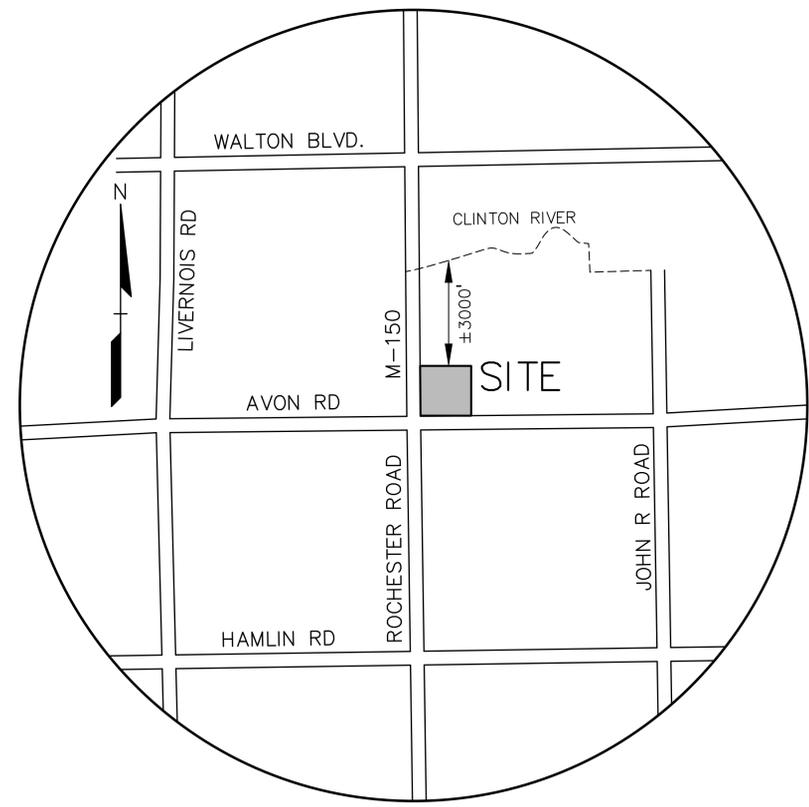


PRELIMINARY SITE PLANS FOR  
**ROCHESTER RETAIL**  
 N.E.C. OF ROCHESTER ROAD AND AVON ROAD  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN



**NOTE:**  
 A CONDITIONAL USE PERMIT IS  
 REQUIRED FOR THE DRIVE-THROUGH

Refer to Section 138-1.203 of the Zoning Ordinance for conditional use signage requirements. Signs advertising a conditional use is proposed for the property must be posted 15 days prior to the public hearing.



**LOCATION MAP**  
 NO SCALE

Site Plan Review		
Reviewed for compliance to the City Ordinance, Building and Fire Codes		
Department	Reviewer	Approved
Planning	Kristen Kapelanski 248-841-2772 KapelanskiK@RochesterHills.org	Yes
Building	Mark Artinian 248-841-2446 ArtinianM@RochesterHills.org	Yes
Engineering	Jason Boughton 248-841-2490 BoughtonJ@RochesterHills.org	Yes
Nat. Resources	Matt Einheuser 248-841-2551 EinheuserM@RochesterHills.org	Yes
Fire	Lt. Ann Echols 248-841-2701 EcholsA@RochesterHills.org	Yes

C. McEwen for M. Artinian

**City of Rochester Hills**  
 Planning & Economic Development

Conditions and mark-ups noted throughout the plan set must be addressed prior to final approval.



**CAUTION!!**  
 THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE AS TO THEIR EXISTENCE OR MARKED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

**INDEX OF DRAWINGS:**

- COVER SHEET
- C-1.0 TOPOGRAPHIC SURVEY
- C-3.0 SITE PLAN
- C-3.1 FIRE PROTECTION PLAN
- C-4.0 PRELIMINARY GRADING PLAN
- C-6.1 PRELIMINARY UTILITY PLAN - WEST
- C-6.2 PRELIMINARY UTILITY PLAN - EAST
- C-9.1 NOTES AND DETAILS
- C-9.2 DETAILS
- C-9.3 DETAILS
- C-12.0 SIGHT DISTANCE PLAN
- L-1.0 PRELIMINARY LANDSCAPE PLAN
- L-1.1 LANDSCAPE DETAILS
- T-1.0 TREE PRESERVATION PLAN

- ARCHITECTURAL PLANS:**
- A-1 FIRST LEVEL FLOOR PLAN
  - A-2 SECOND LEVEL FLOOR PLAN
  - A-3 CONCEPTUAL BUILDING ELEVATIONS

- PHOTOMETRIC PLANS:**
- SHEET 1 OF 2 LED SITE LAYOUT
  - SHEET 2 OF 2 LED SITE LAYOUT

CLIENT  
**ROCHESTER AVON PARTNERS, LLC**  
 251 EAST MERRILL STREET, SUITE #205  
 BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
 N.E.C. ROCHESTER ROAD & AVON ROAD  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:  
 MAY 10, 2021

DRAWING TITLE  
**COVER SHEET**

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB

DRAWING NUMBER:

**COVER**

**DEVELOPER:**

ROCHESTER AVON PARTNERS, LLC  
 251 EAST MERRILL STREET, SUITE #205  
 BIRMINGHAM, MI, 48009  
 CONTACT: DORAID MARKUS  
 PHONE: (248) 892-2222  
 EMAIL: DMARKUS@MARKUSLLC.COM

**ARCHITECT:**

ROGVOY ARCHITECTS  
 32500 TELEGRAPH ROAD, SUITE #250  
 BINGHAM FARMS, MI, 48025  
 CONTACT: MARK DRANE  
 PHONE: (248) 540-7700  
 FAX: (248) 540-2710

**CIVIL ENGINEER:**

PEA GROUP  
 2430 ROCHESTER COURT, SUITE 100  
 TROY, MI, 48063  
 CONTACT: RACHEL L. SMITH, PE  
 PHONE: (248) 689-9090 EXT. 1165  
 FAX: (248) 689-1044  
 EMAIL: RACHEL.SMITH@PEAGROUP.COM

**LANDSCAPE ARCHITECT:**

PEA GROUP  
 7927 NEMCO WAY, SUITE 115  
 BRIGHTON, MI 48116  
 CONTACT: JEFF SMITH, R.L.A., LEED AP  
 PHONE: (517) 546-8583  
 FAX: (517) 546-8973  
 EMAIL: JSMITH@PEAGROUP.COM

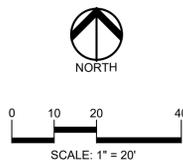
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**NOT FOR CONSTRUCTION**  
**CITY FILE #21-007 SECTION #14**

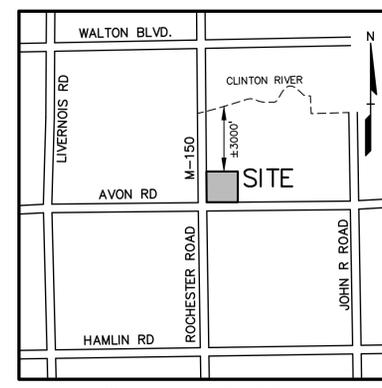
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W 1/4 CORNER SECTION 14  
T.03N., R.11E  
CITY OF ROCHESTER HILLS  
OAKLAND COUNTY, MI  
REMON IN MON BOX

**PEA GROUP**  
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**CAUTION!!**  
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**LEGEND**

- IRON FOUND
- BRASS PLUG SET
- SEC. CORNER FOUND
- IRON SET
- MONUMENT FOUND
- RECORDED
- NAIL FOUND
- MONUMENT SET
- M MEASURED
- NAIL & CAP SET
- C CALCULATED

**EXISTING**

- OH-ELEC-W-O
- UG-CATV
- UG-P
- UG-ELEC-E
- UG-ELEC-G
- WATERMAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
- SANITARY SEWER, CLEANOUT & MANHOLE
- STORM SEWER, CLEANOUT & MANHOLE
- SQUARE, ROUND & BENTHIE CATCH BASIN, YARD DRAIN
- WATER VALVE EQUIVARIANT VALVE BOX, SERVICE SHUTOFF
- MALBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNDERTRENCH STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SIGN
- CONC.
- ASPH.

**REFERENCE DRAWINGS**

- CITY OF ROCHESTER HILLS GIS MAP
- CITY OF ROCHESTER HILLS GIS MAP
- CITY OF ROCHESTER HILLS GIS MAP
- ELECTRIC
- NOT RECEIVED
- NOT RECEIVED
- CONSUMERS ENERGY MAP# 03-61-14-3, DATED 01/10/19
- NO FACILITIES IN THE AREA
- CONCRETE SERVICE MAP RECEIVED 02/19/19
- FRM MAP 261250392F, DATED 09/29/06, ZONE "C"
- MOOT ROAD PLANS, VARIOUS PROJECTS
- BOUNDARY TOPOGRAPHIC SURVEY, COMERICA BANK, NF #1448, DATED 12/21/00
- OTHER
- PARTIAL GRADING/UTILITY PLAN, COMERICA BANK, UNDATED

**BENCHMARKS**  
(GPS DERIVED - NAVD88)

**BM #300**  
CUT "X" ON NORTHEAST BOLT HYDRANT EAST SIDE ROCHESTER ROAD, ±350' NORTH OF AVON ROAD.  
ELEV. - 846.92'

**BM #301**  
CUT "X" ON SOUTHWEST BOLT OF STEEL STRAIN POLE AT NORTHEAST CORNER OF AVON AND ROCHESTER ROAD.  
ELEV. - 844.05'

**BM #302**  
SET BENCHMARK IN NORTH FACE OF UTILITY POLE NORTH SIDE OF AVON ROAD, ±300' EAST OF ROCHESTER ROAD.  
ELEV. - 838.42'

**EXISTING SOIL INFORMATION:**

PER THE WEB SOIL SURVEY OF OAKLAND COUNTY, AS PUBLISHED BY THE USDA-NRCS, VERSION 19, DATED JUNE 1, 2020, THIS SITE CONSISTS OF SOILS OF THE FOLLOWING TYPE:

59 - URBAN LAND

**LEGAL DESCRIPTION**  
COMBINED PROPERTY

LAND IN A PART OF SOUTHWEST 1/4 SECTION 14, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST SECTION CORNER OF SAID SECTION 14, THENCE SOUTH 89 DEGREES 51 MINUTES 30 SECONDS EAST 195.50 FEET ALONG THE SOUTH LINE OF SECTION 14; THENCE NORTH 60.00 FEET TO THE NORTH LINE OF AVON ROAD (WIDTH VARIES) AND THE POINT OF BEGINNING; THENCE ALONG SAID NORTH LINE NORTH 89 DEGREES 51 MINUTES 30 SECONDS WEST 135.35 FEET TO THE EAST LINE OF S. ROCHESTER ROAD (WIDTH VARIES); THENCE ALONG SAID EAST LINE NORTH 270.00 FEET; THENCE SOUTH 89 DEGREES 51 MINUTES 30 SECONDS EAST 193.50 FEET; THENCE SOUTH 24.30 FEET; THENCE SOUTH 89 DEGREES 51 MINUTES 30 SECONDS EAST 85.00 FEET; THENCE NORTH 24.30 FEET; THENCE S89°51'30"E 57.00 FEET; THENCE SOUTH 270.00 FEET TO THE NORTH LINE OF SAID AVON ROAD; THENCE ALONG SAID NORTH LINE NORTH 89 DEGREES 51 MINUTES 30 SECONDS WEST 200.00 FEET TO THE POINT OF BEGINNING.

CLIENT  
**ROCHESTER AVON PARTNERS, LLC**  
251 EAST MERRILL STREET, SUITE #205  
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
N.E.C. ROCHESTER ROAD & AVON ROAD  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

**REVISIONS**

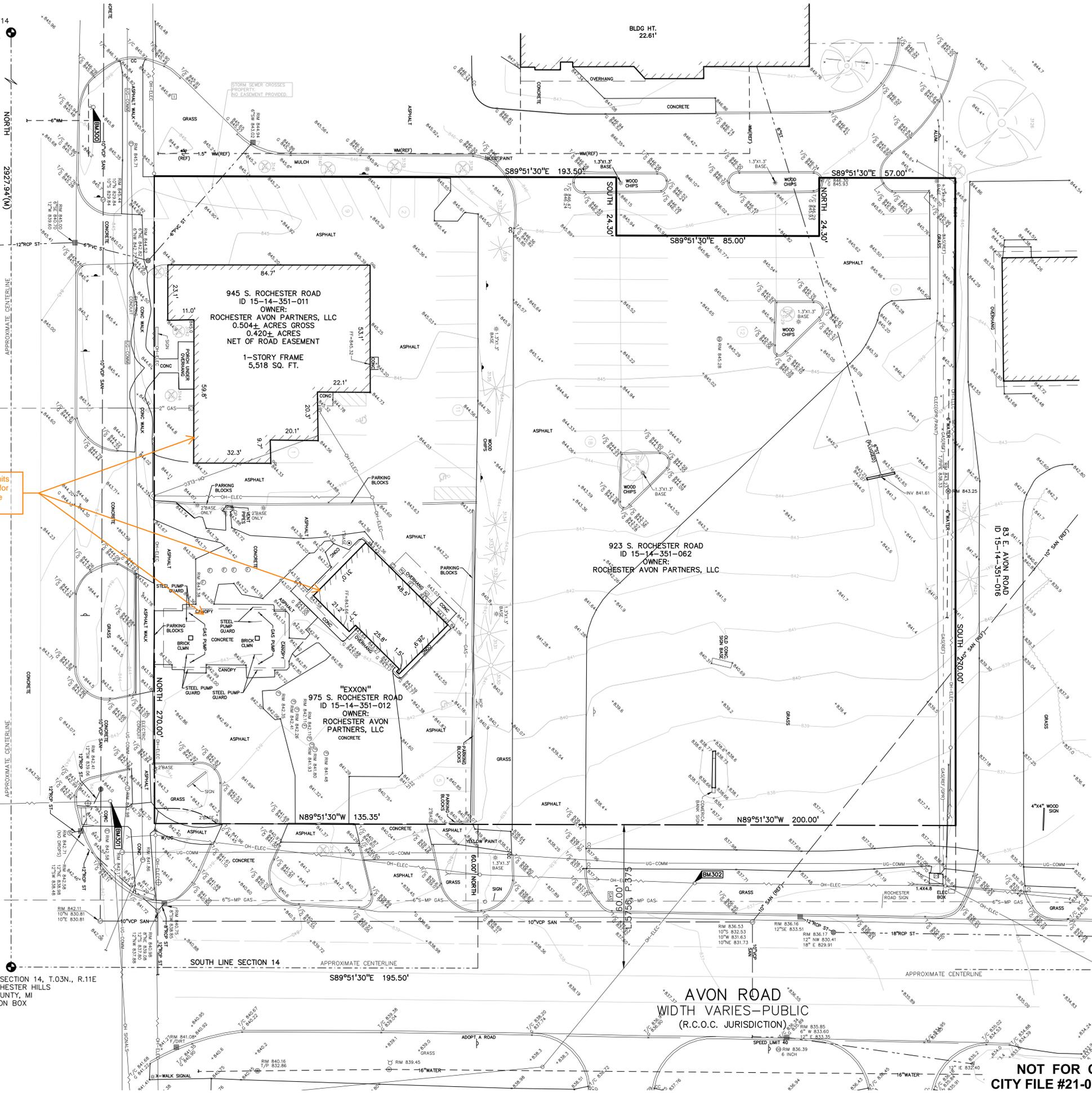
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:  
MAY 10, 2021

DRAWING TITLE  
**TOPOGRAPHIC SURVEY**

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB
DRAWING NUMBER:	

**C-1.0**



Demolition permits will be required for removal of these structures.

ROCHESTER ROAD  
WIDTH VARIES - PUBLIC  
(MOT JURISDICTION)

SW CORNER SECTION 14, T.03N., R.11E  
CITY OF ROCHESTER HILLS  
OAKLAND COUNTY, MI  
REMON IN MON BOX

AVON ROAD  
WIDTH VARIES - PUBLIC  
(R.C.O.C. JURISDICTION)

**NOT FOR CONSTRUCTION**  
CITY FILE #21-007 SECTION #14

**FLOODPLAIN:**  
BY GRAPHIC PLOTTING, THE SUBJECT PARCEL IS IN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN" (ZONE X) PER FEMA FLOOD INSURANCE RATE MAP PANEL NUMBER 261250392F, EFFECTIVE DATE SEPTEMBER 29, 2006

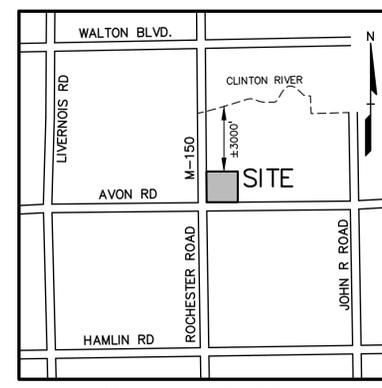
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W 1/4 CORNER SECTION 14  
T.03N., R.11E  
CITY OF ROCHESTER HILLS  
OAKLAND COUNTY, MI  
REM ON IN MON BOX

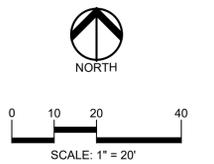
**GENERAL NOTES:**  
REFER TO SHEET C-9.1 FOR GENERAL NOTES AND PAVING NOTES

- SIGN LEGEND:**
- 1 'NO PARKING FIRE LANE' SIGN
  - 2 'STOP' SIGN
  - 3 'BARRIER FREE PARKING' SIGN
  - 4 'VAN ACCESSIBLE' SIGN
  - 5 'CROSSWALK' SIGN
  - 6 'DO NOT ENTER' SIGN
  - 7 'NO LEFT TURN' SIGN
  - 8 'KEEP RIGHT' SIGN
  - 9 'NO DRIVE-THRU ACCESS' SIGN
  - 10 'F.D.C.' SIGN
  - 11 'MOBILE PICK-UP' SIGN
  - 12 'CONTINUE AROUND BUILDING TO DRIVE-THRU ENTRANCE' SIGN
- REFER TO SHEET C-9.2/9.3 FOR SIGN DETAILS

- SIDEWALK RAMP LEGEND:**
- 13 SIDEWALK RAMP 'TYPE R'
  - 14 SIDEWALK RAMP 'TYPE R'
  - 15 SIDEWALK RAMP 'TYPE X'
- REFER TO MDOT R-28 STANDARD RAMP DETAILS ON CONSTRUCTION PLANS

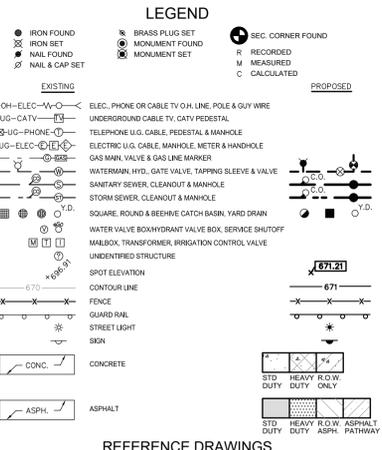


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**SITE DATA TABLE:**

SITE AREA: 2.033 ACRES (88,539 SF)

ZONING: B-2 GENERAL BUSINESS WITH FB-3 FLEX BUSINESS OVERLAY (GAS STATION) PROPERTY IS B-5 AUTOMOTIVE WITH FB-3 FLEX BUSINESS OVERLAY)

PROPOSED USE: MIXED USE RETAIL/RESTAURANT/OFFICE BUILDING

USE	AREA (SF)
RESTAURANT WITH DRIVE THRU	6,330
RETAIL	4,001
OFFICE	10,943
CIRCULATION	3,013
<b>TOTAL BUILDING AREA</b>	<b>26,575</b>

**BUILDING INFORMATION:**  
MAXIMUM ALLOWABLE BUILDING HEIGHT = 45 FEET (3 STORIES)  
PROPOSED BUILDING HEIGHT = 2-STORIES (37'-6" HIGH)

**BUILDING FOOTPRINT AREA = 13,346 SF**  
BUILDING LOT COVERAGE = (13,346 SF / 88,539 SF) x 100 = 15.1%

MINIMUM BUILDING FRONTAGE BUILD-TO-AREA: 159.36' FACADE WIDTH/270' ROCHESTER ROAD FRONTAGE = 59% (40% MIN. REQ.)

PER FB-3 OVERLAY DISTRICT: SETBACK REQUIREMENTS:

FRONT SETBACK (WEST):	MIN.	MAX.	PROVIDED
	15'	25'	139.83'
FRONT SETBACK (WEST):	(OPTIONAL)	NONE	139.83'
FRONT SETBACK (SOUTH):	15'	25'	57.33'
FRONT SETBACK (SOUTH):	(OPTIONAL)	NONE	57.33'
SIDE SETBACK (NORTH):	25'	NONE	48.23'
REAR SETBACK (EAST):	50'	NONE	109.04'
PARKING SETBACK (WEST):	15'	25'	12.0**
PARKING SETBACK (SOUTH):	15'	25'	10.22**

\*-REQUESTING PLANNING COMMISSION APPROVAL (DUE TO REQUIREMENT FOR LARGER PARKING SETBACK WITH 70' OR GREATER BUILDING SETBACK)  
\*-REQUESTING PLANNING COMMISSION APPROVAL (DUE TO REQUIREMENT FOR LARGER PARKING SETBACK WITH 70' OR GREATER BUILDING SETBACK)

**REQUIRED PARKING FOR PROPOSED DEVELOPMENT:**  
MINIMUM 1 SPACE PER 400 SF OF GROSS FLOOR AREA (26,575/400) = 67 SPACES  
MAXIMUM PARKING IS 200% OF MINIMUM (67 x 2) = 134 SPACES

**PARKING PROVIDED:**  
TOTAL PARKING SPACES PROPOSED = 111 SPACES (INC. 6 H/C SPACES)  
(DOES NOT INCLUDE 7 SPACES FOR COMERICA BANK)

**OUTDOOR AMENITY:**  
REQUIRED AMENITY SPACE IS 2% OF TOTAL SITE AREA (88,539 x 0.02) = 1,771 SF  
AMENITY SPACE PROVIDED = 1,795 SF

CLIENT  
**ROCHESTER AVON PARTNERS, LLC**  
251 EAST MERRILL STREET, SUITE #205  
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
N.E.C. ROCHESTER ROAD & AVON ROAD  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

**REVISIONS**

CITY COMMENTS	DATE
	6/16/21
	7/21/21

ORIGINAL ISSUE DATE:  
MAY 10, 2021

DRAWING TITLE  
**SITE PLAN**

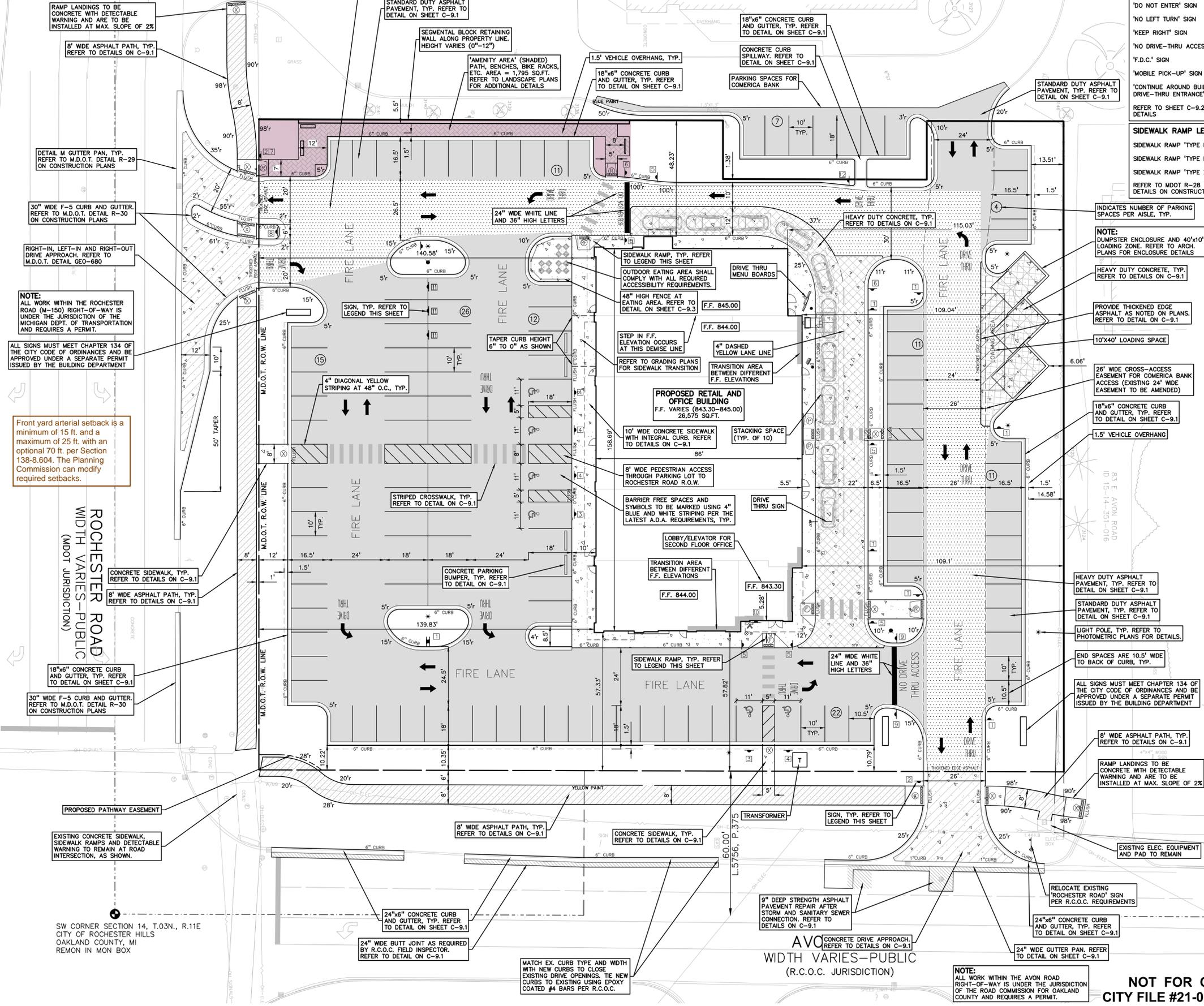
PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB

DRAWING NUMBER:  
**C-3.0**

- ROAD COMMISSION FOR OAKLAND COUNTY (R.C.O.C.) NOTES:**
- PROPER SIGNING IS REQUIRED PRIOR TO ANY WORK STARTING WITHIN THE ROAD RIGHT-OF-WAY.
  - LANE CLOSURES WILL BE RESTRICTED TO 9AM - 3PM MONDAY THROUGH FRIDAY
  - MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES.
  - PROPOSED CURBS SHOULD MATCH EXISTING CURBS AND WILL BE TIED TO EXISTING CURBS USING EPOXY-COATED #4 BAR.
  - A FULL-DEPTH SAWCUT AND/OR MILLED BUTT-JOINT WILL BE REQUIRED AT THE AVON ROAD DRIVE APPROACH PER THE R.C.O.C. FIELD INSPECTOR.
  - ALL FIXED OBJECTS WITHIN 5 FEET OF BACK OF CURB WILL BE REMOVED OR RELOCATED PRIOR TO EXCAVATION.
  - ROADWAYS SHALL BE KEPT CLEAN OF DIRT AND DEBRIS.
  - ALL EXCAVATIONS WITHIN A 1:1 INFLUENCE OF THE ROADWAY WILL REQUIRE M.D.O.T. CLASS II BACKFILL COMPACTED TO 95% MAXIMUM DENSITY.

**NOT FOR CONSTRUCTION**  
CITY FILE #21-007 SECTION #14

XREF: S:\PROJECTS\2019\2019-007\DWG\TOPBASE-19007.dwg  
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\CEASE-19007.dwg  
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\BLK-19007.dwg



Front yard arterial setback is a minimum of 15 ft. and a maximum of 25 ft. with an optional 70 ft. per Section 138-8.604. The Planning Commission can modify required setbacks.

ROCHESTER ROAD WIDTH VARIES - PUBLIC (MDOT JURISDICTION)

SW CORNER SECTION 14, T.03N., R.11E  
CITY OF ROCHESTER HILLS  
OAKLAND COUNTY, MI  
REM ON IN MON BOX

AVON CONCRETE DRIVE APPROACH REFER TO DETAILS ON C-9.1  
WIDTH VARIES - PUBLIC (R.C.O.C. JURISDICTION)

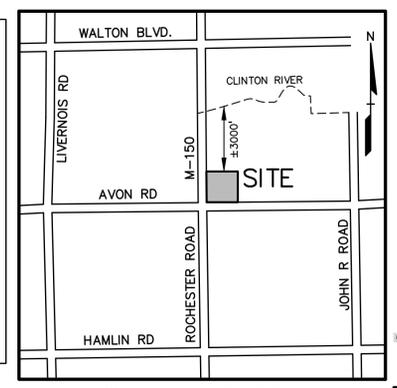
**NOTE:**  
ALL WORK WITHIN THE AVON ROAD RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE ROAD COMMISSION FOR OAKLAND COUNTY AND REQUIRES A PERMIT.

W 1/4 CORNER SECTION 14  
T.03N., R.11E  
CITY OF ROCHESTER HILLS  
OAKLAND COUNTY, MI  
REMON IN MON BOX

ROCHESTER ROAD  
WIDTH VARIES - PUBLIC  
(MDOJ JURISDICTION)

SW CORNER SECTION 14, T.03N., R.11E  
CITY OF ROCHESTER HILLS  
OAKLAND COUNTY, MI  
REMON IN MON BOX

- ROCHESTER HILLS FIRE DEPARTMENT NOTES:**
1. A KNOX KEY SYSTEM SHALL BE INSTALLED, IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE FROM THE KNOX COMPANY AT [www.knoxbox.com](http://www.knoxbox.com) (3200 SERIES BOX).
  2. FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE", AND SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
  3. CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH THE INTERNATIONAL FIRE CODE (IFC) 2006 CHAPTER 14.
  4. OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN THE CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES.
  5. PROVIDE A "NO PARKING FIRE DEPARTMENT CONNECTION" SIGN OVER THE FIRE DEPARTMENT CONNECTION.
  6. FOR 26,575 S.F. BUILDING, CONSTRUCTION TYPE IIB, FIRE FLOW REQUIRED = 3,500 GALLONS PER MINUTE. CITY FIRE DEPARTMENT CAN ALLOW 50% REDUCTION WITH FULLY SPRINKLED BUILDING, THEREFORE 1,750 GPM ARE REQUIRED WITH FIRE HYDRANTS MEETING 350' HOSE LAY (2 HYDRANTS). A FIRE FLOW TEST WAS COMPLETED ON 7/14/21 WHICH INDICATED A FLOW OF 2,092 GPM AT 20 PSI.



**PEA GROUP**  
t: 844.813.2949  
[www.peagroup.com](http://www.peagroup.com)

RACHEL L. SMITH  
REGISTERED PROFESSIONAL ENGINEER  
NO. 48928

LOCATION MAP - NOT TO SCALE

**LEGEND**

● IRON FOUND	● BRASS PLUG SET	● SEC. CORNER FOUND
⊗ IRON SET	⊗ MONUMENT FOUND	⊗ RECORDED
⊗ NAIL FOUND	⊗ MONUMENT SET	⊗ MEASURED
⊗ NAIL & CAP SET		⊗ CALCULATED

**EXISTING**

- OH-ELEC-W-O- ELEC. PHONE OR CABLE TV OH LINE, POLE & GUY WIRE
- UG-CATV- UG UNDERGROUND CABLE TV, CATV PEDESTAL
- UG-PANIC- TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- UG-ELEC- ELEC. U.G. CABLE, MANHOLE, METER, HANGHOLE
- GAS- GAS MAIN, VALVE & GAS LINE MARKER
- WATER- WATER MAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
- SEWER- SANITARY SEWER, CLEANOUT & MANHOLE
- STORM- STORM SEWER, CLEANOUT & MANHOLE
- Y.D. Y.D. SQUARE, ROUND & BEHREVE CATCH BASIN, YARD DRAIN
- WATER VALVE EQUIPMENT VALVE BOX, SERVICE SHUTOFF
- MALOX- MALOX, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNDERTIED- UNIDENTIFIED STRUCTURE
- SPOT- SPOT ELEVATION
- CONTOUR- CONTOUR LINE
- FENCE- FENCE
- RAIL- GUARD RAIL
- LIGHT- STREET LIGHT
- SKIN- SKIN
- CONC- CONCRETE
- ASPH- ASPHALT

**PROPOSED**

- FIRE LANE- FIRE LANE
- LOADING- 10' X 40' LOADING SPACE (LOCATED FULLY OUTSIDE OF FIRE LANE)
- DETENTION- U.G. DETENTION SYSTEM: 674"-72" DIA. TYPE II ALUMINIZED CORRUGATED C.S.P. AT 0.10%

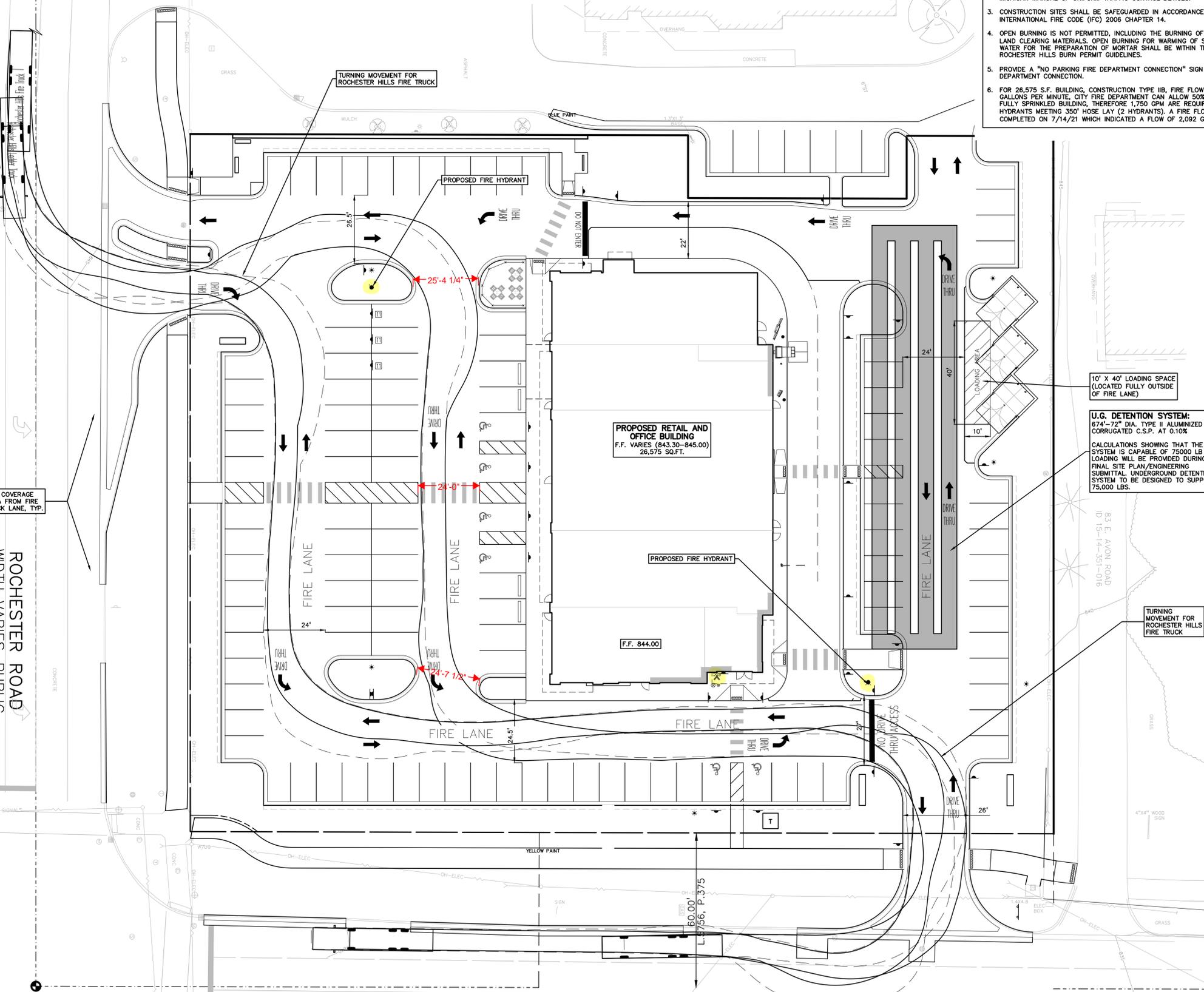
**REFERENCE DRAWINGS**

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- MDOJ ROAD PLANS, VARIOUS PROJECTS
- BOUNDARY/TOPOGRAPHIC SURVEY, COMERICA BANK, NF #M148, DATED 12/21/20
- PARTIAL GRADING/UTILITY PLAN, COMERICA BANK, UNDATED

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

CAUTION!!  
THE LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

SCALE: 1" = 20'



PROPOSED RETAIL AND OFFICE BUILDING  
F.F. VARIES (843.30-845.00)  
26,575 SQ.FT.

**U.G. DETENTION SYSTEM:**  
674"-72" DIA. TYPE II ALUMINIZED CORRUGATED C.S.P. AT 0.10%

CALCULATIONS SHOWING THAT THE SYSTEM IS CAPABLE OF 75000 LB LOADING WILL BE PROVIDED DURING FINAL SITE PLAN/ENGINEERING SUBMITTAL. UNDERGROUND DETENTION SYSTEM TO BE DESIGNED TO SUPPORT 75,000 LBS.



CLIENT  
**ROCHESTER AVON PARTNERS, LLC**  
251 EAST MERRILL STREET, SUITE #205  
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
N.E.C. ROCHESTER ROAD & AVON ROAD  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

**REVISIONS**

CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:  
MAY 10, 2021

DRAWING TITLE  
**FIRE PROTECTION PLAN**

PEA JOB NO.	2019-007
P.M.	RLS
D.N.	PB
DES.	PB
DRAWING NUMBER:	

**NOT FOR CONSTRUCTION**  
CITY FILE #21-007 SECTION #14

**C-3.1**

XREF: S:\PROJECTS\2019\2019-007\DWG\TOP\BASE-19007.dwg  
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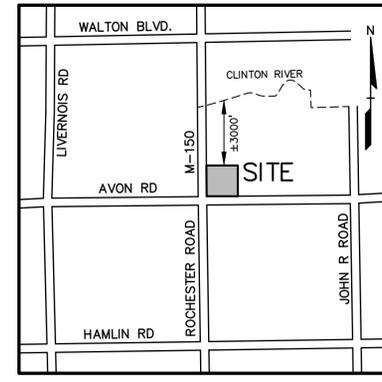




**NOTE:**  
SEE SHEET C-9.1 FOR SANITARY BASIS OF DESIGN

**SAND BACKFILL NOTE:**  
ALL UTILITIES UNDER PAVEMENT OR WITHIN 3' OF THE EDGE OF PAVEMENT (OR WITHIN THE 45° LINE OF INFLUENCE OF PAVEMENT) SHALL HAVE M.D.O.T. CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557).

**PUBLIC UTILITY EASEMENTS:**  
ALL WATER MAIN SHALL BE LOCATED IN A 20' WIDE EASEMENT.

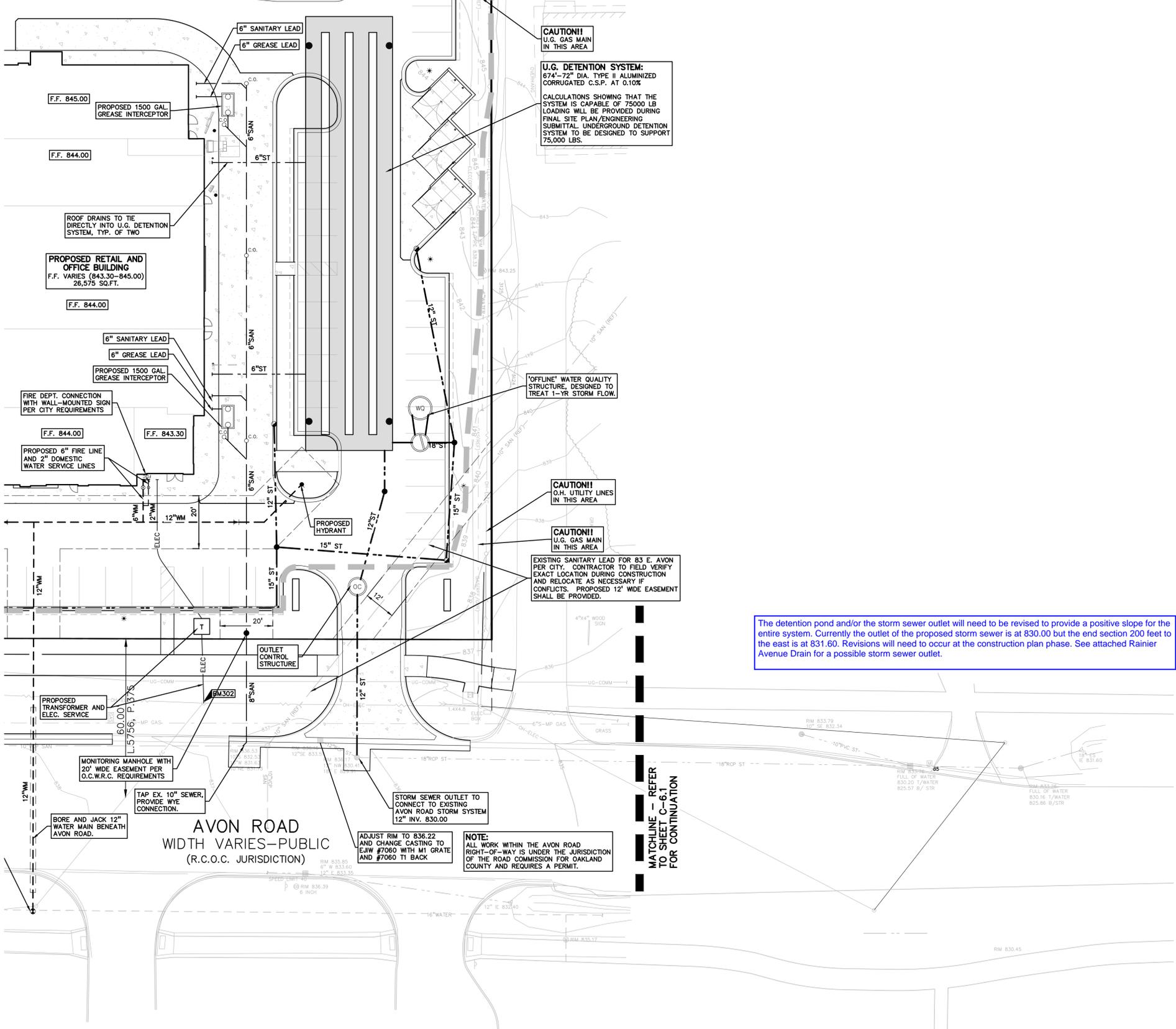


**PEA GROUP**  
t: 844.813.2949  
www.peagroup.com

**RACHEL L. SMITH**  
ENGINEER  
No. 49393

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

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**CAUTION!!**  
U.G. GAS MAIN IN THIS AREA

**U.G. DETENTION SYSTEM:**  
674"-72" DIA. TYPE II ALUMINIZED CORRUGATED C.S.P. AT 0.10%

CALCULATIONS SHOWING THAT THE SYSTEM IS CAPABLE OF 75000 LB LOADING WILL BE PROVIDED DURING FINAL SITE PLAN/ENGINEERING SUBMITTAL. UNDERGROUND DETENTION SYSTEM TO BE DESIGNED TO SUPPORT 75,000 LBS.

**CAUTION!!**  
O.H. UTILITY LINES IN THIS AREA

**CAUTION!!**  
U.G. GAS MAIN IN THIS AREA

EXISTING SANITARY LEAD FOR 83 E. AVON PER CITY. CONTRACTOR TO FIELD VERIFY EXACT LOCATION DURING CONSTRUCTION AND RELOCATE AS NECESSARY IF CONFLICTS. PROPOSED 12' WIDE EASEMENT SHALL BE PROVIDED.

The detention pond and/or the storm sewer outlet will need to be revised to provide a positive slope for the entire system. Currently the outlet of the proposed storm sewer is at 830.00 but the end section 200 feet to the east is at 831.60. Revisions will need to occur at the construction plan phase. See attached Rainier Avenue Drain for a possible storm sewer outlet.

**DETENTION CALCULATIONS:**

CITY OF ROCHESTER HILLS REQUIRES 25-YEAR DETENTION BE PROVIDED FOR ALL TRIBUTARY AREAS. INFILTRATION CANNOT BE PROVIDED DUE TO THIS BEING A CONTAMINATED BROWNFIELD SITE.

TRIBUTARY AREA = 2.23 ACRES  
AVERAGE RUNOFF COEFFICIENT 'C' = 0.88  
(1.95AC \* 0.95) + (0.28\*0.35) = 2.23 ACRES  
C (ROOF/PVMT) = 0.95; C (GRASS) = 0.35

ALLOWABLE DISCHARGE = 2.23 x 0.20 CFS/ACRE = 0.446 CFS

**BANKFULL STORAGE (CHANNEL PROTECTION VOLUME)**

CHANNEL PROTECTION VOLUME (C<sub>pv</sub>) = 6788 x AREA x C  
= 6788 x 2.23 x 0.88  
= 13,321 CF

VOLUME PROVIDED AT 835.21 = 13,321 C.F.  
VOLUME WILL BE RELEASED GRADUALLY OVER A 24-HOUR PERIOD.

**25-YR DETENTION REQUIREMENT (OAKLAND COUNTY FORMULA)**

Q<sub>0</sub> = ALLOWABLE DISCHARGE/ACRE IMPERVIOUS  
= 0.446 CFS/(2.23 ACRES x 0.88) = 0.227 CFS/ACRE IMPERVIOUS

O.C.W.R.C. ORIFICE OUTLET FORMULA FOR STORAGE TIME FOR A 25-YEAR STORM:

T<sub>25</sub> = -25 + (8062.5/0.227)<sup>0.5</sup> = 163.46 MINUTES

V<sub>S25</sub> =  $\frac{12900T}{T+25} - 40 Q_0 T = \frac{12900 \times 163.46}{163.46+25} - 40 \times 0.227 \times 163.46$   
= 9,705 CF/ACRE

V<sub>T25</sub> = V<sub>S25</sub> x AREA x 'C'  
= 9,705 x 2.23 x 0.88 = 19,045 C.F. REQUIRED.

**DETENTION PROVIDED:**

DETENTION IS PROPOSED TO BE PROVIDED IN 72" DIAMETER PIPES.

674" OF 72" PIPE PROPOSED (28.27 CF/IF) = 19,054 C.F. PROVIDED

OUTLET CONTROL INVERT = 830.33  
LOWEST DETENTION PIPE INVERT = 831.00  
HIGHEST DETENTION PIPE INVERT = 831.26  
MAXIMUM STORAGE ELEVATION = 837.26

25-YEAR VOLUME PROVIDED AT ELEVATION = 837.24 (5.98' DEEP)

**OUTLET RESTRICTION SIZING:**

TOTAL DRAINAGE AREA FOR NORTH BASIN = 2.23 ACRES  
AVERAGE RUNOFF COEFFICIENT 'C' = 0.88  
ALLOWABLE OUTLET FLOW (0.20 CFS PER ACRE) = 0.446 CFS

25-YEAR STORAGE VOLUME = 19,045 CF  
25-YEAR STORAGE ELEVATION = 837.24

CHANNEL PROTECTION VOLUME = 13,321 CF  
CHANNEL PROTECTION ELEVATION = 835.21

**EXTENDED WATER QUALITY RELEASE:**

PER CITY REQUIREMENTS, THE CHANNEL PROTECTION VOLUME SHOULD BE DISCHARGED OVER 24 TO 48 HOURS. WHEN SIZING THE OUTLET RESTRICTION, THE AVERAGE FLOW RATE SHOULD ASSUME THE SYSTEM HAS HALF THE C<sub>pv</sub> VOLUME STORED (6661 CF).

AVERAGE DISCHARGE RATE = 13,321 CF / 36 HOURS = 0.103 C.F.S.  
STORAGE ELEVATION OF HALF C<sub>pv</sub> VOLUME (6661 CF) = 833.54  
OUTLET RESTRICTION INVERT = 830.33  
HEAD OVER ORIFICE RESTRICTIONS (833.54 - 830.33) = 3.21 FEET

ORIFICE FLOW EQUATION, FLOW Q = 0.62 x A x (2g x HEAD OVER ORIFICE)<sup>0.5</sup>  
WHERE FLOW Q = 0.103 CFS  
WHERE HEAD H = 3.21 FEET  
SOLVING FOR AREA OF ORIFICE 'A' = 0.01155 SQ.FT. (1.664 SQ.IN.)  
THEREFORE PROVIDE, ONE (1) 1.5" DIA. HOLE (0.01227 SQ.FT.) AT 830.33  
A 1.5" DIA. ORIFICE WOULD DE-WATER THE DETENTION SYSTEM IN ±33.8 HOURS (±24 HRS)

**PEAK FLOW RESTRICTION:**

DISCHARGE FROM THE SYSTEM CAN NOT EXCEED 0.446 CFS. CALCULATIONS BELOW VERIFY THIS CONDITION IS MET WHEN SYSTEM IS STORING AT THE MAXIMUM ELEVATION OF 837.24:

CHANNEL PROTECTION RESTRICTION, 1.5" HOLE AT 830.33  
ORIFICE FLOW EQUATION, FLOW Q = 0.62 x A x (2g x HEAD OVER ORIFICE)<sup>0.5</sup>  
WHERE FLOW A = 0.01227 SQ.FT.  
WHERE HEAD H = 6.91 FEET  
Q<sub>cpv</sub> = 0.160 CFS

THEREFORE, A SECOND ORIFICE IS REQUIRED TO DISCHARGE THE REMAINDER OF THE ALLOWABLE OUTFLOW (0.446-0.160) 0.286 CFS. THIS SECOND ORIFICE WILL BE INSTALLED AT THE CHANNEL PROTECTION VOLUME STORAGE ELEVATION OF 835.21

ORIFICE FLOW EQUATION, FLOW Q = 0.62 x A x (2g x HEAD OVER ORIFICE)<sup>0.5</sup>  
WHERE FLOW Q = 0.286 CFS (MAX.)  
WHERE HEAD H = (837.24-835.21) = 2.03 FEET  
SOLVING FOR AREA OF ORIFICE 'A' = 0.0403 SQ.FT. (5.810 SQ.IN.)  
THEREFORE PROVIDE, ONE (1) 2.7" DIA. HOLE (0.0398 SQ.FT.) AT 835.21

USING ABOVE ORIFICE EQUATION AND USING THE HEAD 'H' AND AREA 'A' VALUES PROVIDED FOR BOTH SETS OF RESTRICTIONS, GIVES THE MAXIMUM FLOW FROM EACH SET OF ORIFICES:

MAX. OUTFLOW FROM C<sub>pv</sub> RESTRICTION = 0.160 CFS  
MAX. OUTFLOW FROM 25-YEAR RESTRICTION = 0.282 CFS  
COMBINED MAXIMUM OUTFLOW (0.160 + 0.282) = 0.442 CFS (LESS THAN 0.446 ALLOWABLE)

\*\*REFER TO OUTLET CONTROL DETAIL ON SHEET C-9.3 FOR ADDITIONAL DETAILS\*\*

CLIENT  
**ROCHESTER AVON PARTNERS, LLC**  
251 EAST MERRILL STREET, SUITE #205  
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
N.E.C. ROCHESTER ROAD & AVON ROAD  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:  
MAY 10, 2021

DRAWING TITLE  
**PRELIMINARY UTILITY PLAN - EAST**

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB
DRAWING NUMBER:	

**NOT FOR CONSTRUCTION**  
**CITY FILE #21-007 SECTION #14**

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**C-6.2**

**GENERAL NOTES:**  
 THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

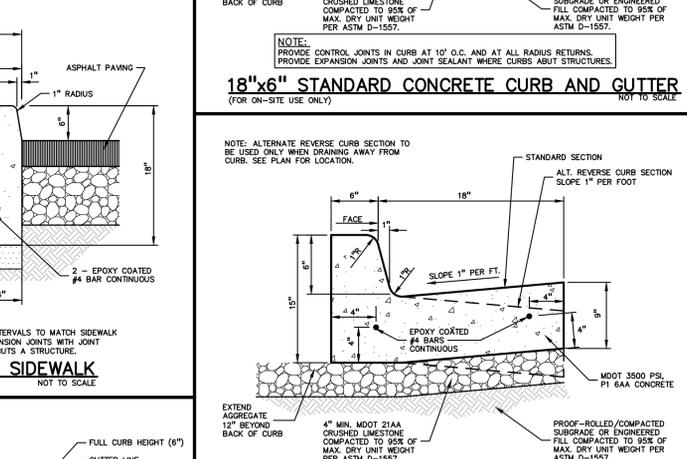
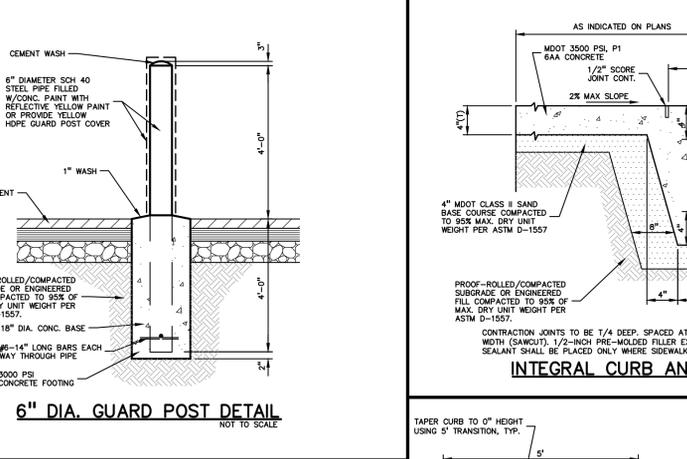
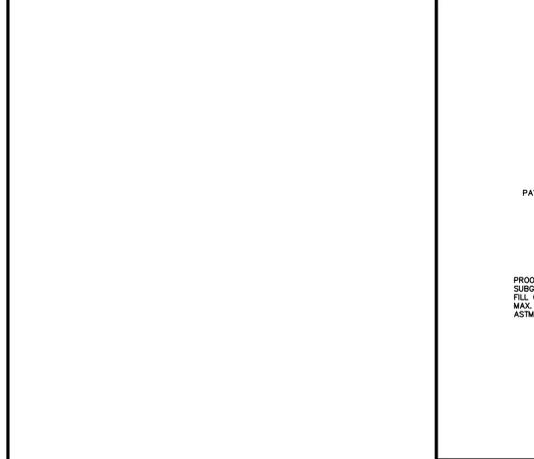
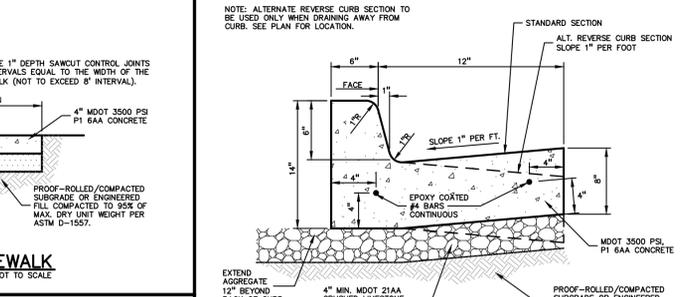
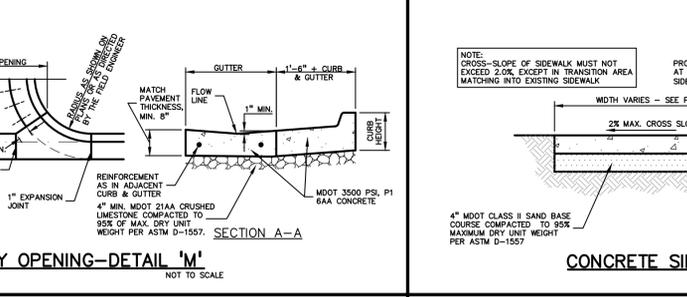
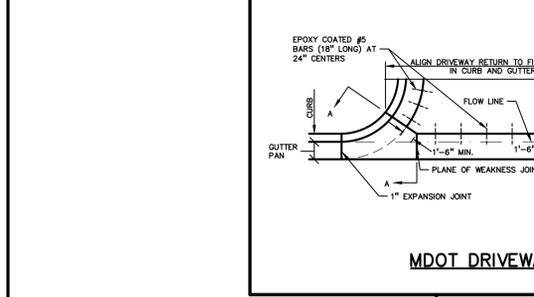
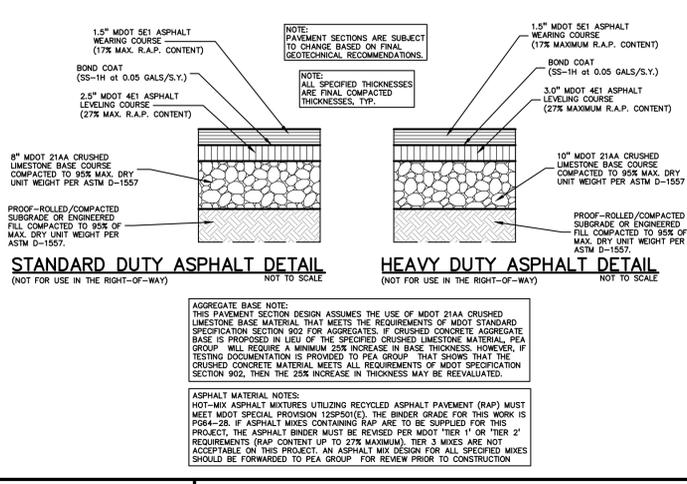
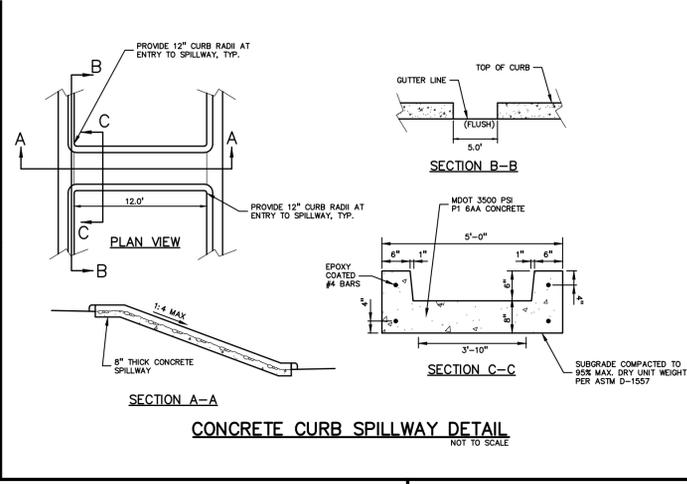
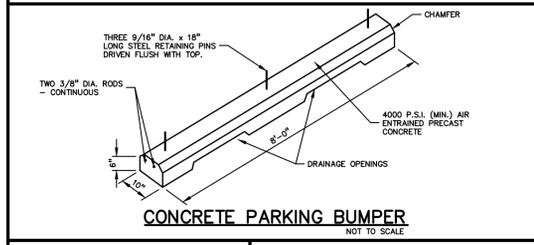
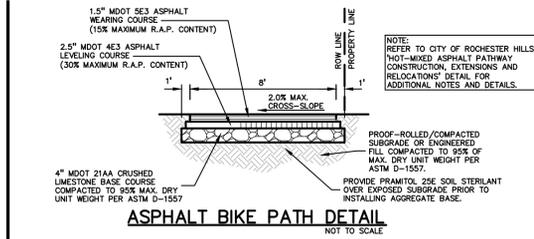
1. ALL CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT OSHA, MDOT AND MUNICIPALITY STANDARDS AND REGULATIONS.
2. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
3. THE CONTRACTOR MUST CONTACT THE ENGINEER SHOULD THEY ENCOUNTER ANY DESIGN ISSUES DURING CONSTRUCTION. IF THE CONTRACTOR MAKES DESIGN MODIFICATIONS WITHOUT THE WRITTEN DIRECTION OF THE DESIGN ENGINEER, THE CONTRACTOR DOES SO AT HIS OWN RISK.
4. ALL NECESSARY PERMITS, TESTING, BONDS AND INSURANCES ETC., SHALL BE PAID FOR BY THE CONTRACTOR. THE OWNER SHALL PAY FOR ALL CITY INSPECTION FEES.
5. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE 811/ONE CALL UTILITY LOCATING CENTER, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. IF NO NOTIFICATION IS GIVEN AND DAMAGE RESULTS, SAID DAMAGE WILL BE REPAIRED AT SOLE EXPENSE OF THE CONTRACTOR. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
6. CONTRACTOR TO VERIFY THAT THE PLANS AND SPECIFICATIONS ARE THE VERY LATEST PLANS AND SPECIFICATIONS AND FURTHERMORE, VERIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN APPROVED. ALL ITEMS CONSTRUCTED BY THE CONTRACTOR PRIOR TO RECEIVING FINAL APPROVAL, HAVING TO BE ADJUSTED OR RE-DONE, SHALL BE AT THE CONTRACTORS EXPENSE. SHOULD THE CONTRACTOR ENCOUNTER A CONFLICT BETWEEN THESE PLANS AND/OR SPECIFICATIONS, THEY SHALL SEEK CLARIFICATION IN WRITING FROM THE ENGINEER BEFORE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT SOLE EXPENSE TO THE CONTRACTOR.
7. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHTS-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
8. ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADING, SIGNAGE, LIGHTS AND TRAFFIC CONTROL DEVICES TO PROTECT THE WORK AND SAFELY MAINTAIN TRAFFIC IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION). THE DESIGN ENGINEER, OWNER, CITY AND STATE SHALL NOT BE HELD LIABLE FOR ANY CLAIMS RESULTING FROM ACCIDENTS OR DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO COMPLY WITH TRAFFIC AND PUBLIC SAFETY REGULATIONS DURING THE CONSTRUCTION PERIOD.
10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.

**PAVING NOTES:**

1. IN AREAS WHERE NEW PAVEMENTS ARE BEING CONSTRUCTED, THE TOPSOIL AND SOIL CONTAINING ORGANIC MATTER SHALL BE REMOVED PRIOR TO PAVEMENT CONSTRUCTION.
2. PROVIDE EXPANSION JOINTS AND JOINT SEALANT AT TWO "END-OF-RADIUS" LOCATIONS (OPPOSITE SIDES AT EACH LONG END) OF CONCRETE CURB ISLANDS.
3. REFER TO ARCHITECTURAL PLANS FOR DETAILS OF FROST SLAB AT EXTERIOR BUILDING DOORS.
4. CONSTRUCTION TRAFFIC SHOULD BE MINIMIZED ON THE NEW PAVEMENT. IF CONSTRUCTION TRAFFIC IS ANTICIPATED ON THE PAVEMENT STRUCTURE, THE INITIAL LIFT THICKNESS SHOULD BE INCREASED AND PLACEMENT OF THE FINAL LIFT COULD BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. THIS ACTION WILL ALLOW REPAIR OF LOCALIZED FAILURE, IF ANY DOES OCCUR, AS WELL AS REDUCE LOAD DAMAGE ON THE PAVEMENT SYSTEM.
5. CONCRETE PAVEMENT JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION:
  - 5.1. WHERE PROPOSED CONCRETE ABUTS A STRUCTURE PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT. THE JOINT FILLER BOARD MUST BE AT LEAST THE FULL DEPTH OF THE CONCRETE AND HELD DOWN A 1/4" INCH TO ALLOW FOR SEALING
  - 5.2. WHERE PROPOSED CONCRETE ABUTS EXISTING CONCRETE OR IN BETWEEN POURS OF PROPOSED CONCRETE (CONSTRUCTION JOINT) PROVIDE 5/8" DOWELS EVERY 30" CENTER TO CENTER HALF WAY ALONG THE THICKNESS OF THE PROPOSED PAVEMENT. ALTERNATE DOWELS SIZES AND SPACING MUST BE APPROVED THE ENGINEER PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
  - 5.3. WHERE PROPOSED CONCRETE ABUTS EXISTING OR PROPOSED SIDEWALK PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
  - 5.4. WHERE PROPOSED CONCRETE ABUTS EXISTING OR PROPOSED CURBING PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
  - 5.5. CONTROL LONGITUDINAL AND/OR TRANSVERSE JOINTS SHALL BE PLACED TO PROVIDE PANELS WITHIN THE PAVEMENT AS SQUARE AS POSSIBLE WITH THE FOLLOWING MAXIMUM SPACING PARAMETERS:
    - 5.5.1. 6-INCH THICK CONCRETE PAVEMENT: 12' X 12'
    - 5.5.2. 8-INCH THICK CONCRETE PAVEMENT: 15' X 15'
  - 5.6. IRREGULARLY SHAPED PANELS MAY REQUIRE THE USE OF REINFORCING MESH OR FIBER MESH AS DETERMINED BY THE ENGINEER. THE USE OF MESH MUST BE APPROVED THE ENGINEER PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
  - 5.7. IF A JOINT PLAN IS NOT PROVIDED IN THE PLANS, THE CONTRACTOR SHALL SUBMIT ONE TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
6. CONCRETE CURBING JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION:
  - 6.1. WHERE PROPOSED CONCRETE CURBING ABUTS A STRUCTURE PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
  - 6.2. WHERE PROPOSED CONCRETE ABUTS EXISTING OR PROPOSED SIDEWALK PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
  - 6.3. WHERE PROPOSED CONCRETE ABUTS EXISTING CURBING PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
  - 6.4. IN BETWEEN POURS OF PROPOSED CONCRETE CURBING (CONSTRUCTION JOINT)
    - 6.4.1. CARRY THE REBAR CONTINUOUSLY BETWEEN POURS
    - 6.4.2. IF THE REBAR IS NOT LONG ENOUGH TO CARRY CONTINUOUSLY THEN THE TWO PIECES OF REBAR PER THE LATEST MDOT SPECIFICATIONS
  - 6.5. CONTROL JOINTS SHALL BE PLACED A MAXIMUM 10' CENTER TO CENTER AND AT ALL RADIUS RETURNS

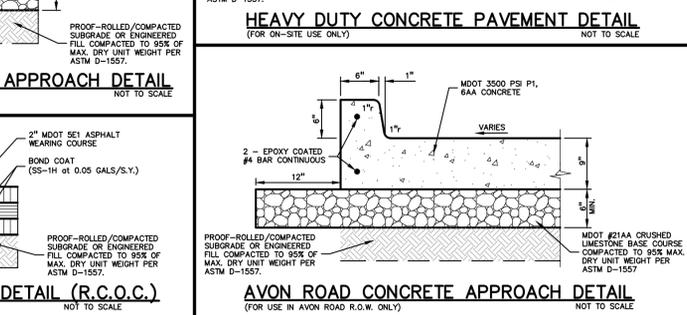
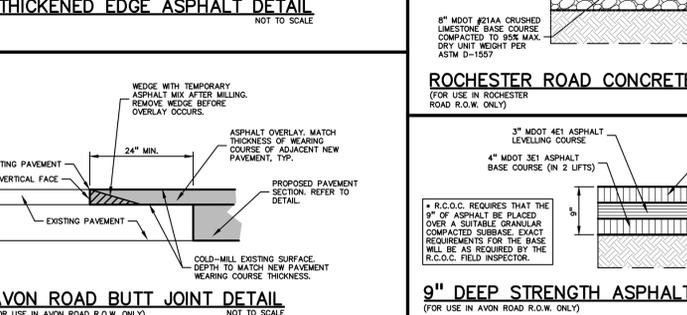
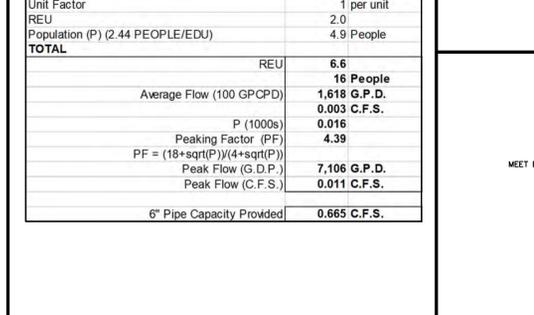
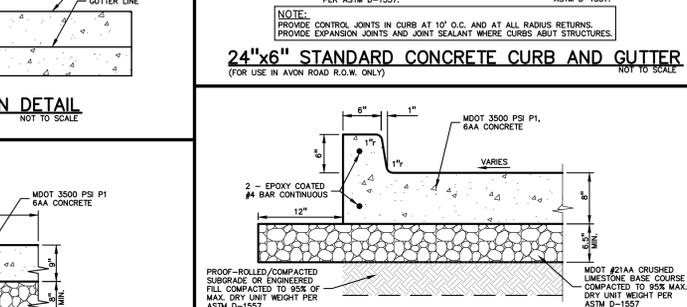
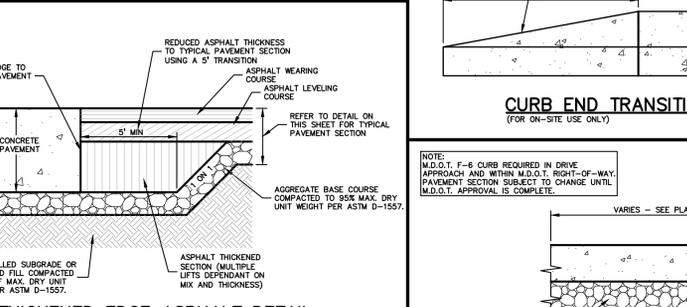
**GENERAL GRADING AND EARTHWORK NOTES:**  
 THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
2. ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
3. THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
4. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF THE AUTHORIZED PUBLIC AGENCY OF JURISDICTION. AN EROSION CONTROL PERMIT MUST BE SECURED FROM OAKLAND COUNTY PRIOR TO CONSTRUCTION.
5. ALL EARTHWORK AND GRADING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE SOILS INVESTIGATION AND REPORT.
6. REFER TO SOIL EROSION CONTROL PLAN FOR ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES (WILL BE PART OF FINAL SITE PLAN/ENGINEERING PLANS).
7. ALL SLOPES EXCEEDING 1:6 MUST BE STABILIZED BY SODDING OR BY PLACING A MULCH BLANKET PEGGED IN PLACE OVER SEED.
8. ALL DISTURBED AREAS SHALL BE SEED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 4" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL, IN THE OPINION OF THE THIRD PARTY TESTING COMPANY, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.
10. ON-SITE FILL CAN BE USED IF THE SPECIFIED COMPACTION REQUIREMENTS CAN BE ACHIEVED. IF ON-SITE SOIL IS USED, IT SHOULD BE CLEAN AND FREE OF FROZEN SOIL, ORGANICS, OR OTHER DELETERIOUS MATERIALS.
11. THE FINAL SUBGRADE/EXISTING AGGREGATE BASE SHOULD BE THOROUGHLY PROOFEED USING A FULLY LOADED TANDEM AXLE TRUCK OR FRONT END LOADER UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REINFORCED USING GEORIGS OR REMOVED AND REPLACED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS.
12. SUBGRADE UNDERCUTTING, INCLUDING BACKFILLING SHALL BE PERFORMED TO REPLACE MATERIALS SUSCEPTIBLE TO FROST HEAVING AND UNSTABLE SOIL CONDITIONS. ANY EXCAVATIONS THAT MAY BE REQUIRED BELOW THE TOPSOIL IN FILL AREAS OR BELOW SUBGRADE IN CUT AREAS WILL BE CLASSIFIED AS SUBGRADE UNDERCUTTING.
13. SUBGRADE UNDERCUTTING SHALL BE PERFORMED WHERE NECESSARY AND THE EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ANY SUBGRADE UNDERCUTTING SHALL BE BACKFILLED AS RECOMMENDED IN THE GEOTECHNICAL ENGINEERING REPORT FOR THE PROJECT.
14. ANY SUB-GRADE WATERING REQUIRED TO ACHIEVE REQUIRED DENSITY SHALL BE CONSIDERED INCIDENTAL TO THE JOB.



**PROPOSED SANITARY SEWER BASIS OF DESIGN:**  
 (Unit Factors Based on Oakland County Unit Assignment Factors)

Office	10,943 S.F.
Square Footage	10,943 S.F.
Unit Factor	0.4 per 1000 sf
REU	4.4
Population (P) (2.44 PEOPLE/EDU)	10.7 People
Retail	
Number	6,330
Unit Factor	0.04 per 1000 sf
REU	0.3
Population (P) (2.44 PEOPLE/EDU)	0.6 People
Quick Service Restaurants	
Number of units	2
Unit Factor	1 per unit
REU	2.0
Population (P) (2.44 PEOPLE/EDU)	4.9 People
TOTAL	
REU	6.6
Average Flow (100 GPCPD)	16 People
P (1000s)	0.016
Peak Flow (G.D.P.)	0.003 C.F.S.
Peak Factor (PF)	4.39
Peak Flow (G.D.P.)	7,106 G.P.D.
Peak Flow (C.F.S.)	0.011 C.F.S.
6\"/>	



**CAUTION!!**  
 THE LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD SURVEY TO THE COMPLETE ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT  
**ROCHESTER AVON PARTNERS, LLC**  
 251 EAST MERRILL STREET, SUITE #205  
 BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
 N.E.C. ROCHESTER ROAD & AVON ROAD  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS

CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:  
 MAY 10, 2021

DRAWING TITLE  
**NOTES AND DETAILS**

PEA JOB NO. 2019-007

P.M.	RLS
D.S.	BA
DES.	PB
DRAWING NUMBER:	

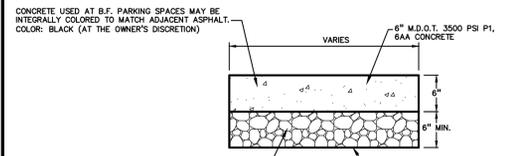
**NOT FOR CONSTRUCTION**  
**CITY FILE #21-007 SECTION #14**

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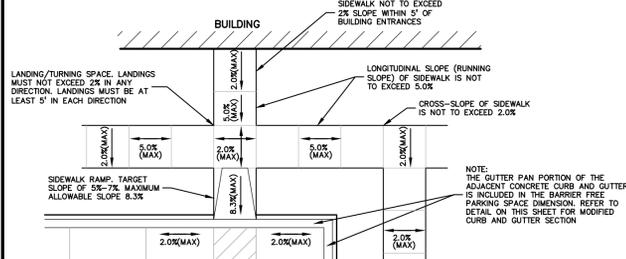
**C-9.1**

**GENERAL BARRIER FREE NOTES:**

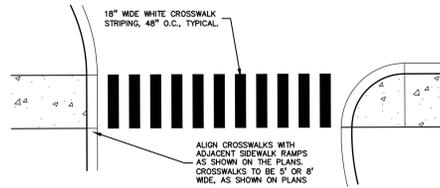
- THE FOLLOWING NOTES PROVIDE AN OUTLINE OF SOME OF THE REQUIREMENTS CONTAINED WITHIN THE "STANDARDS FOR ACCESSIBLE DESIGN - AMERICANS WITH DISABILITIES ACT 2010" AND "ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES", ICC/ANSI A117.1-2009. THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE REQUIREMENTS PRESENTED WITHIN THESE DOCUMENTS, WHICH ARE AVAILABLE IN FULL UPON REQUEST.
- AN ACCESSIBLE ROUTE CONSISTS OF WALK SURFACES, CURB RAMPS AND RAMPS. AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED WITHIN THE SITE FROM ACCESSIBLE PARKING SPACES, ACCESSIBLE PASSENGER LOADING ZONES, PUBLIC STREETS AND SIDEWALKS, AND PUBLIC TRANSPORTATION STOPS TO THE BUILDING OR FACILITY ENTRANCE THEY SERVE.
- THE RUNNING SLOPE OF ALL WALKING SURFACES SHALL NOT EXCEED 5% (1:20) AND THE CROSS-SLOPE SHALL NOT EXCEED 2% (1:48).
- WALKING SURFACES MUST BE LEVEL WITH PERMITTED VERTICAL CHANGES IN LEVEL NOT TO EXCEED 1/4", OR BEVELED CHANGES IN LEVEL NOT TO EXCEED 1/2". REFER TO DETAIL ON THIS SHEET. ANY CHANGE IN LEVEL GREATER THAN 1/2" MUST BE RAMPED.
- TURNING SPACES ALONG ACCESSIBLE ROUTES MUST BE AT LEAST 5 FEET WIDE IN ALL DIRECTIONS AND NOT EXCEED 2% SLOPE (1:48) IN ANY DIRECTION.
- ACCESSIBLE ROUTES WILL BE DESIGNED TO BE A MINIMUM OF 5 FEET WIDE. THE MINIMUM CLEAR WIDTH IS 3 FEET.
- RAMPS ALONG ACCESSIBLE ROUTES WILL HAVE A RUNNING SLOPE GREATER THAN 5% (1:20) AND LESS THAN 8.3% (1:12).
- THE CROSS-SLOPE OF RAMPS SHALL NOT EXCEED 2% (1:48).
- THE MINIMUM CLEAR WIDTH OF ANY RAMP IS 36 INCHES.
- THE MAXIMUM RISE FOR ANY RAMP (NOT INCLUDING CURB RAMPS) SHALL NOT EXCEED 30 INCHES. LANDINGS ARE REQUIRED AT THE TOP AND BOTTOM OF EACH RAMP. LANDINGS SHALL HAVE A CROSS-SLOPE NOT EXCEEDING 2% (1:48). SHALL BE 5 FEET LONG AND AT LEAST AS WIDE AS THE RAMP CLEAR WIDTH. IF THERE IS A CHANGE OF DIRECTION AT A LANDING, THEN THE LANDING MUST BE AT LEAST 5 FEET WIDE AND 5 FEET LONG.
- HANDRAILS ARE REQUIRED FOR ANY RAMP (NOT INCLUDING CURB RAMPS) WITH A RISE GREATER THAN 6 INCHES. ALL HANDRAILS ARE REQUIRED TO HAVE EDGE PROTECTION UNLESS ADJOINING ANOTHER ACCESS POINT OR IF THE VERTICAL DROP-OFF AT THE EDGE OF THE RAMP DOES NOT EXCEED 1/2" IN 10 FEET. EDGE PROTECTION CAN BE PROVIDED BY MEANS OF A 4" MIN. CURB OR BARRIER.
- CURB RAMPS ALONG ACCESSIBLE ROUTES SHALL NOT BE STEEPER THAN 8.3% (1:12). APPROACHING SLOPES TO THE RAMP CANNOT EXCEED 5%, WHICH INCLUDES SIDEWALKS, PAVEMENT, GUTTERS ETC.
- IF CURB RAMP SIDES ARE FLARED, THE FLARES SHALL NOT BE STEEPER THAN 10% (1:10).
- CURB RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES.
- HANDRAILS ARE NOT REQUIRED ON CURB RAMPS.
- WHERE DETECTABLE WARNING IS REQUIRED AT CURB RAMPS, THE DETECTABLE WARNING SHALL BE 24" MINIMUM IN DEPTH AND SHALL EXTEND THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SHALL BE LOCATED SO THE EDGE NEAREST THE CURB IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE.
- FOR EVERY SIX OR FRACTION OF SIX ACCESSIBLE PARKING SPACES, ONE VAN ACCESSIBLE SPACE SHALL BE PROVIDED.
- ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE FROM PARKING TO A BUILDING ENTRANCE.
- BARRIER FREE CAR PARKING SPACES SHALL BE A MINIMUM OF 11 FEET WIDE WITH AN ACCESS AISLE 5 FEET WIDE MINIMUM.
- SURFACE SLOPES WITHIN THE PARKING SPACES AND AISLES SHALL NOT EXCEED 2% (1:48).
- ACCESSIBLE AREAS INCLUDING PARKING SPACES, AISLES AND PATHWAYS, REQUIRE A MINIMUM VERTICAL CLEARANCE OF 98 INCHES.
- ACCESSIBLE PARKING SPACES ARE REQUIRED TO BE IDENTIFIED BY SIGNS. THE SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. VAN PARKING SPACES ARE REQUIRED TO BE DESIGNATED AS "VAN ACCESSIBLE". REFER TO DETAILS ON THIS SHEET.



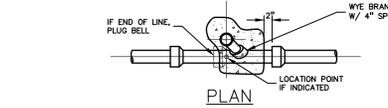
**BARRIER FREE PARKING SPACE ALTERNATE CONCRETE PAVEMENT DETAIL**  
NOT TO SCALE



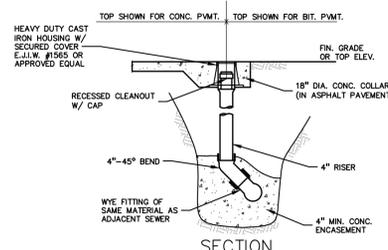
**PARKING SPACE GRADING INFORMATION**  
NOT TO SCALE



**STRIPED CROSSWALK DETAIL**  
NOT TO SCALE

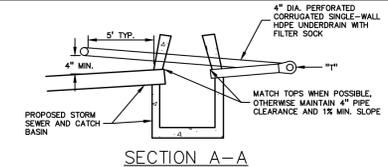


**PLAN**

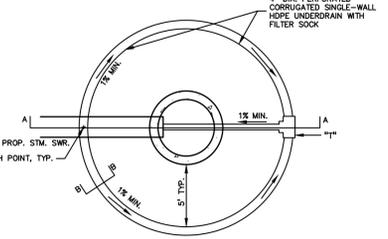


**SECTION**

**CLEANOUT**  
NOT TO SCALE

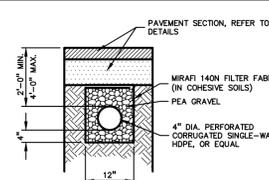


**SECTION A-A**

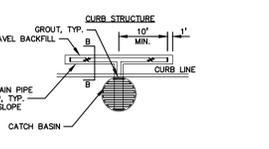


**PLAN VIEW - PAVEMENT STRUCTURE**

**PAVEMENT INLET/CATCH BASIN UNDERDRAIN DETAIL**  
NOT TO SCALE



**SECTION B-B**



**PLAN VIEW - CURB STRUCTURE**



**NO PARKING-FDC SIGN DETAIL**  
NOT TO SCALE



**CROSSWALK SIGN DETAIL**  
NOT TO SCALE



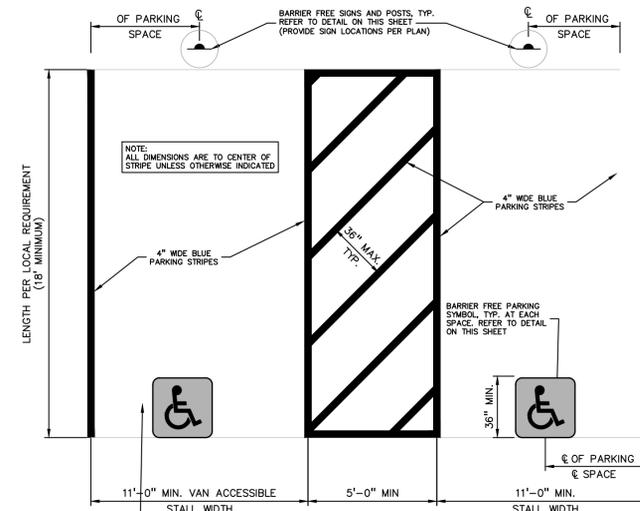
**NO DRIVE THRU ACCESS SIGN DETAIL**  
NOT TO SCALE



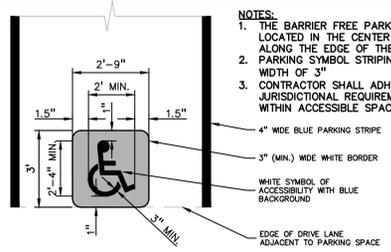
**NO LEFT TURN SIGN DETAIL**  
NOT TO SCALE



**KEEP RIGHT SIGN DETAIL**  
NOT TO SCALE



**UNIVERSAL BARRIER FREE PARKING STALL DETAIL**  
NOT TO SCALE



**BARRIER FREE PARKING SYMBOL DETAIL (INTERNATIONAL SYMBOL OF ACCESSIBILITY)**  
NOT TO SCALE



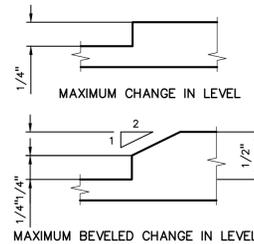
**FIRE LANE SIGN DETAIL**  
NOT TO SCALE



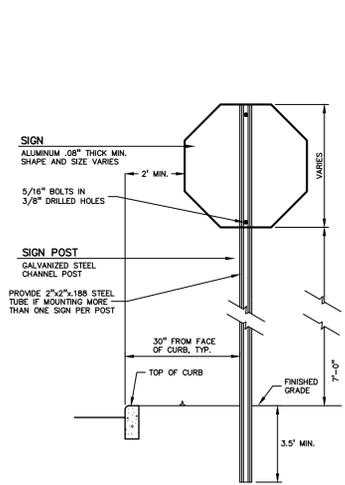
**STOP SIGN DETAIL**  
NOT TO SCALE



**DO NOT ENTER SIGN DETAIL**  
NOT TO SCALE

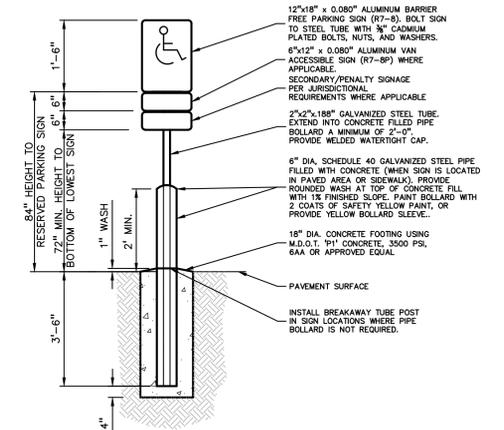


**BARRIER FREE SURFACE CHANGE IN LEVEL TOLERANCE**  
NOT TO SCALE



**SIGN AND POST INSTALLATION IN LANDSCAPED AREAS**  
NOT TO SCALE

- BARRIER FREE SIGN NOTES:**
- ONE SIGN IS REQUIRED AT EACH BARRIER FREE PARKING SPACE.
  - ALL SIGNS SHALL COMPLY WITH THE LATEST STANDARDS OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD).
  - WHEN TWO BARRIER FREE PARKING SPACES ARE ADJACENT AND FACING EACH OTHER, TWO SIGNS ARE REQUIRED, BUT CAN BE MOUNTED ON THE SAME POST. SIGN POSTS SHALL BE 2" NOM. SQUARE 14-GAUGE GALVANIZED STEEL TUBE WITH 7/16" HOLES AT 1" CENTERS. POSTS SHALL TELESCOPE INSIDE ANCHOR POSTS A MINIMUM OF 12".
  - ANCHOR POSTS SHALL BE 2.25" NOM. SQUARE 12-GAUGE GALVANIZED STEEL POST, A MINIMUM OF 3 FEET LONG.
  - IF THESE NOTES AND DETAILS CONFLICT WITH LOCAL CODES AND ORDINANCES, THE STRICTER REQUIREMENT SHOULD BE USED.
  - ALTERNATE MATERIALS MAY BE USED IF IN COMPLIANCE WITH A.D.A. GUIDELINES AND LOCAL REQUIREMENTS.



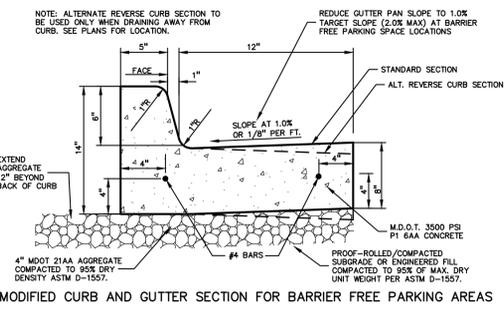
**BARRIER FREE SIGN AND POST DETAIL**  
NOT TO SCALE



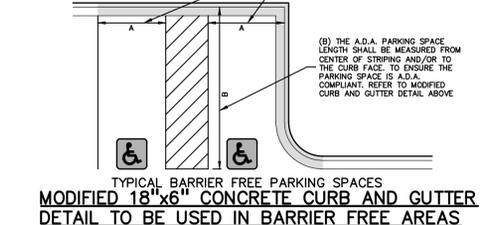
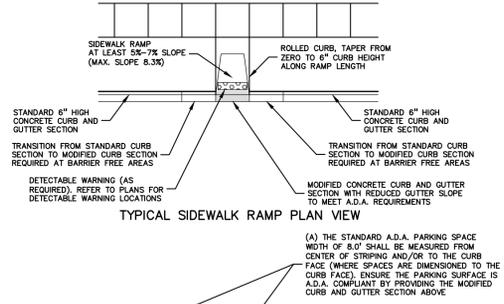
**BARRIER FREE PARKING SIGN DETAIL**  
NOT TO SCALE



**VAN ACCESSIBLE PARKING SIGN DETAIL**  
NOT TO SCALE



**MODIFIED CURB AND GUTTER SECTION FOR BARRIER FREE PARKING AREAS**



**TYPICAL BARRIER FREE PARKING SPACES MODIFIED 18\"/>**



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**CLIENT**  
**ROCHESTER AVON PARTNERS, LLC**  
251 EAST MERRILL STREET, SUITE #205  
BIRMINGHAM, MICHIGAN, 48009

**PROJECT TITLE**  
**RETAIL REDEVELOPMENT**  
N.E.C. ROCHESTER ROAD & AVON ROAD  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

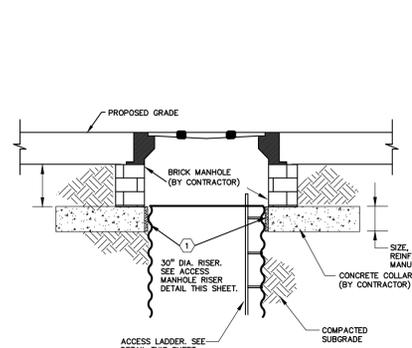
**ORIGINAL ISSUE DATE:**  
MAY 10, 2021  
**DRAWING TITLE**  
**DETAILS**

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB
DRAWING NUMBER:	

**C-9.2**

**NOT FOR CONSTRUCTION**  
**CITY FILE #21-007 SECTION #14**

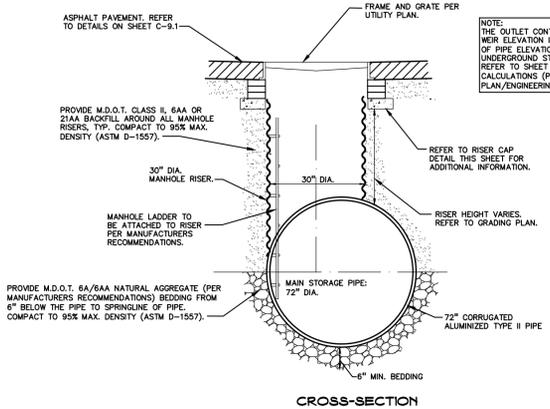
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NOTE:  
BRICK MANHOLE SHALL BEAR ENTIRELY ON CONCRETE COLLAR/SLAB AND NOT IN ANY WAY BEAR AGAINST RISER.  
ELASTOMERIC JOINT MATERIAL (OR SIMILAR) BETWEEN RISER & CONC. COLLAR TO PREVENT CONCRETE FROM BEARING AGAINST RISER.

PRECAST CONC. COLLAR DIAMETER, THICKNESS AND REINFORCEMENT TO BE PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUBMIT SHOP DWGS. TO DESIGN ENGINEER PRIOR TO INSTALLATION.

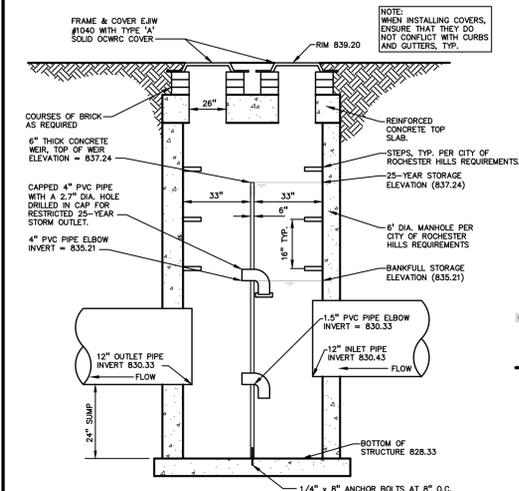
**30" MANHOLE RISER CAP DETAIL**  
NOT TO SCALE



NOTE:  
THE OUTLET CONTROL STRUCTURE WEIR ELEVATION IS SET AT THE TOP OF PIPE ELEVATION FOR THE 72\"/>

NOTE:  
ALL DETENTION PIPES SHALL BE ALUMINIZED 14 GAUGE STEEL, CAPABLE OF SUSTAINING HS25 LOADING REQUIREMENTS CONFORMING TO AASHTO M36 AND M274 REQUIREMENTS.

**ACCESS MANHOLE RISER DETAIL**  
NOT TO SCALE

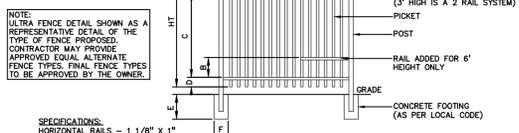


(CONSTRUCTED PER CITY OF ROCHESTER HILLS STANDARDS)  
**6' DIA. OUTLET CONTROL STRUCTURE (OC#2)**  
NOT TO SCALE



ULTRA ALUMINUM MFG. INC.  
2124 GRAND COMMERCE DRIVE  
HOWELL, MI 48850  
1-800-636-4420  
FAX: (800) 646-7429  
www.ultraaluminum.com

SELECT DESIRED POST	DIMENSIONS					
	HT	A	B	C	D	E
2" x 2" x .080 WALL	3"	4 1/2"	6"	20"	5 1/2"	42" 8"
2" x 2" x .080 WALL	3 1/2"	4 1/2"	6"	28"	5 1/2"	42" 8"
2" x 2" x .125 WALL	4"	4 1/2"	6"	32"	5 1/2"	42" 8"
3 1/2" x 2" x 1/2" x .100 WALL	5"	4 1/2"	6"	32"	5 1/2"	42" 8"
3 1/2" x 2" x 1/2" x .100 WALL	6"	4 1/2"	6"	32"	5 1/2"	42" 8"



NOTE:  
ULTRA FENCE DETAIL SHOWN AS A REPRESENTATIVE DETAIL OF THE TYPE OF FENCE PROPOSED. CONTRACTOR MAY PROVIDE APPROVED EQUAL ALTERNATE FENCE TYPES. FINAL FENCE TYPES TO BE APPROVED BY THE OWNER.

INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.  
DO NOT SCALE DRAWINGS.

UAS 101 STANDARD BOTTOM, SPEAR TOP COMMERCIAL ORNAMENTAL FENCING (ALUMINUM)  
**DECORATIVE ALUMINUM FENCE DETAIL**  
NOT TO SCALE

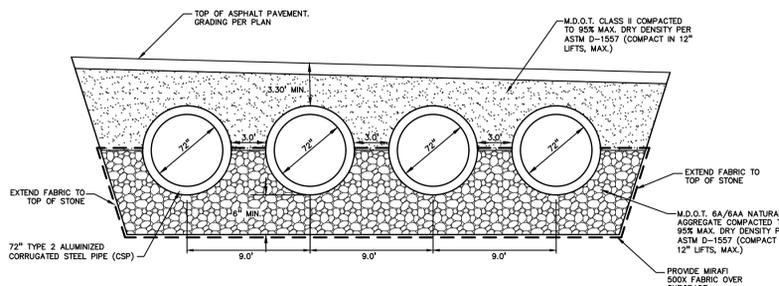
**CONTINUE AROUND BUILDING TO DRIVE-THRU ENTRANCE**

24" x 30" BLACK ON WHITE REFLECTORIZED 7'-0" MOUNTING HEIGHT

**CONTINUE AROUND BUILDING TO DRIVE THRU ENTRANCE SIGN DETAIL**  
NOT TO SCALE

NOTE:  
CIRCULAR CSP SHOULD CONFORM TO AASHTO M36 (ASTM-A780) AND SHOULD BE MADE FROM ALUMINUM COATED STEEL CONFORMING TO AASHTO M274. THE USE OF CONTINUOUS WELDED SEAM PROCESS IN FABRICATION OF THE PIPES IS NOT PERMITTED.

NOTE:  
ALL CSP PIPE AND FITTING CONNECTIONS REQUIRE MINIMUM 24" WIDE COUPLING BANDS. ALL JOINTS ARE REQUIRED TO BE SOIL TIGHT.



**SECTION THRU DETENTION SYSTEM**  
N.T.S.

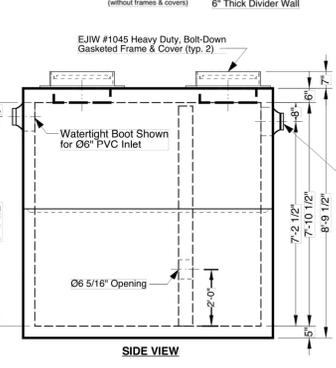
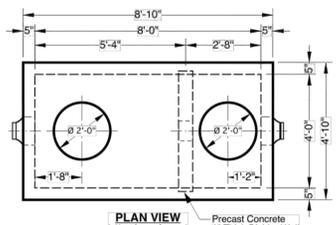


**CAUTION!!**  
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**1500 Gallon Interceptor - 8' x 4' x 7'-10 1/2"**  
Advance Concrete Products Company

(800) 824-8351 (248) 887-4173 Fax: (248) 887-2755

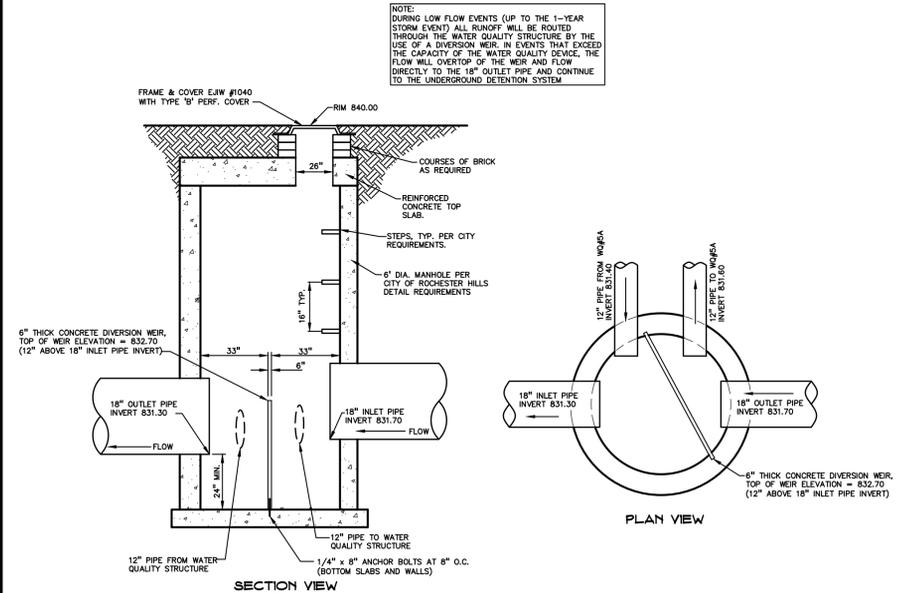


All Concrete Shall Have A 28 Day Compressive Strength Of 4500 PSI.  
Reinforcing Steel Shall Comply With ASTM A615 Grade 60 Rebar.  
Bar Bending And Placement Shall Comply With The Latest ACI Standards.  
Standard Structural Design Based On AASHTO HS 20 Wheel Loading.  
1" Ø Buylt Rubber Rope Mastic Is Provided For Placement Between Top And Bottom Sections Of Vault.  
If Function Of Interceptor Is Oil, Gas, or Water Separation, Fuel Resistant Rope Mastic Is Recommended & Can Be Provided.  
Available Options -  
Grade Adjustment Rings  
Cast Iron Frames & Covers  
Custom Opening Locations  
Watertight Boots In Variety of Sizes  
Double, Triple or Quadruple Compartments

Approximate Weight Total: ± 20,900 Lbs.  
Bottom Section: ± 9,300 Lbs. Top Section: ± 9,300 Lbs.  
Divider Wall: ± 2,300 Lbs.

**GREASE INTERCEPTOR**  
NOT TO SCALE

**NOT FOR CONSTRUCTION**  
**CITY FILE #21-007 SECTION #14**



(CONSTRUCTED PER CITY OF ROCHESTER HILLS STANDARDS)  
**6' DIA. DIVERSION MANHOLE (MH#5)**  
NOT TO SCALE

CLIENT  
**ROCHESTER AVON PARTNERS, LLC**  
251 EAST MERRILL STREET, SUITE #205  
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
N.E.C. ROCHESTER ROAD & AVON ROAD  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

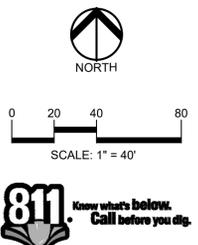
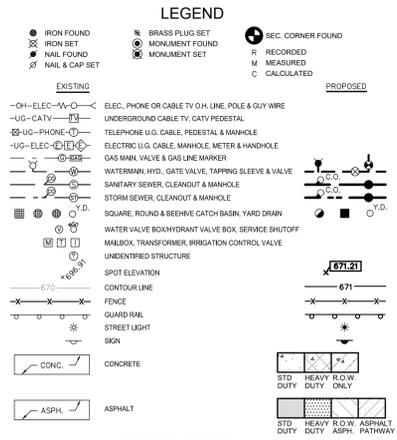
ORIGINAL ISSUE DATE:  
MAY 10, 2021  
DRAWING TITLE  
**DETAILS**

PEA JOB NO.	2019-007
P.M.	RLS
DN	BA
DES.	PB

DRAWING NUMBER:  
**C-9.3**

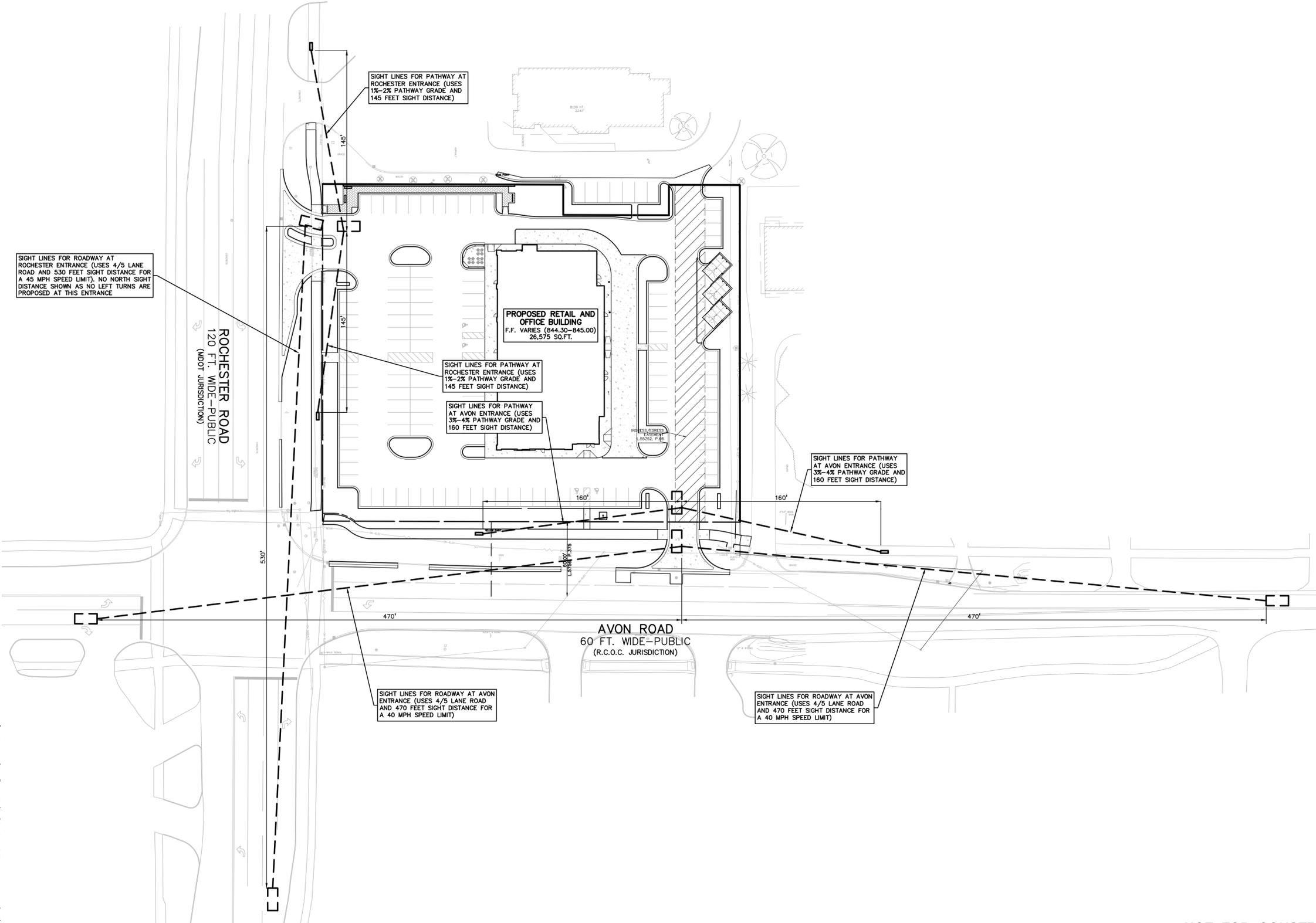


LOCATION MAP - NOT TO SCALE



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

**CAUTION!!**  
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SIGHT LINES FOR ROADWAY AT ROCHESTER ENTRANCE (USES 4/5 LANE ROAD AND 530 FEET SIGHT DISTANCE FOR A 45 MPH SPEED LIMIT). NO NORTH SIGHT DISTANCE SHOWN AS NO LEFT TURNS ARE PROPOSED AT THIS ENTRANCE

SIGHT LINES FOR PATHWAY AT ROCHESTER ENTRANCE (USES 1%-2% PATHWAY GRADE AND 145 FEET SIGHT DISTANCE)

SIGHT LINES FOR PATHWAY AT ROCHESTER ENTRANCE (USES 1%-2% PATHWAY GRADE AND 145 FEET SIGHT DISTANCE)

SIGHT LINES FOR PATHWAY AT AVON ENTRANCE (USES 3%-4% PATHWAY GRADE AND 160 FEET SIGHT DISTANCE)

SIGHT LINES FOR PATHWAY AT AVON ENTRANCE (USES 3%-4% PATHWAY GRADE AND 160 FEET SIGHT DISTANCE)

SIGHT LINES FOR ROADWAY AT AVON ENTRANCE (USES 4/5 LANE ROAD AND 470 FEET SIGHT DISTANCE FOR A 40 MPH SPEED LIMIT)

SIGHT LINES FOR ROADWAY AT AVON ENTRANCE (USES 4/5 LANE ROAD AND 470 FEET SIGHT DISTANCE FOR A 40 MPH SPEED LIMIT)

AVON ROAD  
60' FT. WIDE - PUBLIC  
(R.C.O.C. JURISDICTION)

ROCHESTER ROAD  
120' FT. WIDE - PUBLIC  
(MDOJ JURISDICTION)

CLIENT  
**ROCHESTER AVON PARTNERS, LLC**  
251 EAST MERRILL STREET, SUITE #205  
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
N.E.C. ROCHESTER ROAD & AVON ROAD  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:  
MAY 10, 2021

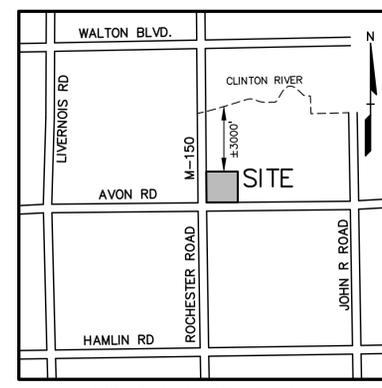
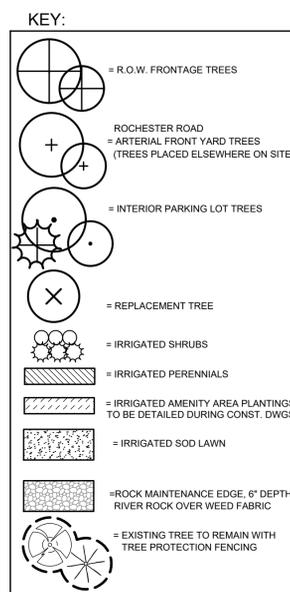
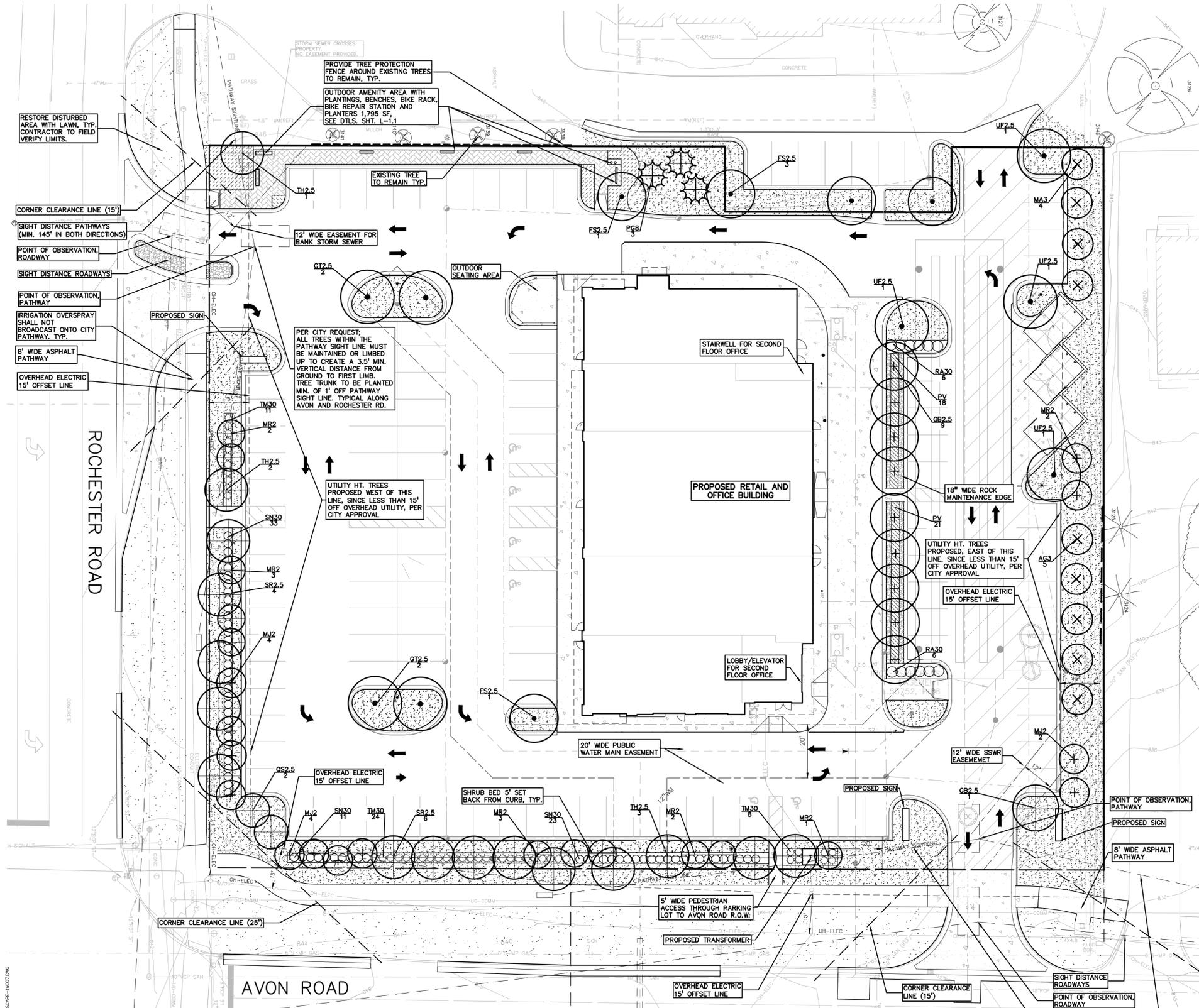
DRAWING TITLE  
**SIGHT DISTANCE PLAN**

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB
DRAWING NUMBER:	

**C-12.0**

**NOT FOR CONSTRUCTION**  
**CITY FILE #21-007 SECTION #14**

XREF: S:\PROJECTS\2019\2019-007\DWG\TOP\BASE-19007.dwg  
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\CEASE-19007.dwg  
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\BLK-19007.dwg



**LANDSCAPE CALCULATIONS:**  
 PER CITY OF ROCHESTER HILLS ZONING ORDINANCE, ZONED B-2 WITH FB-3 FLEX BUSINESS OVERLAY DISTRICT

**R.O.W. TREES:**  
 REQUIRED: 1 DEC OR EVG/ 35LF AND 1 ORN TREE/ 60LF OF ROW.  
 AVON RD: 335'/35 = 10 DEC OR EVG AND 335'/60 = 6 ORN.  
 ROCHESTER RD: 290'/35 = 9 DEC OR EVG AND 290'/60 = 5 ORN.  
 PROVIDED: AVON RD: 10 DEC. AND 6 ORN.  
 ROCHESTER RD: 9 DEC. AND 5 ORN.

**IRRIGATION NOTES:**  
 ALL LANDSCAPE AREAS MUST BE IRRIGATED. WATERING WILL ONLY OCCUR BETWEEN THE HOURS OF 12AM-5AM. AN IRRIGATION PLAN MUST BE SUBMITTED PRIOR TO CITY APPROVAL OF THE FINAL SITE PLAN.

**TREE NOTE PER CITY:**  
 ALL TREES WITHIN THE PATHWAY SIGHT LINE MUST BE MAINTAINED OR LIMBED UP TO CREATE A 3.5' MIN. VERTICAL DISTANCE FROM GROUND TO FIRST LIMB. TREE TRUNKS TO BE PLANTED MIN. OF 1" OFF PATHWAY SIGHT LINE.

**FRONT YARD LANDSCAPING:**  
 REQUIRED: 3 DEC, 4 ORN, 15 SHRUBS/ 100LF OF ROW. (15' WIDE)  
 PROVIDED: 9 TREES AT DRIVE THRU, 4 ORN. AT ROCHESTER RD, 4 ORN. AT AVON RD., 4 ORN. AT EAST P/L AND 44 SHRUBS AT ROCHESTER RD. (NOT ENOUGH ROOM TO BE PLACED IN ROCHESTER RD. ROW, TREES ARE LOCATED ELSEWHERE ON SITE)

**INTERIOR PARKING LANDSCAPE:**  
 REQUIRED: MINIMUM 5% OF THE VEHICLE USE AREA TO BE LANDSCAPED AREA. 1 DEC. TREE FOR EVERY 150 SF OF REQUIRED INTERIOR LANDSCAPE.  
 5% OF THE 47,274 SF VEHICLE USE AREA = 2364 /150 = 16 TREES  
 PROVIDED: 13 DEC. AND 3 EVG. TREES, SHRUB HEDGE AT PARKING SPACES ADJ. TO AVON AND ROCHESTER RD. 2,390 SF LANDSCAPE AREA

**OUTDOOR AMENITY SPACE:**  
 REQUIRED: MINIMUM 2% GROSS LAND AREA OF THE DEVELOPMENT TO BE OUTDOOR AMENITY SPACE.  
 GROSS LAND AREA: 88,539 SF \* .02 = 1,771 SF REQUIRED  
 PROVIDED: 1,795 SF OF AMENITY SPACE. WITH PLANTINGS AND BENCHES, BIKE RACK AND PLANTERS.

**TREE REPLACEMENT CALCULATIONS:**  
 PER CITY OF ROCHESTER HILLS ZONING ORDINANCE  
**REPLACEMENT TREES:**  
 REQUIRED: 1, 2" DEC. TREE OR 8' EVG PER REGULATED TREE REMOVED. 2" TREE REPLACEMENT CREDIT FOR EACH SPECIMEN TREE PRESERVED.  
 PROVIDED: 18, 3" OR 8' EVG. REPLACEMENT TREES  
 (9 REMAINING TREES TO BE PUT INTO TREE FUND DUE TO SPACE LIMITATIONS, 304.00 X 9 = \$2,736.00)  
 SEE SHEET T-1.0 FOR TREE PRESERVATION PLAN

**CITY OF ROCHESTER HILLS NOTES:**

**TREE PLANTING RESTRICTIONS:**  
 Prior approval is required to plant any tree or shrub on the public right-of-way. All trees and shrubs must be planted at least 10' from the edge of the public road. Shade trees and shrubs must be planted at least 5' from the edge of the public roadway. Evergreen and ornamental trees must be planted at least 10' from the edge of the public roadway. No trees or shrubs may be planted within the triangular area formed at the intersection of any street right-of-way lines at a distance along each line of 25' from their point of intersection. No trees or shrubs may be planted in the triangular area formed at the intersection of any driveway with a public roadway at a distance along each line of 15' from their point of intersection. All trees and shrubs must be planted at least 10' from any fire hydrant. Shade and evergreen trees must be at least 15' away from the nearest overhead wire. Trees must be planted a minimum of 5' from an underground utility, unless the city's Landscape Architect requires a greater distance. These requirements are incorporated into the plan.

**CLOSING COMMENT:**  
 Prior to the release of the performance bond, the City of Rochester Hills Forestry Division needs to inspect all trees, existing or planted, to identify any that pose a hazard to the safe use of the public right-of-way. Forestry may require the developer to remove, and possibly replace, any such trees.

SECTION 138-12.109 - Maintenance

The owner of the property shall be responsible for all maintenance of site landscaping, as follows:

- Landscaping shall be kept in a neat, orderly and healthy growing condition, free from debris and refuse.
- Pruning shall be minimal at the time of installation, only to remove dead or diseased branches. Subsequent pruning shall assure proper maturation of plants to achieve their approved purpose.
- All dead, damaged, or diseased plant material shall be removed immediately and replaced within six months after it dies or in the next planting season, whichever occurs first. For purposes of this Section, the planting season for deciduous plants shall be between March 1 and June 1 and from October 1 until the prepared soil becomes frozen. The planting season for evergreen plants shall be between March 1 and June 1. Plant material installed to replace dead or diseased material shall be as close as practical to the size of the material it is intended to replace. The City may notify property owners of the need to replace dead, damaged, or diseased material.
- The approved landscape plan shall be considered a permanent record and integral part of the Site Plan Approval. Unless otherwise approved in accordance with the aforementioned procedures, any revisions to or removal of plant materials, or non-compliance with the maintenance requirements of this Section 138-12.109 will place the parcel in non-conformity with the approved landscape plan and be a violation of this ordinance.
- If protected trees are damaged, a fine shall be issued on an inch-by-inch basis at a monetary rate as defined by the Forestry Department.

**EVERGREEN TREE PLANT LIST:**

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
3	P08	White Spruce	<i>Picea glauca</i>	8-10' Ht.	B&B
3	TOT.EVG.				

**SHRUB PLANT LIST:**

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
12	RA30	Gro Low Sumac	<i>Rhus aromatica 'Gro-Low'</i>	30" Ht.	Cont.
67	SN30	Neon Flash Spirea	<i>Spiraea japonica 'Neon Flash'</i>	30" Ht.	Cont.
43	TM30	Dense Yew	<i>Taxus x media 'Densiformis'</i>	30" Ht.	Cont.
122	TOT.SHRUB				

**PERENNIAL PLANT LIST:**

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
39	PV	Red Switch Grass	<i>Panicum virgatum 'Rotstrahlbusch'</i>	1 Gal.	Cont.
39	TOT.PER.				

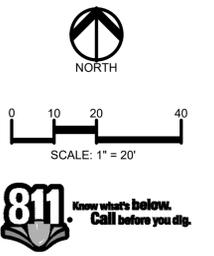
**L-1.0 DECIDUOUS TREE PLANT LIST:**

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
5	AG3	Autumn Brilliance Serviceberry	<i>Amelanchier x grandiflora 'Autumn Brilliance' single stem</i>	3" Cal.	B&B
5	FS2.5	Columnar Beech	<i>Fagus sylvatica 'Fastiglata'</i>	2.5-3" Cal.	B&B
10	GB2.5	Fastigiate Ginkgo (columnar)	<i>Ginkgo biloba 'Fastiglata'</i>	2.5-3" Cal.	B&B
4	GT2.5	Streetkeeper Honeylocust	<i>Gleditsia triacanthos 'Street keeper' Inermis</i>	2.5-3" Cal.	B&B
4	MA3	Adirondack Crab	<i>Malus 'Adirondack' (10' x 18' columnar)</i>	3" Cal.	B&B
10	MJ2	Marilee Crab	<i>Malus 'Jamin' PP (10' x 20' columnar)</i>	2-2.5" Cal.	B&B
13	MR2	Red Baron Crab	<i>Malus 'Red Baron' (10' x 18' columnar)</i>	2-2.5" Cal.	B&B
2	QS2.5	Skinny Genes Oak	<i>Quercus alba 'JFS-KW2QX' P.A.F. (col./fastiglata)</i>	2.5-3" Cal.	B&B
10	SR2.5	Japanese Tree Lilac	<i>Syringa reticulata, 15' x 20'</i>	2.5-3" Cal.	B&B
6	TH2.5	Summer Sprite Linden	<i>Tilia cordata 'Halka', 15' x 20'</i>	2.5-3" Cal.	B&B
4	UF2.5	Frontier Elm	<i>Ulmus 'Frontier'</i>	2.5-3" Cal.	B&B
73	TOT.DEC.				

Add note: Irrigation overspray shall not broadcast onto the City pathway.

**NOT FOR CONSTRUCTION**  
**CITY FILE #21-007 SECTION #14**

XREF: S:\PROJECTS\2019\2019-007\DWG\TOP\BASE-19007.dwg  
 XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\CBASE-19007.dwg  
 XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\BLK-19007.dwg



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

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PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
 N.E.C. ROCHESTER ROAD & AVON ROAD  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

**REVISIONS**

CITY COMMENTS	DATE
	6/16/21
	7/21/21

ORIGINAL ISSUE DATE:  
 MAY 10, 2021

DRAWING TITLE  
**LANDSCAPE PLAN**

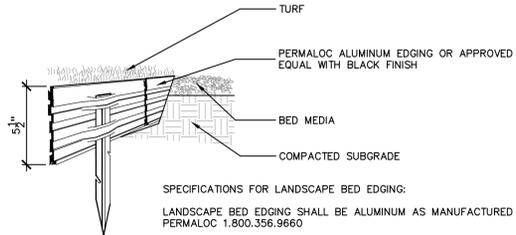
PEA JOB NO.	2019-007
P.M.	RLS
DN.	JE
DES.	JE
DRAWING NUMBER:	

**L-1.0**

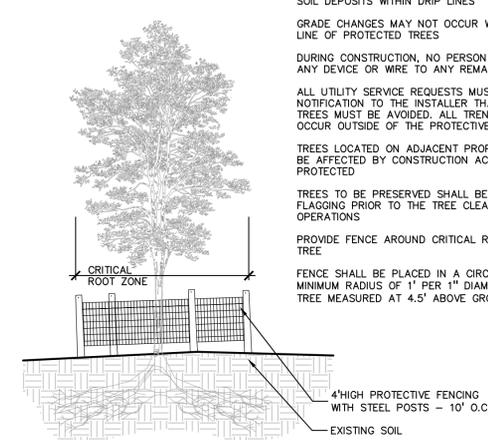
LANDSCAPING				
PLAN QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	ITEM PRICE
1.705	S.Y.	SOD LAWN	\$8.00	\$10,230.00
23	EA.	SUB CANOPY ORNAMENTAL TREES AT 2" CAL.	\$350.00	\$8,050.00
50	EA.	DECIDUOUS TREES AT 2.5" CAL.	\$550.00	\$27,500.00
3	EA.	EVERGREEN TREES AT 8" HT.	\$450.00	\$1,350.00
17	C.Y.	MULCH 3"	\$50.00	\$850.00
34	C.Y.	PLANT MIX FOR BEDS (6" DEPTH)	\$55.00	\$1,870.00
760	L.F.	ALUMINUM EDGING	\$5.00	\$3,800.00
10	C.Y.	RIVER ROCK	\$85.00	\$850.00
39	EA.	PERENNIALS	\$20.00	\$780.00
122	EA.	SHRUBS	\$55.00	\$6,710.00
9	EA.	TREES TO BE PAID INTO THE TREE FUND	\$304.00	\$2,736.00
1	AC.	IRRIGATION (COMMERCIAL BUILDING)	\$21,000.00	\$21,000.00
1	25%	CONTINGENCY	\$19,070.00	\$19,070.00
TOTAL LANDSCAPING				\$104,796.00

**NOTE:** ESTIMATE DOES NOT INCLUDE SITE FURNITURE, AND PLANTINGS WITHIN AMENITY AREA.

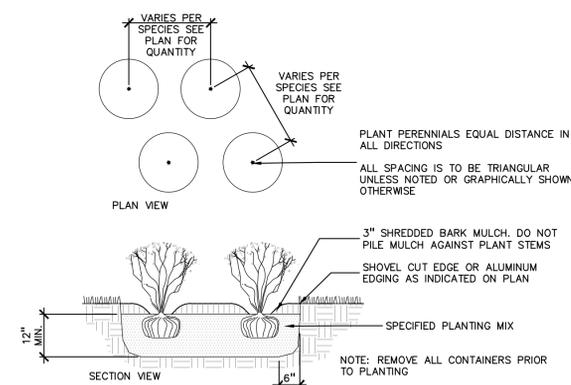
- GENERAL PLANTING NOTES:**
- LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING SITE CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND PLANT LIST, PLAN SHALL GOVERN QUANTITIES. CONTACT LANDSCAPE ARCHITECT WITH ANY CONCERNS.
  - CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ON HIS/HER PHASE OF WORK. ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION MAY BE LOCATED BY CALLING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF CONTRACTOR. CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES ON THE JOB AND SHALL REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER'S REPRESENTATIVE PRIOR TO COMMENCING.
  - ALL PLANT MATERIAL TO BE PREMIUM GRADE NURSERY STOCK AND SHALL SATISFY AMERICAN ASSOCIATION OF NURSERMEN STANDARD FOR NURSERY STOCK. ALL LANDSCAPE MATERIAL SHALL BE NORTHERN GROWN, NO. 1, GRADE.
  - CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON LANDSCAPE PLAN PRIOR TO PRICING THE WORK.
  - THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
  - ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
  - ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER; TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED.
  - ALL MULTI STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL NOT BE ACCEPTED.
  - ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
  - ALL TREES TO HAVE CLAY OR CLAY LOAM BALLS, TREES WITH SAND BALLS WILL BE REJECTED.
  - NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES; HAND GRADE ALL LAWN AREAS WITHIN THE DRIP LINE OF EXISTING TREES.
  - ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
  - IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS.
  - ALL PLANTING BEDS SHALL RECEIVE 4" SHREDDED HARDWOOD BARK MULCH WITH PRE EMERGENT. SEE SPECIFICATIONS, SHREDDED PALETTE AND DYED MULCH WILL NOT BE ACCEPTED.
  - ALL LANDSCAPED AREAS SHALL RECEIVE 4" COMPACTED TOPSOIL.
  - SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS.
  - CONTRACTOR SHALL NOT INSTALL PLANTS UNDER BUILDING OVERHANG AND SHALL NOTIFY LANDSCAPE ARCHITECT IF DRAWINGS CONFLICT WITH BUILDING OVERHANGS.



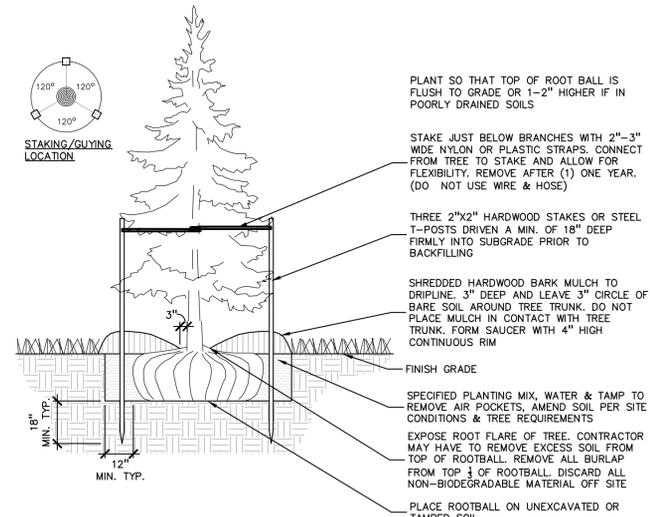
**6 ALUMINUM EDGE DETAIL**  
SCALE: 1/2" = 1'-0"



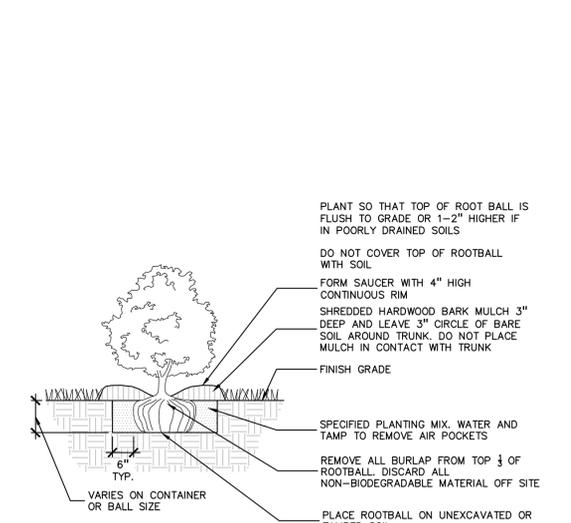
**3 TREE PROTECTION DETAIL**  
SCALE: 1" = 3'-0"



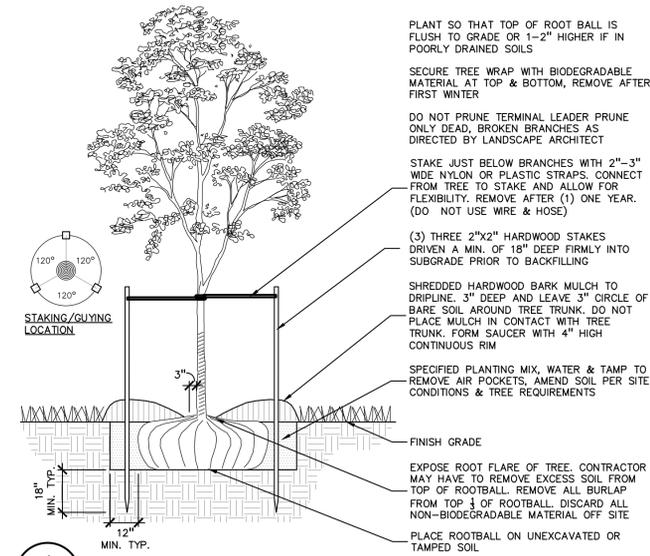
**5 PERENNIAL PLANTING DETAIL**  
SCALE: 1" = 2'-0"



**2 EVERGREEN TREE PLANTING DETAIL**  
SCALE: 1" = 3'-0"



**4 SHRUB PLANTING DETAIL**  
SCALE: 1" = 2'-0"



**1 DECIDUOUS TREE PLANTING DETAIL**  
SCALE: 1" = 3'-0"  
**NOT FOR CONSTRUCTION**  
**CITY FILE #21-007 SECTION #14**



**BIKE FIX IT STATION AND PUMP:**  
BY: DERO OR APPROVED EQUAL  
PHONE: 888-337-6729  
STATION: FIX IT, QTY 1  
PUMP: AIR KIT, QTY 1  
COLOR: BLACK, POWDER COATED, OWNER TO SELECT/APPROVE COLOR



**BENCH:** 72" PLAINWELL, ALUMINUM  
BY: LANDSCAPE FORMS OR APPROVED EQUAL  
PHONE: 800-521-2546  
COLOR: BLACK, POWDER COATED, OWNER TO SELECT/APPROVE COLOR  
QUANTITY: 2, QTY. TO BE APPROVED BY OWNER



**BIKE RACK:** BRCS-103 (3 LOOPS, 5 BIKES)  
(CYCLE SENTRY COLLECTION) SURFACE MOUNT  
BY: VICTOR STANLEY OR APPROVED EQUAL  
PHONE: 800-368-2573  
COLOR: POWDER COAT GALV. BLACK  
OWNER TO SELECT/APPROVE COLOR  
QUANTITY: 1



**PLANTER:** URBAN LONG PLANTER  
(FIBERGLASS, 12" WIDE X 60" LONG X 24" HT.)  
BY: VICTOR STANLEY OR APPROVED EQUAL  
PHONE: 800-368-2573  
COLOR: MATT BLACK  
QUANTITY: 3  
(NOT RECOMMENDED TO REMAIN OUTSIDE DURING WINTER MONTHS)

**7 SITE AMENITY OPTION DETAILS**  
NOT TO SCALE



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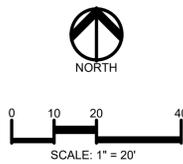
CLIENT  
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251 EAST MERRILL STREET, SUITE #205  
BIRMINGHAM, MICHIGAN 48209

PROJECT TITLE  
**RETAIL REDEVELOPMENT**  
N.E.C. ROCHESTER ROAD & AVON ROAD  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:  
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DRAWING TITLE  
**LANDSCAPE DETAILS**

PEA JOB NO.	2019-007
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PROJECT TITLE  
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N.E.C. ROCHESTER ROAD & AVON ROAD  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/2/21

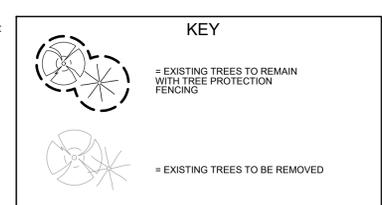
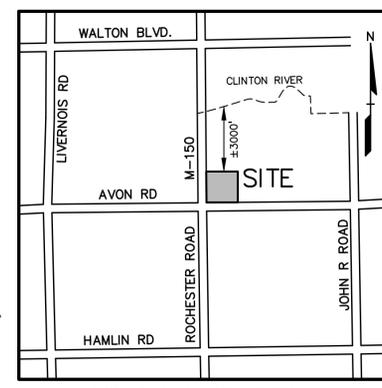
ORIGINAL ISSUE DATE:  
MAY 10, 2021

DRAWING TITLE  
**TREE PRESERVATION PLAN**

PEA JOB NO. 2019-007

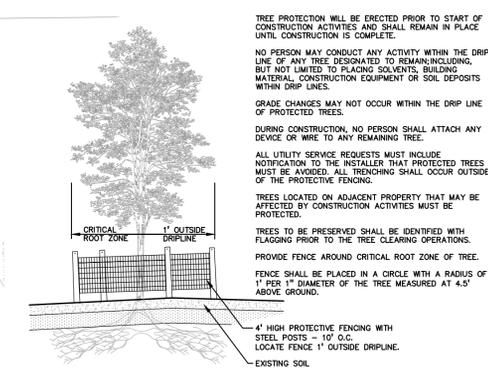
P.M. RLS  
DN. JE  
DES. JE

DRAWING NUMBER:



**NATURAL FEATURES STATEMENT:**  
STEEP SLOPE: THE SITE DOES NOT CONTAIN REGULATED STEEP SLOPES.  
WETLANDS: THE SITE DOES NOT CONTAIN REGULATED WETLANDS OR WATERCOURSE.  
NATURAL FEATURES SETBACK: THE SITE DOES NOT CONTAIN NATURAL FEATURE SETBACKS.

**TREE REPLACEMENT CALCULATIONS**  
PER CITY OF ROCHESTER HILLS ZONING ORDINANCE  
REPLACEMENT TREES:  
REQUIRED: 1" DEC. TREE OR 8' EVG PER REGULATED TREE REMOVED. 2" TREE REPLACEMENT CREDIT FOR EACH SPECIMEN TREE PRESERVED.  
REQUIRED: 18, 3" OR 8' EVG. REPLACEMENT TREES  
SEE SHEET L-1.0 FOR TREE REPLACEMENTS



**TREE PROTECTION DETAIL**  
NOT TO SCALE

NOTE: OFFSITE TREES ON TREE LIST ARE NOT INCLUDED IN PRESERVATION PERCENTAGE.  
**REGULATED ON SITE TREES**  
REGULATED TREES REMOVED: 12  
SPECIMEN TREES REMOVED: 2  
DBH OF SPECIMEN TREES REMOVED: 33 INCHES = 17 REPLACEMENT INCHES  
3" SPECIMEN REPLACEMENT TREES: 6 TREES (3" DECIDUOUS OR 8' EVERGREEN)  
SPECIMEN TREES TO REMAIN ON-SITE: 0 TREES  
REPLACEMENT REQUIRED: 12+6-0=18 TREES (3" DECIDUOUS OR 8' EVERGREEN)

TOTAL TREES ON SITE: 12  
EXEMPT TREES IN BUILDING: 7  
TREES TO REMAIN ON SITE: 2  
% TREES TO REMAIN: (2)/(12-7) = 40.0%

EXISTING TREE LIST: TREE TO BE REMOVED DENOTED WITH STRIKE OUT THROUGH TREE NUMBER

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	CONDITION	NOTES	EXEMPT?	SPECIMEN	SAVE / REMOVE	OFFSITE/ NIC	IN BUILDING
3124	DF	15	Douglas Fir	<del>Pseudotsuga menziesii</del>	FAIR			N	S	N	N
3125	DF	15	Douglas Fir	<del>Pseudotsuga menziesii</del>	FAIR			N	S	N	N
3126	E	36	American Elm	<del>Ulmus americana</del>	GOOD			Y	S	Y	N
3127	NM	22	Norway Maple	<del>Acer platanoides</del>	GOOD			Y	S	Y	N
3128	TH	13	Thornapple/Hawthorne	<del>Crataegus spp.</del>	FAIR			Y	R	N	Y
3129	HL	6	Honeylocust	<del>Gleditsia inaequalis</del>	POOR			N	R	N	N
3130	NS	20	Norway Spruce	<del>Picea Abies</del>	POOR			Y	R	N	Y
3131	NS	15	Norway Spruce	<del>Picea Abies</del>	FAIR			N	R	N	Y
3132	BS	10	Blue Spruce	<del>Picea pungens</del>	FAIR			N	R	N	Y
3133	BS	10	Blue Spruce	<del>Picea pungens</del>	FAIR			N	R	N	Y
3134	BS	10	Blue Spruce	<del>Picea pungens</del>	FAIR			N	R	N	Y
3135	BS	14	Blue Spruce	<del>Picea pungens</del>	FAIR			N	R	N	Y
3136	BS	10	Blue Spruce	<del>Picea pungens</del>	FAIR			N	R	N	N
3137	BS	10	Blue Spruce	<del>Picea pungens</del>	FAIR			N	R	N	N
3138	FC	6	Flowering Cherry	<del>Prunus spp.</del>	GOOD			N	S	Y	N
3139	FC	6	Flowering Cherry	<del>Prunus spp.</del>	GOOD			N	S	Y	N
3140	FC	6	Flowering Cherry	<del>Prunus spp.</del>	GOOD			N	S	Y	N
3141	FC	5	Flowering Cherry	<del>Prunus spp.</del>	GOOD			N	S	Y	N
3142	FC	7	Flowering Cherry	<del>Prunus spp.</del>	FAIR			N	R	Y	N
3143	FC	7	Flowering Cherry	<del>Prunus spp.</del>	GOOD			N	R	Y	N
3144	FC	7	Flowering Cherry	<del>Prunus spp.</del>	POOR			N	R	Y	N
3145	CA	6	Crab Apple	<del>Malus coronaria</del>	FAIR			N	R	Y	N
3146	BX	6	Box elder	<del>Acer negundo</del>	POOR	X3		N	S	Y	N

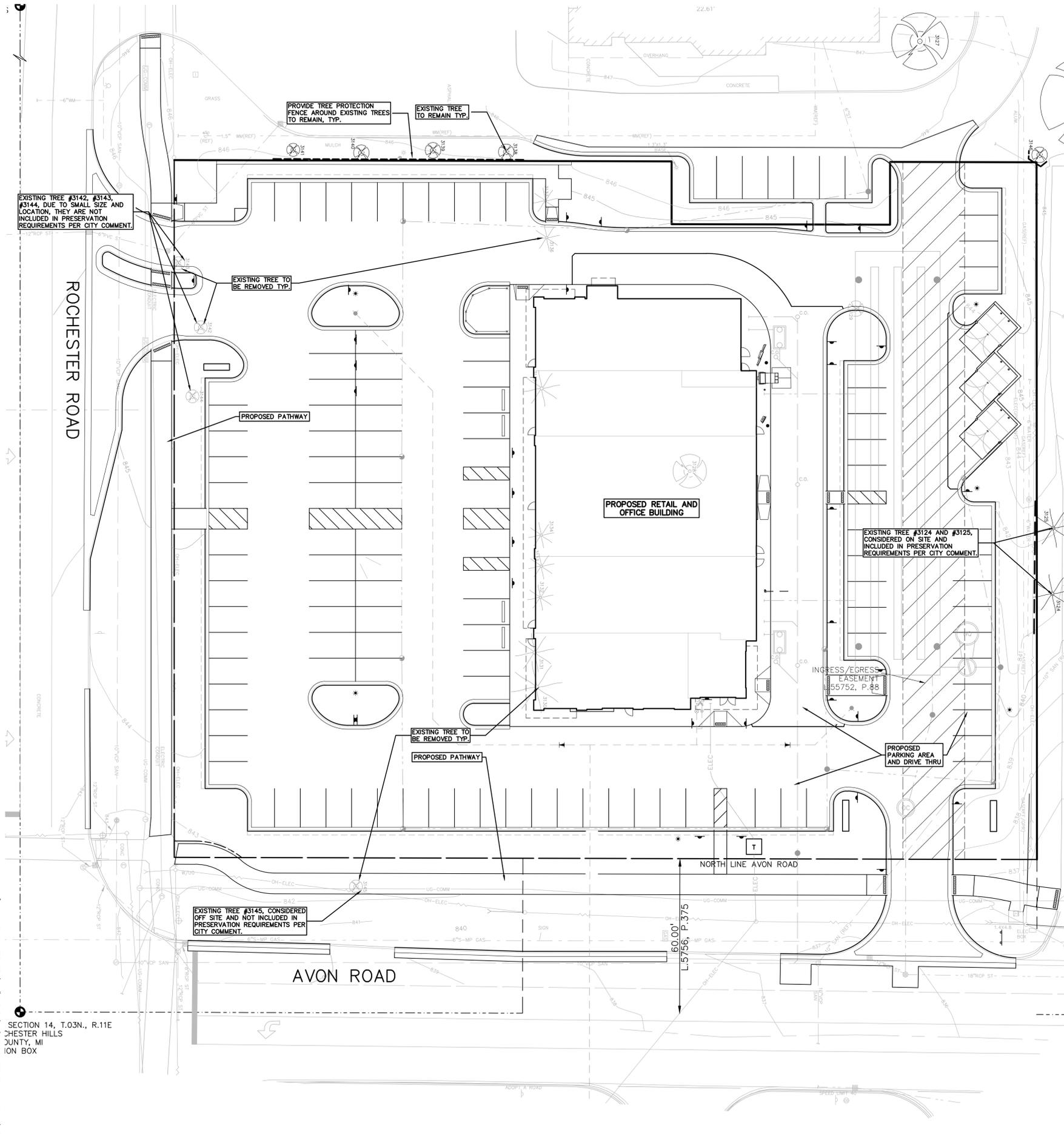
**CITY OF ROCHESTER HILLS NOTES:**  
IMPORTANT:  
ALL TREES ON ADJACENT PROPERTIES MUST BE PROTECTED. THE TREE PROTECTIVE FENCING MAY BE PLACED ALONG THE ACTUAL PROPERTY LINE IF THE BRANCHES OF THE TREES ON THE ADJACENT PROPERTIES DO NOT OVERHANG ONTO THE SITE BEING DEVELOPED. IF THE BRANCHES OVERHANG ONTO THE AREA OF THE SITE BEING DEVELOPED, THE TREE PROTECTIVE FENCING MUST BE PLACED AT THE ACTUAL DRIP LINE OF THESE TREES. IT SHOULD ALSO BE NOTED THAT THE SILT FENCING MUST BE PLACED ON THE DEVELOPMENT SIDE OF THE TREE PROTECTIVE FENCING. THE SILT FENCING MAY NOT BE PLACED BETWEEN THE TREE BEING PRESERVED AND THE TREE PROTECTIVE FENCING. IF ANY REGULATED TREES ARE MANAGED ON THE ADJACENT PROPERTIES, THE DAMAGED TREES WILL BE EITHER REPLACED ON THE OWNER'S PROPERTY ON AN INCH FOR INCH BASIS OR A FINE IN THE SUM OF \$122.00 PER CALIPER INCH WILL BE ISSUED AGAINST THE DEVELOPMENT. THIS FINE WILL BE DUE PRIOR TO BUILDING PERMITS BEING ISSUED. IF YOU HAVE ANY QUESTIONS OR NEED ADDITIONAL INFORMATION, CALL THE CITY'S PLANNING DEPARTMENT AT 248-656-4660.

**TREE PROTECTION NOTES:**

- The tree protection fencing (TPF) shall be erected per the plans approved by the City of Rochester Hills Planning Department. The TPF must be in place and be inspected by the City of Rochester Hills Planning Staff prior to the start of any earthwork or construction operations. It is the developer's responsibility to contact the City Planning Department at 248-656-4660 to schedule a TPF inspection. The TPF shall remain in place throughout the entire construction process or until the City authorizes the removal or issues a final Certificate of Occupancy, whichever occurs first.
- Upon completion of grading and the installation of the infrastructure, a second inspection of the TPF and the trees designated for preservation is required by the City of Rochester Hills' Forester prior to the start of any additional construction. It is the developer's responsibility to contact the City Planning Department at 248-656-4660 to schedule this TPF inspection.
- A final inspection by the City of Rochester Hills Planning Staff is required at the end of the warranty and maintenance period. The Landscape Maintenance Bond will not be released until this inspection is complete and all related issues are resolved. It is the developer's responsibility to contact the City Planning Department at 248-656-4660 to schedule this inspection.
- The Tree Conservation Ordinance prohibits any construction or development activities within the drip line of any regulated trees not approved for removal, including, but not limited to, land clearing, grubbing, trenching, grading or filling; no person shall place any solvents, building material, construction equipment, soil deposits or harmful materials within the drip line limit of trees designated for preservation.
- Proposed grades are to match the existing elevations outside the limits of the TPF. No grading either cut or fill is permitted within the drip line of any tree designated for preservation.
- During the construction process no person shall attach any device or wire/cable/card/rope to an existing tree designated to be preserved.
- All utility service requests must include notification to the installer that protected trees must be avoided. All trenching shall occur outside the TPF.
- Swales shall be routed to avoid the area within the drip line of the only tree designated for preservation. Swales shall be constructed so as to not direct any additional flow into the drip line of a tree designated for preservation.
- If tree protection cannot be maintained for a tree throughout entire period required, the replacement of that tree will be required on an inch for inch basis prior to the issuance of any Certificate of Occupancy.
- Regulated trees located off-site on adjacent properties that may be affected by construction operations must be protected defined herein.
- The TPF shall consist of four-foot high orange snow fencing to be installed around the drip line of all trees designated to be saved. This fencing shall be supported by six-foot metal T-bar posts five-feet on center and driven a minimum of 24" into the ground. The TPF fencing shall remain upright and securely in place for the required time as specified above.
- Prior to the release of the Performance Bond, the City of Rochester Hills Forestry Division needs to inspect all trees existing or planted, to identify any that pose a hazard to the safe use of the public right-of-way. Forestry may require the developer to remove and possibly replace any such trees.

**NOT FOR CONSTRUCTION**  
**CITY FILE #21-007 SECTION #14**

XREF: S:\PROJECTS\2019\2019-007\DWG\TOPBASE-19007.dwg  
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\CEASE-19007.dwg  
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\BLK-19007.dwg



SECTION 14, T.03N., R.11E  
CHESTER HILLS  
JUNTY, MI  
ION BOX

S:\PROJECTS\2019\2019-007\465 S ROCHESTER ROAD-PEA\JOB SITE PLANS\T-1.0 TREE PRESERVATION PLAN\007.dwg

issued for:  
 OWNER REVIEW: 11 SEPT. 2020  
 OWNER REVIEW: 01 FEB. 2021  
 OWNER REVIEW: 10 FEB. 2021  
 OWNER REVIEW: 11 FEB. 2021  
 OWNER REVIEW: 08 MAR. 2021  
 OWNER REVIEW: 19 APR. 2021  
 OWNER REVIEW: 20 APR. 2021  
 OWNER REVIEW: 22 APR. 2021  
 SITE PLAN REVIEW: 05 MAY 2021  
 SITE PLAN REVIEW: 05 JUN. 2021

project:

Proposed  
**Commercial Development**  
 NEC Rochester Rd. & Avon Rd.  
 Rochester Hills, Michigan



32600 TELEGRAPH ROAD  
 SUITE 250  
 BINGHAM FARMS, MICHIGAN  
 48025-2404  
 PH 248.540.7700 FX 248.540.2710  
 www.rogvoy.com



drawing:

**First Level Floor Plan**

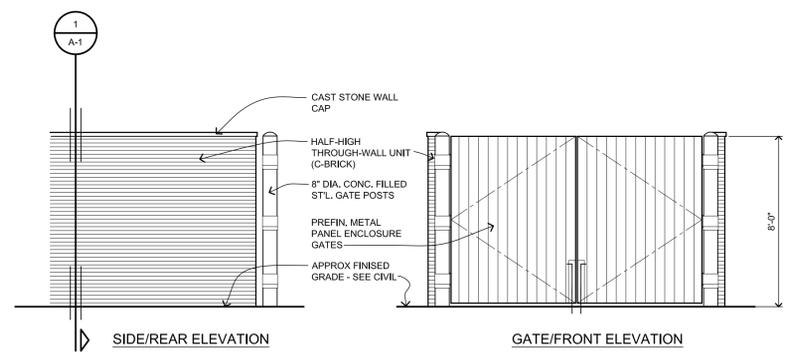
DO NOT SCALE DRAWING

issue date:  
 drawn: KL  
 checked: MD  
 approved: MD

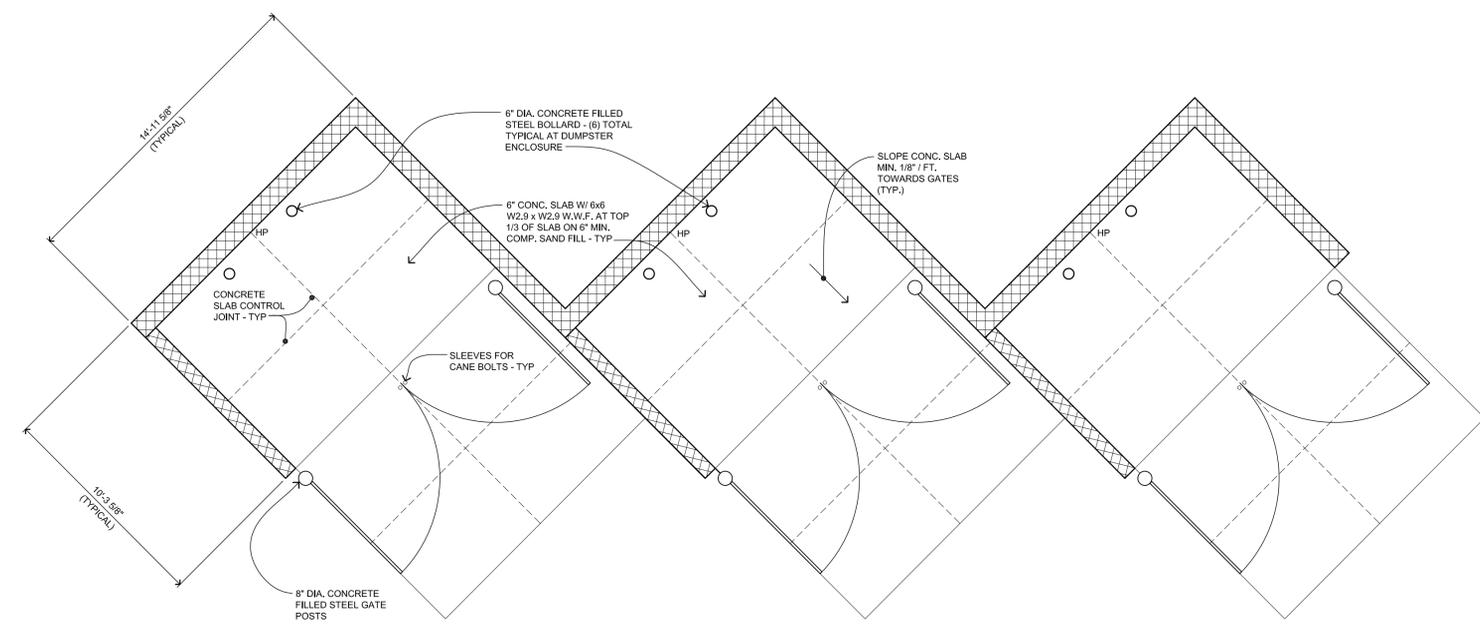
file number: 19026

sheet:

**A-1**



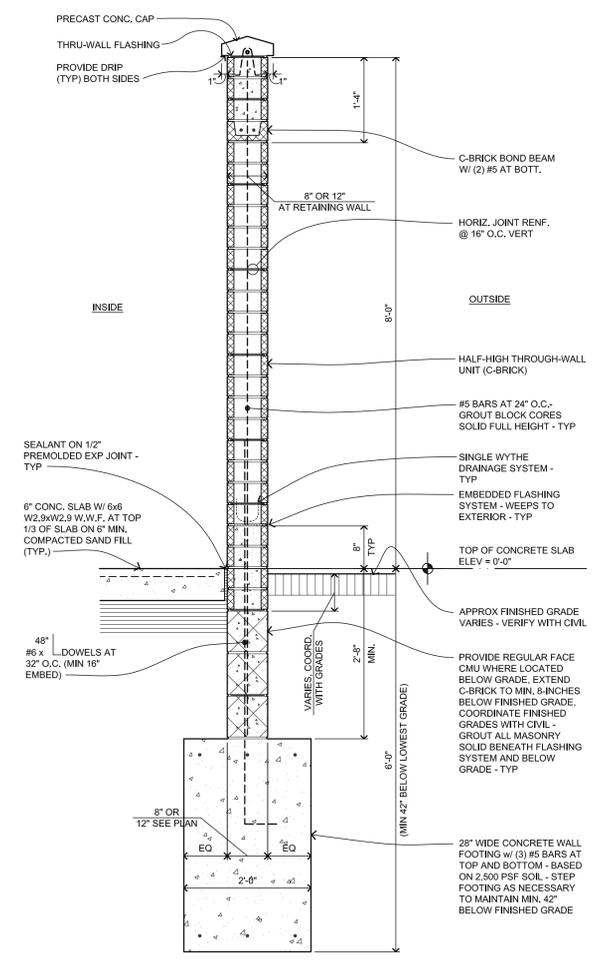
**2 Dumpster Enclosure Elevations**  
 1/4" = 1'-0"



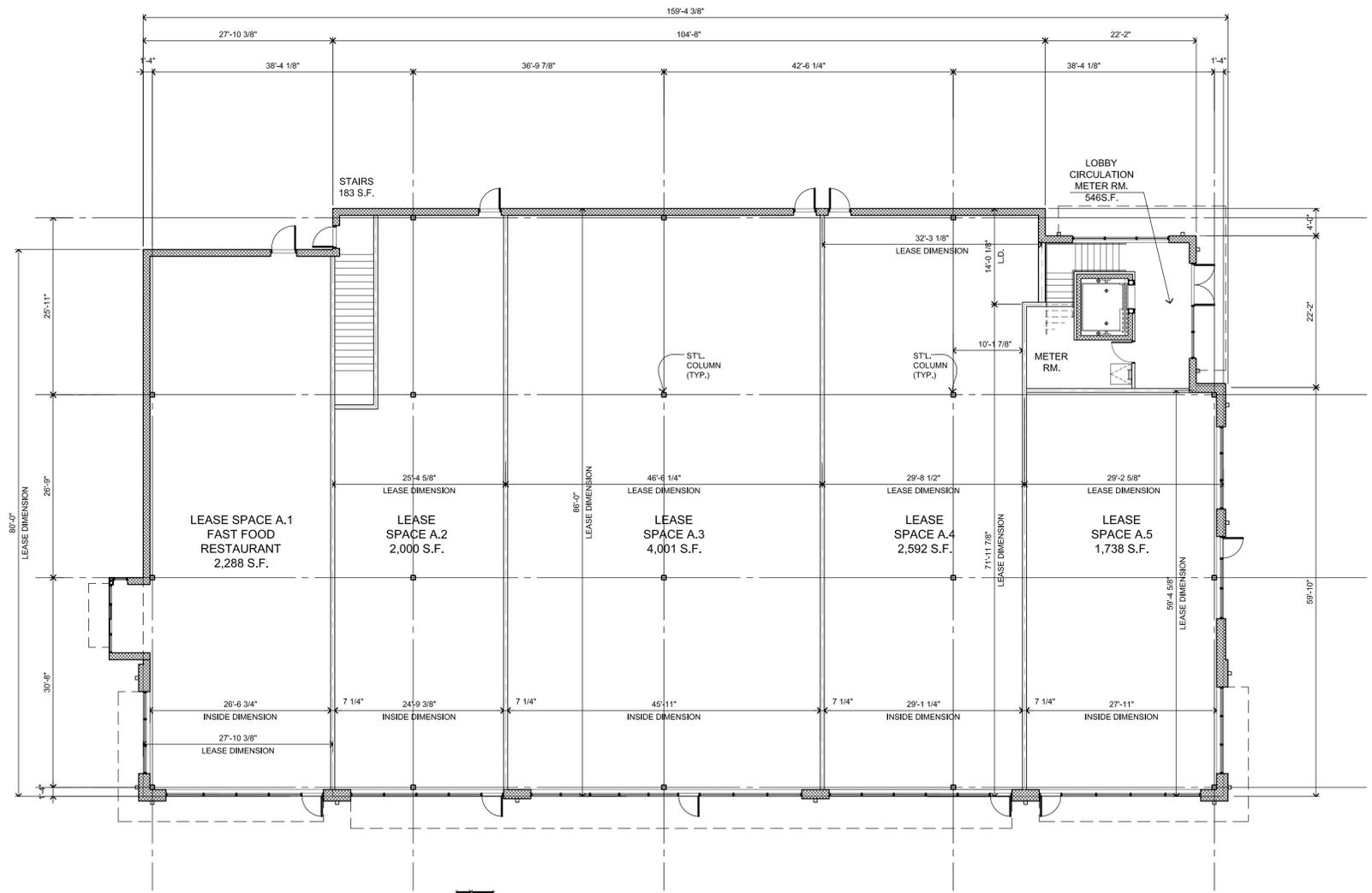
**Dumpster Enclosure Plan View**

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

SEE SITE PLAN FOR ORIENTATION AND LOCATION, TYP.



**1 Dumpster Enclosure Wall Section**  
 3/4" = 1'-0"



**1st Level Floor Plan**

GFA : 13,348 S.F.  
 GLA : 12,619 S.F.

Scale: 3/32"=1'-0"

issued for:  
 OWNER REVIEW: 11 SEPT. 2020  
 OWNER REVIEW: 01 FEB. 2021  
 OWNER REVIEW: 11 FEB. 2021  
 SITE PLAN REVIEW: 05 MAY 2021  
 SITE PLAN REVIEW: 15 JUN. 2021  
 SITE PLAN REVIEW: 21 JUL. 2021

project:

Proposed  
**Commercial Development**  
 NEC Rochester Rd. & Avon Rd.  
 Rochester Hills, Michigan



32500 TELEGRAPH ROAD  
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 BINGHAM FARMS, MICHIGAN  
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drawing:  
**Second Level  
 Floor Plan**

DO NOT SCALE DRAWING

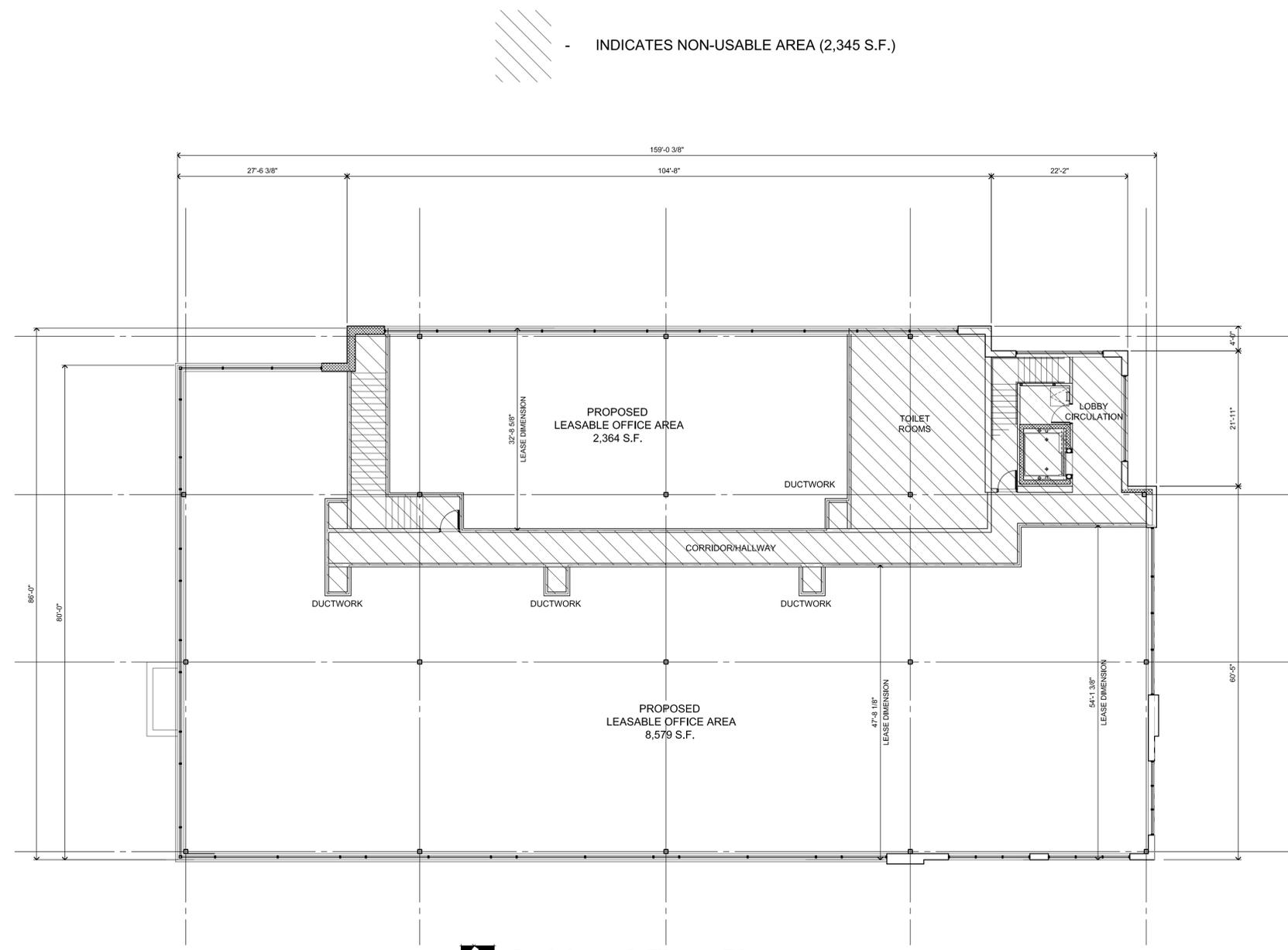
issue date:  
 drawn: KL  
 checked: MD  
 approved: MD

file number: 19026

sheet:

**A-2**

Building Code Compliance	
<b>BUILDING CODE REFERENCES</b> THE FOLLOWING IS THE CODE ANALYSIS FOR THE PROPOSED BUILDING SHELL UNDER THE CURRENT CODE:	
MICHIGAN BUILDING CODE INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE	
UNIFORM FEDERAL ACCESSIBILITY STANDARDS AMERICANS WITH DISABILITIES ACT (ADAAG, 2010)	
AMERICAN NATIONAL STANDARD - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (ANSI A117.1-2009)	
MICHIGAN MECHANICAL CODE RULES INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL MECHANICAL CODE	
MICHIGAN PLUMBING CODE INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL PLUMBING CODE	
MICHIGAN ELECTRICAL CODE INCORPORATING THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE WITH PART 8 AMENDMENTS	
INTERNATIONAL FIRE CODE - 2015	
FIRE SUPPRESSION - NFPA 13 - 2015 MBC	
FIRE ALARM - NFPA 72 - 2015 MBC	
ENERGY CODE - MEC 2015 (MICHIGAN ENERGY CODE - CHAPTER 4, COMMERCIAL ENERGY EFFICIENCY COMPLYING WITH THE REQUIREMENTS OF ANSI/ASHRAE/IESNA 90.1-2013.	
<b>PROPOSED BUILDING PROPERTIES</b>	
PROPOSED:	MIXED-OCCUPANCY, MULTISTORY BUILDING (\$ 506.2.4)
CONSTRUCTION CLASSIFICATION:	II B (\$ 602.2)
<b>PROPOSED TOTAL BUILDING AREA</b>	
FIRST FLOOR:	13,348 GSF
SECOND FLOOR:	13,288 GSF
TOTAL BUILDING AREA:	26,636 SF
STORIES:	2-STORIES ABOVE GRADE PLAN
<b>PROPOSED OCCUPANCIES</b>	
FIRST FLOOR:	A-2, ASSEMBLY & M, MERCANTILE (303.3 & 309.1)
SECOND FLOOR:	B, BUSINESS (304.1)
<b>ALLOWABLE HEIGHT, STORIES AND AREA</b>	
ALLOWABLE HEIGHT:	75-FEET (S, SPRINKLERED) (T 504.3)
ALLOWABLE NUMBER OF STORIES:	3-STORIES (S, SPRINKLERED) (T 504.4)
ALLOWABLE AREA PER STORY:	28,500 SF (SM, SPRINKLERED) (T 506.2) (NOT EXCEEDING THREE STORIES)
<ul style="list-style-type: none"> <li>ALLOWABLE HEIGHT, STORIES, AND AREA BASED ON THE MOST RESTRICTIVE PROPOSED OCCUPANCY, A-2 ASSEMBLY.</li> </ul>	
ALLOWABLE AREA WITH FULL OPEN PERIMETER & SPRINKLER:	35,625 SF (\$506.3.3)
<b>ALLOWABLE AREA CALCULATIONS PER PROPOSED SCHEMATIC PLAN</b>	
FIRST STORY:	GROUP A-2 OCCUPANCY 6,880 SF TOTAL PROPOSED GROUP M OCCUPANCY 5,739 SF TOTAL PROPOSED TOTAL SF WITH LOBBY: 13,348 SF
<ul style="list-style-type: none"> <li>COMBINED OCCUPANCIES' TOTAL FIRST FLOOR AREA IS LESS THAN THAT PERMITTED FOR THE MOST RESTRICTIVE OCCUPANCY NOTED ABOVE. FIRST FLOOR QUALIFIES FOR NON-SEPARATED OCCUPANCY DESIGN METHOD.</li> </ul>	
SECOND STORY:	GROUP B OCCUPANCY 10,943 SF TOTAL PROPOSED TOTAL SF INCLUDING NON-USABLE AREA: 13,288 SF
<ul style="list-style-type: none"> <li>TOTAL SECOND FLOOR AREA IS LESS THAN THAT PERMITTED FOR THE MOST RESTRICTIVE OCCUPANCY NOTED ABOVE. SECOND FLOOR QUALIFIES FOR NON-SEPARATED OCCUPANCY DESIGN METHOD.</li> </ul>	
<b>MIXED USE AND OCCUPANCY (\$ 508)</b>	
SEPARATION:	NON-SEPARATED OCCUPANCIES (\$ 508.3)
<ul style="list-style-type: none"> <li>NO SEPARATION IS REQUIRED BETWEEN NON-SEPARATED USES.</li> </ul>	
<b>FIRE SUPPRESSION AND FIRE ALARM REQUIREMENTS</b>	
SUPPRESSION SYSTEM:	FULLY SPRINKLERED (NFPA 13) (\$ 903)
<ul style="list-style-type: none"> <li>FIRE SUPPRESSION SYSTEM TO BE PROVIDED THROUGHOUT THE BUILDING AREA AS REQUIRED PER THE CODE (&amp; NFPA 13) FOR THE MOST RESTRICTIVE USE.</li> <li>FIRE SUPPRESSION SYSTEM IS A DEFERRED SUBMITTAL BY THE FIRE SUPPRESSION CONTRACTOR.</li> </ul>	
FIRE ALARM SYSTEM:	FULLY ALARMED (AS REQUIRED BY CODE) (\$ 907)
<ul style="list-style-type: none"> <li>FIRE ALARM SYSTEM TO BE PROVIDED THROUGHOUT THE BUILDING AREA AS REQUIRED PER THE CODE (&amp; NFPA 72) FOR THE MOST RESTRICTIVE USE.</li> <li>FIRE ALARM SYSTEM IS A DEFERRED SUBMITTAL BY THE FIRE ALARM CONTRACTOR.</li> </ul>	
<b>FIRE RESISTANCE RATING REQUIREMENTS (T601)</b>	
CONSTRUCTION TYPE: II B	
STRUCTURAL FRAME	= 0 HR
<b>BEARING WALLS</b>	
EXTERIOR	= 0 HR
INTERIOR	= 0 HR
<b>NON-BEARING WALLS &amp; PARTITIONS</b>	
EXTERIOR	= 0 HR
INTERIOR	= 0 HR
FLOOR CONSTRUCTION	= 0 HR
ROOF CONSTRUCTION	= 0 HR

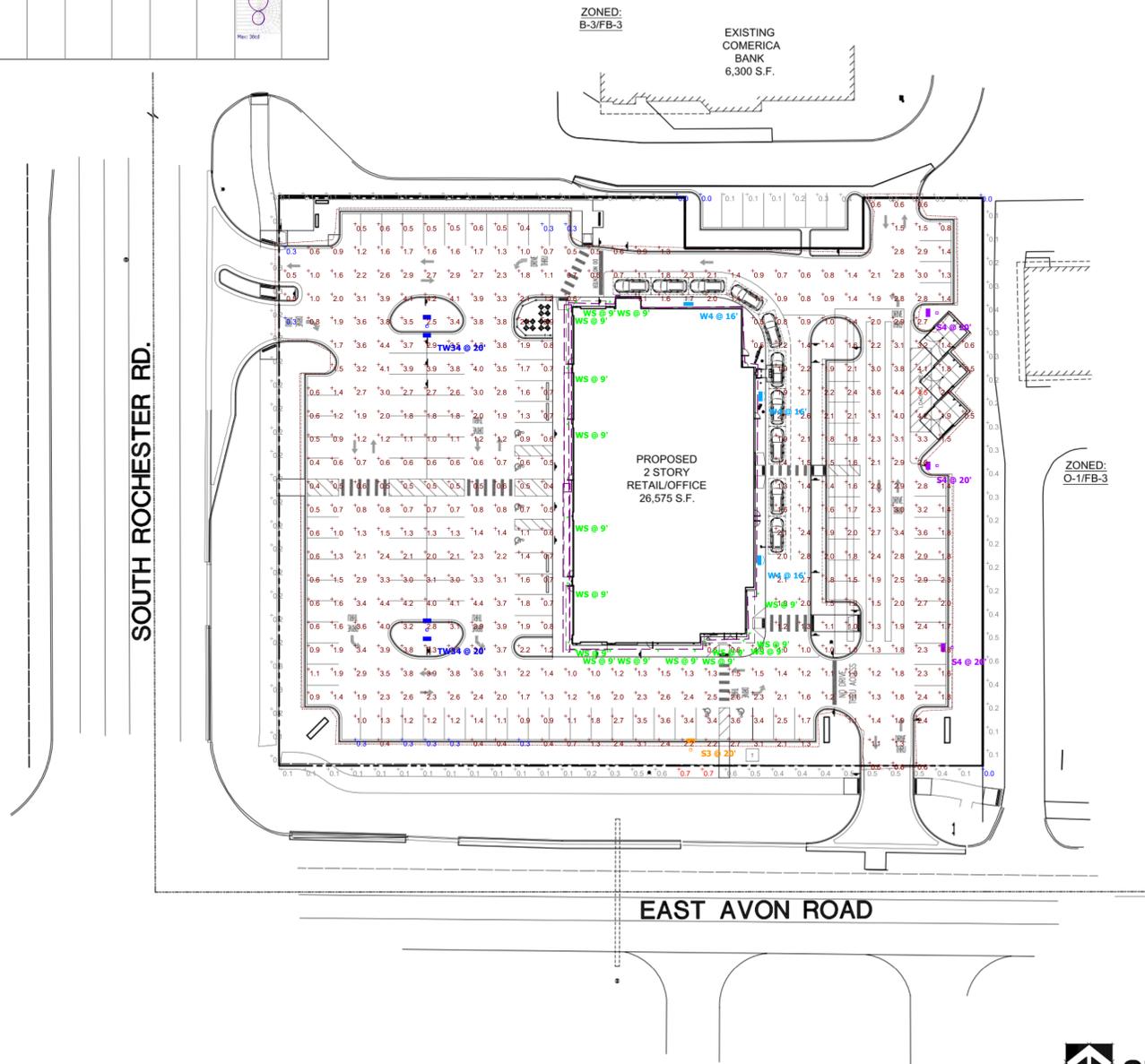


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Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Lumen Multiplier	Light Loss Factor	Wattage	Efficiency	Distribution	Plot	Notes
	TW34		2	HUBBELL OUTDOOR	[...]	[...]	[...]	1	[...]	[...]	1	0.92	197.3	100%			
	ASL1-160L-100-4K7-3-U			HUBBELL OUTDOOR	ASL1-160L-100-4K7-3-U		B-70-CRI	1	ASL1-160L-100-4K7-3.ies	12012	1	0.92	87.6	100%			
	ASL1-160L-115-4K7-4W-U			HUBBELL OUTDOOR	ASL1-160L-115-4K7-4W-U		B-70-CRI	1	ASL1-160L-115-4K7-4W.ies	15234	1	0.92	109.7	100%			
	S4		3	HUBBELL OUTDOOR	ASL1-160L-100-4K7-4W-U		B-70-CRI	1	ASL1-160L-100-4K7-4W.ies	11788	1	0.92	87.6	100%			
	S3		1	HUBBELL OUTDOOR	ASL1-160L-100-4K7-3-U		B-70-CRI	1	ASL1-160L-100-4K7-3.ies	12012	1	0.92	87.6	100%			
	W4		3	HUBBELL OUTDOOR	LNCA-36L-4K-035-3-U	Large LNCA Litepak	C-70-CRI	1	LNCA-36L-4K-035-3-U.ies	4632	1	0.92	40.3	100%			
	WS		16	Ultralights Lighting, 320 S Plumer Ave, Tucson, AZ 85719	19414	Ultralights Lighting - Wall sconce luminaire. Product ID: 19413 Brown formed steel housing with flat white plastic lens top and bottom. 48 LEDs with single row of 24 mounted at top and at bottom. One Fulham driver. Model: 1111200700-18CA Operating at 120v AC and 60 Hz.		48	19414_16.BW-Ultralights.ies	3	1	0.5	18.8	100%			

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.8 fc	4.5 fc	0.3 fc	15.0:1	6.0:1
Property Line	+	0.2 fc	0.7 fc	0.0 fc	N/A	N/A



**SITE PLAN**

SCALE: 1"=30'-0"

Plan View  
Scale - 1" = 35'

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