

PRELIMINARY SITE PLANS FOR

MMG-PLYMOUTH MIXED USE DEVELOPMENT

3621 PLYMOUTH ROAD

CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

OWNER:

MARKUS MANAGEMENT GROUP, LLC
251 E. MERRILL STREET
BIRMINGHAM, MI 48009
CONTACT: DORAID MARKUS
PHONE: (248) 892-2222
EMAIL: DSMARKUS@YAHOO.COM

CIVIL ENGINEER:

PEA, INC.
2430 ROCHESTER CT, SUITE 100
TROY, MI 48083
CONTACT: GREGORY BONO, PE
PHONE: (248) 689-9090 EXT. 1148
FAX: (248) 689-1044
EMAIL: GBONO@PEAINC.COM

ARCHITECT:

NORR
150 W. JEFFERSON AVE, SUITE 1300
DETROIT, MI 48226
CONTACT: BRAD SMITH
PHONE: (313) 426-8888
FAX: (313) 324-3111
EMAIL: BRAD.SMITH@NORR.COM

LANDSCAPE ARCHITECT:

PEA, INC.
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@PEAINC.COM

LEGAL DESCRIPTIONS

PARCEL 09-09-14-400-009
(Per Reputation First Title Agency (First American Title Insurance Company) Commitment No. 26857, Commitment Date January 22, 2018.

The land referred to in this Commitment is described as follows:

Situated in the City of Ann Arbor, County of Washtenaw, State of Michigan.

Commencing at the South 1/4 corner of Section 14, T2S, R6E, City of Ann Arbor, Michigan; thence N 00 degrees 05' 50" E 810.08 feet along the North and South 1/4 line of said Section; thence N 70 degrees 54' 30" E 759.87 feet along the centerline of Plymouth Road for a PLACE OF BEGINNING; thence N 19 degrees 05' 30" W 243.0 feet; thence 43.57 feet along the arc of a tangential curve to the left, radius 108.0 feet, chord N 30 degrees 39' W 43.29 feet; thence Northeasterly 59.62 feet along the arc of a non-tangential circular curve to the left, radius 65.0 feet, chord N 23 degrees 38' E 57.37 feet; thence N 70 degrees 53' 40" E 58.86 feet; thence N 19 degrees 06' 20" W 13.0 feet; thence N 70 degrees 53' 40" E 129.33 feet; thence S 19 degrees 06' 20" E 152.16 feet; thence S 25 degrees 53' 40" W 266.60 feet; thence S 70 degrees 54' 30" W 30.26 feet along the centerline of Plymouth Road to the Place of Beginning, being part of the Southeast 1/4 of said Section.

PARCEL 09-09-14-400-008

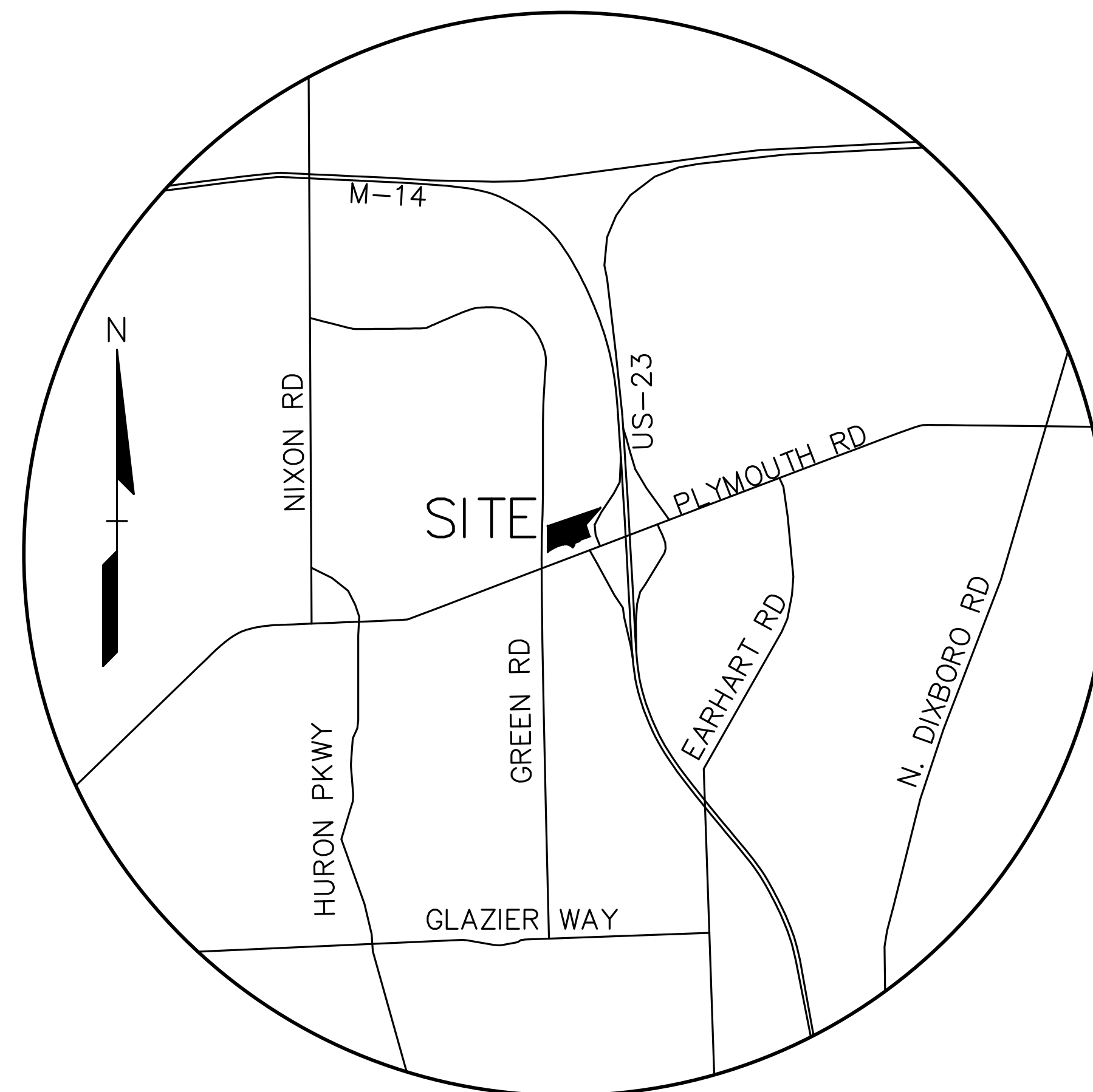
(Per First American Title Insurance Company Commitment File No. NCS-881874-HOU1, Commitment Date November 28, 2017.

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Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence 200.28 feet along the arc of a nontangential circular curve to the right, radius 500.00 feet, chord North 64 degrees 30 minutes 30 seconds East, 198.94 feet; thence 160.05 feet along the arc of a circular curve to the right, radius 108.0 feet; chord South 61 degrees 32 minutes 45 seconds East, 145.80 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.0 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

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LOCATION MAP
NO SCALE

COMPARISON CHART:

	EXISTING	PROPOSED	PERMITTED/REQUIRED	
ZONING	PUD	C3	C3	
GROSS LOT AREA (EXCLUDING R.O.W.)	186,001 SF	186,001 SF	6,000 SF MIN.	
BUILDING FLOOR AREA	2-STORY HOTEL	6,465 SF	EX. BLDG TO REMAIN	
	2-STORY HOTEL	3,505 SF	EX. BLDG TO REMAIN	
	2-STORY HOTEL	4,665 SF	-	
	2-STORY HOTEL	3,510 SF	-	
	6-STORY HOTEL	-	76,208 SF	
RESTAURANT	5,181 SF	4,440 SF		
MAX. USABLE FLOOR AREA IN % OF LOT AREA	23,326 SF (12.54%)	90,618 SF (48.72%)	372,002 SF MAX (200%)	
SETBACKS	FRONT (SOUTH)	212.71'	212.73'	10' MIN./25' MAX
	REAR (NORTH)	86.96'	58.02'	0'
	SIDE (EAST)	78.28'	60.59'	0'
	SIDE (WEST)	55.87'	67.50'	0'
BUILDING HEIGHT	2 STORIES	76' (6 STORIES)*	55' (4 STORIES) MAX	
PARKING - AUTOMOBILES	195 SPACES INC. 7 ADA SPACES	227 SPACES INC. 7 ADA SPACES AND 2 EV SPACES	227 SPACES (MINIMUM) INC. 7 ADA SPACES	
PARKING - BICYCLES	NONE	6 SPACES - CLASS A 3 SPACES - CLASS B 3 SPACES - CLASS C	227 SPACES (MINIMUM) INC. 7 ADA SPACES 6 SPACES - CLASS A 3 SPACES - CLASS B 3 SPACES - CLASS C	

* PLANNED PROJECT MODIFICATIONS REQUESTED

DEVELOPMENT PROGRAM:

THE SITE IS COMPRISED OF TWO PARCELS INTENDED TO BE COMBINED INTO ONE. THE PARCELS ARE CURRENTLY ZONED PUD AND HAS 4 RED ROOF INN PLUS+ BUILDINGS AND ONE BIG BOY RESTAURANT. THE PROPOSED DEVELOPMENT INCLUDES DEMOLITION AND REPLACEMENT OF THE TWO EASTERLY RED ROOF INN PLUS+ BUILDINGS WITH A HOTEL AND RENOVATION OF THE BIG BOY RESTAURANT INTO A PANERA RESTAURANT. THE HOTEL IS A 76,208 SF, 6-STORY BUILDING. THE PANERA IS A 4,440 SF BUILDING WITH A DRIVE THRU AND A PATIO. THE PROPOSED DEVELOPMENT CONTAINS 227 PARKING SPACES.

- SITE AREA IS APPROXIMATELY 4.51 ACRES (GROSS) AND 4.27 ACRES (NET)
- PROBABLE SITE CONSTRUCTION COST = T.B.D.
- THE SITE WILL BE ACCESSED VIA AN EXISTING PRIVATE DRIVE CONNECTING PLYMOUTH ROAD AND GREEN ROAD. ADA ACCESSIBLE PARKING WILL BE PROVIDED TO ALLOW ACCESS TO THE BUILDINGS.
- PUBLIC WATER AND SEWER ARE AVAILABLE AT THE SITE.
- THE PARCEL WILL BE DRAINED THROUGH UNDERGROUND DETENTION AND RETENTION FACILITIES TO THE PUBLIC STORM DRAINAGE WAY.
- THE PROPOSED HOTEL CONTAINS 126 ROOMS.

COMMUNITY ANALYSIS:

- DUE TO SIMILAR EXISTING USE AND SITE LOCATION, THE PROPOSED DEVELOPMENT IS NOT EXPECTED TO SIGNIFICANTLY IMPACT LOCAL SCHOOLS. THE SURROUNDING USES ARE RETAIL, BUSINESS AND HOTEL.
- THE BUILDINGS ARE SET BACK OVER 200 FEET FROM TO PLYMOUTH ROAD.
- NO SIGNIFICANT IMPACT ON THE PUBLIC THOROUGHFARES IS EXPECTED.
- NO NEGATIVE EFFECT ON AIR QUALITY IS EXPECTED. THE PROPOSED UNDERGROUND DETENTION AND INFILTRATION SYSTEM IS EXPECTED TO REDUCE POLLUTANTS AND SEDIMENT LEAVING THIS SITE THROUGH THE STORM SEWER SYSTEM.
- NO SIGNIFICANT NATURAL FEATURE IMPACTS ARE EXPECTED.
- THERE ARE NO KNOWN HISTORIC SITES OR STRUCTURES ON THE PROPERTY.
- REFER TO THE TRAFFIC IMPACT STUDY BY BERGMANN FOR TRAFFIC VOLUME ANALYSIS.

INDEX OF DRAWINGS:

- C-0.0 COVER SHEET
- C-1.0 TOPOGRAPHIC SURVEY
- C-1.1 ALTA NSPS LAND TITLE SURVEY
- C-1.2 ALTA NSPS LAND TITLE SURVEY
- C-2.0 DIMENSION AND PAVING PLAN
- C-3.0 PRELIMINARY GRADING PLAN
- C-3.1 SITE CROSS SECTIONS
- C-4.0 SOIL EROSION CONTROL PLAN
- C-4.1 SOIL EROSION CONTROL DETAILS
- C-5.0 UTILITY PLAN
- C-6.1 EXISTING SITE DRAINAGE PLAN
- C-6.2 PROPOSED SITE DRAINAGE PLAN
- C-6.3 DRAINAGE CALCULATIONS
- C-7.0 STORMWATER MAINTENANCE PLAN
- C-8.0 NOTES AND DETAILS
- C-8.1 NOTES AND DETAILS
- L-1.0 PRELIMINARY LANDSCAPE PLAN
- L-1.1 PRELIMINARY LANDSCAPE DETAILS
- T-1.0 NATURAL FEATURES PLAN
- SL-1.1 SITE PHOTOMETRIC PLAN
- SL-1.2 SITE PHOTOMETRIC DETAILS

RESTAURANT ARCHITECTURAL SHEETS:

- PP-1 PRELIMINARY FLOOR PLAN AND ELEVATIONS
- PP-6 SOLAR LAYOUT PLAN
- PERSPECTIVE RENDERINGS

HOTEL DEVELOPMENT ARCHITECTURAL SHEETS:

- 02 LEVEL 1 FLOOR PLAN
- 03 LEVEL 2 FLOOR PLAN
- 04 LEVEL 3-6 FLOOR PLAN
- 05 SOLAR LAYOUT PLAN
- 09 WEST & SOUTH ELEVATIONS
- 10 EAST & NORTH ELEVATIONS
- 11 MATERIAL BOARD
- 12 PERSPECTIVE RENDERING

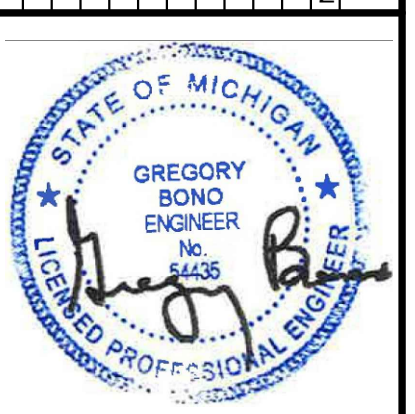
GENERAL DESCRIPTION OF NATURAL FEATURES:

- SOIL TYPES ON SITE ARE MmB MIAMI LOAM PER THE WASHTENAW COUNTY SOIL SURVEY.
- SITE VEGETATION CONSISTS PRIMARILY OF GRASSES, SHRUBS AND A FEW TREES
- DISBURSED THROUGHOUT THE SITE.
- REFER TO SHEET C-1.0, TOPOGRAPHIC SURVEY FOR SITE TOPOGRAPHY.

NATURAL FEATURES STATEMENT OF IMPACT:

- THERE IS NO KNOWN ENDANGERED SPECIES HABITAT ON SITE.
- THE SITE IS NOT LOCATED WITHIN THE 100-YEAR FLOOD PLAIN.
- THE SITE SLOPES FROM AN ELEVATION OF APPROXIMATELY 710 AT PLYMOUTH ROAD UP TO AN ELEVATION OF APPROXIMATELY 917 AT THE NORTH END.
- THERE ARE NO WATERCOURSES ON THE PROPERTY.
- THERE ARE NO WETLANDS ON THE PROPERTY.
- THERE ARE NO WOODLANDS ON THE PROPERTY.
- THERE ARE 15 LANDMARK TREES, 4 LANDMARK TREES ARE PROPOSED TO BE REMOVED AND MITIGATED FOR.

NO.	DATE	DESCRIPTION
1	11/21/18	ISSUED PER CITY COMMENTS
2	11/21/18	REVISED PER CITY COMMENTS
3	11/21/18	ISSUED PER CITY COMMENTS
4	11/21/18	REVISED PER CITY COMMENTS
5	11/21/18	ISSUED PER CITY COMMENTS
6	11/21/18	REVISED PER CITY COMMENTS
7	11/21/18	ISSUED PER CITY COMMENTS
8	11/21/18	REVISED PER CITY COMMENTS
9	11/21/18	ISSUED PER CITY COMMENTS
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11	11/21/18	ISSUED PER CITY COMMENTS
12	11/21/18	REVISED PER CITY COMMENTS
13	11/21/18	ISSUED PER CITY COMMENTS
14	11/21/18	REVISED PER CITY COMMENTS
15	11/21/18	ISSUED PER CITY COMMENTS
16	11/21/18	REVISED PER CITY COMMENTS
17	11/21/18	ISSUED PER CITY COMMENTS
18	11/21/18	REVISED PER CITY COMMENTS
19	11/21/18	ISSUED PER CITY COMMENTS
20	11/21/18	REVISED PER CITY COMMENTS



CAUTION!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS 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.

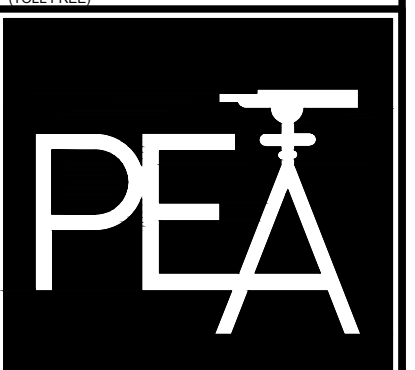
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CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCESS TO CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTORS SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THE REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFINE, MAINTAIN AND ACCURATELY REPRESENT, OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, THE LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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www.peainc.com

MARKUS MANAGEMENT GROUP, LLC
251 E. MERRILL STREET
BIRMINGHAM, MI, MICHIGAN 48009

COVER SHEET
MMG-PLYMOUTH MIXED USE DEVELOPMENT
PART OF THE SE 1/4 SECTION 14, T2S, R6E, B1C
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

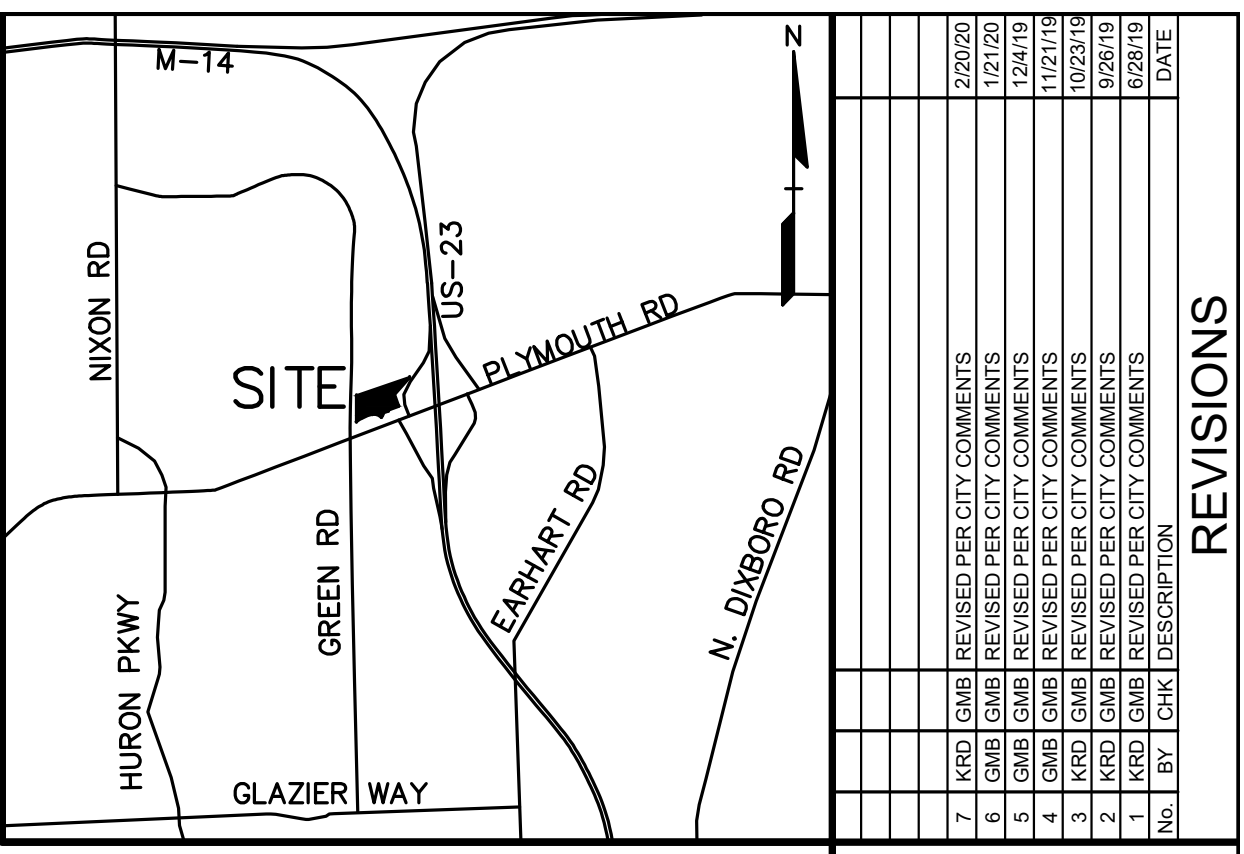
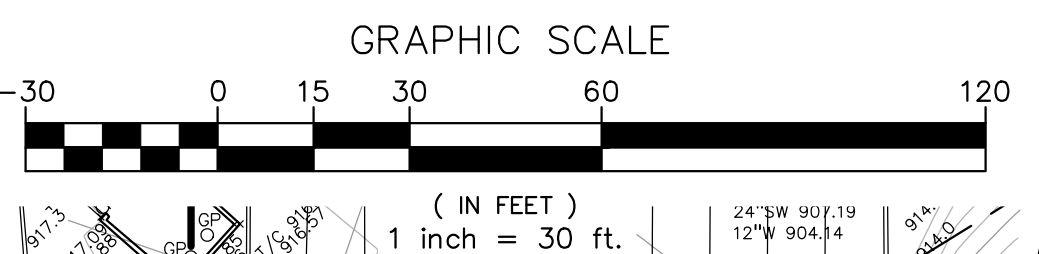
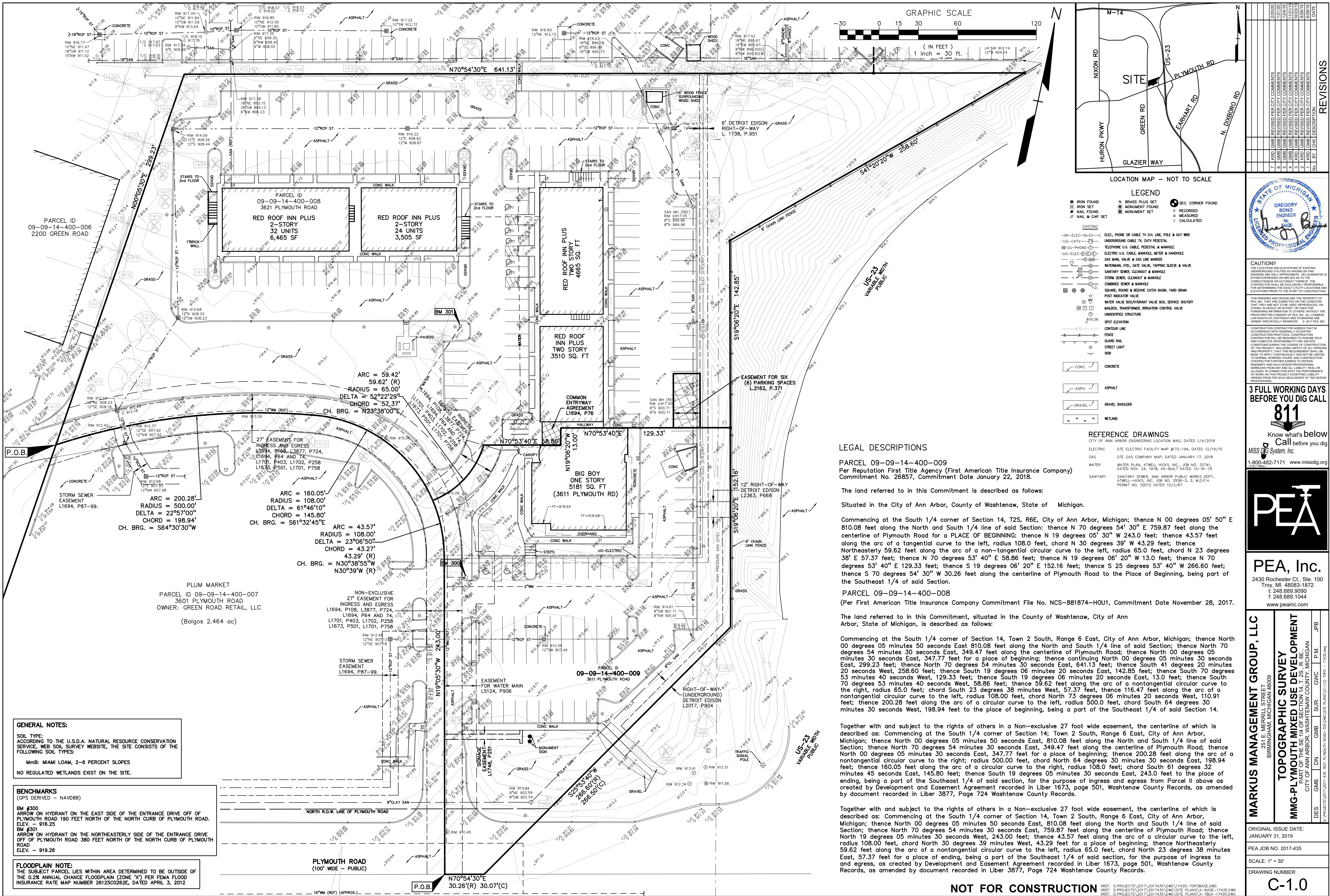
DES: GMB DN GMB SUR GWC PJB
15-PROJECTS\2017\2017-0301-PLYMOUTH-ROAD-105-DWG\SITE PLANS\VC-001-COVER - 17A202.DWG

ORIGINAL ISSUE DATE:
JANUARY 31, 2019
PEA JOB NO. 2017-435
SCALE: N.T.S.
DRAWING NUMBER:

C-0.0

NOT FOR CONSTRUCTION

XREF: S:\PROJECTS\2017\2017435\DWG\17435-TOPOBASE.DWG
XREF: S:\PROJECTS\2017\2017435\DWG\17435-DWG-SITE PLANS-V-BASE-17435.DWG
XREF: S:\PROJECTS\2017\2017435\DWG\17435-PLANS-TBLK-17435.DWG



NO.	DATE	DESCRIPTION
1	01/31/2019	ISSUED FOR PERMITS
2	01/31/2019	REVISIONS
3	01/31/2019	REVISIONS
4	01/31/2019	REVISIONS
5	01/31/2019	REVISIONS
6	01/31/2019	REVISIONS
7	01/31/2019	REVISIONS
8	01/31/2019	REVISIONS

LEGEND

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

EXISTING

- ELEC. PHONE OR CABLE TV CH. LINE, POLE & GUY WIRE
- UNDERGROUND CABLE TV, CTV, PEDESTAL
- TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
- GAS MAN. VALVE & GAS LINE MARKER
- WATERMAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
- SANITARY SEWER, CLEANOUT & MANHOLE
- STORM SEWER, CLEANOUT & MANHOLE
- COMBINED SEWER & MANHOLE
- SQUARE, ROUND & BEDDING CATCH BASIN, YARD DRAIN
- POST INDICATOR VALVE
- WATER VALVE, GATE VALVE, VALVE BOX, SERVICE SHUTOFF
- METER BOX, TRANSFORMER, PROTECTION CONTROL VALVE
- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SIGN

REFERENCE DRAWINGS

CITY OF ANN ARBOR ENGINEERING LOCATION MAP #172-194, DATED 1/4/2018

ELECTRIC DTE ELECTRIC FACILITY MAP #172-194, DATED 12/19/15

GAS DTE GAS COMPANY MAP, DATED JANUARY 17, 2018

WATER WATER PLAN, ATWELL HOOKS, INC., JOB NO. 32745, DATED NOV. 24, 1978, AS-BUILT DATED 10-16-79

SANITARY SANITARY SEWER, ANN ARBOR PUBLIC WORKS DEPT., ATWELL-HOOKS, INC., JOB NO. 3558-S, 2, M.D.P.H., PERMIT NO. 30072 DATED 10/2/67



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MMG-PLYMOUTH MIXED USE DEVELOPMENT
PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E.,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES: GMB
DN: GMB
SUR: GWC
P.M: JPB

ORIGINAL ISSUE DATE:
JANUARY 31, 2019

PEA JOB NO. 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:
C-1.0

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Commitment No. 26857, Commitment Date January 22, 2018.

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The land referred to in this Commitment, situated in the County of Washtenaw, City of Ann Arbor, State of Michigan, is described as follows:

Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet; thence North 70 degrees 54 minutes 30 seconds East, 641.13 feet; thence South 41 degrees 20 minutes 20 seconds West, 258.60 feet; thence South 19 degrees 06 minutes 20 seconds East, 142.85 feet; thence South 70 degrees 53 minutes 40 seconds West, 129.33 feet; thence South 19 degrees 06 minutes 20 seconds East, 13.0 feet; thence South 70 degrees 53 minutes 40 seconds West, 58.86 feet; thence 59.62 feet along the arc of a non-tangential circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet, thence 116.47 feet along the arc of a non-tangential circular curve to the left, radius 108.0 feet, chord North 23 degrees 38 minutes West, 43.29 feet; thence Northeastly 59.62 feet along the arc of a non-tangential circular curve to the left, radius 65.0 feet, chord N 23 degrees 38 minutes West, 43.29 feet; thence N 70 degrees 53' 40" E 129.33 feet; thence S 19 degrees 06' 20" E 152.16 feet; thence S 25 degrees 53' 40" W 266.60 feet; thence S 70 degrees 54' 30" W 30.26 feet along the centerline of Plymouth Road to the Place of Beginning, being part of the Southeast 1/4 of said Section 14.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence 200.28 feet along the arc of a non-tangential circular curve to the right; radius 500.00 feet, chord North 64 degrees 30 minutes 30 seconds East, 198.94 feet; thence 160.05 feet along the arc of a circular curve to the right, radius 108.0 feet; chord South 51 degrees 32 minutes 45 seconds East, 145.80 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.0 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence 200.28 feet along the arc of a non-tangential circular curve to the right, radius 500.00 feet; chord North 64 degrees 30 minutes 30 seconds East, 198.94 feet; thence 160.05 feet along the arc of a circular curve to the right, radius 108.0 feet; chord South 51 degrees 32 minutes 45 seconds East, 145.80 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.0 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

GENERAL NOTES:
SOIL TYPE:
ACCORDING TO THE U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE, THE SITE CONSISTS OF THE FOLLOWING SOIL TYPES:
MmB: MIAMI LOAM, 2-6 PERCENT SLOPES
NO REGULATED WETLANDS EXIST ON THE SITE.

BENCHMARKS
(GPS DERIVED - NAVD88)
BM #300
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
ELEV. - 916.25
BM #301
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD
ELEV. - 919.26

FLOODPLAIN NOTE:
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE "X") PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

NOT FOR CONSTRUCTION

LEGAL DESCRIPTION
 (Per First American Title Insurance Company Commitment File No. NCS-881874-HOU1, Commitment Date November 28, 2017.

The land referred to in this Commitment, situated in the County of Washtenaw, City of Ann Arbor, State of Michigan, is described as follows:

Parcel II:
 Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet; thence North 70 degrees 54 minutes 30 seconds East, 641.13 feet; thence South 41 degrees 20 minutes 20 seconds West, 258.60 feet; thence South 19 degrees 06 minutes 20 seconds East, 142.85 feet; thence South 70 degrees 53 minutes 40 seconds West, 129.33 feet; thence South 19 degrees 06 minutes 20 seconds East, 13.0 feet; thence South 70 degrees 53 minutes 40 seconds West, 58.86 feet; thence 59.62 feet along the arc of a nontangential circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet; thence 116.47 feet along the arc of a nontangential circular curve to the left, radius 108.00 feet, chord North 73 degrees 06 minutes 20 seconds West, 110.91 feet; thence 200.28 feet along the arc of a circular curve to the left, radius 500.0 feet, chord South 64 degrees 30 minutes 30 seconds West, 198.94 feet to the place of beginning, being a part of the Southeast 1/4 of said Section 14.

Parcel IV:
 Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet along the arc of a circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet; thence 116.47 feet along the arc of a nontangential circular curve to the left, radius 108.00 feet, chord North 73 degrees 06 minutes 20 seconds West, 110.91 feet; thence 200.28 feet along the arc of a circular curve to the left, radius 500.0 feet, chord South 64 degrees 30 minutes 30 seconds West, 198.94 feet to the place of beginning, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records.

Parcel V:
 Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet along the arc of a circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet; thence 116.47 feet along the arc of a nontangential circular curve to the left, radius 108.00 feet, chord North 73 degrees 06 minutes 20 seconds West, 110.91 feet; thence 200.28 feet along the arc of a circular curve to the left, radius 500.0 feet, chord South 64 degrees 30 minutes 30 seconds West, 198.94 feet to the place of beginning, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records.

SURVEYOR'S CERTIFICATE:

TO: First American Title Insurance Company
 American Title of Washtenaw
 Bank of Ann Arbor
 Markus Associates, LLC
 Doraid Markus
 Nason Kossab

This is to certify that this map or plot and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2016, and includes Items 2, 3, 4, 7(a), 8, 11, 13, 16-18 and 19 of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further states that in my professional opinion, as a land surveyor registered in the State of Michigan, the Relative Positional Accuracy of this survey does not exceed that which is specified therein. The field work was completed on January 31, 2018.

02-14-18

Todd D. Shelly, PS
 Michigan Professional Surveyor No. 41111
 Agent for PEA, Inc.

SCHEDULE B-II (EXCEPTIONS)

(Per First American Title Insurance Company Commitment File No. NCS-881874-HOU1 Commitment Date November 28, 2017.

Items 1-5 and 12-15 are not plottable survey items.

6 All of the terms and provisions set forth and contained in that certain Lease between RRI I LLC, a Delaware limited liability company, Lessor, and RRI OPCO LLC, a Delaware limited liability company, Lessee, a memorandum of which is recorded in Liber 4844, Page 704. [AFFECTS ALL OF THE SUBJECT PROPERTY AS PLOTTED]

As affected by Amendment to Memorandum of Lease dated July 9, 2013, recorded August 5, 2013 in Liber 4992, Page 876, of Official Records. [AFFECTS ALL OF THE SUBJECT PROPERTY AS PLOTTED]

7 The terms, provisions and easement(s) contained in the document entitled "Utilities Development and Easement Agreement" recorded as Liber 1694, Page 87 of Official Records. [EXTENDS OVER ENTIRE PARCELS NOTED "RED ROOF", "ELIAS", AND "BOLGOS" AS NOTED]

8 The terms, provisions and easement(s) contained in the document entitled "Development and Easement Agreement" recorded as Liber 1673, Page 501, Liber 1694, Page 50, which is rerecorded in Liber 1701, Page 758, and clarified by Agreement recorded in Liber 1694, Page 108. Amendment to Development and Easement Agreement recorded in Liber 3877, Page 724 of Official Records. [AS PLOTTED]

9 Right of Way granted to Detroit Edison Company disclosed by instrument recorded in Liber 1738, Page 951, Washtenaw County Records. [AS PLOTTED]

10 Easement for parking spaces as recorded in Liber 2162, Page 371. [AS PLOTTED]

11 The terms, provisions and easement(s) contained in the document entitled "Grant of Easement" recorded July 8, 2016 as Liber 5158, Page 974 of Official Records. [AS PLOTTED]

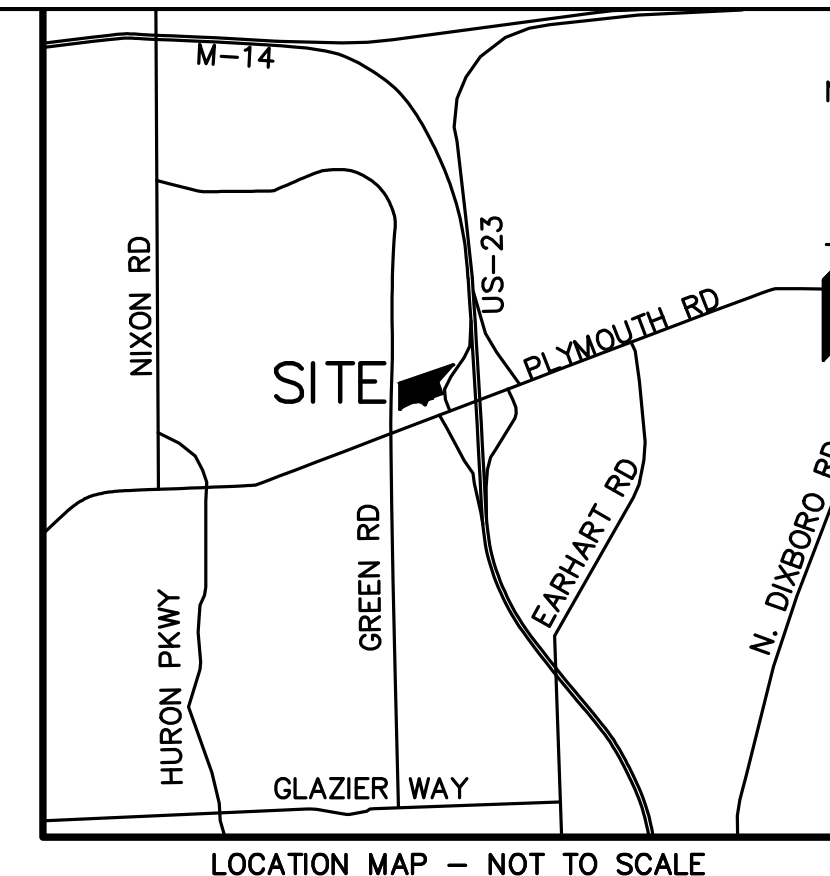
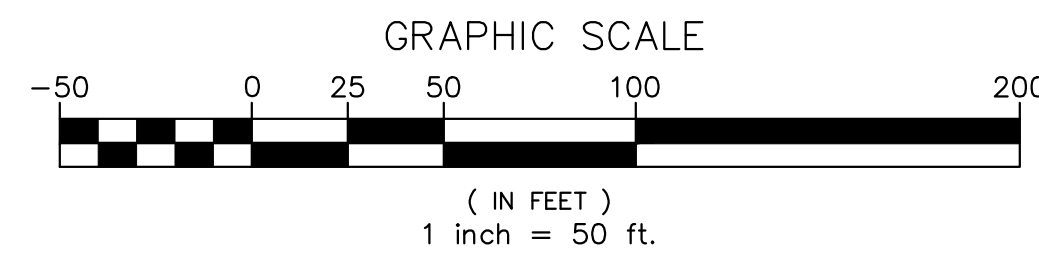
SURVEYORS NOTES:

- A At the time of survey there was no evidence observed of any tanks, drainage fields, or use as a solid waste dump or sanitary landfill.
- B There is no visual evidence of earth moving or construction on the subject parcel at some point in the past.
- C There is no evidence of potential wetlands observed on the subject property at the time the survey was conducted. No wetland delineation report was provided to the surveyor.
- D Potential water main and sanitary sewer easement crossing subject property- no easement document provided.

FLOODPLAIN NOTE:
 THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE "X") PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

PARKING SPACES

ON SITE
 134 REGULAR
 6 HANDICAP



NO.	BY	CHK DESCRIPTION	DATE



CAUTION!
 THE LOCATION AND ELEVATIONS OF EXISTING 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 RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL PRACTICES OF THE CONSTRUCTION INDUSTRY, THE CONTRACTOR SHALL BE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL BE MADE TO APPLY CONTRACTORS AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION. CONTRACTOR FURTHER AGREES TO DEFINE, IDENTIFY AND PROTECT EXISTING PROFESSIONAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF THIS PROJECT EXCEPT WHERE LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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811
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 Troy, MI 48063-1872
 t: 248.689.9090
 f: 248.689.1044
 www.peainc.com

MARKUS ASSOCIATES, LLC
 351E MERRILL SUITE 205
 BIRMINGHAM, MICHIGAN 48009
ALTANSPS LAND TITLE SURVEY
3621 PLYMOUTH ROAD
 PART OF THE SE 1/4 OF SECTION 14, T.02S., R.06E.
 CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN
 DES. DN. GWC SUR. ROISE P.M. JPB

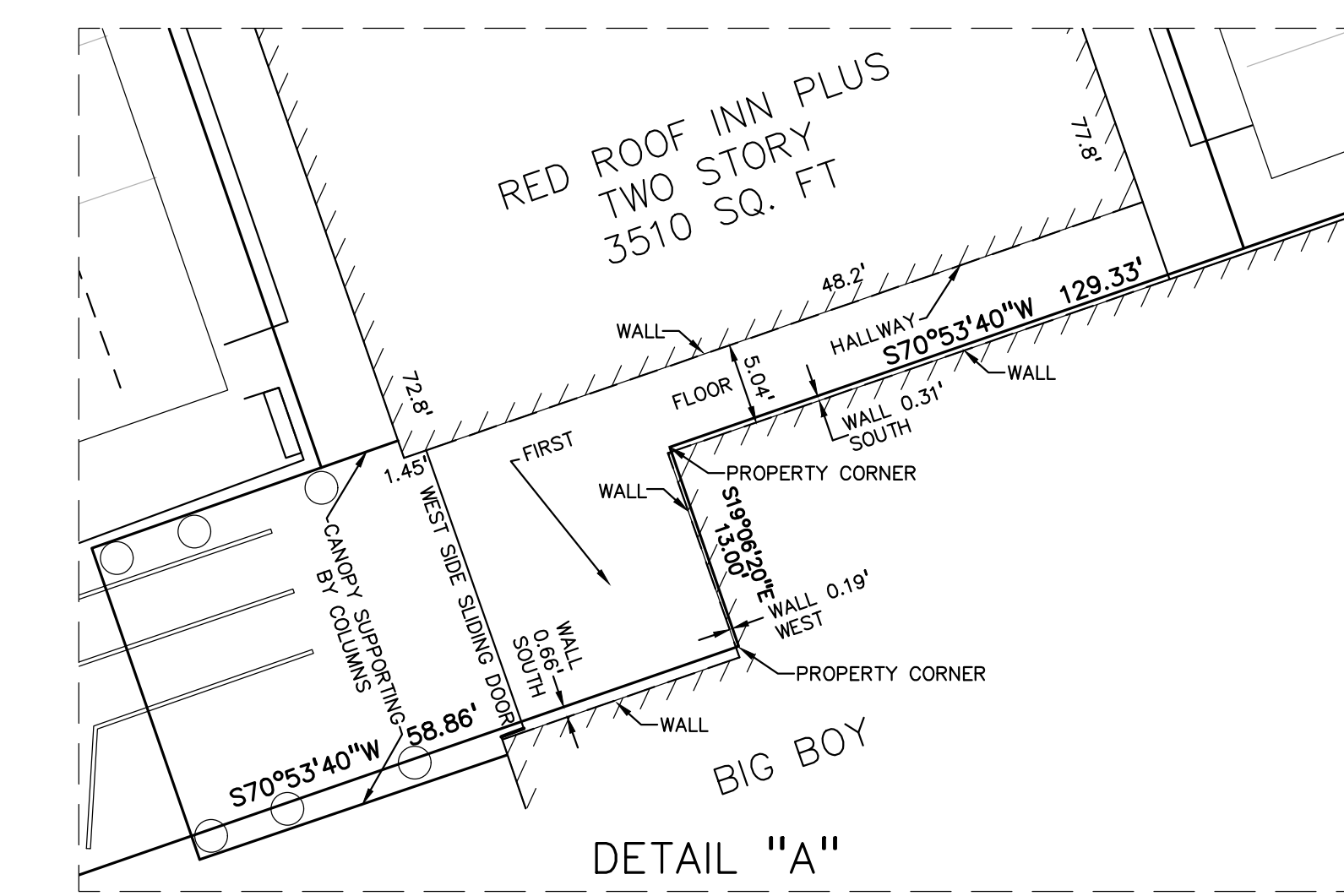
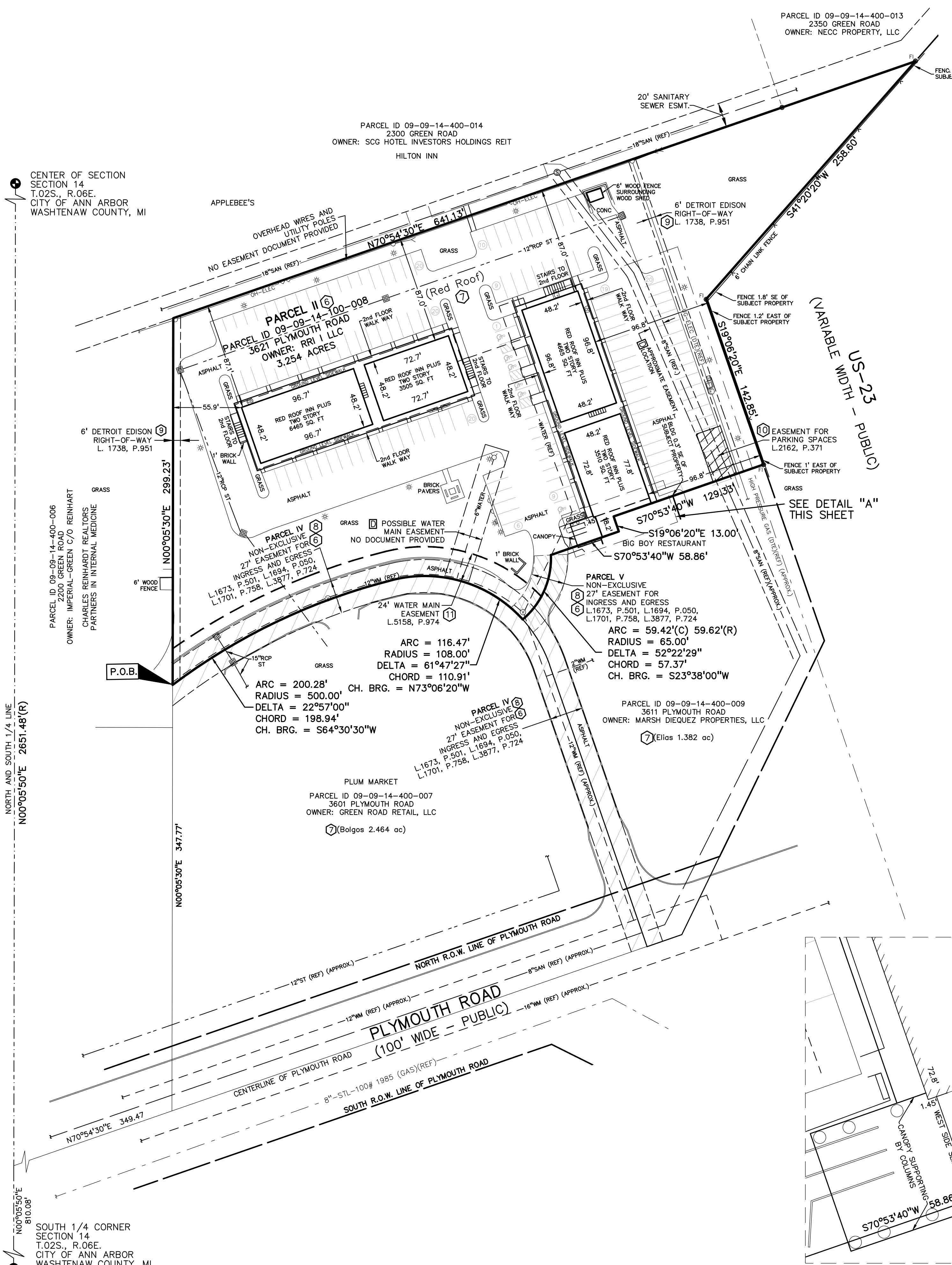
ORIGINAL ISSUE DATE:
 JANUARY 30, 2018

PEA JOB NO. 2017-435

SCALE: 1" = 50'

DRAWING NUMBER:

C-1.1



LEGAL DESCRIPTION
 (Per Reputation First Title Agency (First American Title Insurance Company) Commitment No. 26857, Commitment Date January 22, 2018.)

The land referred to in this Commitment is described as follows:

Situated in the City of Ann Arbor, County of Washtenaw, State of Michigan.

Commencing at the South 1/4 corner of Section 14, T2S, R6E, City of Ann Arbor, Michigan; thence N 00 degrees 05' 50" E 810.08 feet along the North and South 1/4 line of said Section; thence N 70 degrees 54' 30" E 759.87 feet along the centerline of Plymouth Road for a PLACE OF BEGINNING; thence N 19 degrees 05' 30" W 243.0 feet; thence 43.57 feet along the arc of a tangential curve to the left, radius 108.0 feet, chord N 30 degrees 39' W 43.29 feet; thence Northeastly 59.62 feet along the arc of a non-tangential circular curve to the left, radius 65.0 feet, chord N 23 degrees 38' E 57.37 feet; thence N 70 degrees 53' 40" E 58.86 feet; thence N 19 degrees 06' 20" W 13.0 feet; thence N 70 degrees 53' 40" E 129.33 feet; thence S 19 degrees 06' 20" E 152.16 feet; thence S 25 degrees 53' 40" W 266.60 feet; thence S 70 degrees 54' 30" W 30.26 feet along the centerline of Plymouth Road to the Place of Beginning, being part of the Southeast 1/4 of said Section.

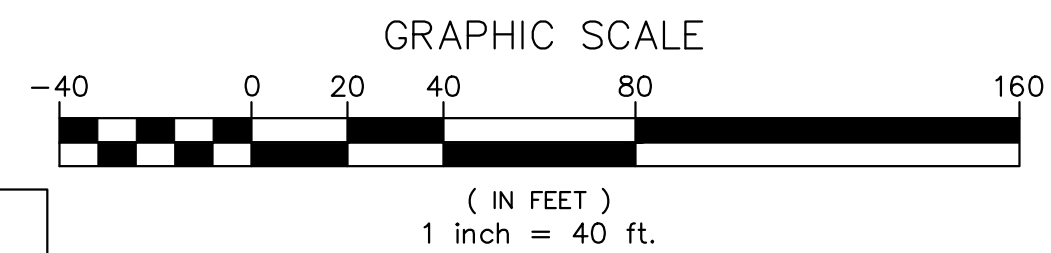
Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence 200.28 feet along the arc of a nontangential circular curve to the right; radius 500.00 feet, chord North 64 degrees 30 minutes 30 seconds East, 198.94 feet; thence 160.05 feet along the arc of a circular curve to the right, radius 108.0 feet; chord South 61 degrees 32 minutes 45 seconds East, 145.80 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.0 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 759.87 feet along the centerline of Plymouth Road; thence North 19 degrees 05 minutes 30 seconds West, 243.00 feet; thence 43.57 feet along the arc of a circular curve to the left, radius 108.00 feet, chord North 30 degrees 39 minutes West, 43.29 feet for a place of beginning; thence Northeastly 59.62 feet along the arc of a nontangential circular curve to the left, radius 65.0 feet, chord North 23 degrees 38 minutes East, 57.37 feet for a place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress to and egress, as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

SCHEDULE B-II (EXCEPTIONS)
 (Per Reputation First Title Agency (First American Title Insurance Company) Commitment No. 26857, Commitment Date January 22, 2018.)

Items 1-9 and 27-35 are not plottable survey items.

- 10 Affidavit of Notice of Energy Assessment Agreement between Marsh Diequez Properties, LLC and the City of Ann Arbor as recorded in Liber 4976, page 36. [AFFECTS ALL OF THE SUBJECT PROPERTY]
- 11 Terms and Conditions contained in the Grant of Easement for Water Mains as disclosed by instrument recorded in Liber 5124, page 906. [AS PLOTTED]
- 12 Non-exclusive Easements for ingress and egress crossing the subject property and neighboring property as disclosed by legal description and documents as recorded in Liber 1673, page 501, as amended by documents as recorded in Liber 1694, page 108, Liber 3877, page 724, and as disclosed by documents as recorded in Liber 1694, pages 64 and 74, Liber 1701, page 403, Liber 1702, page 258 and Liber 4072, page 370. [AS PLOTTED]
- 13 Terms and Conditions contained in the Releases of Right of Way in favor of the State Highway Commissioner of the State of Michigan as disclosed by instrument recorded in Liber 261, page 178 and 179, as to Plymouth Road. [AS PLOTTED]
- 14 Terms and Conditions contained in the Determination of Necessity by the State Highway Commissioner of the State of Michigan as disclosed by instrument recorded in Liber 946, page 341, as to State Trunkline Highway US-23. [NOT PROVIDED]
- 15 Terms and Conditions contained in the Common Entryway Agreement as disclosed by instrument recorded in Liber 1694, page 76. [AS PLOTTED]
- 16 Party wall with adjacent property as disclosed by Common Entryway Agreement as recorded in Liber 1694, page 76. [AS PLOTTED]
- 17 Terms and Conditions contained in the Development and Easement Agreement as disclosed by instrument recorded in Liber 1673, page 501, re recorded in Liber 1694, page 108 and Liber 3877, page 724. [AS PLOTTED]
- 18 Terms and Conditions contained in the Utilities Development and Easement Agreement as disclosed by instrument recorded in Liber 1694, page 87. [AS PLOTTED]
- 19 Terms and Conditions contained in the Site Preparation Agreement as disclosed by instrument recorded in Liber 1694, page 100. [AFFECTS ALL OF THE SUBJECT PROPERTY]
- 20 Terms and Conditions contained in the Development and Easement Agreement as disclosed by instrument recorded in Liber 1694, page 50, re-recorded in Liber 1701, page 758 and further amended in Liber 3877, page 724. [AS PLOTTED]
- 21 Terms and Conditions contained in the Signage Easement as disclosed by instrument recorded in Liber 1748, page 251. [AS PLOTTED]
- 22 Right of Way (Underground) in favor of The Detroit Edison Company and the Covenants, Conditions and Restrictions contained in the instrument recorded in Liber 1800, page 481. [AS PLOTTED]
- 23 Terms and Conditions contained in the Agreement for Water Service as disclosed by instrument recorded in Liber 1813, page 724. [NOT PLOTTABLE. NO SPECIFIC LOCATION DESCRIBED]
- 24 Right of Way (Underground) in favor of The Detroit Edison Company and the Covenants, Conditions and Restrictions contained in the instrument recorded in Liber 2017, page 904. [AS PLOTTED]
- 25 Easement for joint use of parking spaces with neighboring property and the right to enter upon paved areas of the neighboring property to allow access to and from the parking spaces as recorded in Liber 2162, page 371. [AS PLOTTED]
- 26 Terms and Conditions contained in the Underground Right of Way Agreement in favor of The Detroit Edison Company as disclosed by instrument recorded in Liber 2363, page 668. [AS PLOTTED]
- 29 Mortgage in the original amount of \$1,100,000.00 executed by Elias Brothers Restaurants, Inc., to MANUFACTURERS NATIONAL BANK OF DETROIT, dated April 27, 1990, recorded May 4, 1990, in Liber 2402, page 871; Amended and Restated Real Estate Mortgage dated November 22, 1996 and recorded December 16, 1996 in Liber 3359, page 212; now being held by Standard Federal Bank, a Federal Savings Bank, by Assignment as recorded in Liber 3671, page 536. Said Mortgage was further amended by First Amendment dated May 14, 1998, and recorded May 29, 1998 in Liber 3671, page 538. [NOT PROVIDED]



PARKING SPACES
 ON SITE
 53 REGULAR
 6 REGULAR IN EASEMENT
 2 HANDICAP

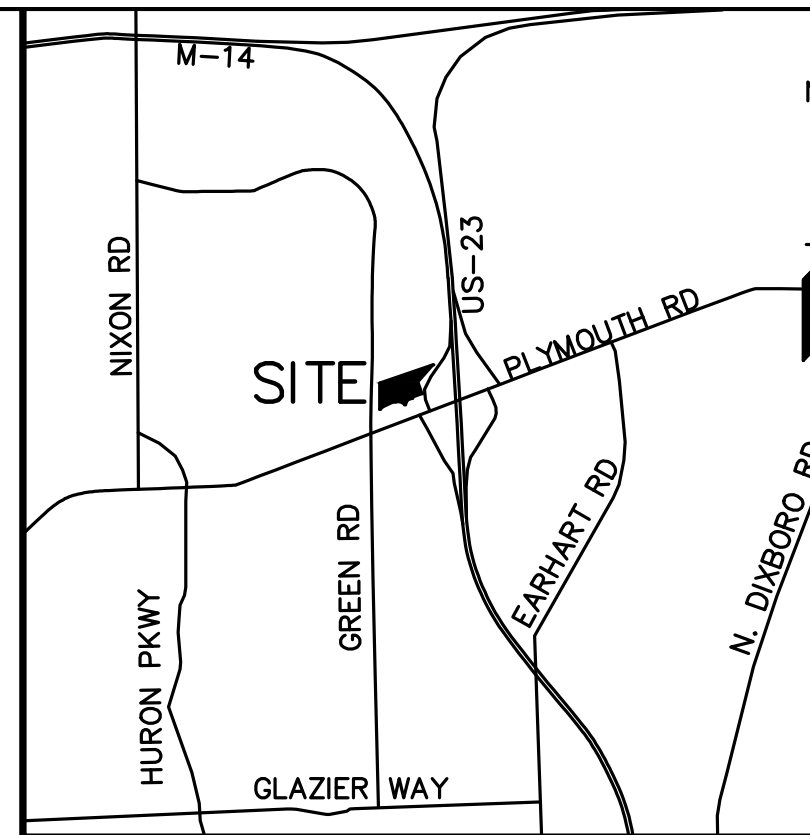
SURVEYOR'S CERTIFICATE:

TO: First American Title Insurance Company
 Reputation First Title Agency
 Markus Associates, LLC
 Doraid Markus
 Nason Kassab

This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2016, and includes Items 2, 3, 4, 7(a), 8, 11, 13, 16-18 and 19 of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further states that in my professional opinion, as a land surveyor registered in the State of Michigan, the Relative Positional Accuracy of this survey does not exceed that which is specified therein. The field work was completed on March 13, 2018.

Todd D. Shelly, PS
 Michigan Professional Surveyor No. 41111
 Agent for PEA, Inc.

LOCATION MAP - NOT TO SCALE



NO.	BY	CHK DESCRIPTION	DATE

REVISIONS

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

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE SEPARATE FROM THE CONTRACT DOCUMENTS AND SHALL BE KEPT SEPARATE FROM THEM. THEY ARE NOT TO BE LOANED, REPRODUCED, OR COPIED IN WHOLE OR IN PART, OR USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF PEA, INC. ALL COMPANY LAWS, RULES OF CONDUCT AND OTHERS ARE HEREBY SPECIFICALLY REFERENCED. © 2017 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THE REQUIREMENTS SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFINE, IDENTIFY AND LOCATE DESIGN PROFESSIONAL OR ALLIED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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www.peainc.com

MARKUS ASSOCIATES, LLC

351E MERRILL SUITE 205
 BIRMINGHAM, MICHIGAN 48009

ALTA/NSPS LAND TITLE SURVEY
3611 PLYMOUTH ROAD
 PART OF THE SE 1/4 OF SECTION 14, T.02S. R.06E. CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

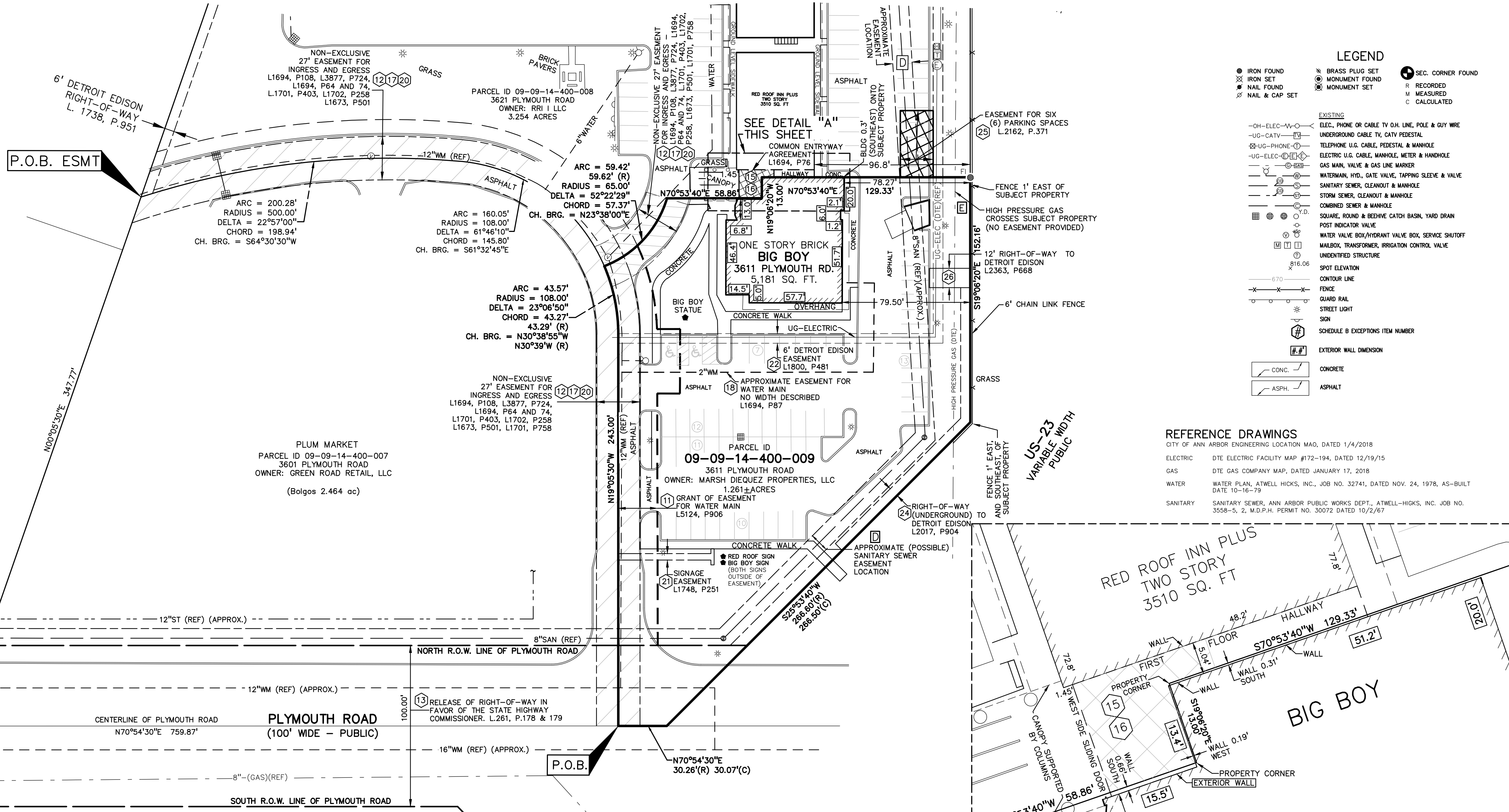
ORIGINAL ISSUE DATE: MARCH 22, 2018

PEA JOB NO. 2017-435

SCALE: 1" = 50'

DRAWING NUMBER: C-1.2

CENTER OF SECTION SECTION 14 T.02S., R.06E. CITY OF ANN ARBOR WASHTENAW COUNTY, MI FOUND MON IN MON BOX



- SURVEYORS NOTES:**
- A At the time of survey there was no evidence observed of any tanks, drainage fields, or use as a solid waste dump or sanitary landfill.
 - B There is no visual evidence of earth moving or construction on the subject parcel at some point in the past.
 - C There is no evidence of potential wetlands observed on the subject property at the time the survey was conducted. No wetland delineation report was provided to the surveyor.
 - D Potential sanitary sewer easement crossing subject property. No easement document provided.
 - E High pressure natural gas line crosses subject property. No easement document provided.

LEGEND

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

EXISTING

-O-ELEC-W-C	ELEC. PHONE OR CABLE TV OR LINE, POLE & GUY WIRE
-U-CATV	UNDERGROUND CABLE TV, CATV FEEDLINE
-U-C-PHONE	TELEPHONE U.G. CABLE, FEEDLINE & MANHOLE
-U-ELEC	ELECTRIC U.G. CABLE, MANHOLE, METER & MANHOLE
⊙-GAS	GAS MAN. VALVE & GAS LINE MARKER
⊙-WATER	WATERMAN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
⊙-SEWER	SANITARY SEWER, CLEANOUT & MANHOLE
⊙-STORM	STORM SEWER, CLEANOUT & MANHOLE
⊙-SEWER & MANHOLE	COMMONED SEWER & MANHOLE
⊙-SQUARE, ROUND & BEEHIVE CATCH BASIN, YARD DRAIN	POST INDICATOR VALVE
⊙-WATER VALVE BOX, HYDRANT VALVE BOX, SERVICE SHUTOFF	MAJOR, TRANSFORMER, IRRIGATION CONTROL, VALVE
⊙-UNIDENTIFIED STRUCTURE	SPOT ELEVATION
⊙-CONTOUR LINE	CONTOUR LINE
⊙-FENCE	FENCE
⊙-GUARD RAIL	GUARD RAIL
⊙-STREET LIGHT	STREET LIGHT
⊙-SIGN	SIGN
⊙-SCHEDULE B EXCEPTIONS ITEM NUMBER	SCHEDULE B EXCEPTIONS ITEM NUMBER

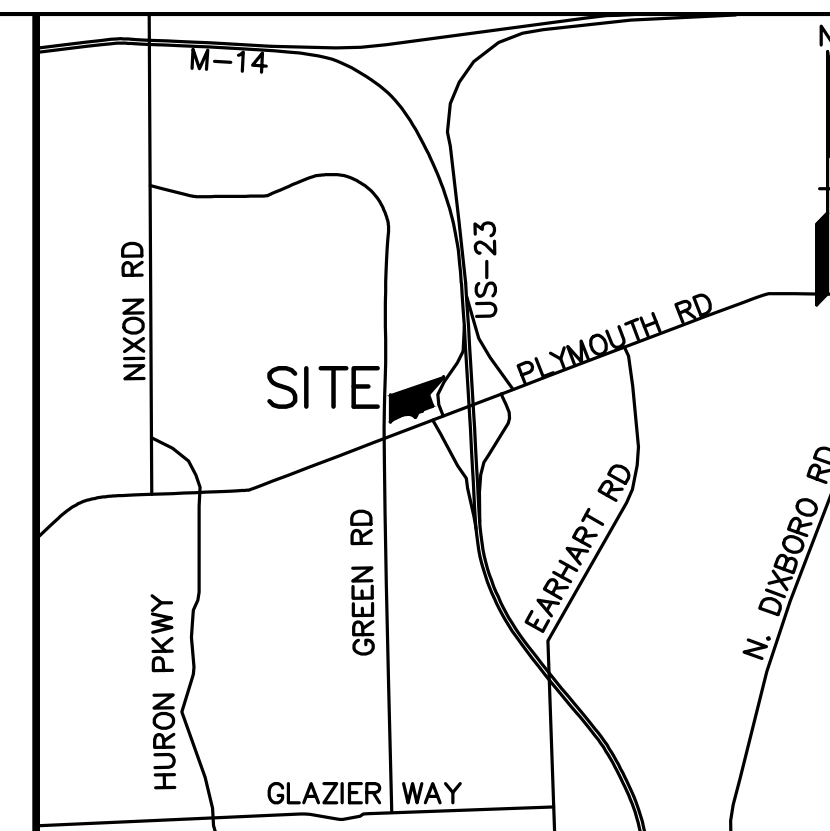
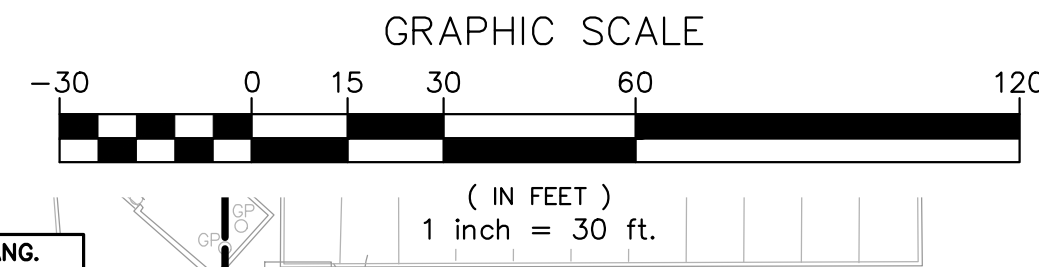
REFERENCE DRAWINGS

CITY OF ANN ARBOR ENGINEERING LOCATION MAP, DATED 1/4/2018	ELECTRIC DTE ELECTRIC FACILITY MAP #172-194, DATED 12/19/15
GAS DTE GAS COMPANY MAP, DATED JANUARY 17, 2018	WATER WATER PLAN, ATWELL HICKS, INC., JOB NO. 32741, DATED NOV. 24, 1978, AS-BUILT DATE 10-16-79
SANITARY SANITARY SEWER, ANN ARBOR PUBLIC WORKS DEPT., ATWELL-HICKS, INC. JOB NO. 3558-5, 2, M.D.P.H. PERMIT NO. 30072 DATED 10/2/67	

FLOODPLAIN NOTE:
 THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE "X") PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

DETAIL "A"

SOUTH 1/4 CORNER SECTION 14 T.02S., R.06E. CITY OF ANN ARBOR WASHTENAW COUNTY, MI FOUND REMON



NO.	DATE	DESCRIPTION
1	01/31/19	ISSUED FOR PERMITS
2	02/01/19	REVISED PER CITY COMMENTS
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100	02/01/19	REVISED PER CITY COMMENTS



CAUTION!
THE LOCATION AND ELEVATIONS OF EXISTING UTILITIES ARE SHOWN ON THIS DRAWING. NO GUARANTEE IS MADE FOR THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF UTILITIES PRIOR TO THE START OF CONSTRUCTION.

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CONTRACTOR AGREES THAT IN CONNECTION WITH GENERAL ACCESS TO THE CONSTRUCTION SITE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL EXISTING UTILITIES AND STRUCTURES.

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MARKUS MANAGEMENT GROUP, LLC
221 E. MERRILL STREET
BIRMINGHAM, MICHIGAN 48009

DIMENSION AND PAVING PLAN
MM-PLYMOUTH MIXED USE DEVELOPMENT
PART OF THE SE 1/4 OF SECTION 14, T.2S., R.6E.,
CITY OF ANN ARBOR, WASHINGTON COUNTY, MICHIGAN

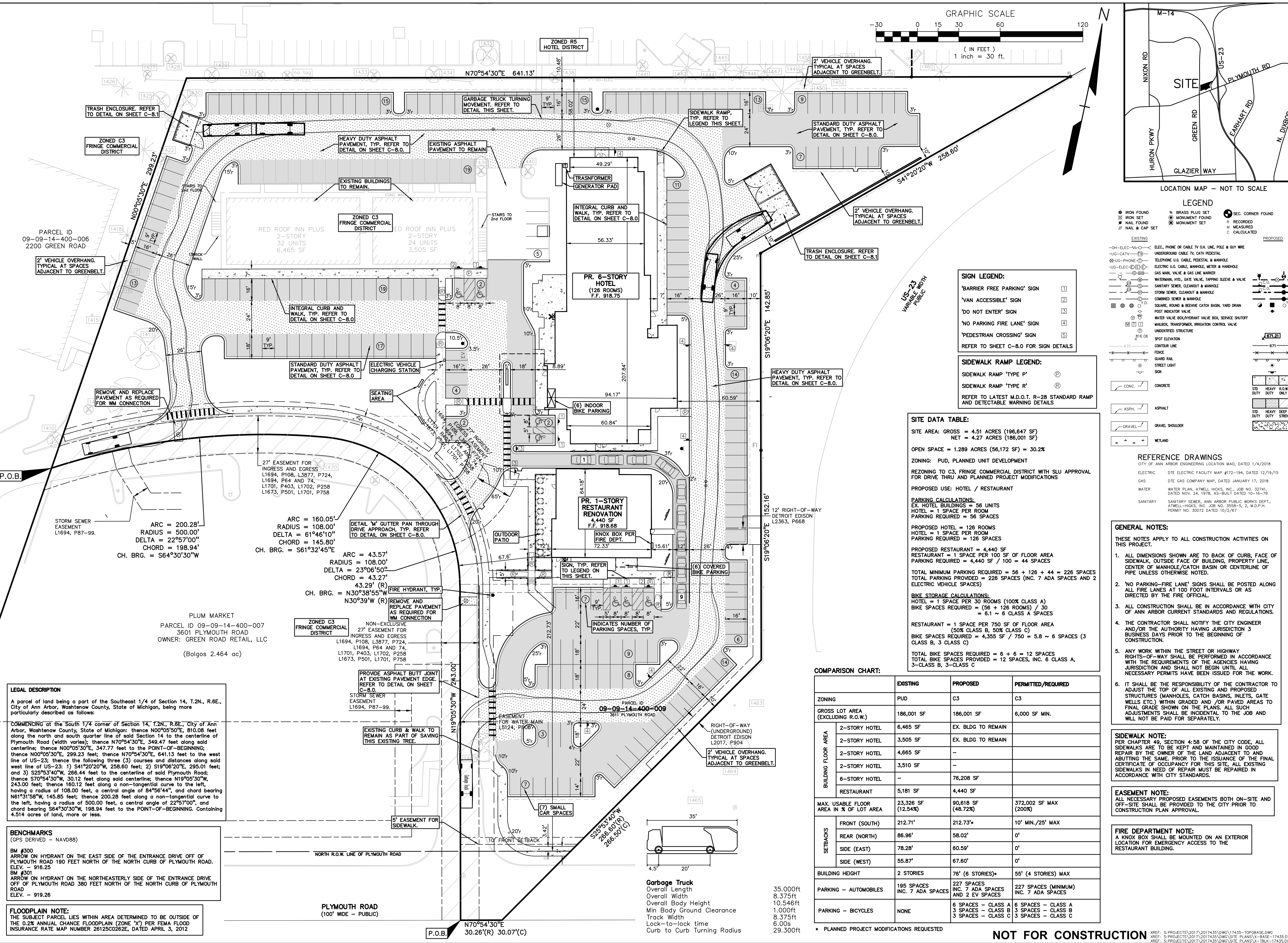
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ORIGINAL ISSUE DATE:
JANUARY 31, 2019

PEA JOB NO. 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:
C-2.0



- SIGN LEGEND:**
- 1 BARRIER FREE PARKING SIGN
 - 2 'VAN ACCESSIBLE' SIGN
 - 3 'DO NOT ENTER' SIGN
 - 4 'NO PARKING FIRE LANE' SIGN
 - 5 'PEDESTRIAN CROSSING' SIGN

- SIDEWALK RAMP LEGEND:**
- 6 SIDEWALK RAMP 'TYPE P'
 - 7 SIDEWALK RAMP 'TYPE R'
- REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

SITE DATA TABLE:

SITE AREA: GROSS = 4.51 ACRES (196,647 SF)
NET = 4.27 ACRES (186,001 SF)

OPEN SPACE = 1.289 ACRES (56,172 SF) = 30.2%

ZONING: PUD, PLANNED UNIT DEVELOPMENT

REZONING TO C3, FRINGE COMMERCIAL DISTRICT WITH SLU APPROVAL FOR DRIVE THRU AND PLANNED PROJECT MODIFICATIONS

PROPOSED USE: HOTEL / RESTAURANT

PARKING CALCULATIONS:
EX. HOTEL BUILDINGS = 56 UNITS
HOTEL = 1 SPACE PER ROOM
PARKING REQUIRED = 56 SPACES

PROPOSED HOTEL = 126 ROOMS
HOTEL = 1 SPACE PER ROOM
PARKING REQUIRED = 126 SPACES

PROPOSED RESTAURANT = 4,440 SF
RESTAURANT = 1 SPACE PER 100 SF OF FLOOR AREA
PARKING REQUIRED = 4,440 SF / 100 = 44 SPACES

TOTAL MINIMUM PARKING REQUIRED = 56 + 126 + 44 = 226 SPACES
TOTAL PARKING PROVIDED = 226 SPACES (INC. 7 ADA SPACES AND 2 ELECTRIC VEHICLE SPACES)

BIKE STORAGE CALCULATIONS:
HOTEL = 1 SPACE PER 30 ROOMS (100% CLASS A)
BIKE SPACES REQUIRED = (56 + 126 ROOMS) / 30 = 6.1 ~ 6 CLASS A SPACES

RESTAURANT = 1 SPACE PER 750 SF OF FLOOR AREA (50% CLASS B, 50% CLASS C)
BIKE SPACES REQUIRED = 4,355 SF / 750 = 5.8 ~ 6 SPACES (3 CLASS B, 3 CLASS C)

TOTAL BIKE SPACES REQUIRED = 6 + 6 = 12 SPACES
TOTAL BIKE SPACES PROVIDED = 12 SPACES, INC. 6 CLASS A, 3-CLASS B, 3-CLASS C

COMPARISON CHART:

	EXISTING	PROPOSED	PERMITTED/REQUIRED
ZONING	PUD	C3	C3
GROSS LOT AREA (EXCLUDING R.O.W.)	186,001 SF	186,001 SF	6,000 SF MIN.
BUILDING FLOOR AREA	2-STORY HOTEL	6,465 SF	EX. BLDG TO REMAIN
	2-STORY HOTEL	3,505 SF	EX. BLDG TO REMAIN
	2-STORY HOTEL	4,665 SF	-
	2-STORY HOTEL	3,510 SF	-
	6-STORY HOTEL	-	76,208 SF
RESTAURANT	5,181 SF	4,440 SF	-
MAX. USABLE FLOOR AREA IN % OF LOT AREA	23,326 SF (12.54%)	90,618 SF (48.72%)	372,002 SF MAX (200%)
SETBACKS	FRONT (SOUTH)	212.71'	212.73*
	REAR (NORTH)	86.96'	58.02'
	SIDE (EAST)	78.28'	60.59'
	SIDE (WEST)	55.87'	67.60'
BUILDING HEIGHT	2 STORIES	76' (6 STORIES)*	55' (4 STORIES) MAX
PARKING - AUTOMOBILES	195 SPACES INC. 7 ADA SPACES	227 SPACES INC. 7 ADA SPACES AND 2 EV SPACES	227 SPACES (MINIMUM) INC. 7 ADA SPACES
PARKING - BICYCLES	NONE	6 SPACES - CLASS A 3 SPACES - CLASS B 3 SPACES - CLASS C	6 SPACES - CLASS A 3 SPACES - CLASS B 3 SPACES - CLASS C

* PLANNED PROJECT MODIFICATIONS REQUESTED

LEGAL DESCRIPTION
A parcel of land being a part of the Southeast 1/4 of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan, being more particularly described as follows:

COMMENCING at the South 1/4 corner of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan: thence N00°05'50"E, 810.08 feet along the north and south quarter line of said Section 14 to the centerline of Plymouth Road (width varies); thence N70°54'30"E, 349.47 feet along said centerline; thence N00°05'30"E, 347.77 feet to the POINT-OF-BEGINNING; thence N00°05'30"E, 299.23 feet; thence N70°54'30"E, 641.13 feet to the west line of US-23; thence the following three (3) courses and distances along said west line of US-23: 1) S41°20'20"W, 258.00 feet; 2) S19°06'20"E, 295.01 feet; and 3) S25°53'40"W, 286.44 feet to the centerline of said Plymouth Road; thence S70°54'30"W, 30.12 feet along said centerline; thence N19°05'30"W, 243.00 feet; thence 180.12 feet along a non-tangential curve to the left, having a radius of 108.00 feet, a central angle of 84°56'44", and chord bearing N151°31'58"W, 145.85 feet; thence 200.28 feet along a non-tangential curve to the left, having a radius of 500.00 feet, a central angle of 22°57'00", and chord bearing S64°30'30"W, 198.94 feet to the POINT-OF-BEGINNING. Containing 4.514 acres of land, more or less.

BENCHMARKS
(GPS DERIVED - NAVD88)

BM #300
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
ELEV. - 916.25

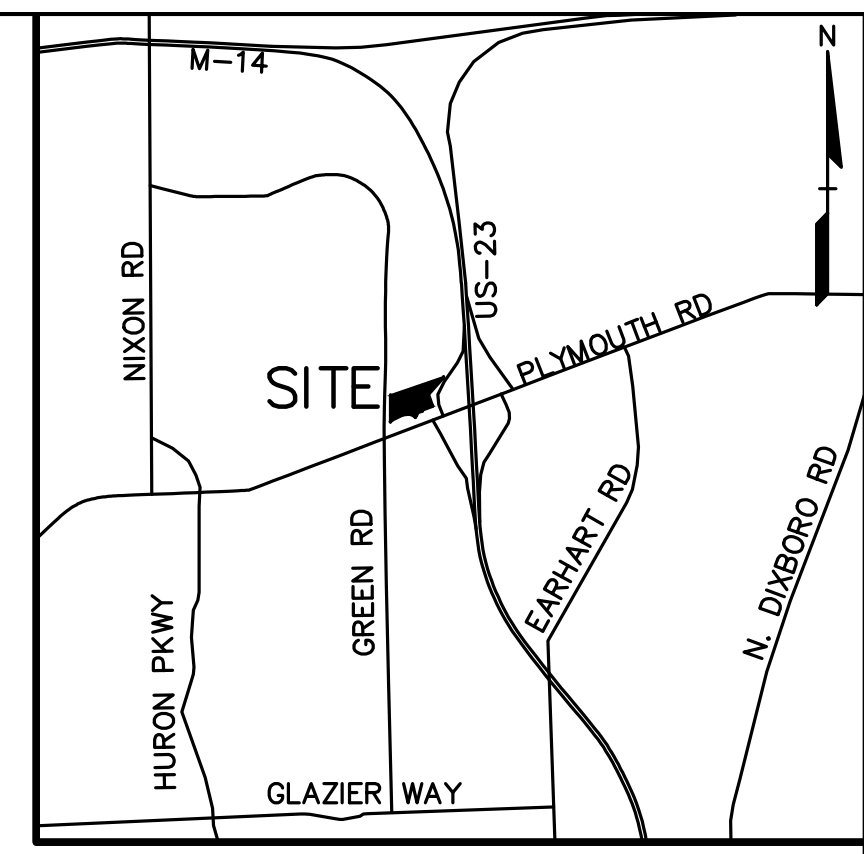
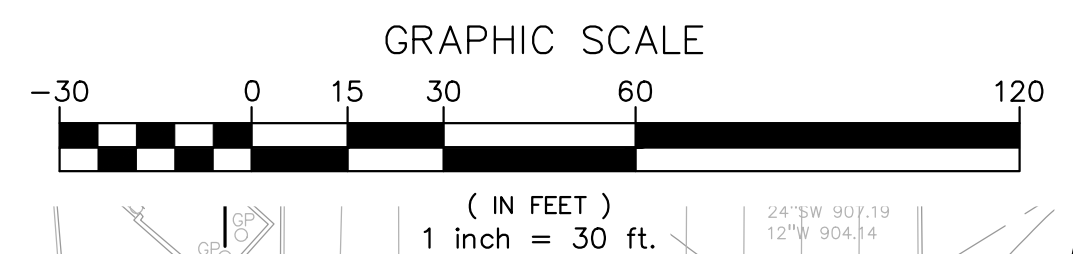
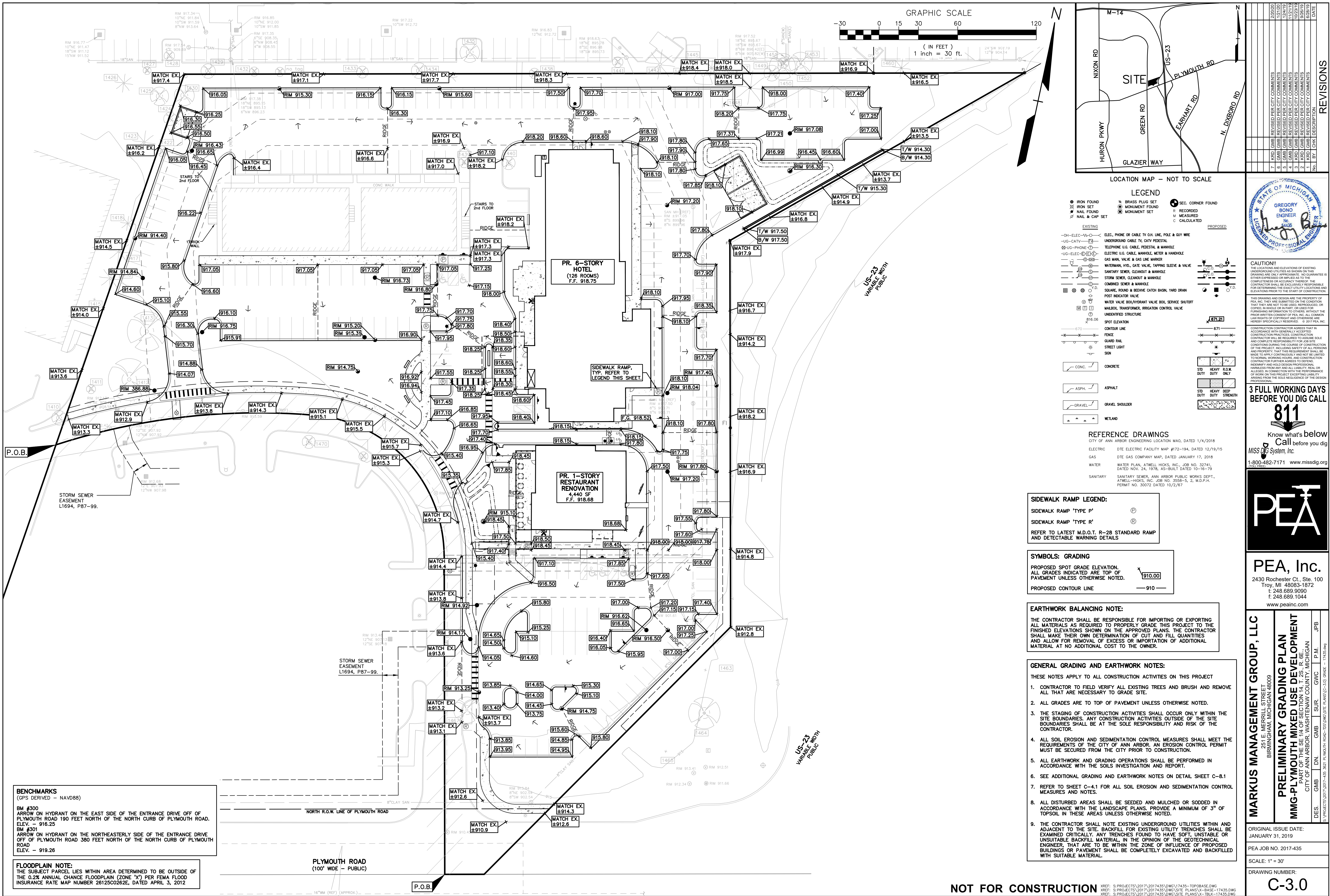
BM #301
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
ELEV. - 919.26

FLOODPLAIN NOTE:
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE 'X') PER FEMA FLOOD INSURANCE RATE MAP NUMBER 2612500262E, DATED APRIL 3, 2012

Garbage Truck

35,000ft Overall Length
8.375ft Overall Width
10.546ft Overall Body Height
1.000ft Min Body Ground Clearance
8.375ft Track Width
6.00s Lock-to-lock time
29.300ft Curb to Curb Turning Radius

NOT FOR CONSTRUCTION



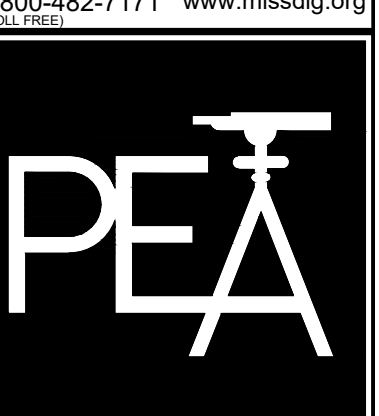
NO.	DATE	DESCRIPTION
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2	10/21/16	REVISED PER CITY COMMENTS
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7	10/21/16	REVISED PER CITY COMMENTS
8	10/21/16	REVISED PER CITY COMMENTS



CAUTION!
THE LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EXTENDED BY THE ENGINEER OR ARCHITECT FOR THE ACCURACY OF THE INFORMATION PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR THE SAFETY OF ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES AND LANDSCAPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING FOUNDATIONS AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING PAVEMENT AND DRIVEWAYS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING CURBS AND GUTTERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SIDEWALKS AND STAIRS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SIGNAGE AND MARKINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES AND LANDSCAPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING FOUNDATIONS AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING PAVEMENT AND DRIVEWAYS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING CURBS AND GUTTERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SIDEWALKS AND STAIRS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SIGNAGE AND MARKINGS.

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PRELIMINARY GRADING PLAN
MMG-PLYMOUTH MIXED USE DEVELOPMENT
PART OF THE SE 1/4 OF SECTION 14, T. 25, R. 6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES. GMB DN. GMB SUR. GWC P.M. JPB
S:\PROJECTS\2017\2017435\DWG\SITE PLANS\VA-BASE-17435.DWG

ORIGINAL ISSUE DATE:
JANUARY 31, 2019

PEA JOB NO. 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:
C-3.0

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-110-0	ELEC. PHONE OR CABLE TV CH. LINE, POLE & WIRE
— UG-CATV	UNDERGROUND CABLE TV, CATV FEESTAL
— UG-PHONE	TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
— UG-ELEC-0-110-0	ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
— G-220	GAS MAIN, VALVE & GAS LINE MARKER
— W-120	WATERMAIN, HYD. GATE VALVE, TAPPING SLAVE & VALVE
— S-120	SEWER, CLEANOUT & MANHOLE
— S-120	STORM SEWER, CLEANOUT & MANHOLE
— S-120	COMBINED SEWER & MANHOLE
— S-120	SQUARE, ROUND & BEDDING CATCH BASIN, YARD DRAIN
— S-120	POST INDICATOR VALVE
— S-120	WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
— S-120	MANHOLE, TRANSFORMER, HYDRANT CONTROL VALVE
— S-120	UNIDENTIFIED STRUCTURE
— S-120	SPOT ELEVATION
— S-120	CONTOUR LINE
— S-120	FENCE
— S-120	GUARD RAIL
— S-120	STREET LIGHT
— S-120	SKIN

PROPOSED

— S-120	CONC.	CONCRETE
— S-120	ASPH.	ASPHALT
— S-120	GRAVEL SHOULDER	GRAVEL SHOULDER
— S-120	METALD	METALD
— S-120	STB	STB HEAVY DUTY
— S-120	STB	STB HEAVY BEEP DUTY
— S-120	STB	STB HEAVY BEEP DUTY STRENGTH

REFERENCE DRAWINGS

ELECTRIC	DTE ELECTRIC FACILITY MAP #172-194, DATED 12/9/15
GAS	DTE GAS COMPANY MAP, DATED JANUARY 17, 2018
WATER	WATER PLAN, ATWELL HIGGS, INC., JOB NO. 32741, DATED NOV. 24, 1978, AS-BUILT DATED 10-16-79
SANITARY	SANITARY SEWER, ANN ARBOR PUBLIC WORKS DEPT., ATWELL-HIGGS, INC., JOB NO. 3558-5, 2, M.D.P.H., PERMIT NO. 35072 DATED 10/2/67

SIDEWALK RAMP LEGEND:

Ⓟ	SIDEWALK RAMP 'TYPE P'
Ⓡ	SIDEWALK RAMP 'TYPE R'

REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

SYMBOLS: GRADING

— 910.00	PROPOSED SPOT GRADE ELEVATION, ALL GRADES INDICATED ARE TOP OF PAYMENT UNLESS OTHERWISE NOTED.
— 910	PROPOSED CONTOUR LINE

EARTHWORK BALANCING NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

- GENERAL GRADING AND EARTHWORK NOTES:**
- THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT
- CONTRACTOR TO FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
 - ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
 - 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.
 - ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF THE CITY OF ANN ARBOR. AN EROSION CONTROL PERMIT MUST BE SECURED FROM THE CITY PRIOR TO CONSTRUCTION.
 - ALL EARTHWORK AND GRADING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE SOILS INVESTIGATION AND REPORT.
 - SEE ADDITIONAL GRADING AND EARTHWORK NOTES ON DETAIL SHEET C-8.1
 - REFER TO SHEET C-4.1 FOR ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES.
 - ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
 - 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 GEOTECHNICAL ENGINEER, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.

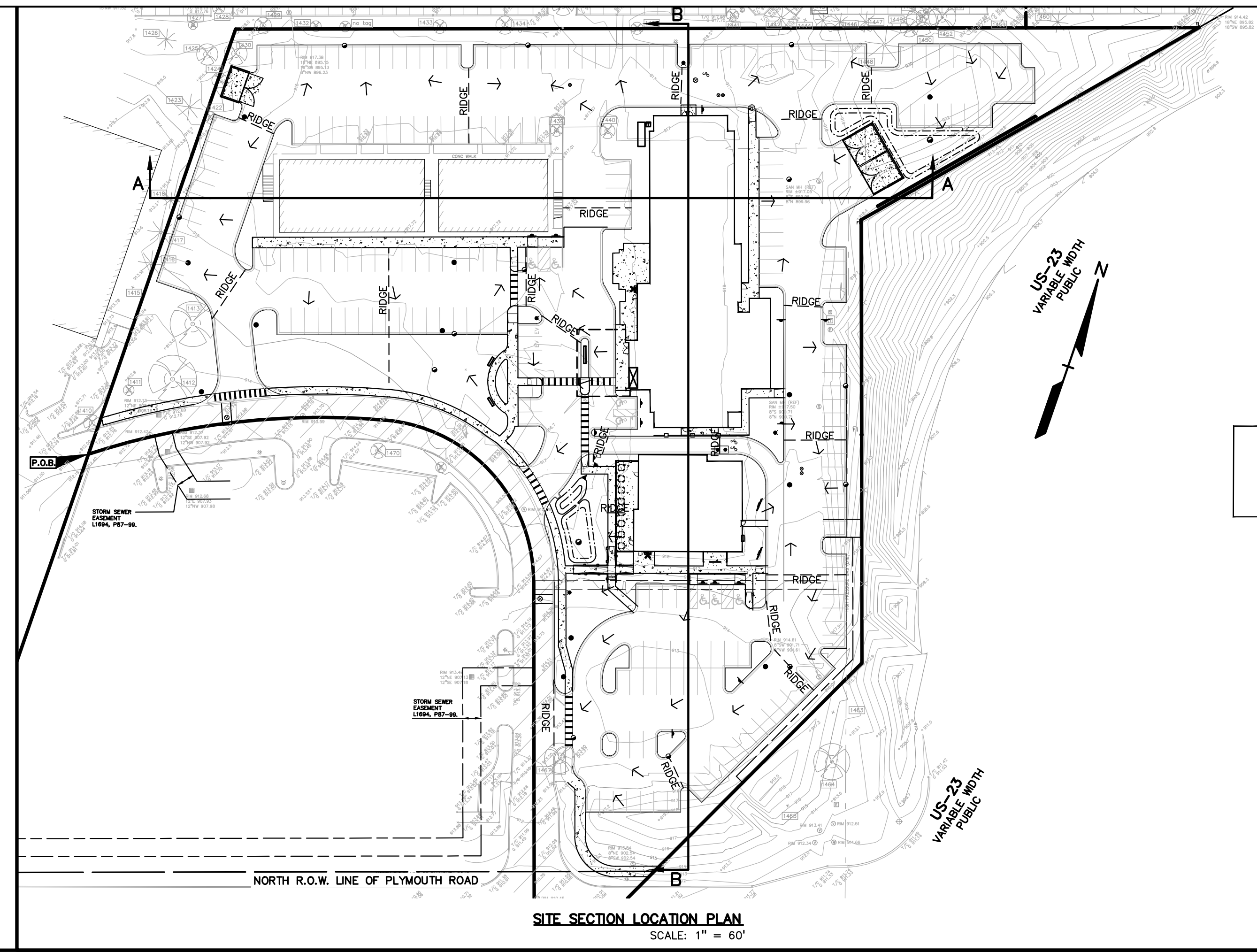
BENCHMARKS
(GPS DERIVED - NAVD88)

BM #300
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
ELEV. - 916.25

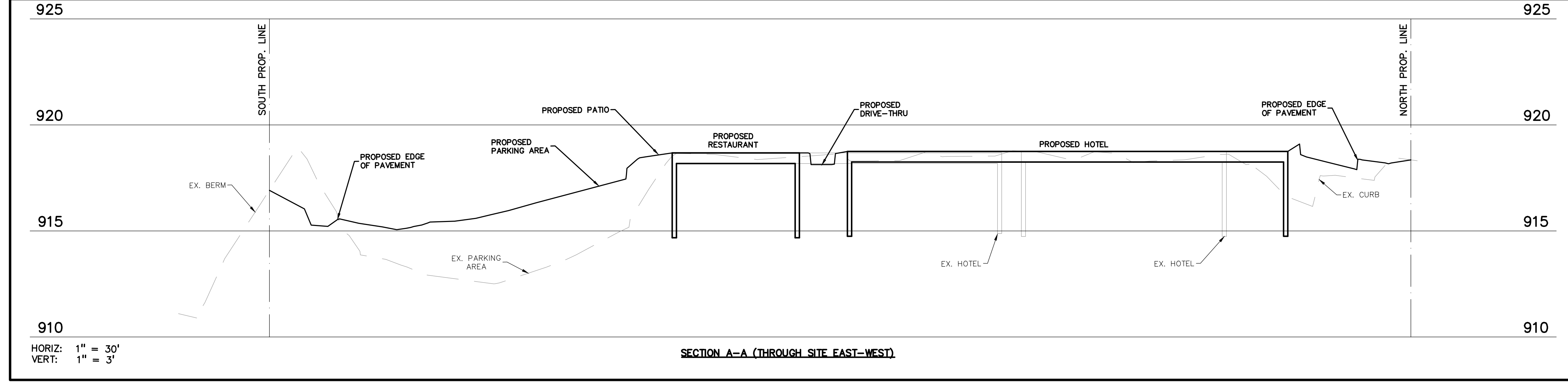
BM #301
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
ELEV. - 919.26

FLOODPLAIN NOTE:
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE 'X') PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

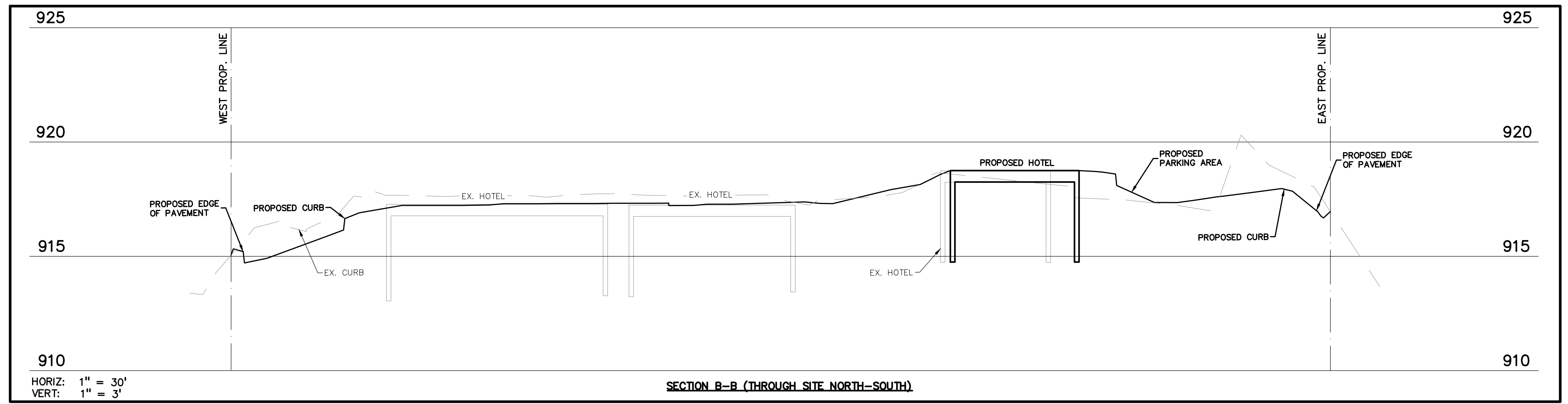
NOT FOR CONSTRUCTION



SITE SECTION LOCATION PLAN
SCALE: 1" = 60'



SECTION A-A (THROUGH SITE EAST-WEST)



SECTION B-B (THROUGH SITE NORTH-SOUTH)

NO.	DATE	DESCRIPTION
1	02/01/19	1. KRD GMB REVISED PEER CITY COMMENTS
2	02/01/19	2. KRD GMB REVISED PEER CITY COMMENTS
3	02/01/19	3. KRD GMB REVISED PEER CITY COMMENTS
4	02/01/19	4. KRD GMB REVISED PEER CITY COMMENTS
5	02/01/19	5. KRD GMB REVISED PEER CITY COMMENTS
6	02/01/19	6. KRD GMB REVISED PEER CITY COMMENTS
7	02/01/19	7. KRD GMB REVISED PEER CITY COMMENTS



CAUTION!
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MARKUS MANAGEMENT GROUP, LLC		DES.		GMB		DN.		GMB		SUR.		GWC		P.M.		JPB	
221 E. MERRILL STREET BIRMINGHAM, MICHIGAN 48009		SITE CROSS SECTIONS		MMG-PLYMOUTH MIXED USE DEVELOPMENT		PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E., CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN											

ORIGINAL ISSUE DATE:
JANUARY 31, 2019

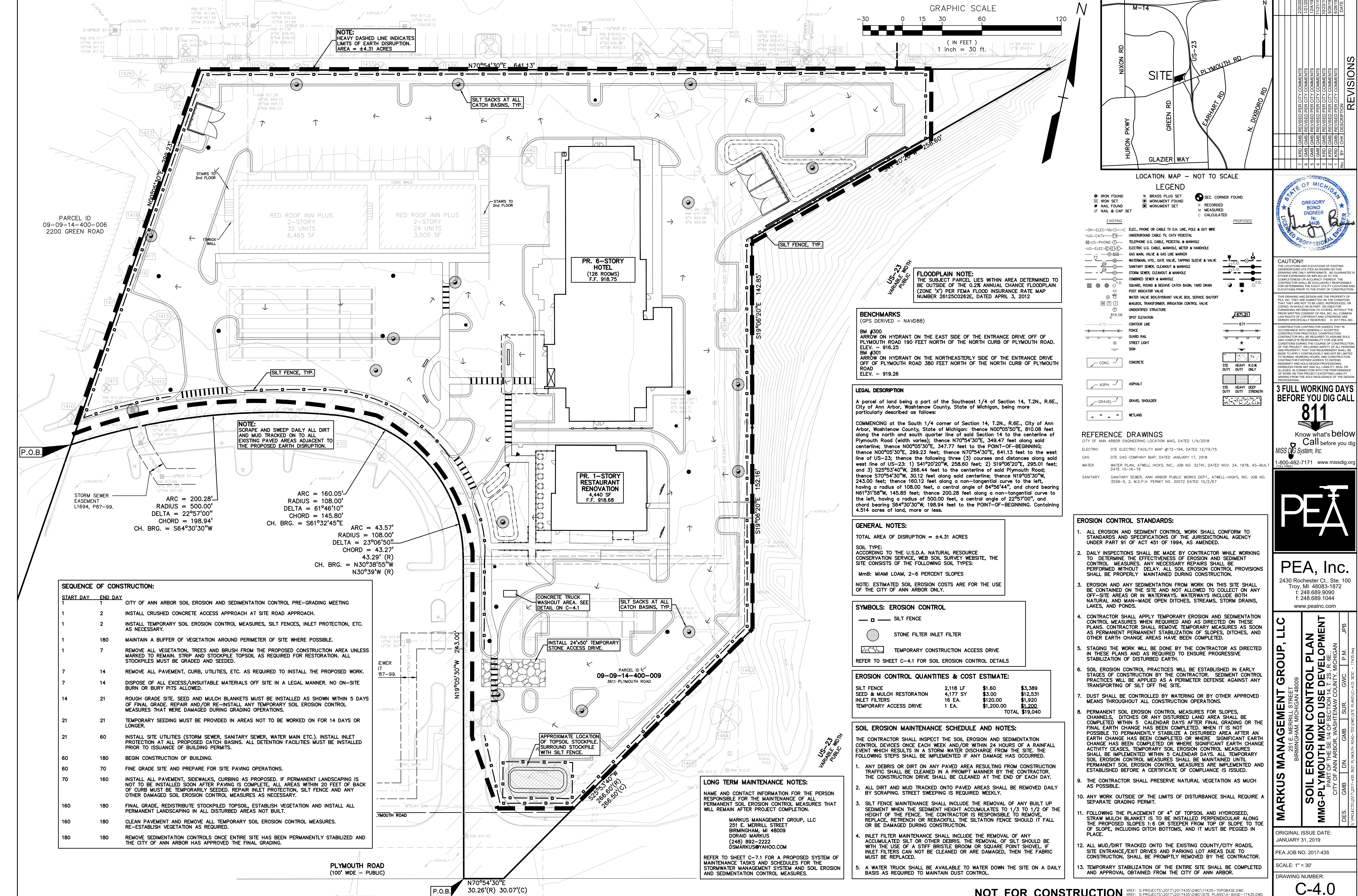
PEA JOB NO. 2017-435

SCALE: N.T.S.

DRAWING NUMBER:
C-3.1

NOT FOR CONSTRUCTION

XREF: S:\PROJECTS\2017\2017435\DWG\17435-TOP0BASE.DWG
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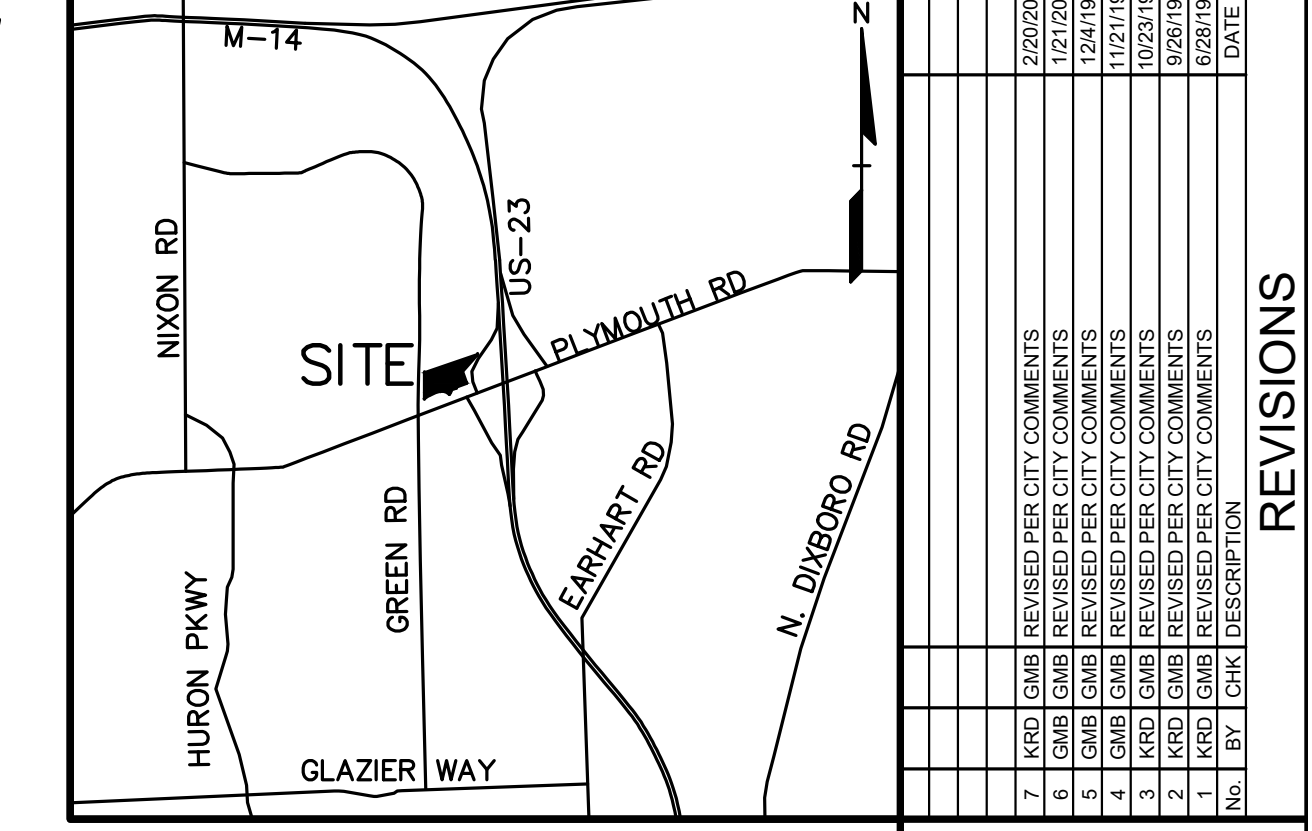


PARCEL ID
09-09-14-400-006
2200 GREEN ROAD

SEQUENCE OF CONSTRUCTION:

START DAY	END DAY	DESCRIPTION
1	2	CITY OF ANN ARBOR SOIL EROSION AND SEDIMENTATION CONTROL PRE-GRADING MEETING
1	2	INSTALL CRUSHED CONCRETE ACCESS APPROACH AT SITE ROAD APPROACH.
1	2	INSTALL TEMPORARY SOIL EROSION CONTROL MEASURES, SILT FENCES, INLET PROTECTION, ETC. AS NECESSARY.
1	180	MAINTAIN A BUFFER OF VEGETATION AROUND PERIMETER OF SITE WHERE POSSIBLE.
1	7	REMOVE ALL VEGETATION, TREES AND BRUSH FROM THE PROPOSED CONSTRUCTION AREA UNLESS MARKED TO REMAIN. STRIP AND STOCKPILE TOPSOIL AS REQUIRED FOR RESTORATION. ALL STOCKPILES MUST BE GRADED AND SEED.
7	14	REMOVE ALL PAVEMENT, CURB, UTILITIES, ETC. AS REQUIRED TO INSTALL THE PROPOSED WORK.
7	14	DISPOSE OF ALL EXCESS/UNSUITABLE MATERIALS OFF SITE IN A LEGAL MANNER. NO ON-SITE BURN OR BURY PITS ALLOWED.
14	21	ROUGH GRADE SITE. SEED AND MULCH BLANKETS MUST BE INSTALLED AS SHOWN WITHIN 5 DAYS OF FINAL GRADE. REPAIR AND/OR RE-INSTALL ANY TEMPORARY SOIL EROSION CONTROL MEASURES THAT WERE DAMAGED DURING GRADING OPERATIONS.
21	21	TEMPORARY SEEDING MUST BE PROVIDED IN AREAS NOT TO BE WORKED ON FOR 14 DAYS OR LONGER.
21	60	INSTALL SITE UTILITIES (STORM SEWER, SANITARY SEWER, WATER MAIN ETC.). INSTALL INLET PROTECTION AT ALL PROPOSED CATCH BASINS. ALL DETENTION FACILITIES MUST BE INSTALLED PRIOR TO ISSUANCE OF BUILDING PERMITS.
60	180	BEGIN CONSTRUCTION OF BUILDING.
60	70	FINE GRADE SITE AND PREPARE FOR SITE PAVING OPERATIONS.
70	160	INSTALL ALL PAVEMENT, SIDEWALKS, CURBING AS PROPOSED. IF PERMANENT LANDSCAPING IS NOT TO BE INSTALLED SOON AFTER PAVING IS COMPLETE, ALL AREAS WITHIN 20 FEET OF BACK OF CURB MUST BE TEMPORARILY SEED. REPAIR INLET PROTECTION, SILT FENCE AND ANY OTHER DAMAGED SOIL EROSION CONTROL MEASURES AS NECESSARY.
160	180	FINAL GRADE, REDISTRIBUTE STOCKPILED TOPSOIL, ESTABLISH VEGETATION AND INSTALL ALL PERMANENT LANDSCAPING IN ALL DISTURBED AREAS NOT BUILT.
160	180	CLEAN PAVEMENT AND REMOVE ALL TEMPORARY SOIL EROSION CONTROL MEASURES. RE-ESTABLISH VEGETATION AS REQUIRED.
180	180	REMOVE SEDIMENTATION CONTROLS ONCE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED AND THE CITY OF ANN ARBOR HAS APPROVED THE FINAL GRADING.

PLYMOUTH ROAD
(100' WIDE - PUBLIC)



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 O.H. LINE, POLE & GUY WIRE
- UG-CATV — UNDERGROUND CABLE TV, CATV PEDESTAL
- UG-PHONE — TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- UG-ELEC — ELECTRIC U.G. CABLE, MANHOLE, WETER & MANHOLE
- W-M — GAS MAIN, VALVE & GAS LINE MARKER
- W-H — WATERMAIN, HYD. GATE VALVE, TAPPING SLAVE & VALVE
- S-S — SANITARY SEWER, CLEANOUT & MANHOLE
- S-S — STORM SEWER, CLEANOUT & MANHOLE
- C-S — COMBINED SEWER & MANHOLE
- S-C — SQUARE, ROUND & BEEHIVE CATCH BASIN, YARD DRAIN
- W-V — WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
- M-T — MALIBO, TRANSFORMER, BRIGATION CONTROL VALVE
- U — UNIDENTIFIED STRUCTURE
- S — SPOT ELEVATION
- C — CONTOUR LINE
- F — FENCE
- G — GUARD RAIL
- S — STREET LIGHT
- S — SIGN

PROPOSED

- C — CONCRETE
- A — ASPHALT
- G — GRAVEL SHOULDER
- W — WETLAND

EROSION CONTROL

- S — SILT FENCE
- F — STONE FILTER INLET FILTER
- T — TEMPORARY CONSTRUCTION ACCESS DRIVE

REFER TO SHEET C-4.1 FOR SOIL EROSION CONTROL DETAILS

FLOODPLAIN NOTE:
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE "V") PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C02E2E, DATED APRIL 3, 2012

BENCHMARKS
(GPS DERIVED - NAVD83)

BM #300
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD. ELEV. - 916.25

BM #301
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD. ELEV. - 919.26

LEGAL DESCRIPTION
A parcel of land being a part of the Southeast 1/4 of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan, being more particularly described as follows:

COMMENCING at the South 1/4 corner of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan; thence N00°05'50"E, 810.08 feet along the north and south quarter line of said Section 14 to the centerline of Plymouth Road (width varies); thence N70°54'30"E, 349.47 feet along said centerline; thence N00°05'30"E, 347.77 feet to the POINT-OF-BEGINNING; thence N00°05'30"E, 299.23 feet; thence N70°54'30"E, 641.13 feet to the west line of US-23; thence the following three (3) courses and distances along said west line of US-23: 1) S41°20'20"W, 256.60 feet; 2) S19°06'20"E, 295.01 feet; and 3) S25°53'40"W, 266.44 feet to the centerline of said Plymouth Road; thence S70°54'30"W, 30.12 feet along said centerline; thence N19°05'30"W, 243.00 feet; thence 160.12 feet along a non-tangential curve to the left, having a radius of 108.00 feet, a central angle of 84°56'44", and chord bearing N51°58'W, 145.85 feet; thence 200.28 feet along a non-tangential curve to the left, having a radius of 500.00 feet, a central angle of 22°57'00", and chord bearing S64°30'30"W, 198.94 feet to the POINT-OF-BEGINNING. Containing 4.514 acres of land, more or less.

GENERAL NOTES:
TOTAL AREA OF DISRUPTION = ±4.31 ACRES

SOIL TYPE:
ACCORDING TO THE U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE, THE SITE CONSISTS OF THE FOLLOWING SOIL TYPES:

Mmb: MIAMI LOAM, 2-6 PERCENT SLOPES

NOTE: ESTIMATED SOIL EROSION COSTS ARE FOR THE USE OF THE CITY OF ANN ARBOR ONLY.

EROSION CONTROL QUANTITIES & COST ESTIMATE:

SILT FENCE	2,118 LF	\$1.60	\$3,389
SEED & MULCH RESTORATION	4,177 SY	\$3.00	\$12,531
INLET FILTERS	16 EA.	\$120.00	\$1,920
TEMPORARY ACCESS DRIVE	1 EA.	\$1,200.00	\$1,200
		TOTAL	\$19,040

SOIL EROSION MAINTENANCE SCHEDULE AND NOTES:

THE CONTRACTOR SHALL INSPECT THE SOIL EROSION AND SEDIMENTATION CONTROL DEVICES ONCE EACH WEEK AND/OR WITHIN 24 HOURS OF A RAINFALL EVENT WHICH RESULTS IN A STORM WATER DISCHARGE FROM THE SITE. THE FOLLOWING STEPS SHALL BE IMPLEMENTED IF ANY DAMAGE HAS OCCURRED.

- ANY DEBRIS OR DIRT ON ANY PAVED AREA RESULTING FROM CONSTRUCTION TRAFFIC SHALL BE CLEANED IN A PROMPT MANNER BY THE CONTRACTOR. THE CONSTRUCTION DAILY SHALL BE CLEANED AT THE END OF EACH DAY.
- ALL DIRT AND MUD TRACKED ONTO PAVED AREAS SHALL BE REMOVED DAILY BY SCRAPING. STREET SWEEPING IS REQUIRED WEEKLY.
- SILT FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT UP SEDIMENT WHEN THE SEDIMENT HEIGHT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE FENCE. THE CONTRACTOR IS RESPONSIBLE TO REMOVE, REPLACE, RETRENCH OR REBACKFILL THE SILTATION FENCE SHOULD IT FALL OR BE DAMAGED DURING CONSTRUCTION.
- INLET FILTER MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY ACCUMULATED SILT OR OTHER DEBRIS. THE REMOVAL OF SILT SHOULD BE WITH THE USE OF A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL. IF INLET FILTERS CAN NOT BE CLEANED OR ARE DAMAGED, THEN THE FABRIC MUST BE REPLACED.
- A WATER TRUCK SHALL BE AVAILABLE TO WATER DOWN THE SITE ON A DAILY BASIS AS REQUIRED TO MAINTAIN DUST CONTROL.

LONG TERM MAINTENANCE NOTES:
NAME AND CONTACT INFORMATION FOR THE PERSON RESPONSIBLE FOR THE MAINTENANCE OF ALL PERMANENT SOIL EROSION CONTROL MEASURES THAT WILL REMAIN AFTER PROJECT COMPLETION.

MARKUS MANAGEMENT GROUP, LLC
251 E. MERRILL STREET
BIRMINGHAM, MI 48009
DORAND MARKUS
(248) 892-2222
DSMARKUS@YAHOO.COM

REFER TO SHEET C-7.1 FOR A PROPOSED SYSTEM OF MAINTENANCE TASKS AND SCHEDULES FOR THE STORMWATER MANAGEMENT SYSTEM AND SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.



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251 E. MERRILL STREET
BIRMINGHAM, MICHIGAN 48009

SOIL EROSION CONTROL PLAN
MMG-PLYMOUTH MIXED USE DEVELOPMENT
PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E., CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES: GMB
SUR: GWC
P.M.: JPB

ORIGINAL ISSUE DATE:
JANUARY 31, 2019

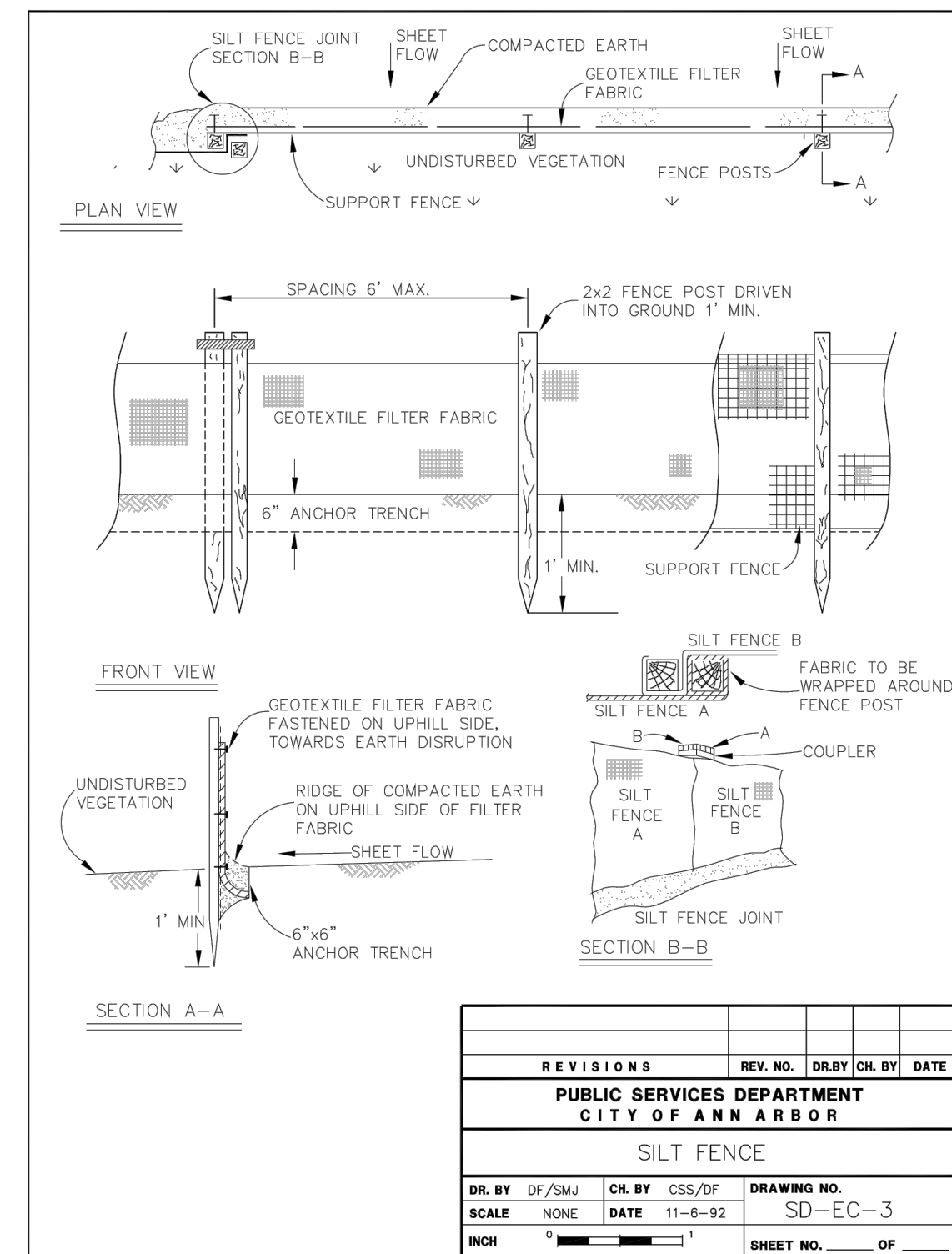
PEA JOB NO: 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:
C-4.0

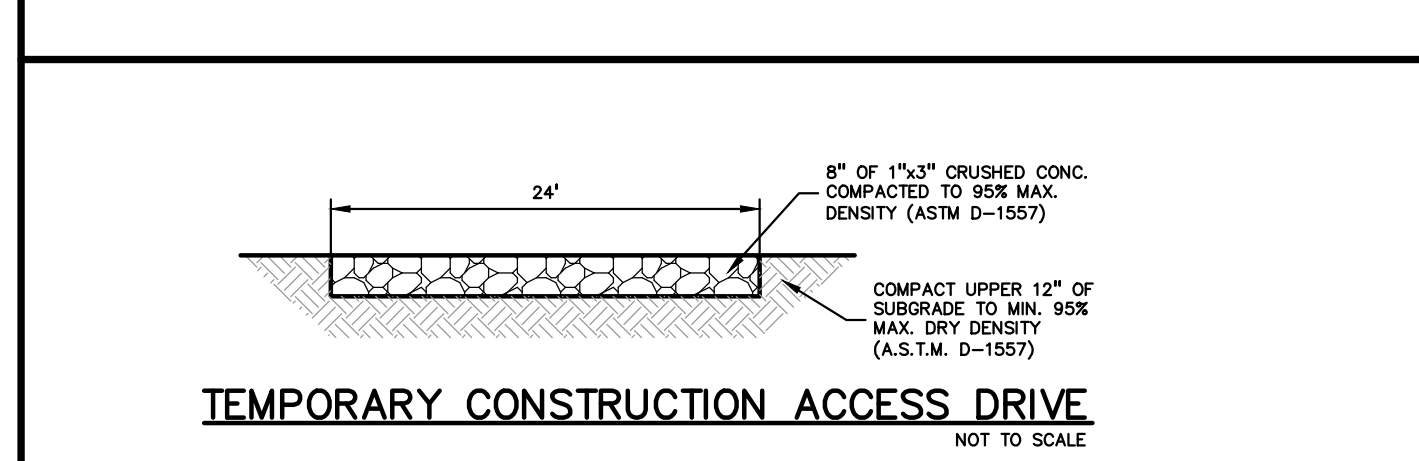
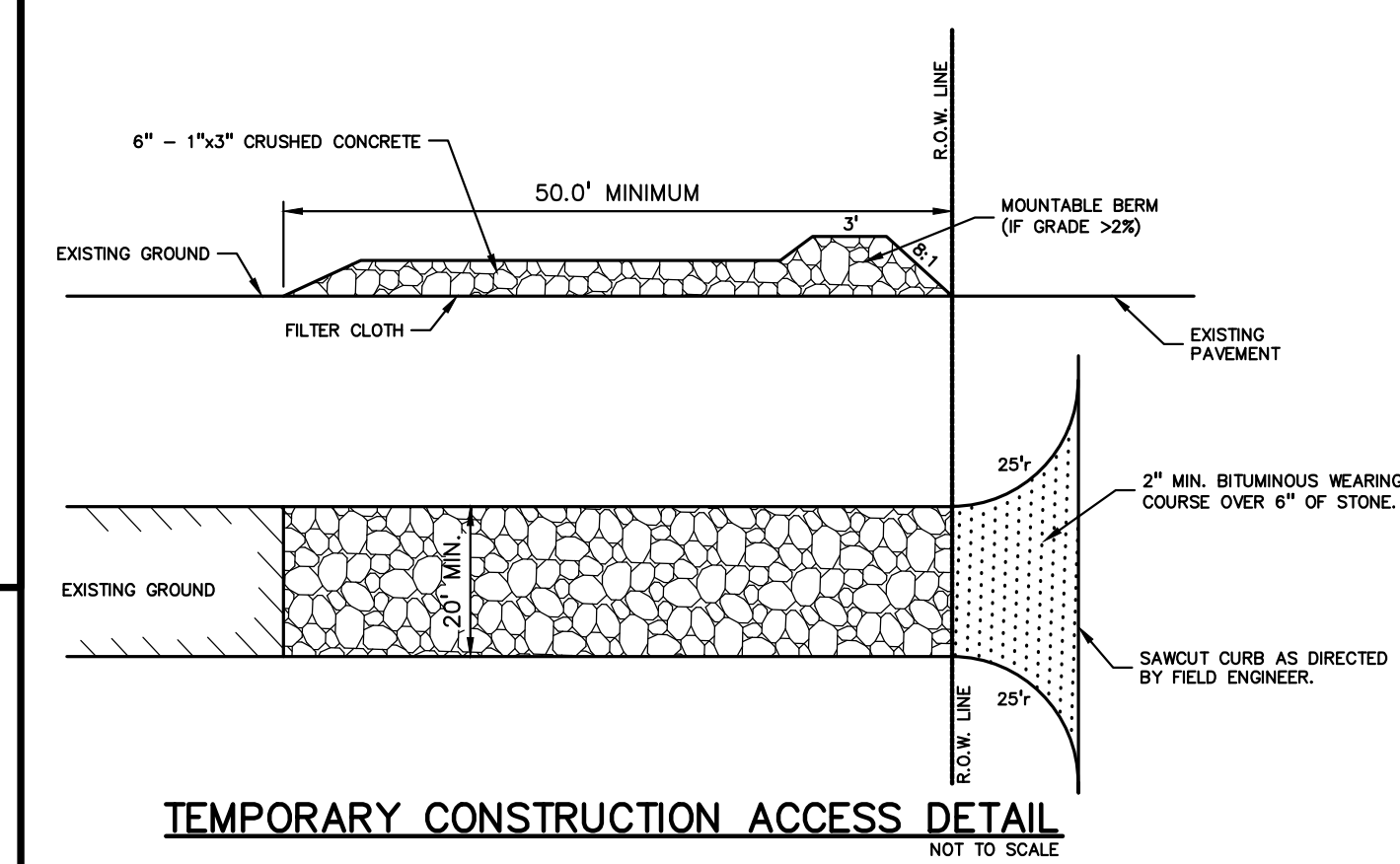
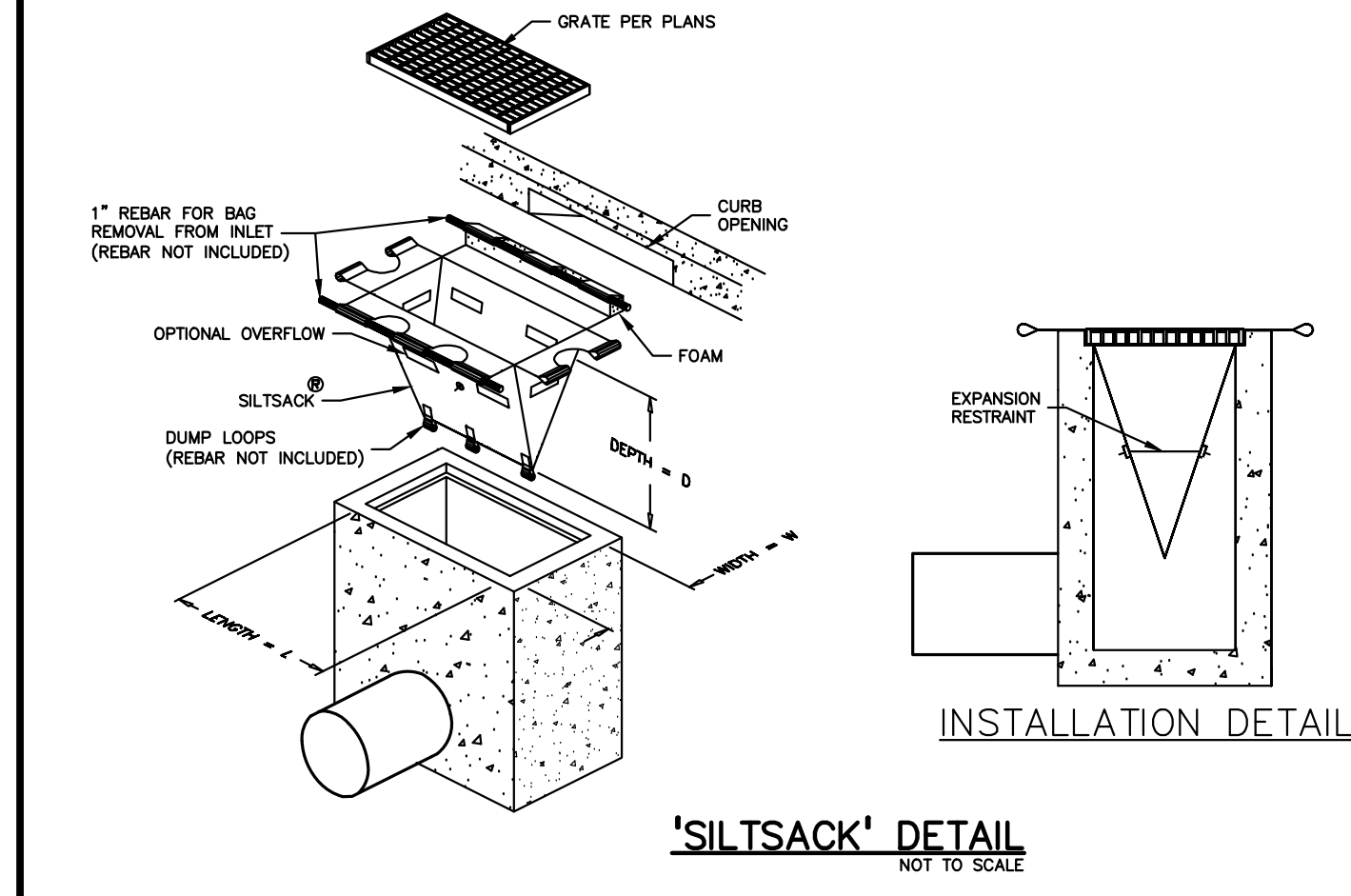
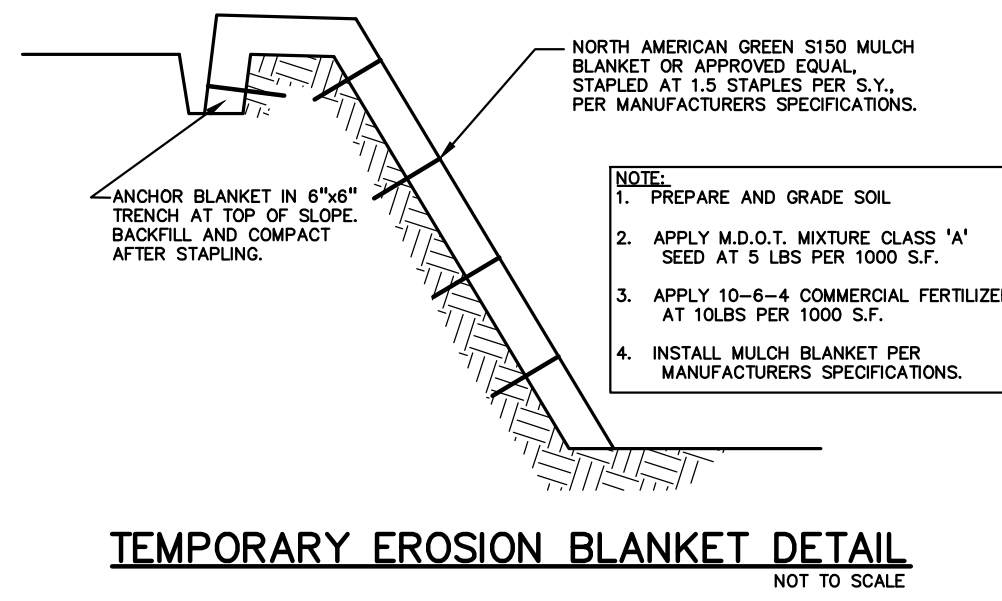
NOT FOR CONSTRUCTION

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REV. NO.	DATE	BY	CHK. BY
1	11-6-92	CSB/DF	CSB/DF



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100	11-6-92	CSB/DF	CSB/DF



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DES.	GMB	DN.	GMB	SUR.	GWC	P.M.	JPB
MARKUS MANAGEMENT GROUP, LLC 2211 E. MERRILL STREET BIRMINGHAM, MICHIGAN 48009							
SOIL EROSION CONTROL DETAILS MMG-PLYMOUTH MIXED USE DEVELOPMENT PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E., CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN							

ORIGINAL ISSUE DATE:
JANUARY 31, 2019

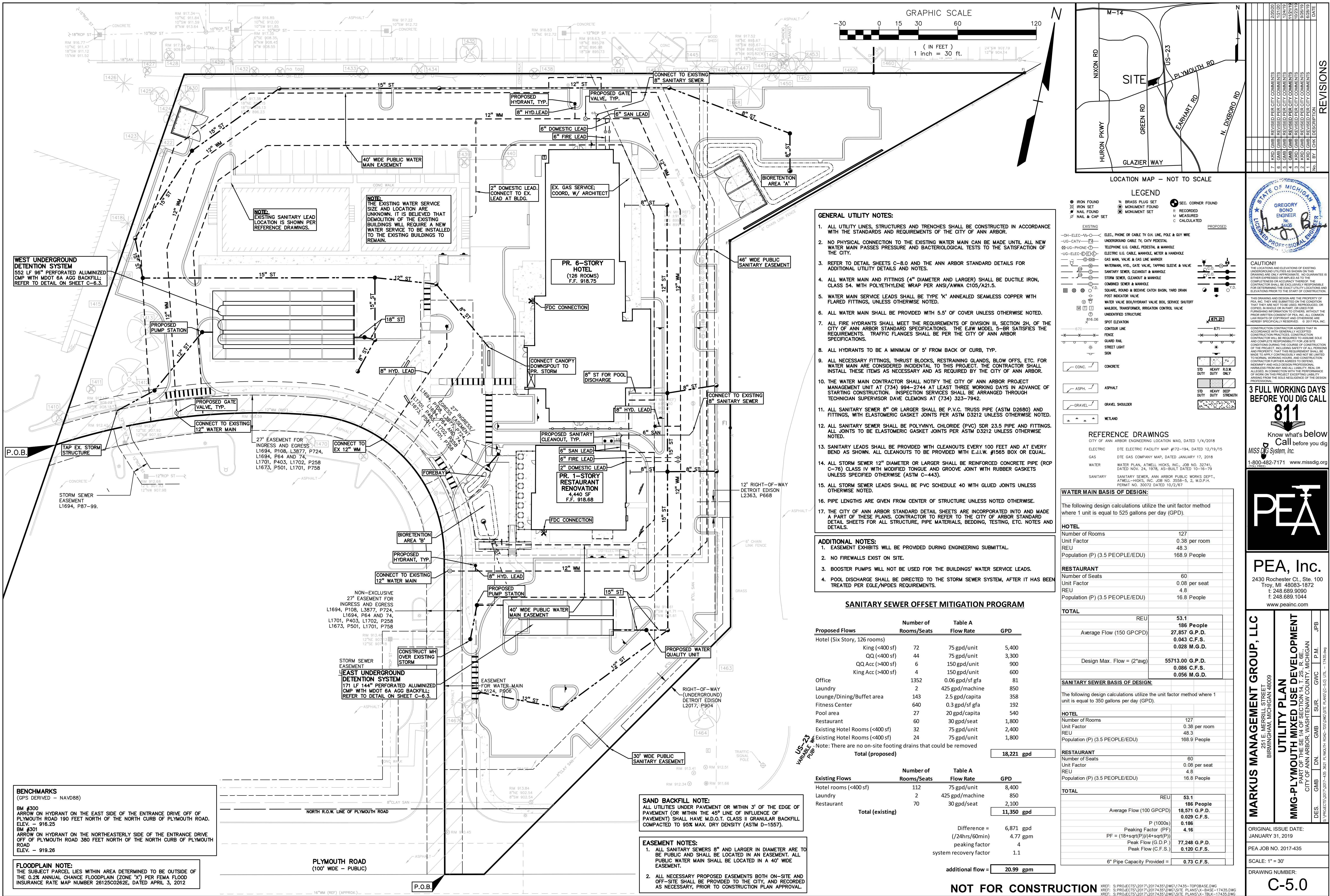
PEA JOB NO. 2017-435

SCALE: N.T.S.

DRAWING NUMBER:
C-4.1

NOT FOR CONSTRUCTION

XREF: S:\PROJECTS\2017\2017435\DWG\17435-TOP0BASE.DWG
XREF: S:\PROJECTS\2017\2017435\DWG\SITE PLANS\17435-V-BASE-17435.DWG
XREF: S:\PROJECTS\2017\2017435\DWG\SITE PLANS\17435-TBK-17435.DWG



GENERAL UTILITY NOTES:

1. ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE CITY OF ANN ARBOR.
2. NO PHYSICAL CONNECTION TO THE EXISTING WATER MAIN CAN BE MADE UNTIL ALL NEW WATER MAIN PASSES PRESSURE AND BACTERIOLOGICAL TESTS TO THE SATISFACTION OF THE CITY.
3. REFER TO DETAIL SHEETS C-8.0 AND THE ANN ARBOR STANDARD DETAILS FOR ADDITIONAL UTILITY DETAILS AND NOTES.
4. ALL WATER MAIN AND FITTINGS (4" DIAMETER AND LARGER) SHALL BE DUCTILE IRON, CLASS 54, WITH POLYETHYLENE WRAP PER ANSI/AWWA C105/A21.5.
5. ALL WATER MAIN SERVICE LEADS SHALL BE TYPE 'K' ANNEALED SEAMLESS COPPER WITH FLARED FITTINGS, UNLESS OTHERWISE NOTED.
6. ALL WATER MAIN SHALL BE PROVIDED WITH 5.5' OF COVER UNLESS OTHERWISE NOTED.
7. ALL FIRE HYDRANTS SHALL MEET THE REQUIREMENTS OF DIVISION III, SECTION 2H, OF THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. THE E.J.W. MODEL 5-BR SATISFIES THE REQUIREMENTS. TRAFFIC FLANGES SHALL BE PER THE CITY OF ANN ARBOR SPECIFICATIONS.
8. ALL HYDRANTS TO BE A MINIMUM OF 5' FROM BACK OF CURB, TYP.
9. ALL NECESSARY FITTINGS, THRUST BLOCKS, RESTRAINING GLANDS, BLOW OFFS, ETC. FOR WATER MAIN ARE CONSIDERED INCIDENTAL TO THIS PROJECT. THE CONTRACTOR SHALL INSTALL THESE ITEMS AS NECESSARY AND AS REQUIRED BY THE CITY OF ANN ARBOR.
10. THE WATER MAIN CONTRACTOR SHALL NOTIFY THE CITY OF ANN ARBOR PROJECT MANAGEMENT UNIT AT (734) 994-2744 AT LEAST THREE WORKING DAYS IN ADVANCE OF STARTING CONSTRUCTION. INSPECTION SERVICES SHALL BE ARRANGED THROUGH TECHNICIAN SUPERVISOR DAVE CLEMONS AT (734) 323-7942.
11. ALL SANITARY SEWER 8" OR LARGER SHALL BE P.V.C. TRUSS PIPE (ASTM D2680) AND FITTINGS, WITH ELASTOMERIC GASKET JOINTS PER ASTM D3212 UNLESS OTHERWISE NOTED.
12. ALL SANITARY SEWER SHALL BE POLYVINYL CHLORIDE (PVC) SDR 23.5 PIPE AND FITTINGS. ALL JOINTS TO BE ELASTOMERIC GASKET JOINTS PER ASTM D3212 UNLESS OTHERWISE NOTED.
13. SANITARY LEADS SHALL BE PROVIDED WITH CLEANOUTS EVERY 100 FEET AND AT EVERY BEND AS SHOWN. ALL CLEANOUTS TO BE PROVIDED WITH E.J.W. #1565 BOX OR EQUAL.
14. ALL STORM SEWER 12" DIAMETER OR LARGER SHALL BE REINFORCED CONCRETE PIPE (RCP C-76) CLASS IV WITH MODIFIED TONGUE AND GROOVE JOINT WITH RUBBER GASKETS UNLESS SPECIFIED OTHERWISE (ASTM C-443).
15. ALL STORM SEWER LEADS SHALL BE PVC SCHEDULE 40 WITH GLUED JOINTS UNLESS OTHERWISE NOTED.
16. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE UNLESS NOTED OTHERWISE.
17. THE CITY OF ANN ARBOR STANDARD DETAIL SHEETS ARE INCORPORATED INTO AND MADE A PART OF THESE PLANS. CONTRACTOR TO REFER TO THE CITY OF ANN ARBOR STANDARD DETAIL SHEETS FOR ALL STRUCTURE, PIPE MATERIALS, BEDDING, TESTING, ETC. NOTES AND DETAILS.

ADDITIONAL NOTES:

1. EASEMENT EXHIBITS WILL BE PROVIDED DURING ENGINEERING SUBMITTAL.
2. NO FIREWALLS EXIST ON SITE.
3. BOOSTER PUMPS WILL NOT BE USED FOR THE BUILDINGS' WATER SERVICE LEADS.
4. POOL DISCHARGE SHALL BE DIRECTED TO THE STORM SEWER SYSTEM, AFTER IT HAS BEEN TREATED PER EGLE/NPDES REQUIREMENTS.

SANITARY SEWER OFFSET MITIGATION PROGRAM

Proposed Flows	Number of Rooms/Seats	Table A Flow Rate	GPD
Hotel (Six Story, 126 rooms)			186 People
King (<400 sf)	72	75 gpd/unit	5,400
QQ (<400 sf)	44	75 gpd/unit	3,300
QQ Acc (>400 sf)	6	150 gpd/unit	900
King Acc (>400 sf)	4	150 gpd/unit	600
Office	1352	0.06 gpd/sf gfa	81
Laundry	2	425 gpd/machine	850
Lounge/Dining/Buffer area	143	2.5 gpd/capita	358
Fitness Center	640	0.3 gpd/sf gfa	192
Pool area	27	20 gpd/capita	540
Restaurant	60	30 gpd/seat	1,800
Existing Hotel Rooms (<400 sf)	32	75 gpd/unit	2,400
Existing Hotel Rooms (<400 sf)	24	75 gpd/unit	1,800
Total (proposed)			18,221 gpd

Existing Flows	Number of Rooms/Seats	Table A Flow Rate	GPD
Hotel rooms (<400 sf)	112	75 gpd/unit	8,400
Laundry	2	425 gpd/machine	850
Restaurant	70	30 gpd/seat	2,100
Total (existing)			11,350 gpd

Difference = 6,871 gpd
 (/24hrs/60min) 4.77 gpm
 peaking factor 4
 system recovery factor 1.1
 additional flow = 20.99 gpm

SAND BACKFILL NOTE:
 ALL UTILITIES UNDER 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).

EASEMENT NOTES:
 1. ALL SANITARY SEWERS 8" AND LARGER IN DIAMETER ARE TO BE PUBLIC AND SHALL BE LOCATED IN AN EASEMENT. ALL PUBLIC WATER MAIN SHALL BE LOCATED IN A 40' WIDE EASEMENT.
 2. ALL NECESSARY PROPOSED EASEMENTS BOTH ON-SITE AND OFF-SITE SHALL BE PROVIDED TO THE CITY, AND RECORDED AS NECESSARY, PRIOR TO CONSTRUCTION PLAN APPROVAL.

LEGEND

EXISTING

- IRON FOUND
- IRON SET
- NAIL FOUND
- NAIL & CAP SET
- BRASS PLUG SET
- MONUMENT FOUND
- MONUMENT SET
- RECORDED
- MEASURED
- CALCULATED

PROPOSED

- ELEC. PHONE OR CABLE TV CH. LINE, POLE & GUY WIRE
- UNDERGROUND CABLE TV, CTV FEDESTAL
- TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
- GAS MAN. VALVE & GAS LINE MARKER
- WATERMAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
- SANITARY SEWER, CLEANOUT & MANHOLE
- STORM SEWER, CLEANOUT & MANHOLE
- COMBINED SEWER & MANHOLE
- SQUARE, ROUND & BEDDIE CATCH BASIN, YARD DRAIN
- POST INDICATOR VALVE
- WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
- MANHOLE, TRANSFORMER, PROTECTOR CONTROL VALVE
- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SIEN

CONCRETE

- CONC.
- ASPH.
- GRAVEL SHOULDER
- METALD

OTHER

- 671
- 671
- 3RD. HEAVY R.O.W. ONLY
- 3RD. HEAVY BEEP DUTY STRENGTH

REFERENCE DRAWINGS
 CITY OF ANN ARBOR ENGINEERING LOCATION MAP #172-194, DATED 12/19/15
 ELECTRIC DTE ELECTRIC FACILITY MAP #172-194, DATED 12/19/15
 GAS DTE GAS COMPANY MAP, DATED JANUARY 17, 2018
 WATER WATER PLAN, ATWELL HIGGS, INC., JOB NO. 32745, DATED NOV. 24, 1978, AS-BUILT DATED 10-16-79
 SANITARY SANITARY SEWER, ANN ARBOR PUBLIC WORKS DEPT., ATWELL-HIGGS, INC., JOB NO. 3558-5, 2, M.D.P.H. PERMIT NO. 30072 DATED 10/2/97

WATER MAIN BASIS OF DESIGN:

The following design calculations utilize the unit factor method where 1 unit is equal to 525 gallons per day (GPD).

Category	REU	186 People
Hotel	53.1	186 People
Number of Rooms	127	
Unit Factor	0.38 per room	
REU	48.3	
Population (P) (3.5 PEOPLE/EDU)	168.9 People	
Restaurant	60	186 People
Number of Seats	60	
Unit Factor	0.08 per seat	
REU	4.8	
Population (P) (3.5 PEOPLE/EDU)	16.8 People	
TOTAL	53.1	186 People
Average Flow (150 GPCPD)	27,857 G.P.D.	0.029 C.F.S.
Design Max. Flow = (2*avg)	55713.00 G.P.D.	0.043 C.F.S.
		0.028 M.G.D.

SANITARY SEWER BASIS OF DESIGN:

The following design calculations utilize the unit factor method where 1 unit is equal to 350 gallons per day (GPD).

Category	REU	186 People
Hotel	53.1	186 People
Number of Rooms	127	
Unit Factor	0.38 per room	
REU	48.3	
Population (P) (3.5 PEOPLE/EDU)	168.9 People	
Restaurant	60	186 People
Number of Seats	60	
Unit Factor	0.08 per seat	
REU	4.8	
Population (P) (3.5 PEOPLE/EDU)	16.8 People	
TOTAL	53.1	186 People
Average Flow (100 GPCPD)	18,571 G.P.D.	0.020 C.F.S.
Design Max. Flow = (2*avg)	37,142 G.P.D.	0.040 C.F.S.
		0.016 M.G.D.

PEAK FLOW BASIS OF DESIGN:

The following design calculations utilize the unit factor method where 1 unit is equal to 350 gallons per day (GPD).

Category	REU	186 People
Hotel	53.1	186 People
Number of Rooms	127	
Unit Factor	0.38 per room	
REU	48.3	
Population (P) (3.5 PEOPLE/EDU)	168.9 People	
Restaurant	60	186 People
Number of Seats	60	
Unit Factor	0.08 per seat	
REU	4.8	
Population (P) (3.5 PEOPLE/EDU)	16.8 People	
TOTAL	53.1	186 People
Average Flow (100 GPCPD)	18,571 G.P.D.	0.020 C.F.S.
Design Max. Flow = (2*avg)	37,142 G.P.D.	0.040 C.F.S.
		0.016 M.G.D.

6" Pipe Capacity Provided = 0.73 C.F.S.

REVISIONS

NO.	DATE	DESCRIPTION
1	12/01/15	ISSUED FOR PERMITS
2	12/01/15	ISSUED FOR PERMITS
3	12/01/15	ISSUED FOR PERMITS
4	12/01/15	ISSUED FOR PERMITS
5	12/01/15	ISSUED FOR PERMITS
6	12/01/15	ISSUED FOR PERMITS
7	12/01/15	ISSUED FOR PERMITS
8	12/01/15	ISSUED FOR PERMITS



CAUTION!
 THE LOCATION AND ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS MADE BY THE ENGINEER AS TO THE ACCURACY OF THE INFORMATION PROVIDED HEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.
 THE DRAWING AND DESIGN ARE THE PROPERTY OF PE&A. THEY ARE LOANED TO THE CONTRACTOR FOR THEIR USE ONLY. THEY ARE NOT TO BE REPRODUCED, COPIED, OR USED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF PE&A, INC. ALL COMPANY LAWS, RULES, AND REGULATIONS APPLY TO ALL PERSONS EMPLOYED BY PE&A, INC. OR TO ANY PERSONS EMPLOYED BY THE CONTRACTOR.
 CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SHALL BE STOPPED IMMEDIATELY UPON THE DISCOVERY OF ANY UNIDENTIFIED STRUCTURE OR UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS AND PROPERTY.
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MARKUS MANAGEMENT GROUP, LLC
 221 E. MERRILL STREET
 BIRMINGHAM, MICHIGAN 48009

UTILITY PLAN
MMG-PLYMOUTH MIXED USE DEVELOPMENT
 PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E.,
 CITY OF ANN ARBOR, WASHINGTON COUNTY, MICHIGAN

DES. GMB
 SUR. GMB
 CIVIL GMB
 P.M. JPB
 S:\PROJECTS\2017\2017435\DWG\SITE PLANS\V-BASE-17435-06.dwg
 S:\PROJECTS\2017\2017435\DWG\SITE PLANS\V-TLBK-17435-06.dwg

ORIGINAL ISSUE DATE:
 JANUARY 31, 2019

PEA JOB NO. 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:
C-5.0

NOT FOR CONSTRUCTION

BENCHMARKS
 (GPS DERIVED - NAVD88)

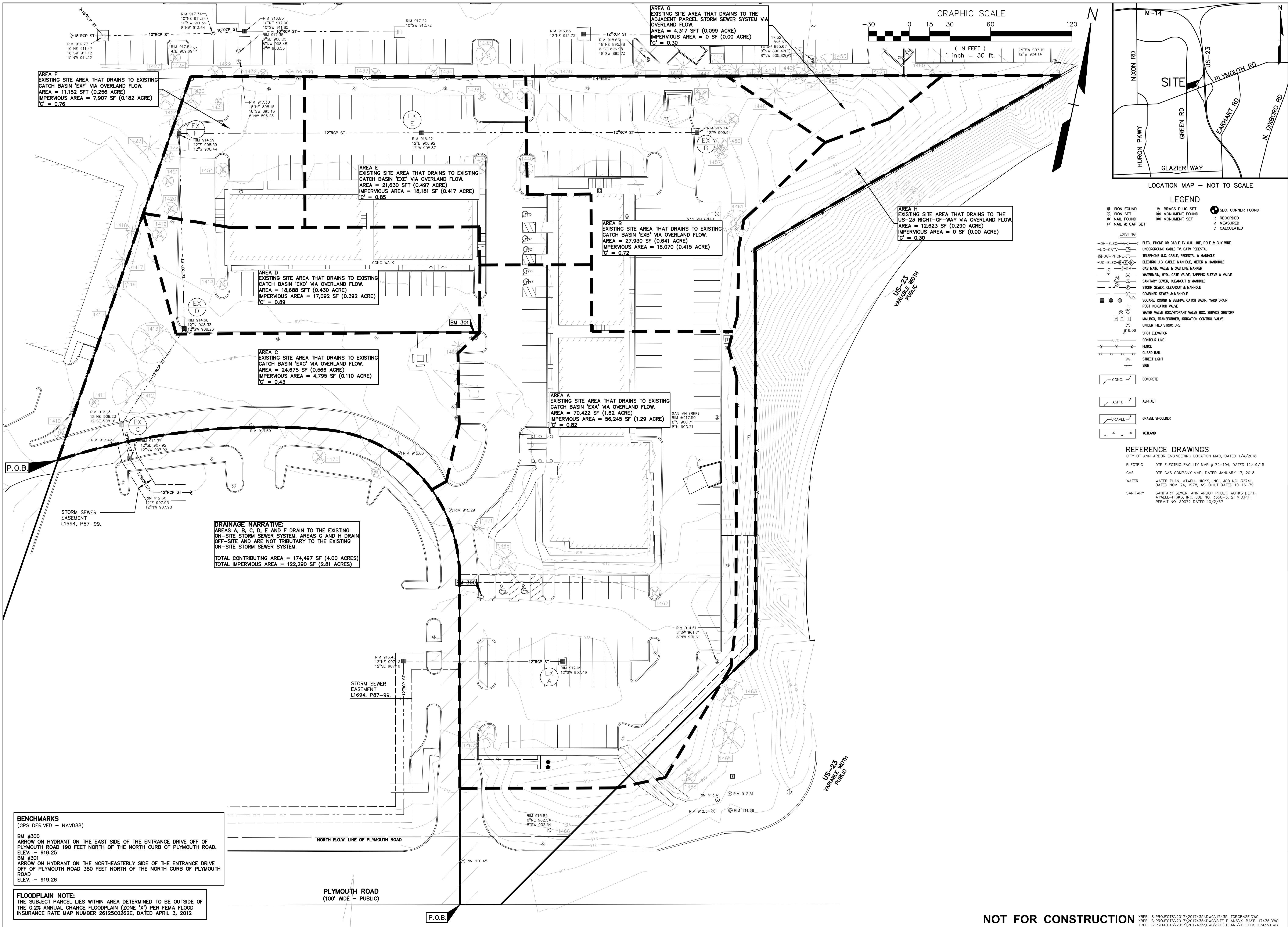
BM #300
 ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
 ELEV. - 916.25

BM #301
 ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
 ELEV. - 919.26

FLOODPLAIN NOTE:
 THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE 'X') PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

PLYMOUTH ROAD
 (100' WIDE - PUBLIC)

10" WM (REF) APPROX.



AREA F
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX F' VIA OVERLAND FLOW.
AREA = 11,152 SF (0.256 ACRE)
IMPERVIOUS AREA = 7,907 SF (0.182 ACRE)
C_i' = 0.76

AREA E
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX E' VIA OVERLAND FLOW.
AREA = 21,630 SF (0.497 ACRE)
IMPERVIOUS AREA = 18,181 SF (0.417 ACRE)
C_i' = 0.85

AREA D
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX D' VIA OVERLAND FLOW.
AREA = 18,688 SF (0.430 ACRE)
IMPERVIOUS AREA = 17,092 SF (0.392 ACRE)
C_i' = 0.89

AREA C
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX C' VIA OVERLAND FLOW.
AREA = 24,675 SF (0.566 ACRE)
IMPERVIOUS AREA = 4,795 SF (0.110 ACRE)
C_i' = 0.43

AREA A
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX A' VIA OVERLAND FLOW.
AREA = 70,422 SF (1.62 ACRE)
IMPERVIOUS AREA = 56,245 SF (1.29 ACRE)
C_i' = 0.82

AREA B
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX B' VIA OVERLAND FLOW.
AREA = 27,930 SF (0.641 ACRE)
IMPERVIOUS AREA = 18,070 (0.415 ACRE)
C_i' = 0.72

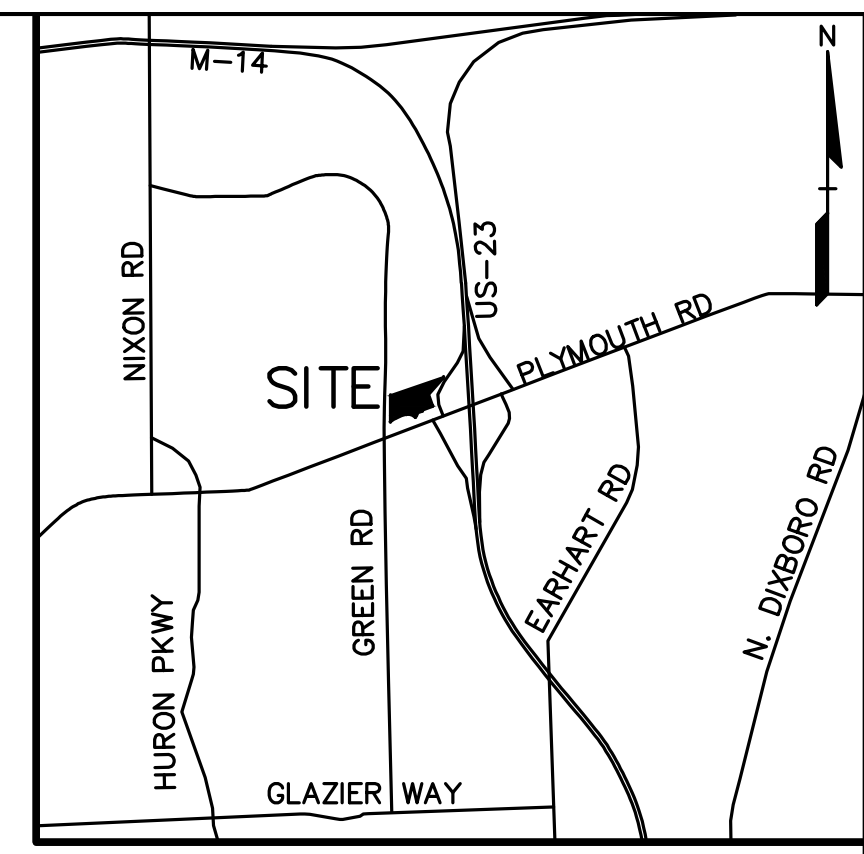
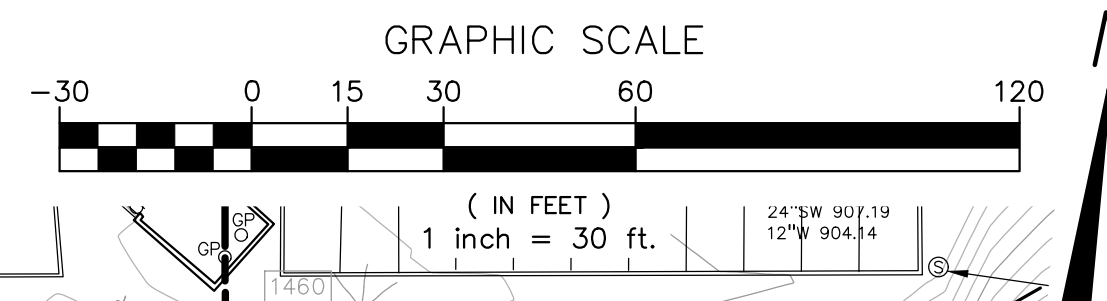
AREA H
EXISTING SITE AREA THAT DRAINS TO THE US-23 RIGHT-OF-WAY VIA OVERLAND FLOW.
AREA = 12,623 SF (0.290 ACRE)
IMPERVIOUS AREA = 0 SF (0.00 ACRE)
C_i' = 0.30

AREA G
EXISTING SITE AREA THAT DRAINS TO THE ADJACENT PARCEL STORM SEWER SYSTEM VIA OVERLAND FLOW.
AREA = 4,317 SF (0.099 ACRE)
IMPERVIOUS AREA = 0 SF (0.00 ACRE)
C_i' = 0.30

DRAINAGE NARRATIVE:
AREAS A, B, C, D, E AND F DRAIN TO THE EXISTING ON-SITE STORM SEWER SYSTEM. AREAS G AND H DRAIN OFF-SITE AND ARE NOT TRIBUTARY TO THE EXISTING ON-SITE STORM SEWER SYSTEM.
TOTAL CONTRIBUTING AREA = 174,497 SF (4.00 ACRES)
TOTAL IMPERVIOUS AREA = 122,290 SF (2.81 ACRES)

BENCHMARKS
(GPS DERIVED - NAVD88)
BM #300
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
ELEV. - 916.25
BM #301
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
ELEV. - 919.26

FLOODPLAIN NOTE:
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE 'X') PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012



- LEGEND**
- IRON FOUND
 - BRASS PLUG SET
 - SEC. CORNER FOUND
 - RECORDED
 - MEASURED
 - CALCULATED
- EXISTING**
- UG-ELEC-110-2
 - UG-CATV
 - UG-PHONE
 - UG-ELEC-120-2
 - UG-ELEC-120-1
 - UG-ELEC-120-0
 - UG-ELEC-120-3
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 - UG-ELEC-120-99
 - UG-ELEC-120-100

- REFERENCE DRAWINGS**
- CITY OF ANN ARBOR ENGINEERING LOCATION MAP, DATED 1/4/2018
 - ELECTRIC DTE ELECTRIC FACILITY MAP #172-194, DATED 12/19/15
 - GAS DTE GAS COMPANY MAP, DATED JANUARY 17, 2018
 - WATER WATER PLAN, ATWELL HIGGS, INC., JOB NO. 32741, DATED NOV. 24, 1978. AS-BUILT DATED 10-16-79
 - SANITARY SANITARY SEWER, ANN ARBOR PUBLIC WORKS DEPT., ATWELL-HIGGS, INC., JOB NO. 3558-5, 2, M.D.P.H., PERMIT NO. 35072 DATED 10/2/67

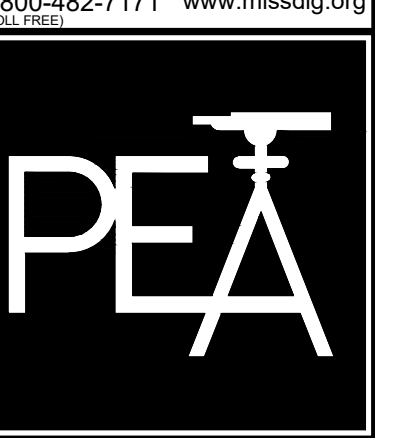
NO.	DATE	DESCRIPTION
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2	1/27/21	REVISED PER CITY COMMENTS
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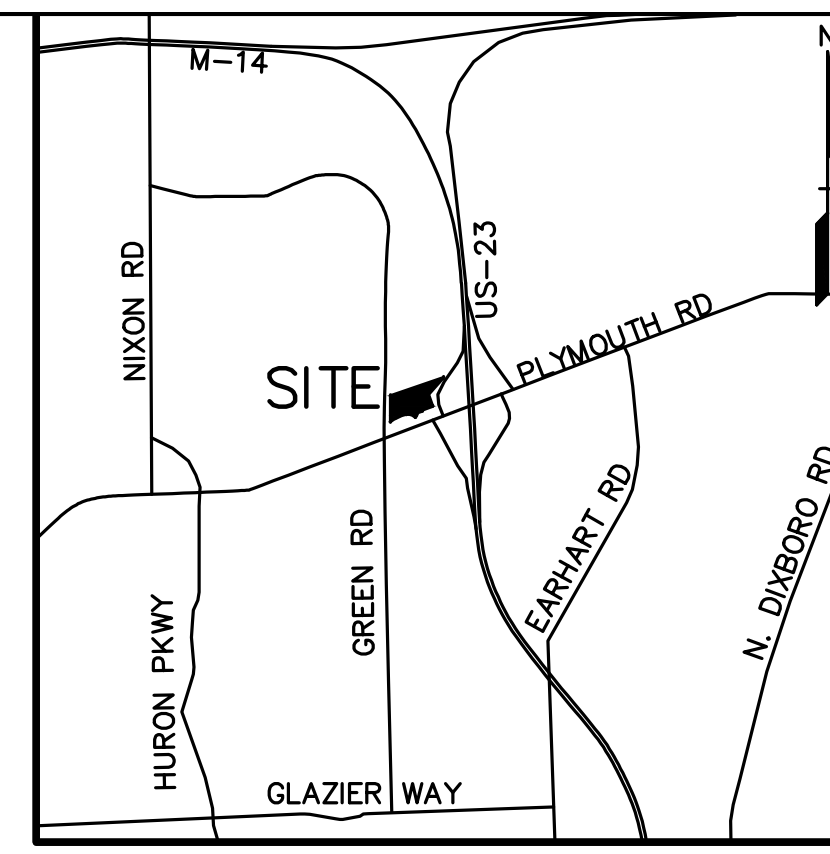
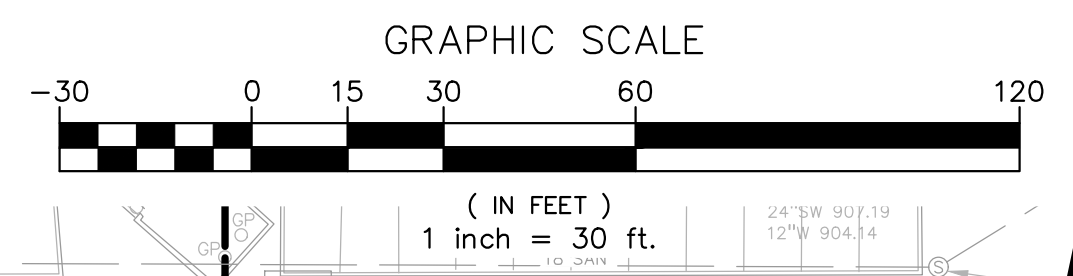
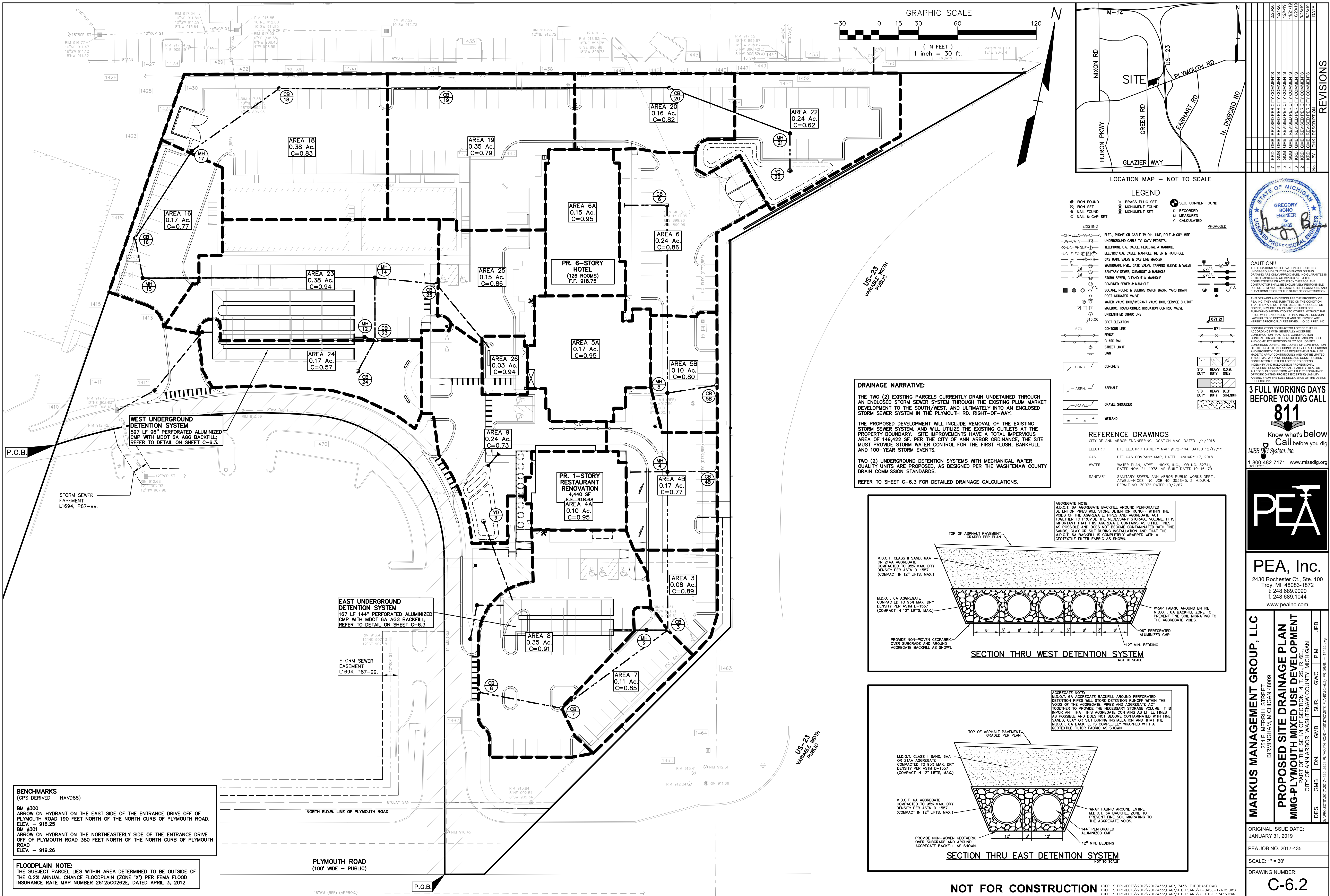
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MARKUS MANAGEMENT GROUP, LLC		DES.	GMB	DN.	GMB	SUR.	GWC	P.M.	JPB
221 E. MERRILL STREET BIRMINGHAM, MICHIGAN 48009		EXISTING SITE DRAINAGE PLAN							
EXISTING SITE DRAINAGE PLAN		MMG-PLYMOUTH MIXED USE DEVELOPMENT							
PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E., CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN		DRAWING NUMBER: C-6.1							
ORIGINAL ISSUE DATE: JANUARY 31, 2019		SCALE: 1" = 30'							
PEA JOB NO. 2017-435		NOT FOR CONSTRUCTION							

NOT FOR CONSTRUCTION



NO.	DATE	DESCRIPTION
1	1/20/19	ISSUED FOR PERMITS
2	1/27/19	REVISED PER CITY COMMENTS
3	2/1/19	REVISED PER CITY COMMENTS
4	2/1/19	REVISED PER CITY COMMENTS
5	2/1/19	REVISED PER CITY COMMENTS
6	2/1/19	REVISED PER CITY COMMENTS
7	2/20/19	REVISED PER CITY COMMENTS



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MARKUS MANAGEMENT GROUP, LLC
221 E. MERRILL STREET
BIRMINGHAM, MICHIGAN 48009

PROPOSED SITE DRAINAGE PLAN
MMG-PLYMOUTH MIXED USE DEVELOPMENT
PART OF THE SE 1/4 OF SECTION 14, T. 25S, R. 6E,
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES. GMB DN. GMB SUR. GWC P.M. JPB
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S:\PROJECTS\2017\2017435\DWG\SITE PLANS\V-C-12 RR DRAW - 17435.DWG

ORIGINAL ISSUE DATE:
JANUARY 31, 2019

PEA JOB NO. 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:
C-6.2

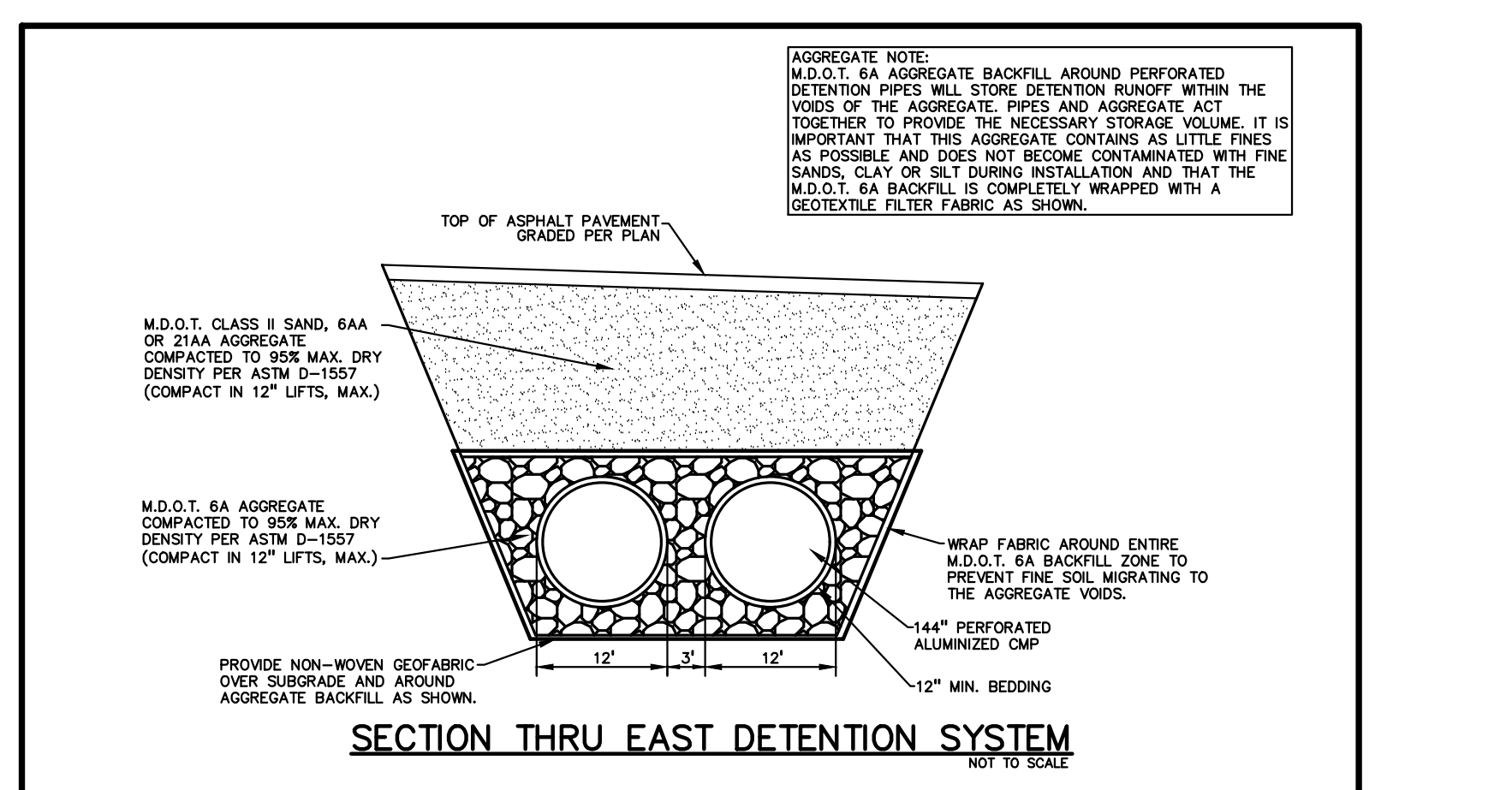
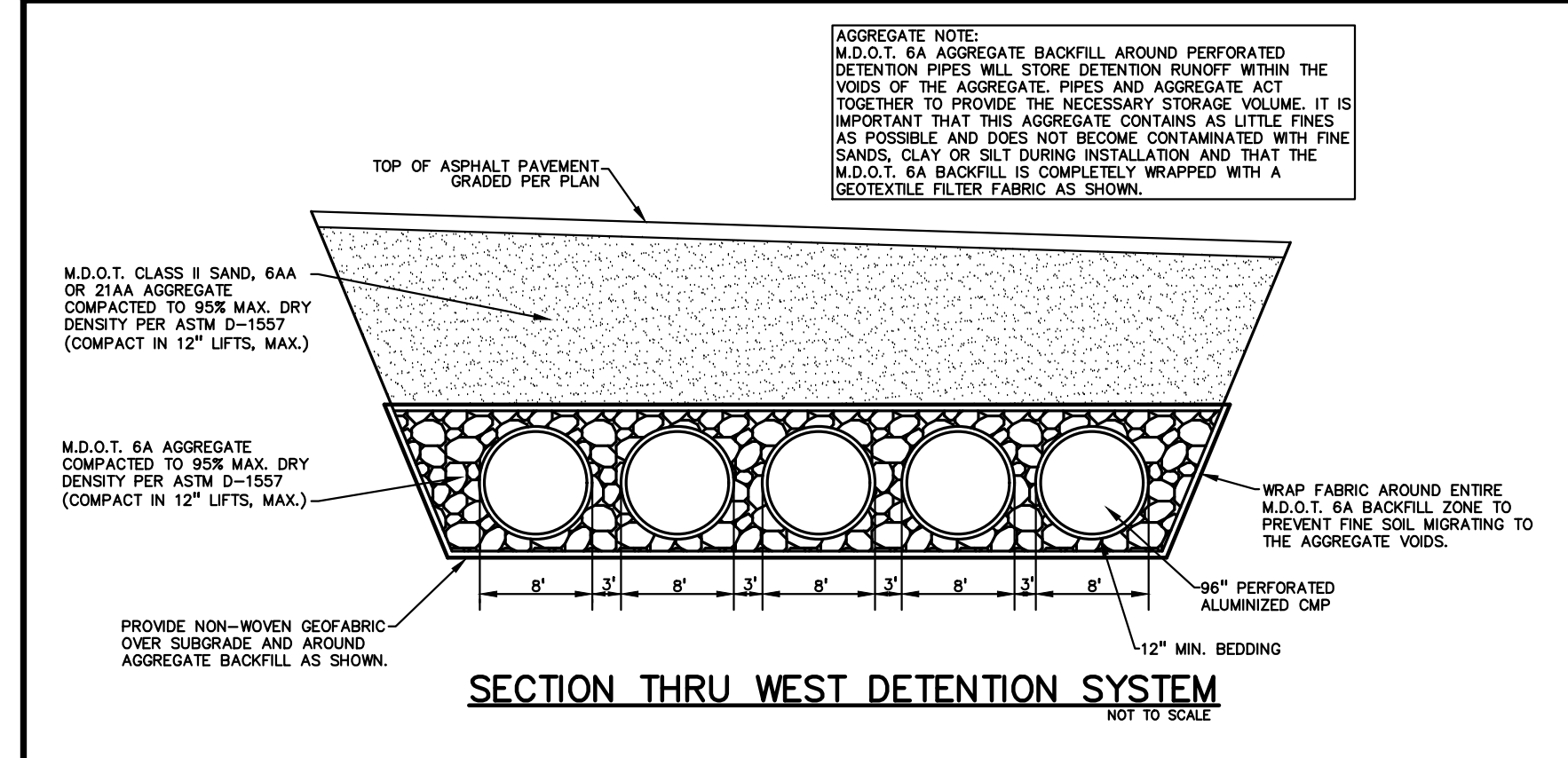
DRAINAGE NARRATIVE:

THE TWO (2) EXISTING PARCELS CURRENTLY DRAIN UNDETAINED THROUGH AN ENCLOSED STORM SEWER SYSTEM THROUGH THE EXISTING PLUM MARKET DEVELOPMENT TO THE SOUTH/WEST, AND ULTIMATELY INTO AN ENCLOSED STORM SEWER SYSTEM IN THE PLYMOUTH RD. RIGHT-OF-WAY.

THE PROPOSED DEVELOPMENT WILL INCLUDE REMOVAL OF THE EXISTING STORM SEWER SYSTEM, AND WILL UTILIZE THE EXISTING OUTLETS AT THE PROPERTY BOUNDARY. SITE IMPROVEMENTS HAVE A TOTAL IMPERVIOUS AREA OF 149,422 SF. PER THE CITY OF ANN ARBOR ORDINANCE, THE SITE MUST PROVIDE STORM WATER CONTROL FOR THE FIRST FLUSH, BANKFULL AND 100-YEAR STORM EVENTS.

TWO (2) UNDERGROUND DETENTION SYSTEMS WITH MECHANICAL WATER QUALITY UNITS ARE PROPOSED, AS DESIGNED PER THE WASHTENAW COUNTY DRAIN COMMISSION STANDARDS.

REFER TO SHEET C-6.3 FOR DETAILED DRAINAGE CALCULATIONS.



NOT FOR CONSTRUCTION

BENCHMARKS
(GPS DERIVED - NAVD88)

BM #300
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
ELEV. - 916.25

BM #301
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.
ELEV. - 919.26

FLOODPLAIN NOTE:
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE 'X') PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

PLYMOUTH ROAD
(100' WIDE - PUBLIC)

P.O.B.

US-23
VARIABLE WIDTH
PUBLIC

US-23
VARIABLE WIDTH
PUBLIC

