

PLANNING AND DEVELOPMENT SERVICES STAFF REPORT

For Planning Commission Meeting of May 4, 2021

SUBJECT: Cottages at Barton Green Landscape Modification (2601 Pontiac Trail). File No. SP20-032

PROPOSED CITY PLANNING COMMISSION MOTION

The Ann Arbor City Planning Commission hereby approves the proposed landscape modifications according to the Unified Development Code section 5.30.2 (Landscape Modifications).

STAFF RECOMMENDATION

Staff recommends that the landscape modification request be **approved** because the modifications are consistent with the intent of the ordinance and are associated with a previously approved site plan.

LOCATION

The site is located on the west side of Pontiac Trail, north of Barton Drive (Northeast Area). This site is located in the Huron River watershed.

DESCRIPTION OF PETITION

The Cottages at Barton Green site plan was approved in July of 2019. Construction on the 211 dwelling apartment community began soon thereafter. During the course of construction, DTE required the petitioner to provide a utility easement that would allow access to utility poles along the south property line near detention basin 2. This easement requires the Conflicting Land Use Buffer to be shifted to the north 12 feet. All landscape plantings will be maintained within the newly located Conflicting Land Use Buffer.

The petitioner submitted an Administrative Amendment in November 2020 to show the proposed modification to the Conflicting Land Use Buffer on the site plan. Staff required approval of a Landscape Modification from the Planning Commission. The petitioner is requesting a Modification from the Unified Development Code (Landscaping, Screening, and Buffering) to shift the location of the Conflicting Land Use Buffer. Staff supports this request.

HISTORY

The project was approved by City Council in July 2019. Construction is anticipated to be completed in 2021.

PLANNING BACKGROUND

The Master Plan: Land Use Element recommends multiple-family residential uses for the site.

Cottages at Barton Green Landscape Modification
April 6, 2021 Planning Commission Meeting
Page 2

Prepared by Jeff Kahan
Reviewed by Brett Lenart
mg/4/1/21

Attachments: [Site Plan with Landscaping Plan](#)

c: Owner: Trinitas Development, LLC
201 Main Street, Suite 1000
Lafayette, IN 47901

Petitioners Representative: Scott Betzoldt
Midwestern Consulting, Inc.
3815 Plaza Drive
Ann Arbor, MI 48108

Systems Planning
File No. SP20-032

2601 Pontiac Trl



 Railroads
 Tax Parcels



Map date: 4/15/2021
Any aerial imagery is circa 2020 unless otherwise noted
Terms of use: www.a2gov.org/terms

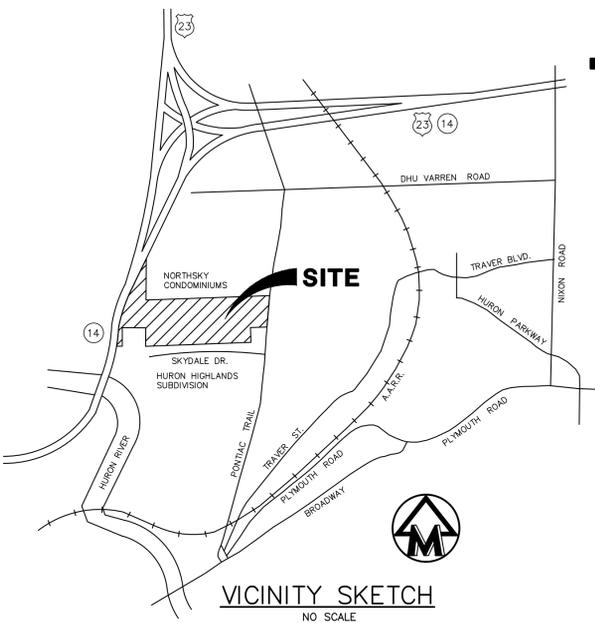
THE COTTAGES AT BARTON GREEN

LOCATED IN THE NW 1/4 OF SECTION 16, T2S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

ADMINISTRATIVE AMENDMENT

Sheet List Table

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	SITE PLAN NOTES AND TABLES
2A	ALTA SURVEY PLAN
3	EXISTING CONDITIONS PLAN (EAST)
4	EXISTING CONDITIONS PLAN (CENTER)
5	EXISTING CONDITIONS PLAN (WEST)
6	TREE INDEX
7	TREE INDEX
8	SITE ANALYSIS AND NATURAL FEATURES PROTECTION PLAN (EAST)
9	SITE ANALYSIS AND NATURAL FEATURES PROTECTION PLAN (CENTER)
10	SITE ANALYSIS AND NATURAL FEATURES PROTECTION PLAN (WEST)
11	DIMENSIONAL SITE PLAN (EAST)
12	DIMENSIONAL SITE PLAN (WEST)
13	UTILITY PLAN (EAST)
14	UTILITY PLAN (WEST)
14A	OVERALL UTILITY PLAN
15	WETLAND MITIGATION AND MONITORING PLAN
16	GRADING & SOIL EROSION CONTROL PLAN (EAST)
17	GRADING & SOIL EROSION CONTROL PLAN (WEST)
18	SOIL EROSION CONTROL DETAILS AND STORMWATER MANAGEMENT PLAN
19	STORMWATER MANAGEMENT PLAN
20	PHASING NARRATIVE & CONSTRUCTION SEQUENCE
21	LANDSCAPE AND MITIGATION PLAN (EAST)
22	LANDSCAPE AND MITIGATION PLAN (WEST)
23	LANDSCAPE NOTES AND DETAILS
24	WOODLAND RESTORATION PAN AND TRASH-RECYCLE TRUCK ACCESS DIAGRAM
25	MISCELLANEOUS SITE DETAILS
26	ALTERNATIVE ANALYSIS (1 & 2)
27	ALTERNATIVE ANALYSIS (3 & 4)
28	FIRE PROTECTION PLAN
29	PHOTOMETRIC PLAN
30	OVERLAY PLAN
RESIDENCES	
A110	BUILDING FLOOR PLANS
A111	BUILDING FLOOR PLANS
A113	TOWNSHOMES T1 BUILDING PLAN
A114	TOWNSHOMES T2 BUILDING PLAN
A120	UNITS PLANS
A121	UNITS PLANS
A122	TH UNIT PLANS
A200	EXTERIOR ELEVATIONS
A201	EXTERIOR ELEVATIONS
A202	EXTERIOR ELEVATIONS
A203	TH T2 EXTERIOR ELEVATIONS
A204	TH T1 EXTERIOR ELEVATIONS
CLUBHOUSE AND MAINTENANCE	
A106	CLUBHOUSE FLOOR PLAN
A107	POOL DECK PLAN AND DETAILS
A200	CLUBHOUSE EXTERIOR ELEVATIONS
A201	CLUBHOUSE EXTERIOR ELEVATIONS
A500	AMENITY PLANS AND ELEVATIONS



DEVELOPER

TRINITAS DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, INDIANA 47901
ATTN: DAMIAN VANMATRE
PH: (765) 807-2713

OWNER

MW LAND, LLC
1419 BURGUNDY COURT
ANN ARBOR, MI 48105
ATTN: SANTOSH MEHRA
PH: (734) 996-0482

ARCHITECT

KJG ARCHITECTURE, INC.
527 SAGAMORE PKWY. W.
SUITE 101
WEST LAFAYETTE, IN 47906
ATTN: BARRY KNECHTEL
PH: (765) 497-4598

ENGINEER/SURVEYOR

MIDWESTERN CONSULTING, L.L.C.
3815 PLAZA DR.
ANN ARBOR, MI. 48108
CONTACT: SCOTT BETZOLDT, P.E.
PH: (734) 995-0200

GENERAL PROJECT DESCRIPTION

This project site is located at 2501 Pontiac Trail on the west side of Pontiac Trail between the Huron Highlands subdivision and the proposed Northsky development, and is currently vacant. The development program includes the construction of 211 fully furnished, market rate, rental apartments and cottages with 682 bedrooms, 422 parking spaces, a Community Building, a Maintenance Building, and site amenities include pools/deck area, basketball court, sand volleyball court, play area, and pathways into the proposed park area. A private shuttle bus service will also be provided. A new public road segment will be constructed to connect from Pontiac Trail to the proposed stub of St. Regis Way on the south edge of the Northsky development. Primary site access will be via four parking lot entries on St. Regis Way. A secondary emergency connection to Skydale Drive is provided at the southeast corner of the site. A significant portion of the wooded west end of the site will be preserved as open space and a 9.86 acre parkland dedication. A 1.95 acre portion of the park dedication area is to be restored as woodland. Landmark and Woodland Tree mitigation is proposed. Tree clearing must be completed before March 31, 2018. Construction of site improvements is scheduled to begin April 1, 2020 and be complete by July 31, 2021.

SITE DATA CHART:

	EX./REQ.	PROPOSED
ZONING:	R4A	R4A
GROSS SITE AREA:	0.5 ACRES	31.93 ACRES
NET SITE AREA (W/O R.O.W.S):	0.5 AC; 21,780 SF	30.59 ACRES ¹
LOT WIDTH:	120 FT	454 FT
LOT AREA / UNIT:	4,300 SF MIN.	6,315 SF
DENSITY:	10.0 DU/A MAX.	6.90 DU/A
	314 DU MAX.	211 DU
SPACE USE SUMMARY:		
BUILDING FOOTPRINTS		142,860 SF
PARKING, DRIVES, TRASH AREAS		158,681 SF
USEABLE OPEN SPACE	65% MIN.	1,011,013 SF ²
		23.2 AC/75.9%
ZONING COMPARISON INFORMATION:		
FRONT SETBACK: East, West, St. Regis W.	15 - 40 FT	15 - 40 FT
SIDE SETBACK: North, South	20 FT ³	23.50 FT MIN.
REAR SETBACK: West	30 FT ⁴	324.0 FT MIN.
BUILDING HEIGHT:	35 FT ⁵	34.75 FT MAX.
BUILDING SPACING:	20 FT MIN.	20 FT MIN.
CONFLICTING LAND USE BUFFER:	15 FT MIN. ⁶	15 FT MIN.

VEHICULAR PARKING

Type of Space	Required	Provided
9' spaces	413	408
BF spaces	7	8
BFV spaces	2	6
TOTAL	422*	422*

* 2 spaces / unit required
2 spaces / unit provided
0.69 spaces / bedroom

**Plan depicts 137 deferred parking spaces to be constructed at a later date if developer demonstrates additional parking is warranted.

BICYCLE PARKING*

Type of Space	Required	Provided
Class A spaces	23	24
Class B spaces	0	90
Class C spaces	22	180
TOTAL	45**	294**

* Some residents will also store bikes on balconies (Class C) or inside their unit (Class A).

** 1 space / 5 units required
50% Class A
50% Class C
6.65 spaces / 5 units provided

NOTES:

- Per Chapter 49, Section 4.58 of the City code, "all sidewalks within the City shall be kept and maintained in good repair by the owner of the land adjacent to and abutting upon the same." Prior to the issuance of the final Certificate of Occupancy for this site, all existing sidewalks in need of repair must be repaired in accordance with City standards.
- "All work within the City of Ann Arbor covered by these plans shall be performed in complete conformance with the current City of Ann Arbor Public Services Department Standard Specifications and Details."
- "The omission of any current standard detail does not relieve the contractor from this requirement. The work shall be performed in complete conformance with the current public services standard specifications and details."
- Sidewalks constructed in the public right-of-way shall meet all requirements and guidelines as set forth in the ADA standards for accessible design. Sidewalk and curb ramp grades will be reviewed during construction plan submittals. Per Chapter 49, Section 4.68 of the City code, "all sidewalks are to be kept and maintained in good repair by the owner of the land adjacent to and abutting upon the same." Prior to the issuance of the final Certificate of Occupancy for this site, all existing sidewalks in need of repair must be repaired in accordance with City standards.
- The owner agrees to use only landscape care products that have no phosphates. The northeast corner of the site outlets to the east to the Traver Creek watershed. The center and west portions of the site outlet to the south to the Huron River.
- Recycle and trash pickup is to be public. Trash and recycling will be stored in screened enclosures. Each enclosure will have one six-yard dumpster for trash and one six-yard dumpster for recycling. The schedule and frequency of pickup will be adjusted to provide the required service. The City of Ann Arbor has a single hauler for all commercial refuse collection in the City, which began July 1, 2009. The City's single hauler commercial refuse collection program has the following features: A commercial refuse collection contract has been signed with Waste Management of Michigan, Inc. (WMM). WMM will be providing collection and container rental services for all commercial refuse collection service orders requested by the City. WMM was selected to provide these services through a competitive procurement. The service contract extends through June 30, 2017, with one option to extend until June 20, 2019.
- In the event a City owned utility requires repair or maintenance that damages any bioswale, permeable paver area, or landscaping it will be the responsibility of the property owner to repair these site features.

This Administrative Amendment of the approved Barton Green site plan, submitted on November 25, 2020 includes revisions to the dimensional site plan and landscaping plan.

CONFLICTING LAND USE BUFFER

During the process of installation of the utilities it was required by DTE to provide an access easement to the utility poles along the property line south of detention basin 2 and the eastern portion of the clubhouse building. This easement requires moving the conflicting land use buffer landscaping plantings north outside of the easement. All landscape plantings will be maintained in the same location along the property line, just moved 12 foot north from the property line outside of the easement.

GRADING

The berm area south of the detention basin 2 has been revised to accommodate the utility easement as well.

INTEGRAL WALK

The areas of integral walk in front of buildings have been revised to concrete curb and gutter with a standard sidewalk behind the curb. It is required to have a paved surface in place for fire access during the building construction phase. The pavement limits need an edge to place the asphalt against. Since it is inevitable that some of this will need replaced after building construction, it is less expensive to replace damaged curb rather than integral walk.

TRASH COLLECTION

A reassessment by the developer of the number of trash areas has led to the reduction of the number of areas from ten to seven. Lawn and landscaping trees will be provided in these areas.

WEST FRONT SETBACK
15'-40'

OPEN SPACE/
PARK AREA
9.86 AC.

WEST REAR SETBACK
30' MIN.

SCHEMATIC
PATH LAYOUT

NORTHSKY CONDOMINIUMS

NORTH SIDE SETBACK
20' MIN.

EAST FRONT SETBACK
15'-40'

ST. REGIS FRONT SETBACK
15'-40'

SOUTH SIDE SETBACK
20' MIN.

HURON HIGHLANDS SUBDIVISION

SCALE: 1"=100'

REVISIONS:	REV. DATE	REV. DATE
ADMINISTRATIVE AMENDMENT REVISIONS	2/2/21	SHEET 1 OF 49
ADMINISTRATIVE AMENDMENT	11/25/20	
PER CITY REVIEW	6/23/20	
PER CITY REVIEW	5/26/20	
PER CITY REVIEW	2/6/20	
ADMINISTRATIVE AMENDMENT	11/11/19	
REVISED PER AGREEMENT	6/20/19	
REVISED PER AGREEMENT	6/7/19	
ADDED PLANTINGS TO SKYDALE	5/3/18	
PER CITY REVIEW	2/8/18	

COTTAGES AT BARTON GREEN

JOB No. 16223	DATE: 5/25/17	1
REVISIONS:	SHEET 1 OF 49	
REV. PER CITY/COUNTY	7/12/17	CADD:
REV. PER COUNTY	8/16/17	ENG: JCA
REV. PER CITY/COUNTY	9/5/17	PM: SWB
REV. PER CITY	10/12/17	TECH:
REV. PER CITY	11/15/17	16223CV1.DWG
REV. PER CITY	11/23/18	FBF

MIDWESTERN CONSULTING
3815 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

RELEASED FOR	DATE
SITE PLAN SUBMITTAL	5/25/17
WCWRC	8/16/17

SCOTT W. BETZOLDT
P.E. # 38141

AREA PLAN REQUIREMENTS

1. DEVELOPMENT PROGRAM SUMMARY

The Cottages at Barton Green is a proposed residential community in northeast Ann Arbor, at 2601 Pontiac Trail, conveniently located with respect to North Campus, the UM Medical Campus, VA Hospital and the North Campus Research Center. The developer of this project is Trinitas Development, LLC from Lafayette, Indiana. Trinitas Development was established in 2002. They currently own and manage nearly \$300 million in student housing assets consisting of more than 2,800 student housing beds. Consultants include Midwestern Consulting and K.J.G Architecture, Inc. The proposed housing consists of fully furnished, market rate, rental apartments in 65 buildings, plus a Community Building and a Maintenance Building. The apartments will include a mix of one to five bedroom units. Exterior elevations and design will be cottage style.

(a) Proposed Land Use

The Cottages at Barton Green will be developed as a market rate rental apartment complex with 211 units / 682 bedrooms contained in 65 residential style buildings. A Community Building (leasing/management offices, computer lounge, television lounge, game lounge, yoga room, fitness center, learning room, kitchen and study rooms), a deck and pool area, a basketball court, a sand volleyball court, a tot lot, and an extensive sidewalk, and trails in the open space area.

(b) Phasing and Construction Cost

(1) Preliminary Phasing: The Cottages at Barton Green will be developed in three phases starting March 1, 2020. Construction is expected to be complete by July 31, 2021. The phasing narrative explains this process in detail. (2) Preliminary Cost Estimate: The combined estimated total project construction cost, including on-site and off-site improvements, structures, landscaping and site amenities is approximately \$26 million.

2. COMMUNITY ANALYSIS

(a) Impact on Public Schools: The Petitioners experience with this type of residential housing would be a very low number of students attending the school for pedestrians or bicycles. There will be walks and paths internally throughout the site, along Pontiac Trail, and connecting to Skydale Drive. Public road right-of-way will allow the general public to enter the development and have access to the public streets within the Northsky subdivision. (b) Relationship with Neighboring Uses: The proposed development is in accordance with the existing Master Plan for the City of Ann Arbor, which is based on existing and projected uses. North of Site: The north side of the site is the Northsky development, approved but not yet constructed: 6.36 Dwelling Units per Acre, a mix of 139 single family and 56 multifamily units. Construction is expected to begin in 2017.

(c) Impact on Adjacent Uses: The proposed development will have no negative impact on existing uses around the site and will provide an open space/parkland link between developments north and south of the site. (d) Impact of Air Quality: Only a minimal effect of the development on air quality would arise from an increase in traffic. Water Quality: The site will be impacted by the development. The water discharge in accordance with City of Ann Arbor and Washtenaw County Water Resources Commission standards. The stormwater discharges to the existing public storm sewers in Pontiac Trail (northeast) and Skydale Drive (south). Detention basins will collect storm water, infiltrate some of the water into the ground and the area permit will utilize sheet flow to be filtered out of the runoff prior to discharge into the storm sewers. Water quality will not be adversely impacted by this development.

(e) Impact of Air Quality: Only a minimal effect of the development on air quality would arise from an increase in traffic. Water Quality: The site will be impacted by the development. The water discharge in accordance with City of Ann Arbor and Washtenaw County Water Resources Commission standards. The stormwater discharges to the existing public storm sewers in Pontiac Trail (northeast) and Skydale Drive (south). Detention basins will collect storm water, infiltrate some of the water into the ground and the area permit will utilize sheet flow to be filtered out of the runoff prior to discharge into the storm sewers. Water quality will not be adversely impacted by this development.

3. SITE ANALYSIS

(a) Existing Land Use: The existing land use of the parcel is vacant. The land has been tiled for decades with the exception of areas that have been taken out of the farm lands for various reasons. Farming ceased in the late 1950's and early 1960's. (b) Site Conditions: Soils: The Custom Soil Resource Report for Washtenaw County shows the site soils to be mostly type B soils: WawabB- Wawasee loam, 2-6% WawabC- Wawasee loam, 6-12% WawabD- Wawasee loam, 12-18% Smaller areas of the site are type D soils: F0C- Fox sandy loam, 6-12% M0A- Matherton sandy loam, 0-4%

Topography ranges from 936 USGS down to 857 USGS. Site Vegetation: most of the site has been cleared. The remaining vegetation is shown on the natural features plan as landmark trees and woodlands.

(c) Existing Topography: See the Existing Conditions and Survey Plans. Natural Features Description: (i) No endangered species or habitat are known to exist on-site. (ii) There is no 100-year floodplain on-site. (iii) The 2 landmark Trees on site are shown on the Existing Conditions Plans. (iv) Steep slopes are shown on the Existing Conditions Plans. (v) There are no permanent watercourses on the site. (vi) The site contains three potential wetlands. The largest one is located in the open space area to be preserved near the west edge of the site. A small finger wetland exists along the south property line. This wetland is the result of grading activities for the Huron Highlands subdivision. The west end of this wetland terminates at an existing storm sewer and section that leads to the existing public storm sewer in Skydale Drive. A tiny, low quality wetland is located approximately in the center of the site. It has little wetland vegetation, no hydric soils, and is likely the result of a buried farm tile and is not considered to be a wetland. (vii) There are five woodlands (labeled Woodland A-E) on the site that are of variable level quality. Basal area and species are noted in detail on the Site Analysis Plans. Most of the woodlands with the exception of the hedgerows are comprised of 6-inch to 15-inch cherry, elm, ash, box elder, shagbark hickory and locust. There is an area identified by city staff as a native forest fragment that is shown on the natural features plan as Woodland C. There are landmark trees on the site, located predominantly along the perimeter boundary that would have once been the hedgerows of the farm field. Most of these landmark trees will remain.

(d) Existing Structures: there are no existing structures on the site. (e) Existing and Proposed Vehicular, Pedestrian and Bicycle Ways and Access Points: Vehicular: The site has access through on a proposed public street that will connect from Pontiac Trail to the stub of St. Regis Way (shown as proposed on the Northsky site plan). A secondary emergency access is proposed to connect to Skydale Drive near the southwest corner of the site. There is a public bus route on Pontiac Trail and a bus stop on the site frontage. Two shuttles operating 5 days per week - campus 7AM - 7PM daily (approximately) One late night shuttle operating Thr/Fri/Sat - 9 AM to 2 or 3 AM (depending on when bars close) One weekend shuttle offering run to campus and grocery store - 9 AM - 2 PM Approximately 20 to 30 min cycles each shuttle

(f) Pedestrian and Bicycle: There are currently no paths or walks along Pontiac Trail in the general vicinity of the site for pedestrians or bicycles. There will be walks and paths internally throughout the site, along Pontiac Trail, and connecting to Skydale Drive. Public road right-of-way will allow the general public to enter the development and have access to the public streets within the Northsky subdivision. (g) Utilities: Water: Water will be available through connection to an existing 24" watermain along the west side of Pontiac Trail and a proposed 12" main along the west side St. Regis Way. The watermain will be looped through the site to link to Northsky and Huron Highlands. A secondary watermain connection on the west side of the Northsky south detention basin will provide an additional loop. Off-site water main improvements will also be constructed at the Pontiac Trail / Skydale Drive and Hilldale Drive / Cloverdale Drive intersections. Hydrants will supply fire protection. Sanitary Sewer: The development will also operate a private shuttle bus service: connection to an existing sanitary sewer in Pontiac Trail and another at the curb out on Skydale Drive. Storm Sewer: Storm sewer will collect and drain stormwater runoff to the detention basins at the north and south ends of the site. These will discharge into existing public storm sewers in Pontiac Trail and Skydale Drive. A public storm sewer in a 30 foot wide easement will provide drainage from the Northsky detention basin, bypassing the proposed Cottages detention system, and connecting to the existing public storm sewer in Skydale Drive.

(h) Existing and Proposed General Drainage Pattern of the Site and Adjoining Area: Existing drainage patterns are shown on the Site Analysis Plans. The boundary of the site along the Pontiac Trail right-of-way. Central portion of the site where most of the proposed development will be located drains to the south towards Skydale Drive. The majority of the proposed park and open space area at the west end of the site drains to the southwest. The proposed drainage system will follow the same general pattern and will be completed in the area permit will utilize sheet flow to be filtered out of the runoff prior to discharge into the storm water and release the runoff at a pre-developed rate of discharge. (i) Summary in Form of Overlay of Proposed Land Use on Existing Conditions and Natural Features: see Overlay Plan.

4. SCHEMATIC DESIGN

(a) Comparison Chart Showing Proposed Development and City Regulations: See Dimensional Site Plans. (b) Existing Topography and Limits of Soil Disturbance: See Existing Conditions Plans and Grading Plans. (c) Orientation and General Location of All Proposed Improvements: See Dimensional Site Plans and Natural Features Overlay Plan. (d) Vertical Sections through Site Showing Existing and Proposed Elevations when Development Program will Result in Significant Change in a Steep Slope: See Site Cross Sections. (e) Proposed Circulation Patterns On-Site (pedestrian, vehicular, service, etc.): See Dimensional Site Plans. (f) Proposed Lot Lines and Setback Lines: See Dimensional Site Plans. (g) Areas of Natural Features Proposed to be Removed or Disturbed and General Description of Mitigation Plans: Landmark and Woodland Trees to be Removed: see Landscape Requirements on the Landscape Plans. See proposed Mitigation on the Landscape Plans. Steep Slopes: There is a small area of 20% steep slopes on the Pontiac Trail frontage that will be impacted by the development. This area will be mass graded to provide a storm water detention basin. Adjacent buildings will have walk out basement levels to take advantage of the grade change. The revised slope will be stabilized with retaining wall and landscaping. Several small areas of steep slopes are located in the central portion of the site and will be removed. Additional steep slopes are located within the open space area at the west end of the site and will remain undisturbed. Wetlands to be Removed: The on-site portion of Wetland 'A' is to be removed. See proposed Mitigation and Monitoring Plan on sheet 15.

5. GENERAL INFORMATION

In addition to the above, the following shall be made a part of the total submission. (a) Project Name: The Cottages at Barton Green (b) Name, Address and Telephone Number of the Petitioner, Architect, Engineer or Designer: See Cover Sheet. (c) North Indicator and Drawing Scale in Bar Graph Form: See all drawings. (d) Existing and Proposed Zoning: RAA. (e) Total Approximate Floor Area of the Proposed Buildings: 340,416 sq gross floor area; this includes 65 apartment buildings with 2 or 3 levels of units, a Community Building that is 1-story, and a 1-story Maintenance Building. (f) Approximate Proposed Height Of The Structures: 34.75 foot ht. maximum - See Building Elevations. (g) Statement of Interest in Land, including conditions for sale or purchase of parcel such as deed restrictions, reservation of land for other uses or other conditions which may have bearing on the total land development. (h) Property is under contract to Trinitas Development, LLC, 201 Main Street, Suite 1000, Lafayette, IN 47901, which is an Indiana corporation. (i) Maps of Applicant's Entire Holding and Interest in Land Contiguous to Proposed Development: The applicant's entire holding includes the project site only. See Existing Conditions Plan. (j) Vicinity Map of All Property within 250 ft of Development, showing streets, easements, zoning, drainage, and land uses: See Cover sheet and Existing Conditions Plans. (k) Time Schedule Indicating Anticipated Starting and Completion Dates of Development: Start: March 1, 2020; Complete: March 31, 2021. (l) Location and Identification of All Public Areas and Municipal Corporation: Lines within or adjacent to Site: The site is entirely in the City of Ann Arbor. See Existing Conditions Plans. (m) Legal Description of Parcel, including total acreage of the parcel and total acreage of public roads contained in the legal description: See Existing Conditions for legal descriptions. One High Quality Copy of the Proposed Plan Reduced to 8-1/2" by 11" format: Included in package, electronic files are now provided.

SITE PLAN REQUIREMENTS:

- (1) Comparison Chart Showing Proposed Development and City Regulations: See the site data charts and tables on the Cover Sheet. (2) Number and Type of Dwelling Units Proposed, including the number of bedrooms: The Development Program includes 211 fully furnished, market rate, rental apartments including a mix of one bedroom to five bedroom units, with a total of 682 bedrooms. (3) Height, Number of Stories, and Placement of Proposed Structures and Accessory Structures, together with scaled massing elevation drawing showing the existing and proposed exterior dimensions as viewed from all public streets, and including the elevations of the adjacent buildings within 100 feet: See Site Cross Section. The proposed single, duplex and quadplex apartment buildings are 2-story, maximum 24.5 feet height. The proposed townhouse apartment buildings (TH1 and TH2) are 3-story, maximum 34.75 foot height. The Community Building is 1-story, maximum 22.5 feet height. The Maintenance Building is 1-story, maximum 14 foot height. The only buildings within 100 feet of the site are the 1 and 2-story single family homes in the Huron Highlands subdivision to the south. (4) Number and Dimensions of Parking Spaces, a Photometric Plan, and Other Requirements in Compliance with Chapter 59, Off-Street Parking, of the Ann Arbor Code of Ordinances: See Cover Sheet Development Summary, Dimensional Site Plans and Photometric Plan Required vehicular parking is 2 spaces per unit / 422 spaces. Vehicular parking is provided at the rate of 2 spaces per unit/62 spaces per bedroom, with a total of 422 spaces. 137 additional spaces have been indicated as "deferred" on the Dimensional Site Plan and may be paved with porous material at a later time. Bicycle parking is provided at the rate of 1.33 spaces per unit including 22 spaces at the Community Building; 24 Class A spaces, 90 Class B spaces, 180 Class C spaces; total of 294 spaces. Some residents will also likely store their bikes on balconies (Class C) or inside their units (Class A). (5) Required and Proposed Front, Rear and Side Open Space and Setback Lines, and Any Proposed Lot Lines: See Dimensional Site Plans. All requirements of the RAA zoning district are met. (6) Placement, Height and Type of Construction of All Fences and Walls, in Compliance with Chapter 104, Fences, of the Ann Arbor Code of Ordinances: See architectural plans for code required fences around the deck / pool area. Retaining walls are proposed in various areas throughout this hilly site as shown on the Dimensional Site Plan. Fences are proposed at the top of wall where wall height exceeds 30 inches. See fence details on the Landscape Notes and Details sheet. Six-foot height screen walls are provided around the trash areas. (7) Refuse Collection and Storage Stations, Number of Receptacles, and Screening in Compliance with Chapter 26, Refuse, of the Ann Arbor Code of Ordinances, and a Statement as to Whether Public or Private Pick-up will be provided: See Dimensional Site Plans and Miscellaneous Site Details. Trash areas are located throughout the site as shown on the Dimensional Site Plans. Each trash area has a dumpster for trash and a dumpster for recycling. Screening is provided as described in item (6) above. Trash pickup is to be public. (8) Location of Existing Structures and Driveway Curb Cuts Adjacent to the Property: See Existing Conditions Plans. (9) Existing and Proposed Topographic Contours at 1' foot Intervals, including Area for a minimum 50 foot beyond property line. With permission of Building Director, spot elevations may be substituted for contours on developed sites where limited changes are proposed to existing topography: See Existing Conditions Plans proposed Grading Plans and Soil Erosion Control Plans. (10) Proposed Landscaping in Compliance with Chapter 62, Landscape and Screening, of the Ann Arbor Code of Ordinances: See Landscape Requirements notes and calculations on Landscape Notes and Details. (11) A Soil Erosion and Sedimentation Control Plan in Compliance with Chapter 63, Soil Erosion and Sedimentation Control, of the Ann Arbor Code of Ordinances: See the Soil Erosion Control Plan. (12) Drainage Area and Direction of Flow of Land Tributary to Site and Proposed Storm Water Management Plan in Compliance with Chapter 63, Soil Erosion and Sedimentation Control, of the Ann Arbor Code of Ordinances: See Stormwater Management Plan and Soil Erosion Control Plans. (13) All Existing and Proposed Streets, Driveways, and Curb Cuts with Dimensions, in Compliance with Chapter 47, Streets, of the Ann Arbor Code of Ordinances, and Public Services Department Standards: See Existing Conditions Plans and Dimensional Site Plans. A new public road is proposed to connect from Pontiac Trail to the proposed stub of St. Regis Way that is part of the Northsky development. Four curb cuts are proposed along this new road segment. A secondary, gated, emergency access curb cut is proposed in the southwest area of the site at Skydale Drive. (14) All Existing and Proposed Water Lines, Sanitary Sewer Lines, and Storm Sewer Lines, together with Proposed Side, Elevations, Easements and Other Information as Required by the Public Services Director, in Compliance with the Public Services Department Standards: See Existing Conditions Plans and Utility Plans. (15) Provision of Street Trees as Required in the Street Tree Escrow Regulations, Attachment C of the Land Development Regulations: See Landscape Notes and Details for Street Tree Escrow calculation for Pontiac Trail and St. Regis Way frontages. (16) Information Required in Traffic Impact Analysis Regulations, Attachment D of the Land Development Regulations: The Traffic Study has been submitted separately. (17) A Field Survey of Archaeological Resources, if Determined Necessary by City Staff Following the Archaeological Review Process, Attachment B of the Land Development Regulations: To follow if required. (18) In Addition to a General Description of All Site Natural Features and within 50 feet beyond property line shown as part of required site analysis, the accurate location and description of all natural features within limits of soil disturbance and in an area extending 50 feet beyond the limits of soil disturbance, including: (a) Limits of Soil Disturbance: See Grading Plan. (b) Boundary and Description of any Endangered Species Habitat: Not applicable. (c) Boundary and Elevation of Any 100-Year Floodplain: See Existing Conditions Plan; there is no FEMA mapped flood plain on the site. (d) Location, Species, Critical Root Zone and Conditions of Landmark Trees: See Existing Conditions Plan, Natural Features Analysis, and Landmark Tree Health reports. (e) Location of All Steep Slopes and Cross Section through the Site Showing Proposed Adjoining Topography: See Existing Conditions Plans and the Site Cross Section. There is a small area of 20% steep slopes on the Pontiac Trail frontage that will be impacted by the development. This area will be mass graded to provide a storm water detention basin. Adjacent buildings will have walk out basement levels to take advantage of the grade change. The revised slope will be stabilized with retaining wall and landscaping. Several small areas of steep slopes are located in the central portion of the site and will be removed. Additional steep slopes are located within the open space area at the west end of the site and will remain undisturbed.

- (f) Existing and Proposed Watercourses Showing Depths, Normal Water Levels, Shore Gradients, type of Bank Retention and Shore Vegetation: Not applicable. (g) Boundary and Location of All Wetlands, as required by Chapter 63, Wetlands Preservation, of the Ann Arbor Code of Ordinances: See Existing Conditions Plans - Overall for wetland locations. The site contains two identified wetlands. The larger one (0.19 acres on-site) is located in the open space area to be preserved near the west edge of the site and extends onto the parcel to the west. This is a higher quality wetland, partially wooded, and to remain undisturbed in the park / open space area. A small finger wetland (0.05 acres) exists along the south property line. This wetland is lower quality and is the result of grading activities for the Huron Highlands subdivision. It appears that an existing farm field drain tile may discharge into the east end of the wetland. This tile will be removed during mass grading of the site. The wetland is located in the RAA zoning district maximum and required a Planned Project Site Plan. The on-site portion of a third potential wetland of less than 0.02 acres located approximately in the middle of the site was evaluated and determined to not be a wetland. It has little wetland vegetation, no hydric soils and is likely also the result of a buried farm tile. This area will also be removed during mass grading. (h) Boundary and Basal Area of Any Woodland, with Location, Species, and DBH of all Trees 6 inches DBH or Greater within the Woodland Area: There are five woodlands (labeled Woodland A-E) on the site that are of variable level quality. Basal area and species are noted in detail on Site Analysis Plans. Most of the woodlands with the exception of the hedgerows are comprised of 6-inch to 15-inch cherry, elm, ash, box elder, shagbark hickory and locust. There is an area identified by city staff as a native forest fragment that is shown on the natural features plan as Woodland C. There are landmark trees on the site, located predominantly along the perimeter boundary that would have once been the hedgerows of the farm field. Most of these landmark trees will remain. Tree removals are shown on the Existing Conditions Plans. Proposed mitigation calculations and plantings are shown on the Landscape Plans. Silt fence and construction fence will be provided to protect trees to remain where shown on the Site Analysis and Natural Features Protection Plans and the Grading and Soil Erosion Control Plans. (i) Location and Extent of Required Natural Features Open Space, in Compliance with Chapter 55, Zoning, of the Ann Arbor Code of Ordinances: See Existing Conditions Plan - Overall. (j) Natural Features Statement of Impact, including a Natural Features Protection Plan, an Alternative Analysis, and a Natural Features Mitigation Plan, as required by Chapter 57, Attachment A to the Land Development Regulations, Guidelines for the Protection and Mitigation of Natural Features: This statement shall be provided by City Staff when reviewing proposed site plans and plans for site containing natural features.

Wetland Impacts: The site contains two identified wetlands. The larger one (0.19 acres) is on-site is located in the open space area to be preserved near the west edge of the site and extends onto the parcel to the west. This is a higher quality wetland, partially wooded, and is to remain undisturbed within the proposed park/open space area. A small finger wetland (0.05 acres) exists along the south property line. This wetland is lower quality and is the result of grading activities for the Huron Highlands subdivision. This wetland terminates at the west end at an existing storm sewer end section. The on-site portion of this wetland is to be removed. The Natural Features Open Space around Wetland 'B' will be disturbed and restored for construction of the wetland mitigation area. Wetlands to be Removed: The on-site portion of Wetland 'A' is to be removed. See proposed Mitigation and Monitoring Plan on sheet 15. A third potential wetland of less than 0.02 acres is located approximately in the middle of the site. This area is identified by city staff as a native forest fragment that is shown on the natural features plan as Woodland C. This area will be removed during mass grading. Wetland areas to remain will be protected during construction with silt fencing and construction fencing as shown on the Site Analysis Notes and Details.

Analysis and Natural Features Protection Plans and the Grading and Soil Erosion Control Plans. A City of Ann Arbor Wetland Use application has been submitted with this Site Plan submission. (a) Wetland Impacts: There are five woodlands (labeled Woodland A-E) on the site that are of variable level quality. Basal area and species are noted in detail on the Site Analysis Plans. Most of the woodlands with the exception of the hedgerows are comprised of 6-inch to 15-inch cherry, elm, ash, box elder, shagbark hickory and locust. There is an area identified by city staff as a native forest fragment that is shown on the natural features plan as Woodland C. There are landmark trees on the site, located predominantly along the perimeter boundary that would have once been the hedgerows of the farm field. Most of these landmark trees will remain. Tree removals are shown on the Existing Conditions Plans. Proposed mitigation calculations and plantings are shown on the Landscape Plans. Silt fence and construction fence will be provided to protect trees to remain where shown on the Site Analysis and Natural Features Protection Plans and the Grading and Soil Erosion Control Plans. (b) Steep Slope Impacts: There is a small area of 20% steep slopes on the Pontiac Trail frontage that will be impacted by the development. This area will be mass graded to provide a storm water detention basin. Adjacent buildings will have walk out basement levels to take advantage of the grade change. The revised slope will be stabilized with retaining wall and landscaping. Several small areas of steep slopes are located in the central portion of the site and will be removed. Additional steep slopes are located within the open space area at the west end of the site and will remain undisturbed. Limits of disturbance will be defined by the silt fence and construction fence locations shown on the Site Analysis and Natural Features Protection Plans and the Grading and Soil Erosion Control Plans. (c) Public Interest: In order to determine that the proposed disturbance of the Natural Features is in the public interest, the benefit that would reasonably be expected to accrue from the proposal was evaluated according to the criteria listed in the referenced section as follows: (a) The private need is to remove the small, low quality finger wetland, to remove and mitigate Landmark and Woodland Trees, and to impact small areas of steep slopes to create a usable development site for market rate, rental housing with a mix of one to four bedroom units, and to provide a public storm sewer within a 30-foot wide easement to drain the Northsky detention basin to the public sewer at Skydale Drive. The public need is to provide needed additional apartments, add to the tax base, support local commercial uses, provide storm water management for the site, improve the water quality, loop the water main through the site, link the water main to the subdivision to the south and the development to the north, and construct off-site water main improvements at the intersections of Pontiac Trail / Skydale Drive, and Hilldale Drive / Cloverdale Drive. The public need is served by providing additional fill housing within the City rather than by additional suburban development. The public need is also served by allowing the removal of invasive species, and the removal and mitigation of Landmark and Woodland Trees to permit appropriate mass grading of the site. The public need is served by allowing impacts on the steep slopes at the northeast bedrooms corner of the site to create a storm water treatment detention facility that will reduce the rate of runoff and improve water quality. (b) There are no feasible alternatives that would be less disruptive or more prudent.

MAXIMUM DEVELOPMENT CONCEPT ALTERNATIVE: The Master Plan indicates a density of 7 to 10 units per acre on this site that would permit 217 to 310 apartments. Assuming these are all six-bedroom units, there could be 1,302 to 1,860 on this site. Parking would be an issue for such a development program and providing only the required 2 spaces per unit (434 to 620 spaces) would be well under the number of parking spaces actually required. Constructing close to the typical one space per bedroom in the type of development would require acres of additional tree removals, mass grading and paving. This maximum development alternative is perhaps the least feasible and the least prudent for this location.

ALTERNATIVE 1: THE PREVIOUS BARTON GREEN SITE PLAN: This is the previously approved Barton Green Site Plan. The development program was 260 units of upscale condominiums, townhouses and stacked flats, intended for first time buyers, empty nesters, and trade-up condominium buyers. The apartment buildings were larger and taller than the currently proposed cottages and included the parking. The building height exceeded the RAA zoning district maximum and required a Planned Project Site Plan. The units were a mix of two and three bedrooms, each with two full baths, and ranging from 980 to 2,577 square feet in floor area. The Barton Green Site Plan is as follows. ALTERNATIVE 2 (dated 10/14/16): This concept was done after the previous Site Analysis was updated to show revision of the Northsky site plan and improvements to Pontiac Trail. The concept was done prior to doing new soil borings and infiltration test pits. The intent is to create a village atmosphere with all residential buildings being two-story cottages. In order to achieve anything like the density of 7-10 dwelling units per acre indicated in the City's Master Plan, the developed area is of necessity larger than that of the Barton Green Site Plan. In addition, the program is revised to provide rental apartments primarily for students and young professionals. This requires a higher ratio of parking per unit than the 2 spaces per unit specified in the RAA district. The smaller residential units to reduce the overall mass grading required by stepping this buildings down the slopes. The smaller buildings are also more compatible with the existing adjacent Huron Highlands subdivision to the south and proposed Northsky development to the north. Additional impacts on natural features include removals of more Landmark and Woodland trees. ALTERNATIVE 3 (dated 2/2/16, s.l.c.): This concept was also done prior to doing soil borings and infiltration test pits. The development concept is a village like collection of smaller cottage style units. Apartments are all two story cottages and include one, two, and four unit buildings. Buildings adjacent to Huron Highlands are two story cottages rather than three story townhouses as shown in the previously approved Barton Green site plan. The proposed 61 dwelling units per acre density (DUA) is less than the 7-10 DUA recommended in the Master Plan. Buildings 61 to 70 were placed with minimum setbacks along the south property line, adjacent to existing homes in Huron Highlands. This concept includes a proposed public road segment from Pontiac Trail to the St. Regis Way stub shown on the Northsky site plans. The storm detention basin locations are based on the existing topography, without having the results of the infiltration tests. The most suitable soils for infiltration were found later in the locations of buildings 62 to 75 and the Community Building. Other areas where some infiltration could occur are east of buildings 5 to 8 (northeast corner of the site), and west of buildings 66-69 (southwest portion of the site). This alternative provides smaller open spaces within the area of the site to be developed and has a greater impact on the natural features by disturbing an additional 1,000 of wetlands, 20,100 of woodland, and 74 ac of the 1 ac native forest fragment.

ALTERNATIVE 4: This concept was submitted to the City for review. The layout had been adjusted per soil infiltration testing results. The proposed density was 7 to 10 DUA by adding two 3-story townhouse buildings. These larger buildings are located interior to the site. All residential structures adjacent to Huron Highlands and Northsky are one or two stories. The proposed vehicular access to Skydale Drive was revised to be a gated fire lane / emergency access only as preferred by the Huron Highlands residents. All of The Cottages at Barton Green alternatives provide smaller open spaces within the area of the site to be developed as compared to the previous Barton Green Site Plan. They also have a greater impact on the natural features by disturbing the 0.05-acre wetland along the south edge of the site, and removing and mitigating additional Landmark and Woodland trees. ALTERNATIVE 5: This is the current "The Cottages at Barton Green" proposed Site Plan. The proposed density has been increased to 6.90 DUA by adding additional 3-story townhouse buildings and revising duplex types. The larger buildings are all located interior to the site. All structures adjacent to Huron Highlands and Northsky are one or two stories. The proposed vehicular access to Skydale Drive has been revised to be an open curb cut per City staff comments. The site layout has been revised to reduce impacts on woodlands and landmark trees, particularly north of building 56, and west of buildings 57 and 58. The proposed park dedication area in the western portion of the site has been increased from 7.12 acres to 9.86 acres.

(c) The probable impact of construction in relation to the cumulative effect created by other existing and anticipated activities in or near the "natural feature" to be protected is positive. The low quality finger wetland mosquito breeding area will be removed. The Landmark and Woodland Trees that will be removed will be replaced with new tree plantings. Runoff that now drains from the proposed areas of development and over steep slopes will be intercepted, treated, and released at a controlled rate from detention basins. The steep slopes will be reconfigured and stabilized. There will be minimal soil erosion. The probable impact on recognized historic, cultural, scenic, ecological, or recreational values is limited to the removal of the small wetland, removal and replacement of some Landmark and Woodland Trees, and grading and stabilization of small areas of steep slopes. The impact on fish, wildlife and public health will be positive since the large open space and park area will create a consolidated natural area in perpetuity along the west end of the site. This will provide habitat and opportunity for wildlife populations to increase. (d) The runoff that feeds the wetland at the southwest corner will continue to sustain that feature. The removal of the small finger wetland results in a loss of 0.05 acres (2,178 square feet) of wetland/mosquito breeding area adjacent to the Huron Highlands subdivision. (e) The total wetland area is decreased by less than 0.07 acres, approximately 2,878 square feet. (f) The Natural Features Open Space (NFOS) area associated with the finger wetland will remain as an open space area. The quality of the NFOS will be improved and the area will be reestablished with a native seed mix. The proximity of the proposed activity in relation to the natural feature is shown on the plans. Soils: The Custom Soil Resource Report for Washtenaw County shows the site soils to be mostly type B soils: WawabB- Wawasee loam, 2-6% WawabC- Wawasee loam, 6-12% WawabD- Wawasee loam, 12-18% Smaller areas of the site are type D soils: F0C- Fox sandy loam, 6-12% M0A- Matherton sandy loam, 0-4% These soils should not create any extraordinary excavation problems. Typical soil profiles are shown in the boring logs on the plans. These soils should not create any extraordinary excavation problems. Hydric or wetland type soils are limited to areas that are not in proposed building or pavement areas. Test pits show primary infiltration opportunities to be where the storm detention basin is proposed in the southeast portion of the site. (g) The economic value, both public and private, of the proposed activity and economic value, both public and private, if the proposed activity were not permitted is a multimillion dollar property tax loss for the City, loss of new market rate, rental apartments, and loss of income for the developer. The conclusion of the economic analysis is that the site plan proposes reasonable environmental impacts and appropriate Landmark and Woodland Tree mitigation that improves the environment. From an economic value point of view, the wetland impact and the disturbance of the NFOS creates a feasible building site for a viable market rate rental apartment development.

BUILDING HEIGHT, FOOTPRINT AND GROSS FLOOR AREA TABLE

Building Type	Number of Buildings	Number of Units per Bldg.	Subtotal Number of Units	Basement Floor S.F.	First Floor S.F.	Second Floor S.F.	Third Floor S.F.	Subtotal Floor Area S.F.	Floor Area S.F.	Subtotal Footprint S.F.	Footprints S.F.	Height	Unit S.F.	>1,200
Single E2	11	1	11		1167	994		2,161	23,991	1,167	13057	23'-5"	801-1,200	11
Duplex DP3	13	1	26		775	775		3,316	43,108	1,658	21554	24'-6"		26
Duplex DP5	28	2	56		883	883		4,048	113,344	1,770	49560	23'-8"		56
Quad QU1	6	2	24	376	885	763		5,070	30,420	1,772	10632	24'-6"	12	12
Townhome TH1	3	4	30		607			12,145	36,435	3,769	11307	34'-9"	12	18
Townhome TH2	4	6	64		607			20,217	80,868	6,125	24500	34'-9"	24	40
Community Bldg. CH	1				570	670	1810	10,450	10,450	1,800	1800	22'-6"		
Maintenance Bldg. MB	1				1,800	1,800		1,800	1,800	1,800	1800	14'-0"		
TOTALS	67		211					340,416		142,860		48	163	

* Height at walkout/rear = 34'-2".

MIDWESTERN CONSULTING 385 Plaza Drive Ann Arbor, Michigan 48108 (734) 995-0200 • www.midwesternconsulting.com Land Development • Land Survey • Institutional • Municipal Wireless Communications • Transportation • Landfill Services

CLIENT: TRINITAS DEVELOPMENT, LLC 201 MAIN STREET, SUITE 1000 LAFAYETTE, IN 47901 DAMIAN VANMATEE (765) 807-2713

ADMINISTRATIVE AMENDMENT SITE PLAN NOTES AND TABLES

REVISED PER AGREEMENT 6/20/19

DATE: 2/25/17 SHEET 2 OF 49

REV. DATE: 6/16/17 CAD: 9/5/17 ENG: JCA 10/12/17 PM: SWB 11/15/17 TECH: 6/27/18 REVISED PER AGREEMENT

16223

NOTES (cont.)

PLANNED AFTER JANUARY 16, 2011, ON PARCELS WITH MORE THAN 1 FRONT LOT LINE.

***PLUS 1 FOOT OF ADDITIONAL SETBACK FOR EACH FOOT OF BUILDING HEIGHT ABOVE 30 FEET WHEN ABUTTING RESIDENTIALLY ZONED LAND.

BUILDING REQUIREMENTS:
 -BUILDING HEIGHT: 35' (REQUIRED / ALLOWED)
 (45' WHEN BUILDING WITH PARKING BELOW AT LEAST 35% OF BUILDING)
 -THERE ARE NO BUILDINGS ON SUBJECT PROPERTY.

MINIMUM USABLE OPEN SPACE: 65%
 (IN PERCENTAGE OF LOT AREA)

BUILDING / UNIT DENSITY:
 -MINIMUM LOT AREA PER DWELLING UNIT IN SF: 4,300 SF
 -MINIMUM GROSS LOT SIZE- AREA: 21,780 SF

PARKING REQUIREMENTS:
 -SINGLE FAMILY RESIDENTIAL: 1 PER DWELLING UNIT
 -TWO-FAMILY RESIDENTIAL: 1.5 PER DWELLING UNIT
 -TOWNHOUSE/MULTI-FAMILY RESIDENTIAL: 2 PER DWELLING UNIT

-PER THIS SURVEY HEREIN DESCRIBED THE SUBJECT PROPERTY HAS NO REGULAR STRIPPED PARKING SPACES AND NO HANDICAP SPACES.

NOTES

- 1) THIS SURVEY WAS PREPARED USING FIRST AMERICAN TITLE INSURANCE COMPANY TITLE COMMITMENT No.: NCS-813902-CH2, REVISION #1 WITH A COMMITMENT DATE OF AUGUST 17, 2017.
- 2) THE LEGAL DESCRIPTION DESCRIBES THE SAME PROPERTY AS INSURED IN THE TITLE COMMITMENT AND ANY EXCEPTIONS HAVE BEEN NOTED HEREIN.
- 3) BEARINGS ARE BASED ON FIRST AMERICAN TITLE COMMITMENT No.: NCS-813902-CH2, REVISION #1 WITH A COMMITMENT DATE OF AUGUST 17, 2017.
- 4) SAID DESCRIBED PROPERTY IS NOT LOCATED WITHIN A 100-YEAR FLOOD PLAIN ZONE PER FLOOD INSURANCE RATE MAP NO. 26161C0261E WITH AN EFFECTIVE DATE OF APRIL 3, 2012, FOR COMMUNITY NUMBER 260213, PANEL NUMBER 261E, IN WASHTENAW COUNTY, STATE OF MICHIGAN, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.
- 5) THERE IS NO EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.
- 6) THERE IS NO EVIDENCE OF DIVISION OR PARTY WALLS ON SUBJECT PROPERTY.
- 7) THE PARCEL HEREIN DESCRIBED IS CURRENTLY ZONED: R4A - (MIXED USE RESIDENTIAL ZONING DISTRICT)

CITY OF ANN ARBOR ZONING, PER MIDWESTERN CONSULTING ZONING REPORT, DATED OCTOBER 31, 2016, JOB #16223A:

SETBACK REQUIREMENTS:

MINIMUM GROSS LOT SIZE - WIDTH 120'
 -FRONT (MIN): 15' MIN; 40' MAX**
 -SIDE (MIN): 20'***
 -REAR (MIN): 30'***
 -BUILDING SEPARATION(S): 20'

**BUILDINGS OVER 35 FEET IN HEIGHT OR OVER 50 FEET IN LENGTH HAVE ADDITIONAL SETBACKS PER SECTION 5:62 OF THE ZONING ORDINANCE.

** FOR NEW FREESTANDING BUILDINGS CONSTRUCTED OR SITE PLANNED AFTER JANUARY 16, 2011, OTHERWISE NONE. MAXIMUM SETBACKS SHALL APPLY TO AT LEAST 1 LOT LINE FOR NEW FREESTANDING BUILDINGS CONSTRUCTED OR SITE

LEGAL DESCRIPTION

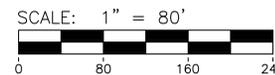
(from First American Title Insurance Company, Title Commitment No.: NCS-813902-CH2, Revision #1 Commitment Date: August 17, 2017)

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

Beginning at the West 1/4 corner of Section 16, Town 2 South, Range 6 East; thence North 00 degrees 24 minutes 44 seconds East 267.00 feet along the West line of said Section 16; thence North 99 degrees 42 minutes 29 seconds West 340.00 feet parallel with the East and West 1/4 line of Section 17; thence South 00 degrees 24 minutes 44 seconds West 267.00 feet parallel to the West line of said Section 16; thence North 89 degrees 42 minutes 29 seconds West: 25.20 feet along the East and West 1/4 line of said Section 17; thence North 01 degrees 01 minutes 18 seconds East 25.02 feet along the Easterly right of way line of M-14 Highway; thence continuing along said right of way line 717.32 feet in the arc of a circular curve to the right, radius 1660.08 feet, central angle 24 degrees 45 minutes 27 seconds, and chord North 13 degrees 24 minutes 01 seconds East 711.76 feet; thence continuing along said right of way line North 25 degrees 46 minutes 45 seconds East 595.13 feet; thence South 00 degrees 24 minutes 44 seconds West 587.84 feet along the West line of said Section 15; thence North 87 degrees 57 minutes 55 seconds East 1846.70 feet along the South line of the North 1/2 of the South 1/2 of the Northwest 1/4 of said Section 16; thence South 04 degrees 47 minutes 06 seconds West 454.25 feet along the centerline of Pontiac Trail (66.00 feet wide) as monumented; thence South 87 degrees 50 minutes 56 seconds West 290.74 feet; thence South 02 degrees 09 minutes 04 seconds East 212.25 feet; thence South 87 degrees 50 minutes 56 seconds West 1530.95 feet along the East and West 1/4 line of said Section 16 to the Point of Beginning.

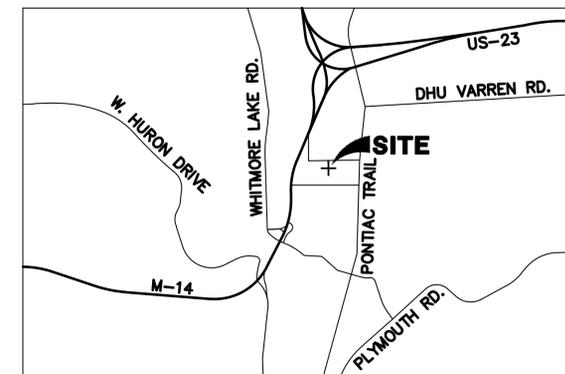
EXCEPTIONS

6. The terms, provisions and easement(s) contained in the document entitled "Deed of State Highway Commissioner" recorded March 3, 1961 as Liber 941, Page 587 of Official Records. (Plotted)
8. Easement granted to The Detroit Edison Company disclosed by instruments recorded in Liber 1260, Page 235 and Liber 1256, Page 604, Washtenaw County Records. (Plotted)
9. The terms, provisions and easement(s) contained in the document entitled "Easement" recorded June 23, 2008 as Liber 4687, Page 606 of Official Records. (Plotted)



VICINITY MAP

NOT TO SCALE



MIDWESTERN CONSULTING
 3845 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services



CLIENT
 TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

COTTAGES AT BRTON GREEN
 AMMINISTRATIVE AMENDMENT
 ALTA SURVEY PLAN

2A

DATE: 08/23/17	REV. DATE: 08-28-17	SHEET 2A OF 49
REVISED: TITLE COMMITMENT	ADD: 08-28-17	ENG: 08-28-17
LEGAL REVIEW	DATE: 08-28-17	PM: S.W.B.
FINAL CERTIFICATE	DATE: 08-28-17	TECH: M.V.V.
NEW CERTIFICATE	DATE: 08-28-17	DATE: 08-28-17

SURVEYORS CERTIFICATE

The undersigned, being a registered surveyor of the State of Michigan certifies to: Trinitas M-UM LLC, TOBI III SPE III LLC, Bravo-Trinitas I LLC, M-UM Holdings LLC, Meridian UM Holdings LLC, Meridian UM Management LLC, Trinitas Development LLC, Trinitas Construction (MI) LLC, First American Title Insurance Company, and PNC Bank, National Association.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 6(a) and (b), 7(a), 7(b)(1), 7(c), 9, 10, 13, 14, 16, and 17 of Table A thereof. The fieldwork was completed on August 24, 2017.

MIDWESTERN CONSULTING, LLC

By: *Mark Vander Veen*
 Mark Vander Veen, P.S. No. 56788

Date: June 20, 2018



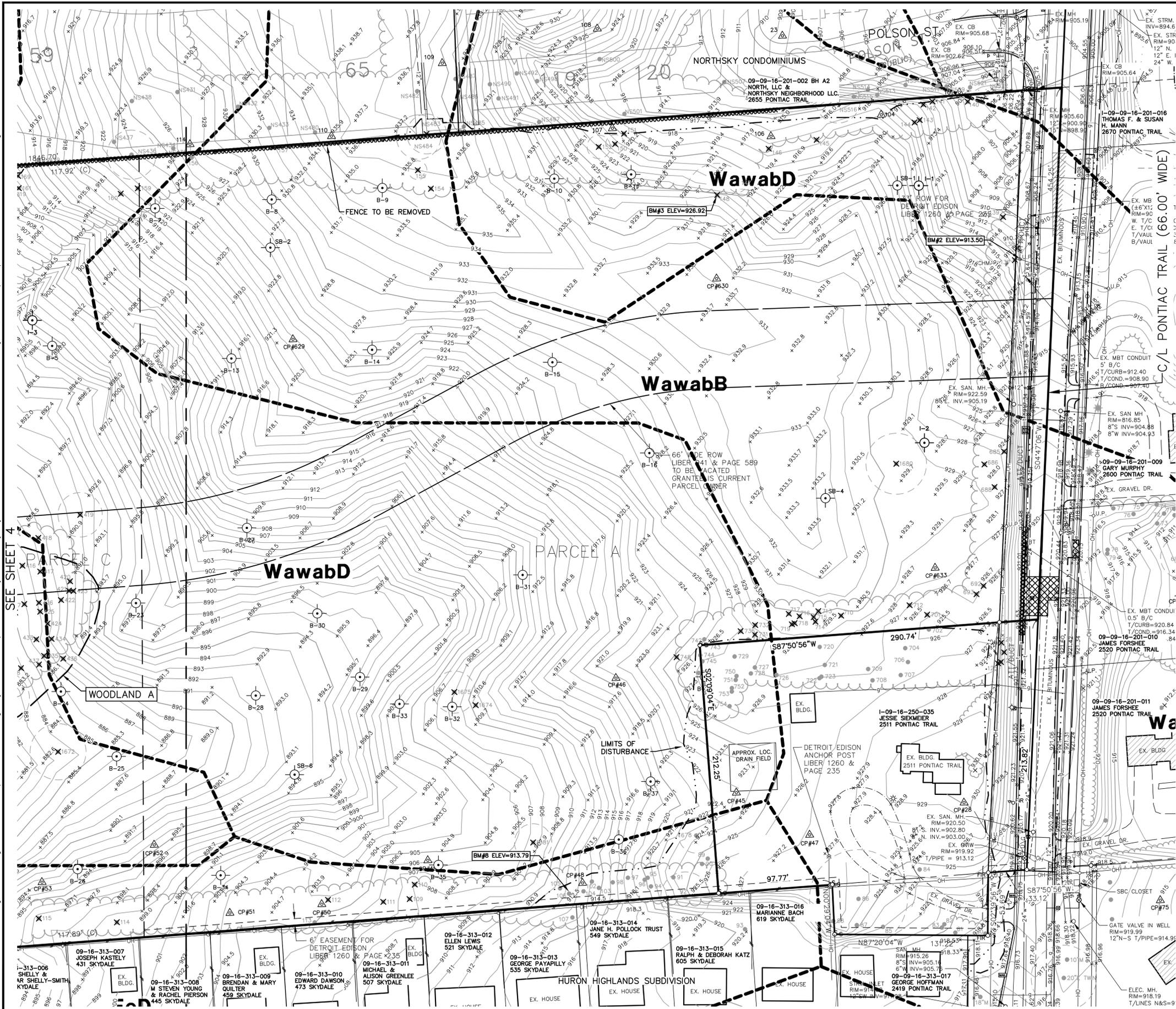
The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

LEGEND

- | | | | |
|------|------------------------------|---|-----------------------------|
| U.P. | EXIST. UTILITY POLE | □ | EXIST. CATCH BASIN OR INLET |
| OH | EXIST. OVERHEAD UTILITY LINE | ○ | EXIST. STORM SEWER |
| — | GUY WIRE | — | EXIST. SANITARY SEWER |
| * | EXIST. LIGHT POLE | — | SIGN |
| g | EXIST. GAS LINE | — | FENCE |
| g | EXIST. GAS VALVE | — | FOUND IRON ROD |
| w | EXIST. WATER MAIN | — | FOUND IRON PIPE |
| h | EXIST. HYDRANT | — | FOUND P.K. |
| — | EXIST. GATE VALVE IN BOX | — | FOUND MONUMENT |
| — | EXIST. GATE VALVE IN WELL | — | SET IRON ROD |
| t | EXIST. TELEPHONE LINE | — | SECTION CORNER |

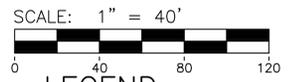
M:\CV\134\Pro\16223\Admin\Amend 2\16223.dwg, 2/16/2021 2:37 PM, Jim Ahern, LLC, PDF, 1623
 Copyright © 2020, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.

Copyright © 2020 Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



SOIL TYPE LEGEND

- BnB BOYER LOAMY SAND, 0 TO 6 PERCENT SLOPES
- FoC FOX SANDY LOAM, 6 TO 12 PERCENT SLOPES
- FoD FOX SANDY LOAM, 12 TO 18 PERCENT SLOPES
- MdA MATHERTON SANDY LOAM, 0 TO 4 PERCENT SLOPES
- WawabB WAWASEE LOAM, 2 TO 6 PERCENT SLOPES
- WawabD WAWASEE LOAM, 6 TO 12 PERCENT SLOPES



- ### LEGEND
- 838 EXIST. CONTOUR
 - +836.2 EXIST. SPOT ELEVATION
 - U.P. EXIST. UTILITY POLE
 - GP EXIST. GUY POLE
 - GUY WIRE
 - ⊠ ELEC. TRANSFORMER
 - OH EXIST. OVERHEAD UTILITY LINE
 - * EXIST. LIGHT POLE
 - t EXIST. TELEPHONE LINE
 - e EXIST. ELECTRIC LINE
 - g EXIST. GAS LINE
 - g EXIST. GAS VALVE
 - w EXIST. WATER MAIN
 - ⊕ EXIST. HYDRANT
 - ⊕ EXIST. GATE VALVE IN BOX
 - ⊕ EXIST. GATE VALVE IN WELL
 - ⊕ EXIST. CURB STOP & BOX
 - ⊕ EXIST. STORM SEWER
 - ⊕ EXIST. CATCH BASIN OR INLET
 - ⊕ EXIST. BEEHIVE INLET
 - END SECTION
 - CULVERT
 - EXIST. SANITARY SEWER
 - EXIST. CLEANOUT
 - C/L OF DITCH
 - DRAINAGE DIRECTION
 - SIGN
 - MAILBOX
 - TELEPHONE RISER
 - CABLE TELEVISION RISER
 - ELECTRIC METER
 - WATER METER
 - GAS METER
 - POST
 - WELL
 - FENCE
 - GUARDRAIL
 - SINGLE TREE
 - LANDMARK TREE
 - TREE OR BRUSH LIMIT
 - EXIST. BOULDER
 - SECTION CORNER
 - SOIL BORING/TEST PIT LOCATION
 - B-32 | SB-1 SET IRON PIPE
 - O FOUND IRON PIPE
 - S SET MONUMENT
 - F FOUND MONUMENT
 - ⊕ SET IRON ROD
 - ⊕ FOUND IRON ROD
 - △ CONTROL PT.
 - △ TREE TO BE REMOVED
 - ▨ PAVEMENT TO BE REMOVED
 - ▨ CURB TO BE REMOVED
 - LIMITS OF DISTURBANCE

LEGAL DESCRIPTION OF A 31.93 ACRE PARCEL OF LAND

Beginning at the W 1/4 corner of Section 16, T2S, R6E, Ann Arbor Township, Washtenaw County, Michigan;

thence N 00°24'44" E 267.00 feet along the West line of said Section 16;

thence N 89°42'29" W 340.00 feet parallel to the E-W 1/4 line of Section 17, T2S, R6E, Ann Arbor Township, Washtenaw County, Michigan;

thence S 00°24'44" W 267.00 feet parallel to the West line of said Section 16;

thence N 89°42'29" W 75.20 feet along the E-W 1/4 line of said Section 17;

thence N 01°01'18" E 25.02 feet along the Easterly right-of-way line of M-14 Hwy;

thence continuing along said ROW line 717.32 feet in the arc of a circular curve to the right, radius 1660.08 feet, central angle 24°45'27", and chord N 13°24'01" E 711.76 feet;

thence continuing along said ROW line S 25°46'45" E 595.13 feet;

thence S 00°24'44" W 587.84 feet along the West line of said Section 16;

thence N 87°57'55" E 1846.70 feet along the South line of the N 1/2 of the S 1/2 of the NW 1/4 of said Section 16;

thence S 04°47'06" W 454.25 feet along the centerline of Pontiac Trail (66.00 feet Wide), as monumented;

thence S 87°50'56" W 290.74 feet;

thence S 02°09'04" E 212.25 feet;

thence S 87°50'56" W 1530.95 feet along the E-W 1/4 line of said Section 16 to the POINT OF BEGINNING, being a part of Sections 16 and 17, T2S, R6E, Washtenaw County, Michigan, and containing 31.93 acres of land, more or less, subject to easements and restrictions of record, if any.

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

MIDWESTERN CONSULTING
3855 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

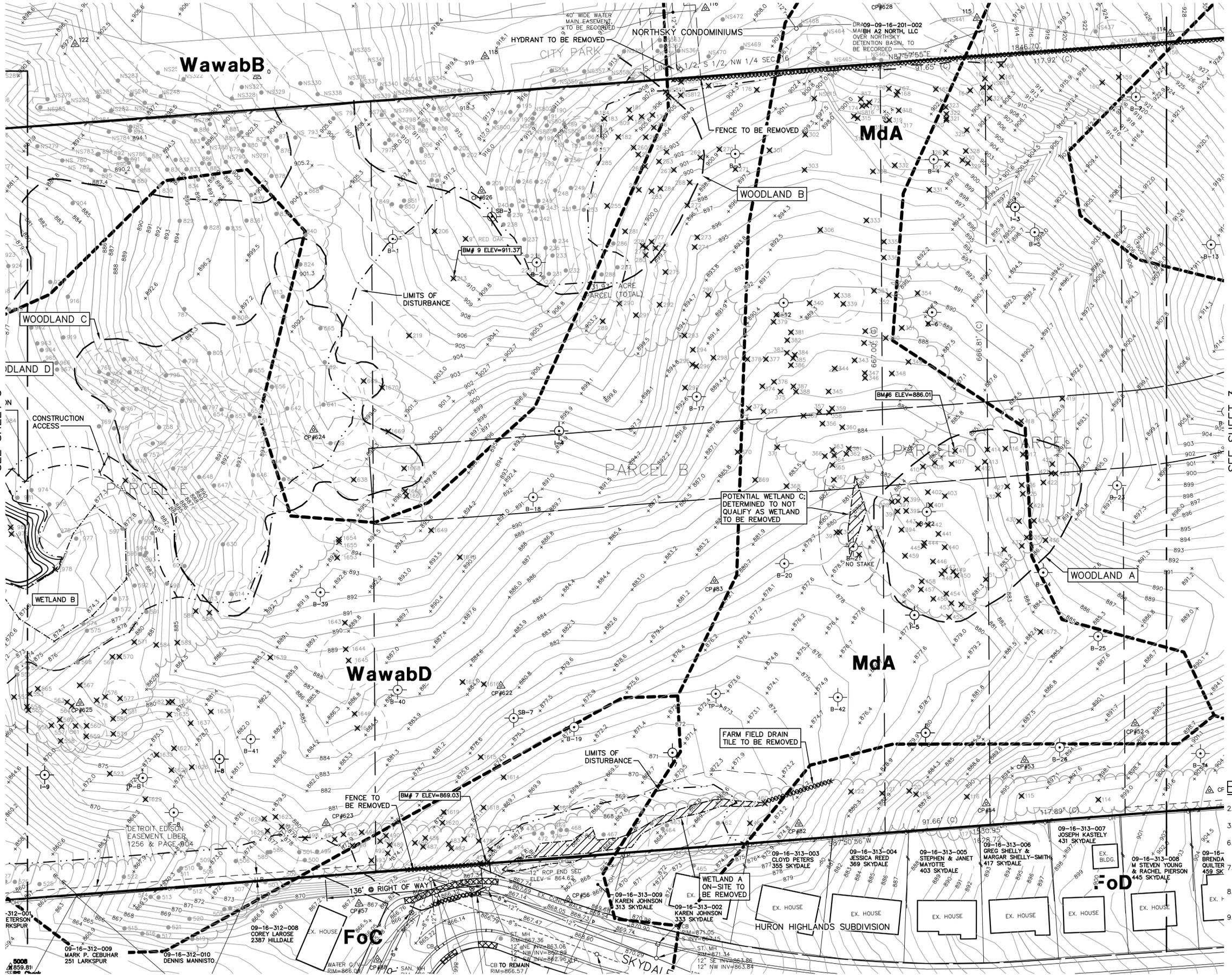
CLIENT
TRINITAS DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, IN 47901
DAMIEN VANMATE
(765) 807-2713

COTTAGES AT BARTON GREEN
ADMINISTRATIVE AMENDMENT
EXISTING CONDITIONS PLAN (EAST)

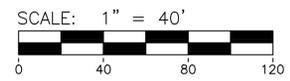
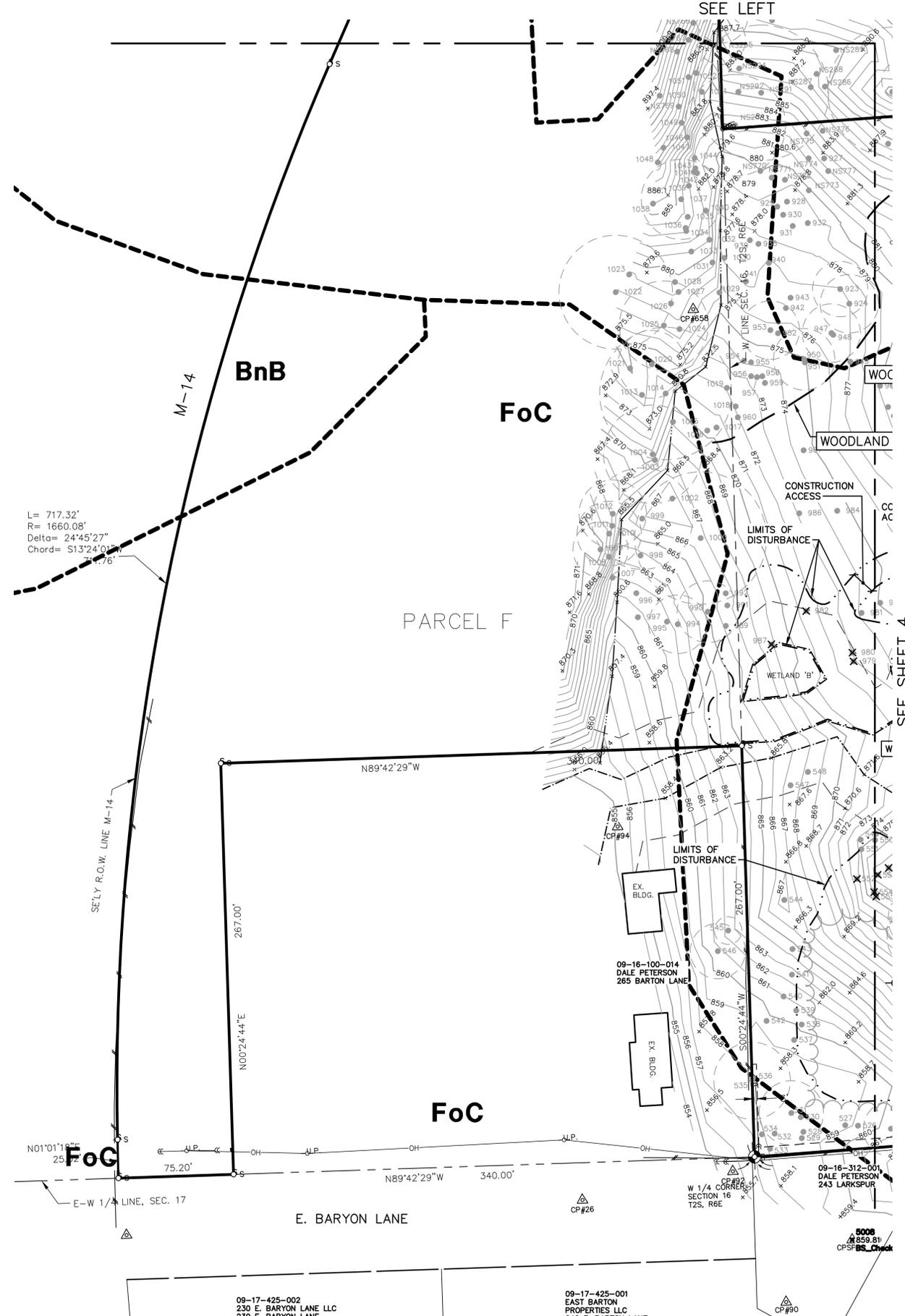
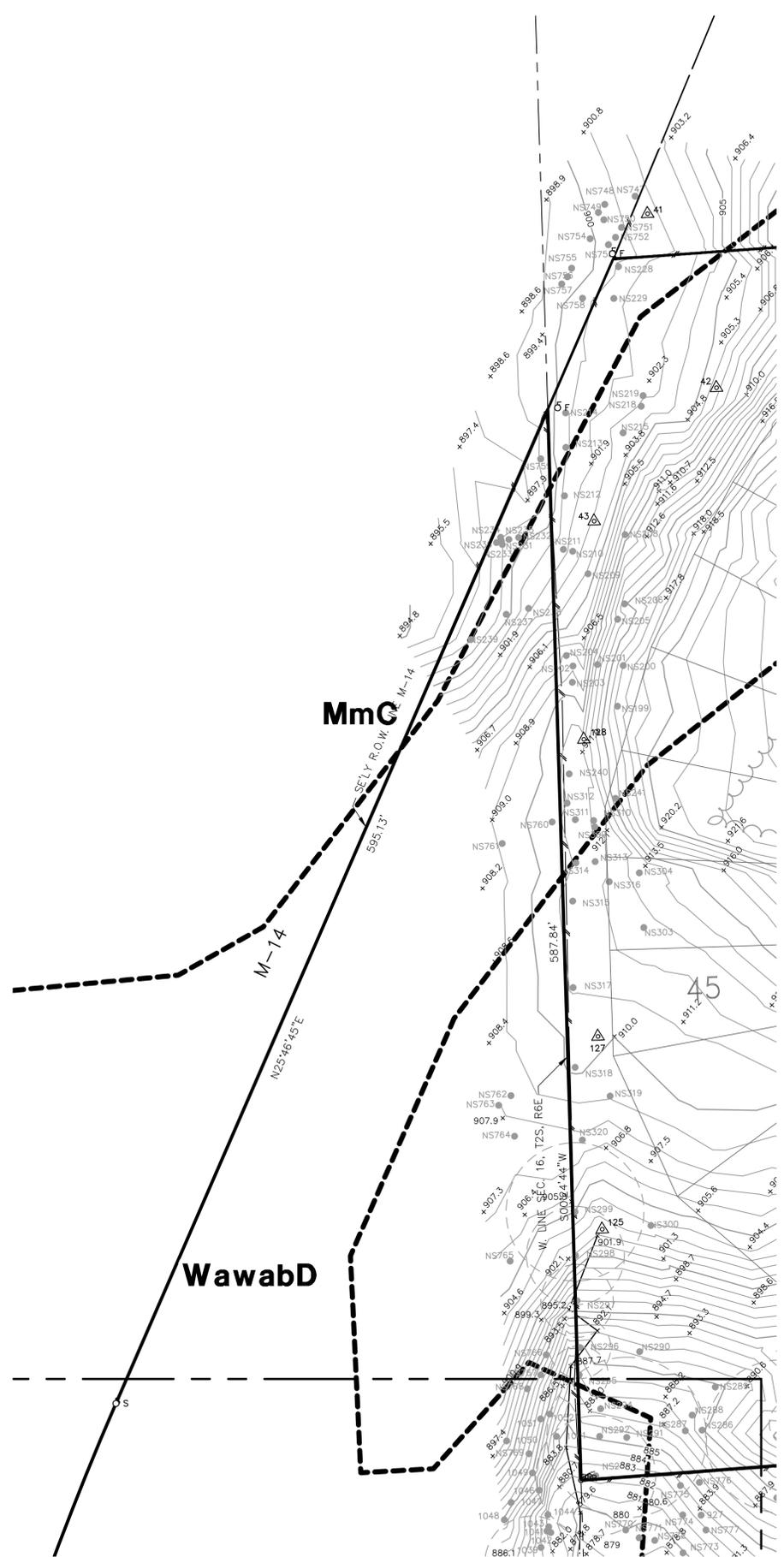
DATE: 9/25/17
SHEET: 3 OF 49
REV. DATE: 9/12/17
REV. PER CITY/COUNTY: 9/15/17
REV. PER CITY: 10/12/17
REV. PER CITY: 11/15/17

JOB No. 16223
PREPARED BY: MIDWESTERN CONSULTING, LLC
PATRICK L. HASTINGS, PS, #37277

M:\Civ\16223\16223.dwg; 2/16/2023 2:38 PM; Jim Merritt; MCLLC; P07; p.3
 Copyright © 2023 Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, without prior permission of Midwestern Consulting L.L.C.



M:\Civ\134\Proj\16223\Admin\Amend 2\16223E1.dwg, 2/16/2021 2:38 PM, Jim Minner, MLLC PDF, p.3
Copyright © 2020 Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



LEGEND

- 838 EXIST. CONTOUR
- x836.2 EXIST. SPOT ELEVATION
- U.P. EXIST. UTILITY POLE
- G.P. EXIST. GUY POLE
- GUY WIRE
- ELEC. TRANSFORMER
- OH EXIST. OVERHEAD UTILITY LINE
- EXIST. LIGHT POLE
- EXIST. TELEPHONE LINE
- EXIST. ELECTRIC LINE
- EXIST. GAS LINE
- EXIST. GAS VALVE
- EXIST. WATER MAIN
- EXIST. HYDRANT
- EXIST. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- EXIST. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- EXIST. BUMBLEBEE INLET
- END SECTION
- EXIST. CULVERT
- EXIST. SANITARY SEWER
- EXIST. CLEANOUT
- C/L OF DITCH
- DRAINAGE DIRECTION SIGN
- MAILBOX
- TELEPHONE RISER
- CABLE TELEVISION RISER
- ELECTRIC METER
- WATER METER
- GAS METER
- POST
- WELL
- FENCE
- GUARDRAIL
- SINGLE TREE
- LANDMARK TREE
- TREE OR BRUSH LIMIT
- EXIST. BOULDER
- SECTION CORNER
- SOIL BORING/TEST PIT LOCATION
- SET IRON PIPE
- FOUND IRON PIPE
- SET MONUMENT
- FOUND MONUMENT
- SET IRON ROD
- FOUND IRON ROD
- CONTROL PT.
- TREE TO BE REMOVED
- PAVEMENT TO BE REMOVED
- CURB TO BE REMOVED
- LIMITS OF DISTURBANCE

SOIL TYPE LEGEND

- BnB BOYER LOAMY SAND, 0 TO 6 PERCENT SLOPES
- FoC FOX SANDY LOAM, 6 TO 12 PERCENT SLOPES
- FoD FOX SANDY LOAM, 12 TO 18 PERCENT SLOPES
- MdA MATHERTON SANDY LOAM, 0 TO 4 PERCENT SLOPES
- WawabB WAWASEE LOAM, 2 TO 6 PERCENT SLOPES
- WawabD WAWASEE LOAM, 6 TO 12 PERCENT SLOPES

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

MIDWESTERN CONSULTING
3845 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

CLIENT
TRINITAS DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, IN 47901
DAMIEN VANMATTRE
(765) 807-2713

COTTAGES AT BARTON GREEN
ADMINISTRATIVE AMENDMENT
EXISTING CONDITIONS PLAN (WEST)

5

JOB No.	16223
DATE	8/25/17
SHEET	5 OF 49
REV. DATE	7/12/17
REV. BY	JCA
REV. DATE	8/16/17
REV. BY	PM: SWB
REV. DATE	9/5/17
REV. BY	TECH: SWB
REV. DATE	10/12/17
REV. BY	TECH: SWB
REV. DATE	11/7/17
REV. BY	TECH: SWB

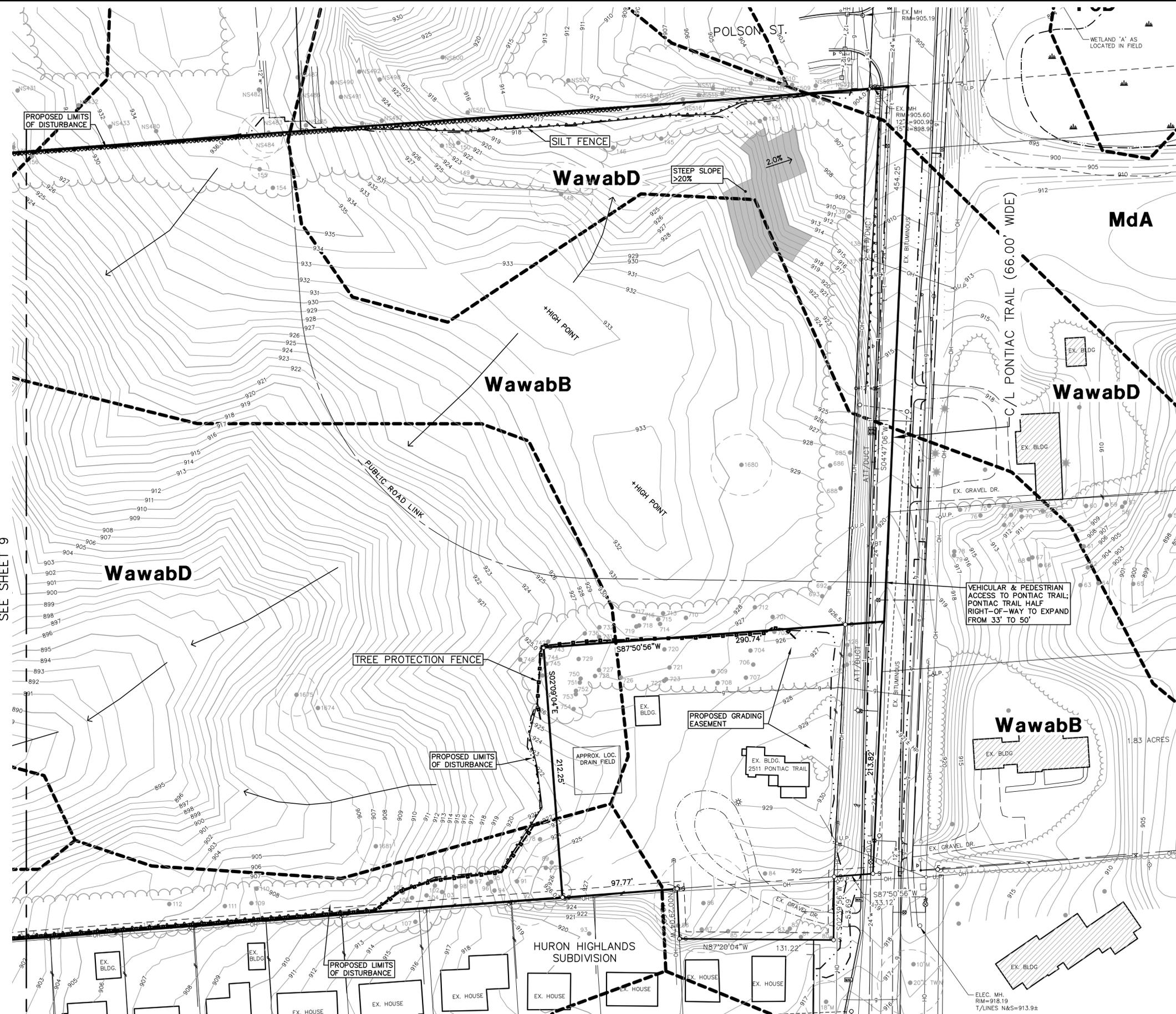
TAG#	DBH	COMMON NAME	GENUS/SPECIES	STEM	SCORE	LM	INV	REMOVE	MITIGATE
89	14"	Box Elder	Acer negundo						
90	8"	Box Elder	Acer negundo	2					
91	9"	Black Cherry	Prunus serotina						
92	21"	Black Cherry	Prunus serotina			X			
93	18"	Siberian Elm	Ulmus pumila				X		
94	11"	Box Elder	Acer negundo						
95	8"	Box Elder	Acer negundo						
96	9"	Box Elder	Acer negundo						
97	7"	Box Elder	Acer negundo	2					
98	8"	Box Elder	Acer negundo						
102	8"	Box Elder	Acer negundo						
103	8"	Box Elder	Acer negundo						
104	20"	Box Elder	Acer negundo						
105	11"	Box Elder	Acer negundo					X	
106	10"	Box Elder	Acer negundo						
107	16"	Blue Spruce	Picea pungens						
109	13"	Box Elder	Acer negundo					X	
110	12"	Black Cherry	Prunus serotina	2				X	
111	7"	Box Elder	Acer negundo	2				X	
112	11"	Box Elder	Acer negundo					X	
113	12"	Box Elder	Acer negundo	2					
114	13"	Siberian Elm	Ulmus pumila				X	X	
115	8"	American Elm	Ulmus americana				X	X	
116	6"	Red Cedar	Juniperus virginiana				X	X	
117	14"	Siberian Elm	Ulmus pumila				X		
118	13"	Box Elder	Acer negundo	2			X	X	
120	8"	Box Elder	Acer negundo				X	X	
121	12"	Black Cherry	Prunus serotina				X	X	
122	9"	Common Apple	Malus pumila				X	X	
123	22"	American Elm	Ulmus americana	2		X			
124	9"	American Elm	Ulmus americana					X	
125	8"	American Elm	Ulmus americana					X	
126	8"	American Elm	Ulmus americana					X	
127	19"	Black Locust	Robinia pseudoacaci				X	X	
128	7"	American Elm	Ulmus americana					X	
137	7"	American Elm	Ulmus americana					X	
138	11"	American Elm	Ulmus americana					X	
139	8"	Red Cedar	Juniperus virginiana				X	X	
140	8"	Black Cherry	Prunus serotina	2			X	X	
141	6"	White Mulberry	Morus alba				X	X	
142	7"	White Mulberry	Morus alba				X	X	
143	6"	American Elm	Ulmus americana				X	X	
144	10"	Black Cherry	Prunus serotina				X	X	
145	8"	Black Cherry	Prunus serotina				X	X	
146	6"	Black Cherry	Prunus serotina				X	X	
147	10"	Red Cedar	Juniperus virginiana			21	X	X	X
148	28"	Black Cherry	Prunus serotina			14	X	X	
149	6"	American Elm	Ulmus americana				X	X	
150	8"	Red Cedar	Juniperus virginiana			21	X	X	X
151	6"	Red Cedar	Juniperus virginiana				X	X	
152	11"	Red Cedar	Juniperus virginiana			21	X	X	X
154	6"	Hawthorn	Crataegus	2				X	
155	8"	Red Cedar	Juniperus virginiana			21	X	X	X
156	6"	White Oak	Quercus alba					X	
157	6"	Shagbark Hickory	Carya ovata					X	
159	7"	Red Cedar	Juniperus virginiana					X	
160	6"	Shagbark Hickory	Carya ovata					X	
161	6"	White Oak	Quercus alba					X	
162	6"	White Mulberry	Morus alba				X	X	
163	10"	Red Oak	Quercus rubra					X	
164	7"	Black Cherry	Prunus serotina					X	
165	7"	Shagbark Hickory	Carya ovata					X	
167	8"	American Elm	Ulmus americana					X	
168	8"	Shagbark Hickory	Carya ovata					X	
169	18"	Red Oak	Quercus rubra			X		X	
170	7"	Shagbark Hickory	Carya ovata					X	
171	6"	Shagbark Hickory	Carya ovata					X	
172	11"	Shagbark Hickory	Carya ovata					X	
173	12"	Shagbark Hickory	Carya ovata					X	
174	6"	Shagbark Hickory	Carya ovata					X	
176	7"	American Elm	Ulmus americana					X	
177	7"	American Elm	Ulmus americana					X	
178	9"	Shagbark Hickory	Carya ovata					X	X
179	10"	Shagbark Hickory	Carya ovata					X	X
180	6"	Shagbark Hickory	Carya ovata					X	
181	6"	Shagbark Hickory	Carya ovata					X	X
182	14"	Red Oak	Quercus rubra					X	X
183	10"	Shagbark Hickory	Carya ovata					X	X
184	8"	Shagbark Hickory	Carya ovata					X	X
185	10"	Black Cherry	Prunus serotina					X	X
186	19"	Red Oak	Quercus rubra			21	X		
187	19"	Red Oak	Quercus rubra			22	X		
188	7"	American Elm	Ulmus americana					X	
189	6"	Black Cherry	Prunus serotina					X	
190	6"	Shagbark Hickory	Carya ovata					X	
191	11"	Shagbark Hickory	Carya ovata					X	
192	8"	Shagbark Hickory	Carya ovata					X	
193	8"	Shagbark Hickory	Carya ovata					X	
194	7"	Shagbark Hickory	Carya ovata					X	
195	6"	Shagbark Hickory	Carya ovata					X	
196	18"	Black Cherry	Prunus serotina			20	X		
197	12"	Red Oak	Quercus rubra					X	
198	9"	Shagbark Hickory	Carya ovata					X	
199	10"	Shagbark Hickory	Carya ovata					X	
200	13"	Pignut Hickory	Carya glabra					X	
201	11"	Red Oak	Quercus rubra					X	
202	7"	Black Walnut	Juglans nigra					X	
203	7"	Shagbark Hickory	Carya ovata					X	
204	9"	Red Oak	Quercus rubra					X	
205	6"	Shagbark Hickory	Carya ovata					X	
206	14"	Silver Maple	Acer saccharinum					X	
213	8"	Red Oak	Quercus rubra					X	
219	20"	Black Cherry	Prunus serotina			19	X	X	X
229	9"	Black Cherry	Prunus serotina					X	
230	6"	Red Oak	Quercus rubra					X	
231	6"	Red Oak	Quercus rubra					X	
232	21"	Red Oak	Quercus rubra			21	X		
233	7"	Red Oak	Quercus rubra					X	
234	18"	Red Oak	Quercus rubra			21	X		
235	6"	American Elm	Ulmus americana					X	
236	7"	American Elm	Ulmus americana					X	
237	10"	American Elm	Ulmus americana					X	
238	8"	Red Oak	Quercus rubra					X	
239	7"	Pignut Hickory	Carya glabra					X	
240	12"	Black Cherry	Prunus serotina					X	
241	12"	Black Cherry	Prunus serotina					X	
242	7"	American Elm	Ulmus americana					X	
243	6"	Red Oak	Quercus rubra					X	
244	14"	Shagbark Hickory	Carya ovata					X	
245	6"	American Elm	Ulmus americana					X	

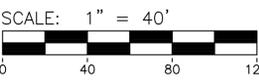
TAG#	DBH	COMMON NAME	GENUS/SPECIES	STEM	SCORE	LM	INV	REMOVE	MITIGATE
246	8"	Shagbark Hickory	Carya ovata					X	
247	21"	Red Oak	Quercus rubra			19	X		
248	8"	American Elm	Ulmus americana					X	
249	20"	Red Oak	Quercus rubra			21	X		
250	7"	Shagbark Hickory	Carya ovata					X	
251	6"	Shagbark Hickory	Carya ovata					X	
253	9"	Shagbark Hickory	Carya ovata					X	
255	7"	American Elm	Ulmus americana					X	
256	7"	Red Oak	Quercus rubra					X	
257	8"	Black Cherry	Prunus serotina					X	
258	7"	Shagbark Hickory	Carya ovata					X	
260	9"	Shagbark Hickory	Carya ovata					X	X
261	10"	Shagbark Hickory	Carya ovata					X	X
262	6"	Shagbark Hickory	Carya ovata					X	
263	6"	Shagbark Hickory	Carya ovata					X	
264	8"	Red Oak	Quercus rubra					X	
265	9"	American Elm	Ulmus americana					X	
266	6"	Shagbark Hickory	Carya ovata					X	
267	7"	American Elm	Ulmus americana					X	
268	7"	Shagbark Hickory	Carya ovata					X	
269	6"	Shagbark Hickory	Carya ovata					X	
270	10"	Box Elder	Acer negundo					X	
271	7"	Black Cherry	Prunus serotina					X	
272	7"	Black Cherry	Prunus serotina					X	
273	9"	Shagbark Hickory	Carya ovata					X	
274	7"	American Elm	Ulmus americana					X	
275	10"	Red Cedar	Juniperus virginiana			22	X		X
276	10"	Red Oak	Quercus rubra					X	
277	8"	Red Oak	Quercus rubra					X	
278	6"	Red Oak	Quercus rubra					X	
279	9"	Red Oak	Quercus rubra					X	
280	10"	Red Oak	Quercus rubra					X	
281	13"	Red Oak	Quercus rubra					X	X
282	13"	Black Cherry	Prunus serotina					X	X
283	6"	Red Cedar	Juniperus virginiana					X	
284	6"	Shagbark Hickory	Carya ovata					X	
285	9"	Shagbark Hickory	Carya ovata					X	
286	7"	Shagbark Hickory	Carya ovata					X	
287	7"	American Elm	Ulmus americana					X	
288	31"	Black Cherry	Prunus serotina			15	X		
289	20"	Red Oak	Quercus rubra			21	X		X
290	7"	Red Oak	Quercus rubra					X	
291	17"	Red Oak	Quercus rubra			21	X	X	X
292	9"	Red Oak	Quercus rubra			19	X		
293	6"	Black Cherry	Prunus serotina			2		X	X
294	8"	Red Oak	Quercus rubra					X	
295	6"	Shagbark Hickory	Carya ovata			2		X	
296	8"	Shagbark Hickory	Carya ovata					X	
297	7"	Shagbark Hickory	Carya ovata					X	
298	7"	Sweet Cherry	Prunus avium					X	X
299	6"	Shagbark Hickory	Carya ovata					X	
301	6"	Black Cherry	Prunus serotina					X	
302	7"	White Mulberry	Morus alba					X	X
303	12"	White Mulberry	Morus alba					X	X
306	6"	White Mulberry	Morus alba					X	X
308	9"	Red Oak	Quercus rubra					X	
313	12"	Red Oak	Quercus rubra					X	
315	12"	Pignut Hickory	Carya glabra					X	
316	7"	Shagbark Hickory	Carya ovata					X	
317	7"	Shagbark Hickory	Carya ovata					X	
318	6"	Shagbark Hickory	Carya ovata					X	
319	6"	American Elm	Ulmus americana					X	
320	9"	Shagbark Hickory	Carya ovata					X	
321	7"	Shagbark Hickory	Carya ovata					X	
322	9"	Shagbark Hickory	Carya ovata					X	
323	9"	Shagbark Hickory	Carya ovata					X	
324	6"	Shagbark Hickory	Carya ovata					X	
325	9"	Shagbark Hickory	Carya ovata					X	
326	7"	Shagbark Hickory	Carya ovata					X	
327	6"	Shagbark Hickory	Carya ovata					X	
328	6"	Shagbark Hickory	Carya ovata					X	
329	7"	Shagbark Hickory	Carya ovata						

TAG#	DBH	COMMON NAME	GENUS/SPECIES	STEM	SCORE	LM	INV	REMOVE	MITIGATE
717	7"	Box Elder	Acre negundo					X	
718	9"	Box Elder	Acre negundo					X	
719	10"	Box Elder	Acre negundo					X	
720	15"	Box Elder	Acre negundo					X	
721	13"	Box Elder	Acre negundo					X	
722	8"	Box Elder	Acre negundo					X	
723	7"	Box Elder	Acre negundo					X	
726	13"	Box Elder	Acre negundo					X	
727	7"	Box Elder	Acre negundo					X	
728	8"	Box Elder	Acre negundo					X	
729	7"	Box Elder	Acre negundo					X	
730	7"	Box Elder	Acre negundo					X	
731	9"	Box Elder	Acre negundo					X	
732	8"	Box Elder	Acre negundo					X	
736	6"	Box Elder	Acre negundo					X	
742	6"	Box Elder	Acre negundo					X	
743	6"	Box Elder	Acre negundo					X	
744	6"	Box Elder	Acre negundo					X	
745	9"	Box Elder	Acre negundo					X	
749	8"	Box Elder	Acre negundo					X	
750	6"	Box Elder	Acre negundo					X	
751	8"	Box Elder	Acre negundo					X	
752	7"	Box Elder	Acre negundo					X	
753	7"	Box Elder	Acre negundo					X	
754	12"	Box Elder	Acre negundo					X	
755	17"	Red Oak	Quercus rubra				X		
756	26"	Red Oak	Quercus rubra				X		
757	16"	Red Oak	Quercus rubra				X		
758	18"	Red Oak	Quercus rubra	2			X		
761	22"	Red Oak	Quercus rubra				X		
762	27"	Red Oak	Quercus rubra				X		
763	24"	Red Oak	Quercus rubra				X		
764	20"	Red Oak	Quercus rubra				X		
765	20"	Red Oak	Quercus rubra				X		
766	10"	Black Cherry	Prunus serotina						
767	7"	Red Maple	Acer rubrum						
768	9"	Red Maple	Acer rubrum						
769	12"	American Elm	Ulmus americana						
770	9"	American Elm	Ulmus americana						
787	14"	Red Oak	Quercus rubra						
794	22"	Red Oak	Quercus rubra				X		
795	22"	Red Oak	Quercus rubra				X		
796	28"	Red Oak	Quercus rubra				X		
797	25"	Bur Oak	Quercus macrocarpa		19		X		
805	27"	Red Oak	Quercus rubra				X		
806	15"	Red Oak	Quercus rubra						
809	16"	White Ash	Fraxinus americana		dead				X
817	14"	Pignut Hickory	Carya glabra		dead				
813	21"	Red Oak	Quercus rubra		18		X		
824	23"	Red Oak	Quercus rubra		21		X		
828	13"	Black Cherry	Prunus serotina						
829	7"	Red Maple	Acer rubrum						
830	15"	Black Cherry	Prunus serotina						
831	6"	American Elm	Ulmus americana						
832	7"	Shagbark Hickory	Carya ovata						
833	8"	American Elm	Ulmus americana						
834	8"	Red Oak	Quercus rubra						
835	10"	Black Cherry	Prunus serotina	2					
836	14"	Black Cherry	Prunus serotina	2	15		X		
837	8"	Black Walnut	Juglans nigra						
838	14"	Black Cherry	Prunus serotina						
840	19"	Black Cherry	Prunus serotina		20		X		
849	29"	Red Oak	Quercus rubra		21		X		
850	7"	Shagbark Hickory	Carya ovata						
851	13"	Shagbark Hickory	Carya ovata	2	18		X		
853	8"	Shagbark Hickory	Carya ovata						
854	8"	Shagbark Hickory	Carya ovata						
855	13"	Black Cherry	Prunus serotina						
856	10"	Black Cherry	Prunus serotina						
857	9"	American Elm	Ulmus americana						
858	6"	Shagbark Hickory	Carya ovata						
859	9"	Black Cherry	Prunus serotina						
860	8"	Shagbark Hickory	Carya ovata						
861	7"	Shagbark Hickory	Carya ovata						
862	9"	Shagbark Hickory	Carya ovata						
863	10"	Black Cherry	Prunus serotina						
864	9"	Shagbark Hickory	Carya ovata						
868	23"	Red Oak	Quercus rubra		19		X		
875	9"	Shagbark Hickory	Carya ovata						
876	8"	Shagbark Hickory	Carya ovata						
877	7"	Shagbark Hickory	Carya ovata						
878	15"	Red Oak	Quercus rubra						
879	7"	Shagbark Hickory	Carya ovata						
880	7"	Shagbark Hickory	Carya ovata						
881	8"	Shagbark Hickory	Carya ovata						
882	8"	Shagbark Hickory	Carya ovata						
883	8"	Shagbark Hickory	Carya ovata						
884	7"	Shagbark Hickory	Carya ovata						
885	10"	Shagbark Hickory	Carya ovata						
886	9"	American Elm	Ulmus americana						
887	6"	Red Maple	Acer rubrum						
888	8"	American Elm	Ulmus americana						
889	9"	American Elm	Ulmus americana						
890	6"	Red Maple	Acer rubrum						
891	17"	Red Oak	Quercus rubra				X		
892	6"	Shagbark Hickory	Carya ovata						
893	7"	Shagbark Hickory	Carya ovata						
894	7"	Shagbark Hickory	Carya ovata						
895	8"	Shagbark Hickory	Carya ovata						
904	16"	Black Cherry	Prunus serotina						
916	12"	Black Cherry	Prunus serotina	2					
919	15"	Red Maple	Acer rubrum						
921	15"	Black Walnut	Juglans nigra				X		
923	18"	Black Walnut	Juglans nigra				X		
924	19"	Black Walnut	Juglans nigra				X		
927	8"	American Elm	Ulmus americana						
928	8"	Black Walnut	Juglans nigra						
929	7"	Black Walnut	Juglans nigra						
930	6"	Northern Hackberry	Celtis occidentalis						
931	9"	American Elm	Ulmus americana	2					
932	16"	Black Walnut	Juglans nigra						
938	12"	Northern Hackberry	Celtis occidentalis						
939	17"	Black Walnut	Juglans nigra						
940	7"	Red Maple	Acer rubrum						
941	12"	Black Walnut	Juglans nigra						
942	17"	Black Walnut	Juglans nigra						
943	15"	Black Walnut	Juglans nigra						
947	19"	Black Walnut	Juglans nigra				X		
948	12"	American Elm	Ulmus americana						

TAG#	DBH	COMMON NAME	GENUS/SPECIES	STEM	SCORE	LM	INV	REMOVE	MITIGATE
949	14"	Linden	Tilia americana						
950	20"	Northern Hackberry	Celtis occidentalis				X		
951	5"	Northern Hackberry	Celtis occidentalis						
952	7"	American Elm	Ulmus americana						
953	19"	American Elm	Ulmus americana				X		
954	14"	Black Cherry	Prunus serotina						
955	10"	Black Cherry	Prunus serotina						
956	12"	Black Walnut	Juglans nigra						
957	6"	Northern Hackberry	Celtis occidentalis						
958	8"	Black Cherry	Prunus serotina						
959	7"	Red Maple	Acer rubrum						
960	10"	Red Maple	Acer rubrum						
961	15"	Black Walnut	Juglans nigra						
962	9"	Red Oak	Quercus rubra						
963	12"	Red Oak	Quercus rubra						
964	10"	Black Cherry	Prunus serotina						
965	13"	Red Maple	Acer rubrum						
966	16"	Black Cherry	Prunus serotina						
967	8"	Black Walnut	Juglans nigra						
970	9"	Black Cherry	Prunus serotina						
971	9"	Norway Maple	Acer platanoides				X	X	
974	8"	Northern Hackberry	Celtis occidentalis						
975	13"	American Elm	Ulmus americana						
976	19"	Linden	Tilia americana				X		
977	12"	American Elm	Ulmus americana						
978	12"	American Elm	Ulmus americana					X	
979	9"	Norway Maple	Acer platanoides				X	X	
980	15"	Black Walnut	Prunus serotina					X	
981	14"	Black Walnut	Prunus serotina					X	
982	12"	Black Walnut	Juglans nigra					X	
984	8"	Black Walnut	Juglans nigra					X	
986	7"	Box Elder	Acre negundo						
987	11"	Black Walnut	Juglans nigra					X	
989	13"	Black Walnut	Juglans nigra					X	
990	20"	Black Walnut	Juglans nigra				X		
991	8"	Black Walnut	Juglans nigra						
992	16"	Black Walnut	Juglans nigra						
994	19"	Linden	Tilia americana				X		
995	14"	Black Walnut	Juglans nigra						
996	17"	Black Walnut	Juglans nigra						
997	13"	American Elm	Ulmus americana						
998	6"	Norway Maple	Acer platanoides					X	
999	33"	Black Walnut	Juglans nigra				X		
1000	43"	Sugar Maple	Acer saccharum				X		
1001	10"	American Elm	Ulmus americana						
1002	15"	American Elm	Ulmus americana						
1003	8"	Northern Hackberry	Celtis occidentalis						
1004	32"	Black Walnut	Juglans nigra				X		
1007	7"	Red Maple	Acer rubrum						
1008	8"	Tree-of-Heaven	Ailanthus altissima					X	
1009	18"	Black Walnut	Juglans nigra				X		
1010	21"	Black Walnut	Juglans nigra				X		
1011	12"	American Elm	Ulmus americana						
1012	22"	Black Walnut	Juglans nigra				X		
1013	14"	White Mulberry	Morus alba					X	
1014	43"	Black Walnut	Juglans nigra				X		
1015	7"	Red Maple	Acer rubrum						
1016	9"	Red Maple	Acer rubrum						
1017	9"	Red Maple	Acer rubrum						
1018	9"	Red Maple	Acer rubrum						
1019	9"	Red Maple	Acer rubrum						
1020	22"	American Elm	Ulmus americana				X		
1021	7"	American Elm	Ulmus americana						
1022	37"	Cottonwood	Populus deltoides				X		
1023	9"	American Elm	Ulmus americana						
1024	10"	American Elm	Ulmus americana						
1025	29"	Cottonwood	Populus deltoides				X		
1026	20"	Cottonwood	Populus deltoides						
1027	7"	American Elm	Ulmus americana						
1028	8"	American Elm	Ulmus americana						
1029	17"	Black Walnut	Juglans nigra						
1030	9"	Black Cherry	Prunus serotina						
1031	6"	American Elm	Ulmus americana						
1032	12"	American Elm	Ulmus americana						
1033	22"	Cottonwood	Populus deltoides						
1034	14"	Cottonwood	Populus deltoides						
1035	20"	Cottonwood	Populus delt						

M:\CV\134\Proj\16223\Main\Amend 2\16223\Site.dwg, 2/16/2021 2:39 PM, Jim Minner, MCLLC PDF, p.3
 Copyright © 2020, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.




 SCALE: 1" = 40'


 Know what's below.
 Call before you dig.

LEGEND	
	EXIST. CONTOUR
	EXIST. UTILITY POLE
	EXIST. GUY POLE
	GUY WIRE
	ELEC. TRANSFORMER
	EXIST. OVERHEAD UTILITY LINE
	EXIST. LIGHT POLE
	EXIST. TELEPHONE LINE
	EXIST. ELECTRIC LINE
	EXIST. GAS LINE
	EXIST. GAS VALVE
	EXIST. WATER MAIN
	EXIST. HYDRANT
	EXIST. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
	EXIST. STORM SEWER
	EXIST. CATCH BASIN OR INLET
	EXIST. BEEHIVE INLET
	END SECTION
	EXIST. CULVERT
	EXIST. SANITARY SEWER
	EXIST. CLEANOUT
	C/L OF DITCH
	DRAINAGE DIRECTION
	SIGN
	MAILBOX
	TELEPHONE RISER
	CABLE TELEVISION RISER
	ELECTRIC METER
	WATER METER
	GAS METER
	POST
	WELL
	FENCE
	GUARDRAIL
	SINGLE TREE
	SINGLE TREE
	TREE OR BRUSH LIMIT
	EXIST. BOULDER
	SECTION CORNER
	SET IRON PIPE
	FOUND IRON PIPE
	SET MONUMENT
	FOUND MONUMENT
	SET IRON ROD
	FOUND IRON ROD
	SOIL TYPE BOUNDARY
	STEEP SLOPES
	PROP. SILT FENCE
	PROP. TREE
	PROTECTION FENCE
	LIMITS OF DISTURBANCE

NATURAL FEATURES PROTECTION PLAN

- The limits of disturbance will be defined with silt fence and construction fence as shown on the Site Analysis and Natural Features Protection Plans and the Grading and Soil Erosion Control Plans.
- Wetland areas to remain will be protected with silt fence and/or construction fence as shown on the plans.
- Trees to remain will be protected with construction fence as shown on the plans.

SOIL TYPE LEGEND	
BnB	BOYER LOAMY SAND, 0 TO 6 PERCENT SLOPES
FoC	FOX SANDY LOAM, 6 TO 12 PERCENT SLOPES
FoD	FOX SANDY LOAM, 12 TO 18 PERCENT SLOPES
MdA	MATHERTON SANDY LOAM, 0 TO 4 PERCENT SLOPES
WawabB	WAWASEE LOAM, 2 TO 6 PERCENT SLOPES
WawabD	WAWASEE LOAM, 6 TO 12 PERCENT SLOPES

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

SEE SHEET 10 FOR WOODLAND AND WETLAND ANALYSIS DESCRIPTIONS

MIDWESTERN CONSULTING

3845 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services

CLIENT

TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

COTTAGES AT BARTON GREEN

ADMINISTRATIVE AMENDMENT

SITE ANALYSIS AND NATURAL FEATURES PROTECTION PLAN (EAST)

08

JOB No. **16223**

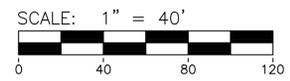
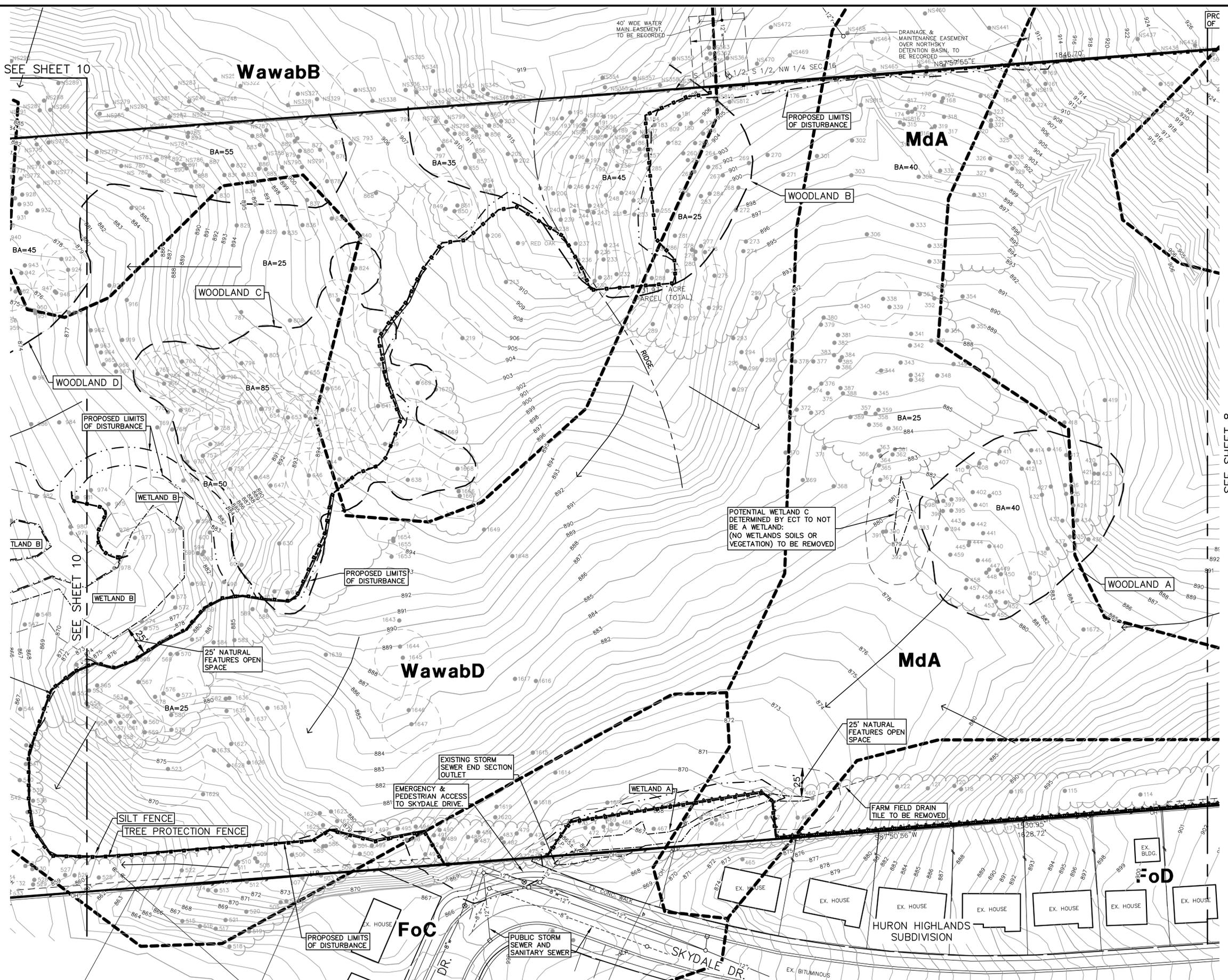
REVISIONS:

REV. DATE	REV. DATE	ADD.
11/12/17	8/16/17	ENG. JCA
11/15/17	PM. SWB	TECH. SWB
16223\Site.dwg	16223\Site.dwg	16223\Site.dwg

DATE: 8/25/17

SHEET 8 OF 49

M:\CV\134\Proj\16223\16223.dwg, 2/16/2021 2:39 PM, Jim Albert, MLLC PDF, p.3
Copyright © 2020, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



LEGEND

- 838 ——— EXIST. CONTOUR
- U.P. EXIST. UTILITY POLE
- GP - EXIST. GUY POLE
- GUY WIRE
- ELEC. TRANSFORMER
- EXIST. OVERHEAD UTILITY LINE
- EXIST. LIGHT POLE
- EXIST. TELEPHONE LINE
- EXIST. ELECTRIC LINE
- EXIST. GAS LINE
- EXIST. GAS VALVE
- EXIST. WATER MAIN
- EXIST. HYDRANT
- EXIST. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- EXIST. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- EXIST. BEEHIVE INLET
- END SECTION
- CULVERT
- EXIST. SANITARY SEWER
- EXIST. CLEANOUT
- C/L OF DITCH
- DRAINAGE DIRECTION
- SIGN
- MAILBOX
- TELEPHONE RISER
- CABLE TELEVISION RISER
- ELECTRIC METER
- WATER METER
- GAS METER
- POST
- WELL
- FENCE
- GUARDRAIL
- SINGLE TREE
- SINGLE TREE
- TREE OR BRUSH LIMIT
- EXIST. BOULDER
- SECTION CORNER
- SET IRON PIPE
- FOUND IRON PIPE
- SET MONUMENT
- FOUND MONUMENT
- SET IRON ROD
- FOUND IRON ROD
- SOIL TYPE BOUNDARY
- STEEP SLOPES
- PROP. SILT FENCE
- PROP. TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE

SOIL TYPE LEGEND

- BnB BOYER LOAMY SAND, 0 TO 6 PERCENT SLOPES
- FoC FOX SANDY LOAM, 6 TO 12 PERCENT SLOPES
- FoD FOX SANDY LOAM, 12 TO 18 PERCENT SLOPES
- MdA MATHERTON SANDY LOAM, 0 TO 4 PERCENT SLOPES
- WawabB WAWASEE LOAM, 2 TO 6 PERCENT SLOPES
- WawabD WAWASEE LOAM, 6 TO 12 PERCENT SLOPES

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

SEE SHEET 10 FOR WOODLAND AND WETLAND ANALYSIS DESCRIPTIONS

MIDWESTERN CONSULTING
385 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

CLIENT
TRINITAS DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, IN 47901
DAMIAN VANMATRE
(765) 807-2713

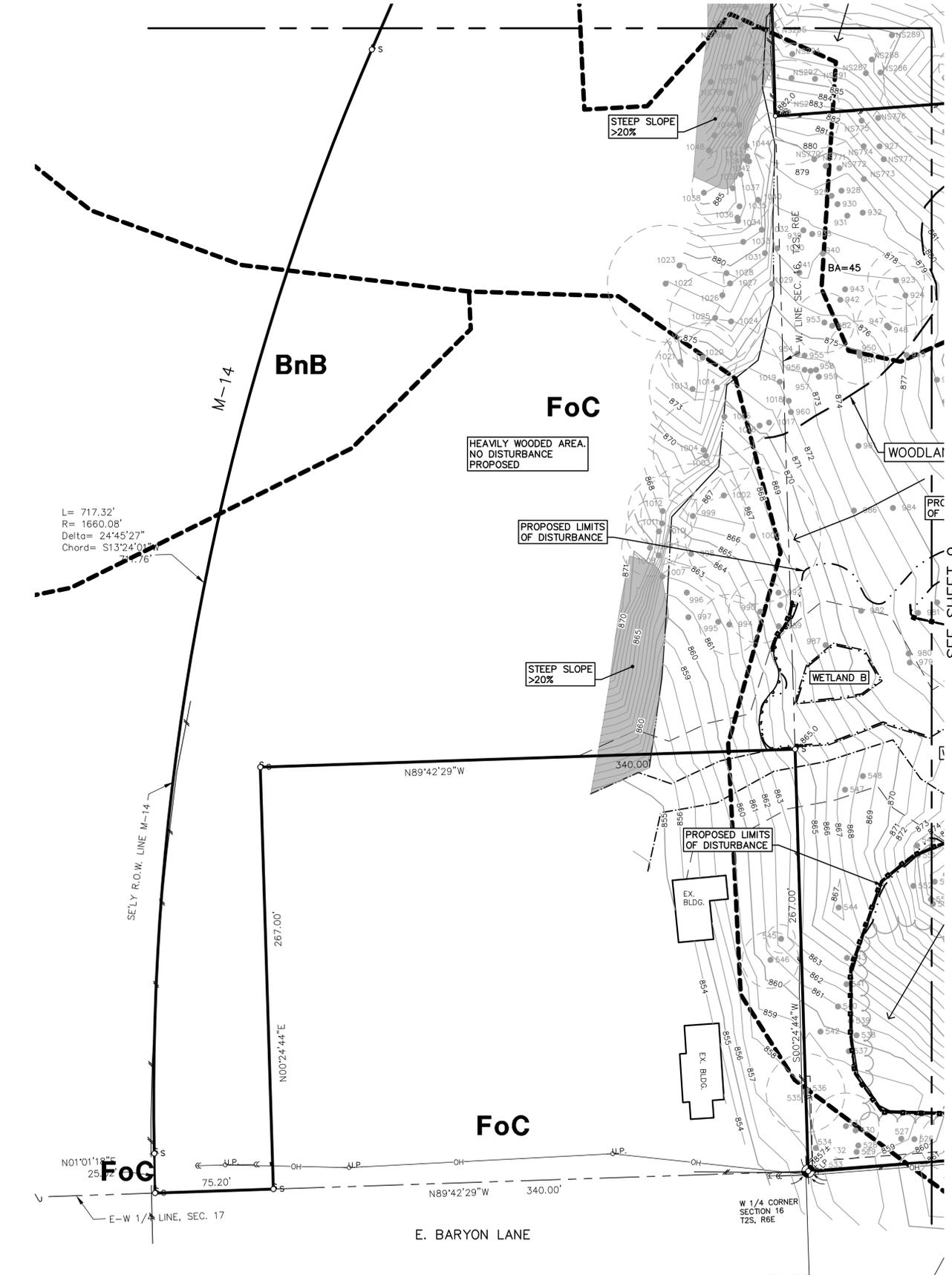
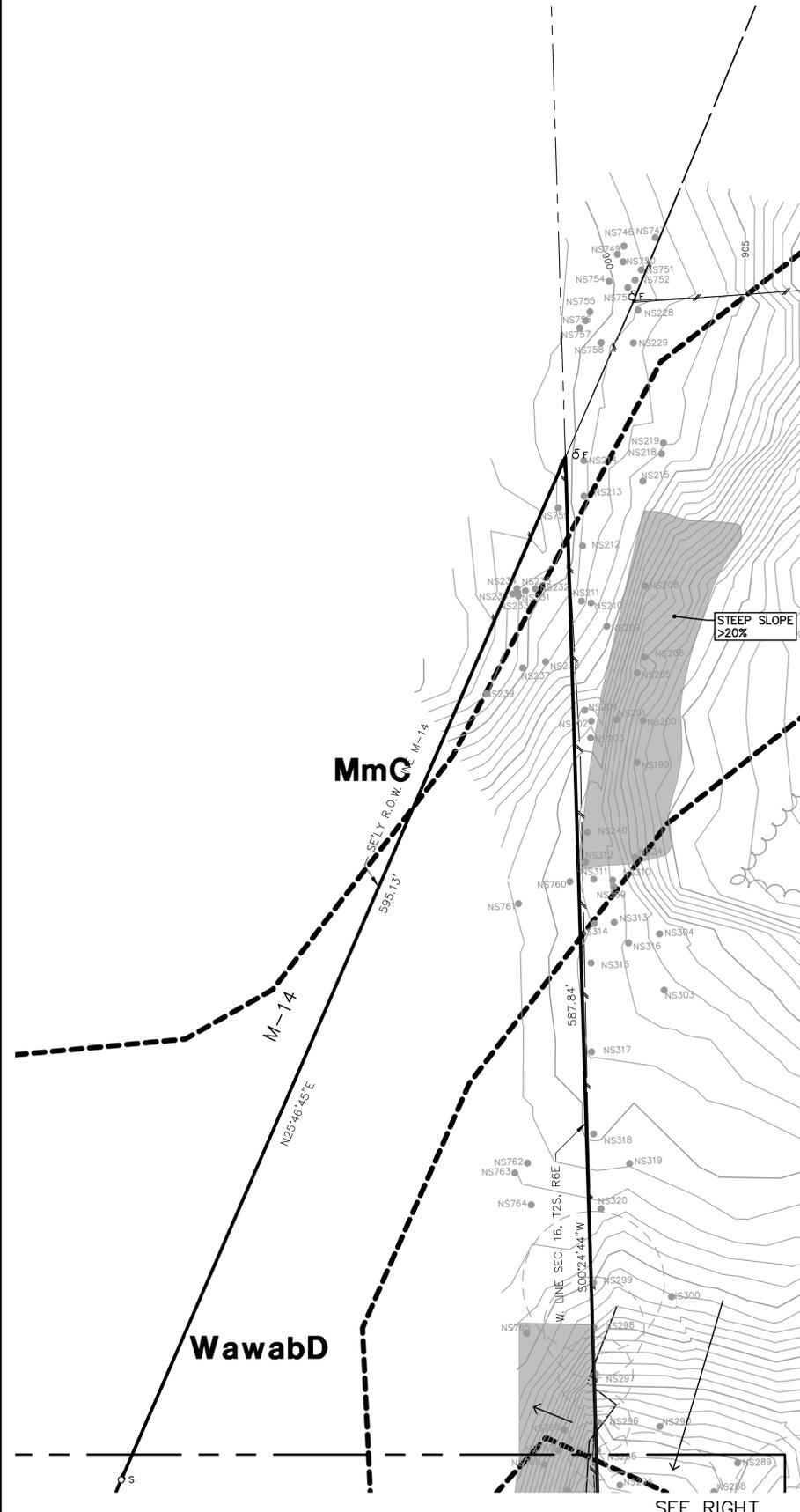
COTTAGES AT BARTON GREEN
ADMINISTRATIVE AMENDMENT
SITE ANALYSIS AND NATURAL FEATURES PROTECTION PLAN (CENTER)

9

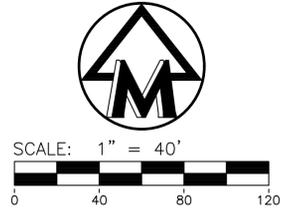
DATE: 9/25/17
SHEET 9 OF 49
REV. DATE: 11/12/17
REV. DATE: 8/16/17
REV. DATE: 11/15/17
CADD: JCA
ENG: JWB
P.L.C.: SWB
TECH: SWB
16223.dwg

16223

M:\CV\134_Prop\16223\ADMIN\2162235.dwg, 2/16/2023 2:39 PM, Jim Minner, MLLC PDF, p.3
Copyright © 2023, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.



LEGEND	
	EXIST. CONTOUR
	EXIST. UTILITY POLE
	EXIST. GUY POLE
	GUY WIRE
	ELEC. TRANSFORMER
	EXIST. OVERHEAD UTILITY LINE
	EXIST. LIGHT POLE
	EXIST. TELEPHONE LINE
	EXIST. ELECTRIC LINE
	EXIST. GAS LINE
	EXIST. GAS VALVE
	EXIST. WATER MAIN
	EXIST. HYDRANT
	EXIST. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
	EXIST. STORM SEWER
	EXIST. CATCH BASIN OR INLET
	EXIST. BEEHIVE INLET
	END SECTION
	CULVERT
	EXIST. SANITARY SEWER
	EXIST. CLEANOUT
	C/L OF DITCH
	DRAINAGE DIRECTION SIGN
	MAILBOX
	TELEPHONE RISER
	CABLE TELEVISION RISER
	ELECTRIC METER
	WATER METER
	GAS METER
	POST
	WELL
	FENCE
	GUARDRAIL
	SINGLE TREE
	SINGLE TREE
	TREE OR BRUSH LIMIT
	EXIST. BOULDER
	SECTION CORNER
	SET IRON PIPE
	FOUND IRON PIPE
	SET MONUMENT
	FOUND MONUMENT
	SET IRON ROD
	FOUND IRON ROD
	SOIL TYPE BOUNDARY
	STEEP SLOPES
	PROP. SILT FENCE
	PROP. TREE PROTECTION FENCE
	LIMITS OF DISTURBANCE

SITE ANALYSIS NOTES

WOODLAND ANALYSIS
The site consists of 31 acres of land between Pontiac Trail and M-14. Approximately 24 acres was tilled and pastures until the late 1950s and early 1960s. The majority of the site contained scrubby undergrowth and regenerative tree species. Brushing and selective clearing of dead, invasive, and diseased trees was done after the previous Barton Green Site Plan was approved. Few regulated woodlands exist on the site in the areas where development is proposed. The highest quality woodlands exist at the western portion of the site that will remain undisturbed and therefore are not analyzed as part of this proposed site plan. Most of the Landmark Trees are contained within the original hedgerows of the old farm homestead. The following is a summary of the woodlands that exist within the portion of the site that will be developed.

Woodland A - This woodland contains a stand of regenerative deciduous trees consisting of 6-12 inch shagbark hickory, elm and black cherry. This woodland is of low quality.
Woodland B - This woodland contains primarily early growth deciduous trees and several smaller Landmark Trees. Species include shagbark hickory, oak, elm and black cherry. This woodland is of medium quality.
Woodland C - This woodland consists of older growth native hardwoods, primarily red oak with some hickory and black cherry. This woodland is of highest concern and is identified by the City staff as a native forest fragment.
Woodland D - This woodland consists of regenerative and pioneer growth along with the remainder of some original hedgerows. A wide variety of hardwoods and softwoods predominate this area. This area is of mid-level concern.
Woodland E - This woodland consists of small diameter regenerative vegetation. Species include cherry, elm, box elder, and willow. This woodland is of low quality.

All mitigation for Landmark Tree and Woodland Tree removal shall be in the form of tree replacement on the site.

WETLAND ANALYSIS
There are two wetlands identified on the site.
Wetland A - This wetland is located along the south edge of the site and is an approximately 0.05 acre finger shaped area extending along a swale from a storm sewer outlet. The wetland is the result of grading activities for the Huron Highlands subdivision and may receive drainage from a farm tile at the east end of the wetland. The storm sewer and section at the west end of this wetland is the outlet location for a portion of the existing site and drains to the public storm sewer in Skydale Drive. The on-site portion of this wetland will be removed during mass grading of this site.
Wetland B - This wetland is located near the west end of the site and extends west onto the adjacent parcel. The on-site portion of this wetland is approximately 0.19 acres. This wetland is a higher quality wetland and is partially wooded. This wetland will not be disturbed by the proposed site development and will remain with the proposed open space/park area on the site.
Potential Wetland C - A third small wet area of less than 0.02 acres is located approximately in the middle of the site. It has very little wetland vegetation, no hydric soils, is likely also the result of a buried farm tile, and does not qualify as a wetland. This area will be removed during mass grading.

MIDWESTERN CONSULTING
385 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

CLIENT
TRINITAS DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, IN 47901
DAMIEN VANMATRE
(765) 807-2713

COTTAGES AT BARTON GREEN
ADMINISTRATIVE AMENDMENT
SITE ANALYSIS AND NATURAL FEATURES PROTECTION PLAN (WEST)

10

JOB No. **16223**

DATE: 9/25/17

SHEET 10 OF 49

REV. DATE: 6/10/17

ADD: 6/16/17

ENG. JCA

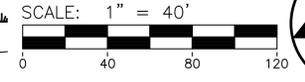
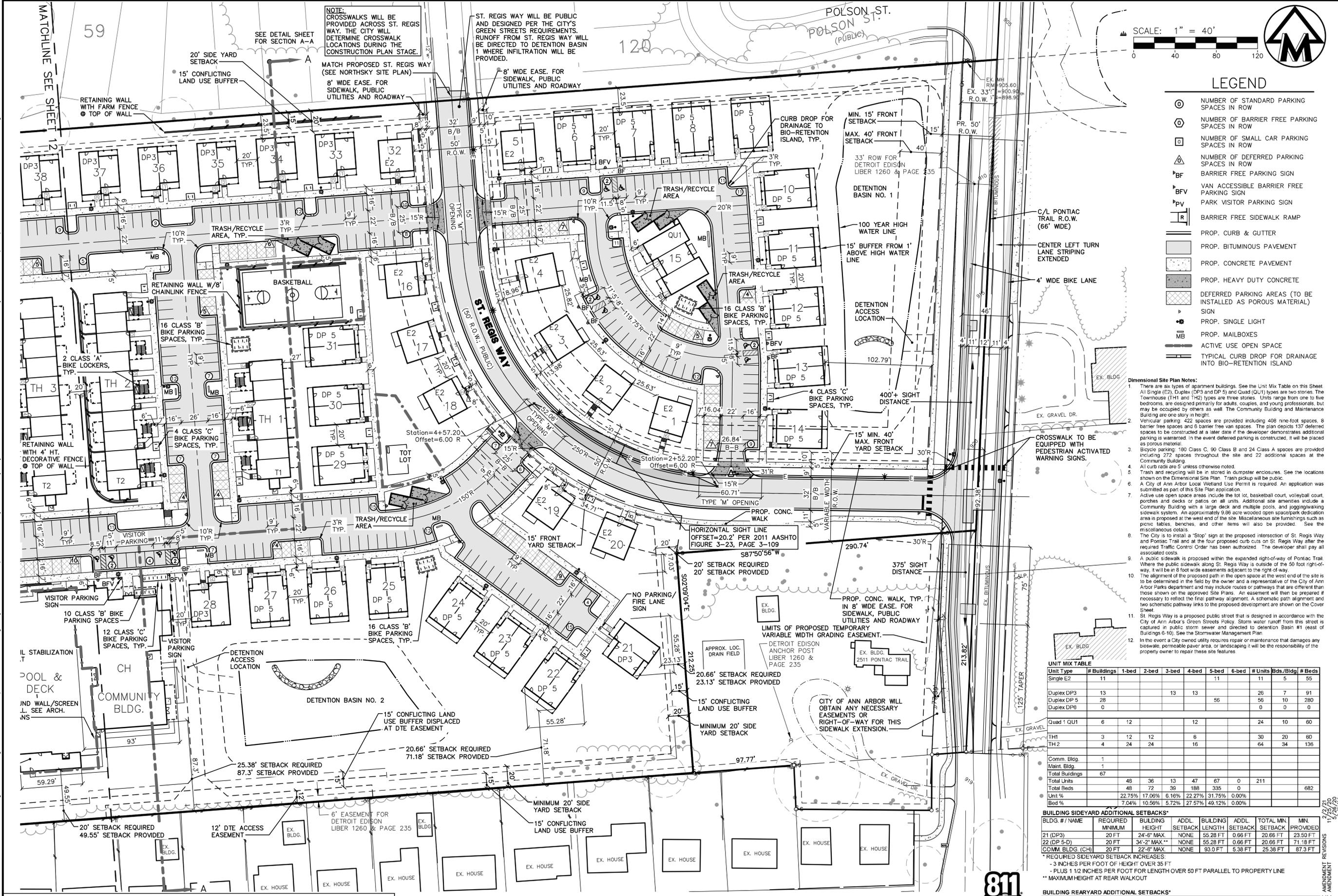
11/15/17

PM: SWB

TECH: SWB

162235A1.dwg

Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



LEGEND

- NUMBER OF STANDARD PARKING SPACES IN ROW
- NUMBER OF BARRIER FREE PARKING SPACES IN ROW
- NUMBER OF SMALL CAR PARKING SPACES IN ROW
- △ NUMBER OF DEFERRED PARKING SPACES IN ROW
- BF BARRIER FREE PARKING SIGN
- BV VAN ACCESSIBLE BARRIER FREE PARKING SIGN
- PV PARK VISITOR PARKING SIGN
- R BARRIER FREE SIDEWALK RAMP
- PROP. CURB & GUTTER
- PROP. BITUMINOUS PAVEMENT
- PROP. CONCRETE PAVEMENT
- PROP. HEAVY DUTY CONCRETE
- DEFERRED PARKING AREAS (TO BE INSTALLED AS POROUS MATERIAL)
- PROP. SINGLE LIGHT
- MB PROP. MAILBOXES
- ACTIVE USE OPEN SPACE
- TYPICAL CURB DROP FOR DRAINAGE INTO BIO-RETENTION ISLAND

- Dimensional Site Plan Notes:**
- There are six types of apartment buildings. See the Unit Mix Table on this sheet. All Single (E2), Duplex (DP3 and DP5) and Quad (QU1) types are two stories. The Townhouse (TH1 and TH2) types are three stories. Units range from one to five bedrooms, are designed primarily for adults, couples, and young professionals, but may be occupied by others as well. The Community Building and Maintenance Building are one story in height.
 - Venue parking: 422 spaces are provided including 408 nine-foot spaces, 8 barrier free spaces and 6 barrier free van spaces. The plan depicts 137 deferred spaces to be constructed at a later date if the developer demonstrates additional parking is warranted. In the event deferred parking is constructed, it will be placed as porous material.
 - Bicycle parking: 180 Class C, 90 Class B and 24 Class A spaces are provided including 272 spaces throughout the site and 22 additional spaces at the Community Building.
 - All curb radii are 5' unless otherwise noted.
 - Trash and recycling will be stored in dumpster enclosures. See the locations shown on the Dimensional Site Plan. Trash pickup will be public.
 - A City of Ann Arbor Local Wetland Use Permit is required. An application was submitted as part of this Site Plan application.
 - Active use open space areas include the tot lot, basketball court, volleyball court, porches and decks or patios on all units. Additional site amenities include a Community Building with a large deck and multiple pools, and jogging/walking sidewalk system. An approximately 9.06 acre wooded open space/park dedication area is proposed at the west end of the site. Miscellaneous site furnishings such as picnic tables, benches, and other items will also be provided. See the miscellaneous details.
 - The City is to install a 'Stop' sign at the proposed intersection of St. Regis Way and Pontiac Trail and at the four proposed curb cuts on St. Regis Way after the required Traffic Control Order has been authorized. The developer shall pay all associated costs.
 - A public sidewalk is proposed within the expanded right-of-way of Pontiac Trail. Where the public sidewalk along St. Regis Way is outside of the 50 foot right-of-way, it will be in a 6 foot wide easement adjacent to the right-of-way.
 - The alignment of the proposed path in the open space at the west end of the site is to be determined in the field by the owner and a representative of the City of Ann Arbor Parks department and may include routes or pathways that are different than those shown on the approved Site Plans. An easement will then be prepared if necessary to reflect the final pathway alignment. A schematic path alignment and two schematic pathway links to the proposed development are shown on the Cover Sheet.
 - St. Regis Way is a proposed public street that is designed in accordance with the City of Ann Arbor's Green Streets Policy. Storm water runoff from the street is captured in public storm sewer and directed to detention basin #1 (east of Buildings 6-10). See the Stormwater Management Plan.
 - In the event a City owned utility requires repair or maintenance that damages any bowhole, permeable paver area, or landscaping it will be the responsibility of the property owner to repair these site features.

UNIT MIX TABLE

Unit Type	# Buildings	1-bed	2-bed	3-bed	4-bed	5-bed	6-bed	# Units	Bds/Bldg	# Beds
Single E2	11					11		11	5	55
Duplex DP3	13			13	13			26	7	91
Duplex DP5	28					56		56	10	280
Duplex DP6	0							0	0	0
Quad 1 QU1	6	12			12			24	10	60
TH1	3	12	12		6			30	20	60
TH2	4	24	24		16			64	34	136
Comm. Bldg.	1									
Maint. Bldg.	1									
Total Buildings	67									
Total Units		48	36	13	47	67	0	211		
Total Beds		48	72	39	188	335	0			682
Unit %		22.75%	17.06%	6.16%	22.27%	31.75%	0.00%			
Bed %		7.04%	10.56%	5.72%	27.57%	49.12%	0.00%			

BUILDING SIDEYARD ADDITIONAL SETBACKS*

Bldg. # / Name	REQUIRED MINIMUM	BUILDING HEIGHT	ADDL. SETBACK	BUILDING LENGTH	ADDL. SETBACK	TOTAL MIN. SETBACK	MIN. PROVIDED
21 (DP3)	20 FT	24'-8" MAX.	NONE	55.28 FT	0.66 FT	20.66 FT	23.50 FT
22 (DP 5-D)	20 FT	34'-2" MAX.	NONE	55.28 FT	0.66 FT	20.66 FT	71.18 FT
COMM. BLDG. (CH)	20 FT	22'-8" MAX.	NONE	93.0 FT	5.38 FT	25.38 FT	87.3 FT

* REQUIRED SIDEYARD SETBACK INCREASES:
 - 3 INCHES PER FOOT OF HEIGHT OVER 35 FT
 - PLUS 1 1/2 INCHES PER FOOT FOR LENGTH OVER 50 FT PARALLEL TO PROPERTY LINE
 ** MAXIMUM HEIGHT AT REAR WALKOUT

BUILDING REARYARD ADDITIONAL SETBACKS*

NONE REQUIRED

* REQUIRED REARYARD SETBACK INCREASES:
 - 1 FT PER FOOT OF HEIGHT OVER 30 FT ABUTTING RESIDENTIALLY ZONED LAND
 - PLUS 1 1/2 INCHES PER FOOT OF BUILDING HEIGHT OVER 35 FT
 - PLUS 1 1/2 INCHES PER FOOT FOR WIDTH OVER 50 FT

COTTAGES AT BARTON GREEN

ADMINISTRATIVE AMENDMENT
DIMENSIONAL SITE PLAN (EAST)

11

16223

DATE: 9/25/17
SHEET 11 OF 49

REV. DATE: 9/16/17
REV. BY: JCA
REV. DATE: 9/15/17
REV. BY: JCA
REV. DATE: 10/12/17
REV. BY: JCA
REV. DATE: 11/15/17
REV. BY: JCA
REV. DATE: 11/15/17
REV. BY: JCA
REV. DATE: 6/20/18
REV. BY: JCA

MIDWESTERN CONSULTING
3845 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

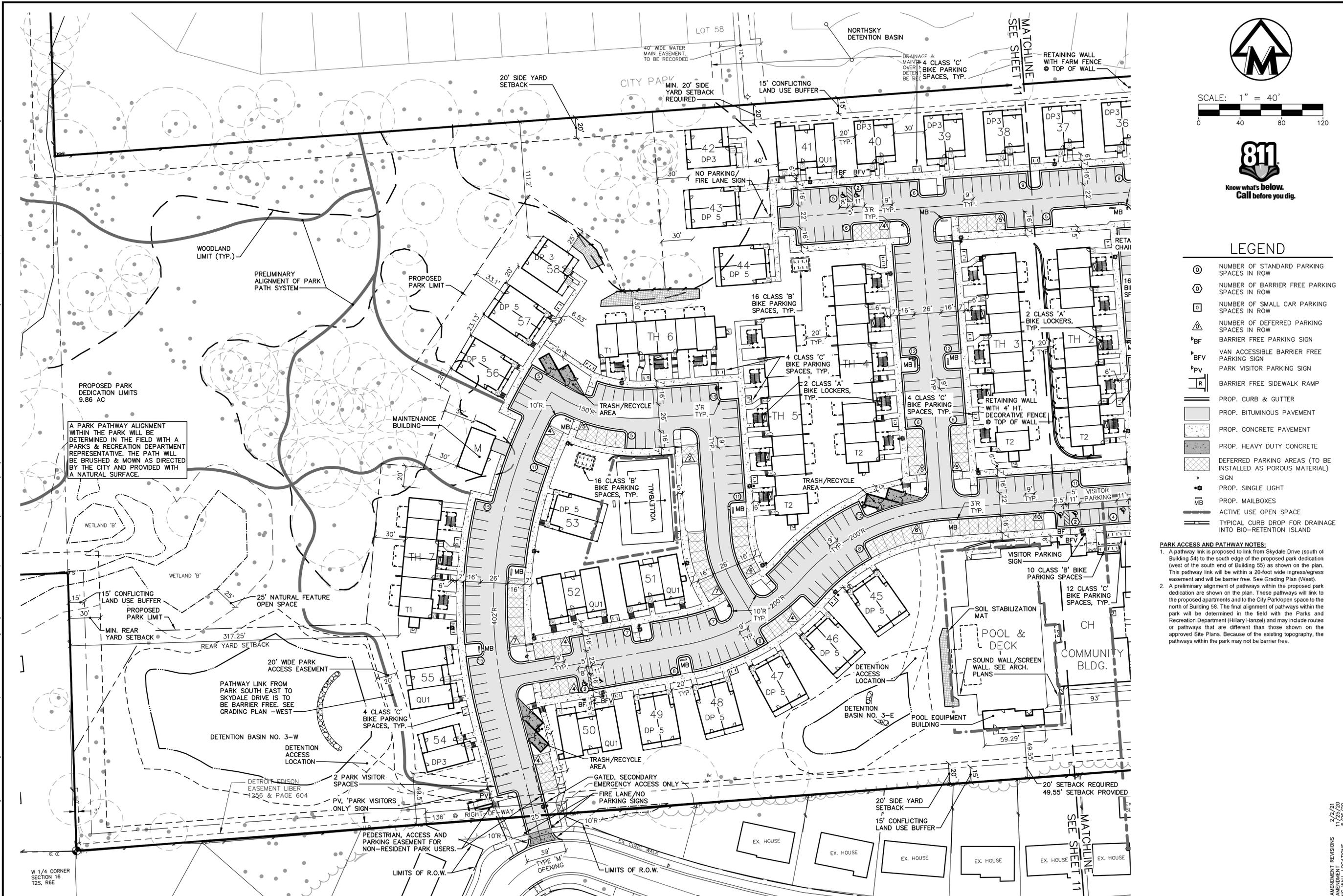


CLIENT
TRINITY DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, IN 47901
DAMIEN VANMATE
(765) 807-2713

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.



M:\CIVIL\152_P\15223\ADMIN\15223.dwg, 2/18/2021 2:40 PM, Jim Ahnert, None
 Copyright © 2021, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



A PARK PATHWAY ALIGNMENT WITHIN THE PARK WILL BE DETERMINED IN THE FIELD WITH A PARKS & RECREATION DEPARTMENT REPRESENTATIVE. THE PATH WILL BE BRUSHED & MOWN AS DIRECTED BY THE CITY AND PROVIDED WITH A NATURAL SURFACE.

PROPOSED PARK DEDICATION LIMITS
 9.86 AC

20' WIDE PARK ACCESS EASEMENT
 PATHWAY LINK FROM PARK SOUTH EAST TO SKYDALE DRIVE IS TO BE BARRIER FREE. SEE GRADING PLAN - WEST
 DETENTION BASIN NO. 3-W
 DETENTION ACCESS LOCATION
 DETROIT-EDISON EASEMENT LIBER 256 & PAGE 604
 2 PARK VISITOR SPACES
 PV, 'PARK VISITORS ONLY' SIGN
 PEDESTRIAN, ACCESS AND PARKING EASEMENT FOR NON-RESIDENT PARK USERS.

W 1/4 CORNER SECTION 16 T2S, R6E

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.



LEGEND

- ⊙ NUMBER OF STANDARD PARKING SPACES IN ROW
- ⊕ NUMBER OF BARRIER FREE PARKING SPACES IN ROW
- ⊠ NUMBER OF SMALL CAR PARKING SPACES IN ROW
- ⚠ NUMBER OF DEFERRED PARKING SPACES IN ROW
- BF BARRIER FREE PARKING SIGN
- BFV VAN ACCESSIBLE BARRIER FREE PARKING SIGN
- PV PARK VISITOR PARKING SIGN
- R BARRIER FREE SIDEWALK RAMP
- PROP. CURB & GUTTER
- ▨ PROP. BITUMINOUS PAVEMENT
- ▩ PROP. CONCRETE PAVEMENT
- ▧ PROP. HEAVY DUTY CONCRETE
- ▤ DEFERRED PARKING AREAS (TO BE INSTALLED AS POROUS MATERIAL)
- ⚡ SIGN
- ⚡ PROP. SINGLE LIGHT
- MB PROP. MAILBOXES
- ACTIVE USE OPEN SPACE
- TYPICAL CURB DROP FOR DRAINAGE INTO BIO-RETENTION ISLAND

- PARK ACCESS AND PATHWAY NOTES:**
1. A pathway link is proposed to link from Skydale Drive (south of Building 54) to the south edge of the proposed park dedication (west of the south end of Building 53) as shown on the plan. This pathway link will be within a 20-foot wide ingress/egress easement and will be barrier free. See Grading Plan (West).
 2. A preliminary alignment of pathways within the proposed park dedication are shown on the plan. These pathways will link to the proposed apartments and to the City Park/open space to the north of Building 58. The final alignment of pathways within the park will be determined in the field with the Parks and Recreation Department (Hillary Hanzel) and may include routes or pathways that are different than those shown on the approved Site Plans. Because of the existing topography, the pathways within the park may not be barrier free.

MIDWESTERN CONSULTING
 3845 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services

CLIENT
 TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

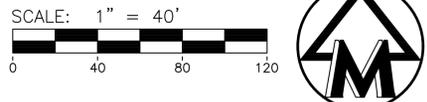
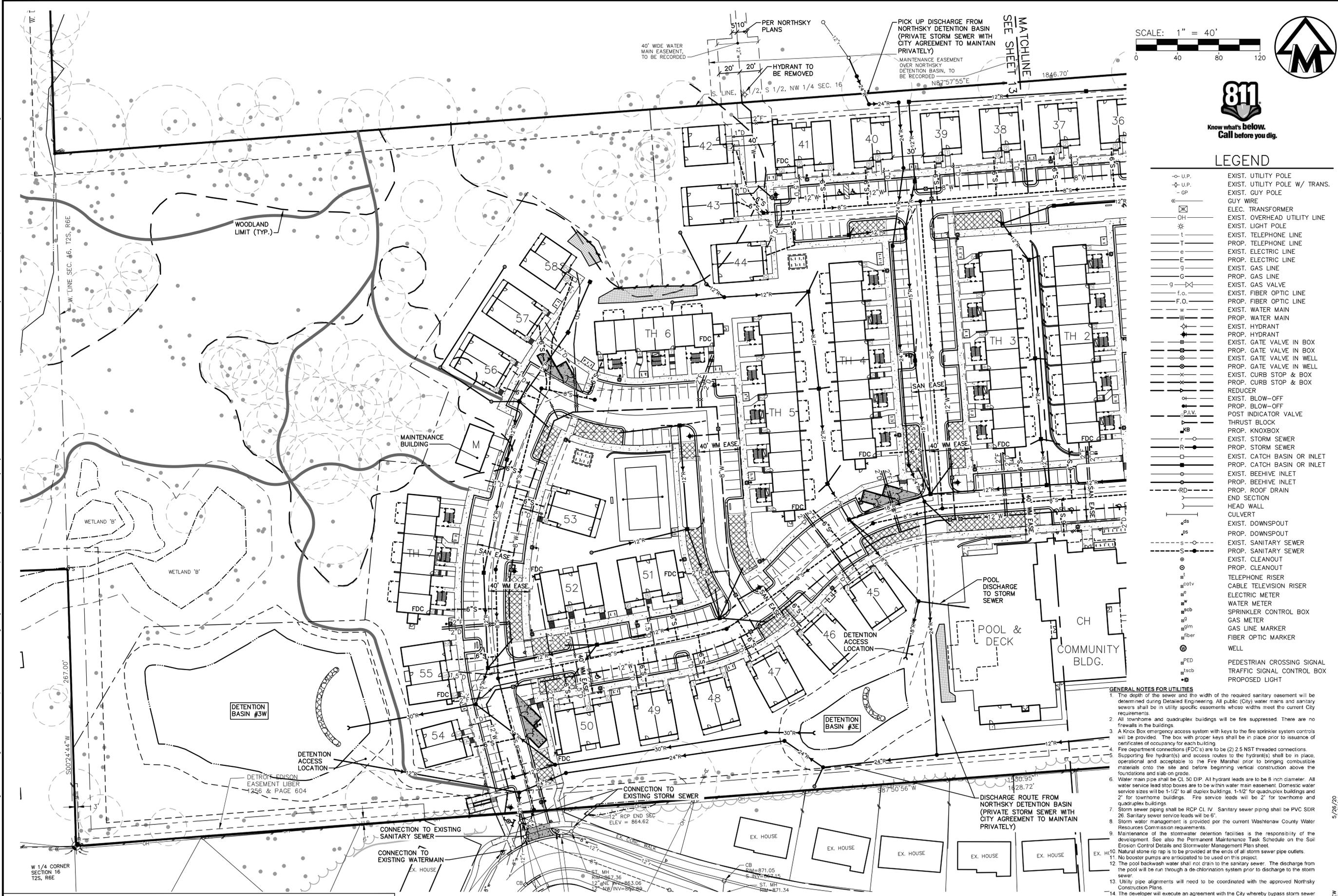
COTTAGES AT BARTON GREEN
 ADMINISTRATIVE AMENDMENT
 DIMENSIONAL SITE PLAN (WEST)

12

JOB No.	16223
DATE	5/25/17
SHEET	12 OF 49
REV. DATE	REV. DATE
REV. BY	REV. BY
REV. CITY/COUNTY	REV. CITY/COUNTY
REV. PER CITY	REV. PER CITY
REV. PER COUNTY	REV. PER COUNTY
REVISED PER AGREEMENT	REVISED PER AGREEMENT

ADMINISTRATIVE AMENDMENT REVISIONS
 ADMINISTRATIVE AMENDMENT
 REVISED RETAINING WALL LOCATIONS

MA:\CIVIL\132_Pro\16223\16223.dwg, 2/18/2021 2:40 PM, J.M. Ahern, None
Copyright © 2020, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



LEGEND

○-U.P.	EXIST. UTILITY POLE
○-U.P.	EXIST. UTILITY POLE W/ TRANS.
-GP	EXIST. GUY POLE
---	GUY WIRE
⊠	ELEC. TRANSFORMER
OH	EXIST. OVERHEAD UTILITY LINE
*	EXIST. LIGHT POLE
T	EXIST. TELEPHONE LINE
t	PROP. TELEPHONE LINE
e	EXIST. ELECTRIC LINE
e	PROP. ELECTRIC LINE
g	EXIST. GAS LINE
G	PROP. GAS LINE
g	EXIST. GAS VALVE
f.o.	EXIST. FIBER OPTIC LINE
F.O.	PROP. FIBER OPTIC LINE
w	EXIST. WATER MAIN
W	PROP. WATER MAIN
○	EXIST. HYDRANT
○	PROP. HYDRANT
○	EXIST. GATE VALVE IN BOX
○	PROP. GATE VALVE IN BOX
○	EXIST. GATE VALVE IN WELL
○	PROP. GATE VALVE IN WELL
x	EXIST. CURB STOP & BOX
x	PROP. CURB STOP & BOX
○	REDUCER
○	EXIST. BLOW-OFF
○	PROP. BLOW-OFF
○	POST INDICATOR VALVE
○	THRUST BLOCK
○	PROP. KNOXBOX
○	EXIST. STORM SEWER
○	PROP. STORM SEWER
○	EXIST. CATCH BASIN OR INLET
○	PROP. CATCH BASIN OR INLET
○	EXIST. BEEHIVE INLET
○	PROP. BEEHIVE INLET
○	PROP. ROOF DRAIN
○	END SECTION
○	HEAD WALL
○	CULVERT
○	EXIST. DOWNSPOUT
○	PROP. DOWNSPOUT
○	EXIST. SANITARY SEWER
○	PROP. SANITARY SEWER
○	EXIST. CLEANOUT
○	PROP. CLEANOUT
○	TELEPHONE RISER
○	CABLE TELEVISION RISER
○	ELECTRIC METER
○	WATER METER
○	SPRINKLER CONTROL BOX
○	GAS METER
○	GAS LINE MARKER
○	FIBER OPTIC MARKER
○	WELL
○	PEDESTRIAN CROSSING SIGNAL
○	TRAFFIC SIGNAL CONTROL BOX
○	PROPOSED LIGHT

GENERAL NOTES FOR UTILITIES

- The depth of the sewer and the width of the required sanitary easement will be determined during Detailed Engineering. All public (City) water mains and sanitary sewers shall be in utility specific easements whose widths meet the current City requirements.
- All townhome and quadplex buildings will be fire suppressed. There are no firewalls in the buildings.
- A Knox Box emergency access system with keys to the fire sprinkler system controls will be provided. The box with proper keys shall be in place prior to issuance of certificates of occupancy for each building.
- Fire department connections (FDC's) are to be (2) 2.5 NST threaded connections. Supporting fire hydrant(s) and access routes to the hydrant(s) shall be in place, operational and acceptable to the Fire Marshal prior to bringing combustible materials onto the site and before beginning vertical construction above the foundations and slab on grade.
- Water main pipe shall be CL 50 DIP. All hydrant leads are to be 8 inch diameter. All water service lead stop boxes are to be within water main easement. Domestic water service sizes will be 1-1/2" to all duplex buildings, 1-1/2" for quadplex buildings and 2" for townhome buildings. Fire service leads will be 2" for townhome and quadplex buildings.
- Storm sewer piping shall be RCP CL IV. Sanitary sewer piping shall be PVC SDR 26. Sanitary sewer service leads will be 6".
- Storm water management is provided per the current Washtenaw County Water Resources Commission requirements.
- Maintenance of the stormwater detention facilities is the responsibility of the development. See also the Permanent Maintenance Task Schedule on the Soil Erosion Control Details and Stormwater Management Plan sheet.
- Natural stone rip rap is to be provided at the ends of all storm sewer pipe outlets.
- No booster pumps are anticipated to be used on this project.
- The pool backwash water shall not drain to the sanitary sewer. The discharge from the pool will be run through a de-chlorination system prior to discharge to the storm sewer.
- Utility pipe alignments will need to be coordinated with the approved Northsky Construction Plans.
- The developer will execute an agreement with the City whereby bypass storm sewer piping will be private, will carry public and private storm water, and will be maintained by the development.
- In the event a City owned utility requires repair or maintenance that damages any bioswale, permeable paver area, or landscaping it will be the responsibility of the property owner to repair these site features.

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

MIDWESTERN CONSULTING
385 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

M

CLIENT
TRINITAS DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, IN 47901
DAMIAN VANMATRE
(765) 807-2713

COTTAGES AT BARTON GREEN
ADMINISTRATIVE AMENDMENT
UTILITY PLAN (WEST)

14

JOB No. **16223**
DATE: 9/25/17
SHEET 14 OF 49

REV. DATE	REV. BY	REV. DESCRIPTION
9/5/17	ENG. JCA	ADD
10/12/17	PM. SWB	
11/15/17	TECH. SWB	
6/27/18	REV. SWB	
6/27/18	REV. SWB	

PER CITY REVIEW
PER CITY REVIEW

SANITARY SEWER FLOW MITIGATION CALCULATIONS

Note: There will be no backwash discharge from the pool to the sanitary sewer system.

Design Flow

Based on the City of Ann Arbor's sanitary sewer flow evaluation Table 'A', the design dry weather flow rate will be:

48 Apartments (601-1200 Square Feet) @ 250 gpd =	12000 gpd
163 Apartments (1200+ Square Feet) @ 300 gpd =	48900 gpd
10450 SF Clubhouse @ 0.30 gpd/ gsf =	3135 gpd
2700 SF Pool x 1 person/ 50 sf x 20 gpd/per =	1080 gpd
1800 SF Maint Bldg @ 0.15 gpd/ gsf =	270 gpd
Total	65385 gpd

Mitigation Flow

Mitigation Peak Flow = 65385 gpd x 4(peaking factor) x 1.1(recovery) =	287894 gpd
	199.8 gpm

Sanitary Flow breakdown by Discharge location

Flow to Pontiac Trail sewer	
3 Apartments (601-1200 Square Feet) @ 250 gpd =	750 gpd
22 Apartments (1200+ Square Feet) @ 300 gpd =	6600 gpd
Total	7350 gpd

Flow to Skydale sewer

46 Apartments (601-1200 Square Feet) @ 250 gpd =	11500 gpd
140 Apartments (1200+ Square Feet) @ 300 gpd =	42000 gpd
10450 SF Clubhouse @ 0.30 gpd/ gsf =	3135 gpd
2700 SF Pool x 1 person/ 50 sf x 20 gpd/per =	1080 gpd
Total	57715 gpd

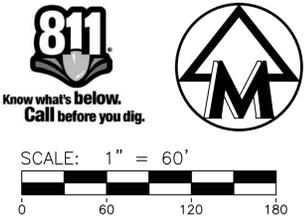
BUILDING HEIGHT, FOOTPRINT AND GROSS FLOOR AREA TABLE

Building Type	Number of Buildings	Number of Units per Bldg	Subtotal Number of Units	Basement Floor S.F.	First Floor S.F.	Second Floor S.F.	Third Floor S.F.	Subtotal Floor Area S.F.	Floor Area S.F.	Subtotal Footprint S.F.	Footprints S.F.	Height	Unit S.F.	>1,200
Single E2-D	11	1	11		1187	994		2,181	23,991	1,187	13057	23'-5"	601-1,200	11
Duplex DP3	13	1	26		775	775		3,316	43,108	1,658	21554	24'-6"		26
Duplex DP5-D	28	2	56		883	883		1,766	113,344	1,770	49580	23'-8"		56
Quad QU1	6	2	24	376	885	763		4,048	30,420	1,772	10632	24'-6"		12
Townhome TH1	3	4	30		607			12,145	36,435	3,769	11307	34'-9"		18
Townhome TH2	4	6	64		607			20,217	80,868	6,125	24500	34'-9"		40
Community Bldg. CH	1	4			570	670	570	1810	10,450	10,450	10,450	22'-6"		
Maintenance Bldg. MB	1	1			1,800	1,800	1,800	1,800	1,800	1,800	1,800	14'-0"		
TOTALS	67	1	211					340,416	142,860	48	163			

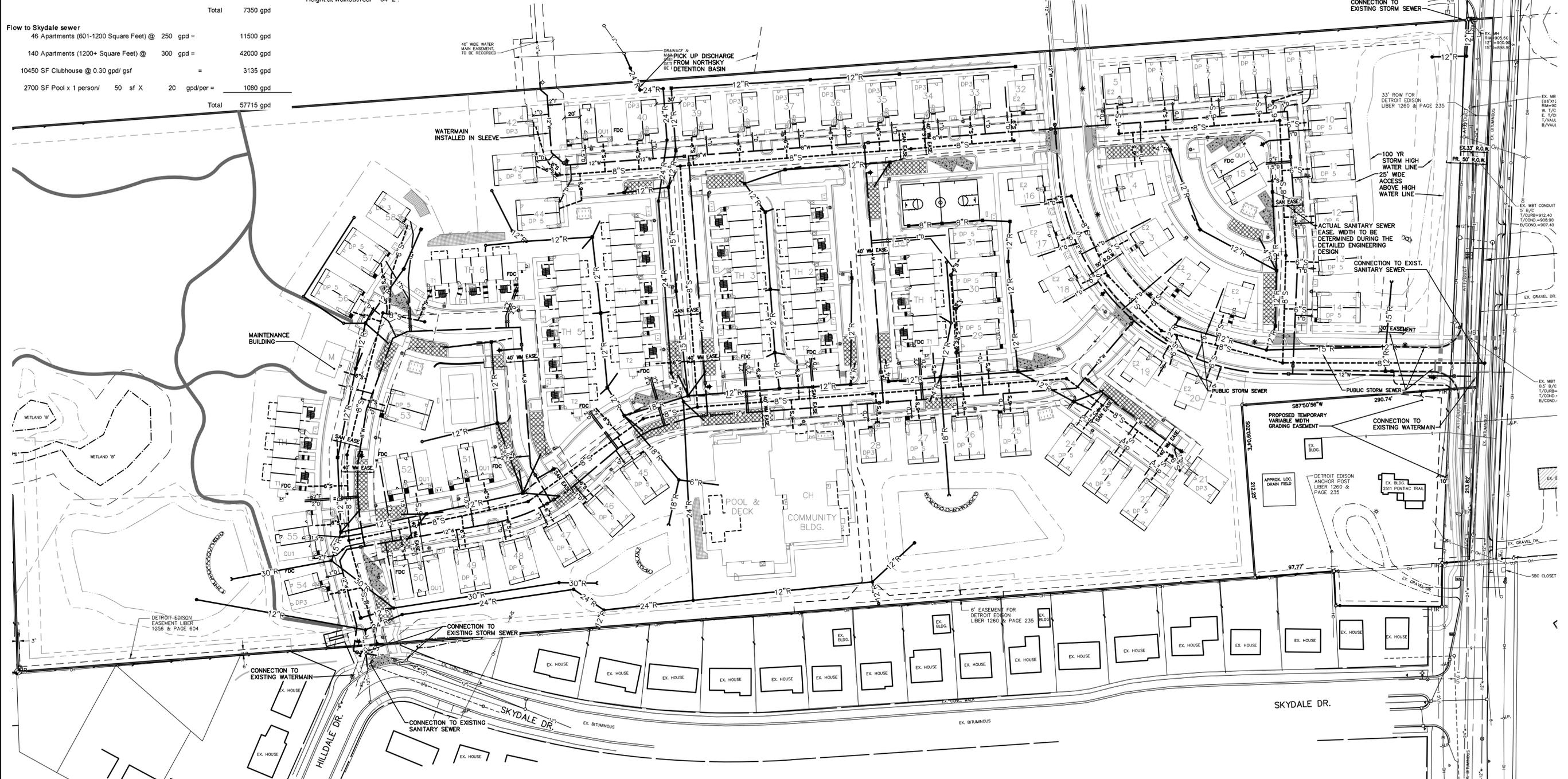
* Height at walkout/rear = 34'-2".

LEGEND

- o- U.P.
- GP- EXIST. GUY POLE
- GUY- GUY WIRE
- OH- EXIST. OVERHEAD UTILITY LINE
- TEL- EXIST. TELEPHONE LINE
- E- EXIST. ELECTRIC LINE
- G- EXIST. GAS LINE
- W- EXIST. WATER MAIN
- W- PROP. WATER MAIN
- H- EXIST. HYDRANT
- R- PROP. HYDRANT
- R- EXIST. GATE VALVE IN WELL
- R- PROP. GATE VALVE IN WELL
- R- EXIST. STORM SEWER
- R- PROP. STORM SEWER
- R- EXIST. CATCH BASIN OR INLET
- R- PROP. CATCH BASIN OR INLET
- R- END SECTION
- R- CULVERT
- S- EXIST. SANITARY SEWER
- S- PROP. SANITARY SEWER
- S- EXIST. CLEANOUT
- S- PROP. CLEANOUT
- S- TELEPHONE RISER
- S- CABLE TELEVISION RISER
- S- ELECTRIC METER
- S- WATER METER
- S- SPRINKLER CONTROL BOX
- S- GAS METER
- S- GAS LINE MARKER
- S- FIBER OPTIC MARKER
- S- WELL



Copyright © 2020 Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

MIDWESTERN CONSULTING
 3845 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services

CLIENT
 TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

COTTAGES AT BARTON GREEN
 ADMINISTRATIVE AMENDMENT
 OVERALL UTILITY PLAN

14A

JOB No.	16223
DATE	6/25/17
REV. DATE	6/16/17
REV. PER CITY/COUNTY	9/5/17
REV. PER CITY	10/12/17
REV. PER CITY	11/15/18
REVISED PER AGREEMENT	6/27/19

Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, without prior permission of Midwestern Consulting L.L.C.

WETLAND MITIGATION CONSTRUCTION NOTES:

GRADING AND FILLING: Strip and mass grade the proposed wetland mitigation area to 6 inches below finish grades shown on the plans. Provide hydric soils suitable for proposed wetland planting to bring the elevations up to finish grade. Soil placement and contouring will follow the grading plans contained herein. Topsoil will not be compacted to more than 83% in any wetland mitigation area.

SOIL PREPARATION: Clear plant debris and all stones greater than 2" diameter from planting areas. Level finish grade to eliminate small depressions. Roll the finished level surface with a spiked roller (gill rig) to eliminate soil clods. Kill any volunteer vegetation with "Round-up" herbicide seven days before all seeding operations.

SEED SOURCES: An attempt to secure as much native seed from Michigan sources will be made. Many wetland species are not available through Michigan sources and will require out-of-state growers to be utilized.

INSTALLATION: Drill seeding is required for all permanent seed matrices to ensure direct soil-seed contact. No seed will be planted with more than 1/4" soil cover. Keep soils saturated during the first 6-8 weeks. Planting area should receive approximately 1 inch of water per week for the first 6-8 weeks. Optimum seeding time is October 1st to July 1st.

STABILIZATION: Apply wheat straw at a rate of 1500 lbs./acre to all seeded areas. Secure straw with crimping implement. Install erosion blanket as manufactured by North American Green Excelsior Company (or approved equal) to all shallow channels and points where overland flows focus.

MAINTENANCE AND REPAIRS: The use of chemical fertilizer to establish or promote the establishment of the specified plantings is not allowed. All seeded areas damaged by wash outs or other conditions that prohibit a dense establishment of the specified plants will be prepared by the contractor at no cost expense to the owner.

WARRANTY STATEMENT: Native Seeding-A diverse matrix of plant species will be determined established from seeding in the following manner. The seeded areas will be observed and reported on for three growing seasons. Each season will determine the following year's management practices to be followed. After the fifth season, a transect will be conducted by the owners natural features restoration contractor. It will be determined that 45% of the original planted species exist over 80% of the restored area. If this does not exist, an over-seeding of the original planting will be made with the appropriate species mix, determined at the 5 year inspection.

DESCRIPTION OF AREA FOR MITIGATION: The area proposed for mitigation is immediately adjacent to and contiguous with existing Wetland #2 on the north side of the property. The proposed location is in an area that is easily accessible for monitoring and maintenance, and is a full-sun location for optimal establishment and stabilization. Current use of the area is listed agriculture. **SHORT TERM & LONG TERM GOALS - WETLAND MITIGATION**

VEGETATION: The short-term objective for the site is to re-establish native herbaceous vegetation within the proposed wetland. The intended management will be accomplished through selective clearing and a program of herbicide maintenance. The long-term objective for the site is to re-establish and stabilize the plant communities within newly established area. The focus of this management is to maintain this area as a natural ecosystem.

HYDROLOGY: The short-term objective is not to negatively influence the existing hydrology of the existing wetland during the wetland mitigation plan. Long-term, it is the intent of the mitigation plan to create and maintain adequate hydrology for newly created wetlands, continue to facilitate clean flow of surface water to existing wetlands, and encourage infiltration of surface water on-site.

GRADING: Short-term objectives are to provide soil erosion and sediment controls while the site is re-established. Long term objectives are to facilitate the storm water management of the site and to maintain the general character of the original landform.

MONITORING: Annual site inspections will be conducted for a period of three growing seasons. These annual inspections shall begin upon the growing season of the first construction year and extend for five growing seasons.

1st Year: Condition of temporary erosion control measures. Development of the seeded plants, both temporary and permanent matrix. Surface water flow and erosion protection. Sub-surface hydrology will be noted. Inspect for invasive weed growth.

2nd thru 4th Years: Condition of temporary erosion control mulches. Development of the seeded plants, both temporary and permanent matrix. Surface water flow and erosion protection. Sub-surface hydrology will be noted. Inspect for invasive weed growth.

5th Year: Development of the seeded plants, both temporary and permanent matrix. Identify and note the number of species established. Surface water flow and erosion. Note necessary repairs. Sub-surface hydrology will be noted. Inspect for invasive weed growth.

PERFORMANCE STANDARDS FOR WETLAND MITIGATION: The administrative rules for Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, require that performance standards be established for all wetland mitigation projects. These are the criteria by which the mitigation wetland will be evaluated to determine if the wetland mitigation requirements of the permit have been met. If the mitigation wetland does not satisfactorily meet these standards by the end of the monitoring period, or is not satisfactorily progressing during the monitoring period, the permittee will be required to take corrective actions. The following are considered standard performance standards for wetland mitigation projects:

- 1. Construction has been completed in accordance with the Geological and Land Management Division approved plans and specifications referenced in the permit.
- 2. The mitigation wetland is characterized by the presence of water at a frequency and duration sufficient to support a predominance of wetland vegetation and the wetland types specified in the mitigation plan at the end of the monitoring period.
- 3. A layer of high-quality soil, from the A horizon of an organic or loamy surface texture soil, is placed over the entire created wetland area at a minimum thickness of 6 inches.
- 4. The mitigation wetland shall be free of oil, grease, debris, and all other contaminants.
- 5. Mean percent cover of native wetland species in the herbaceous layer at the end of the monitoring period is not less than:
 - 80 percent for forested wetland
 - 80 percent for scrub-shrub wetland
 - 80 percent for emergent wetland
 - 80 percent for wet meadow wetland

Extensive open water and submerged vegetation areas having no emergent and/or floating vegetation shall not exceed 20 percent of the mitigation wetland area. Extensive areas of bare soil shall not exceed 5 percent of the mitigation wetland area. For the purposes of these performance standards, extensive refers to areas greater than 0.01 acre in size.

The total percent cover of wetland species in each plot shall be averaged for plots taken in the same wetland type to obtain a mean percent cover value for each wetland type. Plots within identified extensive open water and submerged areas, bare soil areas, and areas without a predominance of wetland vegetation shall not be included in this average. Wetland species refers to species listed as Facultative and wetland (FAC, FAC+, FACW, FACW+, OBL) on the U.S. Fish and Wildlife Service's "National List of Plant Species That Occur in Wetlands" for Region 3.

- 6. The mitigation wetland supports a predominance of wetland vegetation (as defined in the "MDEQ Wetland Identification Manual") in each vegetative layer, represented by a minimum number of native wetland species, at the end of the monitoring period. The minimum number of native wetland species per wetland type shall not be less than:
 - 15 species within the forested wetland
 - 15 species within the scrub-shrub wetland
 - 15 species within the emergent wetland
 - 20 species within the wet meadow wetland

The total number of native wetland plant species shall be determined by a sum of all species identified in sample plots of the same wetland type.

- 7. At the end of the monitoring period, the mitigation wetland supports a minimum of:
 - 300 individual surviving, established, and free-to-grow trees per acre in the forested wetland that are classified as native wetland species and consisting of at least three different plant species.

300 individual surviving, established, and free-to-grow shrubs per acre in the scrub-shrub wetland that are classified as native wetland species and consisting of at least four different plant species.

8 native wetland species of grasses, sedges, or rushes in the wet meadow wetland.

- 8. The mean percent cover of invasive species including, but not limited to, Phragmites australis (Common Reed), Lythrum salicaria (Purple Loosestrife), and Phalaris arundinacea (Reed Canary Grass) shall in combination be limited to no more than 10 percent within each wetland type. Invasive species shall not dominate the vegetation in any extensive area of the mitigation wetland.

If the mean percent cover of invasive species is more than 10 percent within any wetland type or if there are extensive areas of the mitigation wetland in which an invasive species is one of the dominant plant species, the permittee shall submit an evaluation of the problem to the MDEQ. If the problem is not resolvable to reduce the cover of invasive species to meet the above performance standard, the permittee must submit an assessment of the problem, a control plan, and the projected percent cover that can be achieved for review by the city and the MDEQ. Based on this information, the city and the MDEQ may approve an alternative invasive species standard. Any alternative invasive species standard must be approved in writing by the city and the MDEQ. The intent of this requirement is that invasive species should be removed.

MONITORING OF WETLAND MITIGATION: The administrative rules for Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, require that a monitoring plan be established for all wetland mitigation projects. Monitoring is necessary to determine if the mitigation wetland meets the performance standards. Permittees are required to monitor the wetland mitigation for a minimum of 5 years (depending on the type of wetland) following the year that construction is completed, as follows:

- 1. Measure inundation and saturation at all staff gauges, monitoring wells, and other stationary points shown in the mitigation plan monthly during the growing season. Hydrology data shall be measured and provided at sufficient sample points to accurately depict the water regime of each wetland type.
- 2. Sample vegetation in plots located along transects shown in the wetland mitigation plan once between July 15 and August 31. The number of sample plots necessary within each wetland type shall be determined by use of a species-area curve or other approach approved by the Michigan Department of Environmental Quality (MDEQ). The minimum number of sample plots for each wetland type shall be no fewer than five (5). Sample plots shall be located on the sample transect at evenly spaced intervals or by another approach acceptable to the MDEQ. If additional or alternative sample transects are needed to sufficiently evaluate each wetland type, they must be approved in advance in writing by the MDEQ.

The herbaceous layer (all non-woody plants and woody plants less than 3.2 feet in height) shall be sampled using a 3.28 foot by 3.28 foot (one square meter) sample plot. The shrub and tree layer shall be sampled using a 30-foot radius sample plot. The data recorded for each herbaceous layer sample plot shall include a list of all living plant species, and an estimate of percent cover in 5 percent intervals for each species recorded, bare soil areas, and open water relative to the total area of the plot. The number and species of surviving, established, and free-to-grow trees and surviving, established, and free-to-grow shrubs shall be recorded for each 30-foot radius plot. Provide plot data and a list of all the plant species identified in the plots and otherwise observed during monitoring. Data for each plant species must include common name, scientific name, wetland indicator category from the U.S. Fish and Wildlife Service's "National List of Plant Species That Occur in Wetlands" for Region 3, and whether the species is considered native according to the Michigan Floristic Quality Assessment (Michigan Department of Natural Resources, 2001). Nomenclature shall follow Voss (1972, 1985, and 1996) or Gleason and Cronquist (1991). The locations of sample transects and plots shall be identified in the monitoring report on a plan view showing the location of wetland types. Sample transects shall be permanently staked at a frequency sufficient to locate the transect in the field.

- 3. Delineate any extensive (greater than 0.01 acre in size) open water areas, bare soil areas, areas dominated by invasive species, and areas without a predominance of wetland vegetation, and provide their location on a plan view.
- 4. Document any sightings or evidence of wading birds, songbirds, waterfowl, amphibians, reptiles, and other animal use (lodges, nests, tracks, scat, etc.) within the wetland noted during monitoring. Note the number, type, date, and hour of the sightings and evidence.
- 5. Inspect the site, during all monitoring visits and inspections, for oil, grease, man-made debris, and all other contaminants and report findings. Rate (e.g., poor, fair, good, excellent) and describe the water clarity in the mitigation wetland.
- 6. Provide annual photographic documentation of the development of the mitigation wetland during vegetation sampling from permanent photo stations located within the mitigation wetland. At a minimum, photo stations shall be located at both ends of each transect. Photos must be labeled with the location, date photographed, and direction.
- 7. Provide one-time photographic documentation during construction of the placement of at least six (6) inches of high quality soil, from the A horizon of an organic or loamy surface texture soil, across the site.
- 8. Provide the number and type of habitat structures placed and representative photographs of each structure type.
- 9. Provide a written summary of data from previous monitoring periods and a discussion of changes or trends based on all monitoring results including a calculation of the acres of each wetland type established.
- 10. Provide a written summary of all the problem areas that have been identified and potential corrective measures to address them. A monitoring report, which compiles and summarizes all data collected during the monitoring period, shall be submitted annually by the permittee. Monitoring reports shall cover the period of January 1 through December 31 and be submitted to the city and to MDEQ prior to January 31 of the following year. Additional monitoring may be required to document that performance standards are met.

CONSTRUCTION SEQUENCE FOR MITIGATION (Construction to be complete Prior to Building Permits):

- 1. Sediment Controls
 - Maintain existing controls
 - Install silt fence around the site as shown if not complete
- 2. Prepare Mitigation Site:
 - Strip and mass grade proposed wetland location, hold-down 6" from finish grade
 - Install hydric soil to proposed finish grade
- 4. Restoration:
 - Seed, plant, and mulch as shown on planting plans
 - Maintain existing controls
 - Follow-Up After the Site is Stabilized.
 - Remove silt fence

WETLAND MITIGATION CALCULATIONS:

Wetland mitigation is proposed as a combination of new wetland construction, and monitoring of the new wetland for 5 years

1. Basis of calculations - ECT/Dr. Don Tilton provided the following average costs for estimating the approximate value of the proposed mitigation: <ul style="list-style-type: none">- Average cost to monitor and maintain a small wetland like this one per the MDEQ requirements at approximately \$5,000 per acre per year.- Average cost to construct new wetland is approximately \$50,000 per acre.	
2. Wetland removals: <ul style="list-style-type: none">Wetland removed from Wetland 'A' 2,200 sfTotal wetland removed 2,200 sf total removed	
3. City wetland mitigation requirements: <ul style="list-style-type: none">Mitigation required at 1.5:1 sf wetland removed2,200 sf removed x 150% = 3,300 sf required	
4. Proposed wetland: <ul style="list-style-type: none">New construction/addition to Wetland 'B' 4,080 sfTotal proposed wetland 4,080 sf/186% proposed	
5. Monitoring of new wetland for 5-years: <ul style="list-style-type: none">Average cost of wetland monitoring \$5,000/acre/yearAverage cost of new wetland \$50,000 per ac	
New wetland area to be monitored 0.09 ac x \$5,000/acre \$450/year	4,080 sf/0.09 ac \$450/year
Wetland equivalent calculation: \$2,250 divided by \$50,000/ac wetland	2,178 sf/0.05 ac wetland
6. Total proposed mitigation: <ul style="list-style-type: none">Item 4: proposed wetland 4,080 sf wetlandItem 5: proposed wetland monitoring 2,178 sf wetlandTotal proposed mitigation 6,258 sf	2,178 sf/0.05 ac wetland
6,258 sf / 2,200 sf wetland removed	285% mitigation required

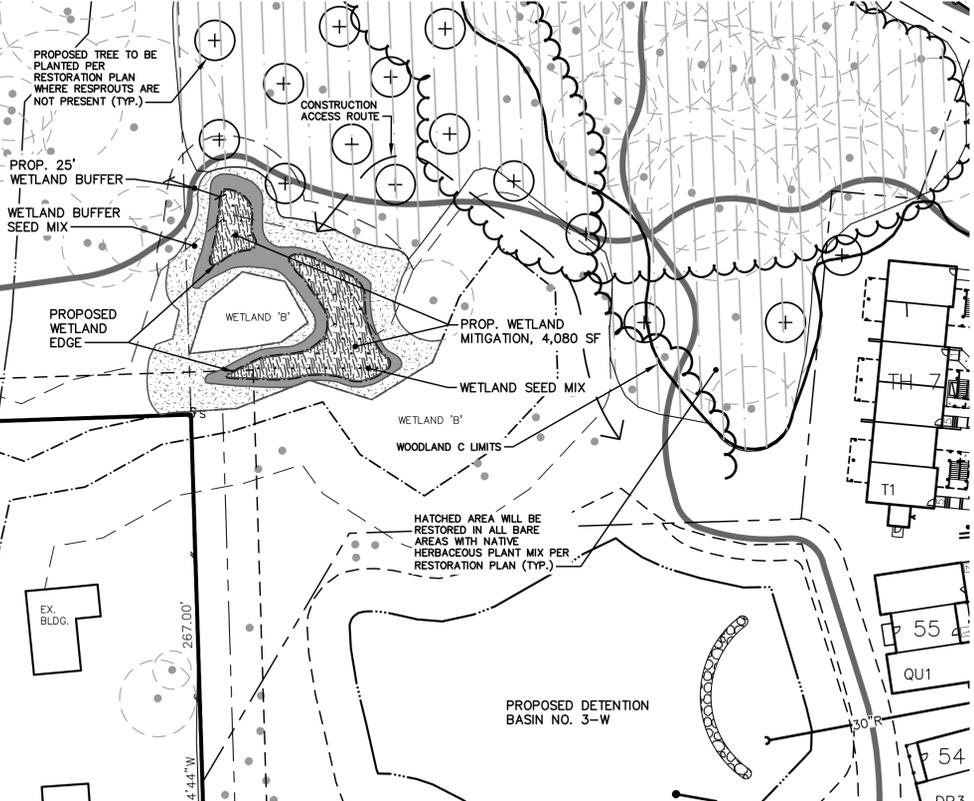
WETLAND SEED MIX	
(JF New Wetland Pond Mix as revised below, or equal)	
For Use in Wetland	
Scientific Name	Common Name
Carex vulpinoidea	Brown Fox Sedge
Echinochloa crusgalli	Barryard Grass
Eleocharis obtusa	Blunt Spike Rush
Glyceria striata	Fowl Manna Grass
Juncus effusus	Common Rush
Juncus torreyi	Torrey's Rush
Leersia oryzoides	Rice Cut Grass
Panicum virgatum	Prairie Cord Grass
Scirpus validus creber	Great Bulrush (softstem)
Avena sativa	Seed Oats
Lolium multiflorum	Annual Rye
Actinometes altemioia	Wingsstem
Alisma subcordatum	Common Water Plantain
Asclepias incarnata	Swamp Milkweed
Bidens sp.	Bidens
Cephalanthus occidentalis	Butterbush
Hibiscus sp.	Rosemallow
Mimulus ringens	Monkney Flower
Penthorum sedoides	Ditch Stonecrop
Polygonum pennsylvanicum	Smartweed
Sagittaria latifolia	Common Arrowhead

WETLAND BUFFER SEED MIX	
(JF New Wetland Edge & Annual/Perennial Forbs Mixes, or equal)	
For Use on Wetland Side Slopes	
Scientific Name	Common Name
Carex lurida	Bottlebrush Sedge
Carex sp.	Sedge
Carex vulpinoidea	Brown Fox Sedge
Eleocharis palustris major	Great Spike Rush
Elymus canadensis	Canada Wild Rye
Glyceria striata	Fowl Manna Grass
Leersia oryzoides	Rice Cut Grass
Scirpus atrovirens	Dark Green Rush
Scirpus pungens	Chalkmaker's Rush
Scirpus validus creber	Great Bulrush (softstem)
Avena sativa	Seed Oats
Lolium multiflorum	Annual Rye
Actinometes altemioia	Wingsstem
Agalinis tenuifolia	Slender False Foxglove
Alisma subcordatum	Common Water Plantain
Asclepias incarnata	Swamp Milkweed
Aster simplex	Panicked Aster
Bidens sp.	Bidens
Cassia hebecarpa	Wild Senna
Eupatorium perfoliatum	Common Boneset
Helianthus autumnale	Sneezeweed
Ins virginica shrevei	Blue Flag Ins
Lobelia spiliotica	Great Blue Lobelia
Mimulus ringens	Monkney Flower
Rubbeckia laciniata	Wild Golden Glow
Sagittaria latifolia	Common Arrowhead
Verbena hastata	Blue Vervain
Vernonia sp.	Ironweed

WETLAND BUFFER SEED MIX	
(JF New Wetland Edge & Annual/Perennial Forbs Mixes, or equal)	
For Use on Wetland Side Slopes	
Scientific Name	Common Name
Carex lurida	Bottlebrush Sedge
Carex sp.	Sedge
Carex vulpinoidea	Brown Fox Sedge
Eleocharis palustris major	Great Spike Rush
Elymus canadensis	Canada Wild Rye
Glyceria striata	Fowl Manna Grass
Leersia oryzoides	Rice Cut Grass
Scirpus atrovirens	Dark Green Rush
Scirpus pungens	Chalkmaker's Rush
Scirpus validus creber	Great Bulrush (softstem)
Avena sativa	Seed Oats
Lolium multiflorum	Annual Rye
Actinometes altemioia	Wingsstem
Agalinis tenuifolia	Slender False Foxglove
Alisma subcordatum	Common Water Plantain
Asclepias incarnata	Swamp Milkweed
Aster simplex	Panicked Aster
Bidens sp.	Bidens
Cassia hebecarpa	Wild Senna
Eupatorium perfoliatum	Common Boneset
Helianthus autumnale	Sneezeweed
Ins virginica shrevei	Blue Flag Ins
Lobelia spiliotica	Great Blue Lobelia
Mimulus ringens	Monkney Flower
Rubbeckia laciniata	Wild Golden Glow
Sagittaria latifolia	Common Arrowhead
Verbena hastata	Blue Vervain
Vernonia sp.	Ironweed

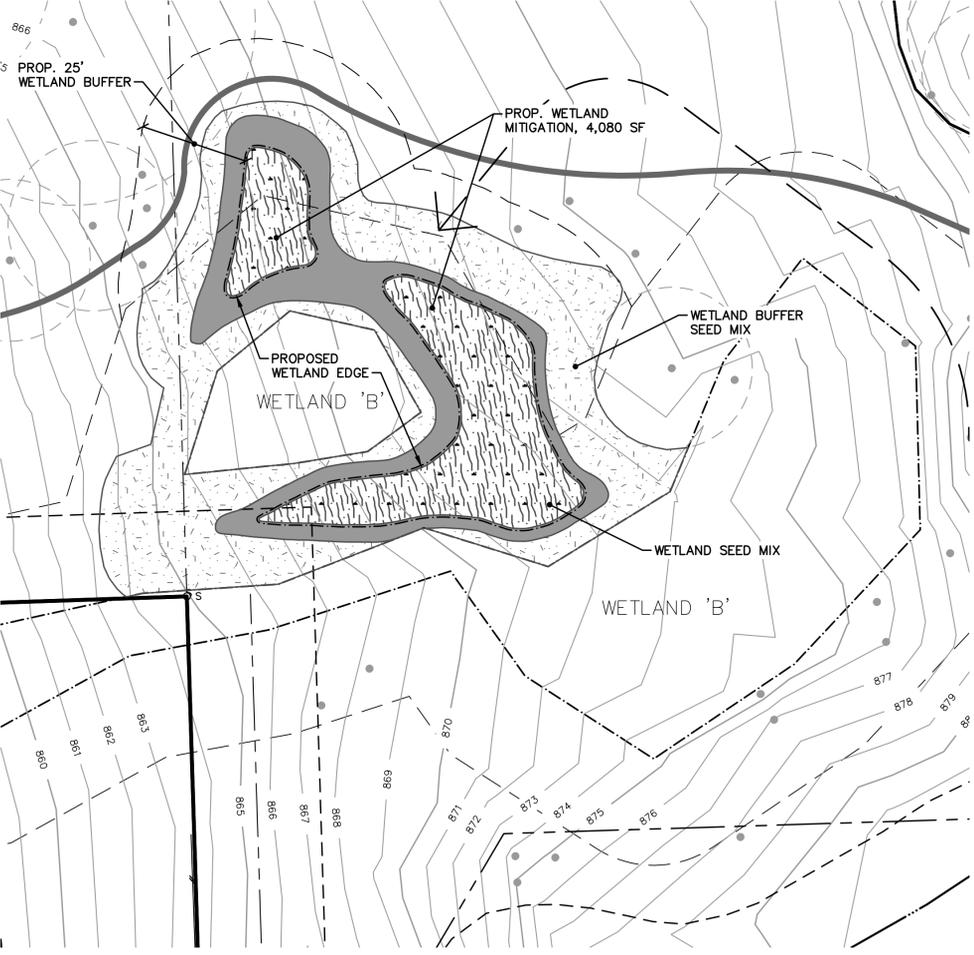
NATURAL AREA SEED MIX	
(JF New Slope Stabilization Seed Mix as revised below, or equal)	
For Use in Natural Feature Buffer Restoration	
Scientific Name	Common Name
Elymus canadensis	Canada Wild Rye
Panicum virgatum	Switch Grass
Schizachyrium scoparium	Little Blue Stem
Sorghastrum nutans	Indian Grass
Lolium multiflorum	Annual Rye

Note: Seed mix per JF New Nursery (or equal) Walkerton, ID (574) 586-3400



WETLAND MITIGATION PLAN

SCALE: 1"=40'



PROPOSED WETLAND PLAN

SCALE: 1"=20'



SCALE: 1" = 40'
0 40 80 120

LEGEND

- 838 EXIST. CONTOUR
- 838 PROP. CONTOUR
- CONST. FENCE/TREE PROTECTION FENCE/GRADING LIMITS
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. WETLAND
- TREE OR BRUSH LIMIT
- EXIST. TREE TO REMAIN
- PROPOSED WETLAND
- WETLAND SEED MIX
- WETLAND BUFFER SEED MIX
- NATURAL AREA SEED MIX

NOTE: Wetland Mitigation Plan Notes: The Natural Features Open Space around Wetland 'B' will be disturbed and restored for construction of the wetland mitigation area.

MIDWESTERN CONSULTING
3845 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services



CLIENT
TRINITAS DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, IN 47901
DAMIEN VANMATE
(765) 807-2713

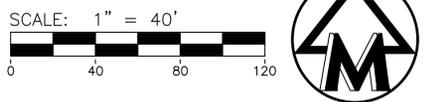
COTTAGES AT BARTON GREEN
ADMINISTRATIVE AMENDMENT
WETLAND MITIGATION AND MONITORING PLAN

15

JOB No. 16223	DATE: 6/25/17	REV. DATE: 11/15/17	REV. DATE: 10/28/19
REVISIONS:	SHEET 15 OF 49	CADD: JCA	ENG: JCA
ADMINISTRATIVE AMENDMENT		PM: SWB	TECH: JMS
		FILE: 16223.MXD	FILE:



M:\Civ\132_Pro\16223\16223.dwg, 2/18/2021 2:42 PM, Jim Ahnert, None
 Copyright © 2021 Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.

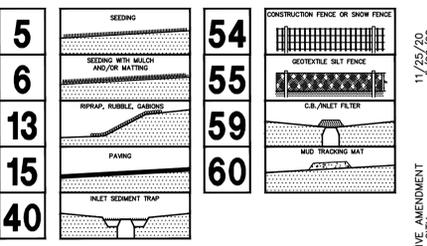


LEGEND

- 838 EXIST. CONTOUR
- 838 PROP. CONTOUR
- x836.2 EXIST. SPOT ELEVATION
- 36.60 PROP. SPOT ELEVATION
- o-u-x EXIST. UTILITY POLE
- o-u-x EXIST. UTILITY POLE W/ TRANS.
- GUY WIRE
- OH ELEC. TRANSFORMER
- OH EXIST. OVERHEAD UTILITY LINE
- OH EXIST. LIGHT POLE
- OH PROP. LIGHT POLE
- t EXIST. TELEPHONE LINE
- e EXIST. ELECTRIC LINE
- g EXIST. GAS LINE
- g EXIST. GAS VALVE
- f.o. EXIST. FIBER OPTIC LINE
- w EXIST. WATER MAIN
- w PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- REDUCER
- EXIST. BLOW-OFF
- PROP. BLOW-OFF
- P.I.V. POST INDICATOR VALVE
- THRUST BLOCK
- PROP. KNOXBOX
- EXIST. STORM SEWER
- PROP. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- EXIST. BEEHIVE INLET
- PROP. BEEHIVE INLET
- PROP. ROOF DRAIN
- END SECTION
- HEAD WALL
- CULVERT
- ds EXIST. DOWNSPOUT
- ps PROP. DOWNSPOUT
- s-s-s EXIST. SANITARY SEWER
- S-S-S PROP. SANITARY SEWER
- o EXIST. CLEANOUT
- o PROP. CLEANOUT
- C/L OF DITCH
- DRAINAGE DIRECTION
- SIGN
- SINGLE TREE
- TREE OR BRUSH LIMIT
- FENCE
- SILT FENCE
- LIMITS OF DISTURBANCE
- CONSTRUCTION FENCE
- 100-YEAR DETENTION ELEVATION
- FF FINISH FLOOR ELEVATION
- GF GARAGE FLOOR ELEVATION
- BFF BASEMENT FINISH FLOOR ELEVATION

- GRADING NOTES:**
- All buildings to be graded with 5% grade away from the foundation starting 6" below the top of foundation. Grading around foundations must conform to the 2003 Michigan Residential Code, sections R401.3, R404.1.6 and R403.1.7.3.
 - An NPDES permit will be obtained from the MDEQ for this project prior to any grading on the site. The required weekly inspections and written inspection reports will be maintained on-site.
 - There are no proposed sump pumps at this point. If sump pumps are added during detailed engineering, they will be connected to the storm sewer system.
 - Proposed grading is shown with 2' contours except in the detention basins where 1' contours are shown.
 - In the event a City owned utility requires repair or maintenance that damages any bioswale, permeable paver area, or landscaping it will be the responsibility of the property owner to repair these site features.

SOIL EROSION AND SEDIMENT CONTROL MEASURES



The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.



MIDWESTERN CONSULTING
 3845 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services

MIDWESTERN CONSULTING
 CLIENT
 TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

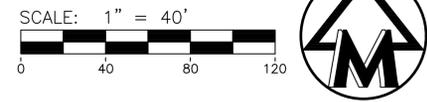
COTTAGES AT BARTON GREEN
 ADMINISTRATIVE AMENDMENT
 GRADING & SOIL EROSION CONTROL PLAN (EAST)

16

ADMINISTRATIVE AMENDMENT
 REVISED PER CITY

JOB NO. **16223**
 SHEET 16 OF 49
 DATE: 9/25/17
 REV. DATE: 9/16/17
 REV. BY: JCA
 CADD: JCA
 REV. DATE: 9/5/17
 REV. BY: JCA
 CADD: JCA
 REV. DATE: 10/12/17
 REV. BY: SWB
 CADD: SWB
 REV. DATE: 11/15/18
 REV. BY: JCA
 CADD: JCA
 REV. DATE: 6/27/19
 REV. BY: JCA
 CADD: JCA

M:\Civ\132_Pro\16223\16223.dwg, 2/18/2021 2:42 PM, J.M. Ahern, None
 Copyright © 2021, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.

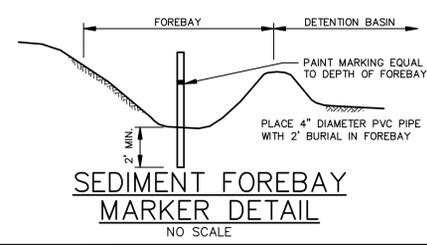


LEGEND

	EXIST. CONTOUR
	PROP. CONTOUR
	EXIST. SPOT ELEVATION
	PROP. SPOT ELEVATION
	EXIST. UTILITY POLE
	EXIST. UTILITY POLE W/ TRANS.
	GUY WIRE
	ELEC. TRANSFORMER
	EXIST. OVERHEAD UTILITY LINE
	EXIST. LIGHT POLE
	PROP. LIGHT POLE
	EXIST. TELEPHONE LINE
	EXIST. ELECTRIC LINE
	EXIST. GAS LINE
	EXIST. GAS VALVE
	EXIST. FIBER OPTIC LINE
	EXIST. WATER MAIN
	PROP. WATER MAIN
	EXIST. HYDRANT
	PROP. HYDRANT
	EXIST. GATE VALVE IN BOX
	PROP. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	PROP. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
	PROP. CURB STOP & BOX
	REDUCER
	EXIST. BLOW-OFF
	PROP. BLOW-OFF
	POST INDICATOR VALVE
	THRUST BLOCK
	PROP. KNOXBOX
	EXIST. STORM SEWER
	PROP. STORM SEWER
	EXIST. CATCH BASIN OR INLET
	PROP. CATCH BASIN OR INLET
	EXIST. BEEHIVE INLET
	PROP. BEEHIVE INLET
	EXIST. ROOF DRAIN
	END SECTION
	HEAD WALL
	CULVERT
	EXIST. DOWNSPOUT
	PROP. DOWNSPOUT
	EXIST. SANITARY SEWER
	PROP. SANITARY SEWER
	EXIST. CLEANOUT
	PROP. CLEANOUT
	C/L OF DITCH
	DRAINAGE DIRECTION
	SIGN
	SINGLE TREE
	TREE OR BRUSH LIMIT
	FENCE
	SILTFENCE
	LIMITS OF DISTURBANCE
	CONSTRUCTION FENCE
	100-YEAR DETENTION ELEVATION
	FINISH FLOOR ELEVATION
	GARAGE FLOOR ELEVATION
	BASEMENT FINISH FLOOR ELEVATION

SOIL EROSION AND SEDIMENT CONTROL MEASURES
 t - INDICATES TEMPORARY CONTROL MEASURE
 p - INDICATES PERMANENT CONTROL MEASURE

5		54	
6		55	
13		59	
15		60	
40			



SEDIMENT FOREBAY RIP-RAP BARRIER DETAIL
NO SCALE

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.



MIDWESTERN CONSULTING
 3845 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services

MIDWESTERN CONSULTING

CLIENT
 TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

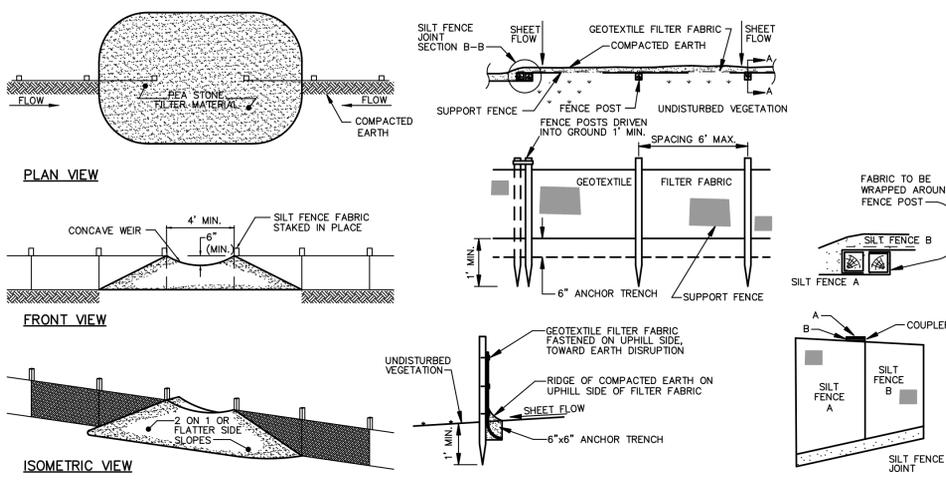
COTTAGES AT BARTON GREEN
 ADMINISTRATIVE AMENDMENT
 GRADING & SOIL EROSION CONTROL PLAN (WEST)

17

JOB No. **16223**
 REVISIONS:
 REV. DATE 6/16/17 CADD: JCA
 REV. DATE 9/5/17 ENG. JCA
 REV. DATE 10/12/17 PM. SWB
 REV. DATE 11/15/18 TECH. SWB
 REV. DATE 6/27/19 PM. SWB
 REVISED PER AGREEMENT

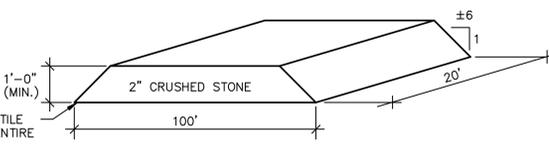
DATE: 9/25/17
 SHEET 17 OF 49

Copyright © 2020 Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



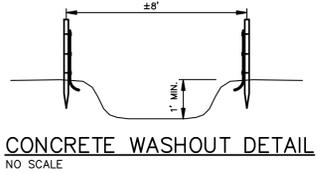
STONE OUTLET FILTER (62t)
NO SCALE

SILTSACK (55t)
NO SCALE

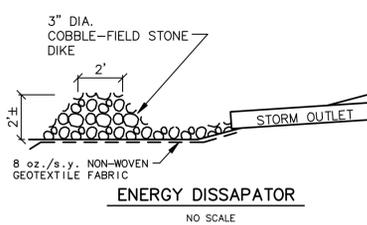


GRAVEL MUD TRACKING MAT (60t)
NO SCALE

- NOTES:**
- DO NOT DISCHARGE CONCRETE WASHOUT INTO STORM DRAINS, CATCH BASINS OR TO THE SANITARY SEWER SYSTEM.
 - COMPLETE SURROUND WASHOUT AREA WITH SILT FENCE.
 - CONCRETE IS TO BE BROKEN AND DISPOSED OFF-SITE WHEN WASHOUT AREA IS 75% FULL OR CONCRETE INSTALLATION IS COMPLETE.

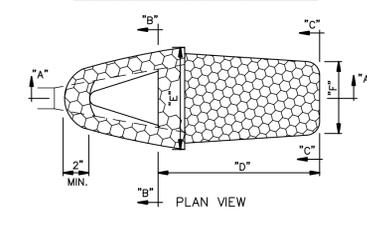


CONCRETE WASHOUT DETAIL
NO SCALE



ENERGY DISSIPATOR
NO SCALE

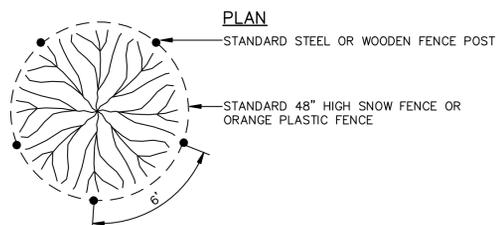
PIPE #	D	E	F	SQ. YDS.
12"	5'-0"	6'-6"	3'-0"	4
18"	5'-0"	7'-0"	3'-0"	4
18"	5'-0"	7'-6"	3'-6"	4
21"	5'-6"	8'-0"	4'-0"	5
24"	6'-0"	8'-6"	4'-6"	6
27"	6'-6"	9'-0"	5'-0"	7
30"	7'-0"	9'-6"	5'-6"	8
36"	8'-0"	10'-9"	6'-0"	10
42"	9'-0"	11'-9"	6'-6"	12
48"	10'-0"	13'-0"	7'-0"	14



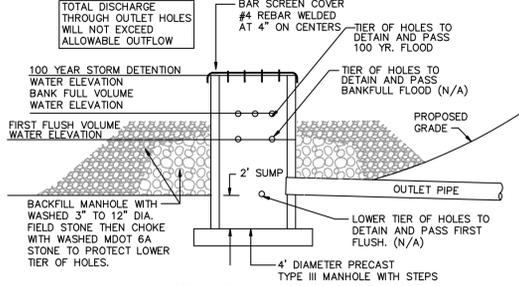
PLAIN STONE RIP-RAP



TEMPORARY INLET SEDIMENT FILTER DETAIL
NO SCALE



TREE PROTECTION DETAIL
NO SCALE



MAINTENANCE PLAN BUDGET

	POND #1	POND #2	POND #3
BAR SCREEN ELEV. / 100 YR. STORM LEVEL	910.07	891.75	869.06
BANKFULL ELEV.	908.01	891.20	868.32
TOP TIERS HOLES - # / DIAMETER	N/A	1 - 1.25"	5 - 0.88"
FIRST FLUSH ELEV.	907.20	890.44	866.98
MIDDLE TIER HOLES - # / DIAMETER	N/A	N/A	N/A
LOWER TIER HOLES / OUTLET INVERT	N/A	N/A	N/A
LOWER TIER HOLES - # / DIAMETER	N/A	N/A	N/A

Stormwater Management System Maintenance Plan

Annual inspection for sediment accumulation	\$300.00
Removal of sediment accumulation every two (2) years, as needed	\$700.00
Inspect for floatables and debris annually and after major storms	\$100.00
Removal of floatables and debris annually and after major storms	\$200.00
Inspect system for erosion annually and after major storms	\$100.00
Re-establish permanent vegetation on eroded slopes, as needed	\$500.00
Replacement of stone	\$400.00
Mowing 0-2 times per year	\$400.00
Inspect structural elements during wet weather and compare to as-built plans every two (2) years	\$200.00
Make structural adjustments or replacements as determined by inspection, as needed	\$500.00
Have professional engineer carry out emergency inspections upon identification of severe problems	\$200.00
Total Annual Budget	\$3600.00

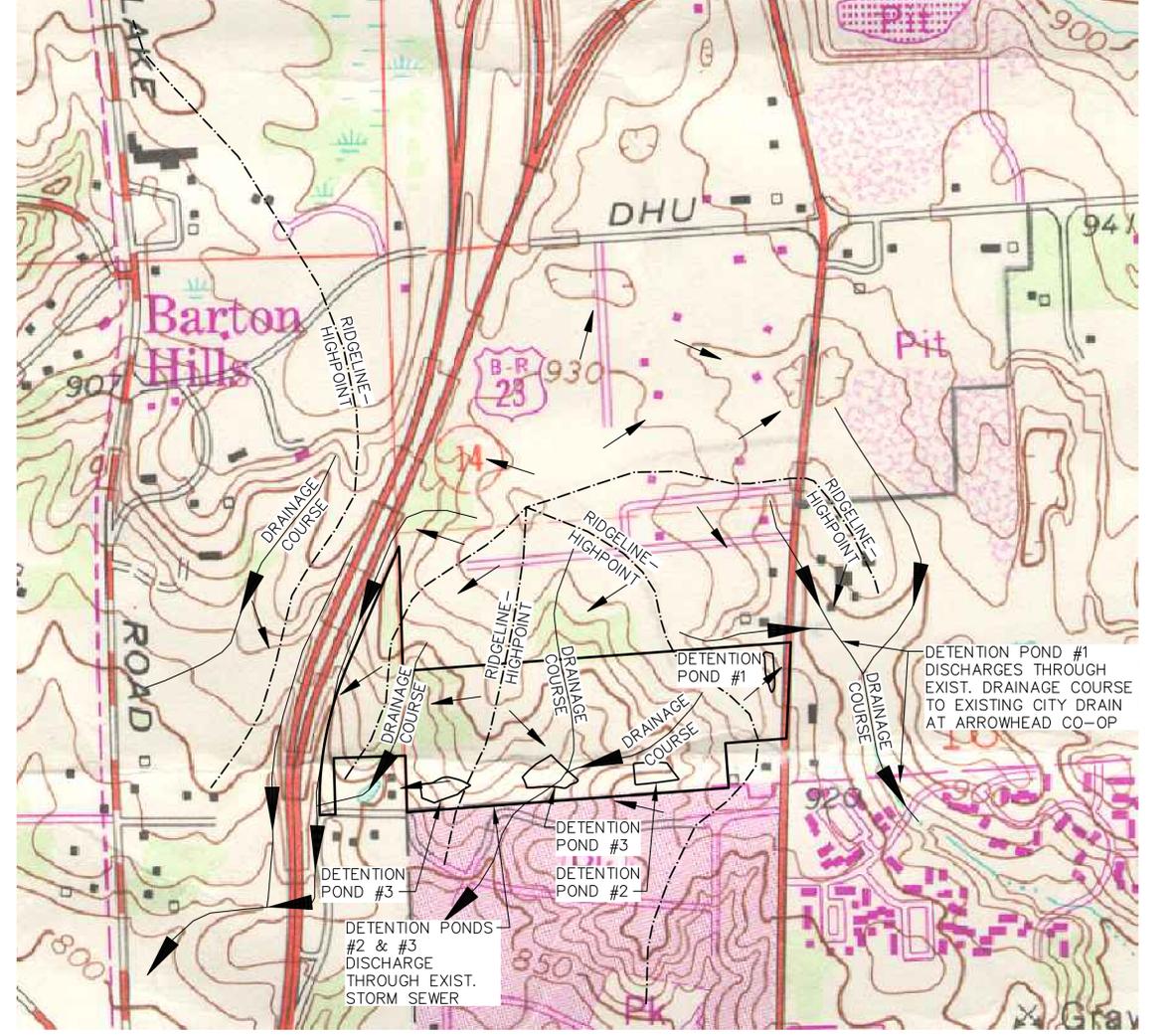
- Responsibility for Maintenance:
 - During construction, it is the developer's responsibility to perform the maintenance.
 - Following construction, it will be the responsibility of Owner to perform the maintenance.
 - The Master Deed will specify that routine maintenance of the stormwater facilities must be completed within thirty (30) days of receipt of written notification that action is required, unless other acceptable arrangements are made with the Washtenaw County Water Resources Commissioner or successors. Emergency maintenance (i.e., when there is endangerment to public health, safety, or welfare) shall be performed immediately upon receipt of written notice. Should the Owner fail to act within these time frames, the County or successors may perform the needed maintenance and assess the costs against the Owner.
 - The use of chemicals are not allowed in the stormwater features or buffer zones with the following exception: invasive species may be treated with chemicals by a certified operator.
- Source of Financing
 - The Owner shall be required to pay for all maintenance activities on a continuing basis.
- Maintenance Tasks and Schedule
 - See the chart on the following page. The chart describes maintenance tasks to be performed by the Owner.
 - Immediately following construction, the developer will have the stormwater management system inspected by an engineer to verify grades of the detention and filtration areas and to make recommendations for any necessary sediment removal.
 - Upon completion of home construction in any phase of the project, responsibility for maintenance will be the Owner's.

Barton Green

CONSTRUCTION SEQUENCE	OPERATION TIME SCHEDULE - BEGINNING MARCH 2020											
	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
INSTALL AND MAINTAIN SOIL EROSION CONTROL MEASURES AS REQUIRED												
SITE CLEARING												
STRIP AND MASS GRADE SITE												
INSTALL UTILITIES												
FINE GRADE SITE												
ROAD PAVING												
BEGIN BUILDING CONSTRUCTION												
SEEDING, PLANTINGS AND REMOVE DETENTION SEDIMENT ACCUMULATION												
CLEANUP SITE												

Permanent Maintenance Tasks and Schedule

Tasks	Components											Schedule
	Streets	Storm Sewer System	Catch Basin Stumps	Catch Basin Inlet Castings	Ditches & Swales	Weir/Outflow Control Structures	Riprap	Sediment Forebays	Lake Areas	Wetland Discharge Area	Emergency Overflow	
Inspect for sediment accumulation		X	X		X	X		X	X	X		annually
Removal of sediment accumulation		X	X		X	X		X	X	X		every 2 years, as needed
Inspect for floatables and debris		X	X		X			X	X			annually
Cleaning of floatables and debris		X	X		X			X	X			annually
Inspection for erosion					X	X	X	X	X		X	annually
Re-establish permanent vegetation on eroded slopes					X	X	X	X	X			as needed
Clean streets	X											semi-annually
Mowing					X							0-2 times per year
Inspect storm system components during wet weather and compare to as-built plans (by professional engineer) and report to Barton Green Homeowners Assoc.	X	X	X	X	X	X	X	X	X	X	X	annually
Make adjustments or replacements as determined by annual wet weather inspection	X	X	X	X	X	X	X	X	X	X	X	as needed
Keep records of all inspections and maintenance activities and report to Barton Green Homeowners Assoc.	X	X	X	X	X	X	X	X	X	X	X	annually
Keep records of all costs for inspection, maintenance and repairs and report to Barton Green Homeowners Assoc.	X	X	X	X	X	X	X	X	X	X	X	annually



AREA WIDE DRAINAGE MAP
SCALE 1" = 400'

STORMWATER NARRATIVE

In general the stormwater flows from the north to the south toward the Huron River. The proposed North Sky project located directly north provides detention facilities and therefore minimizes offsite flows. The discharges from the North Sky site will be routed through the site.

There are three proposed detention basins on the site. The east portion of the site flows to the northeast and through a culvert across Pontiac Trail. After development, this portion of the site will flow to the easterly detention basin #1 and discharge at the agricultural rate of 0.15 cfs/acre and discharge to the location the existing drainage course currently drains across Pontiac Trail. Across Pontiac Trail, the discharge flows through a small wetland area before reaching a city drain near the Arrowwood Co-op.

The center portion of the site converges to a rolling swale that exits near the center of the south side of the site. This discharge location will be the same as the south developed site. This drainage will be detained in detention basin #2 before exiting the site. Detention basin #2 will discharge through existing storm sewer inlet at Skydale Drive.

The west portion of the site currently drains to a rolling swale exiting near the southwest corner of the site. The developed area on the west portion of the site will be detained in detention basin #3. Detention basin #3 has two different parts. The smaller part is on the west side of the clubhouse area and the larger is located in the southwest corner of the site. The two parts will be connected by storm an equalizing pipe and the water levels will rise and fall together. This detention basin will be discharged at agricultural flow through the existing storm sewer inlet at Skydale Drive as does the discharge from detention basin #2.

- GRADING AND SOIL EROSION CONTROL NOTES**
- All soil erosion control measures shall comply with the City of Ann Arbor "Soil Erosion and Sedimentation Control" Ordinance, Title V, Chapter 63 of the City's code, Division VII.
 - Permanent seeding shall comply with specifications for "Permanent Seeding" as set forth in the Washtenaw County Standards. Basic requirements consist of 200 lbs/acre of seed, 500 lbs/acre of 10-10-10 analysis fertilizer (or equal), and straw mulch at a rate of 1.5 tons per acre.
 - Temporary seeding and seeding of the topsoil stockpile is to be per City of Ann Arbor Standard Specifications, Division VII Soil Erosion and Sedimentation Control, Section 4 Construction Methods, Item 4A Vegetative Protection and Mulching.
 - The grading contractor will be responsible for implementing the initial soil erosion control measures (curb inlet filter and silt fence) prior to commencing earthmoving operations. Other measures are to be implemented as soon as feasible in the construction sequence.
 - The utility contractor will be responsible for restoring any existing soil erosion control measure that is disturbed during utility construction.
 - Any lawn area which will have a slope steeper than 3:1 (3 horizontal to 1 vertical) shall be sodded and pegged or seeded and mulched using a soil erosion control fabric or blanket within 15 days after establishing the final grade.
 - All construction and material shall conform to City of Ann Arbor public services department standard specifications.
 - Standard details from the City of Ann Arbor Public Service Department have been included on these drawings. All work and materials shall conform to these standards. Omission of any standard from this document does not relieve the contractor of the responsibility of performing the work to the applicable standard.
 - The estimated quantity of earth excavation for this development is 70,000 cy of cut and 100,000 cy of fill. This quantity does not include trench outfill, pavement base or undercut.
 - The estimated cost of soil erosion control shown on these plans is \$29,300 (excluding seeding and sodding).
 - The estimated cost of protecting all exposed surfaces from erosion should construction cease is \$23,100. (Re-spread 3" topsoil and surface with seed and mulch.)

- SOIL EROSION IMPACT STATEMENT**
- The proposed use for this site is residential in nature. The impact that soil erosion will have on the immediate area is minimal and temporary.
 - All disturbed areas will be re-seeded and sodded upon completion of final grading.
 - The short term consequences of construction will be overcome by using the soil erosion control measures and practices as outlined on this plan and the grading plan. No long term consequences should be encountered.

MIDWESTERN CONSULTING
3845 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

COTTAGES AT BARTON GREEN
ADMINISTRATIVE AMENDMENT
SOIL EROSION CONTROL DETAILS AND STORMWATER MANAGEMENT PLAN

CLIENT: TRINITAS DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, IN 47901
DAMIEN VANMATE
(765) 807-2713

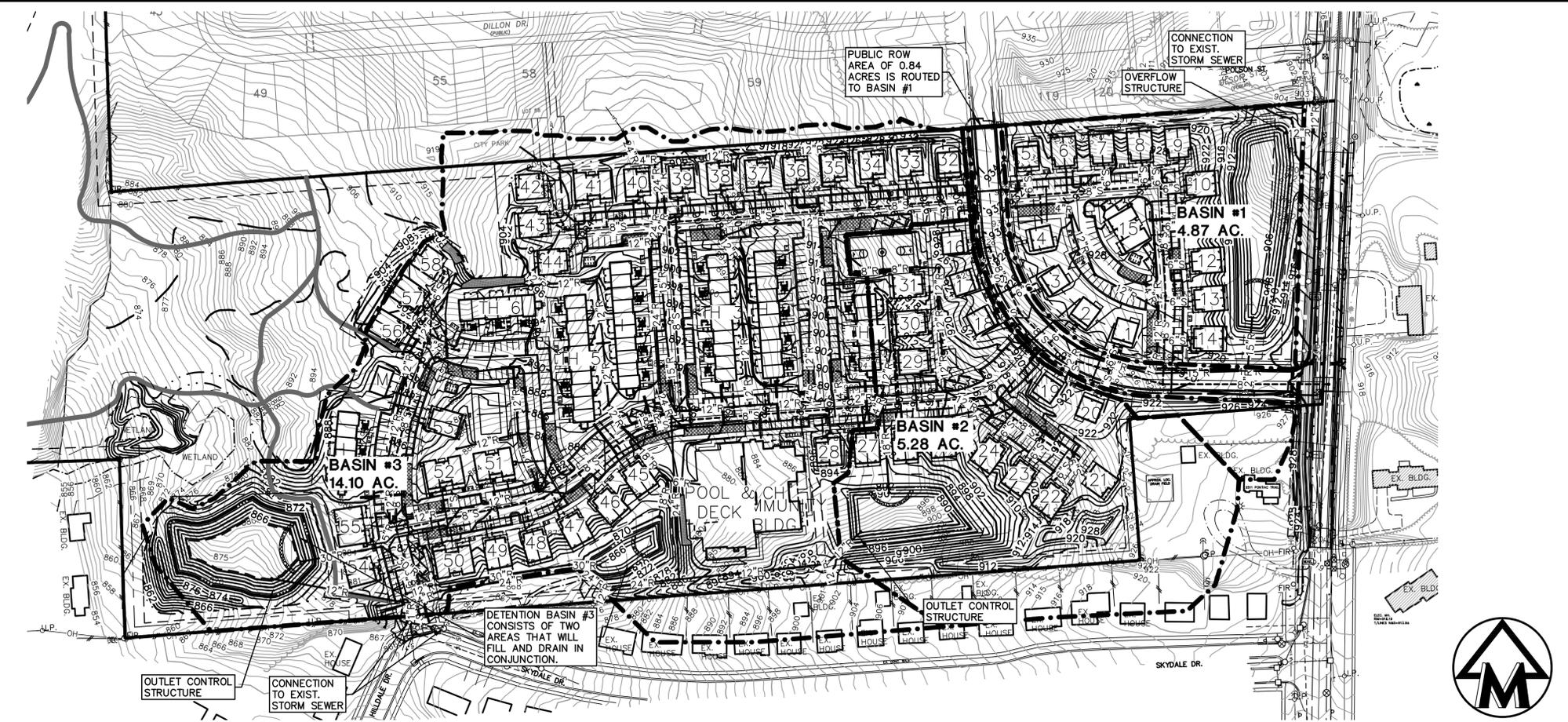
DATE: 6/25/17
SHEET 18 OF 49
REV. DATE: 7/12/17
REV. SHEET/COUNTY: 1/23/18
REV. PER CITY/AGREEMENT: 6/7/19
ENG. JCA
PM: SWB
TECH: KES
FILE: 16223IMP.dwg

JOB NO. **16223**

Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, without prior permission of Midwestern Consulting L.L.C.

Storm Water Calculations, Detention Pond #1 - Northeast, National Method Variables, NCRS Variables (Pervious), NCRS Variables (Impervious), First Flush Calculations, Standard Runoff Volume Calculations, Pervious Cover Post-Development 10 Year Runoff ROW Calculations, Detention Requirement, Detention Volume Proposed, Detention Outlet Calculations, Summary, Stormwater Management Summary, Minimum Onsite Infiltration Requirement, Design/Provided Infiltration Volume, % Minimum Required Infiltration Provided, Total Calculated Detention Volume, Detention Outlet Calculations, Time of Concentration, Runoff Summary and Onsite Infiltration Requirement, Runoff Summary from Previous Worksheets, First Flush Volume, Pervious Cover Post-Development Bankfull Volume, Impervious Cover Post-Development Bankfull Volume, Total Bankfull Volume, Pervious Cover Post-Development 100 Year Volume, Impervious Cover Post-Development 100 Year Volume, Total 100 Year Volume, Determine Onsite Infiltration Requirement, Pervious Cover Post-Development Bankfull Volume, Bankfull Volume Difference, Infiltration Red is greater of Bankfull Volume or First Flush, Detention Requirement, Total Site Area Excluding 'Self-Creeding' BMPs, Peak Flow (PF) = (Qp + Q100) x Area (ac) / 640, Applicable BMPs and Associated Volume Credits, Proposed BMP, Infiltration Basin, Total Volume Reduction Credit by Proposed Structural BMPs, Runoff Volume Infiltration Requirement (Vinf) from Worksheet 9, Runoff Volume Credit (cf) 107,671

Green Streets Infiltration Volume Requirement, Standard Runoff Volume Calculations, Pervious Cover Post-Development 10 Year Runoff ROW Calculations, Standard Runoff Volume Calculations, Impervious Cover Post-Development 10 Year Runoff ROW Calculations, Detention Requirement, Detention Volume Proposed, Detention Outlet Calculations, Summary, Stormwater Management Summary, Minimum Onsite Infiltration Requirement, Design/Provided Infiltration Volume, % Minimum Required Infiltration Provided, Total Calculated Detention Volume, Detention Outlet Calculations, Time of Concentration, Runoff Summary and Onsite Infiltration Requirement, Runoff Summary from Previous Worksheets, First Flush Volume, Pervious Cover Post-Development Bankfull Volume, Impervious Cover Post-Development Bankfull Volume, Total Bankfull Volume, Pervious Cover Post-Development 100 Year Volume, Impervious Cover Post-Development 100 Year Volume, Total 100 Year Volume, Determine Onsite Infiltration Requirement, Pervious Cover Post-Development Bankfull Volume, Bankfull Volume Difference, Infiltration Red is greater of Bankfull Volume or First Flush, Detention Requirement, Total Site Area Excluding 'Self-Creeding' BMPs, Peak Flow (PF) = (Qp + Q100) x Area (ac) / 640, Applicable BMPs and Associated Volume Credits, Proposed BMP, Infiltration Basin, Total Volume Reduction Credit by Proposed Structural BMPs, Runoff Volume Infiltration Requirement (Vinf) from Worksheet 9, Runoff Volume Credit (cf) 107,671



10. 100 Year Storm Volume, 11. Applicable BMPs and Associated Volume Credits, 12. Detention Outlet Calculations, 13. Summary, Stormwater Management Summary, Minimum Onsite Infiltration Requirement, Design/Provided Infiltration Volume, % Minimum Required Infiltration Provided, Total Calculated Detention Volume, Detention Outlet Calculations, Time of Concentration, Runoff Summary and Onsite Infiltration Requirement, Runoff Summary from Previous Worksheets, First Flush Volume, Pervious Cover Post-Development Bankfull Volume, Impervious Cover Post-Development Bankfull Volume, Total Bankfull Volume, Pervious Cover Post-Development 100 Year Volume, Impervious Cover Post-Development 100 Year Volume, Total 100 Year Volume, Determine Onsite Infiltration Requirement, Pervious Cover Post-Development Bankfull Volume, Bankfull Volume Difference, Infiltration Red is greater of Bankfull Volume or First Flush, Detention Requirement, Total Site Area Excluding 'Self-Creeding' BMPs, Peak Flow (PF) = (Qp + Q100) x Area (ac) / 640, Applicable BMPs and Associated Volume Credits, Proposed BMP, Infiltration Basin, Total Volume Reduction Credit by Proposed Structural BMPs, Runoff Volume Infiltration Requirement (Vinf) from Worksheet 9, Runoff Volume Credit (cf) 107,671

14. Stormwater Management Summary, Minimum Onsite Infiltration Requirement, Design/Provided Infiltration Volume, % Minimum Required Infiltration Provided, Total Calculated Detention Volume, Detention Outlet Calculations, Time of Concentration, Runoff Summary and Onsite Infiltration Requirement, Runoff Summary from Previous Worksheets, First Flush Volume, Pervious Cover Post-Development Bankfull Volume, Impervious Cover Post-Development Bankfull Volume, Total Bankfull Volume, Pervious Cover Post-Development 100 Year Volume, Impervious Cover Post-Development 100 Year Volume, Total 100 Year Volume, Determine Onsite Infiltration Requirement, Pervious Cover Post-Development Bankfull Volume, Bankfull Volume Difference, Infiltration Red is greater of Bankfull Volume or First Flush, Detention Requirement, Total Site Area Excluding 'Self-Creeding' BMPs, Peak Flow (PF) = (Qp + Q100) x Area (ac) / 640, Applicable BMPs and Associated Volume Credits, Proposed BMP, Infiltration Basin, Total Volume Reduction Credit by Proposed Structural BMPs, Runoff Volume Infiltration Requirement (Vinf) from Worksheet 9, Runoff Volume Credit (cf) 107,671

15. Stormwater Management Summary, Minimum Onsite Infiltration Requirement, Design/Provided Infiltration Volume, % Minimum Required Infiltration Provided, Total Calculated Detention Volume, Detention Outlet Calculations, Time of Concentration, Runoff Summary and Onsite Infiltration Requirement, Runoff Summary from Previous Worksheets, First Flush Volume, Pervious Cover Post-Development Bankfull Volume, Impervious Cover Post-Development Bankfull Volume, Total Bankfull Volume, Pervious Cover Post-Development 100 Year Volume, Impervious Cover Post-Development 100 Year Volume, Total 100 Year Volume, Determine Onsite Infiltration Requirement, Pervious Cover Post-Development Bankfull Volume, Bankfull Volume Difference, Infiltration Red is greater of Bankfull Volume or First Flush, Detention Requirement, Total Site Area Excluding 'Self-Creeding' BMPs, Peak Flow (PF) = (Qp + Q100) x Area (ac) / 640, Applicable BMPs and Associated Volume Credits, Proposed BMP, Infiltration Basin, Total Volume Reduction Credit by Proposed Structural BMPs, Runoff Volume Infiltration Requirement (Vinf) from Worksheet 9, Runoff Volume Credit (cf) 107,671

16. Stormwater Management Summary, Minimum Onsite Infiltration Requirement, Design/Provided Infiltration Volume, % Minimum Required Infiltration Provided, Total Calculated Detention Volume, Detention Outlet Calculations, Time of Concentration, Runoff Summary and Onsite Infiltration Requirement, Runoff Summary from Previous Worksheets, First Flush Volume, Pervious Cover Post-Development Bankfull Volume, Impervious Cover Post-Development Bankfull Volume, Total Bankfull Volume, Pervious Cover Post-Development 100 Year Volume, Impervious Cover Post-Development 100 Year Volume, Total 100 Year Volume, Determine Onsite Infiltration Requirement, Pervious Cover Post-Development Bankfull Volume, Bankfull Volume Difference, Infiltration Red is greater of Bankfull Volume or First Flush, Detention Requirement, Total Site Area Excluding 'Self-Creeding' BMPs, Peak Flow (PF) = (Qp + Q100) x Area (ac) / 640, Applicable BMPs and Associated Volume Credits, Proposed BMP, Infiltration Basin, Total Volume Reduction Credit by Proposed Structural BMPs, Runoff Volume Infiltration Requirement (Vinf) from Worksheet 9, Runoff Volume Credit (cf) 107,671

17. Stormwater Management Summary, Minimum Onsite Infiltration Requirement, Design/Provided Infiltration Volume, % Minimum Required Infiltration Provided, Total Calculated Detention Volume, Detention Outlet Calculations, Time of Concentration, Runoff Summary and Onsite Infiltration Requirement, Runoff Summary from Previous Worksheets, First Flush Volume, Pervious Cover Post-Development Bankfull Volume, Impervious Cover Post-Development Bankfull Volume, Total Bankfull Volume, Pervious Cover Post-Development 100 Year Volume, Impervious Cover Post-Development 100 Year Volume, Total 100 Year Volume, Determine Onsite Infiltration Requirement, Pervious Cover Post-Development Bankfull Volume, Bankfull Volume Difference, Infiltration Red is greater of Bankfull Volume or First Flush, Detention Requirement, Total Site Area Excluding 'Self-Creeding' BMPs, Peak Flow (PF) = (Qp + Q100) x Area (ac) / 640, Applicable BMPs and Associated Volume Credits, Proposed BMP, Infiltration Basin, Total Volume Reduction Credit by Proposed Structural BMPs, Runoff Volume Infiltration Requirement (Vinf) from Worksheet 9, Runoff Volume Credit (cf) 107,671

MIDWESTERN CONSULTING, 3845 Plaza Drive Ann Arbor, Michigan 48108, 734.995.0200, www.midwesternconsulting.com, LAFAYETTE, IN 47901, DAMIAN VANMATE, Wireless Communications • Transportation • Landfill Services, CLIENT: COTTAGES AT BARTON GREEN, ADMINISTRATIVE AMENDMENT STORMWATER MANAGEMENT PLAN, DATE: 9/25/17, SHEET 19 OF 49, JOB NO. 16223, REV. DATE: 9/25/17, REV. BY: JCA, ENG. DATE: 9/25/17, ENG. BY: JCA, PLOT DATE: 10/17/17, PLOT BY: SWB, REV. DATE: 11/15/17, REV. BY: JCA, REV. DATE: 11/15/17, REV. BY: JCA, 811 Know what's below. Call before you dig.

M:\CIVIL\132_P\13223\13223\13223.dwg, 2/18/2021 2:44 PM, Jim Ahern, None
 Copyright © 2021, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



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

SCALE: 1" = 40'

- ### LEGEND
- 838 EXIST. CONTOUR
 - 838 PROP. CONTOUR
 - o-u.p. EXIST. UTILITY POLE
 - o-u.p. EXIST. UTILITY POLE W/ TRANS.
 - GUY WIRE
 - OH EXIST. OVERHEAD UTILITY LINE
 - * EXIST. LIGHT POLE
 - t EXIST. TELEPHONE LINE
 - e EXIST. ELECTRIC LINE
 - g EXIST. GAS LINE
 - g EXIST. GAS VALVE
 - f.o. EXIST. FIBER OPTIC LINE
 - w EXIST. WATER MAIN
 - PROP. WATER MAIN
 - EXIST. HYDRANT
 - PROP. HYDRANT
 - EXIST. GATE VALVE IN BOX
 - PROP. GATE VALVE IN BOX
 - EXIST. GATE VALVE IN WELL
 - PROP. GATE VALVE IN WELL
 - EXIST. CURB STOP & BOX
 - PROP. CURB STOP & BOX
 - REDUCER
 - EXIST. BLOW-OFF
 - PROP. BLOW-OFF
 - P.I.V. POST INDICATOR VALVE
 - THRUST BLOCK
 - PROP. KNOXBOX
 - EXIST. STORM SEWER
 - PROP. STORM SEWER
 - EXIST. CATCH BASIN OR INLET
 - PROP. CATCH BASIN OR INLET
 - EXIST. BEEHIVE INLET
 - PROP. BEEHIVE INLET
 - PROP. ROOF DRAIN
 - END SECTION
 - HEAD WALL
 - CULVERT
 - PROP. DOWNSPOUT
 - EXIST. SANITARY SEWER
 - PROP. SANITARY SEWER
 - EXIST. CLEANOUT
 - PROP. CLEANOUT
 - C/L OF DITCH
 - SIGN
 - SINGLE TREE
 - TREE OR BRUSH LIMIT
 - FENCE
 - LIMITS OF DISTURBANCE
 - NO TREE ZONE

- ### LANDSCAPE LEGEND
- ⊕ PROPOSED CANOPY TREE MITIGATION PLANTINGS
 - ⊕ PROPOSED FLOWERING TREE MITIGATION PLANTINGS
 - ⊕ PROPOSED EVERGREEN TREE MITIGATION PLANTINGS
 - ⊕ PROPOSED SHRUBS
 - ⊕ PROPOSED CANOPY TREE (INTERIOR VUA)
 - ⊕ PROPOSED CANOPY TREE (RIGHT-OF-WAY SCREEN)
 - ⊕ PROPOSED EVERGREEN TREE (CONFLICTING LAND USE BUFFER)
 - ⊕ PROPOSED EVERGREEN TREE (RIGHT-OF-WAY SCREEN)
 - ⊕ EXISTING TREE TO REMAIN
 - ⊕ MDOT STANDARD SEED MIX THM
 - ⊕ PROPOSED BIO-RETENTION ISLANDS NATIVE SEED
 - ⊕ PROPOSED PLANT PLUGS
 - ⊕ SLOPE STABILIZATION SEED MIX (PLACED WITH MULCHMAT)
 - ⊕ VEHICULAR USE AREA LIMITS
 - ⊕ ILA 120 SF/ BIOS 120 SF

NOTE: IN THE EVENT A CITY OWNED UTILITY REQUIRES REPAIR OR MAINTENANCE THAT DAMAGES ANY BIOSWALE, PERMEABLE PAVEMENT AREA, OR LANDSCAPING IT WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER TO REPAIR THESE SITE FEATURES.

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

MIDWESTERN CONSULTING
 3845 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services

MIDWESTERN CONSULTING
 CLIENT
 TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

COTTAGES AT BARTON GREEN
 ADMINISTRATIVE AMENDMENT
 LANDSCAPE AND MITIGATION PLAN (WEST)

22

DATE: 5/25/17	SHEET 22 OF 49
REV. DATE: 6/16/17	ADD:
REV. DATE: 9/5/17	ENG. JCA
REV. DATE: 10/12/17	PM. SWB
REV. DATE: 11/15/18	TECH. JCA
REV. DATE: 6/27/19	REV. JCA

16223
 ADMINISTRATIVE AMENDMENT REVISIONS
 PER CITY REVIEW/BERM GRADING
 PER CITY REVIEW/BERM GRADING
 PER CITY REVIEW/BERM GRADING
 ADDED PLANTINGS AT SKYDALE

LANDSCAPE NOTES

- Water outlets will be provided within 150 feet of all required plantings.
- Plant materials shall be selected and installed as detailed. Street trees shall be installed in accordance with standards established by the City of Ann Arbor Parks and Recreation Department and as shown on the Street Tree Planting Detail.
- All diseased, damaged or dead material shown on the site plan as proposed plantings shall be replaced by the end of the following growing season as a continuing obligation for the duration of the site plan.
- Restore all disturbed and proposed landscape areas with a minimum of three (3) inches of topsoil and then sod or specify fertilization schedule on the site plan. Provide sod or seed and erosion control blankets on all slopes 3:1 or steeper.
- Seed mixes and fertilizer:
 - Lawn seed mix shall be as follows:
 - 15% Ruby Kentucky Bluegrass
 - 10% Park Kentucky Bluegrass
 - 40% Ruby Creeping Red Fescue
 - 15% Pennine Perennial Ryegrass
 - 20% Seakiss Hard Fescue
 - Seed shall be applied at the rate of five pounds (5 lbs) per 1000 sq ft.
 - Fertilizer for the initial installation of lawns shall provide not less than one (1) pound of actual nitrogen per 1000 sq ft of lawn area and shall contain not less than two percent (2%) potassium and four percent (4%) phosphoric acid.
 - After the first growing season, only fertilizers that contain no phosphorus shall be used on the site.
 - Mulch within 24 hours with two (2) tons of straw per acre, or 71 bales of excelsior mulch per acre. Anchor straw mulch with spray coating of adhesive material applied at the rate of 150 gals/acre.
 - Fertilizer for the initial installation of lawns shall provide not less than one (1) pound of actual nitrogen per 1000 sq ft of lawn area and shall contain not less than two percent (2%) potassium and four percent (4%) phosphoric acid.
 - After the first growing season, only fertilizers that contain no phosphorus shall be used on the site.

LANDSCAPE REQUIREMENTS:

- I. PARKING LOT LANDSCAPING**
Interior landscape islands required based on V.U.A. 50% of required islands required to be bio-retention 1 tree/250 sf required landscape area
ANALYSIS OF SITE AS TWO SEPARATE PARCELS
EAST OF ST. REGIS WAY
1 sf interior landscape per 20 sf of V.U.A. required
V.U.A. = 29,802 sf
Interior landscape = 9,710 sf required / 1,853 provided
Trees required: 6 / 10 trees provided
Bio-retention = 745 sf required / 765 provided
- WEST OF ST. REGIS WAY**
1 sf interior landscape per 15 sf of V.U.A. required
V.U.A. = 145,727 sf
Interior landscape = 9,710 sf required / 10,239 provided
Trees required: 38 / 32 required / 40 provided
Bio-retention required = 4,855 sf / 4,839 sf provided
- STREET TREE ESCROW**
Escrow: Tree: 398 x \$1.30 / ft of street frontage = \$517.40
St. Regis Way frontage = 1,100 ft
East side - 684 ft x \$1.30 / ft street frontage = \$889.20
West side - 756 ft x \$1.30 / ft street frontage = \$982.80
St. Regis Way: 136 ft x \$1.30 / ft street frontage = \$178.80
TOTAL ESCROW = \$2,568.20
- IV. TREE REMOVAL MITIGATION CALCULATIONS**
REMOVALS: see Tree Index
Landmark and Woodland Trees to be removed: 1,055 inches
TOTAL MITIGATION REQUIRED: 1,055 x 50% = 528 inches
PROPOSED MITIGATION:
Canopy trees: 95 x 2.5" cal = 237.5 inches
Evergreen trees: 83 x 2.5" cal (8" ht) = 207.5 inches
Flowering trees: 88 x 2" cal = 176 inches
TOTAL PROPOSED MITIGATION = 581 inches
- V. CONFLICTING LAND USE BUFFER***
Ave 15' width, 8' min required / 15' min. provided
Trees 1:30 L.F., 2" cal, 6' above root ball; evg trees 7' ht. min., minimum 50% evergreen, minimum canopy and height provided, 100% evergreen
30' hedge required / 30' hedge provided as noted on the landscape plans.
See the C.L.U.B. diagram for buffer lengths and proposed plantings.
Point 'A' to Point 'B': 240 ft = 51 Regis Way r.o.w. no C.L.U.B. required
Point 'B' to Point 'C': 212 ft = 7 trees required
Point 'C' to Point 'D': 1,056 ft = 12 trees and 25 shrubs provided
Point 'D' to Point 'E': 1,056 ft = 35 trees required
Point 'E' to Point 'F': 548 ft = 45 trees and 112 shrubs provided
Point 'F' to Point 'G': 548 ft = 30' minimum undisturbed existing trees, shrubs, and brush
Point 'G' to Point 'H': 453 ft = 15 trees required
Point 'H' to Point 'I': 350 ft = 19 trees and 52 shrubs provided
Point 'I' to Point 'J': 350 ft = 12 trees required
Point 'J' to Point 'K': 275 ft = 13 trees and 46 shrubs provided
Point 'K' to Point 'L': 275 ft = 10 trees required
Total provided: = 89 trees and 262 shrubs

Detention Basin Bottom and Side Slopes Seed Mix

Botanical Name	Common Name	Application
Andropogon gerardii	Big Blue Stem	8 oz/acre
Carex vulpinoidea	Fox Sedge	4 oz/acre
Elymus canadensis	Canada Wild Rice	8 oz/acre
Koeleria macrantha	Line Grass	1 lb/acre
Pericum virgatum	Switch Grass	2 lbs/acre
Schizachyrium scoparium	Little Blue Stem	1.5 lbs/acre
Lolium multiflorum	Annual Rye	200 lbs/acre

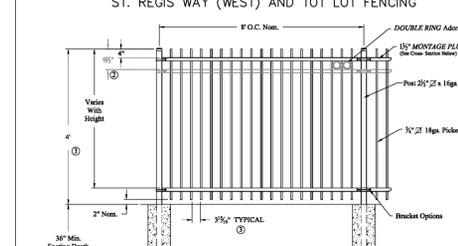
Detention Basin Bottom and Side Slopes

- A bi-annual, mowable, semi-annual, cool-season seed mix suited for basin bottom and side slopes.
- Mulch shall be applied at the rate of two hundred and twenty pounds (220 lbs) per acre.
- Fertilizer shall be MDOT Class B applied at the rate of one hundred and twenty pounds (120 lbs) per acre.
- Mulch within 24 hours with two (2) tons of straw per acre, or 71 bales of excelsior mulch per acre. Anchor straw mulch with spray coating of adhesive material applied at the rate of 150 gals/acre.
- C. Detention Basin Bottom and Side Slopes:

Detention Basin Bottom and Side Slopes

- Ratio of Loose Compost to Topsoil by Volume: 1:4
- Weight of Lime per 1000 sq. ft.: Amend with lime only on recommendation of soil test to adjust soil pH
- Weight of sulfur or aluminum sulfate per 1,000 sq. ft.: amend with sulfur or aluminum sulfate only on recommendation of soil test to adjust soil pH
- Volume of Sand, amended with sand only on recommendation of the Landscape Architect to adjust soil texture.
- Weight of Slow-release Fertilizer per 1,000 sq. ft.: amend with fertilizer only on recommendation of soil test to adjust soil fertility
- Snow cannot be pushed onto interior islands unless they are designated on the plan for snow storage. Bio-retention islands are also snow storage islands.
- Shrubs and trees are to be a minimum of 5 feet from hydrants

ST. REGIS WAY (WEST) AND TOT LOT FENCING



ANCHORING AND BRACING DETAILS FOR END, ANGLE AND CORNER POSTS



ANCHORING AND BRACING DETAILS FOR INTERMEDIATES, STRAIGHT, INTERSECTION AND ANGLE POSTS



WOVEN WIRE FENCE

NORTH RETAINING WALL FENCING



DETENTION PLANT PLUG SCHEDULE

Stormwater Live Plantings - Species to be planted as a mixed composition at bottom of basin	Qty/Pond 1 (Qty/Pond 2)	Total	Scientific Name	Common Name	Root Spacing
466	370	577	1413	Aster novae-angliae	Plug, 24" o.c.
466	370	577	1413	Carex hystericina	Plug, 24" o.c.
466	370	577	1413	Carex vulpinoidea	Plug, 24" o.c.
466	370	577	1413	Glyceria striata	Plug, 24" o.c.
466	370	577	1413	Helianthus autumnalis	Plug, 24" o.c.
466	370	577	1413	Juncus effusus	Plug, 24" o.c.

Note: Quantity per flat varies per supplier

LANDSCAPE REQUIREMENTS:

- I. PARKING LOT LANDSCAPING**
Interior landscape islands required based on V.U.A. 50% of required islands required to be bio-retention 1 tree/250 sf required landscape area
ANALYSIS OF SITE AS TWO SEPARATE PARCELS
EAST OF ST. REGIS WAY
1 sf interior landscape per 20 sf of V.U.A. required
V.U.A. = 29,802 sf
Interior landscape = 9,710 sf required / 1,853 provided
Trees required: 6 / 10 trees provided
Bio-retention = 745 sf required / 765 provided
- WEST OF ST. REGIS WAY**
1 sf interior landscape per 15 sf of V.U.A. required
V.U.A. = 145,727 sf
Interior landscape = 9,710 sf required / 10,239 provided
Trees required: 38 / 32 required / 40 provided
Bio-retention required = 4,855 sf / 4,839 sf provided
- STREET TREE ESCROW**
Escrow: Tree: 398 x \$1.30 / ft of street frontage = \$517.40
St. Regis Way frontage = 1,100 ft
East side - 684 ft x \$1.30 / ft street frontage = \$889.20
West side - 756 ft x \$1.30 / ft street frontage = \$982.80
St. Regis Way: 136 ft x \$1.30 / ft street frontage = \$178.80
TOTAL ESCROW = \$2,568.20
- IV. TREE REMOVAL MITIGATION CALCULATIONS**
REMOVALS: see Tree Index
Landmark and Woodland Trees to be removed: 1,055 inches
TOTAL MITIGATION REQUIRED: 1,055 x 50% = 528 inches
PROPOSED MITIGATION:
Canopy trees: 95 x 2.5" cal = 237.5 inches
Evergreen trees: 83 x 2.5" cal (8" ht) = 207.5 inches
Flowering trees: 88 x 2" cal = 176 inches
TOTAL PROPOSED MITIGATION = 581 inches
- V. CONFLICTING LAND USE BUFFER***
Ave 15' width, 8' min required / 15' min. provided
Trees 1:30 L.F., 2" cal, 6' above root ball; evg trees 7' ht. min., minimum 50% evergreen, minimum canopy and height provided, 100% evergreen
30' hedge required / 30' hedge provided as noted on the landscape plans.
See the C.L.U.B. diagram for buffer lengths and proposed plantings.
Point 'A' to Point 'B': 240 ft = 51 Regis Way r.o.w. no C.L.U.B. required
Point 'B' to Point 'C': 212 ft = 7 trees required
Point 'C' to Point 'D': 1,056 ft = 12 trees and 25 shrubs provided
Point 'D' to Point 'E': 1,056 ft = 35 trees required
Point 'E' to Point 'F': 548 ft = 45 trees and 112 shrubs provided
Point 'F' to Point 'G': 548 ft = 30' minimum undisturbed existing trees, shrubs, and brush
Point 'G' to Point 'H': 453 ft = 15 trees required
Point 'H' to Point 'I': 350 ft = 19 trees and 52 shrubs provided
Point 'I' to Point 'J': 350 ft = 12 trees required
Point 'J' to Point 'K': 275 ft = 13 trees and 46 shrubs provided
Point 'K' to Point 'L': 275 ft = 10 trees required
Total provided: = 89 trees and 262 shrubs

Detention Basin Bottom and Side Slopes Seed Mix

Botanical Name	Common Name	Application
Andropogon gerardii	Big Blue Stem	8 oz/acre
Carex vulpinoidea	Fox Sedge	4 oz/acre
Elymus canadensis	Canada Wild Rice	8 oz/acre
Koeleria macrantha	Line Grass	1 lb/acre
Pericum virgatum	Switch Grass	2 lbs/acre
Schizachyrium scoparium	Little Blue Stem	1.5 lbs/acre
Lolium multiflorum	Annual Rye	200 lbs/acre

Detention Basin Bottom and Side Slopes

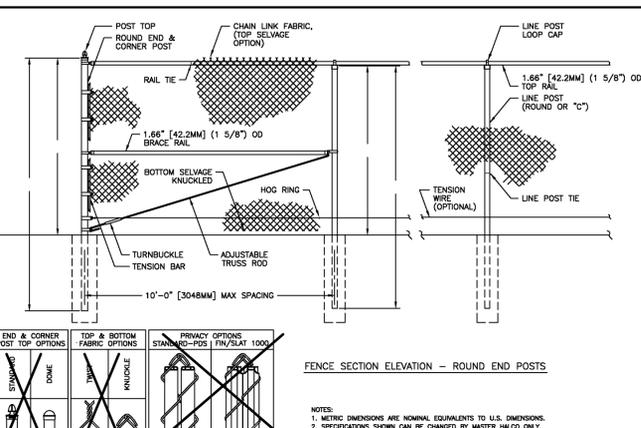
- A bi-annual, mowable, semi-annual, cool-season seed mix suited for basin bottom and side slopes.
- Mulch shall be applied at the rate of two hundred and twenty pounds (220 lbs) per acre.
- Fertilizer shall be MDOT Class B applied at the rate of one hundred and twenty pounds (120 lbs) per acre.
- Mulch within 24 hours with two (2) tons of straw per acre, or 71 bales of excelsior mulch per acre. Anchor straw mulch with spray coating of adhesive material applied at the rate of 150 gals/acre.
- C. Detention Basin Bottom and Side Slopes:

Detention Basin Bottom and Side Slopes

- Ratio of Loose Compost to Topsoil by Volume: 1:4
- Weight of Lime per 1000 sq. ft.: Amend with lime only on recommendation of soil test to adjust soil pH
- Weight of sulfur or aluminum sulfate per 1,000 sq. ft.: amend with sulfur or aluminum sulfate only on recommendation of soil test to adjust soil pH
- Volume of Sand, amended with sand only on recommendation of the Landscape Architect to adjust soil texture.
- Weight of Slow-release Fertilizer per 1,000 sq. ft.: amend with fertilizer only on recommendation of soil test to adjust soil fertility
- Snow cannot be pushed onto interior islands unless they are designated on the plan for snow storage. Bio-retention islands are also snow storage islands.
- Shrubs and trees are to be a minimum of 5 feet from hydrants

Detention Basin Bottom and Side Slopes

- Ratio of Loose Compost to Topsoil by Volume: 1:4
- Weight of Lime per 1000 sq. ft.: Amend with lime only on recommendation of soil test to adjust soil pH
- Weight of sulfur or aluminum sulfate per 1,000 sq. ft.: amend with sulfur or aluminum sulfate only on recommendation of soil test to adjust soil pH
- Volume of Sand, amended with sand only on recommendation of the Landscape Architect to adjust soil texture.
- Weight of Slow-release Fertilizer per 1,000 sq. ft.: amend with fertilizer only on recommendation of soil test to adjust soil fertility
- Snow cannot be pushed onto interior islands unless they are designated on the plan for snow storage. Bio-retention islands are also snow storage islands.
- Shrubs and trees are to be a minimum of 5 feet from hydrants



ANCHOR FENCE PRODUCTS by Master Halco

ITEM	DESCRIPTION	QTY	UNIT PRICE	TOTAL
1	1.66" (42.2MM) (1 5/8") OD TOP RAIL	1	1130	1130
2	1.66" (42.2MM) (1 5/8") OD BRACE RAIL	1	1130	1130
3	1.66" (42.2MM) (1 5/8") OD END POST	1	1130	1130
4	1.66" (42.2MM) (1 5/8") OD CORNER POST	1	1130	1130
5	1.66" (42.2MM) (1 5/8") OD TENSION WIRE	1	1130	1130
6	1.66" (42.2MM) (1 5/8") OD TURNBUCKLE	1	1130	1130
7	1.66" (42.2MM) (1 5/8") OD ADJUSTABLE TRUSS ROD	1	1130	1130
8	1.66" (42.2MM) (1 5/8") OD HOG RING	1	1130	1130
9	1.66" (42.2MM) (1 5/8") OD TENSION WIRE (OPTIONAL)	1	1130	1130
10	1.66" (42.2MM) (1 5/8") OD LINE POST TIE	1	1130	1130
11	1.66" (42.2MM) (1 5/8") OD LINE POST LOOP CAP	1	1130	1130

ANCHOR FENCE PRODUCTS by Master Halco

ITEM	DESCRIPTION	QTY	UNIT PRICE	TOTAL
1	1.66" (42.2MM) (1 5/8") OD TOP RAIL	1	1130	1130
2	1.66" (42.2MM) (1 5/8") OD BRACE RAIL	1	1130	1130
3	1.66" (42.2MM) (1 5/8") OD END POST	1	1130	1130
4	1.66" (42.2MM) (1 5/8") OD CORNER POST	1	1130	1130
5	1.66" (42.2MM) (1 5/8") OD TENSION WIRE	1	1130	1130
6	1.66" (42.2MM) (1 5/8") OD TURNBUCKLE	1	1130	1130
7	1.66" (42.2MM) (1 5/8") OD ADJUSTABLE TRUSS ROD	1	1130	1130
8	1.66" (42.2MM) (1 5/8") OD HOG RING	1	1130	1130
9	1.66" (42.2MM) (1 5/8") OD TENSION WIRE (OPTIONAL)	1	1130	1130
10	1.66" (42.2MM) (1 5/8") OD LINE POST TIE	1	1130	1130
11	1.66" (42.2MM) (1 5/8") OD LINE POST LOOP CAP	1	1130	1130

ANCHOR FENCE PRODUCTS by Master Halco

ITEM	DESCRIPTION	QTY	UNIT PRICE	TOTAL
1	1.66" (42.2MM) (1 5/8") OD TOP RAIL	1	1130	1130
2	1.66" (42.2MM) (1 5/8") OD BRACE RAIL	1	1130	1130
3	1.66" (42.2MM) (1 5/8") OD END POST	1	1130	1130
4	1.66" (42.2MM) (1 5/8") OD CORNER POST	1	1130	1130
5	1.66" (42.2MM) (1 5/8") OD TENSION WIRE	1	1130	1130
6	1.66" (42.2MM) (1 5/8") OD TURNBUCKLE	1	1130	1130
7	1.66" (42.2MM) (1 5/8") OD ADJUSTABLE TRUSS ROD	1	1130	1130
8	1.66" (42.2MM) (1 5/8") OD HOG RING	1	1130	1130
9	1.66" (42.2MM) (1 5/8") OD TENSION WIRE (OPTIONAL)	1	1130	1130
10	1.66" (42.2MM) (1 5/8") OD LINE POST TIE	1	1130	1130
11	1.66" (42.2MM) (1 5/8") OD LINE POST LOOP CAP	1	1130	1130

ANCHOR FENCE PRODUCTS by Master Halco

ITEM	DESCRIPTION	QTY	UNIT PRICE	TOTAL
1	1.66" (42.2MM) (1 5/8") OD TOP RAIL	1	1130	1130
2	1.66" (42.2MM) (1 5/8") OD BRACE RAIL	1	1130	1130
3	1.66" (42.2MM) (1 5/8") OD END POST	1	1130	1130
4	1.66" (42.2MM) (1 5/8") OD CORNER POST	1	1130	1130
5	1.66" (42.2MM) (1 5/8") OD TENSION WIRE	1	1130	1130
6	1.66" (42.2MM) (1 5/8") OD TURNBUCKLE	1	1130	1130
7	1.66" (42.2MM) (1 5/8") OD ADJUSTABLE TRUSS ROD	1	1130	1130
8	1.66" (42.2MM) (1 5/8") OD HOG RING	1	1130	1130
9	1.66" (42.2MM) (1 5/8") OD TENSION WIRE (OPTIONAL)	1	1130	1130
10	1.66" (42.2MM) (1 5/8") OD LINE POST TIE	1	1130	1130
11	1.66" (42.2MM) (1 5/8") OD LINE POST LOOP CAP	1	1130	1130

ANCHOR FENCE PRODUCTS by Master Halco

ITEM	DESCRIPTION	QTY	UNIT PRICE	TOTAL
1	1.66" (42.2MM) (1 5/8") OD TOP RAIL	1	1130	1130
2	1.66" (42.2MM) (1 5/8") OD BRACE RAIL	1	1130	1130
3	1.66" (42.2MM) (1 5/8") OD END POST	1	1130	1130
4	1.66" (42.2MM) (1 5/8") OD CORNER POST	1	1130	1130
5	1.66" (42.2MM) (1 5/8") OD TENSION WIRE	1	1130	1130
6	1.66" (42.2MM) (1 5/8") OD TURNBUCKLE	1	1130	1130
7	1.66" (42.2MM) (1 5/8") OD ADJUSTABLE TRUSS ROD	1	1130	1130
8	1.66" (42.2MM) (1 5/8") OD HOG RING	1	1130	1130
9	1.66" (42.2MM) (1 5/8") OD TENSION WIRE (OPTIONAL)	1	1130	1130
10	1.66" (42.2MM) (1 5/8") OD LINE POST TIE	1	1130	1130
11	1.66" (42.2MM) (1 5/8") OD LINE POST LOOP CAP	1	1130	1130

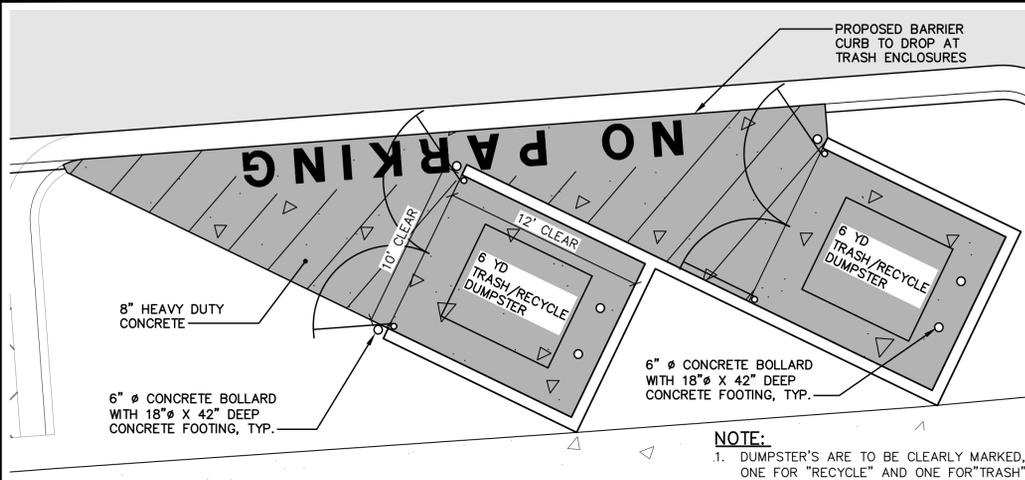
ANCHOR FENCE PRODUCTS by Master Halco

ITEM	DESCRIPTION	QTY	UNIT PRICE	TOTAL
1	1.66" (42.2MM) (1 5/8") OD TOP RAIL	1	1130	1130
2	1.66" (42.2MM) (1 5/8") OD BRACE RAIL	1	1130	1130
3	1.66" (42.2MM) (1 5/8") OD END POST	1	1130	1130
4	1.66" (42.2MM) (1 5/8") OD CORNER POST	1	1130	1130
5	1.66" (42.2MM) (1 5/8") OD TENSION WIRE	1	1130	1130
6	1.66" (42.2MM) (1 5/8") OD TURNBUCKLE	1	1130	1130
7	1.66" (42.2MM) (1 5/8") OD ADJUSTABLE TRUSS ROD	1	1130	1130
8	1.66" (42.2MM) (1 5/8") OD HOG RING	1	1130	1130
9	1.66" (42.2MM) (1 5/8") OD TENSION WIRE (OPTIONAL)	1	1130	1130
10	1.66" (42.2MM) (1 5/8") OD LINE POST TIE	1	1130	1130
11	1.66" (42.2MM) (1 5/8") OD LINE POST LOOP CAP	1	1130	1130

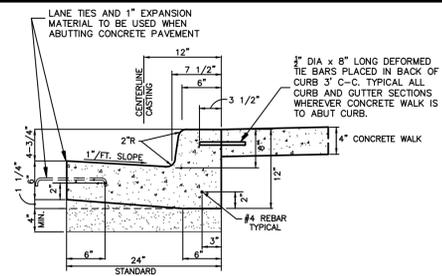
ANCHOR FENCE PRODUCTS by Master Halco

ITEM	DESCRIPTION	QTY	UNIT PRICE	TOTAL
1	1.66			

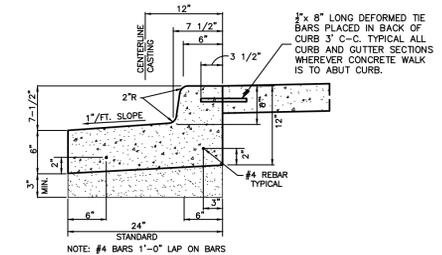
M:\Civ\132_Pro\16223\16223.dwg, 2/18/2021 2:45 PM, Jim Ahnert, None
 Copyright © 2021 Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



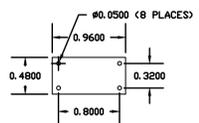
TRASH ENCLOSURE DETAIL
SCALE: 1"=5'



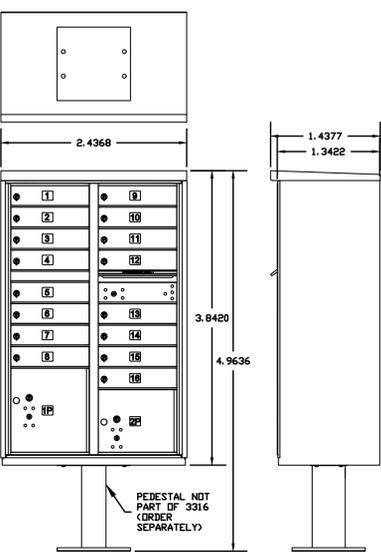
SPILL-IN CURB AND GUTTER
NOT TO SCALE



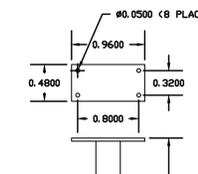
SPILL-OUT CURB AND GUTTER
NOT TO SCALE



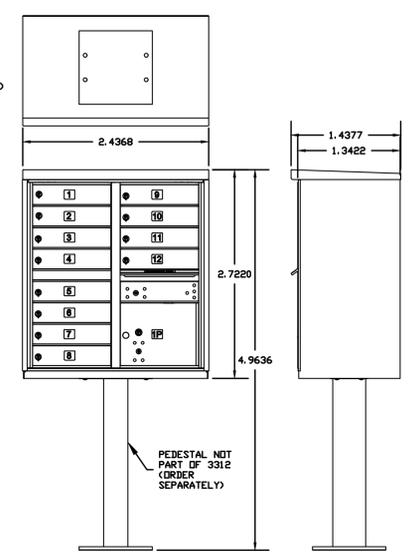
3385 PEDESTAL



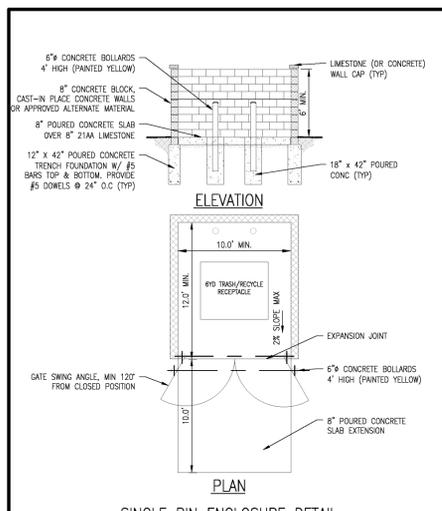
MAILBOX DETAIL
16 UNIT
NOT TO SCALE



3395 PEDESTAL



MAILBOX DETAIL
12 UNIT
NOT TO SCALE

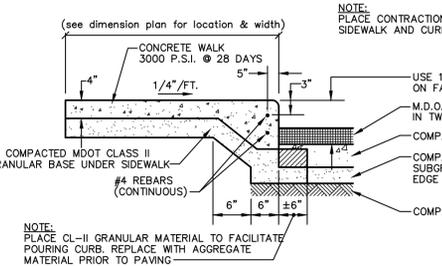


SINGLE BIN ENCLOSURE DETAIL

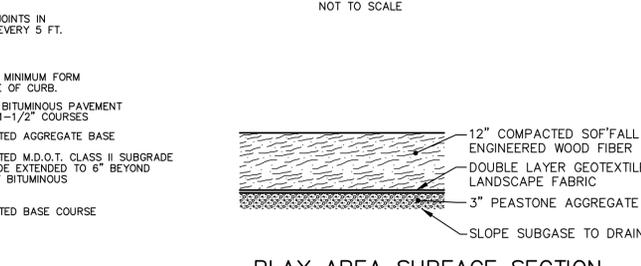
GENERAL NOTES:

- A CLEAR SPACE MUST BE MAINTAINED DIRECTLY IN FRONT OF THE SOLID WASTE ENCLOSURE. THE CLEAR SPACE SHALL BE A MINIMUM OF FIFTY (50) FEET LONG BY THE WIDTH OF THE INSIDE DIMENSION OF THE ENCLOSURE PLUS FIVE (5) FEET ON BOTH SIDES ALONG THE ENTIRE SOLID WASTE VEHICLE ROUTE. A VERTICAL CLEARANCE OF AT LEAST TWENTY-FIVE (25) FEET MUST BE PROVIDED.
- FORWARD ACCESS TO THE PUBLIC STREET IS NOT AVAILABLE FOR THE SOLID WASTE TRUCK. THE SITE DEVELOPMENT LAYOUT MUST ACCOMMODATE A TURN-AROUND LOCATION FOR THE SOLID WASTE TRUCK.
- GATES ON BIN ENCLOSURES MUST BE DESIGNED TO OPEN A MINIMUM OF 120 DEGREES FROM THE CLOSED POSITION. THE GATES SHOULD NOT IMPROVE ON THE REQUIRED BIN ENCLOSURE OPENING WIDTH. SHOULD NOT BLOCK ADJACENT PARKING SPOTS, AND NOT BE IMPROVED BY ADJACENT CURBS OR LANDSCAPING.
- GATES SHALL BE DESIGNED TO BE FREE STANDING WITHOUT CENTER POLE DESIGN. IF CENTER POLE DESIGN IS NECESSARY, 12-INCHES SHALL BE ADDED TO THE OVERALL WIDTH OF THE ENCLOSURE.
- GATE DESIGN SHALL INCLUDE A RELIABLE MEANS TO SECURE THE DOOR IN BOTH THE OPEN AND CLOSED POSITIONS.
- THE CONCRETE SLAB IN FRONT OF THE BIN ENCLOSURE SHALL HAVE PAVEMENT MARKINGS TO INDICATE NO PARKING, AS APPROVED BY CITY.
- REFER TO ASSOCIATED STANDARD DETAILS FOR REQUIREMENTS ON SINGLE AND DOUBLE WIDE SOLID WASTE BIN ENCLOSURE LAYOUT AND DESIGN CRITERIA. THE CITY SHALL HAVE THE ABILITY TO MODIFY OR INTERPRET THESE DETAILS AS NECESSARY, TO ACCOMMODATE THE CITY OR CITY CONTRACTOR NEEDS IN REGARDS TO SOLID WASTE PROGRAMS.
- REFUSE EQUIPMENT ACCESS ROADS AND SERVICE AREA SURFACES SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF COLLECTION TRUCKS WEIGHING UP TO 68,000 LBS GROSS VEHICLE WEIGHT (GVW) AND SHALL BE PROVIDED WITH AN APPROVED SURFACE SO AS TO PROVIDE ALL WEATHER DRIVING CAPABILITIES. PROPERTY OWNER SHALL BE RESPONSIBLE FOR ALL SNOW AND ICE REMOVAL REQUIRED FOR SAFE ACCESS OF SOLID WASTE VEHICLES.
- THE SOLID WASTE ENCLOSURE SHALL BE LOCATED A MINIMUM OF TEN (10) FEET AWAY FROM MAJOR ELECTRICAL EQUIPMENT, ABOVE GROUND UTILITY SERVICES, TREE BRANCHES OR OTHER OVERHEAD OBSTRUCTIONS.

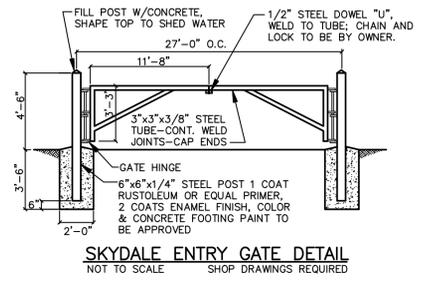
CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 3662 ANN ARBOR, MI 48107-8647 734.764.6410 www.a2gov.org		CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 3662 ANN ARBOR, MI 48107-8647 734.764.6410 www.a2gov.org	
REV. NO.	DATE	DESIGN BY	CHECKED BY
01	02/12/21	JCA	SWB
SOLID WASTE STANDARD DETAILS			
DR. CHM	CH. CJC	DRAWING NO.	PAGE 1
SCALE: N.T.S.	DATE: 02/12/21		



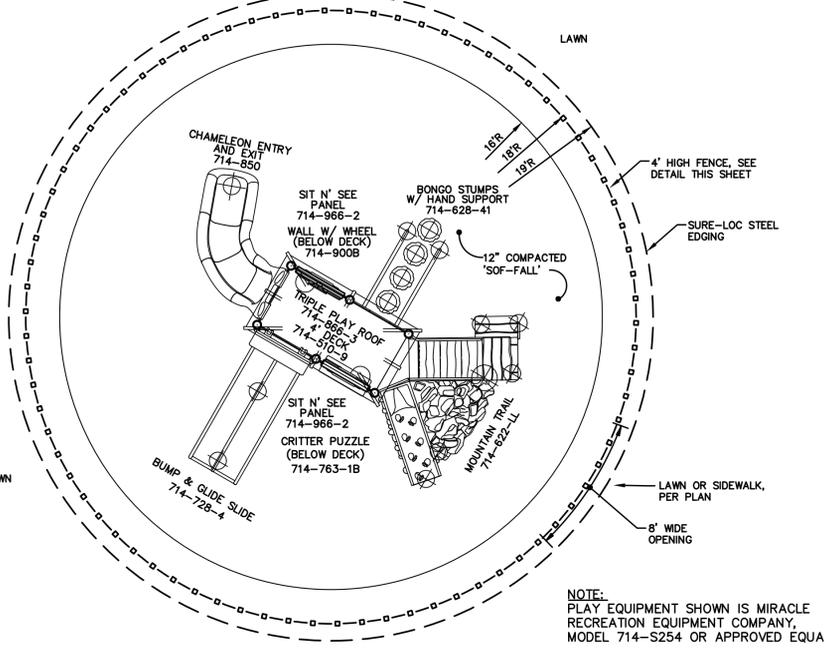
TYPICAL INTEGRAL WALK & CURB
NOT TO SCALE



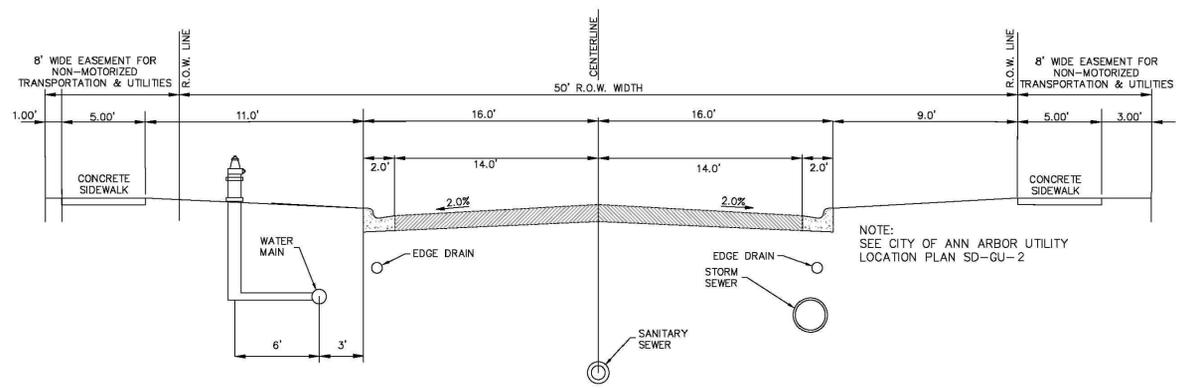
PLAY AREA SURFACE SECTION
NOT TO SCALE



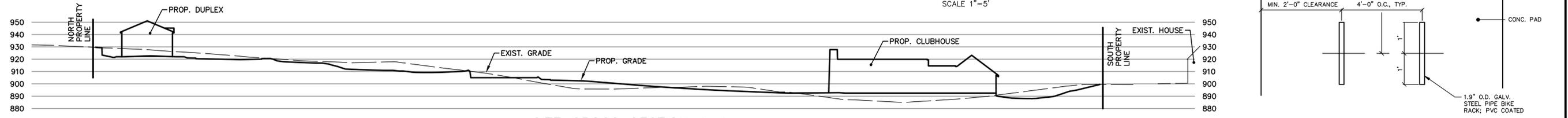
SKYDALE ENTRY GATE DETAIL
NOT TO SCALE
SHOP DRAWINGS REQUIRED



PLAY AREA DETAIL
SCALE: 1"=5'



TYPICAL ROAD CROSS-SECTION
ST. REGIS WAY
NOT TO SCALE



SITE CROSS SECTION A-A
SCALE: 1"=40'

HOOP RACK Specifications and Space Use

Product: Dero Hoop Rack
As manufactured by Dero Bike Racks

Capacity: 2 Bikes

Materials: 1.5" schedule 40 pipe (1.9" OD)

Finishes: An after fabrication hot dipped galvanized finish is our standard option. 250 TGIC powder coat color

Our powder coat finish assures a high level of adhesion and durability by following these steps:
 1. Sandblast
 2. Epoxy primer electrostatically applied
 3. Final thick TGIC polyester powder coat

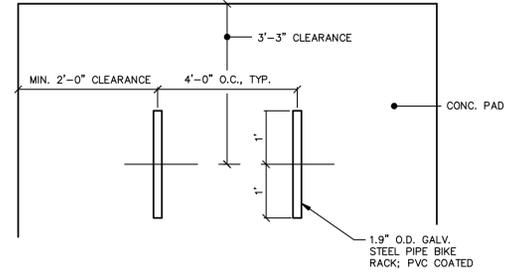
Installation Methods: Foot Mount has two 2.5"x6"x.25" feet with two anchors per foot. Specify foot mount for this option.

COLOR: BLACK

Surface



www.dero.com 1.800.337.6729



HOOP BIKE RACK (PLAN)
NO SCALE

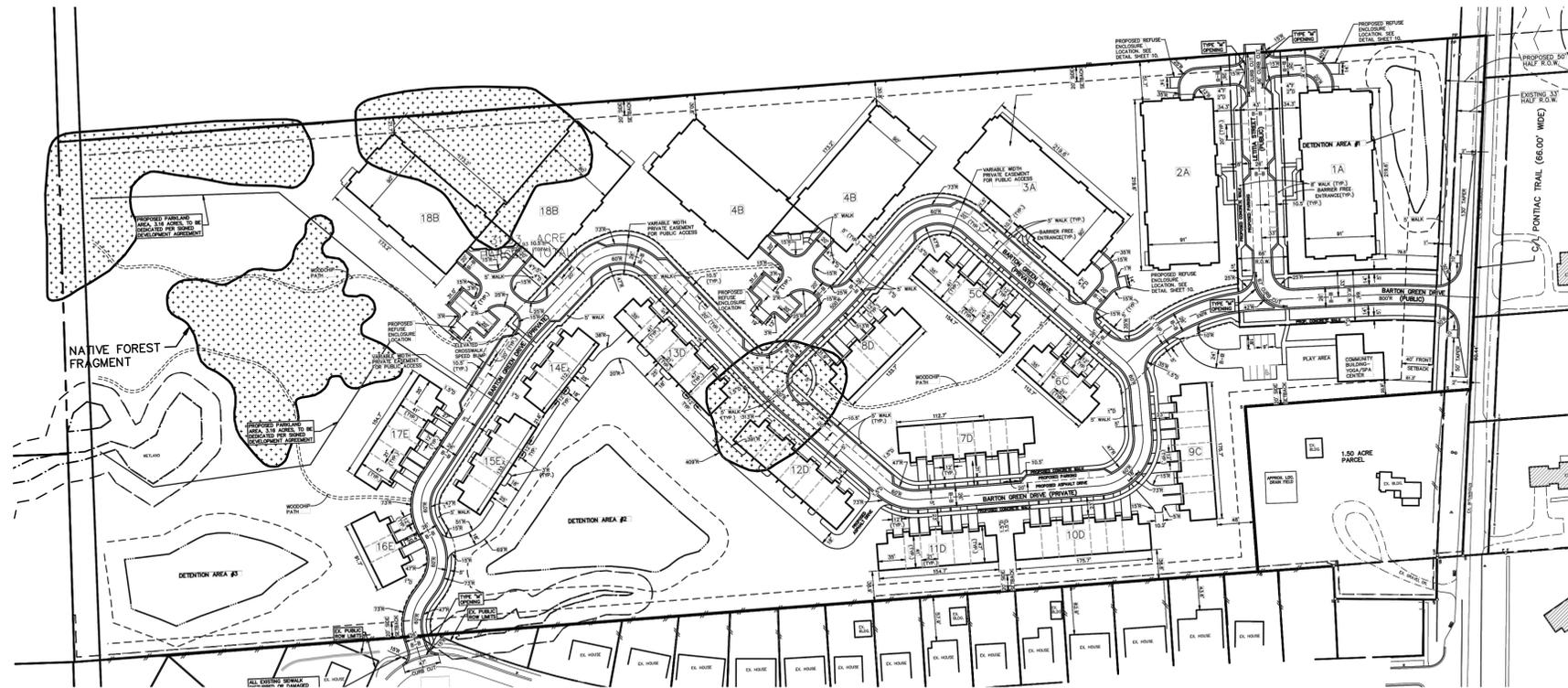
MIDWESTERN CONSULTING
 3845 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services

MIDWESTERN CONSULTING
 CLIENT
 TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

COTTAGES AT BARTON GREEN
 ADMINISTRATIVE AMENDMENT
 MISCELLANEOUS SITE DETAILS

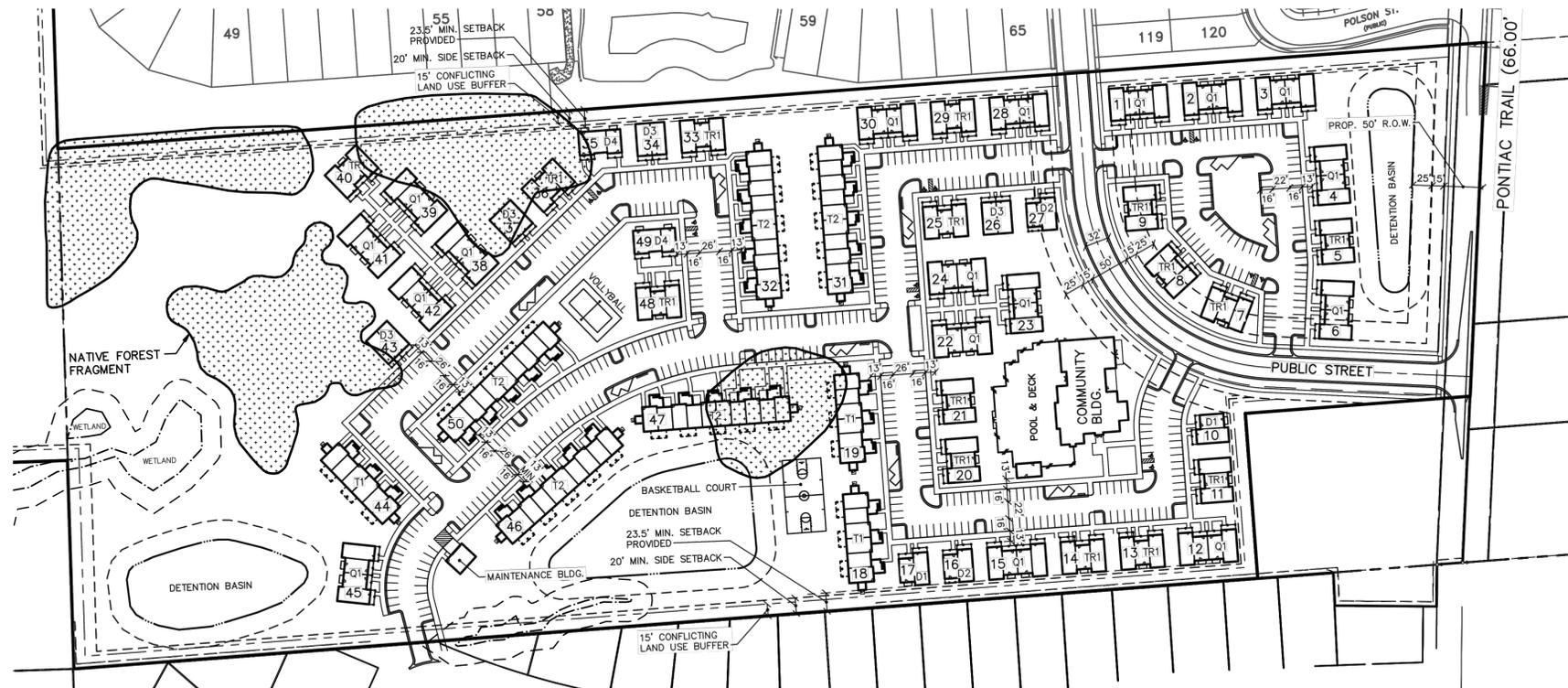
16223
 JOB No. 16223
 SHEET 25 OF 49
 DATE: 02/25/21
 REV. DATE: 02/12/21
 REV. SHEET/CITY/COUNTY: 16223/01/MIW
 REV. SHEET/CITY/COUNTY: 16223/01/MIW
 REV. SHEET/CITY/COUNTY: 16223/01/MIW
 REV. SHEET/CITY/COUNTY: 16223/01/MIW
 REV. SHEET/CITY/COUNTY: 16223/01/MIW

MA:\Civ\132_P\10\16223\ADMIN\16223\ADMIN.dwg, 2/18/2021 2:45 PM, Jim Ahern, None
 Copyright © 2020, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



ALTERNATIVE 1

ALTERNATIVE 1, THE PREVIOUS BARTON GREEN SITE PLAN:
 This is the previously approved Barton Green Site Plan. The development program was 260 units of upscale condominiums, townhouses and stacked flats, intended for first time buyers, empty nesters, and trade-up condominium buyers. The apartment buildings were larger and taller than the currently proposed cottages and included interior parking. The building height exceeded the R4A zoning district maximum and required a Planned Project Site Plan. The units were a mix of two and three bedrooms, each with two full baths, and ranging from 980 to 2,577 square feet in floor area. The Barton Green Site Plan is void.



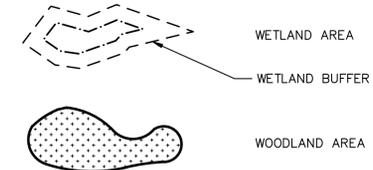
ALTERNATIVE 2

ALTERNATIVE 2 (dated 10/14/16): This concept was done prior to new soil borings and infiltration test pits. The concept is to create a village atmosphere with all residential buildings being two-story cottages. In order to achieve anything like the density of 7-10 dwelling units per acre indicated in the City's Master Plan, the developed area is of necessity larger than that of the Barton Green Site Plan. In addition, the program is revised to provide rental apartments primarily for students and young professionals. This requires a higher ratio of parking per units than the 2 spaces per unit specified in the R4A district. The smaller residential units to reduce the overall mass grading required by stepping this buildings down the slopes. The smaller buildings are also more compatible with the existing adjacent Huron highlands subdivision to the south and proposed Northsky development to the north. Additional impacts on natural features include removals of more Landmark and Woodland trees.

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.



Know what's below.
Call before you dig.



NOTES:

MAXIMUM DEVELOPMENT CONCEPT ALTERNATIVE:
 The Master Plan indicates a density of 7 to 10 units per acre on this site that would permit 217 to 310 apartments. Assuming these are all six-bedroom units, there could be 1,302 to 1,860 bedrooms on this site. Parking would be an issue for such a development program and providing only the required 2 spaces per unit (434 to 620 spaces) would be well under the number of parking spaces actually required. Constructing close to the typical one space per bedroom in this type of development would require acres of additional tree removals, mass grading and paving. This maximum development alternative is perhaps the least feasible and the least prudent for this location.

SITE ANALYSIS WAS REVISED TO REFLECT CHANGES IN EXISTING CONDITIONS:
 The revised Site Analysis includes revisions that have occurred in off-site and adjacent parcels since the Barton Green site plan was approved. The revised Northsky site plan shows relocated utility and public road stubs. The City has made off-site water main and sanitary sewer improvements that provide potential service connections in different locations. The City has also reconstructed and regraded a portion of Pontiac Trail, improving sight distance to the south. Revised storm water management requirements also impact the locations and sizes of the storm sewer and detention basins.

THE COTTAGES AT BARTON GREEN ALTERNATIVES:
 The previously approved Barton Green Site Plan was a 260 unit Planned Project in order to permit increased building height. The proposed The Cottages at Barton Green is a 227 unit 'by-right' development that does not exceed the permitted building height and does not require a Planned Project.

MIDWESTERN CONSULTING
 3835 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services

CLIENT
 TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

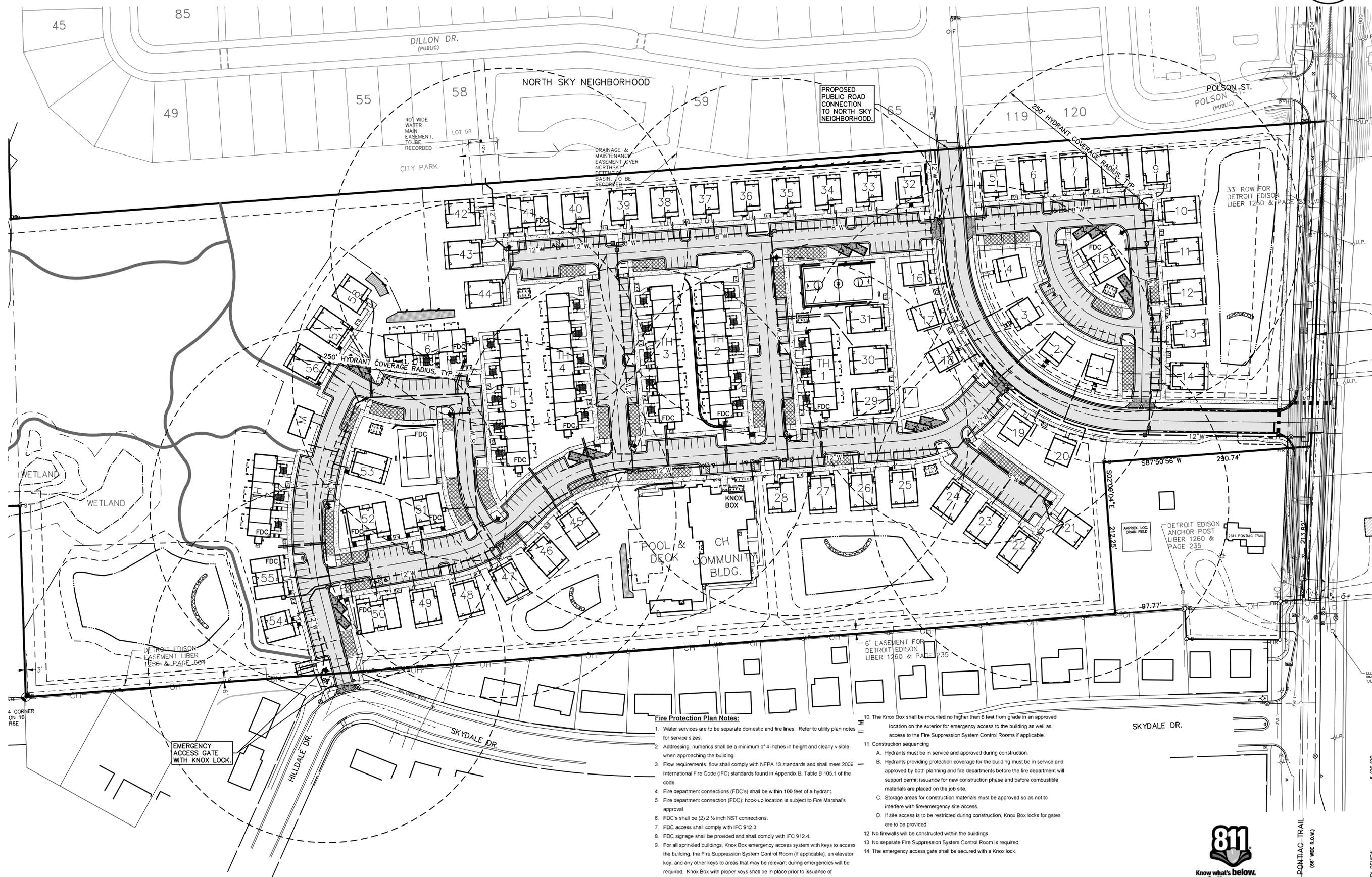
COTTAGES AT BARTON GREEN
 ADMINISTRATIVE AMENDMENT
 ALTERNATIVE ANALYSIS (1 & 2)

16223

DATE: 5/25/17	SHEET 26 OF 49
REV. DATE: 7/12/17	CADD: JCA
REV. DATE: 10/28/19	ENG: JCA
	PM: SWB
	TECH: SWB
	FILE: 16223\ALT.dwg
	FBF

MA:\Civil\134_Pro\16223\16223.dwg, 2/18/2021 2:46 PM, Jim Ahern, None
Copyright © 2020, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.

SCALE: 1" = 60'
0 60 120 180



Fire Protection Plan Notes:

1. Water services are to be separate domestic and fire lines. Refer to utility plan notes for service sizes.
2. Addressing: numerics shall be a minimum of 4 inches in height and clearly visible when approaching the building.
3. Flow requirements: flow shall comply with NFPA 13 standards and shall meet 2009 International Fire Code (IFC) standards found in Appendix B, Table B 105.1 of the code.
4. Fire department connections (FDC's) shall be within 100 feet of a hydrant.
5. Fire department connection (FDC): hook-up location is subject to Fire Marshal's approval.
6. FDC's shall be (2) 2 1/2 inch NST connections.
7. FDC access shall comply with IFC 912.3.
8. FDC signage shall be provided and shall comply with IFC 912.4.
9. For all sprinkled buildings, Knox Box emergency access system with keys to access the building, the Fire Suppression System Control Room (if applicable), an elevator key, and any other keys to areas that may be relevant during emergencies will be required. Knox Box with proper keys shall be in place prior to issuance of Certificates of Occupancy for the buildings.
10. The Knox Box shall be mounted no higher than 6 feet from grade in an approved location on the exterior for emergency access to the building as well as access to the Fire Suppression System Control Rooms if applicable.
11. Construction sequencing
 - A. Hydrants must be in service and approved during construction.
 - B. Hydrants providing protection coverage for the building must be in service and approved by both planning and fire departments before the fire department will support permit issuance for new construction phase and before combustible materials are placed on the job site.
 - C. Storage areas for construction materials must be approved so as not to interfere with fire/emergency site access.
 - D. If site access is to be restricted during construction, Knox Box locks for gates are to be provided.
12. No firewalls will be constructed within the buildings.
13. No separate Fire Suppression System Control Room is required.
14. The emergency access gate shall be secured with a Knox lock.

MIDWESTERN CONSULTING
3845 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services



CLIENT
TRINITAS DEVELOPMENT, LLC
201 MAIN STREET, SUITE 1000
LAFAYETTE, IN 47901
DAMIAN VANMATRE
(765) 807-2713

COTTAGES AT BARTON GREEN
ADMINISTRATIVE AMENDMENT
FIRE PROTECTION PLAN

28

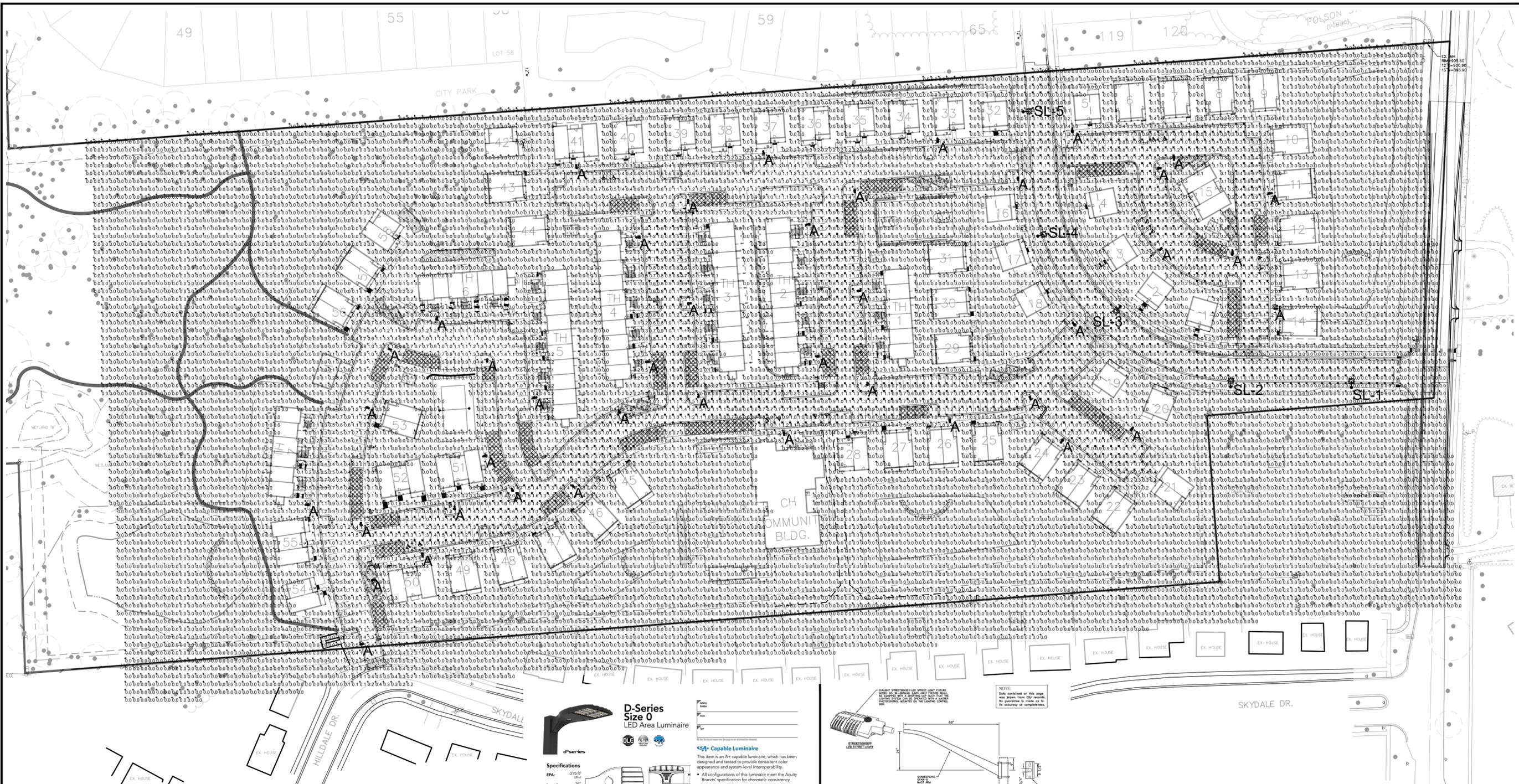
DATE: 5/25/17	DATE: 5/26/20
SHEET 28 OF 49	PER CITY REVIEW
REV. DATE: 7/12/17	REV. DATE: 7/12/17
ADD: 9/5/17	ADD: 9/5/17
ENG. JCA	ENG. JCA
10/12/17	10/12/17
PK. SWB	PK. SWB
11/15/18	11/15/18
TECH. SWB	TECH. SWB
6/27/19	6/27/19
REV. PER AGREEMENT	REV. PER AGREEMENT

JOB No. **16223**



PONTIAC TRAIL
(68' WIDE R.O.W.)

Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



ON-SITE LIGHTING

- 1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
3. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT 3'-0" AFG.

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS...

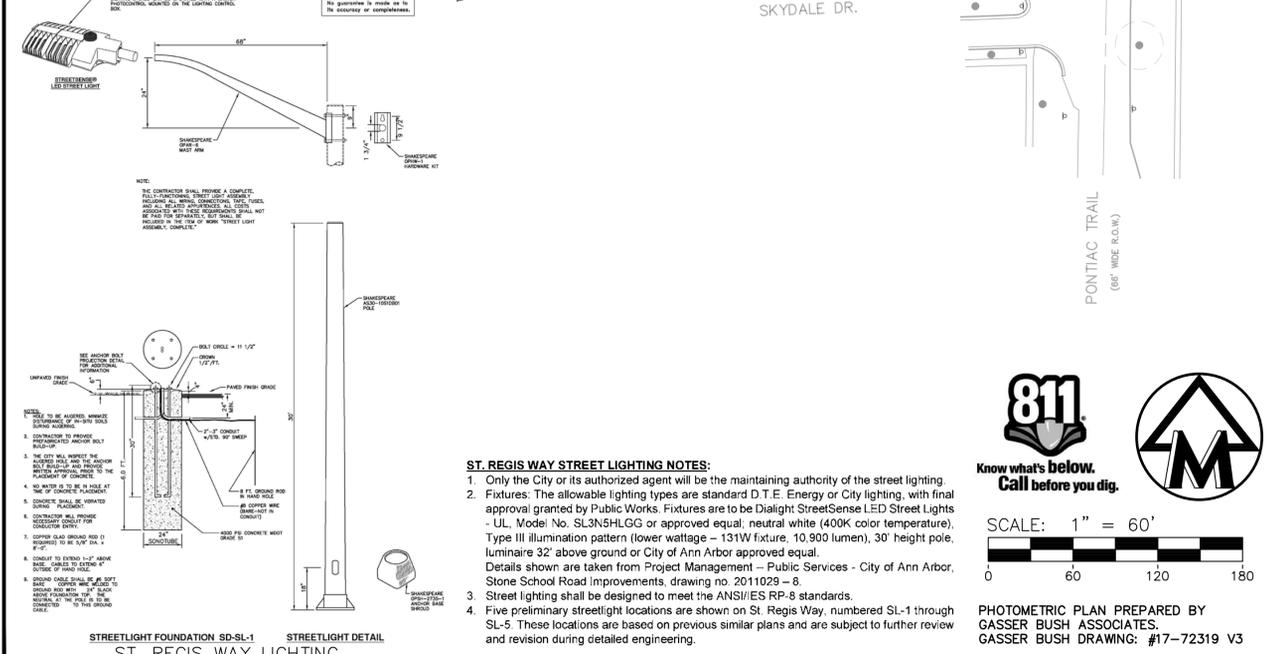
THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

Luminaire Schedule table with columns: Symbol, Label, QTY, Manufacturer, Catalog Number, Description, Lamp, Number Lamps, Filename, Lumens per Lamp, LLF, Wattage, Mounting Height.

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area...

D-Series Size 0 LED Area Luminaire product information including specifications (EPA, Length, Width, Height, Weight) and Capable Luminaire details.

Ordering Information table with columns: Order Part, Part Description, Part Number, Part Quantity, Part Unit, Part Price, Part Status, Part Notes.



ST. REGIS WAY STREET LIGHTING NOTES:
1. Only the City or its authorized agent will be the maintaining authority of the street lighting.
2. Fixtures: The allowable lighting types are standard D.T.E. Energy or City lighting, with final approval granted by Public Works...

811 logo and text: Know what's below. Call before you dig. SCALE: 1" = 60'

Project information including JOB NO. 16223, SHEET 29 OF 49, DATE: 9/25/17, and client information for TRINITAS DEVELOPMENT, LLC.

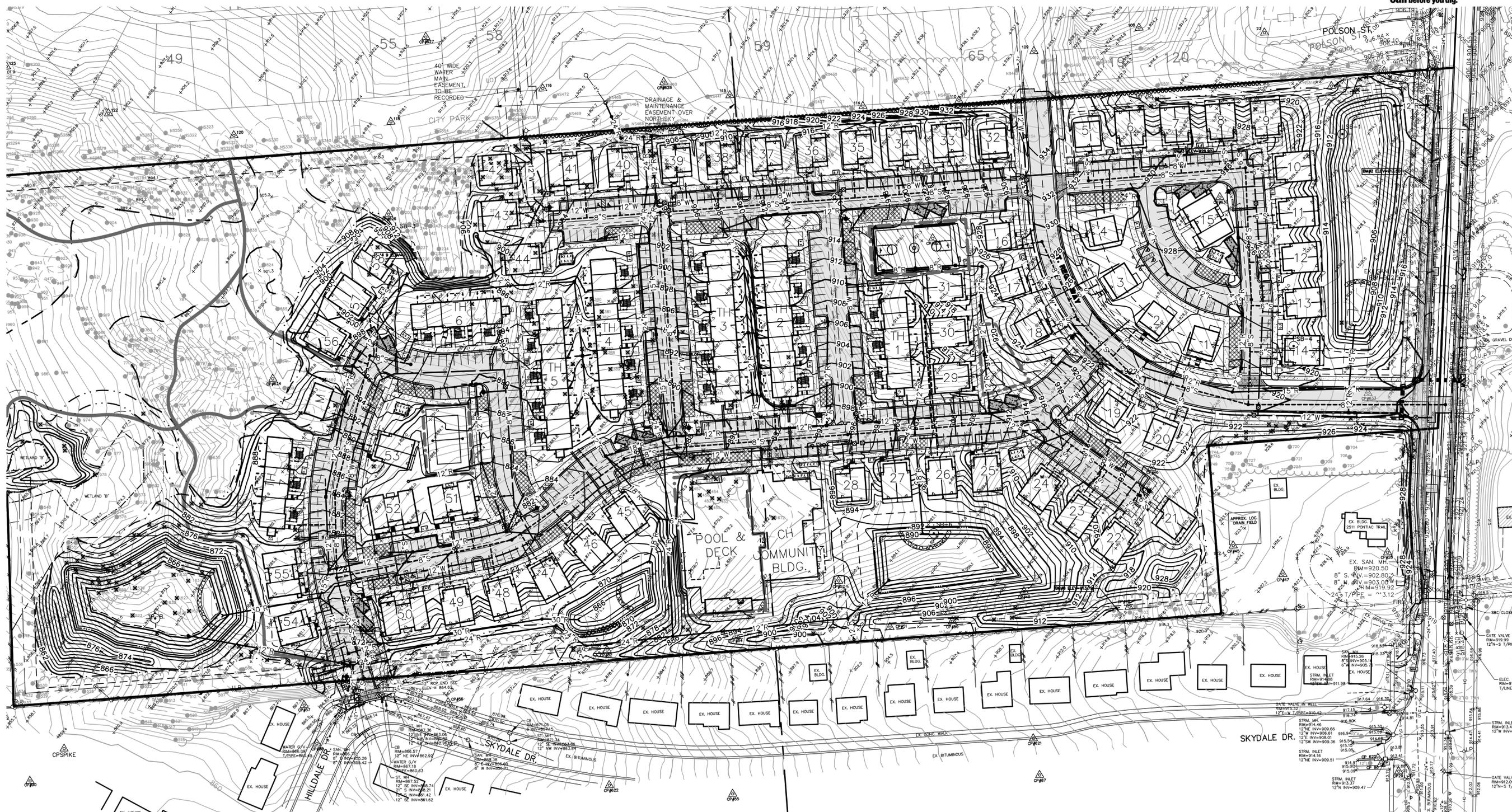
MIDWESTERN CONSULTING logo and address: 3845 Plaza Drive, Ann Arbor, Michigan 48108.



SCALE: 1" = 60'
 0 60 120 180



Know what's below.
 Call before you dig.



The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

MIDWESTERN CONSULTING
 3815 Plaza Drive Ann Arbor, Michigan 48108
 (734) 995-0200 • www.midwesternconsulting.com
 Land Development • Land Survey • Institutional • Municipal
 Wireless Communications • Transportation • Landfill Services

CLIENT
 TRINITAS DEVELOPMENT, LLC
 201 MAIN STREET, SUITE 1000
 LAFAYETTE, IN 47901
 DAMIAN VANMATRE
 (765) 807-2713

COTTAGES AT BARTON GREEN
 ADMINISTRATIVE AMENDMENT
 OVERLAY PLAN

16223

DATE: 9/25/17
 SHEET 30 OF 49

REV. NO.	REV. DATE	ADD.
1	9/25/17	ENG. JCA
2	10/12/17	PM. SWB
3	11/15/18	TECH. SWB
4	6/23/20	DRG. SWB
5	6/27/19	DRG. SWB