



**AGENDA**  
CHARTER TOWNSHIP OF MERIDIAN  
PLANNING COMMISSION – REGULAR MEETING  
January 27, 2025 6:30 PM

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1. CALL MEETING TO ORDER
2. ROLL CALL
3. PUBLIC REMARKS
4. APPROVAL OF AGENDA
5. APPROVAL OF MINUTES
  - A. January 13, 2025
6. COMMUNICATIONS
  - A. 2025 Joint Board and Commission Invitation
7. PUBLIC HEARINGS
  - A. None
8. UNFINISHED BUSINESS
  - A. REZ #25001 – Fedewa Rezoning
9. OTHER BUSINESS
  - A. Discussion – Sec. 86-755 – Schedule of Requirements for Parking Space
  - B. 2025 Brownfield Redevelopment Authority Appointment
  - C. 2024 Annual Report
10. REPORTS AND ANNOUNCEMENTS
  - A. Township Board update
  - B. Liaison reports
11. PROJECT UPDATES
12. PUBLIC REMARKS
13. COMMISSIONER COMMENTS
14. ADJOURNMENT

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Individuals with disabilities requiring auxiliary aids or services should contact: Director of Community Planning and Development  
Timothy R. Schmitt, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4506 - Ten Day Notice is Required.  
Meeting Location: 5151 Marsh Road, Okemos, MI 48864



**TENTATIVE PLANNING COMMISSION AGENDA**  
**February 10, 2025**

1. PUBLIC HEARINGS
  - A. None
  
2. UNFINISHED BUSINESS
  - A. None
  
3. OTHER BUSINESS
  - A. Sec. 86-755 – Schedule of Requirements for Parking Space

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Individuals with disabilities requiring auxiliary aids or services should contact: Director of Community Planning and Development  
Timothy R. Schmitt, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4506 - Ten Day Notice is Required.  
Meeting Location: 5151 Marsh Road, Okemos, MI 48864

Providing a safe and welcoming, sustainable, prime community.



CHARTER TOWNSHIP OF MERIDIAN  
REGULAR MEETING PLANNING COMMISSION  
5000 Okemos Road, Okemos MI 48864-1198  
517.853.4000, Central Fire Station-Community Room  
Monday, January 13, 2025, 6:30 pm

PRESENT: Chair Shrewsbury, Vice Chair Snyder, Commissioners Brooks, McConnell, McCurtis, and Romback

ABSENT: None

STAFF: Principal Planner Brian Shorkey

1. CALL MEETING TO ORDER

Chair Shrewsbury called the January 13, 2024, regular meeting for the Meridian Township Planning Commission to order at 6:32 pm.

2. ROLL CALL

Chair Shrewsbury called the roll of the Board. All board members were present.

3. PUBLIC REMARKS

Patty McPhee, township resident, spoke in opposition to SUP #24030

Denise Dahlgren, township resident, spoke in opposition to SUP #24030

Jim Brendell, township resident, spoke in opposition to SUP #24030

Phil Mondro , township resident, spoke in opposition to SUP #24030

Milton Scales, township resident, spoke in opposition to SUP #24030

4. APPROVAL OF AGENDA

Chair Shrewsbury asked for approval of the agenda.

**Commissioner McConnell moved to approve the January 13, 2025, Regular Planning Commission meeting agenda. Seconded by Vice-chair Snyder. Motion passed unanimously.**

5. APPROVAL OF MINUTES

Chair Shrewsbury asked for approval of the minutes.

**Vice-chair Snyder moved to approve Minutes of the December 9, 2024, Planning Commission Regular Meeting as amended. Seconded by Commissioner McConnell. Motion passed as amended.**

6. COMMUNICATIONS

- A. Corey Arendt re: SUP #24030
- B. Heidi Doherty re: SUP #24030 (Email)
- C. Ester and Brad Shaw re: REZ #25001

7. PUBLIC HEARINGS

- A. REZ #25001 – Fedewa Rezoning

Principal Planner Shorkey gave an overview of the application and changes the applicant made from their previous application due to previous Planning Commission recommendations.

Gerald Fedewa and Greg Fedewa, applicants, gave information about their application, noting the changes they made to their original application at the recommendation of the Planning Commission and with regard to input from neighboring residents. Robert Matko from CESO, gave details regarding the traffic analysis.

Commissioner Brooks noted difficulties with the audio system. Principal Planner Shorkey gave an update that Township staff are aware of the issue and will hopefully be able to resolve it.

After discussion of the application, Chair Shrewsbury opened public comment at 7:00 pm

John Leone, township resident, spoke in opposition to REZ #25001

Kristina Kloc, township resident, spoke in opposition to REZ #25001

Chair Shrewsbury called for a ten minute recess so that the communication equipment could be restarted in an effort to fix the issues with the audio system.

David Kloc, township resident, spoke in opposition to REZ #25001

Ester Shaw, township resident, spoke in opposition to REZ #25001

Brad Shaw, township resident, spoke in opposition to REZ #25001

Joel Major, township resident, spoke in opposition to REZ #25001

Debra Major, township resident, spoke in opposition to REZ #25001

Chair Shrewsbury closed public comment at 7:48 pm

Chair Shrewsbury asked Principal Planner Shorkey

Chair Shrewsbury conducted a straw poll, the members of the Commission indicated their support for REZ #25001. Principal Planner Shorkey said that he would prepare a resolution of approval for the next meeting.

8. UNFINISHED BUSINESS

- A. SUP #24025 – Panda Express Drive-through

**After discussion, Commissioner McConnell moved to approve SUP #24025, subject to the conditions in the Resolution of Approval. Seconded by Commissioner Brooks. Motion passed unanimously.**

- B. SUP #24030 – Alsaedi Group Child Care

Vice-Chair Snyder asked Principal Planner Shorkey if the Township had any role in deed restrictions. Principal Planner Shorkey said that the Township does not and does not enforce deed restrictions or HOA regulations.

**After discussion, Vice-Chair Snyder moved to approve SUP #24030, subject to the conditions in the Resolution of Approval. Seconded by Commissioner McConnell. Motion passed unanimously.**

9. OTHER BUSINESS

- A. 2025 Officers and Appointments

After discussion, Chair Shrewsbury was unanimously reelected as Chair of the Planning Commission, Vice-Chair Snyder was unanimously reelected as Vice-Chair of the Planning Commission, and Commissioner McCurtis was elected as the new Secretary of the Planning Commission.

10. REPORTS AND ANNOUNCEMENTS

- A. Township Board Update

Principal Planner Shorkey had no report.

- B. Liaison Reports

Planning Commissioners updated the Commission about their other board and commission activities.

11. PROJECT UPDATES

Principal Planner Shorkey noted the changes that have occurred since the last meeting.

12. PUBLIC REMARKS

Chair Shrewsbury opened public remarks at 8:22 pm.

Jim Brandell, township resident, expressed concerns about SUP #24030.

Heidi Doherty, township resident, expressed concerns about SUP #24030.

Chair Shrewsbury closed public remarks at 8:28 pm.

13. COMMISSIONER COMMENTS

None

14. ADJOURNMENT

Chair Shrewsbury called for a motion to adjourn the meeting at 8:29 pm

**Commissioner Romback moved to adjourn the January 13, 2025 regular meeting of the Planning Commission. Seconded by Commissioner Vice-Chair Snyder. Motion passed unanimously.**



**Meridian Township**  
5151 Marsh Road  
Okemos, MI 48864

P 517.853.4000  
F 517.853.4096

**Township Board:**

**Scott Hendrickson**  
*Township Supervisor*

**Angela Demas**  
*Township Clerk*

**Phil Deschaine**  
*Township Treasurer*

**Kathy Ann Sundland**  
*Township Trustee*

**Marna Wilson**  
*Township Trustee*

**Nickolas Lentz**  
*Township Trustee*

**Peter Trezise**  
*Township Trustee*

**Timothy R. Schmitt,**  
**AICP**  
*Interim Township  
Manager*

01/22/2025

Dear Commission Members:

The Township Board members would like to extend an invitation to you to attend a special meeting between the Township Board and the Township's Boards and Commissions. This meeting has been set for Tuesday, February 11, 2025, in the Town Hall Room. The meeting will begin at 6:00 pm.

The purpose of this meeting is to bring together the various Boards and Commissions for the purpose of sharing what has been accomplished in 2024 and the goals for 2025. It will also be important to discuss ways we can make our prime community even better.

I do hope you will be able to join us. In order to anticipate how many chairs and tables will be needed, please contact Michelle Prinz with your confirmation (853.4258 or [prinz@meridian.mi.us](mailto:prinz@meridian.mi.us)). I look forward to seeing you on February 11<sup>th</sup>.

Sincerely,

Scott Hendrickson  
Township Supervisor



**To:** Planning Commission

**From:** Brian Shorkey, Principal Planner

**Date:** January 27, 2025

**Re:** Rezoning #25001 (Fedewa Holdings), rezone approximately 4.28 acres located on Dobie Road from RAA (Single Family-Low Density) to RD (Multiple Family).

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Fedewa Holdings (Applicant) has requested the rezoning of a property approximately 4.28 acres in size (Subject Property) located to the north of 4515 Dobie Road from RAA (Single Family-Low Density) to RD (Multiple Family, maximum 8 dwelling units per acre), subject to a conditional rezoning agreement. A similar rezoning request for the Subject Property was denied in 2019 and another was submitted in 2024, reviewed, and withdrawn by the Applicant. The Master Plan was updated in 2023 and the Future Land Use map designation was changed from Institutional to Multiple Family Residential for most of the Subject Property.

The Planning Commission held a public hearing for Rezoning #25001 at its January 13, 2025 regular meeting and the Planning Commission indicated that they supported the rezoning. Several residents spoke about the application and brought up concerns, including comments about traffic and whether or not the proposed development fits with the character of the area.

At the public hearing, the Planning Commission requested additional information from the applicant. Specifically, the Planning Commission requested the HUD Market Report referenced by the applicant at the public hearing. In addition, the applicant has provided the Ingham County Drain Commission's Design Criteria for Stormwater Management Systems. These rules will be required to be followed during eventual site plan review, if the rezoning is approved.

The original staff report, dated January 13, 2025, is attached. Additional materials from the public hearing may be found at the following link: [https://www.meridian.mi.us/government/boards-and-commissions/agendas-packets-and-minutes/-folder-3684#docan5601\\_5944\\_42](https://www.meridian.mi.us/government/boards-and-commissions/agendas-packets-and-minutes/-folder-3684#docan5601_5944_42)

### **Planning Commission Options**

The Planning Commission may recommend approval or denial of the request, or it may recommend a different zoning designation than proposed by the applicant to the Township Board. Staff **recommends approval** of Rezoning #25001 to rezone the Subject Property from RAA, Single-Family Residential to RD, Multiple-Family Residential with a maximum of 8 dwelling units per acre, subject to a Conditional Rezoning Agreement limiting the development on the site.

Staff would offer the following motion for the Planning Commission if they wish to approve the resolution to recommend **approval** of the proposed rezoning request. Should the Planning Commission have additional reasons for supporting the recommendation, they can be added to the end of the motion.

**Move to adopt the resolution to recommend approval of Rezoning #25001 to rezone approximately 4.28 acres located on Dobie Road from RAA (Single Family-Low Density) to RD (Multiple Family, maximum 8 dwelling units per acre), with a Conditional Rezoning Agreement limiting the development on the site, subject to the conditions found in the attached resolution, *for the following reasons:***

- The RD zoning proposed by the applicant is consistent with the Multiple-Family Residential Future Land Use Map designation in the 2023 Master Plan.
- The proposed RD zoning of the Subject Property is compatible with the denser RC zoning to the north and northeast of the Subject Property.
- The proposed development is compatible with existing development to the north and northeast of the Subject Property.

**Attachments**

1. Resolution recommending approval of the REZ #25001
2. Staff report from the public hearing, dated January 13, 2025
3. HUD Market Report
4. Ingham County Drain Commission’s Design Criteria for Stormwater Management Systems

**RESOLUTION TO RECOMMEND APPROVAL**

**Rezoning #25001  
Fedewa Holdings**

**RESOLUTION**

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 27th day of January, 2025, at 6:30 p.m., Local Time.

PRESENT:

ABSENT:

The following resolution was offered by \_\_\_\_\_ and supported by \_\_\_\_\_.

WHEREAS, Fedewa Holdings, the applicant, has requested the rezoning of a property approximately 4.28 acres in size (Subject Property) to the north of 4515 Dobie Road from RAA (Single Family-Low Density) to RD (Multiple Family, maximum 8 dwelling units per acre), subject to a conditional rezoning agreement; and

WHEREAS, the Planning Commission held a public hearing and discussed the rezoning at its regular meeting on January 13, 2025; and

WHEREAS, the requested rezoning is consistent with the Future Land Use Map designation from the 2023 Master Plan of Multiple Family Residential; and

WHEREAS, the proposed rezoning generally fits the character of the development to the north and northeast of the Subject Property; and

WHEREAS, the proposed redevelopment of the existing building complies with Master Plan goals regarding increased housing diversity; and

WHEREAS, the proposed redevelopment would require Special Use Permit and site plan approval after the rezoning.

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby recommends **approval** of Rezoning #25001 to rezone the subject property, approximately 4.28 acres in size to the north of 4515 Dobie Road from RAA (Single Family-Low Density) to RD (Multiple Family, maximum 8 dwelling units per acre), subject to the following conditions as offered by the applicant:

1. The total number of units in the proposed development shall not exceed 32.
2. The development shall consist of no more than four buildings with no more than eight units per building.
3. Each unit shall be built as a townhome and shall each contain their own front door and garage.
4. The rear building setback for the development shall be no less than 100 feet.





**To:** Planning Commission

**From:** Brian Shorkey, Principal Planner

**Date:** January 13, 2025

**Re:** Rezoning #25001 - (Fedewa Holdings), rezone approximately 4.28 acres located on Dobie Road from RAA (Single Family-Low Density) to RD (Multiple Family).

Fedewa Holdings (Applicant) has requested the rezoning of a property approximately 4.28 acres in size (Subject Property) located adjacent to the north of 4515 Dobie Road from RAA (Single Family-Low Density) to RD (Multiple Family, maximum 8 dwelling units per acre) subject to a conditional rezoning agreement. A similar rezoning request for the Subject Property was denied in 2019 and another was submitted in 2024, reviewed, and withdrawn from the Applicant. Since that time, the Master Plan has been updated and the Future Land Use map designation has been changed from Institutional to Multiple Family Residential for approximately most of the Subject Property.

A land division for the Subject Property was approved in 2023 and the resultant parcel conforms to the requested RD zoning district. The land division was followed by a rezoning application in June 2024 (REZ #24013). That rezoning application proposed to rezone the property from RAA to RC (Multiple Family, maximum 14 dwelling units per acre). After the Planning Commission recommended denial, the application was withdrawn before the Township Board made a final decision.

### Future Land Use

The Future Land Use Map from the 2023 Master Plan designates the northern two thirds of the Subject Property as Multiple Family Residential. This category is intended to support multiple family development in the future and corresponds with the requested RC zoning district. The remainder of the Subject Property is designated as Institutional.

The Multiple Family Residential designation applies to the properties adjacent to the north and northeast. The properties to the west and east are designated as Suburban Residential on the Future Land Use map. The property to the south, Faith Lutheran Church, is designated as Institutional.



**Zoning**

The property is currently zoned RAA (Single Family-Low Density), which requires a minimum of 90 feet of lot width and 13,500 square feet of lot area. This is the same zoning adjacent to the west, south, and east.

The requested RD zoning district requires a minimum of 100 feet of lot width, 11,000 square feet of lot area for duplexes, and no minimum lot area for multiple family. The Subject Property complies with the RD dimensional requirements.

The properties adjacent to the north and northeast fall under the RC – Multiple-Family zoning designation. The properties adjacent to the west, south, and east are zoned RAA – Single-Family Residential.



**Physical Features**

The Subject Property is undeveloped and vegetated. The Township Wetland Map and the Flood Insurance Rate Map indicate neither wetlands nor floodplains are present on or near the site. The Subject Property has no special designation on the Township Greenspace Plan. A segment of the Township Pathway runs along the front of the Subject Property.

**Streets & Traffic**

The site fronts on Dobie Road, which is a two-lane road without curb and gutter. Dobie Road is classified as a Collector Street on the Street Setbacks and Service Drives Map in the zoning ordinance. A 7-foot pedestrian pathway is located along the Subject Property’s frontage.

An updated traffic impact analysis was submitted with this updated application, prepared by CESO Inc. and dated November 14, 2024. The assessment used data from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11<sup>th</sup> edition to estimate trip generation rates based on traffic count data from 2023. The analysis estimated that 10 units are potentially currently available under the RAA zoning. That was compared against the proposed 32 units under the requested RD zoning district. The following table summarizes findings from the submitted traffic assessment.

Land Use	Size	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	
Existing Zoning (RAA)	10 Units	2	7	9	7	4	11	122
Proposed Zoning	32	8	25	33	22	12	34	280

(RD)	units							
Difference		+6	+18	+24	+15	+8	+23	+158

A traffic impact study is required for developments that are expected to generate more than 250 additional directional trips during the peak hour. Based on the findings of the attached traffic analysis, the traffic expected to be generated by the proposed rezoning does not require a full traffic impact study. Note that the traffic assessment will have to be reviewed and accepted by the ICRD during Site Plan review.

**Utilities**

Municipal water and sanitary sewer are available to serve the subject site. The location and capacity of utilities for any proposed development will be reviewed in detail by the Department of Public Works and Engineering during Site Plan review.

**Staff Analysis**

The applicant has requested the rezoning of an approximately 4.28-acre parcel on Dobie Road from RAA to RD. When evaluating a rezoning request, the Planning Commission should consider all uses permitted by right and by special use permit in the current and proposed zoning districts, as well as the reasons for rezoning listed on page two of the rezoning application (attached). Based on this, Planning Staff has the following comments:

1. A rezoning application to same general property from RAA to RC (Multiple-Family Residential) was submitted by the Applicant in 2019. The 2019 application was denied, primarily based on the fact that the requested multiple-family zoning did not agree with the Future Land Use map. The Future Land Use map for 2.9 acres of the 4.3-acre Subject Property was updated during the 2023 Master Plan update to reflect Multiple Family Residential. This was done at the request of Faith Lutheran Church, who owned the Subject Property at that time, and was unanimously approved by the Township Planning Commission and the Board of Trustees.
2. This rezoning application was preceded by a similar application in 2024. That application proposed to rezone the Subject Property from RAA to RC (Multiple-Family Residential) and was recommended for denial by the Planning Commission. After that application was withdrawn, the Applicant held a meeting with residents to discuss the potential rezoning of the Subject Property at the Township Hall on Thursday, August 22<sup>nd</sup>.
3. The current request is to rezone the Subject Property to RD, which allows multiple-family developments up to eight units per acre. This is a less dense designation than the previously requested RC zone, which would have allowed a maximum of 14 units per acre. Several conditions of approval have been proposed by the Applicant in conjunction with this application, including the following:
  - a. A maximum number of 32 units
  - b. A maximum of four buildings, reduced from five
  - c. Rear setback increased to a minimum of 100 feet, which is 60 feet larger than required.
4. The main issue facing the development of the Subject Property is potential increased traffic. Based on the 2024 traffic assessment, the proposed rezoning is not expected to have adverse

effects on the surrounding traffic rising to the level of a traffic impact study. This finding will be required to be confirmed by the Ingham County Road Department before site plan approval can be granted.

5. The concept plan shows four potential buildings on the Subject Property. The setbacks appear to comply with the zoning requirements within the RD zoning district. If the rezoning to RD as proposed is approved, the next step will require a Special Use Permit, followed by site plan approval.

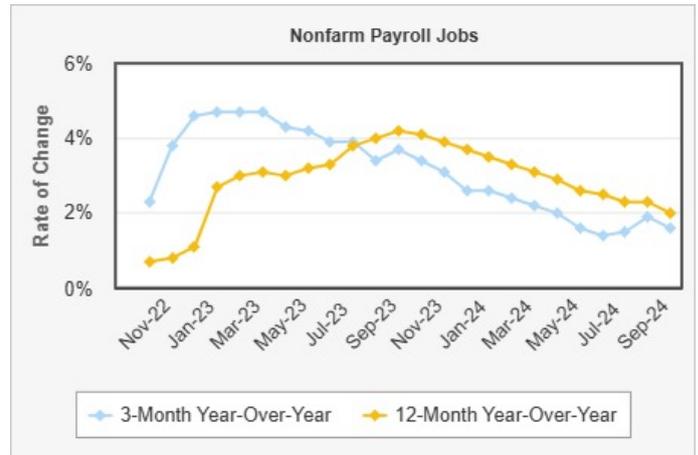
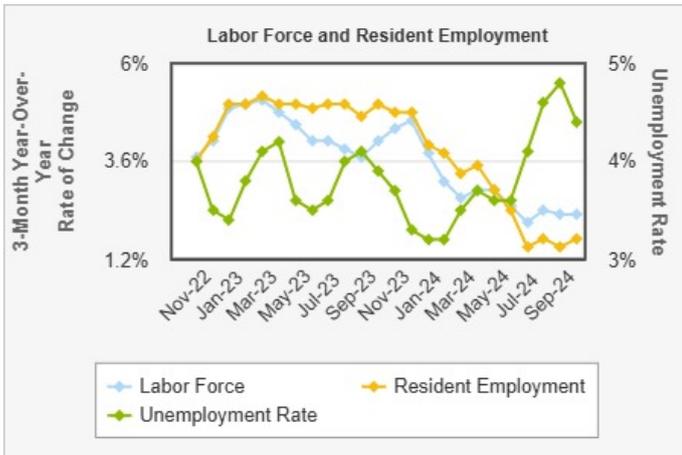
### **Planning Commission Options**

The Planning Commission may recommend approval or denial of the request, or it may recommend a different zoning designation than proposed by the applicant to the Township Board. A resolution will be provided at a future meeting.

### **Attachments**

1. Rezoning application and attached materials, dated November 20, 2024 and received by the Township on November 20, 2024.
2. Plot plan, prepared by Kebs, Inc., and received by the Township on December 19, 2024.
3. Traffic Impact Analysis, prepared by CESO, Inc., dated November 14, 2024 and received by the Township on November 20, 2024.
4. Supplemental presentation material.
5. Rezoning criteria.

### ECONOMIC CONDITIONS



Data Source: U.S. Bureau of Labor Statistics

Data Source: U.S. Bureau of Labor Statistics

	3-Month Average			3-Month Year-Over-Year Change			
	September 2022	September 2023	September 2024	September 2022 to September 2023		September 2023 to September 2024	
	Number	Number	Number	Number	Percent	Number	Percent
<b>Labor Force</b>	242,203	252,224	257,900	10,021	4.1	5,676	2.3
<b>Resident Employment</b>	230,806	242,388	246,601	11,582	5	4,213	1.7
<b>Unemployment Rate (%)</b>	4.7	3.9	4.4	n/a	n/a	n/a	n/a
<b>Nonfarm Payroll Jobs</b>	228,100	236,633	240,533	8,533	3.7	3,900	1.6

Data Source: U.S. Bureau of Labor Statistics

### POPULATION & HOUSEHOLDS

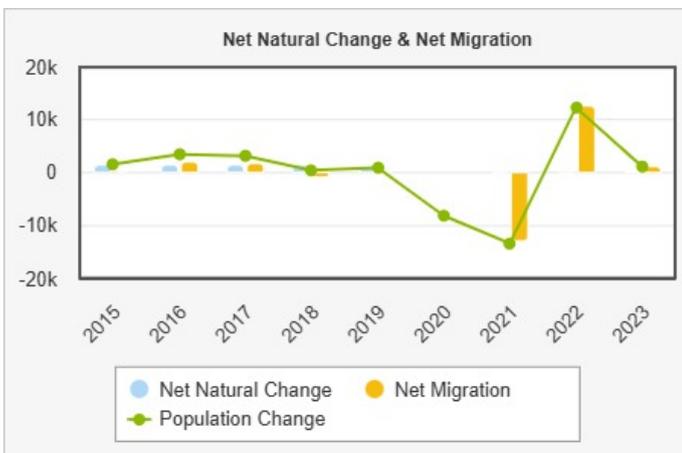
	Decennial Census				ACS & Population Estimates Program						
	April 2010	April 2020	Average Annual Change 2010 to 2020		July 2021	July 2022	July 2023	2021 to 2022		2022 to 2023	
			Number	Percent				Number	Percent	Number	Percent
<b>Population</b>	464,036	473,203	917	0.2	459,596	471,983	473,177	12,387	2.7	1,194	0.3
<b>Households</b>	183,422	191,628	821	0.4	220,067	223,066	194,031	2,999	1.4	-29,035	-13

Data Source: 1 - 2010 Census; 2020 Census; U.S. Census Bureau Population Estimates

2 - 2010 Census; 2020 Census; 2022, 2023 and 2024 American Community Surveys (1 - Year)

Note: 1 - Population estimates data shown here may not match those found on the Census website due to their use of the updated September 2018 OMB metro area definitions.

2 - 2019 ACS 1-Year data may not be available for some metro areas due to being dropped from the September 2018 OMB metro area definitions.



Data Source: U.S. Census Bureau Population Estimates

Notes: 1 - Values in chart reflect July year-to-year changes

2 - Net Migration includes residual population change

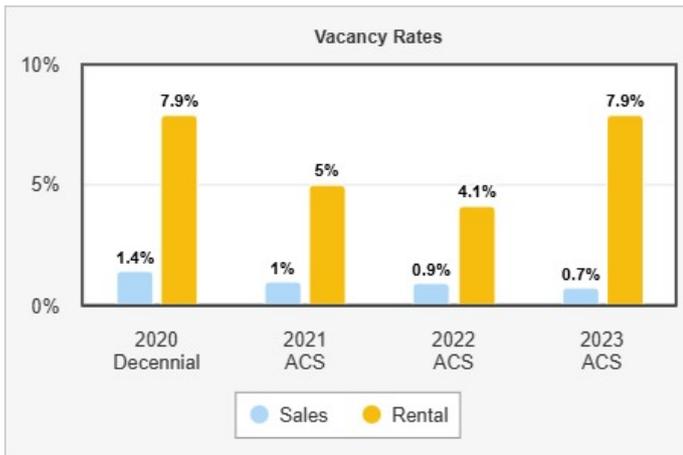
3 - Annual components of population change are not available for 2020

4 - Population estimates data shown here may not match those found on the Census website due to their use of the updated September 2018 OMB metro definitions.

#### Economic Trends and Population and Household Trends

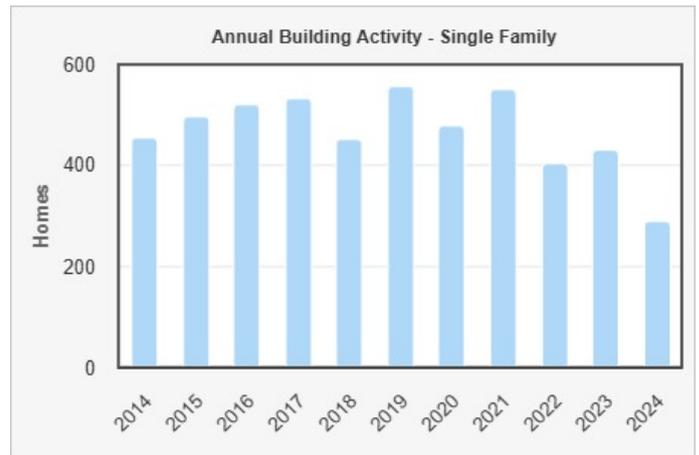
Economic conditions in the Lansing-East Lansing MI Metropolitan Statistical Area (Lansing MSA) generally expanded from 2010 through 2019; starting in March 2020, economic conditions declined. COVID-19 was declared a pandemic during March 2020, and governmental efforts to contain the virus contributed to sharp job losses in the Lansing MSA, but payrolls have since recovered. During the 3 months ending (3ME) July 2024, nonfarm payrolls in the Lansing MSA averaged 241,200 jobs, or 3,700 more than a year earlier, growth of 1.5%. Gains were led by the education and health services sector which added 900 jobs, or 2.9%. Two job sectors declined; the largest decline was in the professional and business services sector which fell by 300 jobs, or 1.2%. The unemployment rate in the Lansing MSA during the 3ME July 2024 was 4.6%, up from 4.0% a year earlier.

As of August 1, 2024, the population of the Lansing MSA was estimated at 477,000, an average annual increase of 880, or 0.2% since 2020. From 2010 to 2020, the population rose by an average of 920 people annually or 0.2%. An estimated 194,000 households currently reside in the MSA, reflecting an average increase of 550 households, or 0.3% annual growth since 2020. By comparison, households rose by 820 annually, or 0.4% on average, during the previous decade.



Data Source: 2020 Census; 2021, 2022 and 2023 American Community Surveys (1 - Year)

Note: 2019 ACS 1-Year data may not be available for some metro areas due to being dropped from the September 2018 OMB metro area definitions



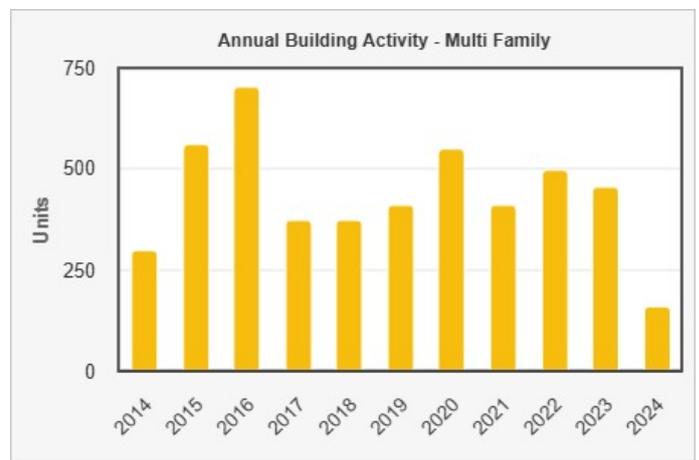
Data Source: U.S. Census Bureau, Building Permits Survey

Note: Data for 2024 is preliminary, through September 2024

Housing Inventory by Tenure				
	2020 Decennial	2021 ACS	2022 ACS	2023 ACS
<b>Total Housing Units</b>	205,569	236,859	237,692	208,108
<b>Occupied</b>	191,628	220,067	223,066	194,031
<b>Owners</b>	123,685	149,226	154,110	130,724
<b>% Owners</b>	64.5	67.8	69.1	67.4
<b>Renters</b>	67,943	70,841	68,956	63,307
<b>% Renters</b>	35.5	32.2	30.9	32.6
<b>Total Vacant</b>	13,941	16,792	14,626	14,077
<b>Available for Sale</b>	1,704	1,454	1,439	905
<b>Available for Rent</b>	5,843	3,707	2,951	5,395
<b>Other Vacant</b>	6,394	11,631	10,236	7,777

Data Source: 2020 Census; 2021, 2022 and 2023 American Community Surveys (1 - Year)

Note: 2019 ACS 1-Year data may not be available for some metro areas due to being dropped from the September 2018 OMB metro area definitions



Data Source: U.S. Census Bureau, Building Permits Survey

Note: Data for 2024 is preliminary, through September 2024

**Housing Market Conditions Summary**

The home sales market in the Lansing MSA is slightly tight, with a sales vacancy rate estimated at 0.9%, down from 1.4% in April 2020. During the 12 months ending (12ME) July 2024, total home sales (including new and existing sales, single-family, townhouse, and condominium) totaled 6,650 sales, or 7% fewer than a year earlier, following a 23% decline in sales during the 12ME July 2023 (Zonda). The average home sales price was \$232,500, or 10% higher than a year ago, following growth of 5% during the previous year. Contributing to rising prices are supply constraints. As of July 2024, there was 1.8 months of available homes for sale in the MSA, up from 1.4 months a year earlier (CoreLogic, Inc.). Approximately 440 single-family homes were permitted during the 12ME July 2024, or 22% more than homes permitted a year earlier (preliminary data).

The rental market in the Lansing MSA is currently balanced with an estimated vacancy rate of 4.5%, down from 7.9% during April 2020. The apartment market is balanced with a vacancy rate of 5.9% as of the second quarter of 2024, down from 6.5% a year earlier (CoStar Group). The average apartment asking rent in the MSA during the second quarter of 2024 was \$1,165, or 3% above the rent a year earlier. During the 12ME July 2024, about 310 multifamily units were permitted in the MSA, down from 560 units permitted during the previous 12-month period (preliminary data).

Rental Housing Supply	
<b>Under Construction</b>	260
<b>In Planning</b>	

Data Source: Estimates by analyst

Note: Units in Planning have not been permitted, but are expected to be completed within 3 years

For additional information, please contact: Gabriel Labovitz  
 Gabe.A.Labovitz@hud.gov  
 312-913-8014

# **PART 3: DESIGN CRITERIA FOR STORMWATER MANAGEMENT SYSTEMS**

This section sets forth specific design and construction standards that will be used by the Ingham County Drain Commissioner in review of proposed stormwater management systems in accordance with the objectives of managing both the quantity and quality of stormwater runoff. A Glossary of Terms used throughout this section is provided.

A set of uniform standards as attached herein, may not accommodate unique site circumstances. In particular, it is recognized that these standards may be difficult to impose on small sites or sites that are being redeveloped. Waivers or variances from specific provisions of these standards may be requested in these and other special circumstances. Alternatives consistent with the overall intent of stormwater quantity and quality management may be proposed and will be reviewed and approved on a case by case basis by the Ingham County Drain Commissioner where there is exceptional hardship or practical difficulty complying with all of the Standards as outlined herein (see Part 2, Section 5 on Variances).

Whereas basin design for flood control is concerned with capturing and detaining relatively infrequent, severe runoff events, such as the 10-, 25-, or 100-year storm, designs for water quality control involve consideration of the more frequent storm events (e.g. 2.0-year/24-hour storm or less). The need for managing smaller storms is directly related to urbanization within Ingham County and the accompanying increase in impervious area, which affects surface water quality in two important ways.

First, eroded soil and other pollutants that accumulate on impervious surfaces, such as metals, fertilizers, pesticides, oils and grease, are flushed off by the early stages of runoff, which then carries a shock loading of these pollutants into receiving waterways. By capturing and treating the first 0.5-inch of runoff, pollutants that are washed off of the land can be removed from stormwater before it flows offsite.

Second, as impervious surface area increases and opportunities for infiltration are reduced, the frequency and duration of bankfull flow conditions, typically represented by the 2.0-year/24-hour storm event have intensified, causing stream flow fluctuations to increase dramatically. As a result, streams adjust their capacities to convey the increased flows, leading to channel and bank erosion and the destruction of aquatic habitat.

To manage both water quantity and quality, systems must be designed to capture and treat three different storm events:

- ∞ The 100 year/24 hour storm event
- ∞ The bankfull flood; the 2.0-year/24-hour storm event
- ∞ The first flush volume; the runoff from the first 0.5 inch of rain from the entire contributing watershed

Controlling both extremely large events, (to prevent flooding) and more frequent events, (to mitigate water quality impacts and channel erosion) can be achieved through the proper design of detention/retention basins. Among alternatives, wet basins, constructed basin/wetland marsh systems

and Low Impact Designs are the most effective for achieving control of both stormwater volume and quality. Combinations of these alternatives are frequently the most effective. Extended detention basins providing two-stage basin designs that contain an upper, dry stage and a lower stage with a permanent pool are also acceptable, though their ability to remove critical pollutants such as total phosphorus is limited. Dry basins providing extended storage will be accepted only when the site's physical characteristics or other local circumstances make the use of a wet basin infeasible, or when thermal impacts are a primary concern.

The phosphorus removal capability of wet basins, wet extended detention basins, multiple basins, basin/wetland marsh systems and infiltration systems is superior to other BMPs. Extensive literature is available on specific design concepts and alternatives.

Individuals seeking to develop land within Ingham County are encouraged to contact local governments regarding their stormwater BMP requirements. Standards in addition to those contained in these Rules may be in effect in specific communities or watersheds.

## **SECTION 1: Stormwater Discharge**

1. In no event will the maximum design rate or volume of discharge exceed the maximum capacity of the downstream land, channel, pipe or watercourse to accommodate the flow. It is the proprietor's obligation to meet this Standard. Should a stormwater system, as built, fail to comply, it is the proprietor's responsibility to design and construct, or to have constructed at his/her expense, any necessary additional and/or alternative stormwater management facilities. Such additional facilities will be subject to the Ingham County Drain Commissioner's review and approval.
2. Identification of the off-site outlet and evidence of its adequacy is required.
3. If no adequate watercourse exists to effectively receive a concentrated flow of water from the proposed development, discharge will be reduced to sheet flow prior to exiting the site. Further, if the proposed stormwater management system cannot achieve pre-development conditions, with respect to both volume and rate of stormwater runoff, it is the responsibility of the developer to secure necessary easement(s) from downstream property owner(s).
4. Discharge should outlet within the drainage district where flows originate, and generally may not be diverted to another drainage district. Any diversion must receive the permission of the Ingham County Drain Commissioner pursuant to requirements of the Drain Code of 1956.

## **SECTION 2: Determination of Surface Runoff for Design and Construction of Drain Systems**

The Ingham County Drain Commissioner uses an average runoff coefficient for each parcel of real property in a drainage district. The average runoff coefficient is not determined on a parcel-by-parcel basis, so the discussion is not applicable to drain special assessments.

1. The rational method of calculating stormwater runoff is generally acceptable for highly impervious sites less than 120 acres in size. However, it may not be considered an adequate design tool for sizing large drainage systems. All composite runoff coefficients shall be based on the values shown in the table below. The slopes listed for the semi-pervious surfaces are the proposed finished slope of the tributary area.

Type of Surface	Runoff Coefficient		
Water Surfaces	1.00		
Roofs	0.95		
Asphalt or concrete pavements	0.95		
Gravel, brick, or macadam surfaces	0.85		
Semi-pervious; lawns, parks, playgrounds	Slope <4%	Slope 4%-8%	Slope >8%
Hydrologic Soil Group A	0.15	0.20	0.25
Hydrologic Soil Group B	0.25	0.30	0.35
Hydrologic Soil Group C	0.30	0.35	0.40
Hydrologic Soil Group D	0.45	0.50	0.55

**Table 1. Minimum Acceptable Runoff Coefficients for use in Rational Method**

2. More precise methodologies for predicting runoff such as runoff hydrographs are widely available, and may be required by the Ingham County Drain Commissioner for sizing the drainage systems on large sites and/or smaller sites that are deemed potentially problematic. Acceptable alternative methods include:
  - a. U.S. Army Corps of Engineers HEC-HMS, HEC-1
  - b. Natural Resources Conservation Service UD-21, TR-20 and TR-55
  - c. U.S. EPA's SWMM
  - d. Continuous simulation (HSPF)
3. Unless a continuous simulation approach to drainage system hydrology is used, all design 24- hour rainfall events will be based on the SCS Type II distribution.
4. Computations of runoff hydrographs that do not rely on a continuous accounting of antecedent moisture conditions will assume a conservative wet antecedent moisture condition.
5. For sites with upstream watersheds equal to or greater than 2 square miles, approval of the MDEQ is required, pursuant to Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The MDEQ will compute the runoff rates at no charge. The MDEQ requires applicants to use the UD-21 method by SCS in lieu of the rational method. This method was developed for small watersheds by SCS, and can be used for watersheds up to 10 square miles. Computer programs such as HEC-HMS, HEC-1 and HEC-RAS, MDEQ permit applications, and other relevant information, can be downloaded from the MDEQ web site.

## **SECTION 3: Retention and Detention Systems**

### **A. General Requirements**

All runoff generated by proposed developed sites must be conveyed into a stormwater storage facility for water quality treatment and detention/retention prior to being discharged to a public surface water outlet. The first flush must be controlled and treated through the use of a stormwater management facility. Under most circumstances detention must be provided for the 100-year, 24-hour storm. Stormwater leaving a developed site must be restricted to the pre-developed rate of flow of 0.15 cfs/acre. The Ingham County Drain Commissioner reserves the right to impose stricter standards for the discharge

rate when warranted to protect the public health safe and welfare and properties. The following criteria will apply to the design of all stormwater retention and detention facilities.

1. Wet basins and stormwater marsh systems will be preferred to dry basins. Dry basins providing extended storage will be accepted only when the development site's physical characteristics or other local circumstances make the use of a wet basin infeasible.
2. Public safety will be a paramount consideration in stormwater system and basin design. Providing a safe design for stormwater storage is the proprietor's responsibility. Basin designs will incorporate gradual side slopes, vegetative and barrier plantings, and safety shelves. Where further safety measures are required, the proprietor is expected to include them within the proposed development plans. For safety purposes and to minimize erosion, basin side slopes will not be steeper than four-foot horizontal to one foot vertical (4H:1V).
3. Detention and retention facilities shall be located on commonly owned property in multi-ownership developments such as subdivisions and site condominiums, and not on private lots or condominium units.
4. Adequate maintenance access from a public or private right-of-way to the basin shall be provided. The access will be on a slope of 5H:1V or less, stabilized to withstand the passage of heavy equipment, and shall provide direct access to the forebay, control structure, and the outlet.
5. When discharge is within a watershed where thermal impacts are a primary concern, deep wet basins with bottom draw or dry basins may be preferred. In addition, for extended dry detention basins, first flush and bankfull requirements may be reduced to 12 hours. Plantings that offer shade on the west and south sides of facilities are required. Infiltration of stormwater should be considered where site conditions allow.
6. On-site management of storm drainage will be designed for control of flooding, downstream erosion and water quality. It is generally preferred that stormwater management plans address stormwater issues on the same site. Submission of flow calculations, cross sections and other pertinent data will be required.
  - a. The volume of storage provided for flood control will be equal to or in excess of that required for a 100-year frequency storm.
  - b. The allowable release rate from the flood control storage volume will be 0.15 cfs/acre of the property being drained, or as determined by the Ingham County Drain Commissioner.
  - c. If the discharge does not outlet to a clearly defined public outlet, it is the developer's responsibility to secure necessary easement(s) from downstream property owner(s).
  - d. The volume and storage provided for controlling the bankfull flood will be equal to or in excess of the runoff from a 2.0-year/24-hour storm, which can be determined by:  $(8170 \times \text{acreage} \times \text{the relative imperviousness factor } C)$ .
  - e. The release rate from the bankfull storage volume will be such that this volume will be stored not less than 24 hours, nor more than 48 hours.
  - f. The first flush volume of runoff will be captured and detained for at least 24 hours or within a permanent pool. This volume is equivalent to the runoff from 0.5 inches of rain per acre of the land tributary to the basin. This volume can be determined by multiplying the number of acres by 1815 (Number of acres  $\times$  0.5 inches  $\times$  43,560  $\times$  1/12 feet).

## **B. Sediment Forebays**

Sediment forebays are preferred at the inlet or outlet of all stormwater management facilities, to provide energy dissipation and to trap and localize incoming sediments.

1. The forebay will be a separate basin, which can be formed by a gabion, a compacted earthen berm, or other suitable structure.
2. The capacity of the forebay will be equivalent to 5% of the 100-year storm volume based on the area tributary to the inlet.
3. Exit velocities from the forebay shall not be erosive during the 2.0-year/24-hour design storm.
4. Direct maintenance access to the forebay for heavy equipment will be provided.
5. A permanent vertical depth marker will be installed in the forebay to measure sediment deposition over time. Stormwater system maintenance plans will require that sediment be removed when sediment reaches a depth of equal to 50% of the depth of the forebay or 12 inches, whichever is less.

### **C. Basin Inlet/Outlet Design**

1. Velocity dissipation measures will be incorporated into basin designs to minimize erosion at inlets and outlets, and to minimize the re-suspension of pollutants.
2. To the extent feasible, the distance between inlets and outlets will be maximized to at least a 4 to 1 ratio. The length and depth of the flow path across basins and marsh systems can be maximized by:
  - a. Baffles may be used to increase the ratio.
  - b. Increasing the dry weather flow path within the system to attain maximum sinuosity.
  - c. Inlets and outlets will be offset at opposite longitudinal ends of the basin.
3. Basins with a dry pilot channel shall have a French drain located 2 to 3 feet below the riprap to prevent excessive warming of stormwater during periods of low flow.
4. The use of dual outlets, risers, V-notched weirs or other designs that assure an appropriate detention time for all storm events is required.
5. The outlet will be well protected from clogging.
6. Where a pipe outlet or orifice plate is to be used to control discharge, it will have a minimum diameter of 4 inches. If this minimum orifice size permits release rates greater than those specified in these Rules, an alternative outlet design that incorporates self-cleaning flow restrictors will be required, such as, perforated risers and "V" notch orifice plates that provide the required release rate. Calculations verifying this rate shall be submitted to the Ingham County Drain Commissioner for approval.
7. Any backwater effects on the outlet structure caused by the downstream drainage system will be evaluated when designing the outlet.
8. All outlets will be designed to be easily accessible for heavy equipment required for maintenance purposes.

### **D. Riser Design**

1. Inlet and outlet barrels and risers will be constructed of reinforced concrete or plastic. Corrugated metal will not be acceptable as a riser material. Plastic is not acceptable as a riser material. The minimum diameter for riser pipes shall be 24". Riser pipes greater than 4 feet in height shall be 48" in diameter.
2. Riser pipes shall be set into a cast-in-place concrete base or properly grouted to a pre-cast concrete base. All riser pipes constructed of material other than concrete must be set into a cast-in-place base.
3. All orifice configurations shall consist of the minimum number of holes with the largest diameter that meets the detention requirements.
4. A gravel filtration jacket consisting of 3" washed stone and 1" washed stone shall be placed around all riser pipes. The orifice configuration shall be wrapped with hard wire of an appropriate opening size to prevent any stone from passing through the orifice. The 3" stone shall be placed immediately

adjacent to the riser pipe with the 1” stone covering the larger stone. The gravel jacket shall extend sufficiently above all orifice patterns.

5. Orifices used to maintain a permanent pool level should withdraw water at least one foot below the surface of the water.
6. Hoods or trash racks shall be installed on the riser to prevent clogging. Grate openings shall be a maximum of three inches on center.
7. The riser shall be placed near or within the embankment, to provide for ready maintenance access.

## **E. Protection of Receiving Waters**

1. All tiled outlets greater than 12-inches in diameter shall have flared end sections with grates (rodent guards).
2. All outlets will be designed so that velocities will be appropriate to, and will not damage, receiving waterways.
3. In the case of environmentally sensitive riparian zones, a step pool arrangement shall be used to convey the discharge to the stream.
4. Outlet protection using riprap or other approved materials will be provided as necessary to prevent erosion.
5. The soils above and around the outlet will be compacted and stabilized to prevent piping around the structure. Riprap extending 3-feet above the ordinary high water mark is required for all outlets.
6. When the outlet empties into a detention/retention facility, channel or other watercourse, it will be designed such that there is no free overflow from the end of the apron to the receiving waterway.

## **F. In-line Detention Basins**

In-line detention basins are not allowed. For purposes of these standards “In-line detention” refers to the placement of detention or retention for a new land use change in the route and course of an existing intercounty or intracounty drain.

## **G. Retention/Detention Basins within a 100-year Floodplain**

The placement of retention/detention basins within a 100-year floodplain is prohibited. Any variance to this prohibition must be accompanied with adequate information that verifies that the facility will meet the requirements of these rules during flood events.

## **H. Anti-Seep Collars**

Anti-seep collars should be installed on any piping passing through the sides or bottom of the basin to prevent leakage through the embankment.

## **I. Freeboard**

A minimum of one foot of freeboard will be required above the 100-year stormwater elevation (NGVD) on all detention/retention facilities.

## **J. Emergency Spillway**

All basins will have provisions for a defined emergency spillway, routed such that it will flow unobstructed to the main outflow channel.

1. The emergency spillway elevation will be set at the elevation of the maximum basin design volume.
2. The spillway will be sized to pass the maximum design flow tributary to the basin.

## **K. Vegetative Plantings Associated with Retention/Detention Facilities:**

1. Basins and marsh designs will be accompanied by a landscaping plan that incorporates plant species native to the local region and indicates how aquatic and terrestrial areas will be vegetated, stabilized and maintained.
2. Native wetland plants should be encouraged in the basin design, either along the aquatic bench, fringe wetlands, safety shelf and side slopes or within the shallow areas of the pools.
3. A permanent buffer strip of natural vegetation within the drain easement will be maintained or restored around the perimeter of all stormwater storage facilities. No chemicals shall be applied to the buffer area. This requirement will be cited in the subdivision restrictions or master deed documents.
4. Viability of plantings will be monitored for two years after establishment by the proprietor, and reinforcement and replacement plantings provided as needed.

## **L. Waived Stormwater Quantity Control Structures**

Requirements for stormwater quantity control may be waived for developments near the outlet of a watershed, although quality management will still be necessary. The Ingham County Drain Commissioner will make determinations on an individual site basis.

## **M. Additional Water Quality Measures**

Additional water quality measures will be required at sites where land uses are identified as potential sources of pollution.

## **N. Chemical Storage**

For sites where chemicals may be stored and used, such as certain commercial and industrial developments and gas stations a spill response plan will be developed that clearly defines the emergency steps to be taken in the event of an accidental release of harmful substances that may migrate to the stormwater system. As a result of this plan, design elements such as shut-off valves or gates may be required. The Ingham County Drain Commissioner shall be placed on any emergency contact list.

## **SECTION 4: Retention Basins**

### **A. No Outlet Retention Basins**

Retention basins with no outlet will be capable of storing two consecutive 100-year storms, which can be determined by:

$$(33,000 \times \text{acreage} \times \text{the relative imperviousness factor } C)$$

## **B. Overflow Assessment**

An overflow assessment will be required. The assessment will include descriptions of the surrounding areas that would be impacted in the event of an overflow.

## **C. Soil Borings and Soil Boring Log**

The proprietor must submit a soil-boring log, taken within the basin bottom area to a depth of 25 feet below existing ground or 20 feet below proposed basin bottom elevation. Information regarding the seasonal groundwater elevations must also be provided.

## **D. Modifying Required Volumes**

The volume required may be modified based upon the percolation rate of the soil, groundwater elevation and supporting data prepared by a registered professional engineer, certified professional geologist or other licensed professional.

## **SECTION 5: Detention/Retention Basins**

1. Storage volume on a gravity outflow wet basin is defined as, "the volume of detention provided above the invert of the outflow device." Any volume provided below the invert of the outflow device will not be considered as detention.
2. At a minimum, the volume of the permanent pool should be at least 10% of the 100 year storage volume:  
*(4540 x runoff coefficient x site drainage area)*
3. Wet detention basin configuration will be as follows:
  - a. Surface area to volume ratio should be maximized to the extent feasible.
  - b. In general, depths of the permanent pool shall be varied and average between 18 and 30 inches.
  - c. A minimum length to width ratio of 4:1 shall be used unless structural measures are used to extend the flow path.
  - d. Basins shall be wedge-shaped, narrower at the inlet and wider at the outlet. Irregular shorelines are preferred.
  - e. A marsh fringe shall be established near the inlet and forebay and around at least 50% of the basin's perimeter.
  - f. A shelf, a minimum of 4 feet wide at a depth of one foot, will surround the interior of the perimeter to provide suitable conditions for the establishment of aquatic vegetation, and to reduce the potential safety hazard to the public.
  - g. To avoid drawdown, a reliable supply of base-flow and/or groundwater will be required.

## **SECTION 6: Extending Detention Time In Basins**

A two-stage design is required with separate outlet controls to detain both the 2.0-year/24-hour and larger rain events.

1. The lower stage shall contain a shallow, permanent pool designed to store and treat the first flush volume, or the runoff from 0.5 inch of rain over the entire site.
  - a. This pool shall be managed as a shallow marsh or wetland, and average 6-12 inches in depth.

- b. At a minimum, the volume of runoff detained in the entire lower stage shall be equivalent to the runoff volume produced by a 2.0-year/24-hour storm.
2. The upper stage shall be sized for the 100 year, 2.0-year/24-hour storm and shall be graded to remain dry except during large storms.
  - a. A low flow channel, stabilized against erosion, will be provided through the dry portion of the basin. This channel should have a minimum grade of 0.5%, and the remainder of the basin should drain toward this channel at a grade of at least 1%.
  - b. The low flow channel should end at the lip of the lower stage, where riprap or gabion baffles will be placed, to prevent scour and re-suspension.

## **SECTION 7: Stormwater Wetland Systems**

Stormwater wetlands are defined as constructed systems explicitly designed to mitigate the stormwater quality and quantity impacts associated with development. They do so by temporarily storing stormwater runoff in shallow pools that create growing conditions suitable for emergent and riparian wetland plants. The runoff storage, complex micro-topography and emergent plants in the stormwater facilities that couple basins and constructed wetlands together form an ideal system for the removal of urban pollutants. Because of their water quality benefits, the use of stormwater wetlands is encouraged.

1. As a general rule, stormwater wetlands may not be located within delineated natural wetland areas, nor within created wetlands that are used to mitigate the loss of natural wetlands.
2. The design of an effective and diverse stormwater wetland requires a sophisticated understanding of hydrology and wetland plant ecology. Therefore, a qualified professional with specific wetland expertise must oversee wetland construction, re-construction or modification.
3. Stormwater wetland systems must be designed to perform in conformance with all standards for storage volume and discharge rate established in these rules.
4. The proprietor will provide for the monitoring of wetland plantings and replacement as needed for a two-year period after construction or provide a bond to cover expenses until permanent perennial vegetation is established.
5. Planting plans will include species diversity and use of indigenous species.

## **SECTION 8: Stormwater Conveyance**

Stormwater conveyance structures in the roadway will conform to standards of the Ingham County Drain Commissioner. In the event of no other governing specifications, the latest edition of the MDOT standards will be observed. Stormwater conveyance systems incorporating pumps shall not be permitted in developments with multiple owners, such as subdivisions and site condominiums.

### **A. Natural Streams and Channels**

1. Natural streams, including intermittent streams, are to be preserved. Natural swales and channels should be preserved, whenever possible.
2. If channel modification must occur, the physical characteristics of the modified channel will duplicate the existing channel in length, cross-section, slope, sinuosity, and carrying capacity.
3. Streams and channels will be expected to withstand all events up to the 100-year storm without increased erosion. Armoring banks with riprap and other manufactured materials will be accepted only where erosion cannot be prevented in any other way, such as by the use of vegetation.

## **B. Vegetated Swales/Open Ditches**

1. Open swale/ditch drainage systems are preferred to enclosed storm sewers where applicable governmental standards and site conditions permit.
2. Swales will be required to follow natural, pre-development drainage paths insofar as possible. Swales shall be well vegetated, wide and shallow, and designed to provide positive drainage.
3. Swale length will be based on soil type, slope and catchment area. Longer and wider swales have a potential to remove more pollutants and reduce velocity and are preferred.
4. Open ditch flow velocities will be neither siltative nor erosive. The minimum acceptable velocity will be 2.0 ft./sec., and the maximum acceptable velocity will be 5.0 ft./sec.
5. Open ditch slopes will depend on existing soils and vegetation. However the minimum acceptable slope is 1.0 %, unless other techniques such as infiltration devices are implemented. Maintenance for such devices must be detailed in the overall maintenance plan.
6. Side slopes of ditches shall be no steeper than 3:1. Soil conditions, vegetative cover and maintenance ability will be the governing factors for determining side slope requirements.
7. Slopes and bottoms of open ditches and swales will be permanently stabilized to prevent erosion.
8. Check dams or drop structures across swales will be required to enhance water quality performance and reduce velocities as need is determined by the Drain Commissioner.
9. Check dams, drop structures, or other energy dissipating measures shall be required when slopes are greater than 2%.
10. A minimum vertical clearance of at least 5 feet between open swale/ditch inverts and underground utilities will be required.
11. Permanent metal or plastic markers shall be placed on each side of the drain at the edge of the easement to show the location of underground utilities (or the edge of the bank if the ditch is in a farm field).
12. All bridges will be designed to provide a 2-foot minimum flood stage air space above the 100-year/24hour-storm elevation to the underside of the bridge. Footings will be at least three feet below the established grade of the drain. Depending on soils, additional footing depth may be required.
13. For additional redundant pollutant removal enhancement, features such as stilling basins and stone infiltration trenches shall be integrated into the design.

## **C. Enclosed Drainage System**

1. Enclosed storm drain systems will be sized to accommodate the 10-year storm, with the hydraulic gradient kept below the top of the pipe.
2. For residential developments and commercial projects smaller than 10 acres in size, a time of concentration of 15 minutes shall be used. Other situations may require that the time of concentration be calculated using TR-55 or equivalent method
3. Pipe capacity will not be considered as part of the detention calculations.
4. Drainage structures will be located as follows:
  - a. To assure complete positive drainage of all areas of the development.
  - b. At all low points of streets, rear yards and adjoining lots.
  - c. Such that there is no flow across a street intersection.
  - d. For smaller enclosed drains, 12 to 24 inches in diameter, manholes will not be spaced more than 400 feet apart. Longer runs may be allowed for larger sized pipe, with approval from the Ingham County Drain Commissioner.
  - e. Limited main line deflection is allowable but generally all lines between structures must be straight and lie within the road right of way.

- f. Manholes and catch basins shall be ASTM C-478, 4' diameter or larger with pre-cast reinforced concrete adjusting rings for final grade. Minimum number of rings used shall be two (2). All structures shall be constructed to provide ingress/egress for maintenance and repairs.
- g. Construction plans must include pipe grades, sizes of pipes, class designations, top-of-casting elevations invert elevations of all pipes at each structure, steps – 16” on center and special structure details. Steps must be aligned with the opening of the structure.
5. Footing tile and/or sump pump leads are required for each proposed lot served by an enclosed county drain and shall be shown to lot lines on the plans. Leads shall be constructed of either SDR-35 (ASTM 3034) or PVC Schedule-40 (ASTM D1785), unless installation is less than three (3) feet in which case SDR-26 (ASTM D3034/F-1336) shall be required. Leads may be connected to catch basins or manholes, where available. All other leads must be connected to the nearest available storm line.
  - a. All collector lines are to be served by a manhole at each end.
  - b. Leads discharging directly into a pipe must connect through a wye or tee supplied by the pipe manufacturer, or through an approved fitting or boot.
  - c. Leads shall not protrude into the interior of the recipient pipe.
  - d. Full time inspection is required on storm lead installation for all pipes that will be dedicated as public drains.
  - e. Lot leads shall be properly capped on the upstream end and marked with an 8' length of 4” by 4” post painted green.
6. Sump pump discharge into roadside ditches is not permitted.
7. Joints within the interiors of all manholes and catch basins, including pipe-to-structure connections, must be sealed with a minimum of one-half (1/2) inch thick type M mortar or rubber boots. Pipe must not protrude into structures more than 6-inches and must be cut or sealed smoothly across the exposed surface. All exterior joints, and in particular, the grade or adjusting rings, are to be sealed in like manner.
8. Construction notes must indicate, by reference, MDOT Construction Standards (where applicable).
9. Temporary drains connected to catch basins and manholes located within the road right-of-way are not allowed.
10. The catch basin or inlet covers shall be designed to accept the 10-year design storm without ponding of water.
11. Catch basins and manholes must be designed as follows:
  - a. Structures must be on lot lines or at intersections, as directed by the review agency.
  - b. Structures shall have a minimum 3-foot sump and shall have accessible steps from the catch basins opening and shall extend into the sump area for maintenance. The steps shall be in alignment and the rungs no more than 18-inches apart.
  - c. Structure opening shall be a minimum of 22” in diameter.
  - d. The following castings are required for new construction on drains to be dedicated in Ingham County:
 

<u>Standard Manhole</u>	EJIW 1060-B	Neenah R-1784
<u>Standard Curb Inlet</u>	EJIW 7045	Neenah R-3031-A
<u>Rollback Curb Inlet</u>	EJIW 7065	Neenah R-3034-B
<u>Ditch (Beehive) Grate</u>	EJIW 6508	Neenah R-4340-A
<u>Basin (Stool) Grate</u>	EJIW 6488	Neenah R-4341-A
<u>Parking Lot Inlets</u>	EJIW 1020 M-2 (6” rise) or R2502 or (7” rise) or R2595 (4” rise)	

*EJIW = East Jordan Iron Works*
  - e. Covers must have the “Dump no waste...drains to Waterway” label.

- f. Proprietor must furnish one replacement lid, or the cash value for one replacement lid, for any casting category listed above which will be located within a paved or gravel surfaced roadway.
- g. Castings shall be of a consistent manufacturer and model throughout all phases of a subdivision or other development.

12. Pipe design shall be as follows:

- a. Main line pipes within road right-of-way shall conform to ASTM C76 designation, unless road authority stipulates otherwise. Pipes lying outside of road right-of-way may be constructed of PVC SDR-35 or PVC Schedule-40 or HDPE Dual Smooth Wall Pipe with a minimum diameter of ten (10) inches.
- b. Trench backfill must meet MDOT utility trench detail R-83-B and is required beneath all pipes and structures unless otherwise approved. Trench backfill in the road right-of-way shall be compacted to at least 95% modified proctor and is to meet requirements of the Ingham County Road Commission or other governing authority.
- c. Pipe will conform to the following criteria:
  - The minimum acceptable main line pipe diameter is 12-inches.
  - Minimum catch basin lead size permitted is 12-inches in diameter.
  - In order to avoid accumulation of sediment in the drain, pipe will be designed to have minimum velocity flowing full of 3 ft/sec, with the exception of sediment chambers.
  - The maximum allowable velocity flowing full will be 10 ft/sec.
- d. The pipe joints will be such as to prevent excessive infiltration or exfiltration. Wrap joints using MIRAFI 140N or equal are normally used. Premium joints may be required for site-specific situations.
- e. All materials will meet appropriate A.S.T.M. Standards.
- f. The minimum depth of cover shall be 36-inches over the top of any pipe.
- g. Pipe deflections shall be limited to pipe manufacturer's tolerances.
- h. In areas where local ordinance requires sump pump leads to be connected into an enclosed system, these connections shall be made directly into storm sewer structures or main line pipe with coring and booting as inspected by the Ingham County Drain Commissioner's office.
- i. Sump pump lines (typically 4-inch and 6-inch diameter) and building connections shall not fall under the long term operation and maintenance of the Ingham County Drain Commissioner, and will not become part of an established county drain, this includes the lead in the public right of way. Header pipes for sump pump leads are not allowed. Maintenance of such lines will be the responsibility of the property owners, and should be so specified in subdivision rules or condominium master deed agreements.

13. Utilities crossing under enclosed drains must meet the requirements of this section.

14. Pipe line television inspection shall conform to the following:

- a. Newly constructed public stormwater pipes dedicated as public drains will be televised at the request of the Ingham County Drain Commissioner.
- b. The following format must be used:
  - Pan and tilt camera
  - Speed of 2-ft/sec or slower
  - Digital format in color
  - Identification of each structure encountered by item and footage
  - Identification of each lead
  - Identification of direction of camera movement

## D. Channel/Pipe Design

1. Manning's equation will be used to size the open channel or pipe. Roughness coefficients are found in Table 2.

$$Q = \frac{1.486}{n} AR^{2/3} S^{1/2}$$

Boundary Material	n value	Boundary Material	n value
HDPE pipe, (smooth wall)	0.011	Brick	0.016
Concrete pipe	0.013	Riveted steel	0.018
Vitrified clay pipe	0.014	Rubble	0.025
Cast iron pipe	0.015	Gravel	0.029
HDPE pipe, (corrugated)	0.018	Riprap	0.033
Finished concrete	0.012	Natural channels in good condition	0.025
Planed wood	0.012	Natural channels with stones & weeds	0.035
Unplanned wood	0.013	Natural channels in poor condition	0.060
Unfinished concrete	0.014	Natural channels with heavy brush	0.100

**Table 2. Manning Roughness Coefficients for Various Surfaces**

2. A minimum "n" of 0.035 will be used for the roughness coefficient for open channels, unless special treatment is given to the bottom and side slopes, such as sodding, riprap or paving.
3. Manning's equation must be used unless the Ingham County Drain Commissioner approves an alternative method.

## E. Culvert Design

1. Under Michigan State Law, Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, crossroad culverts draining two square miles or more must be reviewed and approved by the Michigan Department of Environmental Quality and shall be approved by the Ingham County Road Commission and Ingham County Drain Commissioner.
2. Crossroad culverts draining less than 2 square miles of upstream watershed will be sized by the proprietor's engineer and approved by the Ingham County Road Commission and Ingham County Drain Commissioner.
3. At a minimum, culverts will be designed to convey the peak 10-year storm flow with the velocity not exceeding 8 fps. The 100-year storm must pass the embankment with no adverse increase in water elevation occurring off of the development property or flooding of structures within the development. A minimum of one foot of freeboard is required.
4. Acceptable methods of determining the flow rate required to pass through the culvert are listed below. The proprietor's engineer may use any of the methods listed or another if approved by the Ingham County Drain Commissioner's Office:

Rational Method

USDA Soil Conservation Service Method

The Michigan Department of Natural Resources Method

#### Continuous flow modeling

5. The discharge velocity from culverts should consider the effect of high velocities, eddies, or other turbulence on the natural channel, downstream property and roadway embankment. The culvert exit velocity should not cause downstream channel erosion or scour.
6. Sizing of culvert crossings will consider entrance and exit losses as well as tail water conditions on the culvert. Once the design flow is determined, the required size of the culvert will be determined by one of the following methods:
  - Manning's equation
  - The inlet headwater control/outlet tail water control nomographs (FHWA HY-8)
  - Other methods approved by the Ingham County Drain Commissioner
7. Wing walls, headwalls and all other culvert extremities will be designed to assure the stability of the surrounding soil. It is recommended that MDOT standard designs be observed unless special exemption is given.

## **SECTION 9: Easements**

Wording relative to easement information will be as specifically required by the Ingham County Drain Commissioner. If a county drain is to be established under the Drain Code of 1956, related easement language will be depicted on final plat and condominium drawings as follows:

1. “ \_\_\_\_ foot wide private easement to \_\_\_\_ Drainage District for public drainage.”
2. The typical easement language will be included in the subdivision deed restrictions or condominium master deed.
3. The location and purpose of drainage easements should be clearly described in subdivision deed restrictions or condominium master deeds.
4. Language shall be included within the subdivision deed restriction or condominium master deed that clearly notifies property owners of the presence of stormwater management facilities and accompanying easements, as well as restrictions on use or modification of these areas.
5. If a utility is to be located within any county drain or drainage easement, it shall be located such that it will not increase the expense of maintaining the drainage facility.
6. Retention/detention basins or other stormwater management facilities shall have a minimum of a twenty-five (25) foot easement from the top of the freeboard elevation for maintenance purposes. Easements will be sized and located to accommodate access, operation of equipment, spoils deposition, and other activities identified in the development's stormwater system maintenance plan.
7. Easement widths will be determined by the Ingham County Drain Commissioner and be situated in such a way as to allow maximum maintenance access, for example, offsetting them from the centerline. In general, easement widths will conform to the following:
  - a. Open channels and watercourses: A minimum of 80 feet, 100 feet preferable, total width. Additional width may be required in some cases, including but not limited to: watercourses with designated floodplains, sandy soils, steep slopes, and road crossings used as access points.
  - b. Open swales (cross lot drainage): minimum of 30 feet total width.
  - c. Enclosed storm drains: A minimum of 30 feet will be required, situated in such a way as to allow maximum maintenance access. Additional width will be required in some cases.

Minimum acceptable easement width for a drain is as follows:

1. Backyard swale (under 3' deep)      thirty (30) feet
2. Pipe buried between 3' – 7.5'      thirty (30) feet

- |  |                              |
|--|------------------------------|
| 3. Pipe buried over 7.5'   | forty (40) feet              |
| 4. Open ditch (3' – 6' deep)   | eighty (80) feet             |
| 5. Open ditch (6' - 10' deep)  | one-hundred (100) feet       |
| 6. Open ditch over 10' deep  | one-hundred fifty (150) feet |
| 7. Character of the drain shall determine actual width and alignment in each instance. |                              |

8. Easements for back yard drainage will be provided for each lot at a minimum of 30 feet unless otherwise approved. A fifteen-foot easement on each side of a centerline shall be the standard.
9. Drain fields (septic areas) shall not be located within drainage easements.

## **SECTION 10: Crossings, Connections and Licenses To Encroach**

All persons intending to cross, to connect, or to encroach upon a drain or drain easement must apply for and obtain a permit from the Ingham County Drain Commissioner prior to commencement of any proposed work. Crossing permits are required to cross over or under a drain, or to install a culvert in a drain. Connection permits are required to connect to or tap into an open or enclosed drain or any of its structures for purposes of discharging stormwater. Any use of a drain easement or right of way that will interfere with the operation of the drain or will increase the cost to the Drainage District of performing any maintenance or improvement to the drain is deemed to be inconsistent with the easement. In such a case, a License to Encroach may be issued at the discretion of the Ingham County Drain Commissioner upon such conditions, as the Ingham County Drain Commissioner considers appropriate to protect the District's ability to maintain and improve the drain.

The following items apply to Crossings, Connections, and Licenses to Encroach:

1. Permittee will release, waive, and discharge Ingham County and the Ingham County Drain Commissioner, its employees and agents, and the drainage district from any and all liability to permittee arising under or in any manner related to the privileges granted under the permit.
2. With acceptance of the permit, the property owner agrees to hold harmless, indemnify, and defend Ingham County and the Ingham County Drain Commissioner, its employees, agents and the drainage district from any and all claims for injury to persons or property arising from the permitted crossing of or connection to the drain.
3. Permittee is required to obtain all Federal, State, and local permits necessary prior to construction, and to provide copies to the Ingham County Drain Commissioner. The Ingham County Drain Commissioner reserves the right to require copies of environmental permits prior to crossing permit issuance.

### **A. Crossings**

#### **1. General Crossings**

Crossing means going through, under, or over the right of way of an established county drain. All crossings must comply with the requirements in these Rules.

- a. A complete application includes a completed form, payment of applicable fees, and three copies of a scaled drawing, sealed by a registered professional engineer, of the crossing in both plan and profile perspective showing the vertical separation distance and the width of the drain easements. This requirement for an engineer's seal may be waived for residential and agricultural crossings.
- b. Crossings must not interfere with safe maintenance and/or improvement of the established drain.

- c. A Drain Office inspector must be present at all times during any crossing construction. The drain office must receive notice three (3) business days before the inspection services are required.
- d. Upon completion of the construction of the crossing, the permittee must provide the Ingham County Drain Commissioner with a certified “as-built” of the crossing. If at any time it is determined that the facilities were installed inconsistent with the approved plan, or with any written approved changes to the plan, permittee shall be responsible for all costs associated with reconstruction of said crossing to comply with the terms of the permit.
- e. The permit holder must provide confirmation of elevations to the nearest 0.1 foot.
- f. Soil borings may be required at the discretion of the Drain Office.
- g. The permit shall be posted at the site of the work and available for inspection at all times during the construction.
- h. Permanent markers must be installed above all crossings at the edges of the right-of-way or as close to that as possible.
- i. All utilities crossing easements shall be encased in larger pipes detectable by a metal detector.

## **2. Culvert Crossing**

- a. Any application for crossings involving culverts shall include upstream and downstream elevations and hydraulics, and on the plan shall include measures for re-establishment of the stream bank and erosion control at the culvert ends. Flared end sections may be required along with additional information including, but not limited to elevations, size of upstream and down stream culverts, and confirmation of elevation of established drain.
- b. All culverts are privately owned and installed at the owner’s expense.
- c. The Ingham County Drain Commissioner’s office will approve the culvert size. Oval shaped pipes may be used when elevations are critical. Pipes must be installed according to manufacturer’s specifications.

## **3. Other Drain Crossings**

- a. Drain crossings must be at least five (5) feet below the elevation of the drain as it was established (the invert elevation for enclosed drains must be used) for the entire width of the easement. All crossings over a drain will be reviewed and requirements determined on a case-by-case basis.
- b. All crossings of open drains must be bored or directional drilled unless special permission is obtained from the Ingham County Drain Commissioner. If special permission is received, additional standards will be required, including but not limited to standards which will maintain the hydraulics of the drain, reconstruct the drain to its established profile, temporarily and permanently stabilize the earth disturbance, and post bonds to insure that all work is completed.
- c. Open cut crossings require washed aggregate backfill compacted to 95% modified proctor.
- d. Special permission can be given by the Ingham County Drain Commissioner for encasement of utility lines in concrete or sleeve with ductile iron pipe when crossing under the drain.
- e. In no case will less than 18 inches of separation be allowed.
- f. Sanitary sewers must be ductile iron pipe for the full width of the drain maintenance easement.

## **B. Connections**

- 1. All persons requesting a connection to a county drain must have permission from the Ingham County Drain Commissioner. The Ingham County Drain Commissioner on a case-by-case basis will determine requirements for residential and agricultural applications.
- 2. Each connection requires a Tap-in Permit or Agreement.

3. The Tap-in Permit process includes submission of a completed application, three copies of the required drawings, and payment of all applicable fees. All inspection fees must be paid prior to permit approval.
4. Inspection by the Drain Office at the time of connection is required. A 72-hour notification must be provided.
5. Stormwater leads connected into manholes, catchbasins, and pipes must be cored and lined with a rubber boot.
6. A scale drawing of the connection in plan and profile view must be submitted with the application showing: the diameter of the pipe; diameter of the hole to be cored; the type of boot for stormwater lead; the method of connecting to the boot; location of any other pipes in the structure; backfill material 6" around the pipe for two feet from the structure; and compaction of backfill material adjacent to the structure to 95% of modified proctor density.
7. All connections to an open drain require a rodent guard.
8. Outlets to ditches will be placed at the average low water elevation of the watercourse. Outlet velocities will be non-erosive.

### **C. Licenses To Encroach**

All encroachments in drain maintenance easements for structures or land use changes that impair or impede the maintenance of the drain shall be reviewed and approved by the Ingham County Drain Commissioner. The written documentation supporting a license shall be prepared by the Ingham County Drain Commissioner's Office or can be prepared by the property owner and reviewed by the Ingham County Drain Commissioner's Office on a case-by-case basis. All costs associated with the review and/or preparation of a License to Encroach shall be the responsibility of the applicant of the License to Encroach.

*If said encroachment creates an increase in the maintenance costs, the property requesting the encroachment is subject to an increased assessment reflective of that cost.*

## **SECTION 11: Natural Wetlands**

This section governs natural wetlands (as distinct from stormwater wetland systems that are constructed expressly for stormwater management purposes), when a natural wetland is incorporated in an overall stormwater management scheme.

1. Wetlands will be protected from damaging modification and adverse changes in runoff quality and quantity associated with land developments. Before approval of the final plan, all necessary wetland permits from the MDEQ and local governments will be in place.
2. Direct discharge of untreated stormwater to a natural wetland is prohibited. All runoff from the development will be pre-treated to remove sediment and other pollutants prior to discharge to a wetland. Such treatment facilities will be constructed before property grading begins. All basins must be cleaned and stabilized prior to final acceptance.
3. Site drainage patterns will not be altered in any way that will modify existing water levels in protected wetlands without proof that all applicable permits from the MDEQ and/or local government agencies have been obtained.
4. A qualified professional with specific wetland expertise will oversee wetland construction, reconstruction, or modification.
5. Whenever possible, a permanent buffer strip, vegetated with native plant species, will be maintained or restored around the periphery of wetlands.

6. Wetlands will be protected during construction by appropriate soil erosion and sediment control measures.

## **SECTION 12: Lot Grading**

Approval of final lot grading is the responsibility of the local municipality. The Ingham County Drain Commissioner's office is not responsible for inspection of, or enforcing corrections to, final lot grading. It is the Ingham County Drain Commissioner's responsibility to ensure that the overall plan is consistent with sound stormwater management and drainage practices. Assurance that lot grading is consistent with the approved overall drainage plan of the development is the responsibility of the local municipality, and should occur through local ordinance.

The subdivision stormwater management plan will provide for the following:

1. The grading of lots will be such that surface runoff is away directed from homes and toward swales, ditches or drainage structures. Provision for drainage through properly graded stormwater conveyance systems will be made for all areas within the proposed subdivision.
2. Where finished grades indicate a substantial amount of drainage across adjoining lots, a drainage swale of sufficient width, depth and slope will be provided on the lot line to intercept this drainage. To ensure that property owners do not alter or fill drainage swales, easements will be required over areas deemed necessary by the Ingham County Drain Commissioner.



**To:** Planning Commission

**From:** Brian Shorkey, Principal Planner  
Meera Kanade, Planning Intern

**Date:** January 27, 2025

**Re:** Parking Ordinance Updates

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Staff discussed the progress made with the update on Article VIII – Off-Street Parking and Loading in the Zoning Ordinance with the Planning Commission at their regular meetings on Monday, July 22, 2024, November 18, 2024, and December 9, 2024. Staff has discussed several potential updates of the Off-Street Parking ordinance with the Planning Commission at those meetings.

Staff has reintroduced Sec. 86-755 – Schedule of Requirements for Parking Space, for discussion about potential changes to required numbers of parking spaces. Other topics the Planning Commission has discussed include elimination of parking requirements and parking maximums, but no changes regarding these topics are proposed at this time.

We look forward to further discussion off-street parking regulations and providing an updated draft ordinance to the Planning Commission in the future.

**Attachments:**

1. Sec. 86-755 – Off-Street Parking and Loading – Clean
2. Sec. 86-755 – Off-Street Parking and Loading – Redlined

## § 86-755. Schedule of requirements for parking space.

[Code 1974, § 85-10; Ord. No. 2005-01, 1-30-2005; Ord. No. 2009-03, 4-19-2009]

Parking space shall be provided in accordance with the design standards of this chapter and according to this schedule:

Use	Number of Motor Parking Spaces Required Per Unit of Measure
<b>Residential</b>	
Single-family dwelling or duplex living unit	2 for each dwelling unit
Multiple-family District	1.5 for each efficiency or one-bedroom unit and 2 for each dwelling unit with 2 or more bedrooms,
Housing for the elderly	1 for each 2 units and 1 for each employee on peak employment shifts. Should units revert to general occupancy, then 1.5 for each efficiency or one-bedroom unit and 2 for each dwelling unit with 2 or more bedrooms
Mobile home parks	2 for each mobile home or mobile home site
<b>Institutional</b>	
Places of worship	1 for each 5 fixed seats, 10 linear feet of pews, and one for each 30 square feet of assembly floor area without fixed seats
Hospitals	1 for each 1 bed
Homes for the aged and convalescent homes	1 for each 4 beds plus 1 for each employee on the largest working shift
Child care centers and adult care centers	1 per every teacher or caregiver
Fire and police stations	1 for each employee on duty during the highest staffed shift plus 25% for visitors
Elementary and junior high schools	1 for each 1 teacher and administrator in addition to the requirements of the auditorium
Senior high schools	1 for each employee plus 1 for each 10 students, based on the number of students that the facility is designed to handle at any one time, in addition to the requirements of the auditorium
Theaters, auditoriums, and concert halls	1 for each 4 seats at maximum capacity plus 1 for each 2 employees
Museums and art galleries	1 space for every 500 square feet of gallery area, 1 space per employee, plus 1 space for every 4 seats in a theater or auditorium
Dance halls, civic clubs, fraternal orders, clubs, union halls or any similar type use	1 space for each 100 square feet of useable floor area

Libraries	1 spaces for every 250 square feet of gross floor area (GFA) plus 1 per 2 employees
<b>Business and Commercial</b>	
Athletic clubs and health spas	1 per 300 square feet of useable floor space. Accessory uses shall require additional parking
Business or trade schools	1 space for each seat plus 1 space for each teacher or other employee
Commercial centers and shopping malls	
Centers less than 50,000 square feet	1 for each 200 square feet of gross floor area
Centers greater than 50,000 square feet	1 for each 400 square feet of gross area
All other retail businesses, unless specifically defined	
For businesses with a gross floor area (GFA) less than 25,000 square feet	5 spaces per 1,000 square feet (minimum) to 5 1/2 spaces per 1,000 square feet (maximum)
For businesses with a gross floor area (GFA) equal to or greater than 25,000 square feet	4 spaces per 1,000 square feet (minimum) to 4 1/2 spaces per 1,000 square feet (maximum)
Motor vehicle, recreational vehicle, boat, or mobile home sales or service establishments	1 for each 200 square feet of useable floor space of sales room, 1 for each service bay, and 1 for each employee
Dance or music studios	1 space for every 200 square feet of instructional area plus 1 for each teacher
Restaurants, taverns, bars, nightclubs, and brewpubs	One (1) space per 4 seats + one (1) space per employee + 5 stacking spaces per drive-through lane. Outdoor seating areas shall count toward total parking required unless the proprietor demonstrates that outdoor seating areas do not increase the capacity of the restaurant.
Barber shops, beauty shops	1.5 spaces for each chair, plus 1 for every 2 employees
Laundromats and coin-operated dry cleaners	1 for each 2 washing or dry cleaning machines
Mini storage establishments and Enclosed climate controlled storage facilities	10 exterior spaces for the storage facility, plus 2 for the office, plus 1 space for each employee. Rows between storage buildings shall be designed to allow for simultaneous vehicle parking and passage

Drive-in carwashes, automatic	15 stacking spaces for each washing bay, plus 1 space for each 2 employees
Drive-in carwashes, self-service	3 stacking spaces for each washing bay
Gasoline service stations	1 for each bay and 1 for each employee on the largest shift. Parking shall be provided for convenience stores and other uses operated in conjunction with a gasoline service station, based on standards set forth herein.
Bowling alleys	4 for each 1 alley, in addition to any requirement for other uses such as bar, restaurant, or billiard room
Golf courses open to the general public, except miniature or "par-three"	4 for each 1 golf hole and 1 for each employee. Additional spaces shall be provided as required for clubhouse, restaurant, pro shop, or other affiliated facilities
Golf courses, miniature or "par three"	3 for each 1 hole plus 1 for each 1 employee
Golf driving range	1 space per tee
Mortuary establishments	1 for each 50 square feet of usable floor space
Motels, hotels, or other commercial lodging establishments	1 for each 1 occupancy unit plus extra spaces for dining rooms, ball rooms, or meeting rooms as required by this division.
<b>Industrial</b>	
Industrial or research establishments	1 for every 2 employees on the largest working shift
Warehousing or wholesale establishments	1 for every 2 employees on the largest working shift
Contractor's establishments	1 for each 1,000 square feet of gross floor area (GFA), but no less than 5
<b>Offices</b>	
General Office	3 spaces per 1,000 square feet of gross floor area (minimum) to 4 spaces per 1,000 feet of gross floor area (maximum)
Dental office	1 space per 300 square feet of gross floor area
Medical office	5 spaces per 1,000 square feet of gross floor area
Financial institutions (banks, credit unions, etc.)	1 space for every 150 square feet of useable floor area and 3 stacking spaces

## § 86-755. Schedule of requirements for parking space.

[Code 1974, § 85-10; Ord. No. 2005-01, 1-30-2005; Ord. No. 2009-03, 4-19-2009]

Parking space shall be provided in accordance with the design standards of this chapter and according to this schedule:

Use	Number of Motor Parking Spaces Required Per Unit of Measure
<b>Residential</b>	
Single-family dwelling or duplex living unit	2 for each dwelling unit <del>plus 1 additional space for each roomer if any</del>
Multiple-family <del>in RDD, RD, RN, or RC District</del>	<del>1.5 for each efficiency or one-bedroom unit and 2 for each dwelling unit with 2 or more bedrooms, plus expansion capacity of 25%</del>
Multiple-family in RCC District	2 for each 1 bedroom or efficiency dwelling unit; 3 spaces for each 2 or more bedroom dwelling unit, plus expansion
Housing for the elderly	1 for each 2 units and 1 for each employee <del>or doctor on peak employment shifts</del> . Should units revert to general occupancy, then <del>1.5 for each efficiency or one-bedroom unit and 2 for each dwelling unit with 2 or more bedrooms</del> 2 spaces per unit shall be provided
Mobile home parks	2 for each mobile home or mobile home site
<del>Fraternity or sorority</del>	<del>1 for each person permitted to occupy the building under the provisions of this chapter</del>
<del>Functional family</del>	<del>1 for each person over the age of 15 years permitted to occupy the building under the provisions of this chapter</del>
<b>Institutional</b>	
<del>Churches or temples</del> Places of worship	1 for each 5 <del>fixed</del> seats, <del>or</del> 10 linear feet of pews, and one for each 30 square feet of assembly floor area without fixed seats in the main room for worship
Hospitals	1 for each 1 bed
Homes for the aged and convalescent homes	1 for each 24 beds <del>plus 1 for each employee on the largest working shift</del>
Child care centers and adult care centers	1 per every <del>5 students or adults</del> plus 1 for every teacher or caregiver
Fire and police stations	1 for each employee on duty during the highest staffed shift plus 25% for visitors
Elementary and junior <del>and</del> high schools	1 for each 1 teacher and administrator in addition to the requirements of the auditorium
Senior high schools	1 for each <del>1 teacher, and administrator</del> employee and plus 1 for each 10 students, <del>based on the number of students that the facility is designed to handle at any one time</del> , in addition to the requirements of the auditorium

Commented [BS1]: "Roomer" is an antiquated term

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Theaters, auditoriums, and concert halls	1 for each 4 seats <u>at maximum capacity</u> plus 1 for each 2 employees
<del>Stadium, sports arena or assembly similar place of outdoor</del>	<del>1 for each 3 seats or 6 feet of benches</del>
Museums and art galleries	1 space for every <del>250-500</del> square feet of gallery area, 1 space per employee, plus 1 space for every 4 seats in a theater or auditorium
Dance halls, civic clubs, fraternal orders, <u>clubs</u> , union halls or any similar type use	<del>1 space for every 4 persons permitted to occupy the building by local ordinance or state law, plus additional parking for 25% excess capacity</del> 1 space for each 100 square feet of useable floor area
<del>Private golf clubs, ski clubs, swimming clubs or beaches, tennis clubs or similar uses</del>	<del>1 space per 4 persons of maximum anticipated capacity as approved by the Planning Commission, plus additional parking for 25% excess capacity</del>
<del>Golf courses open to the general public, except miniature or "par three"</del>	<del>6 for each 1 golf hole and 1 for each 1 employee</del>
<del>Golf courses, miniature or "par three"</del>	<del>3 for each 1 hole plus 1 for each 1 employee</del>
Libraries	1 spaces for every <del>200-250</del> square feet of gross floor area (GFA) <u>plus 1 per 2 employees</u>
<b>Business and Commercial</b>	
Athletic clubs and health spas	<del>1 1/4 spaces for every 4 persons permitted to occupy the building by local ordinance or state law</del> 1 per 300 square feet of useable floor space. Accessory uses shall require additional parking
Business or trade schools	1 space for each seat plus 1 space for each teacher or other employee
Commercial centers and shopping malls	
<del>Centers less than 50,000 square feet</del>	<del>1 for each 200 square feet of gross floor area</del>
<del>Centers greater than 50,000 square feet</del>	<del>1 for each 400 square feet of gross area</del>
<del>For centers having a gross floor area (GFA) less than 25,000 square feet</del>	<del>5 spaces per 1,000 square feet (minimum) to 5 1/2 spaces per 1,000 square feet (maximum)</del>
<del>For centers having a gross leasable area (GLA) equal to or greater than 25,000 square feet but less than 400,000 square feet</del>	<del>4 spaces per 1,000 square feet (minimum) to 4 1/2 spaces per 1,000 square feet (maximum) but not less than 125 spaces</del>
<del>For centers having a gross leasable area (GLA) equal to or greater than 400,000 square feet but less than 600,000 square feet</del>	<del>4 spaces per 1,000 square feet (minimum) to 5 spaces per 1,000 square feet (maximum)</del>
<del>For centers having a gross leasable area (GLA) equal to or greater than 600,000 square feet</del>	<del>5 spaces per 1,000 square feet (minimum and maximum)</del>
All other retail businesses, <u>unless specifically defined</u>	
For businesses with a gross floor area (GFA) less than 25,000 square feet	5 spaces per 1,000 square feet (minimum) to 5 1/2 spaces per 1,000 square feet (maximum)
For businesses with a gross floor area (GFA) equal to or greater than 25,000 square feet	4 spaces per 1,000 square feet (minimum) to 4 1/2 spaces per 1,000 square feet (maximum)

**Commented [BS6]:** Moved to Commercial and 'golf course' separated out

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Motor vehicle, recreational vehicle, boat, or mobile home sales or service establishments	1 for each 200 square feet of useable floor space of sales room, <u>1 for each service bay</u> , and 1 for each <u>1 vehicle displayed for sale</u> <u>employee</u>
Dance or music studios	1 space for every 200 square feet of instructional area plus 1 for each teacher
Restaurants, taverns, bars, nightclubs, and brewpubs	<u>One (1) space per 4 seats + one (1) space per employee + 5 stacking spaces per drive-through lane.</u> <u>Outdoor seating areas shall count toward total parking required unless the proprietor demonstrates that outdoor seating areas do not increase the capacity of the restaurant. 1 for each 75 square feet of usable floor area, plus 1 for every 4 seats or 1 for 37 1/2 square feet of usable floor area, whichever is greater</u>
<del>Drive-in and self-service restaurants</del>	<del>1 for every 3 patron seats and 1 for each employee on duty during the highest staffed shift</del>
<del>Drive-up uses, except drive-in restaurants</del>	<del>In addition to the required parking for the principal use, each drive up lane shall have sufficient stacking room for 3 cars. Each stacking space shall measure a minimum of 20 feet in length. A bypass lane shall be provided</del>
Barber shops, beauty shops	<u>21.5 spaces for each chair, plus 1 for every 2 employees</u>
Laundromats and coin-operated dry cleaners	1 for each 2 washing or dry cleaning machines
<del>Mini storage establishments</del>	<del>5 spaces for the office, plus 2 spaces for a resident manager. Access to individual storage units shall provide for loading/unloading of vehicles adjacent to units without impeding through internal traffic flow</del>
<u>Mini storage establishments and</u> Enclosed climate controlled storage facilities	<u>10 exterior spaces for the storage facility, plus 52 for the office, plus 1 space for each employee. Access by vehicles to/from and within the facility for loading/unloading shall be designed to promote smooth traffic flow in and out of the structure without impeding external site vehicle movements</u> <u>Rows between storage buildings shall be designed to allow for simultaneous vehicle parking and passage</u>
<del>Drive-in banks or laundries</del>	<del>3 standing spaces for each drive-in window in addition to normal parking required for banks or laundries</del>
Drive-in carwashes, automatic	15 <del>standing</del> <u>stacking</u> spaces for each washing bay, plus 1 space for each 2 employees
Drive-in carwashes, self-service	3 <del>standing</del> <u>stacking</u> spaces for each washing bay
Gasoline service stations	1 for each bay and 1 for each employee on the largest shift. <u>Parking shall be provided for convenience stores and other uses operated in</u>

**Commented [BS11]:** Mini storage and enclosed storage combined into one

	<u>conjunction with a gasoline service station, based on standards set forth herein.</u>
Bowling alleys	<del>5</del> 4 for each 1 alley, in addition to any requirement for other uses such as bar, restaurant, or billiard room
<u>Golf courses open to the general public, except miniature or "par-three"</u>	<u>4 for each 1 golf hole and 1 for each employee. Additional spaces shall be provided as required for clubhouse, restaurant, pro shop, or other affiliated facilities</u>
Golf courses, miniature or "par three"	3 for each 1 hole plus 1 for each 1 employee
<u>Golf driving range</u>	<u>1 space per tee</u>
Mortuary establishments	1 for each 50 square feet of usable floor space
Motels, hotels, or other commercial lodging establishments	1 for each 1 occupancy unit plus extra spaces for dining rooms, ball rooms, or meeting rooms as required by this division. <del>Should units revert to multiple type use then 2 spaces per unit shall be provided</del>
<b>Industrial</b>	
Industrial or research establishments	1 for every 2 employees on the largest working shift
Warehousing or wholesale establishments	1 for every 2 employees on the largest working shift <del>or 1 for every 1,700 square feet of useable floor space, whichever is greater</del>
Contractor's establishments	1 for each 1,000 square feet of gross floor area (GFA), but no less than 5
<b>Offices</b>	
<u>General Office</u>	
<u>General Office</u> Minimum	3 spaces per 1,000 square feet of gross floor area <u>(minimum) to 4 spaces per 1,000 feet of gross floor area (maximum)</u>
Maximum	<del>4 spaces per 1,000 square feet of gross floor area</del>
<u>Dental office</u>	<u>1 space per 300 square feet of gross floor area</u>
<del>Stand-alone m</del> Medical office	5 spaces per 1,000 square feet of gross floor area
<u>Financial institutions (banks, credit unions, etc.)</u>	<u>1 space for every 150 square feet of useable floor area and 3 stacking spaces</u>



**To: Members of Planning Commission**

**From: Brian Shorkey, AICP, Principal Planner**

**Date: January 27, 2025**

**Re: Brownfield Redevelopment Authority Appointment**

The Planning Commission has a seat on the Brownfield Redevelopment Authority (BRA). The Planning Commission's seat became vacant at the end of 2024 and now needs to be filled.

The BRA reviews proposals for the redevelopment of eligible property and determines what financial incentives are necessary to assist the redevelopment. The authority prepares or reviews plans for an eligible brownfield project cleanups. The authority then recommends to the Township Board that a public hearing regarding the plan held and action taken on the request. The Township Board is the final approval authority for any Brownfield Plan. The BRA would recommend revisions to the plan as new projects are submitted or revisions are requested on existing plan projects.

The BRA meets on-demand as projects are brought to the Township for review. Typically, meetings are held in the Township Hall room during weekdays at 9:00 AM.



**To: Members of the Planning Commission**

**From: Timothy R. Schmitt, AICP  
Director of Community Planning and Development**

**Date: January 27, 2025**

**Re: 2024 Planning Commission Annual Report**

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Staff is pleased to present the following Annual Report for the Planning Commission's consideration. Under the Michigan Planning Enabling Act, Planning Commissions are required to create an annual report outlining the work that was done in the previous year, to be presented to the legislative body in the local municipality. There are number of items to track, from zoning changes to site plans and potential ordinance changes. If the Planning Commission has suggestions for other items they would like to see in this year-end wrap up in future years, please let us know and Staff would be happy to incorporate them.

### **Development Reviews**

2024 was a busy and productive year for planning activity in the Township and included an update of the Village of Nemoka zoning district, as well as discussion about updated the Off-Street Parking regulations. The attached charts outline all of the applications that were submitted in 2024.

Overall, there were 33 new applications submitted for review last year, including projects that are administratively reviewed, down from 49 the year before. 15 of these applications were reviewed by the Planning Commission, down slightly from 18 the year before.

### **Variances**

In addition to the Planning Commission and administrative applications, the Zoning Board of Appeals heard 12 requests in 2024, one more than in 2023. The majority related to residential properties, but there were some commercial requests as well.

Although not specifically related to the Planning Commission's work in 2024, a synopsis of Zoning Board of Appeals activities for the year is attached at the end of this report, to show that Board's work and the occasional overlap with the Planning Commission.

### **Zoning Amendments**

There was one ordinance text amendment reviewed by the Planning Commission in 2024. During an analysis of the zoning ordinance, staff found several incorrect references in Sec. 86-377 – Village of Nemoka language. Staff reviewed this matter with the Planning Commission and it led to an update of the language in Sec. 86-377, which the Planning Commission recommended approval of.

There were also two rezoning requests that were reviewed by the Commission in 2024. Rezoning property is similar in nature to the text amendments described above, in that it amends the official zoning map for the township, which is adopted as part of the Zoning Ordinances. The Planning Commission recommended approval of one of the requests and recommended denial of the other.

## 2024 Planning Commission Annual Report

### Current Planning Commission Membership

At the recommendation of the Planning Commission, the Township Board of Trustees lowered the number of members on the Planning Commission from nine to seven. The Planning Commission ended 2024 with a full roster, but at the December meeting, Mark Blumer and Milton Scales resigned. At the same time, the Board of Trustees appointed James McCurtis to the Planning Commission, meaning that the Planning Commission enters 2025 with one vacancy. The seven members of the Commission in 2024 were as follows:

Mark Blumer, Chair  
Christina Snyder, Vice Chair  
Milton Scales, Secretary

Alisande Shrewsbury  
Bill McConnell  
Brandon Brooks  
Jeff Romback

<b>Synopsis of Planning Activities - 2024</b>				
<b>Case #</b>	<b>Applicant</b>	<b>Request</b>	<b>Location</b>	<b>Decision</b>
<b>ZONING TEXT AMENDMENTS</b>				
24010	Planning Commission	Update of the Village of Nemoka zoning district language	Village of Nemoka district	Approved
<b>REZONINGS</b>				
24013	Fedewa Holdings	Dobie Road rezoning	Parcel adjacent to the north of Faith Lutheran Church	Denied
24015	Mayberry Homes	Copper Creek Phase 5	Haslett Road, east of existing Copper Creek	Approved
<b>SPECIAL USE PERMITS</b>				
24001	Meridian Retail Management	New Starbucks on Grand River Avenue	2731 East Grand River	Approved
24002	Okemos Gateway LLC	DVNK Self Storage	1614 West Grand River	Denied

## 2024 Planning Commission Annual Report

24007	Lilliac LLC	Shaw Street Quadplex	5681 Shaw Street	Approved
24008	Michigan Montessori Internationale	Montessori Parking Lot Expansion	2745 Mount Hope Road	Approved
24009	SANDDS Meridian LLC	SANDDS Adult Use Marihuana Retailer	3520 Okemos Road	Approved
24012	Consumers Energy	Consumers Substation	NE Corner Rutherford Drive and Lake Lansing Road	Approved
24017	Haslett Gallery Inc.	Herbana Adult Use Marihuana Retailer	2119 Haslett Road	Approved
24020	Okemos Local Investments LLC	Adult Use Marihuana Retailer	4360 Hagadorn Road	No Decision
24023	Okemos Gateway LLC	Okemos Gateway Adult Use Marihuana Retailer	1614 West Grand River	Approved
24025	Lannie Cowden (Panda)	Panda Restaurant Drive-Through	4990 Marsh Road	Approved
24027	Consumers Energy	Consumers Substation	5180 Cornell Road	Approved (Minor Amendment)
24030	Murooj Al-Saedi	Butterflies Group Child Care	1609 Downing Street	Approved

## 2024 Planning Commission Annual Report

<b>COMMISSION REVIEW</b>				
24003	GS Fedewa Builders	Faith Lutheran Church Land Division	Dobie Road	Approved
24014	Gene Turnwald	Turnwald Land Combination	Cornell Road	Approved
24016	Nikolaj Oryszczak	Oryszczak Land Division	6206 Columbia Street	Denied
24028	Starbucks	Starbucks Drive-Through Signs	3552 Meridian Crossings Drive	Approved
24029	Steven Drayer	Drayer Land Division	3689 Van Atta Road	Approved
24031	Playmakers Inc.	School Street Parcel Adjustments	5707 & 5691 School Street	Under Review
<b>WETLAND DELINEATIONS/VERIFICATIONS</b>				
24-01	Sadiq A. Syed	Syed Home	6381 Pine Hollow Drive	Approved
24-02	Steve Parks	Parks Home	2474 Barnsbury Road	Approved
<b>ZONING BOARD OF APPEALS APPLICATIONS</b>				
24-01	Steven Drayer	Request to create three parcels from one	3689 Van Atta Road	Denied
24-02	Keri & Brandon Lardie	Side Yard Setback	5867 Bois Ile	Approved
24-03	2120 Saginaw, LLC	Parking Space Waiver	2120 Saginaw Highway	Approved
24-04	Metro Detroit Signs	Wall sign variances	2810 Hannah	Approved
24-05	Meridian Retail Management	Parking landscaping variances	2731 East Grand River	Approved
24-06	Tyler & Emily Dawson	All Grand Events Patio setback variance	2233 Grand River	Approved

## 2024 Planning Commission Annual Report

24-07	Consumers Power	Rutherford Substation fence height variance	Rutherford Drive	Approved
24-08	242 Church	Pedestrian bridge variances	2600 & 2630 Bennett	Approved
24-09	Playmakers Inc.	Wall sign variances	2299 West Grand River	Approved
24-10	B. K. Singh	Oversize ADU variance request	2020 M-78	Denied
24-11	Mayberry Homes	Wetland buffer setback variances	Grand Reserve	Under Review
24-12	Murshak & Parks	Wetland buffer setback variance	6499 Heathfield Drive	Approved

### SITE PLANS

SITE PLANS				
24004	Bennett Road Holding	Silverleaf PUD – Phase 1	Bennett Road	Approved
24005	Meridian Retail Management	Starbucks	2731 East Grand River	Approved
24006	Max Auto Real Estate	Midas Shed	2227 Grand River	Approved
24011	Matt Hagen	Pins and Pints Patio	2120 East Saginaw Highway	Approved
24018	Tyler & Emily Dawson	All Grand Events Patio	2233 Grand River	Approved
24019	Consumers Power	Rutherford Substation	Rutherford Drive	Approved
24021	Michael Mudrey	The Local Epicurean Outdoor Seating	2843 East Grand River	Approved
24022	Michigan Montessori Internationale	Radmoor Parking Lot Expansion	2745 Mt. Hope	Approved

**2024 Planning Commission Annual Report**

24024	Todd's Services Inc.	East Tower Apartments Patio	2900 Northwind Drive	Approved
24026	Consumers Power	Van Atta Substation	5180 Cornell Road	Approved



**To: Members of Planning Commission**

**From: Brian Shorkey, AICP, Principal Planner**

**Date: January 27, 2025**

**Re: Project Report**

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As of January 2025, the following projects are under construction, under site plan review, or have been submitted as a new application (Changes since the last report are shown in **bold**):

**Under Construction**

<u>Name</u>	<u>Location</u>	<u>Date Approved</u>	<u>Description</u>	<u>Status</u>
1. Grand Reserve	Central Park Drive	March 6, 2024	115 SFR Homes	Under Construction
2. Sanctuary III	North of Robins Way	March 15, 2022 (Plat)	7 SFR Homes	Under construction
3. Newton Pointe	6276 Newton Road	February 24, 2022	Mixed Use w/ 105 MFR & 14 SFR	Under construction
4. Silverleaf Phase 1	West Bennett Road	June 26, 2024	25 SFR	Under construction
5. Knob Hill Apartments	2300 Knob Hill Drive	N/A	Reconstruction of Apartment buildings	Under construction
6. Starbucks	2731 W. Grand River	October 28, 2024	New Starbucks	<b>Under construction</b>

**Under Site Plan Review**

<u>Name</u>	<u>Location</u>	<u>Date Approved</u>	<u>Description</u>	<u>Status</u>
1. Haslett Village	SW Corner of Haslett Road and Marsh Road	July 26, 2019 (MUPUD)	290 MFR	Under Site Plan review
2. Elevation Phase 4	North of Jolly Road, West of Jolly Oak		MUPUD Amendment	Under Site Plan review Awaiting revisions

**New Applications**

	<u>Name</u>	<u>Location</u>	<u>Description</u>	<u>Status</u>
1.	New Coffee Shop	Hamilton Road	New Business	Under building review
2.	Okemos Local Investments	4360 Hagadorn	Adult Use Marihuana	SUP under review
3.	Ai Ya Ramen	1737 W. Grand River	New Restaurant	Under building review
4.	Okemos Gateway	1614 W. Grand River	Adult Use Marihuana	<b>Awaiting Site Plan</b>
5.	Panda Express	4990 Marsh Road	Drive-Through	<b>Awaiting Site Plan</b>