix B: Summary of Requested Deviations

The following deviations are being requested under the PRO Rezoning application:

1. Landscape deviation from section 5.5.3.C.(3) Chart footnote for lack of three perimeter parking lot trees;
2. Landscape deviation from section 5.5.3.B.ii and iii for underage of greenbelt plantings by two large evergreen or canopy trees and three subcanopy trees;
3. Landscape deviation from section 5.5.3.B.ii and iii for lack of berm along Haggerty Road;
4. Planning deviation from section 5.3.13 for not meeting the minimum distance requirement between the parking from the street ROW. A minimum of 25 feet is required, varied widths from 16 feet to 20 feet proposed;
5. A section 9 waiver for overage of Asphalt shingle on the west and east facades. 25% maximum allowed, 48% on West and 46% on east proposed;
6. Planning deviation from section 3.1.12.D for not meeting the minimum required rear yard building setback. A minimum of 20 feet is required, four feet is proposed;
7. Planning deviation from section 3.1.12.D for not meeting the minimum required front yard parking setback. A minimum of 20 feet is required, ten feet is proposed;
8. Planning deviation from section 5.16 for not meeting the minimum required width for access path to the bike racks. A minimum of 20 feet is required, five to six feet is proposed;
9. Planning deviation from section 5.4.2 for lack of required loading zone, contingent on the restricted uses for this site; and
10. Planning deviation from section 4.19.2.F for allowing the dumpster in the interior side yard in lieu of required rear yard. We will comply with requirements of the trash collection services to ensure the dumpster is accessible.

Appendix C: List of PRO Conditions

Below are the PRO Conditions that would be associated with this project and be identified in the associate PRO Agreement:

1. The installation of sidewalk in front of the detention basin, immediately south of the subject site, to connect with right-of-way sidewalk improvements for this development (approximately 180 linear feet;
2. The planting of native shrubs along the right-of-way in front of the detention ponds to the south of the subject site and on the opposite side of Haggerty Road (5 native shrubs); and
3. The following principal permitted uses and/or special uses listed in the B-3 zoning district regulations are ***not permitted*** on the property, unless approved by the City of Novi:
 1. Retail business uses
 2. Retail business service uses
 3. Off-street parking lots
 4. Restaurants having the character of a drive in or having a drive-through window
 5. Theaters, assembly halls, concert halls, museums or similar places of assembly when conducted completely within enclosed buildings
 6. Business schools and colleges or private schools operated for profit
 7. Day Care Centers and Adult Day Care Centers
 8. Private clubs, fraternal organizations, and lodge halls
 9. Hotels and motels
 10. Mortuary establishments
 11. Auto wash
 12. Bus passenger stations
 13. New and used car salesroom, showroom, or office
 14. Tattoo parlors
 15. Outdoor space for exclusive sale of new or used automobiles, campers, recreation vehicles, mobile homes, or rental of trailers or automobiles
 16. Businesses in the character of a drive-in or open front store
 17. Plant materials nursery for the retail sale of plant materials and sales of lawn furniture, playground equipment and garden supplies
 18. Public or private indoor recreational facilities
 19. Mini-lube or quick oil change establishments
 20. Gasoline service station and automobile repair
 21. Motels, hotels, and transient lodging facilities
 22. Microbreweries
 23. Brewpubs

APPLICANT RESPONSE LETTERS



Powell
Engineering
& Associates, LLC

4700 Cornerstone Drive
White Lake, MI 48383
Phone: (248)714-9895
Fax: (248)694-9222
Email: help@powelleng.net

March 19, 2020

Lindsay Bell, Senior Planner
City of Novi
45175 Ten Mile Road
Novi MI, 48375

RE: Triangle Place, Preliminary Site Plan. JSP 16-09 Triangle Place
P.E. Job No. 18-472

Dear Lindsay:

This letter addresses the comments in the City's review Memo based on the March 05, 2020.

Review Concerns:

1. **Allowable uses:** The four bolded uses are added to Appendix "C" of the PRO Report prepare by C.I.B.

2. **Public Benefits:** Appendix "A" of the PRO Report by C.I.B. will be revised to match the City's memo. Also, the comment immediately following the public benefit review mentions the installation of a 500 ft. path on the West side of Haggerty as a previously sought-after benefit. The owner is not in need of any stormwater discharge on the West side of Haggerty road and is not proposing to extend this sidewalk. However, the owner is discharging stormwater into the drainage pond on the East side of the road and has agreed to extend the public sidewalk along the East side of Haggerty.

3. **Deviations:**

A) The deviations 1-7 as "SUPPORTED BY STAFF" will be added to Appendix "B" of the PRO Report prepare by C.I.B.

B) The deviations 2 and 3 as "SUPPORTED BY STAFF IF SATISFACTORY REVISIONS COMPLETED PRIOR TO PLANNING COMMISSION MEETING" will be added to Appendix "B" of the PRO Report prepare by C.I.B. Deviations 1 and 4 are not needed.

Deviation #1 – *Is not necessary* as the Bike Rack can be revised to be in compliance with the ordinance.

Deviation #2 – *Is necessary* and we are revising the allowable uses in Appendix “A” to be in compliance with City’s review letter.

Deviation #3 – *Is necessary* and the owner had previously contacted pick-up services for input on this layout. The owner will comply with pick-up services so as not to interfere with site operations or traffic.

Deviation #4 – *Is not necessary* as The Photometric Plan can be revised to comply with the ordinance.

4. **Gas Line Easement:** The owner agrees to get a letter of no objection from Buckeye Gas Line prior to final site plan approval. This language is being added to Appendix “C” of the PRO Report prepare by C.I.B.

5. **Engineering:** PRO Concept Plan meets the general requirements.

6. **Landscaping:** Please find the attached reponse letter from the Landscape Architect addressing the City’s memo.

7. **Traffic:** PRO Concept Plan meets the general requirements.

8. **Rezoning Traffic Study:** PRO Concept Plan meets the general requirements. The allowable use list is updated and a new traffic study will be needed for any use that raises concerns with the City.

9. **Wetlands & Woodlands:** As noted in the City’s memo there are no wetlands or woodlands.

10. **Façade:** The deviation is supported by staff.

11. **Fire:** PRO Concept Plan meets the general requirements.

Please find the attached response memo from the Landscape Architect and the Revised PRO Report by C.I.B. with Appendices. If you have any questions or comments, feel free to contact our office.

Sincerely,
POWELL ENGINEERING & ASSOCIATES



Michael C. Powell, P.E President





March 19, 2020

Mr. Rick Meader, PLA
Landscape Architect
City of Novi

**RE: Response to Landscape Review for Triangle Place
Project Number: JZ19-0017**

Dear Mr. Meader:

The comments provided in your Plan Review Center Report dated January 29, 2020 have been addressed as follows. Revisions will appear on the resubmitted site plan documents.

1. The landscape deviations will be added to sheet L-1
2. Additional ornamental grasses will be planted north of the sidewalk along the parking lot to screen from Haggerty Road.
3. The tree in the northeast corner of the parking lot will be moved to the northwest corner.
4. City of Novi standard note #7 on sheet L-2 will be changed to read 3 months instead of one year

If we can provide you any additional information, or answer any questions, please do not hesitate to contact our office.

Sincerely,
Vert Verde Landscape Architecture, LLC

James Gray, PLA
Principal

SITE PLANS FOR "TRIANGLE PLACE" CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

SCALE 1"=20'



LEGEND	
---	EXISTING STORM
---	EXISTING WATER MAIN
---	EXISTING SANITARY
---	EXISTING GAS
---	EX. CATCH BASIN
---	EX. MANHOLE
---	EX. END SECTION
---	SET IRON
---	EX. GUY WIRE
---	EX. POLE
---	EX. MANHOLE
---	EX. POLE HOLE
---	EX. SON
---	EX. TREE
---	PROP. SAN. STR. NUMBER
---	PROP. STA. STR. NUMBER
---	PROP. GATE VALVE NUMBER
---	EX. EX. HOLE
---	PROP. DOWNSPOUTS
---	PROP. FINISH FLOOR
---	PROP. DRAINAGE ARROW
---	PROP. TOP OF PAVEMENT ELEV.
---	PROP. TOP OF CURB ELEV.
---	PROP. GUTTER ELEV.
---	PROP. TOP OF WALK ELEV.
---	PROP. SPOT ELEV.
---	PROP. CONTOUR
---	PROP. CATCH BASIN
---	PROP. YARD BASIN
---	PROP. MANHOLE
---	PROP. END SECTION
---	PROP. DOWNSPOUT/YARD DRAIN PIPING
---	PROP. STORM SEWER
---	PROP. SANITARY SEWER
---	PROP. WATER MAIN
---	PROP. GATE VALVE
---	PROP. HYDRANT
---	PROP. HYDRANT NUMBER
---	SILT FENCE
---	TREE PROTECTION FENCE
---	C.D. (CLEAN OUT)

LEGAL DESCRIPTION

A PARCEL OF LAND IN THE SOUTHEAST 1/4 OF SECTION 36, TOWN 1 NORTH, RANGE 8 EAST, IN THE CITY OF NOVI, OAKLAND COUNTY, MICHIGAN BEGINNING AT A POINT DISTANT NORTH 01 DEGREES 52 MINUTES 04 SECONDS WEST 1175.00 FEET FROM THE SOUTHEAST CORNER, THENCE NORTH 86 DEGREES 04 MINUTES 35 SECONDS WEST 129.87 FEET, THENCE SOUTH 31 DEGREES 07 MINUTES 56 SECONDS WEST 94.67 FEET TO THE EASTERLY RIGHT OF WAY LINE, HAGGERTY ROAD, THENCE NORTH 27 DEGREES 21 MINUTES 11 SECONDS EAST 195.67 FEET, THENCE NORTH 18 DEGREES 36 MINUTES 25 SECONDS EAST 243.28 FEET TO THE EAST SECTION LINE, THENCE SOUTH 01 DEGREES 52 MINUTES 04 SECONDS EAST 332.54 FEET TO THE POINT OF BEGINNING.

NOTES:

- 1) ROOFTOP LIGHTING MUST BE SCREENED PER ORDINANCE REQUIREMENTS.
- 2) EXTERIOR LIGHTING MUST COMPLY WITH SECTION 2511 OF THE CITY OF NOVI CODE.
- 3) RIGHT OF WAY PERMIT IS REQUIRED FROM THE ROAD COMMISSION FOR OAKLAND COUNTY FOR ANY WORK IN THE HAGGERTY ROAD RIGHT-OF-WAY.
- 4) ALL SIGNS SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES (CHAPTER 28) OF THE CITY OF NOVI, AND WHERE REQUIRED SHALL BE REVIEWED AND APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY AND A PERMIT ISSUED.
- 5) ALL PARKING AND TRAFFIC CONTROL SIGNS SHALL COMPLY WITH THE DESIGN AND PLACEMENT REQUIREMENTS OF THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
- 6) NOTIFY THE CITY OF NOVI A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- 7) ALL CONSTRUCTION MUST BE CONFORMING TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF NOVI.
- 8) ALL UTILITIES TO BE UNDERGROUND.
- 9) CALL MISS DIG (800) 432-7171 A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- 10) ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON-SITE.
- 11) ALL EXCAVATION UNDER OR WITHIN A 1 ON 1 INFLUENCE OF PUBLIC PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED AND COMPACTED WITH SAND (CLASS II MDT).
- 12) THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
- 13) PRIOR TO ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.
- 14) NO DEWATERING IS ANTICIPATED. IF ANY DEWATERING IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE A DEWATERING PLAN TO THE CITY FOR REVIEW AND APPROVAL.

FIRE DEPARTMENT NOTES:

- 1) THE BUILDING ADDRESS IS TO BE POSTED FACING THE STREET THROUGHOUT CONSTRUCTION. THE ADDRESS IS TO BE AT LEAST 3 INCHES HIGH ON A CONTRASTING BACKGROUND.

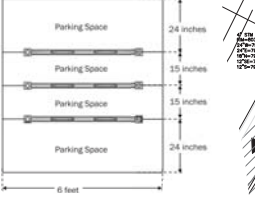
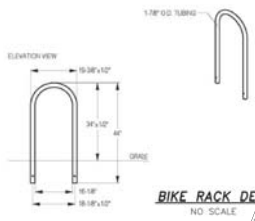
FLOODPLAIN NOTE:

ACCORDING TO THE NATIONAL FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 260175000S DATED MAY 3, 1993 THE SUBJECT PARCEL IS LOCATED IN ZONE "C" WHICH IS NOT A DESIGNATED FLOOD HAZARD AREA.

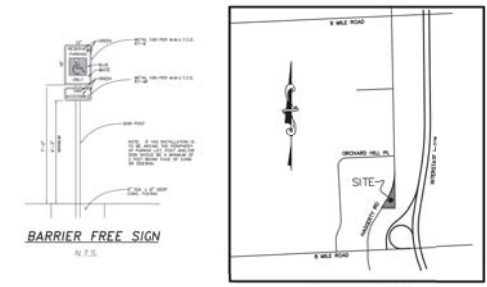
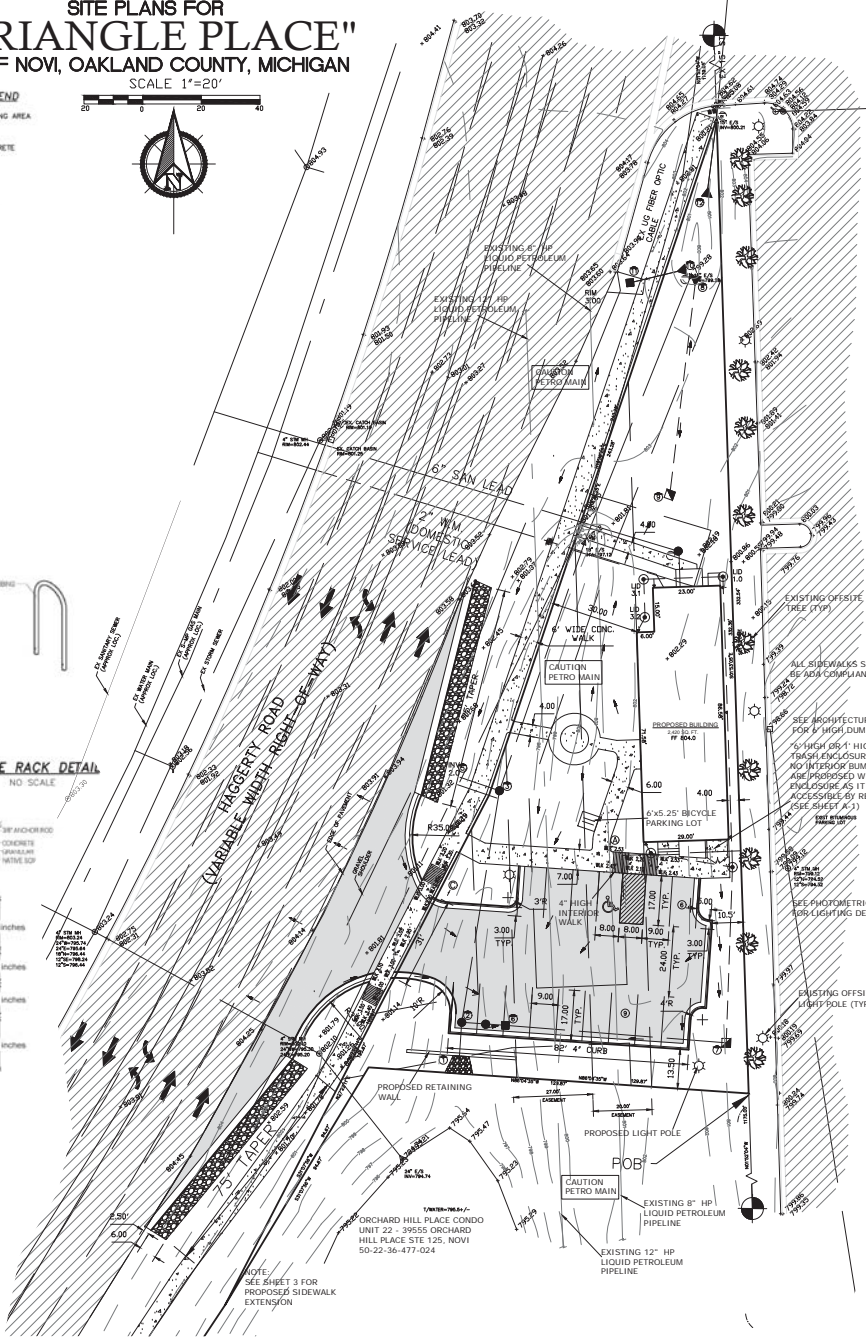
NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK OF PERSONS ENGAGED IN THE WORK OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

NOTE:

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.



NOTE: SEE SHEET 3 FOR PROPOSED SIDEWALK EXTENSION



OWNER/APPLICANT:
TROWBRIDGE COMPANIES
2617 BEACON HILL
AUBURN HILLS, MI 48326
(248) 373-4623 PH
(248) 373-6260 FAX

SITE PLAN:
EXISTING ZONING: IS
PROPOSED ZONING: OS-1 (WITH P.R.O.)
TAX ID: 50-22-36-476-006
GROSS ACREAGE: 0.48 AC
EXISTING WETLANDS: NONE
EXISTING WOODLANDS: NONE
BUILDING SETBACKS REQUIRED:
HAGGERTY ROAD: 30' MIN
EAST SIDE: 15' MIN
SOUTH SIDE: 20' MIN
PARKING SETBACKS REQUIRED:
HAGGERTY ROAD: 20' MIN
EAST SIDE: 10' MIN
SOUTH SIDE: 10' MIN.
OPEN SPACE: 0.27 AC, -0.27 AC, 0.48 AC = 56%
BUILDING HEIGHT = 20'-3" FT.

REQUIRED PARKING CALCULATION:
- TWO ENTRY DOORS
- PLANNED COMMERCIAL OR SHOPPING CENTERS
- 1 SPACE PER 250 GROSS LEASABLE AREA
- 2,220 SF GROSS LEASABLE AREA (GLA)
PARKING REQUIRED = 2220SF / 250SF = 8.88 OR 9 SPACES
PARKING REQUIRED = 11 SPACES

PARKING SPACE PAINT NOTES:
THE BARRIER FREE PARKING SPACE AND ACCOMPANYING ACCESS AISLE WILL BE MARKED IN BLUE. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY (WHEELCHAIR) SHOWN ON THE PAVEMENT MARKED IN WHITE. AND UNDESIGNATED PARKING SPACES MARKED IN WHITE. WHERE THE BARRIER FREE PARKING SPACE ABUTS THE FIRST UNDESIGNATED SPACE, THERE SHOULD BE ABUTTING BLUE AND WHITE LINES.

THE HATCH INDICATED IN THE TURNAROUND BAY SHOULD BE BORDERED ON THE SOUTH AND EAST SIDES AND CROSS-HATCHED WITH 4" HIGH YELLOW STRIPING 4 FOOT ON CENTER.

PROPRIETOR/DEVELOPER:
TROWBRIDGE HOMES OF HIDEAWAY, LLC
AGENT: BRUCE MICHAEL
TROWBRIDGE COMPANIES
247 BRACON HILLS DRIVE
AUBURN HILLS, MI 48326
248-355-2240

ENGINEER:
CIVIL ENGINEERING
MR. MICHAEL POWELL
POWELL ENGINEERING & ASSOCIATES
4700 CORNERSTONE DRIVE
WHITE LAKE, MI 48391

LANDSCAPE ARCHITECTURE SURVEYOR:
VERT VERDE LANDSCAPE ARCHITECTURE, LLC
JAMES GRAY
4900 ALBERT DRIVE
PLYMOUTH, MI 48170
734-398-5966

GREENTECH
5147 PONTIAC TRAIL
WYOMI, MI 48398
PHONE 248-668-6700

- SHEET INDEX**
- S1) SITE PLAN
 - S2) EXISTING CONDITIONS PLAN
 - S3) GRADING PLAN
 - S4) UTILITY PLAN
 - S5) STORM SEWER PROFILES
 - S6) SOIL EROSION CONTROL PLAN
 - S7) STORM WATER MANAGEMENT PLAN
 - LS-1) LANDSCAPE PLAN
 - LS-2) LANDSCAPE PLAN
- COVER SHEET**
- A1) COVER SHEET
 - A2) FLOOR PLAN
 - A3) ELEVATIONS
 - A4) ELEVATIONS
 - A5) DETAILS
 - A6) DETAILS
 - 10F1) PHOTOMETRIC PLAN
 - 20F1) CITY OF NOVI SANITARY SEWER DETAILS
 - 20F2) CITY OF NOVI SANITARY SEWER DETAILS
 - 10F1) CITY OF NOVI STORM SEWER DETAILS
 - 10F2) CITY OF NOVI WATER MAIN DETAILS
 - 20F2) CITY OF NOVI WATER MAIN DETAILS

TRAFFIC SIGNAGE

ITEM	MUTCD CODE	QUANTITY	SIZE	DESCRIPTION
R7-B		1	12" X 18"	WHEEL CHAIR SYMBOL
R7-BP		1	12" X 6"	VAN ACCESSIBLE SIGN
R1-1		1	24"	STOP SIGN

Consulting Civil Engineers
Engineering & Associates, LLC
4700 Cornerstone Drive, White Lake, Michigan 48393
P: 248.724.8895 F: 248.724.8895

Engineering & Associates, LLC

BEFORE YOU DIG
CALL MISS DIG
1-800-452-7171

**TRIANGLE PLACE
SITE PLAN
CITY OF NOVI**

ISSUE DATES

ISSUE	DATE
SITE PLAN	05-26-24
SITE PLAN	05-14-25

SCALE: AS SHOWN

S1

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LEGEND

---	EXISTING STORM	FF	FRESH FLOOR
---	EXISTING WATER MAIN	↑	PROP. DRAINAGE ARROW
---	EXISTING SANITARY	40' 40.00	PROP. TOP OF PAVEMENT ELEV.
---	EXISTING GAS	40' 40.00	PROP. TOP OF CURB ELEV.
□	EX. CATCH BASIN	40' 40.00	PROP. GUTTER ELEV.
○	EX. MANHOLE	40' 40.00	PROP. TOP OF WALK ELEV.
□	EX. END SECTION	40' 40.00	PROP. SPOT ELEV.
+	SET IRON	940	PROP. CONTOUR
•	EX. GUY WIRE	▲	PROP. CATCH BASIN
○	EX. TREE LINE	○	PROP. MANHOLE
○	EX. IRON	○	PROP. END SECTION
SE	EX. WOOD POLE	○	PROP. STORM SEWER
W	EX. PIONEER POLE	○	PROP. SANITARY SEWER
W	EX. SON	○	PROP. WATER MAIN
W	EX. TREE	○	PROP. GATE VALVE
○	PROP. SAN. STR. NUMBER	○	PROP. HYDRANT
○	PROP. STM. STR. NUMBER	○	PROP. SAN. STR. NUMBER
○	PROP. GATE VALVE NUMBER	○	PROP. STM. STR. NUMBER
○	PROP. HYDRANT NUMBER	○	PROP. GATE VALVE NUMBER
○	SALT FENCE	○	PROP. HYDRANT NUMBER
○	TREE PROTECTION FENCE	○	

LEGAL DESCRIPTION

A PARCEL OF LAND IN THE SOUTHEAST 1/4 OF SECTION 36, TOWN 1 NORTH, RANGE 8 EAST, IN THE CITY OF NOVI, OAKLAND COUNTY, MICHIGAN BEGINNING AT A POINT DISTANT NORTH 01 DEGREES 52 MINUTES 04 SECONDS WEST 1175.00 FEET FROM THE SOUTHEAST SECTION CORNER, THENCE NORTH 86 DEGREES 04 MINUTES 35 SECONDS WEST 129.97 FEET, THENCE SOUTH 31 DEGREES 07 MINUTES 56 SECONDS WEST 84.67 FEET TO THE EASTERLY RIGHT OF WAY LINE, HAGGERTY ROAD, THENCE NORTH 27 DEGREES 22 MINUTES 11 SECONDS EAST 185.67 FEET, THENCE NORTH 18 DEGREES 36 MINUTES 29 SECONDS EAST 243.28 FEET TO THE EAST SECTION LINE, THENCE SOUTH 01 DEGREES 52 MINUTES 04 SECONDS EAST 332.54 FEET TO THE POINT OF BEGINNING.

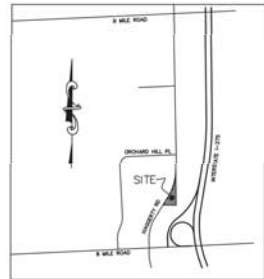
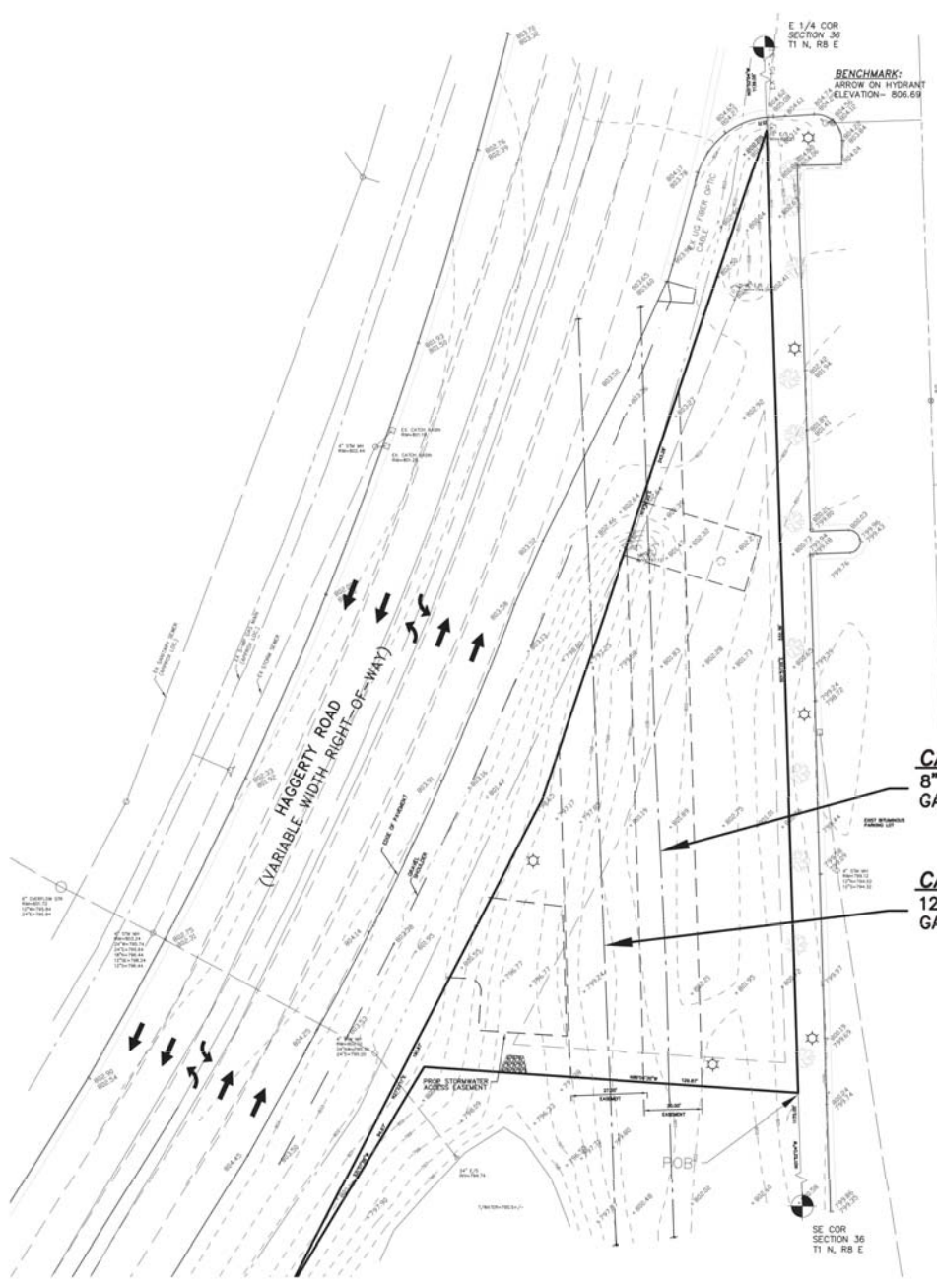
BENCHMARKS:
 BM #1
 CITY REF. #36-8
 BRASS TABLET ON NORTHEAST CORNER SECTION 2, NORTHVILLE TOWNSHIP, 52' ± SOUTH OF 8 MILE ROAD, 5' ± WEST OF CENTERLINE OF MEADOWBROOK
 ELEVATION - 868.87
 BM #2
 ARROW ON HYDRANT, NORTHEAST CORNER OF SITE ALONG EAST SIDE OF HAGGERTY ROAD.
 ELEVATION - 806.69

FLOODPLAIN NOTE:
 ACCORDING TO THE NATIONAL FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 2601750006C DATED MAY 3, 1993 THE SUBJECT PARCEL IS LOCATED IN ZONE "C" WHICH IS NOT A DESIGNATED FLOOD HAZARD AREA.

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OWNER/APPLICANT:
 TROWBRIDGE COMPANIES
 2617 BEACON HILL
 AUBURN HILLS, MI 48326
 (248) 373-4603 PH
 (248) 373-1260 FAX

CAUTION
 8" HIGH PRESSURE
 GAS PIPELINE

CAUTION
 12" HIGH PRESSURE
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**TRIANGLE PLACE
 EX. CONDITIONS PLAN**
 TRIANGLE PLACE
 CITY OF NOVI

ISSUE DATES

SITE PLAN	03-07-19
STREETS	01-13-20

DRAWN: BSB
 DESIGNED: BSB
 APPROVED: MCP
 I.E. JOB NO. 18-072
 SCALE: AS SHOWN
AS



Triangle Place Engineering & Associates, LLC
1700 Cambridge Drive, White Lake, Michigan 48190
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TRIANGLE PLACE GRADING PLAN

TRIANGLE PLACE
CITY OF NOVI

ISSUE DATES

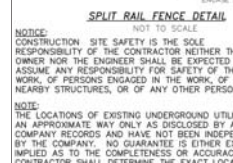
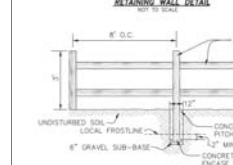
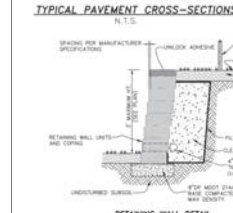
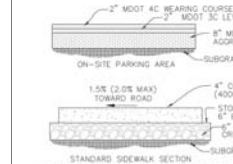
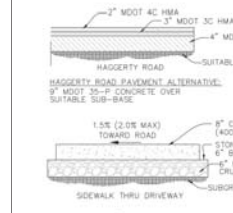
DATE	03-26-17
SITE PLAN	03-26-17
SCALE	AS SHOWN

DRAWN	BBB
DESIGNED	BBB
APPROVED	BBB
P.L.S. NO.	15-472
SCALE	AS SHOWN

S3

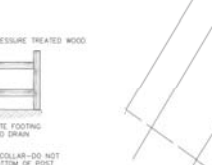
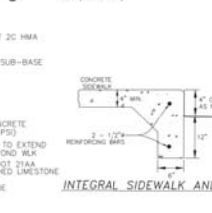
LEGEND

EXISTING STORM	FF	FINISH FLOOR
EXISTING WATER MAIN	—	PROP. DRAINAGE ARROW
EXISTING SANITARY	—	PROP. TOP OF PAVEMENT ELEV.
EXISTING GAS	—	PROP. TOP OF CURB ELEV.
EX. CATCH BASIN	—	PROP. OUTER ELEV.
EX. MANHOLE	—	PROP. TOP OF WALK ELEV.
EX. END SECTION	—	PROP. SPOT ELEV.
SET IRON	—	PROP. CONTOUR
EX. GUY WIRE	—	PROP. CATCH BASIN
EX. TREE LINE	—	PROP. YARD BASIN
FD. IRON	—	PROP. MANHOLE
EX. WALDOX	—	PROP. END SECTION
EX. POWER POLE	—	PROP. WATER MAIN
EX. SIGN	—	PROP. GATE VALVE
PROP. SANITARY STORM No.	—	PROP. HYDRANT
EX. STORM LABEL	—	PROP. HYDRANT NUMBER
PROP. STORM STRUCTURE No.	—	SILT FENCE
EX. STORM LABEL	—	TREE PROTECTION FENCE
PROP. GATE VALVE NUMBER	—	PROP. DOWNSPOUTS
EX. HYDRANT	—	C.O. (CLEAN OUT)



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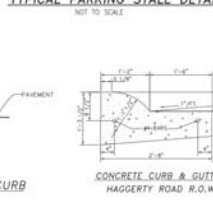


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BM #2
IRON ON HYDRANT, NORTHEAST CORNER OF SITE ALONG EAST SIDE OF HAGGERTY ROAD.
ELEVATION - 806.69

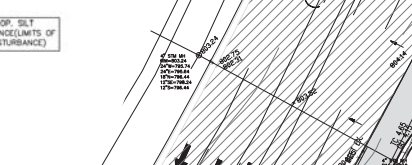
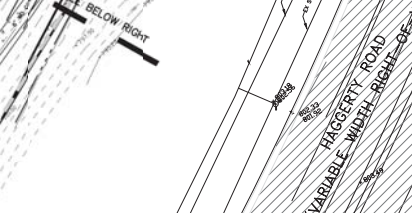
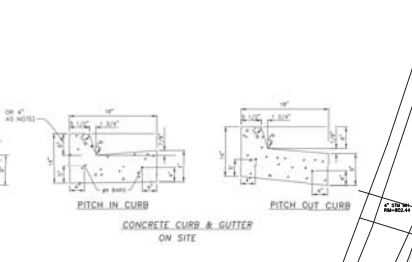
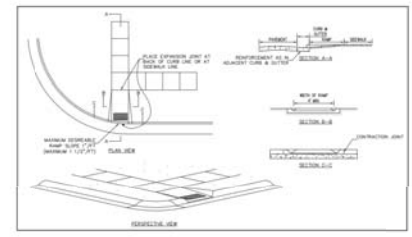


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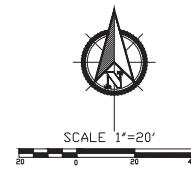
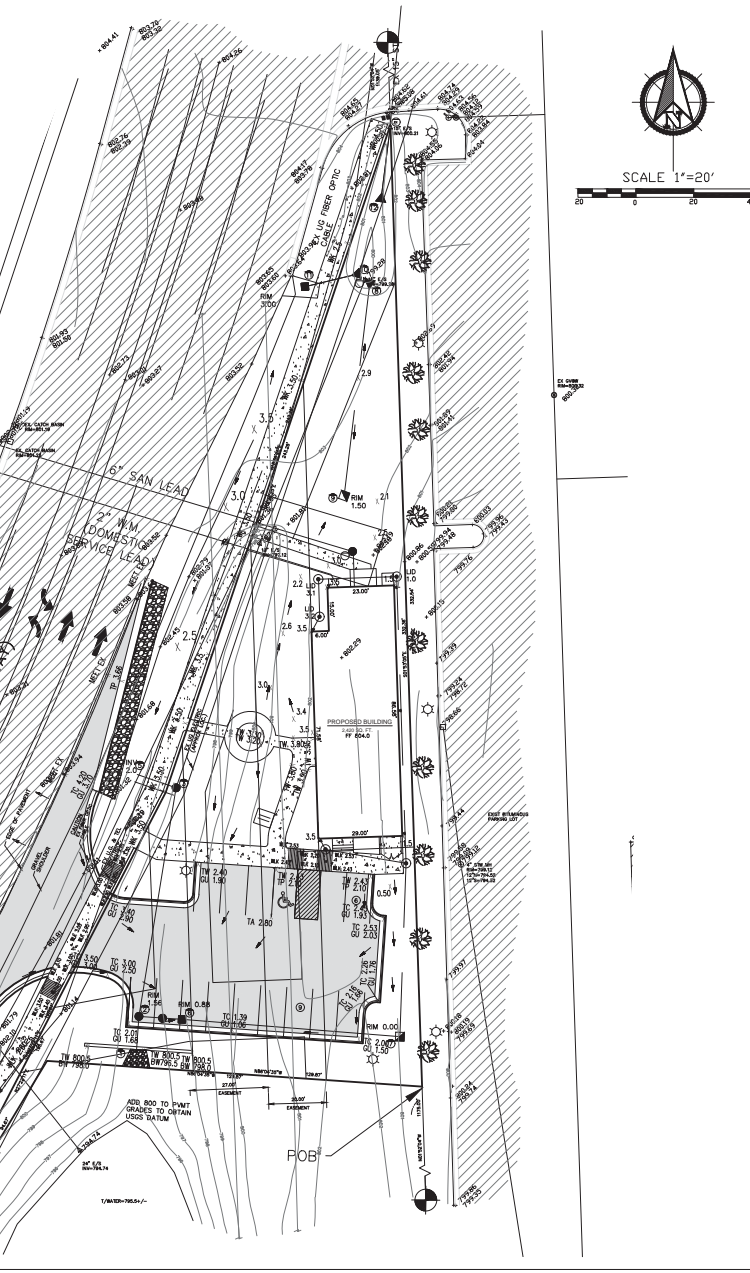


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ELEVATION - 806.69



NOTE: ALL EXCAVATIONS WITHIN A 1:1 INFLUENCE OF THE HAGGERTY ROAD ROADWAY SHALL BE BACKFILLED WITH MDOT CLASS II BACKFILL COMPACTED TO 95% MAXIMUM DENSITY.

NOTE: THE RIGHT-OF-WAY PATHWAY TO MATCH EXISTING GRADE AT BOTH ENDS.

NOTE: ALL EXCAVATIONS WITHIN A 1:1 INFLUENCE OF THE HAGGERTY ROAD ROADWAY SHALL BE BACKFILLED WITH MDOT CLASS II BACKFILL COMPACTED TO 95% MAXIMUM DENSITY.

NOTE: 1. REMOVE OR RELOCATE ALL FIXED OBJECTS FROM WITHIN THE HAGGERTY ROAD RIGHT-OF-WAY PRIOR TO EXCAVATION.
2. ANY SIGHT DISTANCE OBSTRUCTIONS TO BE REMOVE OR RELOCATED.
3. NO MORE THAN 1/4" VERTICAL OBSTACLE SHALL BE ALLOWED AT EACH TRANSITION BETWEEN THE PATHWAY AND THE DRIVE APPROACH OF HAGGERTY ROAD.

THE RIGHT-OF-WAY PATHWAY MUST MATCH EXISTING GRADES AT BOTH ENDS.



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1-800-482-7171

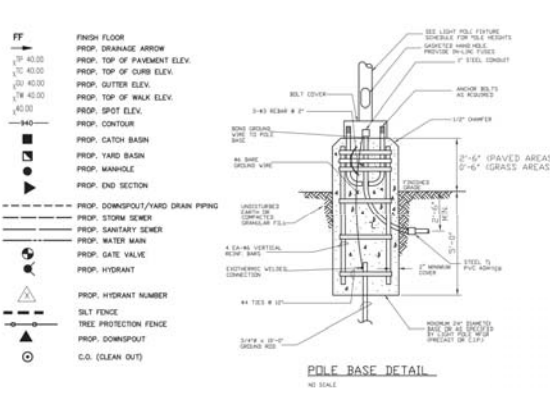
**TRIANGLE PLACE
UTILITY PLAN**
TRIANGLE PLACE
CITY OF NOVI

ISSUE DATES
SITE PLAN 05-05-19
SITE PLAN 05-14-20

SCALE AS SHOWN
S4

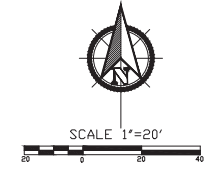
LEGEND

EXISTING STORM	EXISTING WATER MAIN	EXISTING SANITARY	EXISTING GAS	EX. CATCH BASIN	EX. MANHOLE	EX. END SECTION	SET IRON	EX. CUT WIRE	EX. TREE LINE	FD. IRON	EX. WALKWAY	EX. POWER POLE	EX. SIGN	EX. TREE	PROP. SANITARY STORM NO.	EX. STORM LABEL	PROP. STORM STRUCTURE NO.	EX. STORM LABEL	PROP. GATE VALVE NUMBER	EX. HYDRANT	PROP. DOWNSPOUTS	
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NOTES
NO PLANTING AREAS ARE ALLOWED OVER OR WITHIN THE INFLUENCE OF THE PROPOSED UNDERGROUND DETENTION SYSTEM.
ALL PROPOSED UTILITY CROSSINGS TO BE APPROVED BY CONSUMERS ENERGY.

BENCHMARKS:
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BRASS TABLET ON NORTHEAST CORNER SECTION 2, NORTHVILLE TOWNSHIP, 52' +/- SOUTH OF 8 MILE ROAD, 5' +/- WEST OF CENTERLINE OF MEADOWBROOK ELEVATION- 868.87
BM #2
ARROW ON HYDRANT, NORTHEAST CORNER OF SITE ALONG EAST SIDE OF HAGGERTY ROAD. ELEVATION- 808.69



SANITARY LEAD SHALL BE BURIED AT LEAST 5 FT BELOW THE INFLUENCE OF PAVEMENT.

ROOF DRAIN COLLECTOR PIPES SHALL BE A MIN OF 8" IN DIAMETER, MIN 0.5% SLOPE, AND MIN OF 2 FT. BURY DEPTH

CASTING SCHEDULE

STORM SEWER	STRUCTURE	TYPE	RM ELEV	INVERT OUT	INVERT IN	CASTING	NOTES
1	0M4 HEADWALL		801.95	2475 795.65	187N 796.54	12PE 796.00	EJW 1040 TYPE 'W'
2	12\"/>						

QUANTITIES:

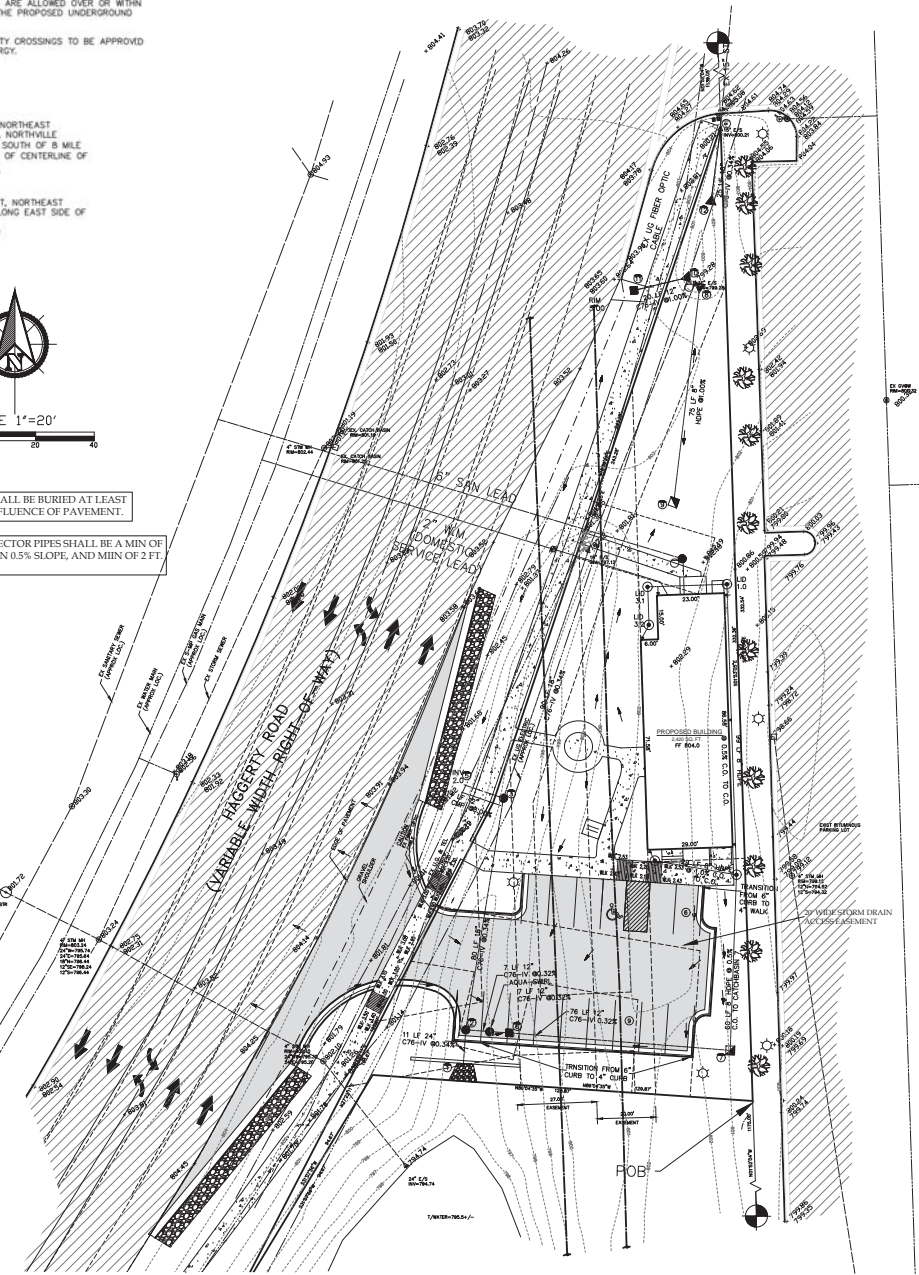
ITEM	QUANTITY	EA	LF
Sanitary Sewer			
6" Sanitary Sewer Lead (SDR 23.5)	178	EA	
Monitoring Manhole	1	EA	
Water Main			
Water Service Shut Off	1	EA	
2" Water Service	147	LF	
Storm Sewer			
12" C76-IV Storm Sewer	109	LF	
15" C76-IV Storm Sewer	25	LF	
18" C76-IV Storm Sewer	182	LF	
6" HDPE Storm Sewer	228	LF	
8" HDPE Storm Sewer	75	LF	
12" 16 Ga CMP Culvert	14	LF	
2" Inlet	1	EA	
2" Yard Basin	2	EA	
4" Manhole	2	EA	
12" Concrete End Section	1	EA	
18" Concrete End Section	1	EA	
AquaSwift AS-2 Mechanical Chamber	1	EA	

UTILITY CROSSING SCHEDULE

CROSSING	UTILITY	X-ING ELEV.	@ UTILITY	X-ING ELEV.	CLEARANCE
A	6" SANITARY LEAD	INV+799.30	12" HP GAS MAIN	TYP+193.5 +/-	5.8'
B	6" SANITARY LEAD	INV+799.60	8" HP GAS MAIN	TYP+192.4 +/-	7.2'
C	2" WATER SERVICE	INV+799.50	12" HP GAS MAIN	TYP+193.5 +/-	6.0'
D	2" WATER SERVICE	INV+800.00	8" HP GAS MAIN	TYP+192.4 +/-	7.6'
E	12" STORM SEWER	INV+795.78	12" HP GAS MAIN	TYP+193.0 +/-	2.6'
F	12" STORM SEWER	INV+795.85	8" HP GAS MAIN	TYP+192.8 +/-	3.0'
G	6" SANITARY LEAD	INV+800.05	6" DOWNSPOUT STMT	TYP+198.54	1.5'

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LEGEND

		MANHOLE	TC	TOP OF CURB
		CATCH BASIN	TP	TOP OF PAVEMENT
		END SECTION	G	GROUND
		CL DITCH	EM	EDGE OF METAL
		GUTTER	OU	OUTLET
		FINISH GRADE	FG	FINISH GRADE
		FINISH FLOOR	FF	FINISH FLOOR
		STORM STRUCTURE NO.		
		STRUCTURE PROTECTION		
		C.O. (CLEAN OUT)		

SOIL EROSION CONTROL NOTES:

- 1) SOIL EROSION PROTECTION MEASURES MUST BE INSPECTED FOR PROPER LOCATION AND INSTALLATION PRIOR TO ANY EARTH DISTURBANCE ON THE SITE.
- 2) ALL DISTURBED AREAS MUST BE STABILIZED BY SEED & MULCH AND/OR HYDROSEEDING AND INSTALLATION OF BIODEGRADABLE SOIL EROSION CONTROL BLANKETS IMMEDIATELY FOLLOWING COMPLETION OF WORK.
- 3) STREETS AND CURBS MUST BE KEPT FREE OF ALL ON-SITE EROSION.
- 4) CATCH BASINS MUST BE PROTECTED AND MAINTAINED FROM ANY SOIL EROSION CAUSED BY THE CONSTRUCTION OF THIS SITE USING APPROVED METHODS.
- 5) SHOULD THE TOWNSHIP AND/OR OAKLAND COUNTY EROSION CONTROL DEEM IT NECESSARY, PROVIDE A MINIMUM 10' WIDE BY 30' LONG 8" AGGREGATE MUD MAD INSTALLED OVER A GEO-TEXTILE FABRIC ON THE EXISTING ENTRY DRIVE.
- 6) THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY THE OWNER.

SEQUENCE OF CONSTRUCTION:

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AND INITIAL SILT FENCE AS INDICATED ON THE PLANS.
3. COMMENCE LAND BALANCE AND MASS GRADING OPERATIONS. MAINTAIN A MINIMUM 5' BUFFER OF EXISTING VEGETATION AROUND PERIMETER WHENEVER POSSIBLE. STOCKPILES SHOULD BE LOCATED AWAY FROM EXISTING DRAINAGE FACILITIES. SILT FENCE WILL BE INSTALLED SURROUNDING ANY STOCKPILED MATERIAL.
4. INSTALL UNDERGROUND UTILITIES.
5. INSTALL INLET PROTECTION FILTERS ON ALL NEW CATCH BASINS AND INLETS.
6. INSTALL PAVEMENT
7. COMPLETE BUILDING CONSTRUCTION.
8. REPLACE STONE FILTERS AS NEEDED.
9. REMOVE ALL REMAINDER TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND CLEAN AQUADRAIN. STRUCTURE ONCE PERMANENT MEASURES ARE ESTABLISHED.

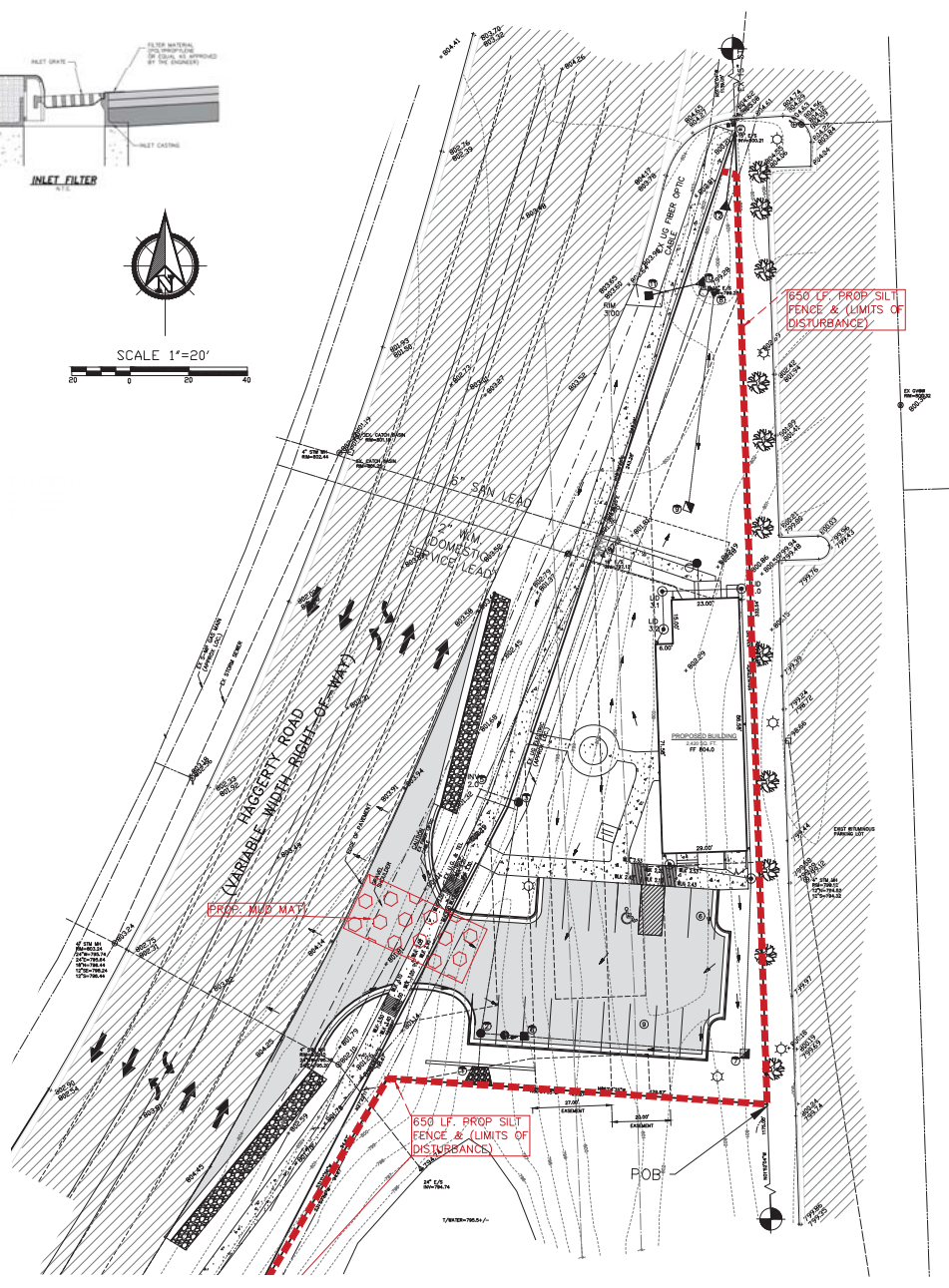
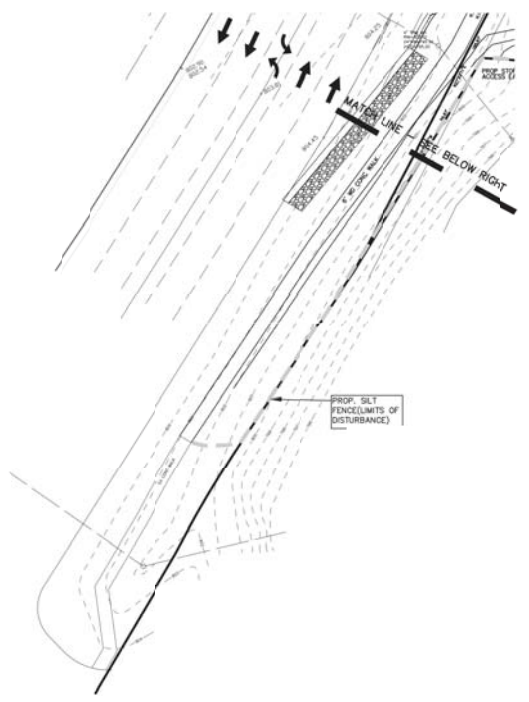
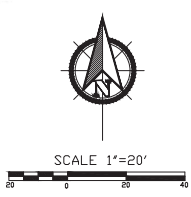
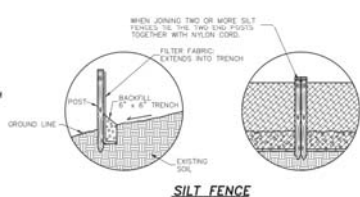
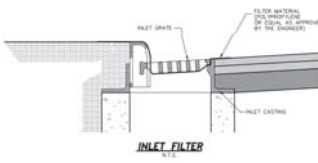
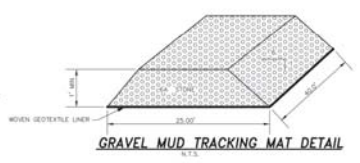
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ARROW ON HYDRANT, NORTHEAST CORNER OF SITE ALONG EAST SIDE OF HAZZERTY ROAD.
ELEVATION= 806.69

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A



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Foran Engineering & Associates, LLC

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**TRIANGLE PLACE
SOIL EROSION CONTROL PLAN**

TRIANGLE PLACE
CITY OF NOVI

ISSUE DATES

ISSUE NO.	DATE
1	05-14-20

DRAWN: SSS
DESIGNED: SSS
APPROVED: MCF
P.E. JOB NO.: 18-142
SCALE: AS SHOWN

56

STORM WATER DETENTION CALCULATIONS

PRE DEVELOPMENT RUNOFF COEFFICIENT CALCULATION

LAND USE	AREA (A) (acres)	RUNOFF COEFFICIENT (C)
BLDG & WALKS	0.00	0.95
PAVEMENT & PARKING	0.00	0.95
OFF-SITE PAVEMENT	0.00	0.95
OPEN SPACE AREA	0.35	0.35

TOTAL AREA 0.35

CALCULATE THE WEIGHTED RUNOFF COEFFICIENT:

$$C = \frac{\sum(A_i \times C_i)}{A} = \frac{(0.00 \times 0.95) + (0.00 \times 0.95) + (0.00 \times 0.95) + (0.35 \times 0.35)}{0.35} = 0.35$$

PRE-DEVELOPMENT SITE RUNOFF

USING RATIONAL FORMULA Q=CIA WITH INITIAL TIME OF CONCENTRATION OF 15 MINUTES

$$C = 0.35$$

$$I = 2.75 \times 15^{0.083} = 6.875$$

$$Q = 100 \times C \times I \times A = 0.35 \times 6.875 \times 0.35 = 0.11 \text{ CFS}$$

THE PRE-DEVELOPMENT SITE RUNOFF IS 0.11 CFS

POST DEVELOPMENT RUNOFF COEFFICIENT CALCULATION

LAND USE	AREA (A) (acres)	RUNOFF COEFFICIENT (C)
BLDG & WALKS	0.07	0.95
PAVEMENT & PARKING	0.15	0.95
OFF-SITE PAVEMENT	0.03	0.95
OPEN SPACE AREA	0.10	0.35

TOTAL AREA 0.35

CALCULATE THE WEIGHTED RUNOFF COEFFICIENT:

$$C = \frac{\sum(A_i \times C_i)}{A} = \frac{(0.07 \times 0.95) + (0.15 \times 0.95) + (0.03 \times 0.95) + (0.10 \times 0.35)}{0.35} = 0.78$$

Calculation of Required Discharge/Acre (100 yr)

$$Q_o = (Q_o) \times (A) \times (C) = 0.19 \text{ cfs/acre imp.}$$

$$T = 25 + \left(\frac{10312.5 \times Q_o}{0.5} \right)^{0.5} = 206.57 \text{ min}$$

Storage Volume Required:

$$V_s = (165000 \times T) \times (T + 25) - 400 \times (T) = 13129.68 \text{ cf/acre imp.}$$

$$V_t = (V_s) \times (A) \times (C) = 3.584 \text{ cf}$$

First Flush (5 dimension Basin)

Treat storm water for a 1 year storm event (1.6 in)

$$Q = CIA = 0.78 \times 1.6 \times 0.35 = 0.436 \text{ cfs}$$

From table on the right choose an AquaSwirl AS 2

5.5.19 THE CURRENT LAYOUT SHOWS A REDUCTION IN IMPERVIOUS AREA DUE TO THE REMOVAL OF THE EXISTING PAVEMENT BEING REMOVED (67 AC) THAT WILL REDUCE THE AMOUNT OF DRAINAGE BY A SIGNIFICANT AMOUNT AND THE CALCULATIONS HAVE NOT BEEN REVISED.

VOLUME PROVIDED

DUE TO THE LACK OF AVAILABLE LAND TO PROVIDE ABOVE GRADE STORAGE AS A MORE EFFICIENT MEANS OF STORM WATER STORAGE DETERMINE THE RELIEF IN ELEVATION IF STORM WATER IS TREATED AND THEN DISCHARGED INTO THE POND TO THE SOUTH.

From Oakland County GIS and shown in the attached aerial the High Water of the pond is estimated at 790 with an area of 33,048 sq ft

Change of Elevation of the Pond (100 yr) to storm water from Triangle Place =

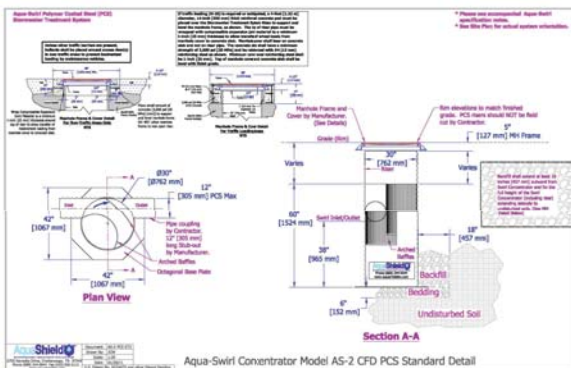
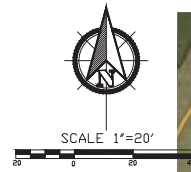
$$3584 \text{ cuft} / 33,048 \text{ sqft} = 0.1084 \text{ ft}$$

Therefore meets storage requirements



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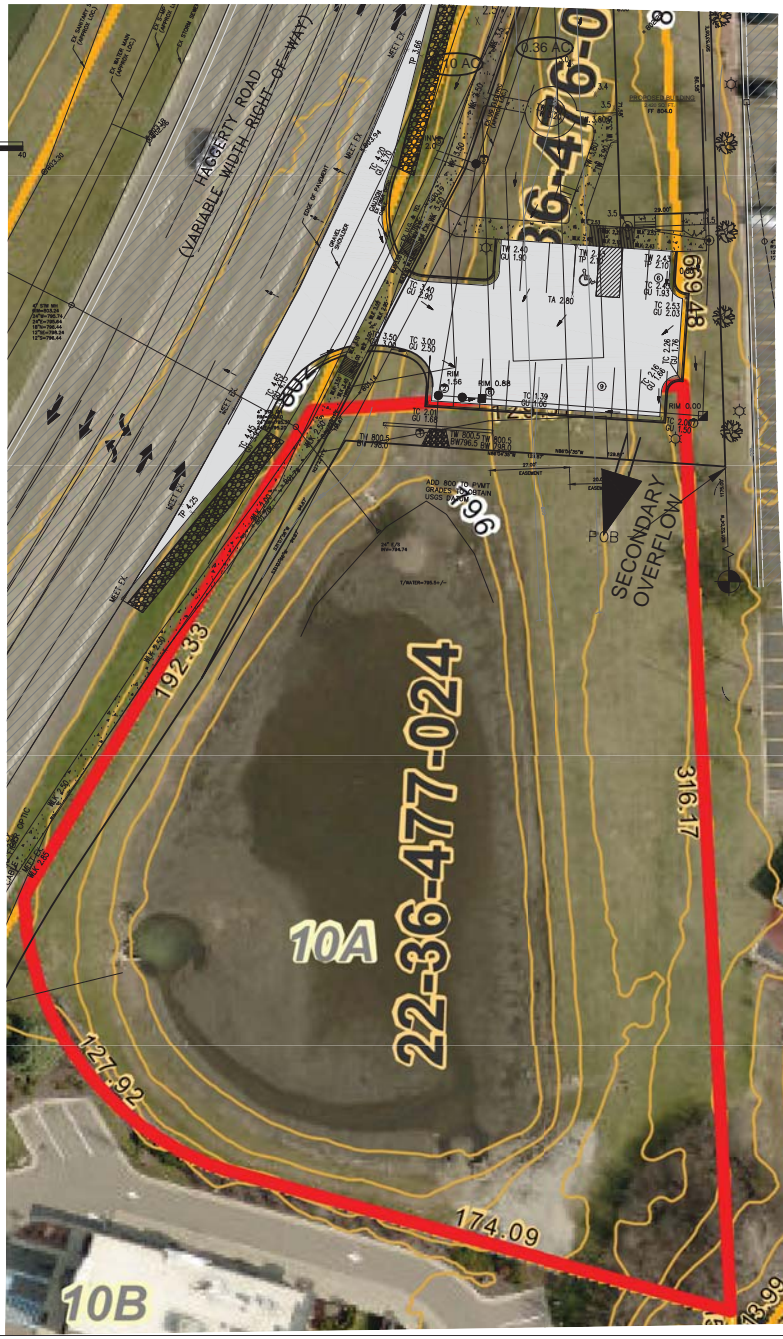


Aqua-Swirl™ Sizing Chart (English)

Aqua-Swirl™ Model	Unit Chamber Diameter (ft.)	Maximum Stub-Out Pipe Outer Diameter (in.)	Water Quality Treatment Flow* (cfs)	Oil/Debris Storage Capacity (gal)	Sediment Storage Capacity (ft³)	
AS-2	2.50	8	12	11	37	10
AS-3	3.25	10	16	18	110	20
AS-4	4.25	12	18	32	190	32
AS-5	5.00	12	24	44	270	45
AS-6	6.00	14	30	63	390	65
AS-7	7.00	16	36	86	540	90
AS-8	8.00	18	42	112	710	115
AS-9	9.00	20	48	142	910	145
AS-10	10.0	22	54	175	1130	180
AS-12	12.0	24	48	252	1698	270
AS-XX	Custom	--	--	>36	--	--

- The Aqua-Swirl™ Conveyance Flow Division (CFD) provides full treatment of the "first flush" while the peak design storm is diverted and channeled through the main conveyance pipe. Please refer to your local representative for more information.
- Many regulatory agencies are establishing "water quality treatment flow rates" for their areas based on the initial movement of pollutants into the storm drainage system. The treatment flow rate of the Aqua-Swirl™ system is engineered to meet or exceed the local water quality treatment criteria. This "water quality treatment flow rate" typically represents approximately 90% to 95% of the total annual runoff volume.

The design and orientation of the Aqua-Swirl™ generally entails some degree of customization. For assistance in design and specific sizing using historical rainfall data, please refer to an AquaSwirl™ representative or visit our website at www.AquaSwirl.com. CAD details and specifications are available upon request.



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**TRIANGLE PLACE
STORM WATER MNGMT PLAN**

ISSUE DATES

SITE PLAN	05/17/19
SITE PLAN	05/14/20

DRAWN	BBB
DESIGNED	BBB
APPROVED	MCP
P.E. JOB NO.	18-472
SCALE	AS SHOWN
S7	

City of Novi Landscape Specifications

1. Whenever in this Ordinance landscape plantings are required or permitted, they shall be planted in accordance with the approved final stamped landscape plan.
2. All plant materials shall be installed between March 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 1.5 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 March 15th to November 15th planting season. Where exceptional circumstances related to the inability to plant during the approved installation period a financial guarantee of 1.5 times the cost of any deficiencies will be held until inspection occurs for a Final Certificate of Occupancy. 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 remove those items.
3. A City representative will perform landscape inspections following a request from the developer. The inspection time period is from March 15th to November 15th. A City representative will not be responsible for re-inspection November 15th to March 31. A financial guarantee is to be provided based on 2.25 times the amount requested for a Temporary Certificate of Occupancy or called in sooner. Requiring March 31st, the Applicant then has 30 days to complete items or the City will cash in the amount being held and finish the job.
4. The establishment period for the plant materials shall occur beginning on 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 and established condition at the time of the inspection. At the end of the establishment period, any plantings, which are 20% dead or greater, shall be replaced.
5. Notice of installation/irrigation:
 - (a) The owner or developer must notify the City of the installation schedule. The City may reject any material which is defective or in general poor condition.
 - (b) Minor changes regarding plant materials per the approved and stamped landscape plan may be allowed upon written notification to, and written approval by, the City Landscape Architect of species, size, change, and location.
 - (c) 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/species/size/age/height, exhibiting same design characteristics (mature height, color), 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.
6. Maintenance:
 - (a) 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.
 - (b) 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 the City may attach to the responsible entity. Such instrument shall also include provisions that all unhealthy and dead material shall be replaced within one (1) year or the next appropriate planting period, whichever occurs first. All landscaped areas shall be provided with an irrigation system: tree stakes, guy wires and tree wrap are to be removed after one winter season, provided with a guarantee for the (2) year establishment period. If shrubs or trees are allowed to die, 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 instances.
 - (c) Responsibility and Certificate of Occupancy: The owner of the property subject to the requirements of this Section shall be responsible for installing and maintaining, or landscaping the approved final landscape plan as specified in the Section. Where the property is occupied by a person other than the owner, the occupier shall also be responsible for maintenance. All landscape work required pursuant to this Section shall be treated as a site improvement for purposes of Subsections 3005.8-9.

* These requirements supersede all other planting requirements or specifications.

Site Landscape Calculations

INTERIOR PARKING AREA LANDSCAPE REQUIREMENTS: (P)

A. TOTAL SF LANDSCAPE REQUIRED: 362 sf (4.817 / 075)
TOTAL SF LANDSCAPE PROVIDED: 600 sf

B. N/A

C. TOTAL SF OF LANDSCAPED AREAS: 362 (C-A+B) OR (362-0 = 362SF)

D. REQUIRED CANOPY TREES IN PARKING: 362 SF (C / 200)
TOTAL TREES REQUIRED: 2
TOTAL TREES PROVIDED: 2

F. A MINIMUM OF ONE CANOPY TREE PER 35 LF OF PARKING LOT PERIMETER IS REQUIRED (260 / 110) LF / 35 = 4
Note: 110 ft is in existing utility easements, applicant requests a waiver that this length not be included in the calculation

TOTAL CANOPY TREES REQUIRED: 4
TOTAL CANOPY TREES PROVIDED: 4

R.O.W. STREET TREE REQUIREMENTS: (B)

HAGGERTY ROAD:
Note: 90 ft is in existing utility easements, applicant requests a waiver that this length not be included in the calculation

TOTAL R.O.W. TREES REQUIRED: 7 (255-95-90)/35
TOTAL R.O.W. TREES PROVIDED: 7

GREENBELT REQUIRED LANDSCAPE: (G)

CANOPY / EVERGREEN TREES

HAGGERTY ROAD:
165 LF NOT ADJ. TO PARKING / 40 = 4 TREES (255-90)/60
85 LF ADJACENT TO PARKING / 35 = 2 TREES

Note: 90 ft is in existing utility easements, applicant requests a waiver that this length not be included in the calculation

TOTAL CANOPY / EVERGREEN TREES REQUIRED: 5
TOTAL CANOPY / EVERGREEN TREES PROVIDED: 5

SUB-CANOPY TREES

HAGGERTY ROAD:
230 LF NOT ADJ. TO PARKING / 40 = 6 TREES (218-90)/40
85 LF ADJACENT TO PARKING / 20 = 4 TREES

Note: 90 ft is in existing utility easements, applicant requests a waiver that this length not be included in the calculation

TOTAL SUB-CANOPY TREES REQUIRED: 10
TOTAL SUB-CANOPY TREES PROVIDED: 10

BUILDING FOUNDATION REQUIRED LANDSCAPE:

231 ft x 8 = 1,849 SF LANDSCAPE REQUIRED
1,849 SF LANDSCAPE PROVIDED

City of Novi Maintenance Notes

MAINTENANCE OR REQUIRED PLANTINGS BY THE OWNER SHALL BE CARRIED OUT SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPEARANCE FREE FROM REFUSE AND DEBRIS. ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN THREE MONTHS, OR THE NEXT APPROPRIATE PLANTING PRIOR, WHICHEVER OCCURS FIRST.

ALL LANDSCAPED AREAS SHALL BE PROVIDED AND AUTOMATIC IRRIGATION SYSTEM (SEE ATTACHED PLANS)

TREE STAKES, GUY WIRES AND TREE WRAP SHALL BE REMOVED AFTER ONE WINTER SEASON.

PLANTINGS SHALL BE GUARANTEED FOR TWO (2) GROWING SEASONS AFTER DATE OF THE ACCEPTANCE OF 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 ACCESS THE COST OF SUCH ABATEMENT MEASURES IN THE MANNER PROPOSED BY THE DEVELOPER AND APPROVED BY THE CITY IN SUCH INSTRUMENT.

City of Novi Standard Notes

ALL LANDSCAPE MATERIALS, INSTALLATION, AND MAINTENANCE SHALL COMPLY WITH SECTION 5.5

ALL PLANT MATERIAL SHALL BE LOCALLY GROWN OR OF THIS NORTH MIDWEST AMERICAN REGION AND CONFORM TO THE CURRENT AASD STANDARDS, USE NO. 1 GRADE PLANT MATERIAL.

PLANTING PERIOD SHALL BE: NO EARLIER THAN MARCH 15 AND NO LATER NOV. 15 ANTICIPATED: 2019-2020

ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION FREE OF WEEDS AND DEBRIS WITH ONE CULTIVATION FOR WEED CONTROL PER MONTH DURING JUNE, JULY AND AUGUST. THIS ESTABLISHMENT PERIOD SHALL BE TWO (2) YEARS FROM THE DATE OF APPROVAL OF PLANTINGS BY THE CITY OF NOVI. REPLACEMENT OF ANY FAILING PLANT MATERIAL, INCLUDING TREES, SHALL BE GUARANTEED DURING THE TWO (2) YEAR ESTABLISHMENT PERIOD. FAILING PLANT MATERIAL SHALL BE REPLACED WITHIN THREE MONTHS, OR THE NEXT GROWING SEASON.

ALL LANDSCAPE AREAS SHALL BE IRRIGATED BY AN AUTOMATIC IRRIGATION SYSTEM.

ALL TREE WRAP, STAKES AND GUY WIRES SHALL BE REMOVED AFTER ONE WINTER SEASON.

NO PLANTINGS GREATER THAN 12" HIGH SHALL BE PLANTED WITHIN TEN (10) FEET OF FIRE HYDRANTS. PLANT MATERIAL SHALL NOT BLOCK VISIBILITY OF HYDRANT.

ANY AND ALL SUBSTITUTIONS OR DEVIATIONS SHALL BE APPROVED IN WRITING BY THE CITY PRIOR TO INSTALLATION.

NATURAL COLOR, FINELY SHREDED HARDWOOD BARK SEE PLANTING DETAILS FOR DEPTH

NO PLANT MATERIAL SHALL BE PLANTED WITHIN 4 FEET OF THE PROPERTY LINE

PLANT SCHEDULE

TREES	QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS	LAST	TOTAL
1	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
2	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
3	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
4	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
5	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
6	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
7	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
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84	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
85	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
86	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
87	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1
88	1	TR	Thuja occidentalis	Green Gable	12"	12"	Ball	Single upright tree	1	1

NOT FOR CONSTRUCTION

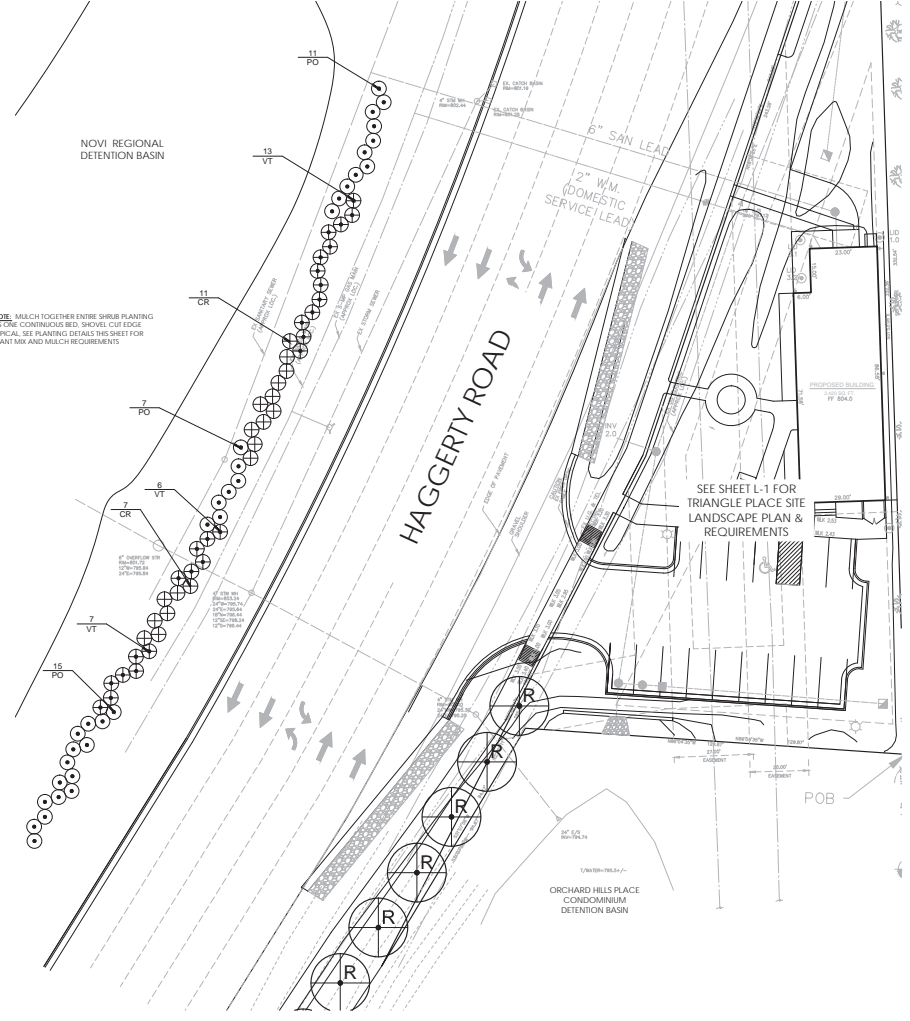


CITY OF NOVI LANDSCAPE NOTES:

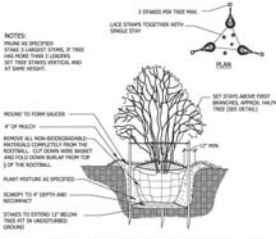
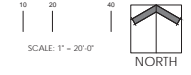
1. ALL PLANT MATERIALS ARE TO BE INSTALLED IN A SOUND, WORKMAN LIKE MANNER AND IN ACCORDANCE WITH THE CURRENT CITY OF NOVI PLANTING REQUIREMENTS.
2. ALL PLANT MATERIALS SHALL BE INSTALLED BETWEEN MARCH 15TH AND NOVEMBER 15TH.
3. ALL PLANT MATERIALS ARE TO BE NORTHERN NURSERY GROWN NO. 1 GRADE AND BUCKLED ACCORDING TO ACCEPTED PLANTING PROCEDURES. ALL PLANT MATERIALS SHALL CONFORM TO THE CURRENT AM STANDARDS FOR NURSERY STOCK. THEY SHALL BE PLANTED ACCORDING TO THE CITY OF NOVI PLANTING MANUAL AND SPECIFICATIONS. THE CITY SHALL HAVE THE RIGHT TO INSPECT THE PLANT MATERIALS TO BE PLANTED AND TO REJECT ANY PLANT MATERIALS DEEMED TO NOT MEET THE STANDARDS OF THE ZONING ORDINANCE.
4. ALL TREES SHALL HAVE A CENTRAL LEADER AND A RACIAL BRANCHING STRUCTURE. PINE, SPRUCE TREES ARE NOT ACCEPTABLE. ALL TREES SHALL BE BUCKLED AND BUCKLED BRANCHES.
5. ANY DECIDUOUS CANOPY TREES WITH BRANCHES THAT MIGHT TEND TO DEVELOP INTO "V" CROCHETS SHALL BE SUBCORNATED SO AS NOT TO BECOME DOMINANT BRANCHES.
6. MULCH SHALL BE NATURAL COLOR, FINELY SHREDED HARDWOOD BARK FOR ALL PLANTING. 2" THICK FOR TREES IN A HOPE GUARDING CIRCLE WITH 4" MULCH BARK FROM TREES. 3" THICK FOR SHRUBS AND SHOULDER WIDE AND 7" THICK FOR PERENNIALS.
7. ALL PLANT MATERIALS SHALL BE MAINTAINED FOR TWO (2) FULL YEARS AFTER DATE OF ACCEPTANCE BY THE CITY OF NOVI. ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN ONE (1) YEAR OR THE NEXT APPROPRIATE PLANTING PERIOD UNLESS OTHERWISE SPECIFIED.
8. ALL PLANT MATERIALS SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION, INCLUDING MATERIAL, CAUTERIZATION, WEED CONTROL, AND SOIL ENRICHMENT AS MAY BE NECESSARY.
9. ANY SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED IN WRITING BY THE CITY OF NOVI PRIOR TO INSTALLATION.
10. ALL TREE WIND, STAKES, AND GUYS MUST BE REMOVED BY 15% SET FOLLOWING THE FIRST WINTER SEASON AFTER INSTALLATION.
11. ALL TREE WINDS, STAKES, AND GUYS MUST BE REMOVED BY 15% SET FOLLOWING THE FIRST WINTER SEASON AFTER INSTALLATION.
12. ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN HEALTHY GROWING CONDITION FREE OF DEBRIS AND REFUSE AND IN CONFORMANCE WITH THE APPROVED LANDSCAPE PLAN.
13. CONTRACTOR TO REMOVE ALL CONSTRUCTION DEBRIS AND DEBRIS MATERIALS FROM THE SITE PRIOR TO FINAL ACCEPTANCE.
14. ALL TRANSPLANTS ARE TO BE SCREENED IN ACCORDANCE WITH THE CITY OF NOVI ZONING ORDINANCE AND SO AS NOT TO CONFLICT WITH SITE RESTRICTIONS. USE DETAIL THIS SHEET.
15. THE OWNER IS RESPONSIBLE FOR ACQUISITION OF FINAL INSPECTION AND ACCEPTANCE OF THE LANDSCAPE AT THE END OF THE 3-YEAR GUARANTEE PERIOD.
16. THE PROVIDER OF THE FINANCIAL GUARANTEE FOR THE LANDSCAPE INSTALLATION SHALL BE FULLY RESPONSIBLE FOR COMPLETION OF THE LANDSCAPE INSTALLATION AND MAINTENANCE THROUGHOUT THE 3-YEAR GUARANTEE PERIOD.

THE DETAILS AND NOTES SHOWN ON THIS PAGE ARE STANDARDS. THESE DETAILS ARE NOT ALL INCLUSIVE AND ARE NOT MEANT TO SUBSTITUTE FOR ANY ORDINANCE OR CODE REQUIREMENT. FOR COMPLETE LANDSCAPE REQUIREMENTS, SEE THE ZONING ORDINANCE LANDSCAPE SECTION 5.1, THE LANDSCAPE DESIGN MANUAL, AND THE APPROPRIATE REFERENCES WITHIN THE APPLICABLE ZONING CLARIFICATION AND ANY OTHER APPLICABLE CODE REQUIREMENTS.

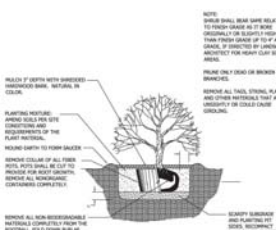
NOTE: MATCH TOGETHER ENTIRE SHRUB PLANTING PATTERNS CONTIGUOUS BEDS. SHOW CUT EDGE TYPICAL. SEE PLANTING DETAILS THIS SHEET FOR PLANT MIX AND MATCH REQUIREMENTS.



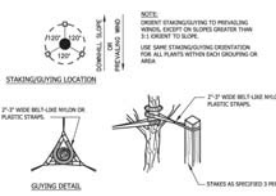
ALTERNATIVE LANDSCAPE ENHANCEMENT AREA PLANTING



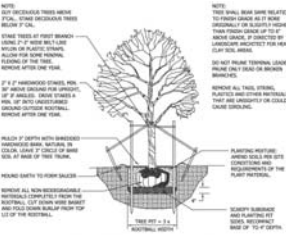
MULTI-STEM TREE PLANTING DETAIL



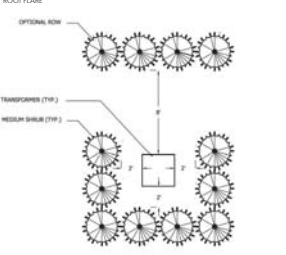
SHRUB PLANTING DETAIL



TREE STAKING DETAIL



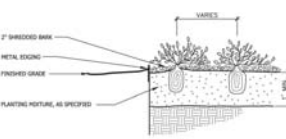
DECIDUOUS TREE PLANTING DETAIL



TRANSFORMER SCREENING DETAIL



EVERGREEN TREE PLANTING DETAIL



PERENNIAL PLANTING DETAIL

PLANT SCHEDULE

SHRUBS	Quantity	Plant Name	Height	Width	Depth	Notes
11	11	Physocarpus opulifolius	4'-6"	18"	18"	As shown
11	11	Camelia sasanqua	4'-6"	18"	18"	As shown
11	11	Camelia sasanqua	4'-6"	18"	18"	As shown

Triangle Medical Commercial Building

Novi, MI

Drawing Schedule		Issued	Issued	Issued	Issued	Issued	Issued
		PERMIT					
SP-1	Title Sheet	07-21-09					
A-1	Foundation Plan	07-21-09					
A-2	Floor Plan	07-21-09					
A-3	Elevations	07-21-09					
A-4	Elevations	07-21-09					
A-5	Wall Section & Details	07-21-09					
A-6	Wall Section & Details	07-21-09					
E-1	Electrical Plan	07-21-09					

NOTE:
PROVIDE TACTILE SIGN STATING EXIT
COMPLYING WITH ICCA117.1 ADJACENT TO
EACH EXIT DOOR

CODE INFORMATION - MICHIGAN BUILDING CODE

DRAWINGS COMPLY WITH THE MICHIGAN BUILDING CODE,
MECHANICAL, INTERNATIONAL FUEL GAS & PLUMBING CODES AND
MICHIGAN ELECTRICAL CODE NEC WITH PART 8 STATE AMENDMENTS,
MICHIGAN BARRIER FREE (ICC/ANSI A117.1), MICHIGAN UNIFORM ENERGY
CODE RULES PART 10 WITH ANSI/ASHRAE/IESNA STANDARD 90.1
INTERNATIONAL FIRE CODE.

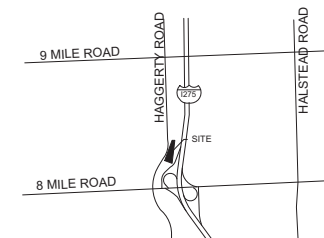
OCCUPANCY TYPE: B

CONSTRUCTION TYPE: VB

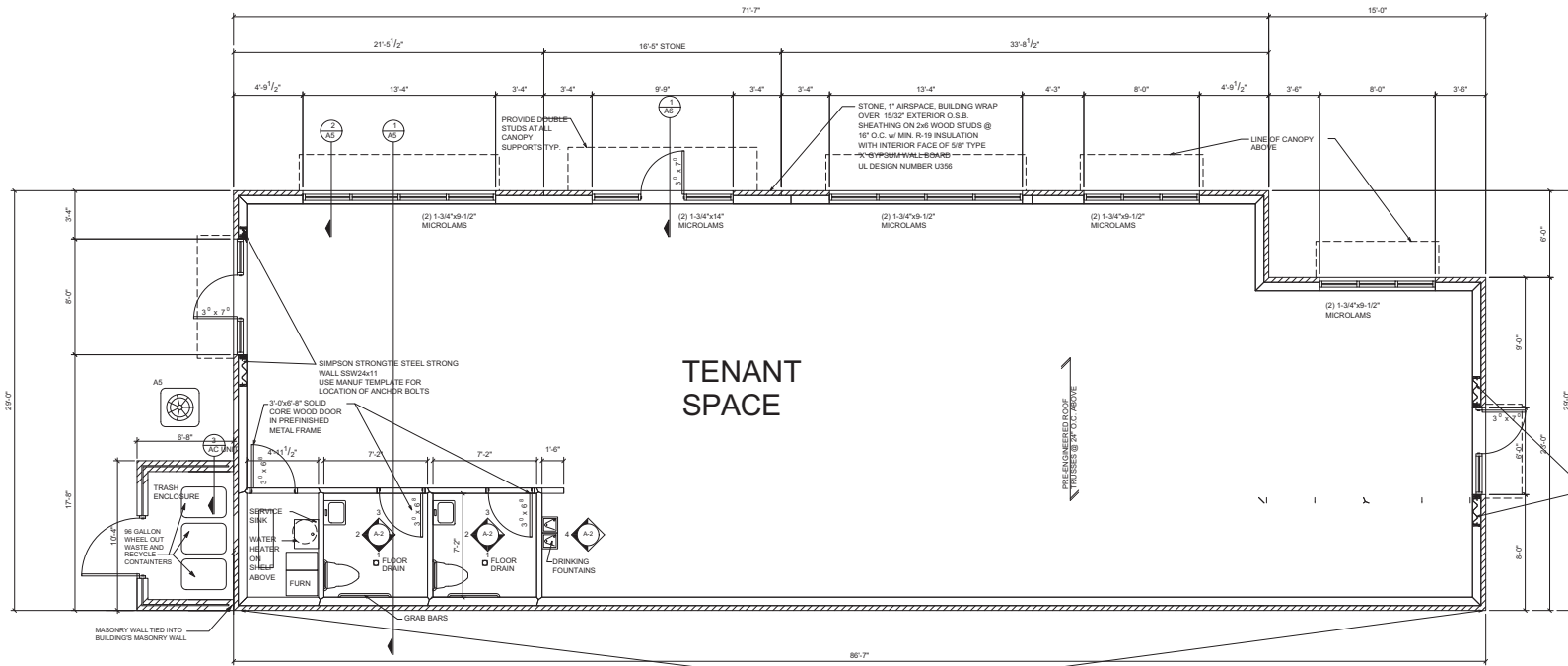
BUILDING AREA: 2,575 SF

OCCUPANT LOAD BY CODE: BUSINESS 2,575 SF /100 SF/PEPS.
= 26 PERSONS (MERCHANDISE)
TWO MEANS OF EGRESS PROVIDED

THE INTERIOR WALL AND CEILING FINISHES WILL COMPLY WITH
SECTION 803.5 (CLASS B FOR CORRIDORS, CLASS C FOR ROOMS
AND ENCLOSED SPACES).
THE INTERIOR FLOOR FINISHES WILL COMPLY WITH SECTION 804.



North
LOCATION MAP
Scale: N.T.S.



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



Midwest Concrete Association, Inc.
4381 Delaware Court
Piquette Club, OH 46012
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330.248.7300 fax
www.midwestconcrete.com

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Trilium
Companies, Inc.
10000 W. 10th Street
Overland Park, MO 66204

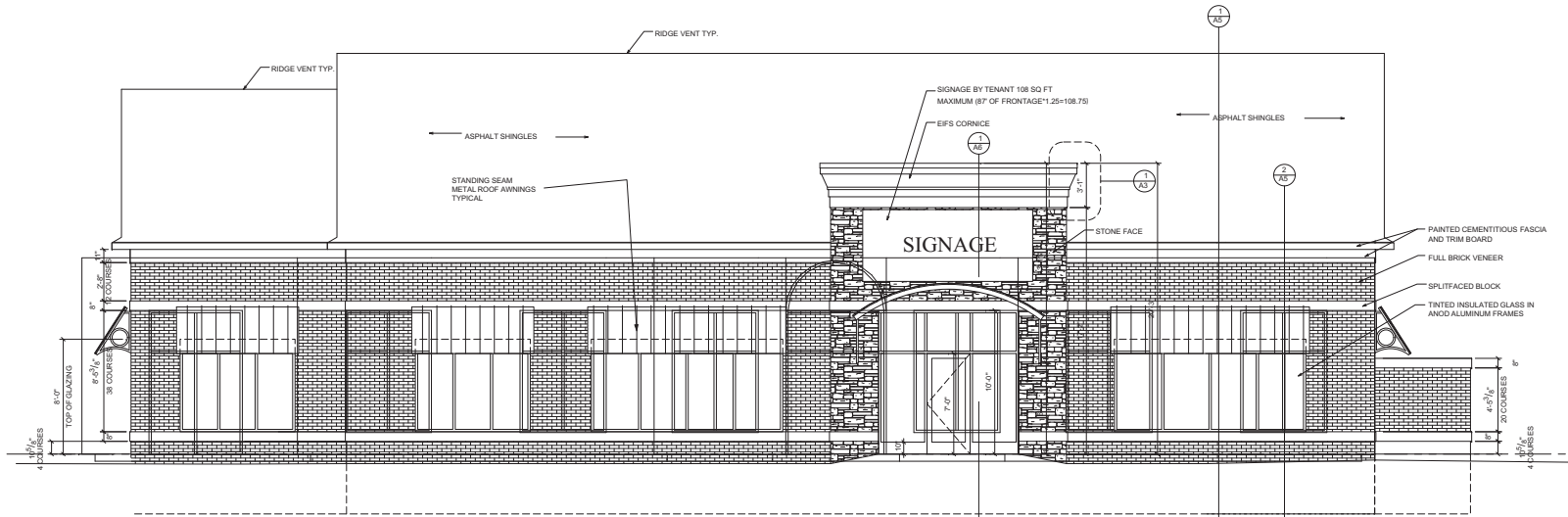
Project Title
Tenant Space
Designed by: [Redacted]
Date: 04/11/07

Sheet Title
FLOOR PLAN

Project Number: 07-022
Drawn By: AJM
Checked By:
Approved By:
Date: 04/11/07
Revised:
1. 04/11/07 (AJM)

Sheet Number:
A-2

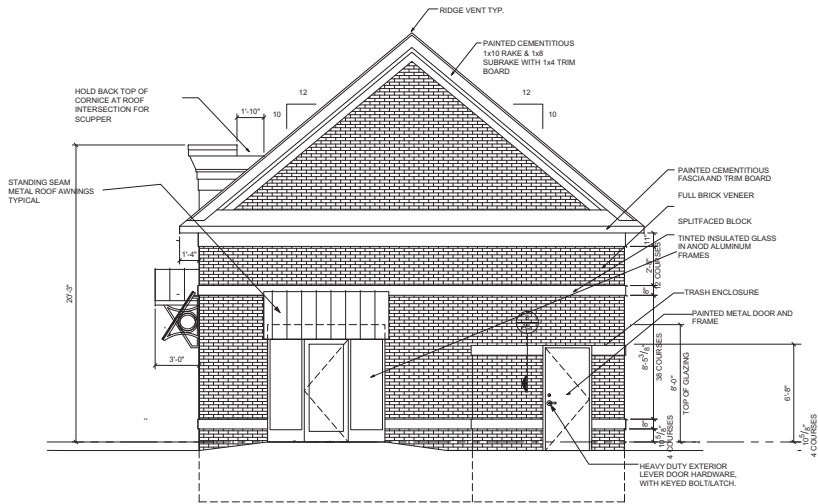
File: 07-022-01.dwg



WEST ELEVATION

SCALE: 1/4" = 1'-0"

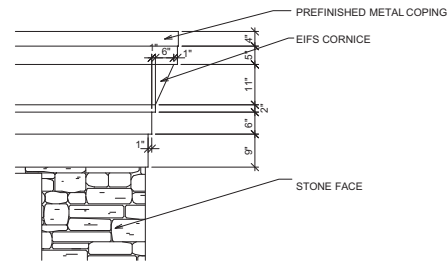
NOTE:
All roof-top appurtenances shall be full screened from view from all vantage points both on and off site with Façade Ordinance compliant materials



SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

NOTE:
All roof-top appurtenances shall be full screened from view from all vantage points both on and off site with Façade Ordinance compliant materials



1
A3 EIFS CORNICE
SCALE: 3/4" = 1'-0"



Multimedia Creation Association, Inc.
4333 Shiloh Road
Rapid City, SD 57703
848-248-4900 ext 100
848-248-7700 fax
www.mcaonline.com

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Client
Trilium Companies, Inc.
1817 Broadway - 108 Office
Rapid City, SD 57703

Project Title
Tenant Space
Designer: Prasad
Date: 08/14/16

Sheet Title
WEST & SOUTH ELEVATIONS

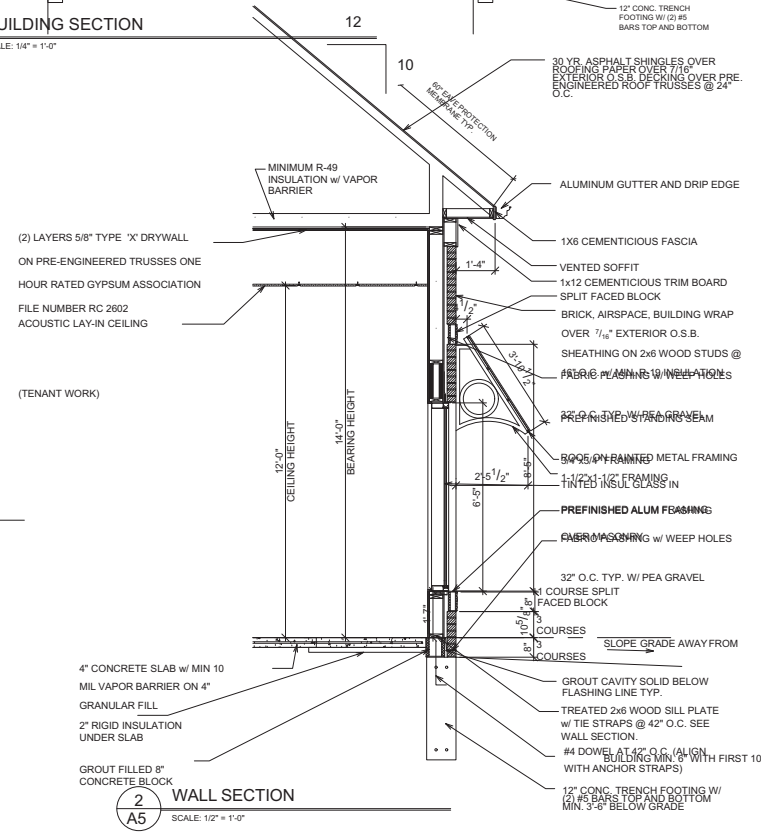
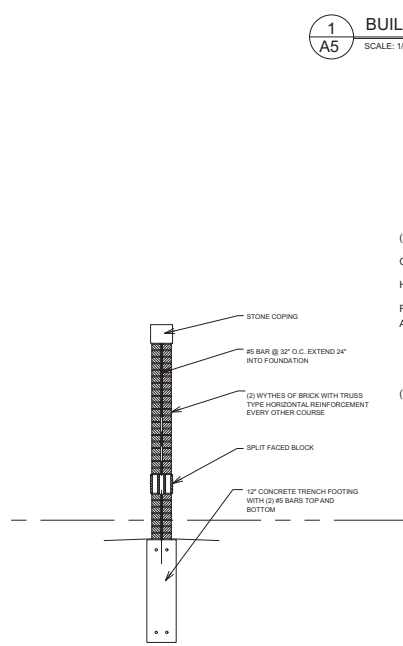
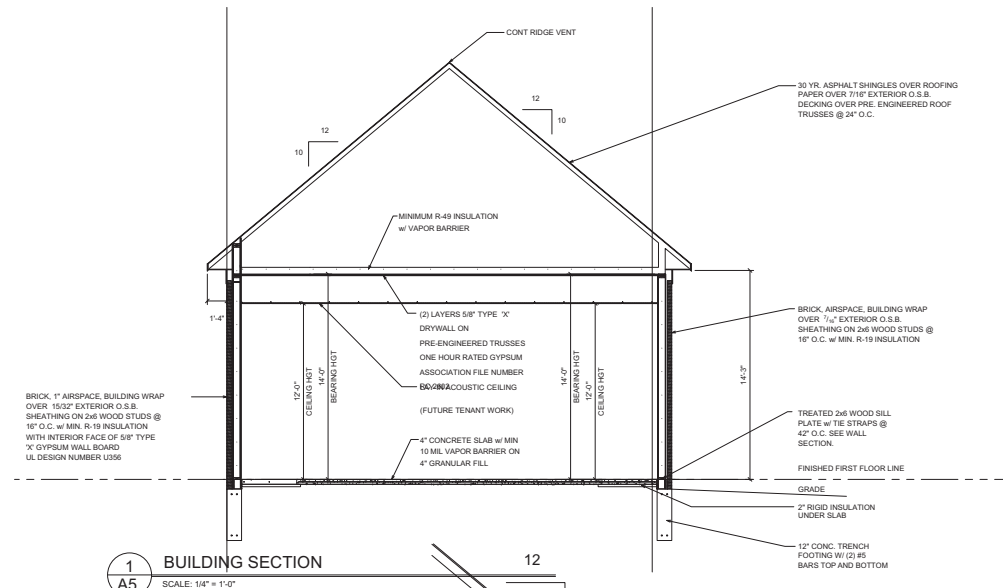
Project Number: 07425
Drawn By: AJH
Checked By:
Approved By:
Date: 03/04/16



Sheet Number:

A-3

Rev: 03/04/2016



Michigan/Garden Association, Inc.
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Client
Trilium Companies, Inc.
1817 Delaware Hill Drive
Ann Arbor, MI 48106

Project Title:
Tenant Space
1 Suggsley Street
Ann, MI

Sheet Title:
SECTIONS & DETAILS

Project Number: 07452
Drawn By: AJH
Checked By:
Approved By:
Date: 01-10-18

Revised:
1
2

Sheet Number:

A-5

Rev: 01/10/2018

EPDM ROOFING MEMBRANE OVER
7/16" OSB SHEATHING ON 2x6
FRAMING EXTEND ROOFING OVER
FRAMING AT COPING

PREFINISHED METAL COPING
EIFS CORNICE OVER BUILDING
WRAP OVER DENSGLOSS
SHEATHING ON 2x FRAMING

BRICK, AIRSPACE, BUILDING WRAP
OVER 7/16" EXTERIOR O.S.B.
SHEATHING ON 2x6 WOOD STUDS @
16" O.C. w/ MIN. R-19 INSULATION

PREFINISHED STANDING SEAM

ROOF ON PAINTED METAL FRAMING

FABRIC THROUGH WALL FLASHING

WEEPHOLES

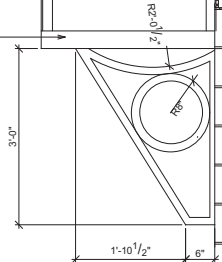
PREFINISHED COUNTER FLASHING

PREFINISHED STANDING SEAM

ROOF ON PAINTED METAL FRAMING

1"x1" METAL FRAMING ON
CURVED 2"x4" METAL
FRAMING

2"x4" METAL FRAMING ON
1"x1" BRACKET BOLT TO
DOUBLE STUDS IN WALL
STUDS TO BE FULL
HEIGHT OF WALL



2 WALL SECTION
A6 SCALE: 1/2" = 1'-0"

PROVIDE OPENING AT FOR

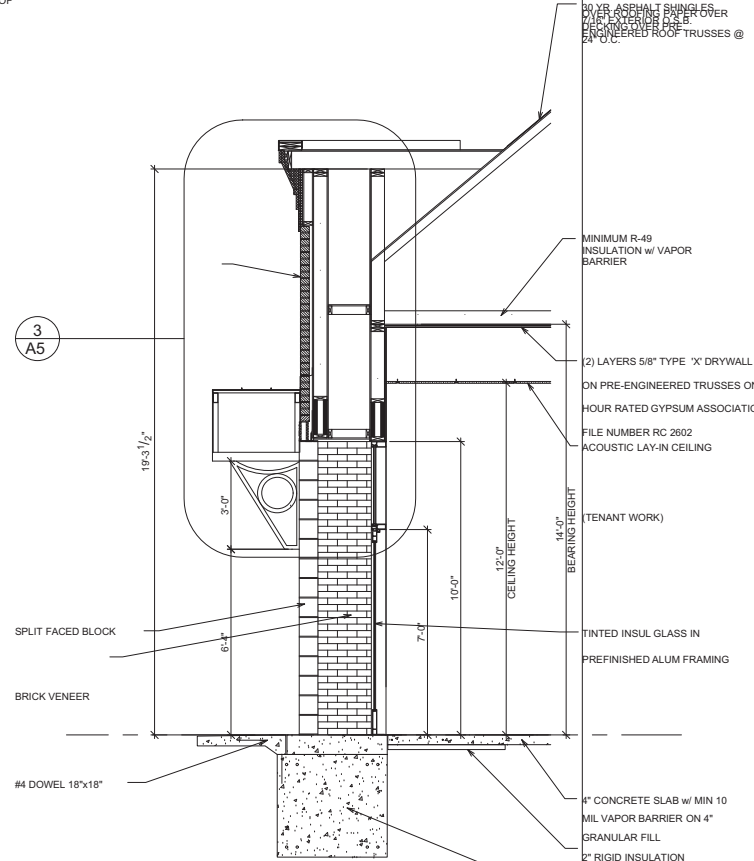
DRAINAGE

EXTEND EPDM ROOFING
MEMBRANE UNDER ROOF
SHINGLES MIN 30"

SEALANT AND BACKER ROD

EIFS OVER DENSGLOSS SHEATHING
ON 2x4 FRAMING

30 YR. ASPHALT SHINGLES
OVER 1/2" OSB SHEATHING OVER
2x6 FRAMING @ 16" O.C.
PRE-ENGINEERED ROOF TRUSSES @



3 A5

1 WALL SECTION AT ENTRY
A5 SCALE: 1/2" = 1'-0"



Muller/Gardner Associates, Inc.
4833 Midwestern Court
Rogers, OK 74403
918.248.4500 ext. 200
918.248.2500 fax
www.muller-gardner.com

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Associates, Inc.

Client
**Trilium
Companies, Inc.**
1817 S. Oklahoma Street
Midwest City, OK 73102

Project Title
Tenant Space
Hogarty Plaza
New, OK

Sheet Title
**SECTIONS &
DETAILS**

Project Number: 17-012
Drawn By: AJH
Checked By:
Approved By:
Date: 01-10-18



Sheet Number:
A-6
Rev: 01/10/18

- General Note**
- SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
 - SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
 - CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: GRADE

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705

Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
Parking Lot	X	2.3 fc	4.5 fc	0.4 fc	11.3:1	5.8:1	0.5:1
Property Line	+	0.1 fc	0.6 fc	0.0 fc	N/A	N/A	0.2:1

Schedule											
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Number Lamps	Filename	Lumens per Lamp	LLF	Wattage	Lamp
	A	2	Lithonia Lighting	DSX0 LED P5 40K BLC MVOLT	DSX0 LED P5 40K BLC MVOLT	1	DSX0_LED_P5_40K_BLC_MVOLT.cad	9576	0.9	89	LED

D-Series Size 0 LED Area Luminaire

Specifications

- EPA: 50/50
- Length: 20"
- Width: 12"
- Height: 7"
- Weight: 16 lbs
- Weight (max): 17 lbs

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' qualification for chromatic consistency.
- This luminaire is A+ Certified when ordered with CTL* controls marked by a **shaded background**. CTL, DLL, integrated luminaires meet the A+ specification for luminaires to photometric interoperability.
- This luminaire is part of an A+ Certified solution for RCAMP or iXPress™ wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with address and control options marked by a **shaded background**.

To learn more about A+, visit www.acuitybrands.com/aplus.

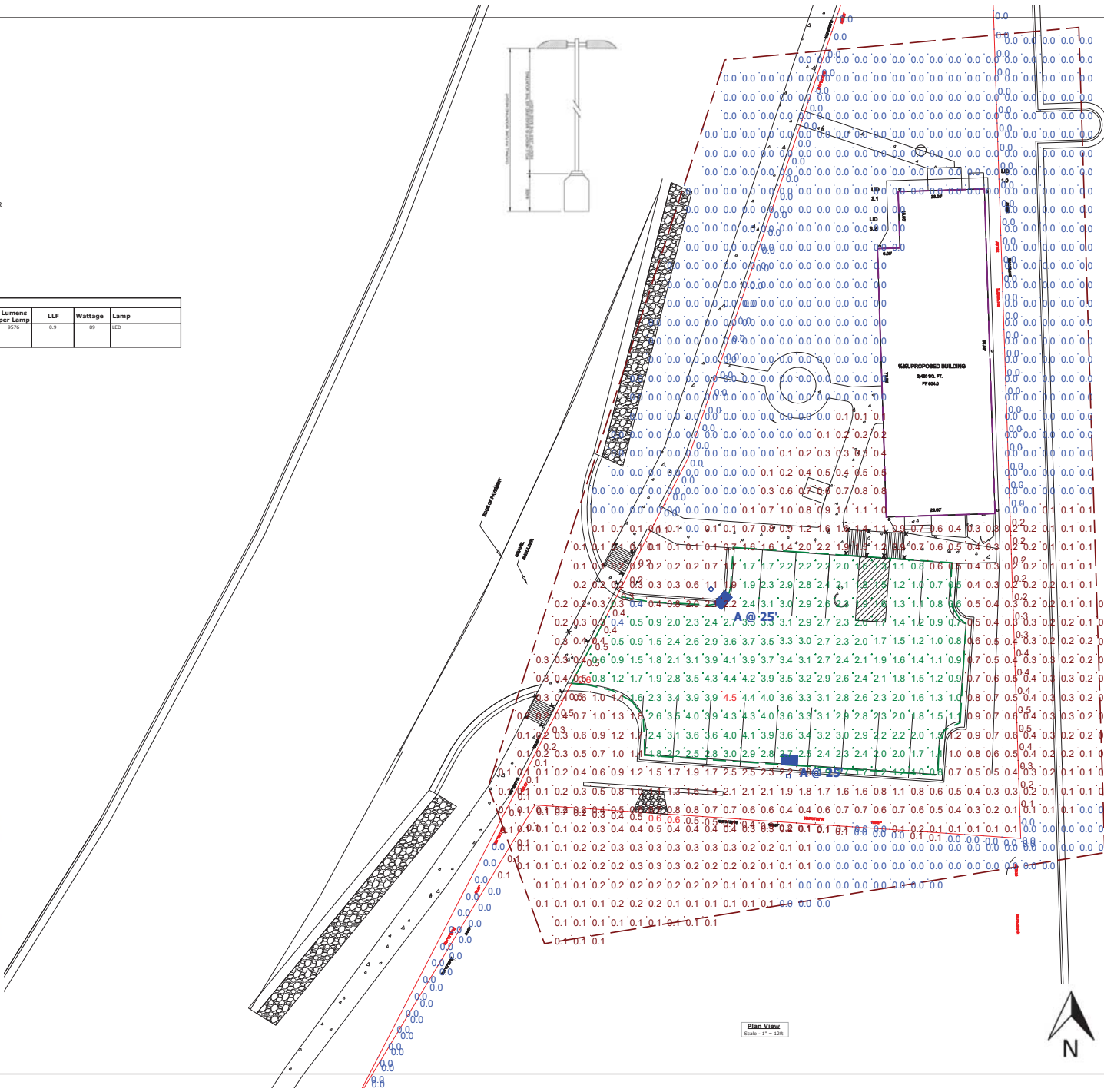
- See ordering tree for details.
- A+ Certified Solutions for RCAMP require the order of one RCAMP node per Luminaire. Sold Separately. (Link to RCAMP Node in CTL, DLL.)

Ordering Information EXAMPLE: DSX0 LED P5 40K T3M MVOLT SPA DDX0

Code	Label	Color Temperature	Beam Spread	Mounting	Notes
DSX0	DSX0	40K	120°	Surface	Standard luminaire
P5	P5	5000K	120°	Surface	5000K luminaire
T3M	T3M	5000K	120°	Surface	5000K luminaire with 3-year warranty
SPA	SPA	5000K	120°	Surface	5000K luminaire with 3-year warranty and photoeye
DDX0	DDX0	5000K	120°	Surface	5000K luminaire with 3-year warranty, photoeye, and dimming

Code	Label	Color Temperature	Beam Spread	Mounting	Notes
DSX0	DSX0	40K	120°	Surface	Standard luminaire
P5	P5	5000K	120°	Surface	5000K luminaire
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DDX0	DDX0	5000K	120°	Surface	5000K luminaire with 3-year warranty, photoeye, and dimming

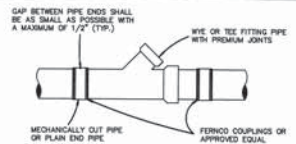
LITHONIA LIGHTING | One Jackson Way • Clayton, Georgia 30511 • Phone: 800.233.9001 • www.lithonia.com



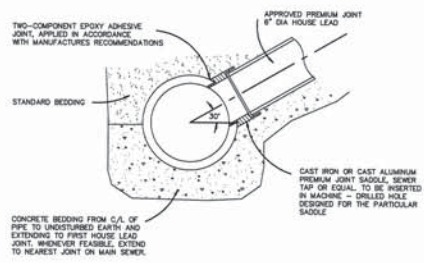
Plan View
Scale: 1" = 10'

GBA
GASSERBUSH ASSOCIATES

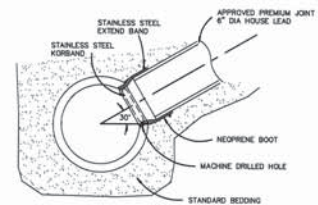
Designer: DB
Date: 12/19/2019
Scale: Not to Scale
Drawing No.: #13-14857-V7
1 of 1



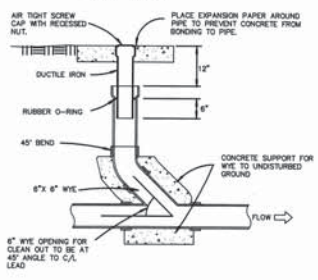
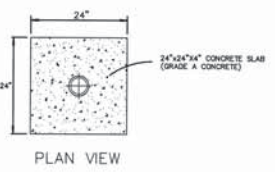
METHOD A
WYE PIPE INSERTION WITH FLEXIBLE COUPLINGS
SEE NOTE #8



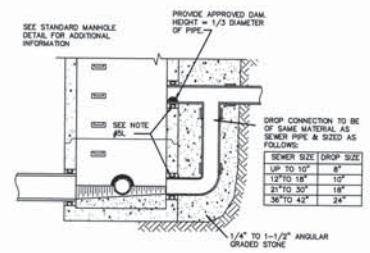
METHOD B
SADDLE TAP - ALL SIZE OF MAIN SEWER
SEE NOTE #9 & #10



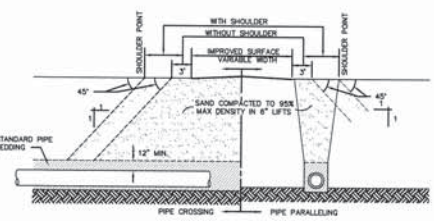
METHOD C
KOR-N-TEE TAP FOR CONCRETE PIPE



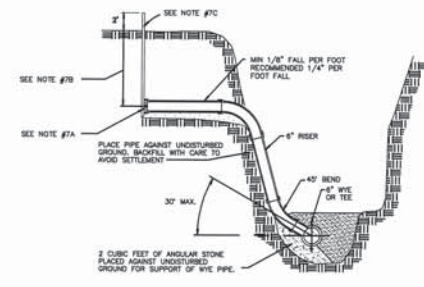
DETAIL OF SANITARY SEWER CLEANOUT



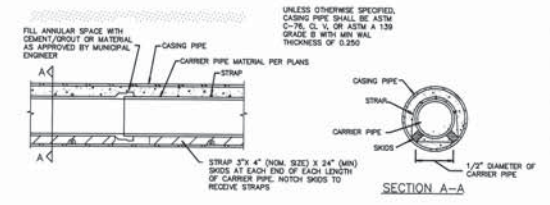
DROP MANHOLE CONNECTION
SEE NOTE #6



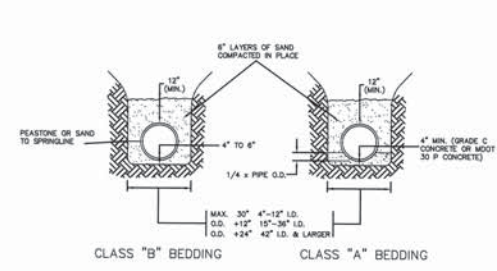
BACKFILLING IN THE AREAS OF STREETS, ALLEYS, SIDEWALKS, DRIVES & PARKING AREA



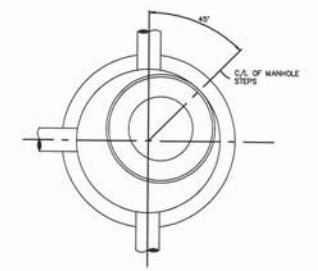
HOUSE LEAD DETAIL
SEE NOTE #7



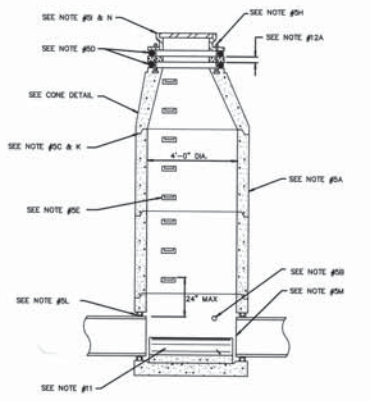
CARRIER PIPE WITH CASING PIPE
SEE NOTE #14



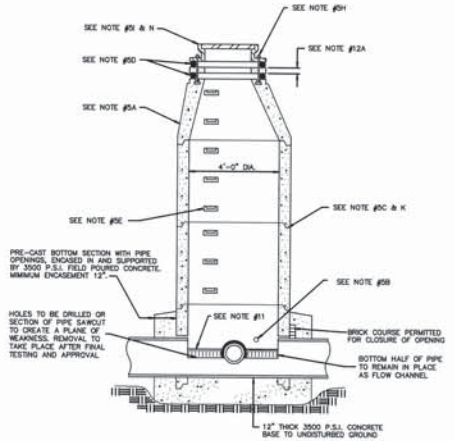
CLASS "B" BEDDING CLASS "A" BEDDING
BEDDING & TRENCH WIDTH REQUIREMENT



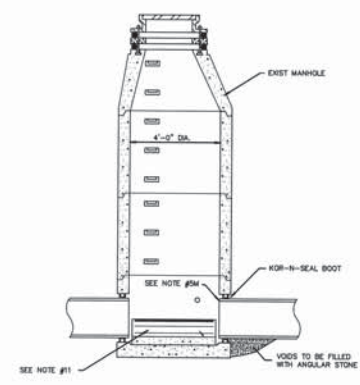
TOP VIEW OF MANHOLE



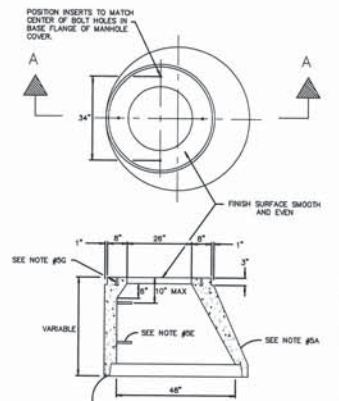
STANDARD MANHOLE FOR PIPE SIZES 24" & SMALLER
PRECAST FLEXIBLE-JOINT SEWER MANHOLE



MANHOLE OVER EXISTING SANITARY LINE



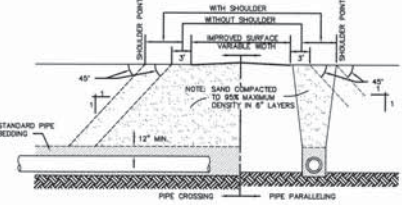
SEWER TAP TO EXISTING MANHOLE



SECTION A-A CONE DETAIL

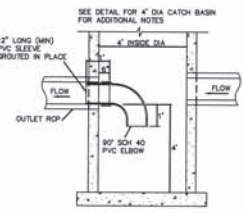
"STORM SEWER CONSTRUCTION NOTES"

- PIPE TYPES AND PIPE JOINTS:**
 - REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM C-78. JOINTS SHALL CONFORM TO ASTM C-443.
 - ALL CATCH BASIN LINES AND INLET LINES SHALL CONFORM TO ASTM C-78 AND SHALL BE OF CLASS IV CONCRETE PIPE.
 - FOR SUMP MAINS AND LEADS A HEAVY WALL SCHEDULE 40 (CONFORM TO ASTM D3034) PREMIUM JOINTS PVC ARABOS TRUSS PIPE OR PVC CORRUGATED WITH SMOOTH INTERIOR, MEETING THE REQUIREMENTS OF ASTM F-849. ALL PIPE MATERIALS SHALL BE PLACED IN CLASS "B" BEDDING (OR APPROVED EQUIVALENT).
 - THE RISER JOINTS OF PIPE SIZES OVER 27" DIAMETER SHALL BE BEDDED UP WITH MORTAR UPON COMPLETION OF BACKFILLING OPERATIONS.
- PIPE BEDDING AND BACKFILLING:**
 - BEDDING SHALL BE OF CLASS "B" MATERIAL UNLESS OTHERWISE NOTED ON CONSTRUCTION DRAWINGS AND SHALL BE A MINIMUM OF 4" BELOW PIPE TO CENTERLINE OF THE PIPE. BEDDING SHALL BE UNIFORM IN GRADE.
 - BACKFILL SHALL BE OF CLASS "B" MATERIAL COMPACTED TO 1" ABOVE PIPE OR AS INDICATED ON CONSTRUCTION DRAWINGS. TRENCH BACKFILL SHALL BE OF A SUITABLE MATERIAL AND SHALL BE FREE OF ANY ORGANIC MATERIALS AND LARGE ROCKS. BACKFILL SHALL BE SHAPED INTO TRENCH AND COMPACTED WITH A SMALL DOZER OR OTHER APPROVED METHODS WHERE TRENCH IS WIDER THAN 3' OF STREET ALLEYS, SIDEWALKS, DRIVEWAYS AND PARKING AREAS. BACKFILL SHALL BE UNIFORM MATERIAL. MOST CLASS "B" COMPACTED IN 6" LAYERS TO A DENSITY OF 98% AS DETERMINED BY AASHTO T-99. ALL BACKFILL PLACED UNDER STRUCTURE SHALL BE APPROVED SAND, PLACED IN 1" LAYERS AND COMPACTED. NO FROZEN MATERIAL SHALL BE MORE THAN 4" BELOW THE FINAL ELEVATION OF THE GROUND.
 - TRENCHES WHICH ARE TO BE LEFT OPEN OVERNIGHT SHALL BE ENCLOSED WITH SUITABLE FENCING AND LIMITED BARBERS, UNLESS OTHERWISE APPROVED BY MUNICIPAL ENGINEER.
 - TRENCH COMPACTOR REQUIREMENTS FOR PVC CORRUGATED WITH SMOOTH INTERIOR SHALL BE AS PER MANUFACTURER'S SPECIFICATIONS AND MUST BE STRICTLY ADHERED TO.
- MANHOLE STEPS SHALL BE STEEL, ENCASED WITH POLYPROPYLENE PLASTIC OR APPROVED EQUIVALENT TO M.A. INDUSTRIES, INC. 101-1 FOR BLOCKS AND MANHOLE STEPS. EAST JORDAN IRON WORKS 8503 (OR APPROVED EQUAL).
 - CATCH BASIN AND INLET STEPS SHALL BE EQUAL TO EAST JORDAN IRON WORKS 8503 POLYESTER COATED (OR APPROVED EQUAL).
 - PIPE SHALL BE FLUSH WITH THE INSIDE WALL OF STRUCTURE AND NOT TO EXCEED 1" INSIDE THE STRUCTURE. PIPE SHALL BE POINTED UP WITH A SMOOTH FINISH.
 - MANHOLE FRAMES AND COVERS SHALL BE EAST JORDAN IRON WORKS 7045 TYPE "C" COVER OR AS APPROVED EQUAL.
 - CATCH BASIN AND INLET FRAMES AND COVER SHALL BE:
 - EAST JORDAN IRON WORKS 7045 TYPE "C" COVER WITH STRAIGHT FACE AND GUTTER (OR AS APPROVED EQUAL).
 - EAST JORDAN IRON WORKS 7045 TYPE "C" COVER WITH REMOUNTABLE CURB AND GUTTER AND INTEGRAL CURB AND GUTTER (OR AS APPROVED EQUAL).
 - EAST JORDAN IRON WORKS 7045 TYPE "C" COVER FOR 4" DIA. STRUCTURES AND EAST JORDAN IRON WORKS 1036 TYPE "D" COVER FOR 2" DIA. STRUCTURES TO BE USED ON OPEN DITCHES AND SHALL BE USED FOR CATCH BASINS (OR APPROVED EQUAL).
 - EAST JORDAN IRON WORKS 1036 TYPE "C" COVER TO BE USED ON ALL 2" DIA. CLEANOUT (OR APPROVED EQUAL).
 - COVERS FOR THE 2" DIA. SUMP PUMP CLEAN-OUT LINES SHALL BE EAST JORDAN IRON WORKS 1030 OR 1070 TYPE A COVER (OR APPROVED EQUAL).
 - FRAMES SHALL BE SET IN FULL BED OF MORTAR AND THE SIDE SHALL BE CHIPPED TO PREVENT LEAKAGE.
 - IF BRICKER CHANNELS SHALL BE CONSTRUCTED WITHIN THE EXISTING MANHOLE OR OTHER STRUCTURE AT WHICH THE CONNECTION IS TO BE MADE. THE CHANNEL SHALL BE CRISTING OUTWARD IN A MANNER WHICH WILL TEND TO GIVE THE LEAST TO THE SAME SIZE. THE CHANNEL SHALL BE CONSTRUCTED IN THE EXISTING PIPE AND SHALL BE HEAVY TO HEIGHT OF 2/3 THE EXISTING PIPE DIAMETER WITH A MINIMUM OF 2% SLOPE ON BOTH SIDES.
 - STANDARD BRICK ADJUSTMENT: MINIMUM - 4", MAXIMUM - 18"
 - BLOCK USED FOR STAIRWAYS, CATCH BASIN, INLET, AND MANHOLE SHALL BE 8" AND BLOCK SHALL BE 8" OR AS PER CONSTRUCTION DRAWINGS.
 - BLOCK SHALL BE GRADE U-1 CONFORMING TO ASTM C-139.
 - BLOCK SHALL BE GRADE N-1 CONFORMING TO ASTM C-55.
 - PRECAST REINFORCED CONCRETE SECTION AS MINIMUM CONFORM TO ASTM C-478.
 - CONCRETE BASE FOR MANHOLE, CATCH BASIN, AND INLET SHALL BE M.D.G.T. GRADE 30P (MIN.), 6" THICK, 3000 PSI.
 - PLASTER ALL OUTSIDE MASONRY SURFACES WITH 1/2" 1/2" MASONRY CEMENT (TYPE III) 1/2" THICK.
 - WHEN TAPPING INTO AN EXISTING STRUCTURE A BRICK CHANNEL SHALL BE PLACED 1" THICK AROUND THE PIPE AND EXTENDED 12" BEYOND THE OPENING.
 - ALL PRECAST RISER(S) SHALL BE PLACED IN A FULL BED OF MORTAR. ALL JOINTS SHALL BE POINTED UP WITH MORTAR ON THE OUTSIDE AND INSIDE.
 - ALL STRUCTURE(S) SHALL BE 4" IN DIAMETER UNLESS INDICATED ON CONSTRUCTION DRAWINGS. 2" DIAMETER CATCH BASIN, AND INLET SHALL BE USED WHEN INDICATED ON CONSTRUCTION DRAWING.
 - A PERMANENT 4" DEEP SUMP IS REQUIRED FOR THE LAST STORM WATER STRUCTURE THAT IS MAINTENANCE ACCESSIBLE PRIOR TO RELEASE OFF-SITE TO A SEDIMENTATION OR STORM WATER HOLDING BASIN.
 - 4" DIA MANHOLES SHALL BE CONSTRUCTED WITH OIL AND GAS SEPARATORS AT THE LAST STRUCTURE PRIOR TO DISCHARGE INTO A SEDIMENTATION OR STORM DRAINAGE COURSE AS DIRECTED BY THE MUNICIPAL ENGINEER.



BACKFILLING IN THE AREAS OF STREETS, ALLEYS, SIDEWALKS, DRIVES & PARKING AREA

SEE NOTE # 2



OIL/GAS SEPARATOR FOR OUTLET PIPE DIAMETERS SMALLER THAN 18"

SEE NOTE # 12



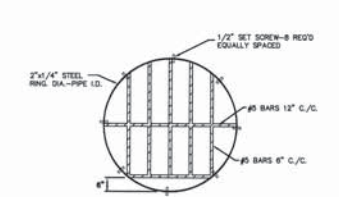
SECTION D-D

1 1/4" BARS (AMB) ANCHOR PINS

DIMENSIONS & ESTIMATED QUANTITIES FOR STEEL

END SEC. DIA.	12"	18"	24"	30"
L	30 LF	45 LF	60 LF	75 LF
L1	10 LF	15 LF	20 LF	25 LF
L2	10 LF	15 LF	20 LF	25 LF
L3	10 LF	15 LF	20 LF	25 LF
L4	10 LF	15 LF	20 LF	25 LF
L5	10 LF	15 LF	20 LF	25 LF
L6	10 LF	15 LF	20 LF	25 LF
L7	10 LF	15 LF	20 LF	25 LF
L8	10 LF	15 LF	20 LF	25 LF
L9	10 LF	15 LF	20 LF	25 LF
L10	10 LF	15 LF	20 LF	25 LF
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L44	10 LF	15 LF	20 LF	25 LF
L45	10 LF	15 LF	20 LF	25 LF
L46	10 LF	15 LF	20 LF	25 LF
L47	10 LF	15 LF	20 LF	25 LF
L48	10 LF	15 LF	20 LF	25 LF
L49	10 LF	15 LF	20 LF	25 LF
L50	10 LF	15 LF	20 LF	25 LF

STEEL GRATE FOR PRECAST CONCRETE END SECTION

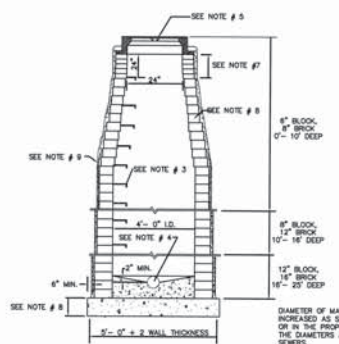


INLET BAR SCREEN DETAIL 18"-36"

SEE NOTE # 13

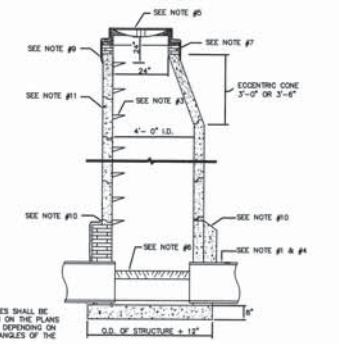
M.D.G.T. GRADE OF CONCRETE	M.D.G.T. REFERENCE ELEVATION (1980 MERRIAM)	CLASS OF COARSE AGGREGATE	CEMENT TYPE	LEBS. PER CU. YD.	CEMENT CONTENT (SACKS (94 LB.) PER CU. YD.)	AIR ENTR. (%)	COMPRESSIVE PSI
40 S	5.03	6A	1A, 15-A	611	6.5	6.2	4000
35 S	6.09	8AA	1A	564	6.0	6.1	3500
30 P	6.11	6A	15-A	517	5.5	6.1	3000
30 P	6.17	6A	1A, 15-A	517	5.5	6.1	3000
30 M	4.25	6A	1A	517	5.5	6.1	3000
30 M	5.14	6A	1A	517	5.5	6.1	3000
30 M	6.03	6A	15-A	517	5.5	6.1	3000
30 M	6.11	6A	15-A	517	5.5	6.1	3000
30 M	6.12	6A	15-A	517	5.5	6.1	3000

CONCRETE MIXTURES



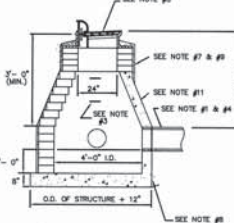
STANDARD MANHOLE BRICK OR BLOCK FOR PIPES 36" & SMALLER

SEE NOTE # 12



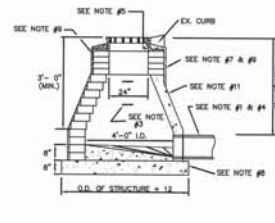
STANDARD MANHOLE PRECAST FOR PIPES 36" & SMALLER

SEE NOTE # 12



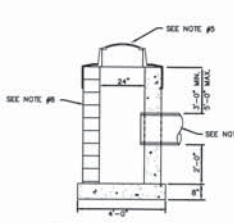
4" DIA. BRICK OR PRECAST CATCH BASIN

SEE NOTE # 12



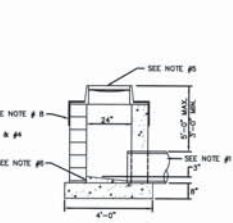
4" DIA. BRICK OR PRECAST INLET

SEE NOTE # 12



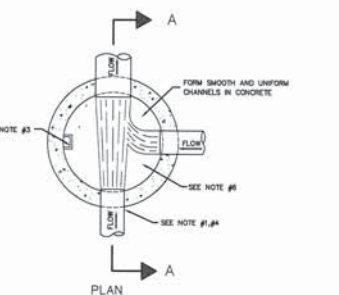
2" DIAMETER YARD BASIN & CATCH BASIN

SEE NOTE # 12

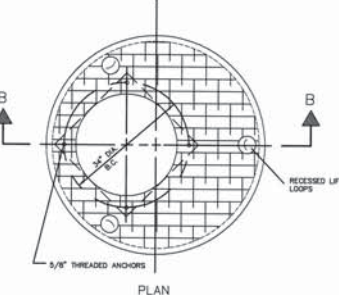


2" DIAMETER INLET

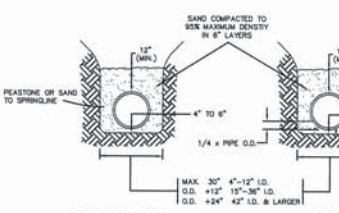
SEE NOTE # 12



CHANNEL DETAIL

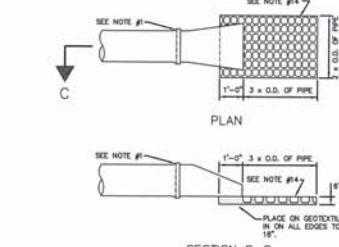


FLAT SLAB MANHOLE TOP

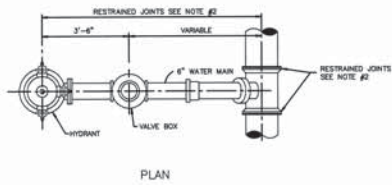


BEDDING & TRENCH WIDTH REQUIREMENT

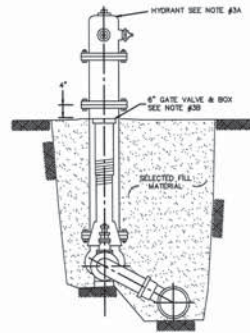
SEE NOTE # 12



GROUTED RIP-RAP

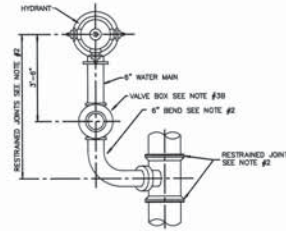


PLAN

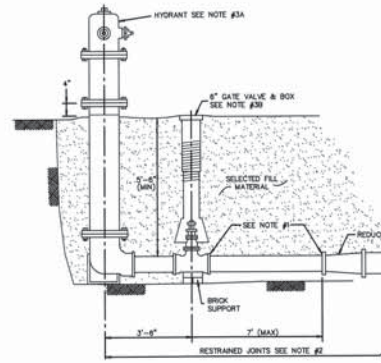


SECTION

TYPICAL 90° HYDRANT SETTING

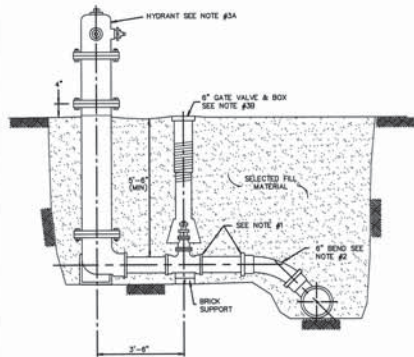


PLAN



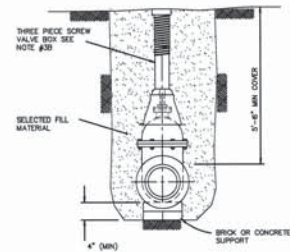
TYPICAL HYDRANT VALVE & BOX CONNECTION AT END OF WATER MAIN

1. TYPE OF JOINT SHALL BE APPROVED BY MUNICIPAL ENGINEER, (TYTON, SUPER BELLITE OR MECHANICAL, IN ACCORDANCE WITH ANS A 21.1) OR APPROVED EQUIVALENT.
2. RESTRAINED JOINTS ARE REQUIRED IN LIEU OF THRUST BLOCKS. RESTRAINED JOINTS FOR PIPE SIZES UP TO 18" SHALL BE FAST GRAY GRANITE, MEGA LUG OR APPROVED EQUAL. RESTRAINED JOINTS FOR PIPE SIZES OVER 18" SHALL BE AMERICAN DUCTILE IRON FLEX-RING JOINT PIPE OR APPROVED EQUAL BOLTS/LESS SYSTEM.
- THRUST RESTRAINT DESIGN SHALL BE PER THE DUCTILE IRON PIPE RESEARCH ASSOCIATION MANUAL, THRUST RESTRAINT DESIGN FOR DUCTILE PIPE, CURRENT EDITION.
3. A. HYDRANTS SHALL BE EAST JORDAN MODEL, TYPE 88R.
B. VALVE BOXES SHALL BE EAST JORDAN E-3002, OR APPROVED EQUIVALENT.
4. UNLESS OTHERWISE NOTED OR DIMENSIONED, HYDRANTS SHALL BE:
A. MAXIMUM 15", MINIMUM 7" BONDING CURB.
B. 30" ± 1" FROM R.O.M. CENTERLINE IN STREETS WITH DITCHES.
5. HYDRANT DRAIN OPENING SHALL BE SECURELY PLUGGED.
6. PRIOR TO ACCEPTANCE:
A. HYDRANT SHALL BE PLUMBED.
B. VALVE BOXES SHALL BE PLUMBED AND IN LINE WITH THE VALVE.
C. STEAMER CONNECTION OF THE HYDRANT SHALL FACE THE STREET CENTERLINE, OR AS DIRECTED BY THE FIRE MARSHAL.
D. HYDRANTS SHALL BE CLEANED AND PAINTED TO FIRE MARSHAL'S COLOR CODE, RUSTOLEUM FIRE HYDRANT RED, OR APPROVED EQUIVALENT.
E. HYDRANTS SHALL BE CHARGED TO BE TESTED FOR LEAKAGE AND ANY LEAKS ARE TO BE REPAIRED.
F. HYDRANTS AND VALVE BOXES SHALL BE SET TO FINAL FINISHED GRADES.
G. EXTENSION STEMS AND STEM GUIDES AS MANUFACTURED BY TRAVERSE CITY IRON WORKS, OR APPROVED EQUIVALENT SHALL BE PROVIDED IN EACH GATE WELL WHERE THE VALVE OPERATING NUT IS FURTHER THAN 7" BELOW THE TOP OF THE GATE WELL COVER OR VALVE BOX COVER. EXTENSION STEM SHALL EXTEND TO WITHIN 2" OF THE TOP OF COVER FINAL ELEVATION. EXTENSION STEMS WILL BE SECURED IN PLACE WITH BRACKETS ATTACHED TO THE RISER SECTIONS.

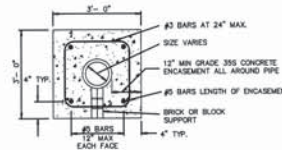


SECTION

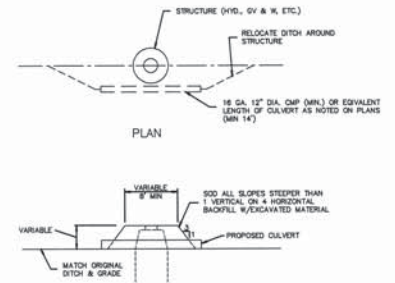
TYPICAL HYDRANT SETTINGS



VALVE BOX DETAIL

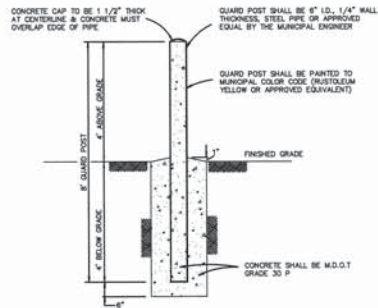


STANDARD ENCASEMENT FOR 12" & SMALLER WATER MAIN



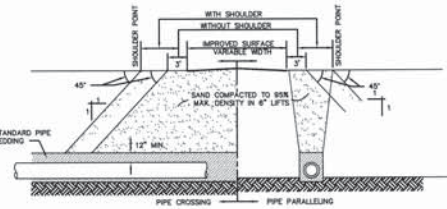
SECTION

DITCH RELOCATION & ENCLOSURE AROUND STRUCTURES



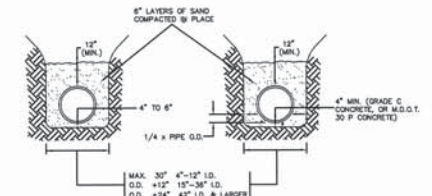
GUARD POST DETAIL

GUARD POST SHALL BE PLACED 4' FROM CENTERLINE OF HYDRANT OR AS PER PLAN



BACKFILLING IN THE AREAS OF STREETS, ALLEYS, SIDEWALKS, DRIVES & PARKING AREA

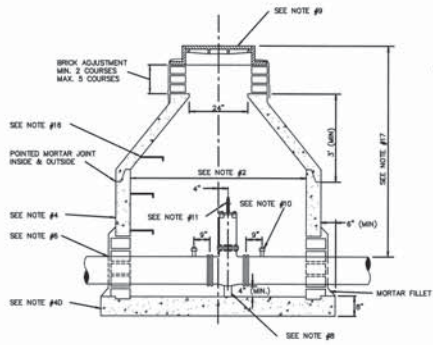
SEE NOTE # 2



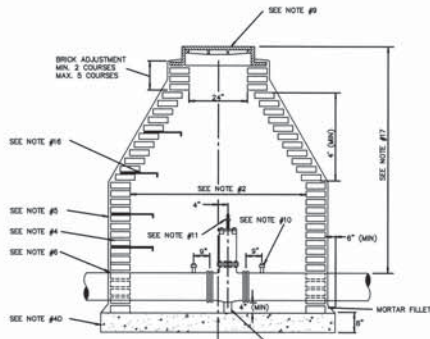
CLASS "B" BEDDING

CLASS "A" BEDDING

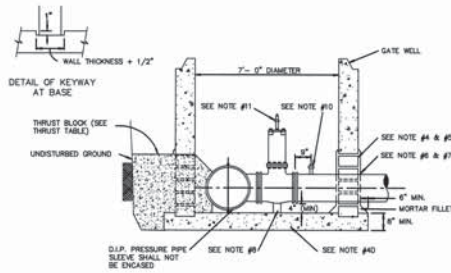
BEDDING & TRENCH WIDTH REQUIREMENT



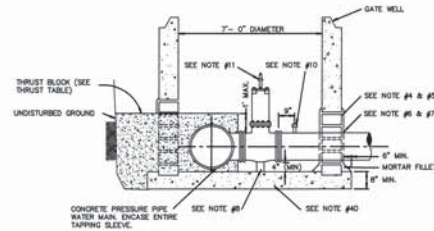
DETAIL OF PRECAST CONCRETE GATE WELL



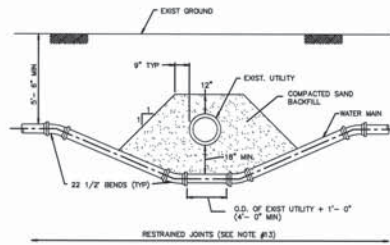
DETAIL OF BRICK GATE WELL



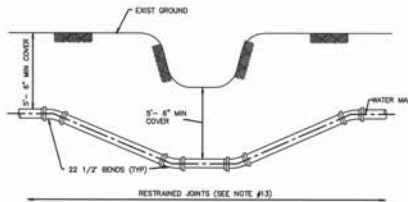
DETAIL FOR D.I.P. TAPPING SLEEVE VALVE & WELL



DETAIL FOR CONCRETE PIPE TAPPING SLEEVE VALVE & WELL



TYPICAL WATER MAIN UTILITY CROSSING
SEE NOTE # 12



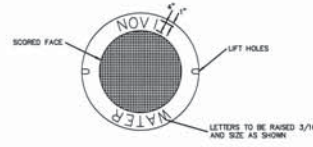
DITCH AND STREAM CROSSING

THRUST TABLE		SOIL BEARING LOADS - HORIZONTAL THRUST	
MAIN SIZE	TEES	TYPE OF SOIL	S.B.L. LBS/30 FT.
8"	4.250	MUCK, PEAT, M.S.	0
8"	7.540	SOFT CLAY	1000
10"	18.970	SAND	2000
10"	35.160	SAND AND GRAVEL	3000
20"	47.120	SAND AND GRAVEL, COMPACTED S/CLAY	4000
20"	67.860	HARD COMPACTED CLAY	5000
24"	112.860		

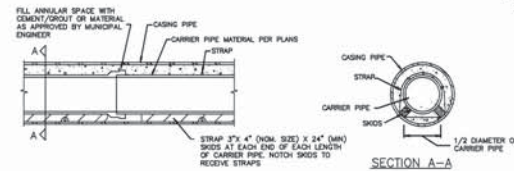
THRUST BLOCK TABLES

(FOR TAPPING SLEEVE VALVE & WELL ONLY)

NOTE:
1. ALL THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND.
2. CONCRETE SHALL BE M.G.O.T. GRADE 30P.
3. THRUST TABLE DIVIDED BY SOIL BEARING LOADS EQUALS THRUST BLOCK SQUARED.



COVER LETTERING DETAIL
(TYPICAL FOR ALL CASTINGS)
TYPE "A" COVER



CARRIER PIPE WITH CASING PIPE
SEE NOTE #14

- DETAILED CONSTRUCTION NOTES**
1. ALL GATE WELL STRUCTURES SHALL BE CONCENTRIC ONE TYPE UNLESS OTHERWISE APPROVED BY THE MUNICIPAL ENGINEER.
 2. GATEWELLS SHALL BE BRICK, BLOCK OR PRECAST REINFORCED CONCRETE SIZED AS FOLLOWS:
 - A. 6" THROUGH 10" PIPE SHALL BE 6" INSIDE DIAMETER.
 - B. OVER 10" PIPE SHALL BE 6" INSIDE DIAMETER.
 3. TAPPING WELLS SHALL BE BRICK, BLOCK OR PRECAST REINFORCED CONCRETE.
 4. A BRICK SHALL BE GRADE U-1 CONFORMING TO ASTM C-55.
 5. BLOCK SHALL BE GRADE N-1 CONFORMING TO ASTM C-135.
 6. PRECAST REINFORCED CONCRETE SECTIONS SHALL CONFORM TO ASTM C-478. LIFT HOLES SHALL BE POINTED INSIDE AND OUTSIDE AT THE TIME STRUCTURE IS ASSEMBLED.
 7. CONCRETE BASE SHALL BE MOOT GRADE 30P (MINIMUM).
 8. BRICK OR BLOCK SHALL PLASTERED ON THE OUTSIDE WITH A MINIMUM OF 1/2" OF MORTAR.
 9. THE PIPE OPENINGS SHALL BE WRAPPED WITH CADOLLOC WRAP, #30 MASTIC, OR APPROVED EQUIVALENT WITHIN THE WALL OF THE TAPPING SLEEVE AND VALVE WELL.
 10. MORTAR FOR LAYING BRICK OR BLOCK, POINTING JOINTS AND PLASTERING OUTSIDE OF STRUCTURES SHALL BE COMPOSED OF 1 PART MASONRY CEMENT (TYPE S) AND 2 1/2 PARTS MASONRY SAND.
 11. GATE VALVES SHALL BE 6.1/4 IN. IRON BODY, FULLY BRONZE-MOUNTED, DOUBLE DISC, PARALLEL SEAT TYPE, NONRISING STEM, SPRING COUNTERBALANCE AND CONFORMING TO ANNA STANDARDS, OR RESILIENT SEATED GATE VALVES CONFORMING TO ANNA C-1000. GATE VALVES AND FITTINGS SHALL BE SUPPORTED BY FORMED CONCRETE OR MORTARED BRICK BEARING ON THE FLOOR (MINIMUM 4" CLEARANCE FROM FLOOR TO BOTTOM OF VALVE).
 12. EAST APPROX IRON WORK #104 AND TYPE A COVER (WITH LETTER AS PER DETAIL THIS SHEET) OR APPROVED EQUIVALENT PLACED ON A BED OF MORTAR. MORTAR SHALL EXTEND OVER BASE FLANGE.
 13. COPROPORTION STOPS
 - A. 1-INCH MULLER #1-15000, CLOW F-1280 OR APPROVED BY THE MUNICIPAL ENGINEER.
 - B. ALL COPROPORTION STOPS INSTALLED OUTSIDE OF GATEWELLS SHALL BE MADE WITH BRONZE DOUBLE-STRAP TAPPING SADDLE (CLOW F-1280 OR APPROVED BY THE MUNICIPAL ENGINEER).
 14. EXTENSION STEM AND STEM GUIDE AS MANUFACTURED BY TRAVERS CITY IRON WORKS OR APPROVED EQUIVALENT SHALL BE PROVIDED FOR EACH GATE WELL OR VALVE BOX INSIDE THE VALVE OPERATING NUT IS MORE THAN 9 FEET BELOW THE TOP OF THE GATE WELL COVER (FINAL ELEVATION). EXTENSION STEMS AND GUIDES SHALL EXTEND VALVE OPERATING NUT TO WITHIN 3 FEET OF THE TOP OF COVER (FINAL ELEVATION). EXTENSION STEMS SHALL BE SECURED IN PLACE WITH BRACKETS ATTACHED TO THE RISER SECTIONS.
 15. WHENEVER A WATER MAIN IS INSTALLED UNDER ANY EXISTING UTILITY LINE, PROVISIONS SHALL BE MADE TO PROPERLY SUPPORT OR DISTRIBUTE ANY CONCENTRATED LOADS TO AVOID ANY SETTLEMENT AND ALL POSSIBLE FAILURE OF THE LOWER MAIN AT VERTICAL SEPARATION OF AT LEAST 18 INCHES BETWEEN THE SENOR AND THE WATER MAIN SHALL BE PROVIDED (MEASURED BARREL TO BARREL).
 - A. COMPACTED SAND BACKFILL SHALL EXTEND FOR 8 INCHES EACH SIDE OF EXISTING PIPE, AT 12 INCHES ABOVE EXISTING PIPE AND SHALL SLOPE AT A ONE ON ONE SLOPE TO THE BOTTOM OF THE TRENCH.
 16. RESTRAINED JOINTS ARE REQUIRED IN LIEU OF THRUST BLOCKS. RESTRAINED JOINTS FOR PIPE SIZES UP TO 18" SHALL BE FAST GRIP GASKETS, MECA LUG OR APPROVED EQUAL. RESTRAINED JOINTS FOR PIPE SIZES OVER 18" SHALL BE AMERICAN DUCTILE IRON FLEX JOINT PIPE OR APPROVED EQUAL BOLTED SYSTEM.
 17. THRUST RESTRAINT DESIGN SHALL BE PER THE DUCTILE IRON PIPE RESEARCH ASSOCIATION MANUAL; THRUST RESTRAINT DESIGN FOR DUCTILE PIPE, CURRENT EDITION.
 18. CARRIER PIPE WITH CASING PIPE
 - A. INSIDE DIAMETER OF CASING PIPE SHALL BE EQUAL TO THE OUTSIDE DIAMETER OF THE PIPE PLUS 8 INCHES, UNLESS OTHERWISE NOTED ON CONTRACT DRAWINGS.
 - B. UNLESS OTHERWISE SPECIFIED, CASING PIPE SHALL BE ASTM C-78 CLASS V R.C.P. OR ASTM A139 GRADE B WITH MINIMUM WALL THICKNESS OF 0.250 INCHES.
 - C. ALTERNATE METHODS OF SUPPORTING AND MAINTAINING THE POSITION OF THE CARRIER PIPE WITH RESPECT TO THE CASING PIPE (ON LIEU OF THE USE OF THIMBERS) WILL BE CONSIDERED. THE CONTRACTOR SHALL SUBMIT DETAILS OF SUCH ALTERNATE METHODS FOR APPROVAL BY THE MUNICIPAL ENGINEER.
 - D. THE ENDS OF THE CASING PIPE SHALL BE CLOSED WITH A MASONRY BULKHEAD.
 19. WHERE A CONCRETE ENCASMENT IS SPECIFIED, A 12 INCH MINIMUM LAYER OF MECHANICALLY COMPACTED SAND SHALL BE MAINTAINED BETWEEN EXISTING UTILITY AND TOP OF CONCRETE ENCASMENT.
 20. GATE WELL STEPS SHALL BE STEEL, ENCASED WITH POLYPROPYLENE PLASTIC, EQUIVALENT TO M.A. INDUSTRIES, INC. PS-1 FOR PRE-CAST WELLS OR PS-19 FOR BLOCK/BRICK WELLS OR APPROVED EQUIVALENT.
 21. MINIMUM COVER
 - A. 5'-6" INCLUDING CROSSINGS THROUGH DITCH SECTIONS, WHEN INSTALLED PARALLEL TO A DITCH, MAINS SHALL HAVE 5'-6" OF COVER MINIMUM, AS MEASURED FROM THE NEAREST POINT IN THE DITCH CROSS SECTION.
 - B. 6'-0" UNDER STREETS, ROADS, ALLEYS AND OTHER PAVED OR TRAVELED AREAS.
 22. PRIOR TO ACCEPTANCE ALL WATER MAINS ARE TO BE PRESSURE TESTED AND AND COMPLETED IN ACCORDANCE WITH ANS/AWWA C900-83 AND C911-82 STANDARDS.

WATER MAIN DETAILS

CITY OF NOVI

Drawn: _____
Designed: _____
Checked: _____
Scale: NO SCALE
Date: 6/15/98
Job No.: _____
Sht. No.: _____