



PLANNING COMMISSION – REGULAR MEETING

Township Board Room – 8555 Kalamazoo Ave SE, Caledonia, MI 49316

DRAFT Agenda

7:00 p.m. – Thursday, August 27th, 2026

1. Call to Order and Roll Call
2. Consideration of Agenda
3. Consideration of **July 23rd, 2026**, Meeting Minutes
4. Inquiry of Conflict of Interest
5. Items for Consideration
 - A. **Public Hearing;** 10688 Kalamazoo Ave & 2110 100th Street – Special Land Use Permit, Mineral Extraction
 - B. 6870 Hanna Lake Ave – Site Plan Review, Dutton Center Depot (Phase III)
 - C. Zoning Ordinance Amendment Introduction
6. Public Comment
7. General Discussion
8. Adjournment

DRAFT Minutes of the Gaines Charter Township Planning Commission

Regular Meeting held July 23rd, 2026, at 7 pm

8555 Kalamazoo Ave., SE, Caledonia, MI 49316

MEMBERS PRESENT: Waayenberg, Rober, Giarmo, Wiersema, Thomas, Billips, Haagsma

MEMBERS ABSENT: None.

STAFF PRESENT: Dan Wells, Community Development Director; Dakota Swan, Assistant Planner

1. CALL TO ORDER AND ROLL CALL

Chair Waayenberg called the meeting to order at 7:00 PM.

2. CONSIDERATION OF MEETING AGENDA

3. CONSIDERATION OF MEETING MINUTES

Consideration of the June 25th, 2026, regular Planning Commission meeting minutes.

Motion:	Motion by Wiersema, supported by Giarmo, to approve the minutes of June 25 th , 2026, with corrections.
DISCUSSION:	None.
AYES:	All
NAYS:	None
ABSTAIN:	None
DECISION:	Motion carried (7-0).

4. INQUIRY OF CONFLICT OF INTEREST

5. ITEMS FOR CONSIDERATION

A. Public Hearing; 2045 68th Street – Special Land Use Permit, Accessory Building

Jason Verhey of DV Construction and Dave, the Facilities Manager at Ada Bible Church, explained their request for a Special Land Use permit: Ada Bible needs additional storage for safely storing property maintenance equipment. The site plan depicts a 1,824 square-foot pole barn with front-porch like railing on the western face and a dumpster enclosure to the west.

Planner Wells explained that a Special Land Use permit was necessary in this instance since the proposed pole barn is 1,824 square feet, which is 960 square feet greater than the 864 square feet permitted by right.

Chair Waayenberg opened and closed the public hearing.

Giarmo and Thomas agreed that a brick dumpster enclosure would be preferable and would emulate the stone appearance of the main building.

Wiersema agreed and complimented the main stone building and inquired why corrugated metal was chosen as the material to be used for the building. Verhey responded that Ada Bible Church is not opposed to using alternative materials, and that corrugated metal was chosen since it is a fairly common and cost-effective construction method.

As part of site preparation for the building, an existing berm to the east must be flattened. Wells, Verhey, Wiersema, and Giarmo discussed landscaping which could be implemented to soften the view for neighbors to the east, specifically endorsing the use of shrubs and evergreens. Wells suggested reusing soil to recreate the berm after construction and before planting.

Motion:	Motion by Haagsma, supported by Rober, to approve the Special Land Use permit for an oversized accessory building at 2045 68 th Street with the condition that the applicant must work with staff to create a landscaping plan.
DISCUSSION:	Wiersema inquired whether the Planning Commission was comfortable with corrugated metal being used as the primary construction material; Giarmo and Thomas agreed that corrugated metal is adequate so long as the color is consistent with that of the primary building and dumpster enclosure.
AYES:	All
NAYS:	None
ABSTAIN:	None
DECISION:	Motion Carried (7-0)

B. Public Hearing; 129 100th Street – Special Land Use Permit, Child Daycare Center

Gwen Wild and Eden Verbeek of Branch and Vine Childcare & Preschool LLC explained that they are establishing a daycare in the lower level of Corinth Reformed Church. Giarmo inquired about the intended structure of the day care; Wild responded that they intend to have one group of infants, one group of toddlers, and one group of three- and four-year-olds. Chair Waayenberg inquired about where

they are in the process of obtaining approvals from the State of Michigan; Wild explained that they are working on getting fire suppression approval, and they have submitted their official filing with the state. Wild added that a licensing representative from the State has visited the site, and that approval from the Township is necessary for State approval.

Chair Waayenberg opened and closed the public hearing.

Planner Wells explained that daycare operations in residential zoning districts require issuance of a Special Land Use permit and offered an overview of the site plan which indicates potential play areas to be fenced, and the designated parking area for parents of students. Wells stated that staff endorses approval of this request as the plan exhibits compliance with zoning requirements and added that this project helps to satisfy the desperate need for more childcare facilities in the Township.

Haagsma, Billips, and Rober agreed that this use is appropriate and fitting for such a large building that sits empty most of the week. Wiersema inquired about whether the State would review the proposed location of the play area prior to approval, which Wild and Wells confirmed was accurate.

Billips inquired about how many staff members there will be and whether the applicant has a currently established daycare: Wild clarified that they intend to have 6 full-time teachers and up to 8 part-time teachers, and specified that although they do not currently run a daycare center, Verbeek is a kindergarten teacher, and Wild, an occupational therapist, previously ran a developmental childcare center in Texas. Billips sought clarification on when they expect to open and whether or not they have a waitlist for enrollment; Wild responded that they were hoping for September, but fire approval is taking longer than anticipated, and that they do not have a list of prospective students but will begin advertising after obtaining all agency and government approvals.

Motion:	Motion by Haagsma, supported by Giarmo, to approve the Special Land Use permit for a child daycare center in a residential zoning district (ARR) with the condition that the applicant must provide the Township with proof of approval at the State level once obtained.
DISCUSSION:	None.
AYES:	All
NAYS:	None
ABSTAIN:	None
DECISION:	Motion Carried (7-0)

C. Public Hearing; 10195 Hanna Lake Avenue – Special Land Use Permit, Solar Array

Applicant and builder Dave VanHaitsma and Greg Oliver of Agathon Solar explained that the property owner of 10195 Hanna Lake is seeking a Special Land Use permit to allow for the construction of an

oversized solar array. Last year the applicant obtained Special Land Use approval for a smaller oversized solar array at 2844 100th Street, which is adjacent and under the same ownership as 10195 Hanna Lake; since the size has been modified and the array is now being proposed on a different parcel, a new Special Land Use permit is necessary. The new site plan depicts the array as being in a low-lying area of the subject parcel which will be significantly less visible than the previous iteration of the site plan.

Planner Wells explained that the panels total 9,075 square-feet, and that staff is endorsing the request based on satisfaction of all applicable standards from Section 18.270 of the Zoning Ordinance. In the previously approved Special Land Use permit, the array was approved at 8,880 square feet.

Chair Waayenberg opened the public hearing at 7:44 and closed the public hearing at 7:45.

Haagsma stated that given the size of the lot and the location of the panels being in a low-lying area, it is likely the array will not be visible from the right-of-way or neighboring properties. Waayenberg agreed and added that someone would have to work hard to get a view of the panels.

Wiersema noted a typo on the site plans for clarifications sake, which indicate that the panels are 179 feet long, where they are actually proposed to be 17 feet and 9 inches long. Planner Wells inquired about the angle of the tilt and whether it is adjustable or not; Oliver responded that the tilt is fixed at 30 degrees.

Motion:	Motion by Giarmo, supported by Billips, to approve the Special Land Use Permit for an oversized solar array in the Agricultural/Rural Residential zoning district with the condition that final approval must be obtained from the Township Engineer and Township Building Official.
DISCUSSION:	None.
AYES:	All
NAYS:	None
ABSTAIN:	None
DECISION:	Motion Carried (7-0)

D. Public Hearing; 3950 60th Street – Rezoning from Light Industrial to General Commercial

Eric Carter of Weihe Engineers explained that a rezoning is being requested primarily to find relief from strict setback requirements in industrial zoning districts. The subject property is currently zoned as Light Industrial which requires a minimum setback of 100 feet off of 60th Street, which is not conducive to the operation of the intended end user, 7-Eleven. Although site plans are not a requirement for rezoning requests, Carter displayed preliminary plans which depict a 4,800 square-foot store with 12 fueling bays and 29 parking spaces. Carter added that the development team is working with the Kent County Road Commission to establish adequate ingress/egress points, as currently the site has one on 60th Street and one on East Paris Ave, both of which are too close to the intersection for the Road Commission's liking.

Planner Wells gave an overview of the staff review, noting that the rezoning would make the parcel usable and is sensible in staff's opinion. This request is also consistent with the trend of investment into this area of the Township with the arrival of new businesses such as Stonepro and First Companies. Since setback requirements are so restrictive, it would be challenging for any industrial user operating under the current zoning designation to create a compliant site plan. Wells clarified that the proposed rezoning would open the parcel up for any land uses permitted in the General Commercial zoning district.

Chair Waayenberg opened the public hearing at 7:56 PM.

Sue of 7632 Copper Corner said that there are a lot of gas stations around this area already and she is nervous about the end user going "belly up" due to oversaturation.

Karina, a resident of the Township, said that she would not like to see any additional gas stations, and questioned how many other businesses may seek rezoning requests to find relief from setbacks in the future.

Chair Waayenberg closed the public hearing at 7:59 PM.

Haagsma stated that his comments have more to do with the preliminary 7-Eleven site plan that Carter shared as opposed to the request for a rezoning itself. Establishing three access points on the site for a gas station would be challenging, however, Haagsma added that other permitted uses in the GC zoning district could make use of the site with a single entry on 60th Street, and that he is comfortable with the rezoning request and other permitted uses that could then take place.

Wiersema expressed concern that this request may create spot zoning. Rober agreed and expressed concern about the additional traffic that could come with a gas station, to which Thomas agreed.

Wells encouraged the Planning Commission to consider the range of uses permitted in the Light Industrial and General Commercial zoning districts and think about which uses would be preferable there. Although Carter provided a preliminary site plan with the end user being a gas station, the Planning Commission must consider all uses which would be permitted on this parcel and in the GC zoning district. Giarmo said that the Planning Commission would have more agency over what the end use of the parcel becomes if the zoning designation remains Light Industrial.

Motion:	Motion by Giarmo, supported by Thomas, to make a recommendation for denial to the Township Board of Trustees for a proposed rezoning from LI to GC at 3950 60 th Street SE.
DISCUSSION:	None.
AYES:	All
NAYS:	None

ABSTAIN: None
DECISION: **Motion Carried (7-0)**

E. Site Plan Review; 4400 60th Street – Switch Phase 3 Data Center

Natalie Stewart, a representative from Switch, and Kevin Wilks, the engineer working on the project, explained their request for site plan review. The proposed building will constitute Phase 3 of the Switch data center and will use approximately 1,000 gallons of water a day and run on 100% renewable energy. Stewart noted that the project has received approval from EGLE and the EPA, both of which gave no comments or suggestions. She also specified that additional unused land will be going into a conservation trust, and sidewalks will be installed around the perimeter of the site.

Wilks explained that the request for site plan review also entails two requested conditions. Each phase of the Switch campus is on its own parcel; the current alignment makes for noncompliant lighting, setbacks, and fencing. A lot line adjustment would bring such matters into compliance; therefore the first condition being requested is one which would allow Switch to obtain approval and then execute a lot line adjustment within 120 days of approval. The second condition being requested is to satisfy the landscaping requirements outlined in Chapter 23 with the Wetland Mitigation Plan administered by EGLE, which will require Switch to plant upwards of 16,000 trees as a result of clear-cutting the site without EGLE's approval.

Planner Wells gave an overview of the staff report, highlighting that the building is proposed to be just over 14,000 square feet, and will be flanked by chiller units. The site plan also includes a pump house, a previously approved electrical substation, and backup Tier 4 diesel generators, which meet the strictest EPA standards for particulate matter and are over 90% more efficient than older models. Wells noted that the initial fill of the system will use 300,000 gallons of water spread out over several days and in accordance with the Byron Gaines Utility Authority.

Wiersema expressed weariness about the wetland mitigation plan substituting landscaping requirements, as the mitigation plan was put into place as a consequence of Switch clear cutting against EGLE's guidelines and "getting caught", and 3-gallon plantings appear to be too small. Wiersema inquired about exactly which lot lines need to be adjusted to achieve compliance, and how many generators will be on site. Stewart responded that the west and south property boundaries will need adjustments, and that four different Tier 4 generators will be used, but technically Switch could implement up to six.

Waayenberg inquired whether the 3-gallon plantings are specifically required by EGLE's mitigation plan, to which Wells responded yes, adding that the Township has the authority to require bigger plantings.

Giarmo inquired about the Township Engineer's report; Wilks explained that the Engineer hasn't received full plans yet, but even if site plan approval is granted, Switch will still need to get final approval

from the Township Engineer. Rober expressed concern that details keep shaking out differently than originally proposed, which is making her skeptical.

Haagsma inquired about the mitigation plan, which specifies that 125 trees will be planted on two areas of the site, and asked where the remaining trees will be planted. Wells specified that those numbers refer to planting 125 trees per acre, noting that the remaining trees will be planted in an off-site restoration area. Wiersema inquired about whether there will be irrigation on site for the planting; Wilks responded that trees will be planted in an active wetland site which will be monitored for ten years and then will be assigned a conservation steward to further oversee. Rober noted that discussion cleared up her concerns.

- Motion: Motion by Haagsma, supported by Giarmo, to approve the request for site plan review for Phase 3 of the Switch data center campus, located at 4400 60th Street SE with the following conditions:
1. An application for a lot line adjustment to alter the western and southern property lines to achieve compliance with setback, lighting, and height requirements must be submitted within 120 days of approval (November 20th).
 2. The Planning Commission finds that the Wetland Mitigation Plan administered by EGLE is acceptable and otherwise satisfies the landscaping requirements outlined in Chapter 23 of the Zoning Ordinance.
 3. Sidewalk must be installed along frontage on 60th Street.
 4. All outside agency approvals must be obtained, including but not limited to:
 - Township Engineer
 - Township Building Official
 - Kent County Road Commission
 - Kent County Drain Commission
 - Kent County Health Department
 - Gaines Charter Township Fire Department
 - Byron Gaines Utility Authority
 - State of Michigan regulatory agencies
- DISCUSSION: Wiersema inquired whether the Planning Commission is comfortable with 3-gallon plantings; Haagsma and Waayenberg agreed that since the building is so far from roadways and given that the expressway is on the south side of the site, the proposed plantings should be adequate.
- AYES: Waayenberg, Giarmo, Billips, Haagsma, Thomas, Rober
- NAYS: Wiersema
- ABSTAIN: None
- DECISION: Motion Carried (6-1)

6. PUBLIC COMMENT

Chair Waayenberg opened the public comment period at 8:58 PM.

Sue Vought expressed concern and advocated for a moratorium on data center development in the Township.

Phil, a resident of the Township, explained that he is worried about chemicals, nuisance, blight and abandonment.

Stephanie Pratt, a resident of the Township, said that Switch using 1,000 gallons of water per day is excessive and requested an ordinance amendment to address data centers.

Christine, a resident of Cook's Crossing, said that she was recently in Wisconsin where she visited a Microsoft data center in Mount Pleasant, and shared her notes and observations with the Planning Commission.

Amy, a resident from the Township, explained that she is concerned about the potential effects of data centers on animals, pollinators, local ecology, and public health.

Keith, an IT professional and resident of the Township, said that although he is not anti-data center, he recommends the Township adopt guidelines and define hyperscale data centers vs. not based on wattage.

Karina of 736 Firestone advocated for a moratorium on data center development, in addition to independent studies and updated ordinances.

Dane Olson of 3925 Carpet Rose said that he is considering moving due to the proposed development and advocated for adoption of a moratorium.

Danielle of 7010 Patterson expressed concern regarding noise, resource consumption, and energy sources, advocating for alternative methods of energy generation such as solar.

Patty of 3664 Merriville Court expressed disappointment that the Zoning Ordinance does not contain guidelines on noise levels, specifically noting that the ordinance contains stricter guidelines for noise emitted by wind turbines.

Diane, a resident of Grand Rapids, expressed concern regarding potential applications of artificial intelligence, specifically replacing the workforce and human jobs with AI.

Rebecca of 8063 Kraft Avenue expressed concern regarding noise pollution and low vibrational sounds.

John DeVries of Leighton Township expressed that although he does not live in Gaines, he is concerned about the potential unknown impacts of the Microsoft data center.

Cyntia Olson of 3925 Carpet Rose and her child expressed concern regarding the proposed data center, specifically noting potential health complications for their family and their neighbors.

Katie, a resident of Caledonia, expressed gratitude for Commissioner Wiersema's no vote on the Switch site plan review, and stated that she felt as though Switch's proposal should have been more scrutinized.

John Marino, a non-resident of the Township, expressed concern and noted that protecting the community begins at the local level and that people must be put over profit.

Chair Waayenberg closed the public comment period at 9:42 PM.

7. GENERAL DISCUSSION

Planner Wells clarified some matters brought up during the public comment period. Wells noted that recent water rate increases in Caledonia Township are because recently the Township transitioned from using groundwater to joining Grand Rapids' water supply. Wells also clarified that rate increases in Gaines are determined by annual rate studies and increases happen on behalf of long-planned upgrades and changes to the water system.

Regarding Microsoft, the Township is engaging a third-party audio engineering firm to establish baseline measurements along several areas of the property boundaries and across different seasons to understand current noise levels of both dbA and dbC which will inform requirements for a noise efficient site. Wells clarified that Microsoft will be paying for the study but the Township will be selecting the firm.

Overall, Wells said, Township staff is taking in and synthesizing as much feedback as possible to help inform the conditions associated with the rezoning and subsequently amendments to the Zoning Ordinance. The conditional rezone will be a legally binding document in which costs and bonds will be established entirely by Microsoft. Wells added that after the rezoning decision is finalized, a development agreement will be put in place, and Microsoft will need to return to the Planning Commission for site plan review. Chair Waayenberg added that we are still in the early stages of a very long process.

8. ADJOURNMENT

Motion:	Motion by Giarmo, supported by Rober, to adjourn at 9:55PM.
DISCUSSION:	None.
AYES:	All
NAYS:	None
ABSTAIN:	None
DECISION:	Motion Carried (7-0)

CERTIFICATION:

I hereby certify that the above is a true copy of the minutes from the July 23rd, 2026, Planning Commission Meeting of the Gaines Charter Township Planning Commission held at the time and place mentioned above pursuant to the required statutory procedures.

Respectfully submitted,

Lani Thomas,

Secretary

Gaines Charter Township Planning Commission

Date: _____

From: [Karin Sekelsky](#)
To: [Kim Triplett](#); [Bob Terpstra](#); [Michael Brew](#); [Dan Wells](#); [Dakota Swan](#); [Laurie Lemke](#), MiCPT, CPFA; [velderstel@gainestownship.org](#); [fryling@gainestownship.org](#); [Tim Haagsma](#); [Robert DeWard](#); [cliff@bloomsfluggett.com](#)
Subject: Public Comment, Health-Based Objection, and Formal Record Request re Data Center Use Permit
Date: Wednesday, July 15, 2026 7:46:08 PM

Karin Sekelsky

7491 Carpet Rose Drive Caledonia MI 49316

July 15, 2026

To: The Gaines Township Planning Commission & Board of Supervisors
RE: Public Comment, Health-Based Objection, and Formal Record Request regarding Data Center Conditional Use Permit

As an immediately adjacent property owner located less than 1,000 feet from the proposed data center property line, I am filing this formal objection to the developer's baseline offer of a continuous 65 dBA threshold.

According to peer-reviewed clinical research published in the [*Journal of Exposure Science & Environmental Epidemiology*](#), continuous environmental noise exposure operates as a direct physiological stressor heavily linked to cardiovascular system degradation. Epidemiological studies consolidated by the [*World Health Organization \(WHO\)*](#) confirm that unmitigated, long-term industrial sound exposure triggers an elevated risk of arterial hypertension, nocturnal cortisol spikes, and ischemic heart disease (IHD).

Furthermore, data center-specific environmental health assessments published in [*Frontiers in Climate*](#) and [*Eco-Environment & Health*](#) identify the relentless operation of massive server-chilling infrastructure as an emerging public health concern. Independent acoustic research published via the *Infrasonic and Low-Frequency Noise Exposure Analytical Framework* documents that the continuous, narrow-band low-frequency noise (LFN) and infrasound emitted by these mechanical cooling arrays penetrate home structures, causing sleep fragmentation, headaches, and chronic cognitive fatigue in adjacent homeowners.

Because our township lacks a local industrial noise ordinance, the Board has a fiduciary, ethical, and legal duty to insulate residents from these documented hazards by writing strict performance standards directly into this project's **Conditional Use Permit (CUP)** before granting approval. To prevent severe health and property value degradation, I urge the Board to adopt international public health and zoning frameworks—specifically the health-based ceiling established by the [*WHO Night*](#)

[Noise Guidelines](#), which mandates a maximum outdoor evening threshold of **40 dBA** ($(L_{\text{night, outside}})$), alongside European land-use standards establishing a strict **300-meter (approximately 1,000-foot) industrial setback** from residential parcel boundaries. [\[1\]](#)

I formally request that the Board mandate the following five legally binding conditions for project approval:

1. **Bifurcated Noise Caps Linked to WHO Standards:** A maximum of 50 dBA at the **datacenter property line** during daytime hours (7:00 AM – 10:00 PM), dropping to a strict maximum of **40 dBA during nighttime hours (10:00 PM – 7:00 AM)**, measured as a continuous sound level ((L_{eq})). [\[1, 2\]](#)
2. **C-Weighted and Low-Frequency Tonal Penalties:** Because standard dBA metrics artificially filter out low-frequency data center humming, the permit must include a maximum cap of 35 **dB**C at the **datacenter property line**. Furthermore, if an audit detects a "prominent discrete tone" (narrow-band humming or drone), a mandatory 5 dB penalty must be automatically applied to the facility's allowable limits.
3. **Mandatory 8-Meter Acoustical Berm and Dense Vegetation:** To satisfy European environmental shielding protocols, the developer must construct a continuous, structurally sound **earthen berm with a minimum height of 8 meters (approx. 26 feet)** along the property boundaries facing adjacent residential zones. This berm must be densely planted with mature canopy trees and continuous evergreen vegetation to serve as an acoustically soft, low-frequency sound absorption buffer. [\[1\]](#)
4. **Continuous, Public-Facing Real-Time Sound Monitoring:** The developer must fund the installation of a permanent, continuous environmental noise monitoring system along the **datacenter property line** facing adjacent residential areas. This system must be managed by an independent third-party entity, operate 24/7/365, and capture both dBA and dBC metrics. All live acoustic data must be broadcasted in real time to a publicly accessible website, ensuring complete operational transparency for the community. [\[1\]](#)

5. **Mandatory Post-Occupancy Audits:** A requirement that the developer fund an independent, certified acoustical engineer to conduct comprehensive sound testing at the **datacenter property line** 90 days after operations begin, and annually thereafter, to verify the absolute accuracy of the permanent monitoring equipment under full operational load.

Administrative Record and File Request:

Pursuant to local administrative procedures, I request that this letter, the cited scientific journal sources, and these five requested permit conditions be formally added to the **permanent, official project file** for this developer's application, as well as the **township zoning files** associated with my adjacent property parcel. Furthermore, I request that the Township Clerk or Zoning Administrator issue a written confirmation acknowledging receipt of this correspondence and verifying its formal inclusion in the public record.

Sincerely,

Karin Sekelsky

From: [Karin Sekelsky](#)
To: [Kim Triplett](#); [Bob Terpstra](#); [Michael Brew](#); [Dan Wells](#); [Dakota Swan](#); [Laurie Lemke](#); [MiCPT, CPFA](#); [velderstel@gainestownship.org](#); [fryling@gainestownship.org](#); [Tim Haagsma](#); [Robert DeWard](#)
Subject: Re: Mandatory Resident Protections Omitted from Microsoft's 14-Point Proposal
Date: Monday, July 13, 2026 8:14:51 PM

Please put the below in the agenda meeting minutes for July and August meetings. - Thank You!

On Mon, Jul 13, 2026 at 6:20 PM Karin Sekelsky <karinsekelsky@gmail.com> wrote:

Dear Supervisor Terpstra, Planning Commissioners, and Board Members,

As a taxpayer and resident of Gaines Township, I am writing to formally demand that the Planning Commission reject Microsoft's current 14-point rezoning application until five critical, legally binding community protections are added to the contract.

While Microsoft's current proposal attempts to address surface-level concerns, it contains severe technical loopholes that expose our neighborhood to permanent property devaluation, physical health risks, and utility strain. We are actively watching the legal fallout in Mount Pleasant, Wisconsin, where residents have been forced to file a federal class-action lawsuit against Microsoft due to these exact oversight failures.

To protect your constituents against severe nuisance, the Township must extract the following five non-negotiable demands before any rezoning vote occurs:

1 Mandate Drastically Lower Noise Caps, dBC/dBZ Metrics, and Day/Night Multipliers: Microsoft's proposal allows a baseline of 65 dBA, which is far too loud for a residential border. The Township must look to international industrial benchmarks, such as Sweden's strict noise standards, which limit industrial noise affecting residential areas to 50 dBA during the day, 45 dBA in the evening, and a maximum of 40 dBA at night to protect human health and sleep cycles. Microsoft must match these protective limits. Furthermore, because Microsoft's proposal only limits A-weighted decibels (dBA), it completely filters out low-frequency rumble. The contract must mandate that C-weighted (dBC) and unweighted (dBZ) noise levels do not exceed dBA levels by more than 15 decibels at residential property lines. This is the only way to prevent the structural vibrations that cause chronic sleep deprivation and neurological distress. If Microsoft says their tech is too loud to meet European standards, then they do not belong in Gaines Township. Period. They are a trillion dollar company and can afford these measures in Europe. A casual daytime site visit to Wisconsin where one "hears birds chirping" is not scientific evidence of safety. Our community requires legally binding, enforceable contracts that hold a trillion-dollar corporation accountable to the people who built this township. Microsoft will likely balk at the 40 dbA at night, but it is what the World Health Organization is dictating not to cause long term sleep disturbances or a long term health crisis in our residential neighborhoods. The dbC simply must not penetrate any homes!

2 Establish an Escrow-Funded Property Value Guarantee: While Microsoft has agreed not to seek local tax abatements, they have offered zero protections for the individual homeowners whose property values will suffer from living next to an industrial mega-complex. The Township must require Microsoft to fund an independent, third-party escrow account. If a resident within a 1-mile radius must relocate and an independent appraisal proves a drop in market value due to the data center, Microsoft must legally buy out the

property at its pre-development rate, plus moving costs, or cover the financial deficit. If Microsoft is as certain as they claim that this facility is quiet and safe for property values, they should have absolutely no problem signing a Property Value Guarantee. If they refuse to sign it, it proves they know our home values are in danger, and the township must deny the rezoning.

3 Enforceable Hard Caps on Power and Public Water Usage: Microsoft states it will rely on the Byron-Gaines Water System rather than groundwater. However, the proposal lacks a legally binding ceiling on daily consumption. If Microsoft shifts this site into a resource-heavy "hyperscale AI" facility, our infrastructure is at risk. The contract must include an absolute maximum limit on allowed Gallons Per Day (GPD) and Megawatts (MW), giving the Township the power to automatically throttle operations if limits are breached.

4 Independent, Real-Time Community Compliance Monitoring: Microsoft promises a "performance guarantee," but Gaines Township does not possess the staff or specialized technology to monitor a tech giant's real-time emissions. Microsoft must be contractually forced to fully fund permanently installed, independent acoustic and environmental sensors along its borders. This live data stream must be fully transparent, accessible online to the public, and managed by a neutral third-party engineering firm. This again, includes both dBA, dBC, and dBZ.

5 Automatic, Multi-Million Dollar "Stipulated Civil Penalties": Code enforcement actions move too slowly to protect a neighborhood. The contract must outline automatic, non-negotiable financial penalties. Any documented violation of noise, water, or environmental caps must trigger an immediate \$50,000 fine per day, paid directly into a Gaines Township community protection fund.

I request that this letter be entered into the official public record for the upcoming planning meetings, board meetings, as in plural, for the months of July and August. I look forward to your response and your action to protect your constituents.

Sincerely,
Karin Sekelsky

From: [Dan Wells](#)
To: [Karin Sekelsky](#); [Kim Triplett](#); [Bob Terpstra](#); [Michael Brew](#); [Dakota Swan](#); [Laurie Lemke, MiCPT, CPFA](#); [Kathy Vanderstel - Hotmail](#); vanderstel@gainestownship.com; fryling@gainestownship.org; [Tim Haagsma](#); cliff@bloomsfluggett.com
Subject: Re: Property Protection
Date: Thursday, July 23, 2026 4:14:41 PM
Attachments: [image387155.png](#)

Hello Karin,

This will be provided to the Planning Commission this evening.

Thank you.



www.gainestownship.org
dan.wells@gainestownship.org

Dan Wells
Community Development Director
Office: 616-698-6640 Ext.120
Cell: 616-980-6188

From: Karin Sekelsky <karinsekelsky@gmail.com>
Sent: Thursday, July 23, 2026 3:54 PM
To: Kim Triplett <Kim.triplett@gainestownship.org>; Bob Terpstra <Bob.terpstra@gainestownship.org>; Michael Brew <Michael.Brew@gainestownship.org>; Dan Wells <dan.wells@gainestownship.org>; Dakota Swan <dakota.swan@gainestownship.org>; Laurie Lemke, MiCPT, CPFA <laurie.lemke@gainestownship.org>; Kathy Vanderstel - Hotmail <kathy.vanderstel@hotmail.com>; vanderstel@gainestownship.com <vanderstel@gainestownship.com>; fryling@gainestownship.org <fryling@gainestownship.org>; Tim Haagsma <tim.haagsma@gainestownship.org>; cliff@bloomsfluggett.com <cliff@bloomsfluggett.com>
Subject: Property Protection

July 23, 2026

Hello Gaines Township Board Members and Planning Committee,

I can't attend tonight's meeting, but would like the below speech be recorded in the next available meeting minutes. Thank for listening and your support.

Public Comment Speech: 2,000-Foot Property Protection

Good evening, members of the Board and the Planning Commission.

My name is Karin Sekelsky, and I live in Carpet Rose Estates, just one row over from the proposed Microsoft data center parcels.

I am here tonight because this pending rezoning is not just a debate about land use—it is a direct threat to the single largest financial investment of my life. If you approve this project

without strict financial safeguards, you are treating my family, and my neighbors, as acceptable collateral damage.

We have heard a lot about 150-foot setbacks and 8-foot berms: Way too short distances and tiny berms that will not protect us. But low-frequency dBC noise, visual industrial blight, and years of construction dust do not stop at a single fence line, nor a measly 8-foot berm. They travel through open air and vibrate right through the walls of our homes. Our homes function as an amplifier box making the vibrations worse IN the home than outdoors.

Because of this reality, I as a member of Carpet Rose Estates have submitted a formal letter to the record tonight. I am demanding that any final conditional rezoning contract with Microsoft include a Property Value Guarantee and a Proactive Land Buyout Program for all residential properties within a 2,000-foot radius of the campus boundary.

If Microsoft is confident that their engineering will fully eliminate neighborhood impacts, they should have zero objection to legally guaranteeing our home values. If an independent appraisal proves our home values drop because of this industrial campus, Microsoft must make us whole.

Furthermore, if this project forces us to move based on disruptive nuisance as we experience it living here, Microsoft must cover 100% of our relocation costs, including a Tax Differential Subsidy. Under Michigan's Proposal A, our current property taxes are capped. Forcing us to sell means our taxable value resets, punishing us with a massive tax hike on any comparable future home. Microsoft must pay that difference. For residents within 2,000 feet who cannot live with a 50-foot server warehouse in their backyards, Microsoft must offer a voluntary premium buyout option.

YOU have a fiduciary and ethical duty to protect the taxpaying citizens of Gaines Township over the financial interests of a multinational corporation. Do not force us to pay the price for Microsoft's footprint.

We EXPECT these explicit protections to be integrated into the next revised draft of the zoning text.

Thank you.

Karin Sekelsky
7491 Carpet Rose Drive, Gaines Township
Caledonia, MI 49316



PLANNING COMMISSION MEMO

Meeting Date: August 27th, 2026

AGENDA ITEM: 5.A

**REQUEST: Special Use Permit and Site
Plan Review for Mineral Extraction**

**ADDRESSES: 2110 100th Street and
10688 Kalamazoo Avenue**

APPLICANT: Stoneco of Michigan

ZONING: Agricultural-Rural Residential

PROPERTY SIZE: ca. 181 acres

**REPORT BY: Dan Wells, Community
Development Director**



OVERVIEW:

The applicant requests a Special Land Use (SLU) permit and Site Plan Review to permit a ca. 181-acre gravel and sand mine in the Agricultural-Rural Residential zoning district. The Planning Commission has the responsibility to consider a SLU for mineral extraction projects and can review site plans concurrently.

The Planning Commission's role is to review the SLU request for consistency with Section 18.190 Mineral Extraction Special Land Use Approval Standards, and the Site Plan dated August 17, 2026.

Stoneco will move the mined material via a conveyor system used at the Barnaby and Jeplaw pits, no trucking of materials will be undertaken. Work will begin at the north end of the site and move south over time, the mine is expected to be in operation for 6-10 years depending on demand and supply of minable sand and gravel deposits. All processing and sorting will be performed at the current processing facility located at 908 100th Street. After the mine is finished, the land will be regraded and returned to Agricultural-Rural Residential use.

A report has been prepared by Natural Resources Management titled "Special Land Use Permit Application & Site Plan Review for Mineral Extraction", revised August 17th, 2026 (NRM 2026). It is on file in the Planning Department and available for review. NRM also prepared a Comprehensive Environmental Impact Assessment as part of their EGLE permit, which was submitted as part of the SLU application (dated November 24th, 2025).

NRM 2026 includes responses to standards under the zoning ordinance, site plans, and appendices including an Environmental Impact Assessment, Sound Level Compliance Plan, Fugitive Dust Plan, and Construction Sand & Gravel Need and Marketability Analysis. Staff's review of this request using applicable standards from the Zoning Ordinance are included in the Planning Commission packet, but the full appendices associated with this request are not included. Full appendices are available upon request or can be viewed in the digital version of the meeting packet, posted to the Township website.

The Planning Commission should be aware that Michigan sand and gravel mining law limits local government control over aggregate operations, which are generally regulated by Department of Environment, Great Lakes and Energy (EGLE). These regulations aim to facilitate mining of "valuable natural resources" unless "very serious consequences" can be demonstrated.

SURROUNDING ZONING:

	NORTH: Agricultural/Rural Residential	
WEST: Agricultural/Rural Residential	SUBJECT PARCELS	EAST: Agricultural/Rural Residential
	SOUTH: Agricultural/Rural Residential	

PROCESS:

The request for a combined Special Land Use permit and Site Plan Review is subject to the following process:

1. Submittal by applicant (Section 25.20 A-C)
2. Completeness review by Zoning Administrator (25.20 D)
3. If complete, a public hearing shall be scheduled (Section 25.70)
4. Administrative review of special land use and preliminary plan by Zoning Administrator
5. Public hearing (for the SLU) and review and decision by the Planning Commission (Section 25.50)

STANDARDS OF REVIEW:

Mineral extraction uses are permitted in the Agricultural-Rural Residential zoning district if they meet the standards in Section 27.40 Special Land Use Approval Standards, Section 18.190 Mineral Extraction, and Chapter 26.40 Site Plan Review. The Planning Commission shall review all details of the application and submittal to ensure satisfaction of those requirements.

SECTION 27.40 SPECIAL LAND USE APPROVAL STANDARDS

The following special land use approval standards shall be considered by the Planning Commission.

ZONING ORDINANCE AND MASTER PLAN The special land use will be consistent with the goals, intent, and purposes of the Zoning Ordinance and the Master Plan. The associated site plan will comply with all requirements of this Ordinance and satisfy all site plan standards of approval.

Meets Standard. The proposed mining area is currently zoned Agricultural-Rural Residential which allows for mineral extraction with issuance of a SLU permit and is not located close to any properties in the Suburban Residential zoning district. Sand and gravel mining has historically been permitted and carried out to the west of the proposed mine parcels.

Mining is not specifically referenced in the Master Plan, but under state law it's regulated by EGLE, and the state controls permitting. In addition, the Michigan Zoning Enabling Act specifies that local zoning cannot prohibit mining unless it causes "very serious consequences". The thresholds for "very serious consequences" is a high legal bar and must "substantially exceed the ordinary impacts" of customary operations and pose an actual, unavoidable risk to public health, safety, or welfare, often including factors like severe traffic, noise, dust, or damage to property values.

If the Planning Commission determines the proposed mine meets the SLU and site plan review standards, then compliance will be met.

B. USE COMPATIBILITY AND CHARACTER The site plan and buildings associated with the use will be designed and constructed, and the use will be operated and maintained in ways to ensure compatibility with adjacent and nearby land uses. Establishment of the use will not degrade the essential character of the area in which it is proposed. Further, it will not impede the normal and orderly development and improvement of surrounding property and shall not have significant adverse impacts upon adjoining properties or uses.

Meets Standard. The land is currently zoned Agricultural-Rural Residential, which allows for mining, and uses that are generally more intensive than residential. Six residential homes are located within 500 feet of the mine perimeter that will be most impacted both by noise during active mining and the visual impacts once mining is completed. The mine will have to comply with EGLE-Air Quality Division regulations for dust suppression.

Although the noise impacts during mining likely will not reach the threshold for "very serious consequences", the Planning Commission may consider that Stoneco will utilize the conveyor system to move sand and gravel to its processing plant, virtually eliminating heavy truck traffic that would otherwise be necessary.

A 6 to 8-foot-high berm will be constructed of topsoil around the mine perimeter which will limit noise from mining operations and visual impacts of active mining to surrounding homes. This berm will help block views into the active pit, but clearly it's a change from what would be views into level farm fields. Stoneco will seed the berms with an EGLE approved seed mix so the soil is stabilized and the berms are more visually appealing. They will be removed after mining operations are completed as part of the mine reclamation process.

Once the mine is abandoned, the topsoil collected in the berms will be pushed back into the mined area and slopes will be contoured to stabilize the mine walls. Reclamation is monitored by EGLE. Applications for mining permits must include plans for grading, revegetation, and stabilizing slopes to minimize environmental damage, with final reclamation often required to start within three years of closing.

C. PUBLIC SERVICES AND INFRASTRUCTURE The use and its associated buildings and site improvements will be adequately served by essential infrastructure and services, such as roads, stormwater drainage infrastructure, schools, law enforcement, and fire protection;

will not create excessive additional requirements at public cost for infrastructure; and will not be detrimental to the economic welfare of the community.

Meets Standard. No utility extensions will be necessary, and other public services will not be impacted based on any previous or proposed mining operations. Other than initial staging and heavy equipment transportation, heavy truck traffic will be limited due to use of the conveyor system.

D. IMPACT AND NUISANCES The use and its associated buildings and site improvements will not be hazardous or disturbing to existing or future uses in the same general vicinity and in the community as a whole, and it will not involve uses, activities, processes, materials, equipment, or conditions of operation that will be detrimental to persons, property or general welfare by reason of excessive activity, noise, vibration, smoke, fumes, glare, odor, or visual impact.

Substantially complies, condition recommended. The primary effects are noise and dust during active mining activity and visual impacts of an open pit mine both during excavation and after mining is completed. The Township has not received valid complaints regarding smoke, fumes, or odor from existing active mines, other than complaints about stump burning during land clearing, which was a temporary nuisance; the mining operation proposed in this request will not require tree clearing.

The Sound Level Compliance Plan (Appendix B of the Comprehensive Environmental Impact Assessment) identifies the variety of noise generating activities and equipment that will be present during mine operation including mining with heavy equipment, backup alarms, and loading gravel onto the conveyor system. Noise generated by these activities is significantly buffered by the berms and moderated as most mining activity is done below the rim of the berm. Heavy equipment (a “jaw crusher”) will be operating on site that performs an initial sorting of rock and sand before it is put on the conveyor. Noise from the conveyor system is very low, and generally not noticeable beyond 50 feet away.

Based on previous studies undertaken in similar environmental settings, Stoneco does not anticipate excessive vibrations will be created by mining operations, nor be significant at the property boundaries.

The application states that on-site lighting may be utilized during winter hours of operation after sundown and prior to sun-up. Staff has attached a spec sheet of the proposed lighting units, and it seems that there is potential for glare considering their power, potential height up to 23 feet, and use of LED technology. Staff suggests that a condition be placed for a pole height of 15 feet high unless the top of the light is below grade, and that LED lights are limited to 2700 kelvin per residential standards.

E. ENVIRONMENTAL IMPACT The use and its associated buildings and site improvements will not cause environmental degradation or significant change to landscapes, topography, and sensitive natural resources.

Meets standard. Mining is inherently a destructive practice as it removes minerals necessitating topsoil grading, vegetation removal and mass excavation, but the mine will be reclaimed per EGLE regulations, which limits long term degradation. The practice of stockpiling topsoil in berms for later redistribution when mining is complete has been successfully done in other areas of the larger mining operation (portions of 1070 100th Street and 1264 100th Street).

Stoneco has prepared a Comprehensive Environmental Impact Assessment as part of their State permit application which details environmental conditions and impacts.

Four small “pothole” wetlands were located within the proposed mine area, but no regulated wetlands or surface waters are present. The mine will not extend into the groundwater bearing soils and will not affect nearby wells.

F. TRAFFIC The use will not result in unsafe traffic conditions or negative impacts on bicycle and pedestrian travel and shall not create or substantially add to traffic hazards in the area.

Meets Standard. There will be minimal heavy truck traffic to or from the site daily.

G. PRECEDENCE AND REASONABLE LAND USE The proposed use shall not set precedents for development, which could adversely affect the long-term plans or policies of the Township. The proposed use will be reasonable.

Meets standard. Sand and gravel mining activities have been carried out in Sections 29, 32 and 33 of the Township for decades due to the presence of a lens of glacial moraine deposits that are economically viable for mining. The future land use map associated with the 2023 Master Plan indicates that former mines to the East of Kalamazoo Ave are intended to return to agricultural use; the applicant has indicated their intention is to do the same with the subject parcels once mining is complete.

SECTION 18.190 MINERAL EXTRACTION

C. SETBACKS, BUFFERS, AND SEPARATION

1. Setbacks.

a. No excavation shall occur within 100 feet of a road right-of-way; within 200 feet of an off-site residence, housing development, or residential district, and within 100 feet of a property line other than the above limits.

Meets Standard. The site plan indicates conformance with the setback requirements. The 100 foot setback is in effect at the south end of the project adjacent to the Seif property (the mine lessor).

b. The special land use permit may allow mineral extraction within the required setback area set forth above if a property owner or owners, abutting that portion of the site affected by the

minimum setbacks provide written consent prior to the Planning Commission's recommendation of the site plan. However, in no case shall an excavation occur within 200 feet of an off-site residence or 100 feet of a property owned by a non-consenting party.

Meets Standard. The applicant could apply for an amendment if negotiations with adjacent landowners are successful.

2. Land within Setback Areas. Areas within the setback are considered buffer zones that shall remain in a natural state, farmland, woodland, or planted with vegetation. The Township may require berms and/or other screening to reduce sound or vibration impact on neighboring properties when existing vegetation or topography is determined to be insufficient to mitigate impacts.

Meets Standard. Topsoil from the site will be piled along the margins and within setbacks to create a 6-8 foot high berm to block noise and sightlines into the mining area. Areas along residential properties with homes will have additional landscaping (see Site Plan Review below for discussion, and Landscape Plan).

3. Maintenance. Planted vegetative buffers, when required, shall be continuously maintained, and noticeable gaps shall be replanted. Management or thinning is permitted to enhance overall growth if conducted under the guidance of a certified forester or other qualified professional.

Meets Standard. A landscaping plan was provided, which meets the requirements of Chapter 23 (see Site Plan Review below for discussion). NRM 2026 pg. 5 indicates that the berms will be continuously monitored and maintained per EGLE regulations.

4. Markings. Visible posts or markers shall be staked at the excavation limit setback lines every 50 feet during extraction in the active area to warn excavator operators of the limits of site disturbance.

Meets Standard. Marking methods are noted in Operating Plan notes and indicate conformance with markers every 50 feet as required.

5. EGLE Setback. No mining shall take place within the specified distance from the margin of any stream or waterway as established by the Michigan Department of Environment, Great Lakes, and Energy.

Meets Standard. Wetland delineations were carried out in 2025 and indicate that no regulated wetlands are located within the proposed mining area. Any additional wetland studies required by EGLE will be regulated under a state mining permit.

D. PROCESSING PLANTS AND STOCKPILE

1. Setback. Permanent and temporary processing plants and accessory structures shall not be closer than 200 feet from any property line, including the road right-of-way.

Meets Standard. Processing will be undertaken at the 100th Street & Eastern Avenue processing facility ca. 1.15 miles to the west. Mined materials will be transported via a conveyor system.

2. Location. When practicable, the permanent processing plant shall be located within the excavation area, at a point lower than the general level of the surrounding terrain to reduce the visual and noise impact of the plant structure.

Not applicable. Processing will be undertaken at the 100th Street & Eastern Avenue facility.

3. Conveyor Belts and Related Apparatus. Notwithstanding the 200-foot general setback requirement, conveyor belt and related accessories and apparatus may be located closer than 200 feet from any property line (including the road right-of-way) so long as the Planning Commission makes the following findings:

a. Such location will not unreasonably impact the residents of adjoining or nearby properties.

The proposed conveyor system will pass within 150-200 feet of the home at 10195 Kalamazoo Ave. Depending how far down the slope it is placed, it may not be visible or be heard from that home.

b. No other location or alternative is reasonably practicable.

The location and path of the conveyor system is highly dependent on adjacent landowner permission. It is unlikely that any other path is feasible as landowners other than 1856 100th St (previously mined Barnaby parcel) are unlikely to allow a conveyor system across their property.

c. The proposal is consistent with the other mining requirements in Section 18.190

The application meets all the standards for Section 27.40 Special Land Use Approval Standards, Section 18.190 Mineral Extraction, and Chapter 26.40 Site Plan Review.

E. OPERATIONAL PLAN

With the application for a special land use permit, an operational plan must be submitted for review by the Planning Commission and Township Board. At a minimum, the operation plan shall include the following information:

1. The areas to be mined and the proposed phases.

A phasing map has been provided that indicates 11 overall phases. Mining will generally begin in the north and proceed southward. The exception is the last phase, which is at the far north end of the project area closest to 100th Street.

2. The location of permanent structures.

No permanent structures will be constructed on the site.

3. Locations for storage piles.

Overburden from the mine area will be used to build the berms that surround the site, and those soils will be used to partially fill the excavated area when the mine is closed. During active mining operations, materials will be temporarily stored adjacent to the conveyor feeder, so they will move throughout the site.

4. The points of access upon public streets.

The main entrance will be on 100th Street. Two other gates will be opened through the berm, one to allow the conveyor to lead to the west, and one gate accessing the Seif property on the south. The main entrance will be the only one used for vehicle access.

6. Screening and reclamation plans.

A 6- to 8-foot-high berm will surround the property which helps screen sound emitting from the property and views into the property. Additional plantings will be installed along segments of the property which are adjacent to residential homes so that vegetation will grow in over time and further block views into the pit.

Reclamation is regulated by EGLE, and the current plan is to push the topsoil stored in the berms back into the pit, grade it and then stabilize the slopes. At that point the property can be used for Agricultural-Rural Residential uses.

7. Hours of operation.

As with previous Stoneco operations, during the week the mine will operate 7am -7pm Monday through Friday, 7am – 3pm Saturday. All major holidays will be off. This meets the standards under 18.190.I.

8. Estimated type and quantity of mineral materials to be removed.

Stoneco estimates that there is approximately 6.1 million cubic yards of sand and gravel deposits that are available across 143.3 acres. The quality of materials is good for construction and road building.

9. Description of extraction and processing methods.

Once overburden is stockpiled in the berms, heavy equipment will be used to excavate salable materials from the north end of the site. Materials will be stockpiled at the conveyor feeder, loaded and sent to the processing facility at 100th Street & Eastern Avenue.

10. Equipment to be placed on the site.

No permanent equipment will be located on site, only mining vehicles and related support equipment, and temporary conveyor systems which will be extended as mining progresses across the site.

11. A summary of the procedures and practices that will be used to ensure compliance with the requirements of this section.

Meets Standards. Both operational and administrative controls will be employed to meet compliance. The Operational Plan is outlined in NRM 2026, pages 6-8.

F. SECURITY AND SAFETY

1. Signage. Upon commencement of mining operations, the active mining area shall be enclosed by a fence that is no less than four (4) feet in height, and “No Trespassing” signs shall be placed along the fence at least every 100 feet. Fences shall be maintained in an upright position and in good repair.

2. Gate. A gate at the active mining area shall be locked when the mine is not in active operation.

Meets Standards. A welded wire perimeter fence will be installed and no trespassing signs installed at the required intervals. Three gates will be placed that will remain locked when not used for ingress & egress for mining or farming activities.

G. NUISANCE AND IMPACT MITIGATION

1. Noise and Vibration. Noise and vibration shall not be made at a frequency or intensity so as to constitute a nuisance to the general health, safety, and welfare of the residents in the Township and shall be minimized in their effect on adjacent properties by the proper use of berms, walls, screen plantings, and fences.

Meets Standard. NRM 2026 Appendix B includes a Sound Level Compliance Plan that will help reduce the noise generated by mining, material sorting and conveying activities. NRM 2026 also notes that noise is regulated by the federal Mine Safety and Health Agency to protect workers in the vicinity and thus has a positive side benefit of reducing noise at the property boundary. Vibration has not been an issue in past mining activities in the area, nor is vibration expected to be an issue at the proposed mining facility as it is very similar in nature to past/existing mines.

2. Air Pollution and Dust Control. Air pollution in the form of dust and dirt shall be kept at a minimum. Regular dust control practices shall be implemented for general excavation, moving soils, screening, and crushing, and records of activities shall be kept on site. Upon a complaint-based inspection or regularly scheduled inspection, a Township code enforcement official shall inspect the site for unacceptable dust levels. Whether higher dust levels are due to environmental factors (dry season, wind, etc.) or management practices, upon notice, the operator shall proceed with an appropriate and effective dust control action, including but not limited to:

a. As-needed watering of unpaved travel surfaces.

b. As-needed sweeping of internal roads.

c. Paving additional segments of the internal roadway or applying millings.

d. As-needed watering during the crushing operations.

e. A temporary pause of operations should excessive winds result in the ineffectiveness of all other dust control measures.

Meets Standard. Dust from mining operations is regulated by EGLE-Air Quality Division and NRM 2026 Appendix C includes a Fugitive Dust Plan. No paved roads will be used within the active mine, and haul roads will be watered as necessary. No crushing operations are occurring at the mine site that would generate dust.

3. Equipment Operation. All equipment used for the mining operation shall be operated in such a manner as to minimize, to the maximum extent practicable, dust, noise, and vibration conditions that are injurious or substantially annoying to persons living in the vicinity.

Meets Standard. Based on the state and federally required controls on mining activities, the threshold of very serious consequences is not likely to be exceeded due to a lack of processing equipment at the mine, and use of a conveyor instead of semi-trucks to transport materials.

H. INTERIOR ROADS

1. Surface. Interior road surfaces may be gravel, crushed stone, concrete, or asphalt millings. When paving is required, it shall be completed prior to the commencement of operations.

2. Maintenance. Internal roads shall be maintained to reduce potholes and ruts as reasonable.

3. Signs. Internal road signs shall be established, as required by the Township. Required signs may include, but are not limited to: No Engine Brake, Speed Limit, Slow, and Stop.

4. Route. Operations shall incorporate internal circulation routes that minimize the need for truck reverse movements.

Not applicable. No paved interior roads are proposed. If such roads are proposed in the future, they will be subject to an amendment.

I. HOURS AND DAYS OF OPERATION The operation of mineral extraction and processing shall be restricted to the Township-approved hours and days of the week. No operations shall be conducted on Sundays or legal holidays, or at any time over the Memorial Day or Labor Day weekend, or the Independence Day weekend if July 4 falls on a Monday or Friday. The Planning Commission may further restrict hours, days, seasons, or months to minimize nuisance impacts on neighbors or to address public safety considerations regarding road use. In emergency, unanticipated, or unusual circumstances, the hours of operation may be modified for a temporary period not to exceed 14 days upon receipt of the Zoning Administrator's approval.

Meets standard. The mine will operate within the specified hours of 7am-7pm Monday through Friday, 7am-3pm on Saturday, and closed on Sunday. Specified major holidays will be off.

J. FINANCIAL GUARANTEE

1. Guarantee. The operator shall post a financial guarantee for restoration and stabilization determined by the Township. The Township may adjust the guarantee amount at the time of special land use permitting and on an annual basis.

2. Type. The guarantee shall be provided in one (1) of the following forms and approved by the Township: a. Cash. b. Certified check. c. Irrevocable bank letter of credit. d. Surety bond acceptable to the Township Board.

3. Release. Upon Township approval of the reclamation of mined acreage and reduction of net operational area, the bond or security may be released in accordance with the amount or security required per acre.

Meets Standard. The Township Engineer has reviewed the reclamation requirements and estimates a security deposit of \$726,000 will be necessary based on \$6,000 per acre of mined area within 30 days of active mining activity. Staff recommends that this be a condition of approval.

K. VERY SERIOUS CONSEQUENCES

1. Additional Review and Inquiry. In the event the Planning Commission determines that the application for a special land use permit for mineral extraction does not satisfy the standards in this section or those in Sections 26.40 and 27.40, the Planning Commission shall conduct an additional inquiry to determine whether a special land use permit must nevertheless be granted in order to comply with Section 205 of the Zoning Enabling Act, MCL 125.3205. In conducting this inquiry, the burden is on the applicant to show that there are valuable natural resources located on the subject property, that there is a need for the natural resources by the applicant or in the market served by the applicant, and that no very serious consequences would result from the extraction, by mining, of the natural resources. To determine whether very serious consequences would result from the proposed mining activity, the Planning Commission shall consider:

a. The relationship of extraction and associated activities with existing land uses.

b. The impact on existing land uses in the vicinity of the property.

c. The impact on property values in the vicinity of the property and along the proposed hauling route serving the property, based on credible evidence.

d. The impact on pedestrian and traffic safety in the vicinity of the property and along the proposed hauling route serving the property.

e. The impact on other identifiable health, safety, and welfare interests in the local unit of government.

f. The overall public interest in the extraction of the specific natural resources on the property.

2. Approval and Conditions. If the Planning Commission determines that the applicant has satisfied its burden with respect to these issues, it shall grant the requested special land use permit on reasonable conditions, notwithstanding any other provision of this Ordinance.

Meets Standards, unless the Planning Commission finds that special land use or site plan review standards are not met.

NRM 2026 includes a Construction Sand and Gravel Need and Marketability Analysis which establishes that there are approximately 6.1 million cubic yards (8.6 million tons) of valuable construction sand and gravel present on site, and that there's a need for them in the local market due to sand and gravel being non-renewable resources which are in high demand to support Kent County's continued growth.

Staff has excerpted several additional sections of Section 205 of the Zoning Enabling Act (MCL 125.3205) below for reference.

(3) An ordinance shall not prevent the extraction, by mining, of valuable natural resources from any property unless very serious consequences would result from the extraction of those natural resources. Natural resources shall be considered valuable for the purposes of this section if a person, by extracting the natural resources, can receive revenue and reasonably expect to operate at a profit.

(4) A person challenging a zoning decision under subsection (3) has the initial burden of showing that there are valuable natural resources located on the relevant property, that there is a need for the natural resources by the person or in the market served by the person, and that no very serious consequences would result from the extraction, by mining, of the natural resources.

(6) Subsections (3) to (5) do not limit a local unit of government's reasonable regulation of hours of operation, blasting hours, noise levels, dust control measures, and traffic, not preempted by part 632 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.63201 to 324.63223. However, such regulation shall be reasonable in accommodating customary mining operations.

Property values, addressed under K.1.c, will likely be an issue of concern for residents. Staff has assembled a comparison of arms-length sale values for several properties close to historic mine operations in the area.

Address	Prior Sale Year and Value	Most Recent Sale	2026 Value*
10195 Kalamazoo Ave	1996 - \$123,000	2022 - \$317,100	\$398,100
1320 100th St SE	2012 - \$137,500	2022 - \$355,000	\$453,900
1533 100th St SE	2007 - \$52,500	2021 - \$300,000	\$408,600

*Per Zillow

K.1.f (public interest) is addressed in NRM 2026, page 13. Staff finds this statement to be adequate to establish public interest.

SECTION 26.40 SITE PLAN STANDARDS OF APPROVAL

A site plan must also meet all of the standards of this section.

A. ZONING COMPLIANCE AND COMPATIBILITY Site plan proposals shall conform to all zoning district requirements (Chapters 4 to 13, as applicable), land use regulation (Chapter 15), building requirements (Chapter 16), general requirements (Chapter 17), and any applicable specific use requirements (Chapter 18). If necessary, variances shall be secured prior to the Planning Commission's approval (Chapter 30). Site planning shall consider both zoning compliance and compatibility with adjacent properties and land uses. All uses, structures, and buildings will fully comply with this Ordinance and all other applicable Township ordinances.

Meets standard. Staff found that this request demonstrates compliance with all applicable requirements outlined in the Zoning Ordinance which are mentioned above. The application includes details pertaining to lighting, specific land use requirements for mining operations, and specific zoning district requirements.

B. LIGHTING

No permanent lighting will be placed on the site. Mobile lighting using trailers with telescoping light poles may be used during fall-winter-spring months when sunlight is inadequate for operations. The Applicant states that all lighting will face downward so that it will not glare onto adjoining property. Spec sheets for the light trailers is attached. As discussed in "D. Impacts and Nuisances" above, Staff suggests that a condition be placed for a pole height of 15 feet high, and that LED lights are limited to 2700 kelvin per residential standards.

C. PARKING AND LOADING Parking lot design shall demonstrate compliance with all dimensional and circulation requirements and shall be arranged to provide safe and

convenient access to buildings and land uses (Chapter 20). If applicable, stacking and loading spaces shall be designed to minimize the impact on internal circulation routes and offsite traffic patterns.

Not Applicable. No parking lots will be established.

D. MOBILITY, TRAFFIC, AND ACCESS Pedestrian and bicycle travel shall be accommodated in accordance with this Ordinance (Section 21.20). Acceptable traffic conditions shall be maintained (Section 21.30). Driveway placement, connectivity, and shared access shall be designed to promote safe and efficient access to and from the site and circulation within the site. Compliance with access management requirements shall be demonstrated (Section 21.40). All sites and buildings shall be accessible to emergency service vehicles and personnel to respond to emergencies and calls for service. Streets and driveways shall conform to the requirements of Chapter 22.

Section 21.20 and Chapter 22 Not Applicable. Pedestrian and bicycle accommodations are not necessary for the project, and streets will not be constructed.

Section 21.30 Meets Standard. Very little traffic will be generated by the project and existing County primary roads will serve it.

Section 21.40 Meets Standard. One driveway will be established onto 100th Street for egress & ingress of vehicles and equipment, and any necessary permits from Kent County Road Commission will be obtained.

E. LANDSCAPING, SCREENING, AND ENVIRONMENTAL PROTECTION All applicable landscaping, buffering, screening, and environmental requirements shall be satisfied (Chapter 23), and sites shall not be significantly disturbed in ways beyond what is appropriate for the reasonable development of a site. Site plans shall demonstrate that the impact of exterior uses and activities is minimized by required landscaping and screening.

Meets Standard. A landscaping plan with screening plantings has been submitted that exceeds landscaping ordinance requirements for screening industrial operations from residential uses (Type B buffer as outlined in Chapter 23, Table 23.60). The landscaping plan also indicates areas that have existing hedgerows and tree lines which will provide screening. Staff would note that the screens have been placed where the direct impact to residences occurs; although screening has not been applied to the entire perimeter of the mine site, the berm will encompass the entire site.

Trees and shrubs for screening are placed on the outside edge of the berms. The intent is that the berm will screen for the short-term, and by the time of removal, vegetation will be mature enough to screen the view into the reclaimed mine.

The applicant specified that new berms used for screening would be grassed and vegetation would be maintained per EGLE standards. This treatment is appropriate for mine boundaries adjacent to undeveloped land.

Staff finds this treatment to be adequate in the case of landowners with homes that look directly into the mine area, particularly along the western side of the mine. From a homeowner's perspective, the change in viewshed from farm fields to a berm is significant, and in the long term they will be looking into the abandoned mine.

The Planning Commission has the authority to modify landscaping requirements under Section 25.100.

F. STORMWATER AND WATER QUALITY Stormwater detention, retention, and drainage systems shall be designed to protect neighboring properties from the negative impacts of increased stormwater run-off and flooding. Systems shall be designed to function with public stormwater drainage systems under the authority of the Kent County Drain Commission, Kent County Road Commission, or the Michigan Department of Transportation (MDOT).

Meets Standards. Stormwater on the site is regulated by Kent County Road Commission, and a Soil Erosion and Sedimentation Control permit will be obtained. No stormwater discharge will be necessary from the property; all stormwater will be retained on site.

G. SIGNS Proposed signs shall meet dimensional and location requirements and shall be placed in locations that limit driver distraction and prevent visual clutter (Chapter 24).

Meets Standards. No signs are proposed on the expansion property with the exception of the "No Trespassing" signs that will be placed along the perimeter fence at least every 100 feet. Any additional signage will need to meet Agricultural-Rural Residential standards.

H. WATER AND SEWER Public water and sewer connections shall be approved by the Byron Gaines Utility Authority (BGUA) in accordance with Section 17.90 B as applicable. The site plan will not overburden BGUA's ability to provide public services, while at the same time adequately providing for sewage collection and treatment.

Not applicable. No water or sewer connections are proposed for this project.

I. OUTSIDE AGENCIES Applicants shall secure all applicable outside agency approvals, including but not limited to the Kent County Health Department, Kent County Road Commission, Kent County Drain Commission, Fire Department, and State of Michigan regulatory agencies. Securing applicable approvals may also be a condition of approval if not received prior to the Planning Commission review.

Meets Standard.

Kent County Road Commission: Stoneco will apply for a Soil Erosion and Sedimentation Control permit (SESC) with the Road Commission.

EGLE: Stoneco has met wetland obligations, and will apply for a construction stormwater permit once the County SESC permit has been obtained.

Kent County Drain Commission, Fire Department, and Kent County Health Department: No permits are required for this project with these agencies.

All permits will be obtained prior to commencement of operations, and a copy will be provided to the Township.

STAFF RECOMMENDATION

For both the special land use and the site plan, Staff recommends approval with the following conditions:

A security deposit for restoration of \$726,000 is required within 30 days of beginning active mining activity. Any letters of credit or other security instruments shall be reviewed and subject to approval by the Township Attorney.

Mobile light poles be limited to a height of 15 feet high unless the top of the light is below natural ground level grade, and that LED lights are limited to 2700 kelvin per residential standards.

Planning Commission decisions are limited to the following:

1. Approval.
2. Approval with conditions.
3. Denial, based on a determination the application does not meet one or more standards.
4. Postpone decision.

From: [Jeff Gritter](#)
To: [Dan Wells](#); [Pat Quick](#)
Cc: [Nate Bosma](#); [Dakota Swan](#)
Subject: Re: Seif SUP Application
Date: Tuesday, August 4, 2026 11:17:46 AM
Attachments: [image001.png](#)
[image013923.png](#)
[image901219.png](#)
[image573167.png](#)
[image643151.png](#)
[image218962.png](#)
[image329431.png](#)
[image707891.png](#)
[image677826.png](#)

Hi Dan,

We have reviewed the updated information submitted for the proposed mineral extraction PUD on the Seif properties near Kalamazoon Avenue between 100th Street and 108th Street. We have no additional comments to make at this time. We note that some of the comments made in our February 5, 2026 review letter have been addressed and we expect that the remaining items will be conditions of the Township if the mining PUD is approved.

thanks,

Jeff Gritter, P.E.

VK Civil
c. (616) 292-8242
o. (616) 277-2185
www.VKcivil.com

From: Dan Wells <dan.wells@gainestownship.org>
Sent: Tuesday, August 4, 2026 9:12 AM
To: Jeff Gritter <jeff@vkcivil.com>; Pat Quick <Pat.Quick@gainestownship.org>
Cc: Nate Bosma <nbosma@vkcivil.com>; Dakota Swan <dakota.swan@gainestownship.org>
Subject: Fw: Seif SUP Application

Jeff & Pat,

I don't think I sent these revised plans! I doubt they impact the previous plan review, but if you could take a look and revise your review if necessary I'd appreciate it.



www.gainestownship.org
dan.wells@gainestownship.org

Dan Wells
Community Development Director
Office: 616-698-6640 Ext.120
Cell: 616-980-6188

From: Fisher, Austin (Michigan Paving & Materials Company) [REDACTED]
Sent: Tuesday, July 21, 2026 2:26 PM
To: Dan Wells <dan.wells@gainestownship.org>; Singer, Garrett (Michigan Paving and Materials) [REDACTED]
Cc: Dakota Swan <dakota.swan@gainestownship.org>; Jakiemiec, Mason (Stoneco, Inc. - Michigan) [REDACTED]; Lenon, Dan (Michigan Paving and Materials) [REDACTED]
Subject: Re: Seif SUP Application

Dan,

Attached is our updated application pending the ordinance approval for conveyors in the setback areas. We updated and provided more detail to the screening areas with the appropriate native type plantings. Let us know if you have any initial feedback. Due to the size of the files we are sending these to you via a google link 130MB in size. Can you confirm the receipt of our documents?

https://drive.google.com/file/d/152HIO8P_WK9BgDkC1baHo6h8pG3TNDNV/view?



February 5, 2026
1583

Via Email: Dan.Wells@gainestownship.org

Dan Wells, Director of Community Development
Gaines Charter Township
8555 Kalamazoo Avenue, SE
Caledonia, MI 49316

RE: StoneCo of Michigan – Mineral Extraction Site Plan Review
Section 33, Gaines Charter Township

Dear Dan:

We have reviewed the proposed Mineral Extraction Site Plan submitted by StoneCo of Michigan dated December 18, 2025 for the properties located at 2110 100th Street (approx. 45 acres) and 10688 Kalamazoo Avenue (approx. 136.2 acres). We provide the following comments for the consideration of the Applicant and the Planning Commission:

1. The proposed drive entrance to 100th Street, the proposed tunnel under Kalamazoo Avenue, the proposed tunnel under Pease Avenue, and all other work in the public street right-of-way will require the review and approval of the Kent County Road Commission. Evidence of Road Commission approvals should be submitted to the Township for their records prior to the start of any mineral extraction on the properties above.
2. We recommend that the Applicant update the cover sheet indicating adjacent properties with names, addresses, and parcel numbers.
3. The Applicant has indicated that the end use plan for the properties included in the proposed mineral extraction will be a returned to an agricultural use; we assume this means row crop production, and we find this to be consistent with the existing land uses in the area.
4. The Applicant has indicated that dust control will be accomplished with water trucks and if necessary, the addition of chloride treatment to facilitate the dust control efforts. We find that this is acceptable for dust control for this proposed mineral extraction.
5. The Applicant has proposed a berm of 6 to 8 feet around the entire mineral extraction area. We find that this is acceptable for mitigation of noise that may result from the mineral extraction activities proposed on the site.
6. Stormwater runoff from the areas of mineral extraction will not be directed offsite and we find that this is acceptable for managing stormwater runoff from the impacted areas of the properties.

7. We recommend that the Applicant provide copies of all EGLE permits or other permits related to the proposed mineral extraction to the Township.
8. The Applicant has indicated that all mineral extraction will take place at an elevation that is above the existing ground water table. The Applicant has also included well logs for surrounding residential wells and we find that the Applicant's mineral extraction activities should have no impact to the groundwater.
9. The Applicant has indicated that the existing processing plant is located southeast of the intersection of Eastern Avenue and 100th Street and no additional processing is proposed on the properties included in the application for the mineral extraction.
10. We recommend that the Township includes a condition of approval that no outside materials be imported to the site for stock piling, processing, crushing, or any other purpose.
11. We recommend that the Township require a performance bond (or other financial guarantee) in the amount \$6,000/acre for restoration of all disturbed areas of the mineral extraction including the area occupied by the processing plant and stockpiles so that if the mining operator cannot or will not restore the site to a stable condition the Township may utilize the performance bond to restore the parcels impacted.
12. The Applicant indicates that the mineral extraction will begin toward the north end of the properties and continue to the south and east ends of the properties. We recommend the Applicant provide a phasing plan as a condition of approval. We further recommend that the Applicant update the phasing plan annually.
13. We recommend that the Township require an annual review of the mineral extraction activities if the application is approved to review the progress and planned annual activities on the sites.

If you have any questions, concerns, or require additional information, please do not hesitate to contact our office.

Sincerely,

VK Civil



Jeffrey M. Gritter, P.E.

JMG/nfb

Dan Wells, Director of Community Development

February 5, 2026

Page 3

- c. Bob Terpstra, Gaines Township Supervisor
Connie Giarmo, Chair of Planning Commission
Dakota Swan, Assistant Planner
Paul Sheeley, Fire Chief
Pat Quick, Fire Marshall
Cliff Bloom, Bloom Sluggett, PC
Erik Easterly, P.E., Kent County Road Commission
Dave Beck, Kent County Road Commission
Austin Fisher, StoneCo of Michigan, Inc.

**COMPREHENSIVE
ENVIRONMENTAL IMPACT ASSESSMENT**

100 St SE

**Parcel ID: IDs 41-22-33-100-022 (eastern half),
41-22-33-200-010, and 41-22-33-400-005**

**Gaines Township/
Kent County, Michigan 49316**

November 24, 2025

Report Prepared For:

Stoneco of Michigan
3700 Patterson Road
Middleville, MI 49333

Report Prepared By:



13923 Sherman-White Rd.

Swanton, OH 43558

419-841-3232

www.NRMsolution.com

Frank "Chip" Tokar, Jr., CPG
Certified Professional Geologist

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Appendix II	10392 & 10388 Kalamazoo Avenue, Groundwater & Surface Water Evaluation
Appendix III	IPaC Report and Nationwide Standard Conservation Measures
Appendix IV	Field Assessment Photo Log

1.0 Introduction

1.1 Purpose

Natural Resource Management, LLC (NRM) has prepared a Comprehensive Environmental Impact Assessment (EIA) for the proposed expansion of a sand and gravel mining operation in Caledonia, Michigan. This report is intended to summarize the current and expected environmental condition of the property prior to, and at the completion of, the proposed project. The assessment has been prepared by environmental professionals with experience in evaluation of environmental conditions, particularly to mining of minerals. This report is a comprehensive summary and contains supporting documents in the Appendices and references a Site Plans set submitted to Gaines Township Planning Commission for Site Plan Review for the proposed project. This assessment is an initial assessment of the current conditions, and it is intended that NRM will conduct periodic site visits during 2026 to establish seasonal variation in the site conditions described herein.

This report was prepared for the benefit of Stoneco of Michigan (Client) and to support Stoneco of Michigan in an application for a Special Land Use (SLU) Permit for review by the Gaines Township Planning Commission. These entities may rely upon the contents and conclusions in this report. Any use a third party makes of this report, or any reliance upon it, or any decisions based on it, are the sole responsibility of the third party. A third party is not afforded the status of a third-party beneficiary unless NRM expressly agrees in writing to such a third party.

1.2 Description Of Proposed Action

The existing conditions of the project site are presented on Sheet 1. The proposed project can be generally described as removing the overburden (topsoil and clayey material) and subsurface sand and gravel (minerals) above the groundwater table. The proposed operation will consist of dry mining only. The minerals will be processed for construction aggregate and used in various building and road construction projects, concrete, and asphalt production, reclamation of the disturbed areas on the project site, and various other end-uses.

Mining will be conducted by excavating the overburden materials, which consist of topsoil and clay, to a depth where the sand and gravel occur. Overburden will be stockpiled and used in the construction of earthen berms around the project site perimeter and active mining areas. Removal of the overburden will expose the sand and gravel, which can then be extracted by service vehicles, fuel trucks, excavators, dozers, and haul trucks. The material will be trucked, conveyed, or otherwise transported to the processing plant area and stockpiles. The final reclamation is presented on Sheet 2. Final reclamation of the project site as proposed is to restore the land to its original use of agricultural.

The purpose of this report is to describe the current environmental setting of the project site, adjacent property, and provide a professional opinion and statement addressing potential for environmental impacts that may result from the proposed use, associated buildings, and site improvements. The EIA is based upon the various evaluations and site investigations summarized herein. This report will address the required information as detailed below and set forth in the Gaines Charter Township Zoning Ordinance Section 27.40, Items D, E, and F effective as of April 24, 2025.

D. IMPACT AND NUISANCES

The use and its associated buildings and site improvements will not be hazardous or disturbing to existing or future uses in the same general vicinity and in the community as a whole, and it will not involve uses, activities, processes, materials, equipment, or conditions of operation that will be detrimental to persons, property or general welfare by reason of excessive activity, noise, vibration, smoke, fumes, glare, odor, or visual impact.

E. ENVIRONMENTAL IMPACT

The use and its associated buildings and site improvements will not cause environmental degradation or significant change to landscapes, topography, and sensitive natural resources.

F. TRAFFIC

The use will not result in unsafe traffic conditions or negative impacts on bicycle and pedestrian travel and shall not create or substantially add to traffic hazards in the area.

The information contained herein is based upon site-specific and generally available information gathered during the course of the study obtained from desktop research and other investigative work compiled by NRM and its subcontractors.

2.0 Environmental Setting

2.1 Project Location

The subject property consists of 41-22-33-100-022 (eastern half), 41-22-33-200-010, and 41-22-33-400-005, which are displayed in Figure 1, totaling approximately 213 acres. It is located east of the intersection of Kalamazoo Ave SE and 100th St SE. A review of historical aerials via Google Earth and NetOnline shows the subject property has largely been utilized for active agricultural activities dating back to at least 1955. The upper northwest quadrant of the subject property consists of natural vegetation.

All parcels within the subject property are zoned as A/RR – Agricultural/ Rural Residential. All adjacent parcels located within Gaines Charter Township are also zoned as A/RR – Agricultural/ Rural Residential except for the northwest adjacent parcel which is zoned as PUD – Planned Unit Development. Zoning designations described herein were obtained from the Gaines Charter Township Official Zoning Map approved on 04/14/2025 and are shown in Figure 2.

Figure 1: Project Site Location Map

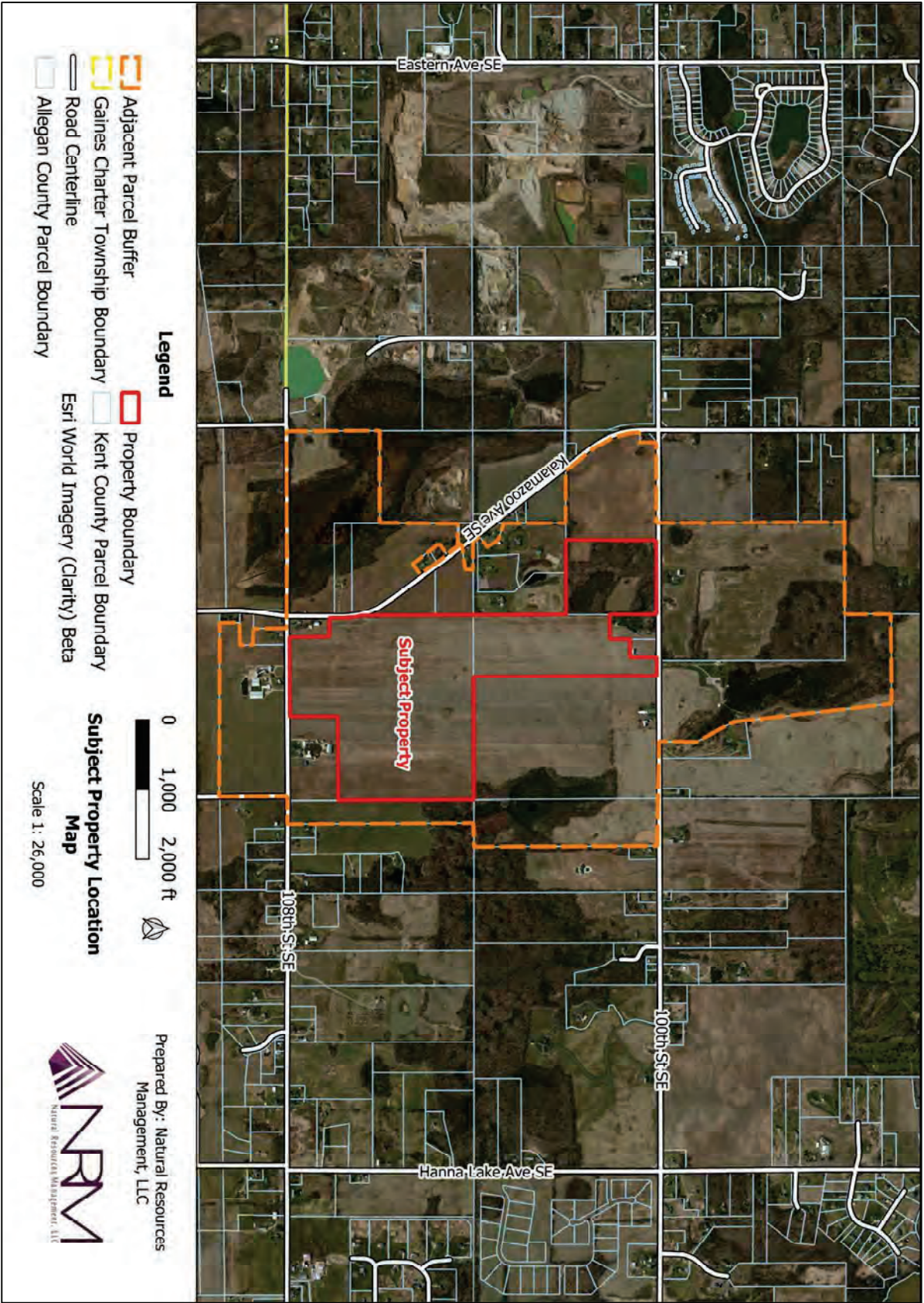
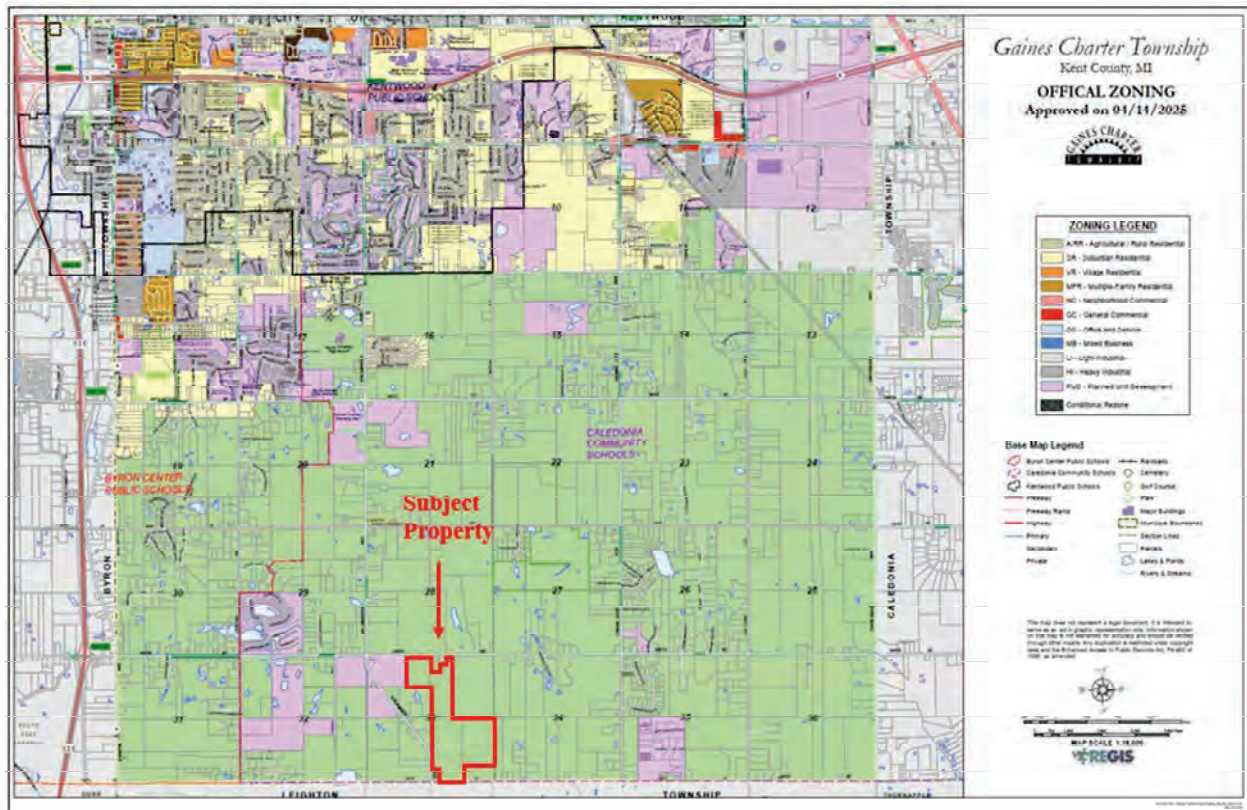


Figure 2: Existing Zoning Map



2.2 Current Physical Setting

The current physical setting of the project site can be described as primarily agricultural cultivated land. Topographic elevations on the project site range approximately 835 ft to 885 ft (NAVD88). The site has a series of gently rolling hills throughout with higher elevations located in the northwest and lower in the southeast. Topography of the project site is presented in Figure 3 below and in the site plan Sheets.

Wetlands are located in the vicinity of the project site and are discussed in detail in Section 3 of this report and include a description of the watershed. A detailed description of the soils is presented in Section 4.1 of this report. Hydrology is further characterized in Section 4. Flora and fauna are discussed in Section 5 of this report.

Figure 3: Project Site Topographic Map (USGS Caledonia Quad 2023)

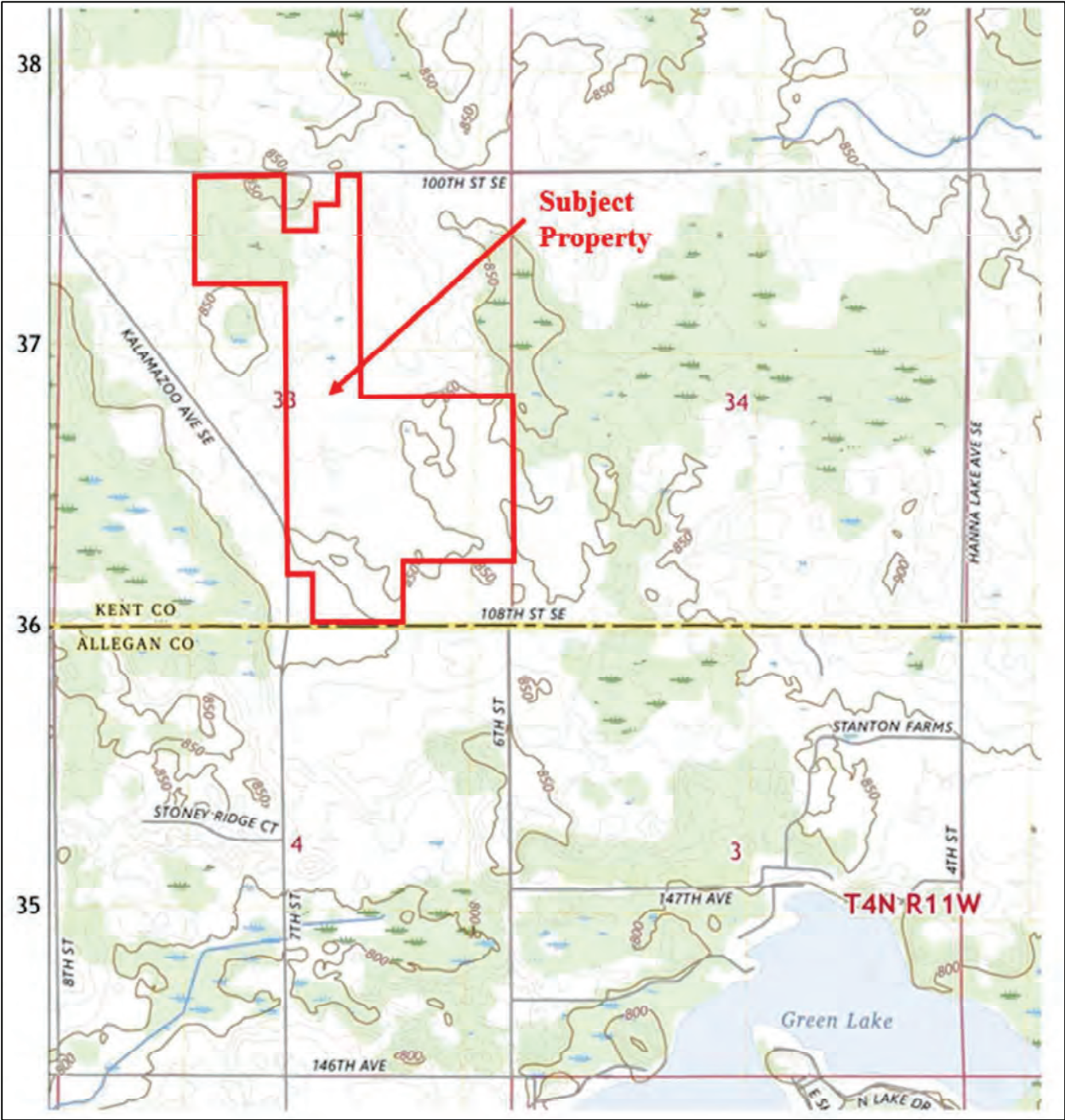
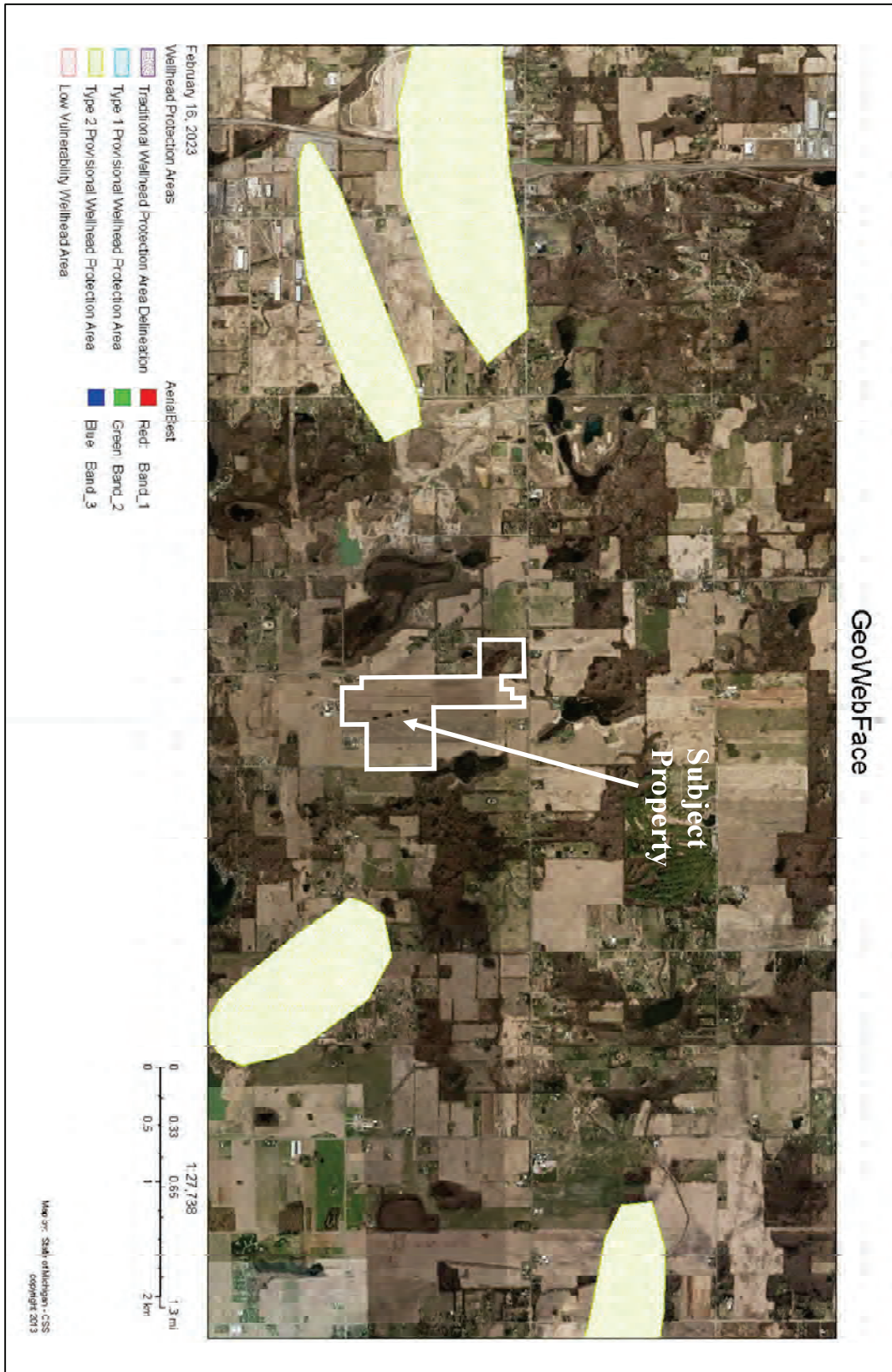


Figure 4: Wellhead Protection Area Map



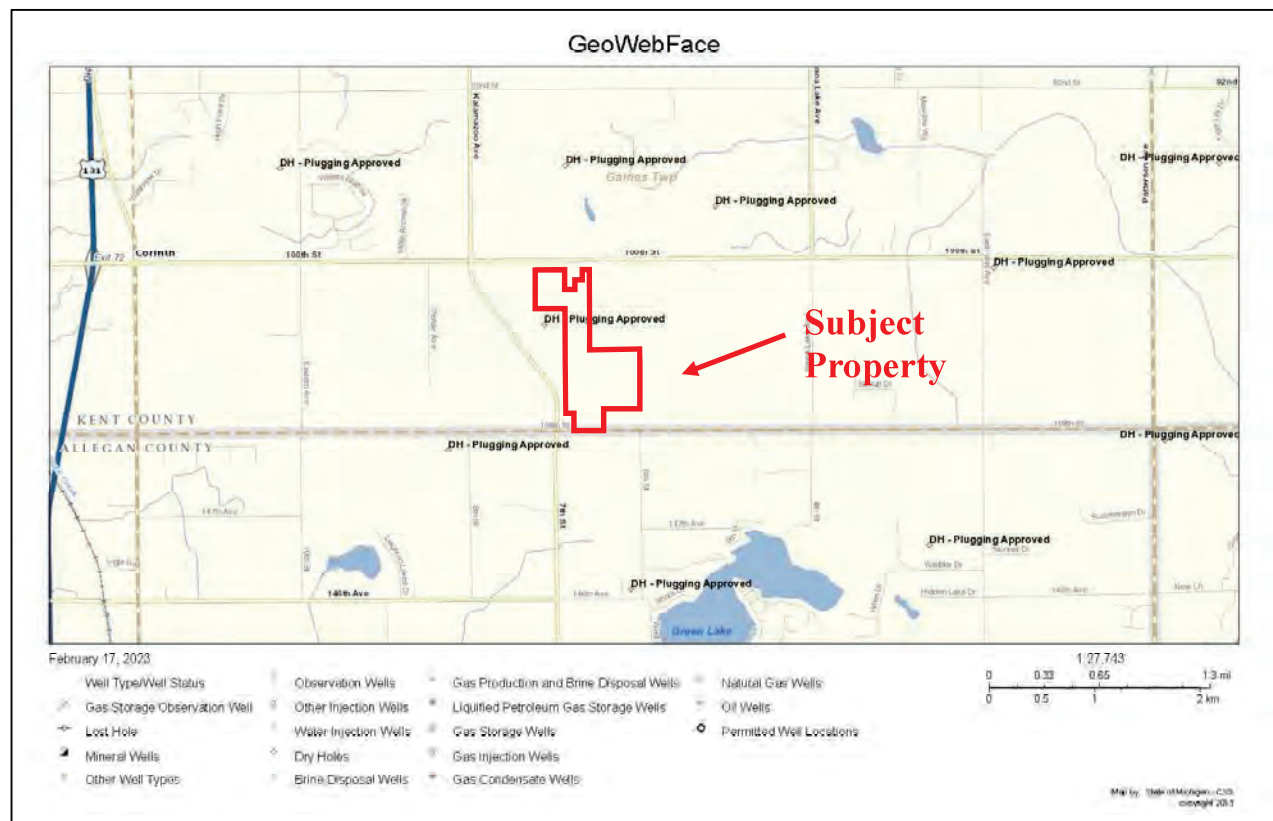
2.3 Historical Physical Setting

Aerial photographs via Google Earth of the project site and its vicinity dated 1999, 2004, 2006, 2009, 2010, 2011, 2014, 2016, 2018, 2021, 2022, and 2025 were reviewed and summarized herein. In summary, the project site and surrounding area consists mainly of agricultural fields and naturally vegetated areas with little to no change apart from recent mining activity in the northwest adjacent parcels.

2.4 Oil and Gas Wells

An NRM geologist conducted historical desktop research with the readily available information regarding the potential for oil and gas wells to be located on the subject property. This research was conducted using online records published by Michigan Department of Environment, Great Lakes, and Energy (EGLE) via GeoWebFace. No mapped oil or gas wells were identified on the maps for the subject property. The nearest oil and gas wells shown on the maps were two locations labeled “dry holes”; located west of the property near Kalamazoo Ave and another south of 108th St. Review of the well log records reported the dry holes were plugged oil and gas boring locations and were not producing wells. The locations of the plugged dry holes are shown in Figure 5.

Figure 5: Oil and Gas Wells Map



3.0 Natural Features

A natural features inventory was conducted for the project site. A discussion of the inventory and analysis is presented below.

3.1 Soils

A review of the NRCS Web Soil Survey (USDA Natural Resources Conservation Service) indicated multiple mapped soil types found within the subject property. The property predominantly consisted of non-hydric soils including but not limited to; Kalamazoo Loam(s) (67B, 67C, and 67D/ hydric ratings of 2) and Marlette Loam (83B/ hydric rating 2). Small pockets of mapped hydric soils were limited to the northwest quadrant of the subject property and included Houghton Muck(s) (HgtacA and HgtakaA/ hydric ratings of 100) and Sebawa and Pewamo Loam (73 and 47/ hydric ratings of 95 and 92 respectively). Soils are further discussed in Section 4.0.

3.2 Wetlands, Lakes, Ponds, and Streams

A wetland delineation completed at the project site determined that 13 wetlands are present within the subject property however, only 2 (Wetlands 1 and 8) are likely to be regulated by EGLE concurrent with Part 303 and are not located in the active mining areas where ground surface will be disturbed. According to the Michigan EGLE Part 303 rules, wetlands are regulated in Michigan if they are any of the following:

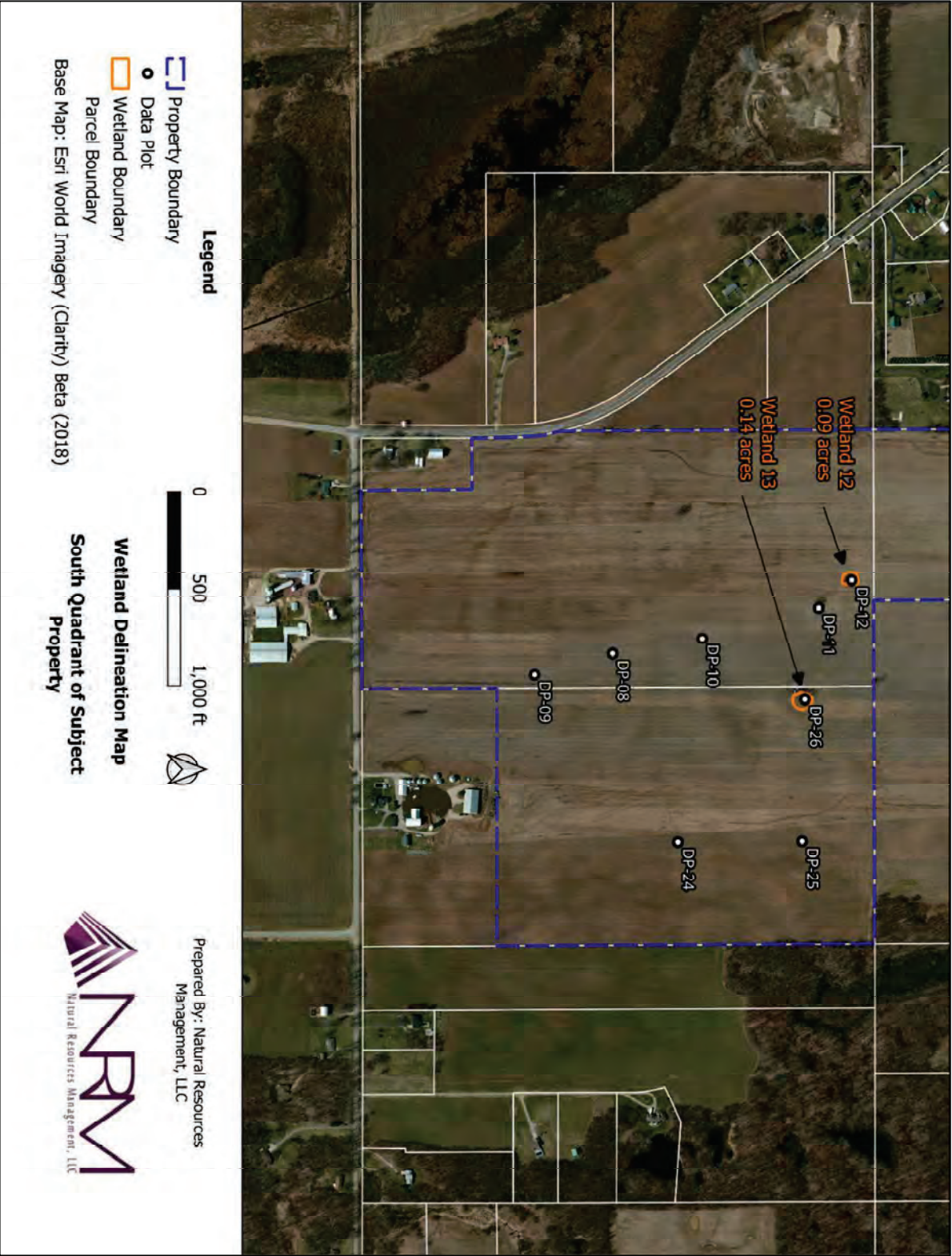
- Connected to one of the Great Lakes or Lake St. Clair.
- Located within 1,000 feet of one of the Great Lakes or Lake St. Clair.
- Connected to an inland lake, pond, river, or stream.
- Located within 500 feet of an inland lake, pond, river, or stream.
- Not connected to one of the Great Lakes or Lake St. Clair, or an inland lake, pond, stream, or river, but are more than 5 acres in size.
- Not connected to one of the Great Lakes or Lake St. Clair, or an inland lake, pond, stream, or river, and less than 5 acres in size, but EGLE has determined that these wetlands are essential to the preservation of the state's natural resources and has notified the property owner.

No lakes, ponds, or streams were identified within the project site. The assessment was conducted on September 25 and 29, 2025. Field data was collected, boundaries were flagged, and a formal delineation report was issued. The on-site wetland boundaries are displayed in Figure 6A-B. For additional information, please see the full wetland delineation report.

Figure 6A: On-Site Wetland Boundary (North)

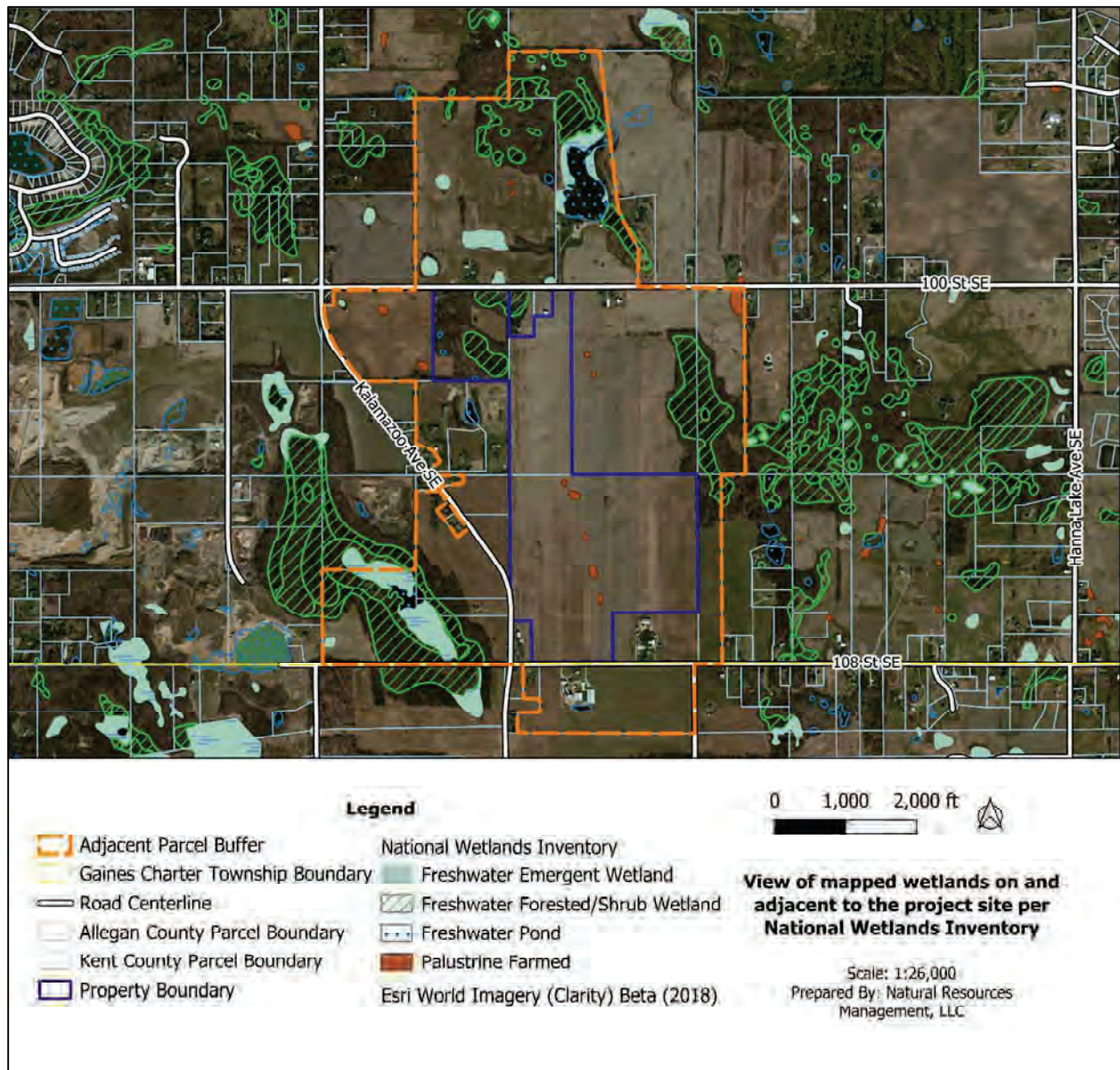


Figure 6B: On-Site Wetland Boundary (South)



According to the National Wetlands Inventory maps, there are additional wetlands outside of the property boundary and within the adjacent parcel buffer. Determining the exact boundaries of off-site wetlands would require a full delineation and review of property not owned or impacted by the applicant and therefore, NRM has estimated wetland coverage from the available wetland inventory maps. These areas are presented in Figure 7.

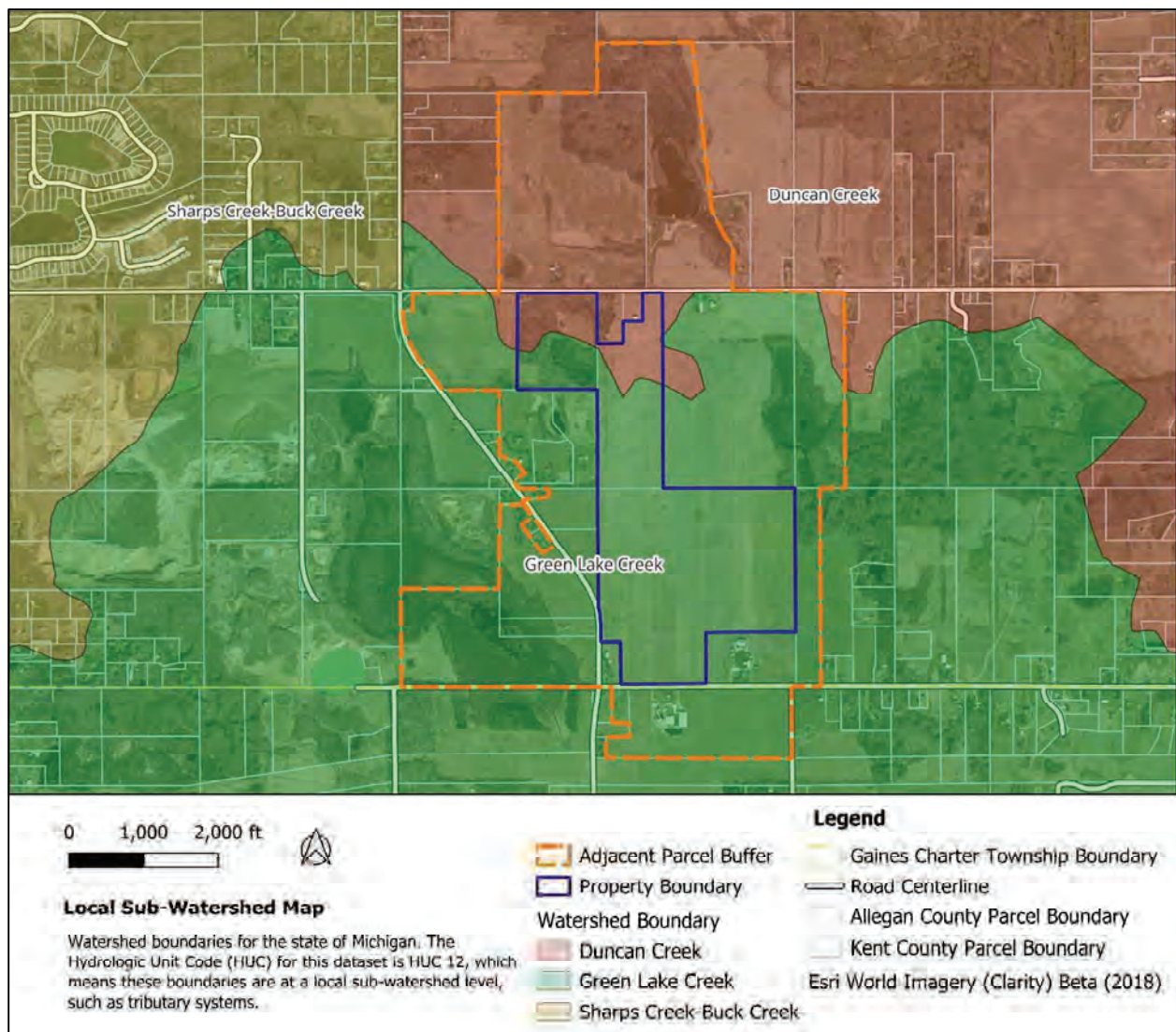
Figure 7: National Wetlands Inventory Map with Buffer



3.3 Watershed Determination

A description of the watershed characteristics of the project site and surrounding properties is shown in Figure 8. In summary, the project site is near the intersection of three (3) local sub-watersheds. Most of the project site and the adjacent parcels are situated in the local sub-watershed of Green Lake Creek. Only the northern portion intercepts with the local sub-watershed of Duncan Creek. The site is located approximately 1 mile northwest of Green Lake.

Figure 8: Site Watershed Map

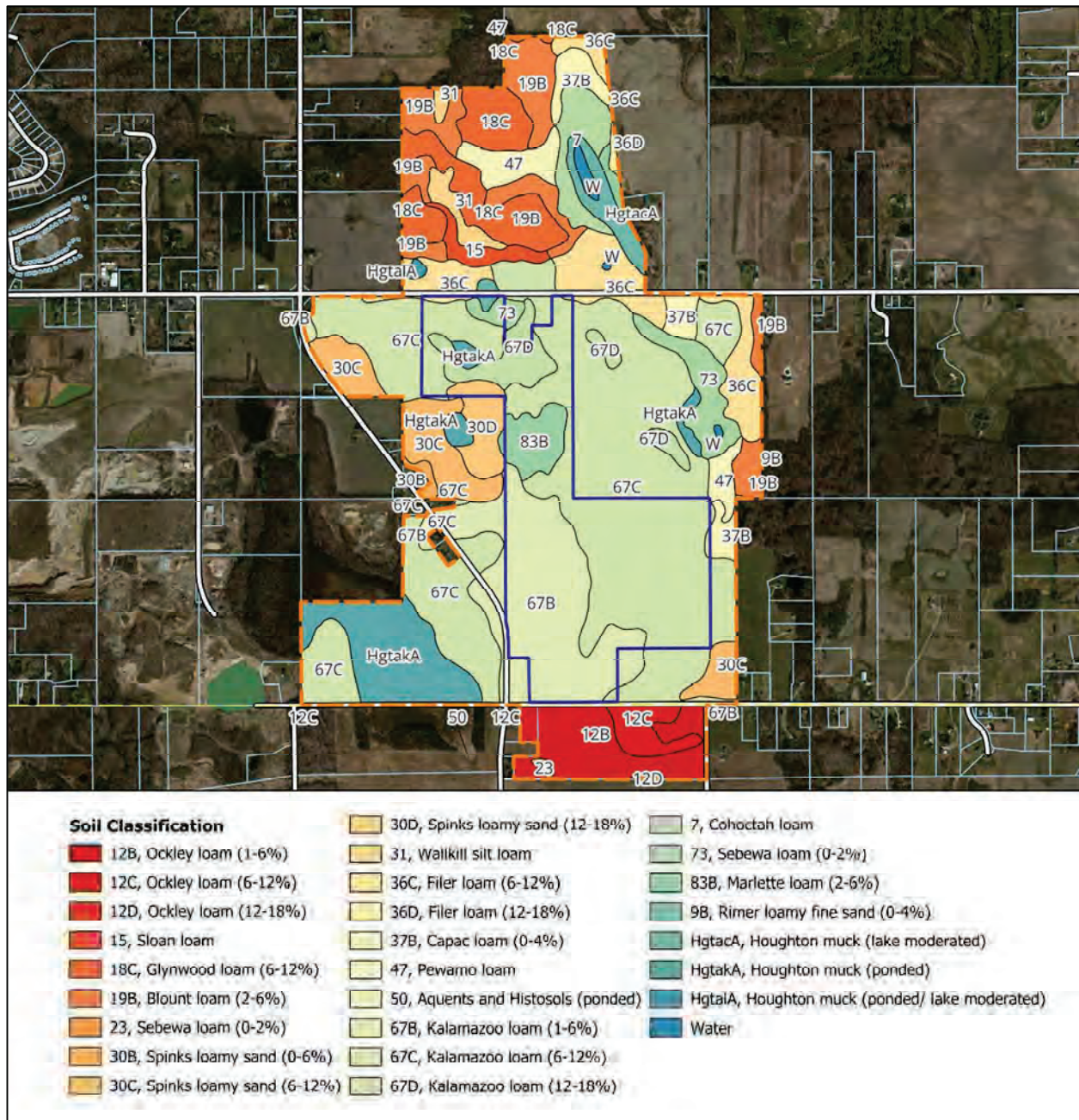


4.0 Hydrogeological Summary

4.1 Site Geology

4.1.1 Surface Soils

Figure 9: Soil Taxonomy Classification Map



The soil on the project site and in the nearby vicinity, as shown in Figure 9, primarily consists of Kalamazoo loam(s) (67B/C/D) and Spinks loamy sand (30B/C/D) of varying slopes. According to the USDA, “The Kalamazoo series consists of very deep, well drained soils formed in loess-influenced loamy outwash overlying sand, loamy sand, or sand and gravel outwash on outwash plains, terraces, valley trains, and low-lying moraines. Saturated hydraulic conductivity is moderately low to moderately high in the loamy materials and high in the sandy materials.” While the Spinks series consists of “very deep, well drained soils formed in sandy eolian or outwash material. They are on dunes, moraines, till plains, outwash plains, beach ridges, and lake plains. Saturated hydraulic conductivity is high. Permeability is moderately rapid.”

4.1.2 Subsurface Deposits

The bedrock geology of the project site consists of Marshall Formation (Mississippian) and the nearby vicinity. Bedrock is encountered at depths over 200 feet below the ground surface in the project site vicinity.

The Surficial Geologic Map of Kent County, Michigan notes that property is morainal uplands associated with the Saginaw lobe. Moraines are generally composed of glacial till which includes sediments of mixed character.

A subsurface investigation was conducted by the applicant in January of 2025. Seven test holes were conducted by Stoneco at locations on the project site as detailed on Sheet 1. The test holes ranged from 27 to 60 feet, below ground surface (ft, bgs). Sand and gravel were encountered below the topsoil and overburden between 0 and 10 ft, bgs to the depth of the test hole. Bedrock was encountered in a household well located at the residence to the west at 252 ft, bgs.

4.1.3 Groundwater Resources

According to the Gaines Charter Township Master Plan (April 10, 2023), water and sanitary sewer services are provided through the Byron-Gaines Utility Authority (BGUA). There are areas which are not serviced through public utilities and are limited to “rural, or suburban residential use if the home can find a location with suitable soils for an independent septic system.” It does not appear that the project site and nearby vicinity are serviced by BGUA; however, the map provided in the township plan has an illegible legend.

A search of domestic well logs, drilling reports, and properties both on the project site and the nearby properties of the project site was conducted by NRM. Thirty-four (34) domestic well logs were located with addresses along Kalamazoo Avenue. A review of these driller’s well logs indicate that ten (10) wells had a reported well depth or were screened within sandstone, and the remaining twenty-four (24) in the sand & gravel, referred to as drift. Reported well depths within the drift ranged from 58 ft, bgs to 154 ft, bgs with an average of 99 ft, bgs. Calculated static water levels ranged from 779 ft, North American Vertical Datum 1988 (ft, NAVD88) to 815 ft, NAVD88

with an average of 805 ft, NAVD88. The lowest elevation of extraction activities is 818 ft, NAVD88. A summary of selected domestic well information is presented in Table 2 below. Copies of the domestic drift well logs are provided in Appendix I.

Based upon our review of the available well logs, it is our professional opinion that the available capacity of the wells will not be impacted by any of the mining activities because the mining activity will not extend into or below the groundwater table. Moreover, no dewatering will be conducted that would artificially lower the groundwater table.

Table 2: Summary of Well Record Data, per GeoWebFace

Well ID	Well Address	Well Depth (ft, bgs)	Well Type	Case Depth (ft, bgs)	Static Water Level (ft, bgs)	Surface Elevation DEM (ft, NAVD88)	Static Water Elevation Calculated (ft, NAVD88)	Aquifer Type
3000008437	4767 7th St Caledonia, MI 49316	138	Household	135	54	845	791	Drift
4100000881	2121 100th St Caledonia, MI 49316	78	Household	78	50	856	806	Drift
4100000925	10320 Kalamazoo Caledonia, MI 49316	80	Household	75	50	865	815	Drift
4100000926	10505 Kalamazoo Caledonia, MI 49316	58	Household	53	49	858	809	Drift
4100000929	10195 Kalamazoo Caledonia, MI 49316	100	Household	95	53	865	812	Drift
41000009450	10420 Kalamazoo Caledonia, MI 49316	154	Household	145	61.5	866	804.5	Drift
41000010321	10387 Kalamazoo Caledonia, MI 49316	148	Household	148	80	863	783	Drift
41000010943	10380 Kalamazoo Caledonia, MI 49316	76	Household	72	57	858	801	Drift
41000011780	10772 Kalamazoo Caledonia, MI 49316	153	Household	144	63	856	793	Drift
41000016558	10034 Kalamazoo Caledonia, MI 49316	79	Household	72	52	864	812	Drift
41000018704	10388 Kalamazoo Caledonia, MI 49316	87	Irrigation	77	34	844	810	Drift
41000019917	2508 100th St Caledonia, MI 49316	84	Household	79	75	869	794	Drift
41000023205	2408 100th St Caledonia, MI 49316	115	Household	102	85	864	779	Drift
41000023657	2121 100th St Caledonia, MI 49316	95	Irrigation	70	35.5	841	805.5	Drift
41000023686	10461 Kalamazoo Ave Caledonia, MI 49316	88	Household	83	58	865	807	Drift
41000029676	2499 108th St SE Caledonia, MI 49316	99	Household	91	55	860	805	Drift
41000037191	10390 Kalamazoo Byron Center, MI 49316	107	Household	97	49	862	813	Drift
41000037205	10388 Kalamazoo Byron Center, MI 49316	71	Household	64	53	862	809	Drift
41000037207	2202 100th St SE Caledonia, MI 49316	75	Household	70	56	864	808	Drift
41000037208	10392 Kalamazoo Ave SE Byron Center, MI 49316	109	Household	109	56	867	811	Drift
41000037212	10320 Kalamazoo Caledonia, MI 49316	90	Household	85	54	864	810	Drift
41000037216	10034 Kalamazoo Caledonia, MI 49316	76	Household	76	51	862	811	Drift
41000058662	2550 100th ST SE Caledonia, MI 49418	115	Household	105	79	893	814	Drift
41000059074	2070 100th St SE Caledonia, MI 49316	100	Household	93	69	875	806	Drift

4.1.4 Mining Plan

The mining plan for the project is presented in Sheet 2. Processing of material is planned to take place from north to south and then east, respectively. The mining plan is to remove the overburden (topsoil and clay) and stockpile it at designated perimeter berms on the project site then excavate

and transfer the sand and gravel to the processing facility via a conveyor to the main existing processing plant located west of the project site, as presented in the Site Plan Cover Sheet.

Generally, the first step is to remove the overburden and stockpile it to create landscaped site-screening (earthen berms) around the perimeter of the disturbed areas. If additional overburden is generated that is not needed for site-screening, it will be stockpiled for future use in reclamation of the project site or transported to the adjoining site to the northwest. Sheet 2 denotes that a soil erosion and sediment control permit will be obtained prior to the commencement of any earthwork and that all stormwater is to be contained on site during mining operations. Sheet 2 proposed 6 ft to 8 ft high berms.

Once the overburden has been removed and the underlying sand and gravel has been exposed, it will be excavated and transported to the processing facility located to the west of the project site (designated as ‘existing mining and processing operation’ on the Site Plan Cover Sheet). The proposed mining activities are limited to dry mining only and will not impact the groundwater table, which is shown to be at an elevation of approximately 805 ft, NAVD88.

4.1.5 Reclamation Plan

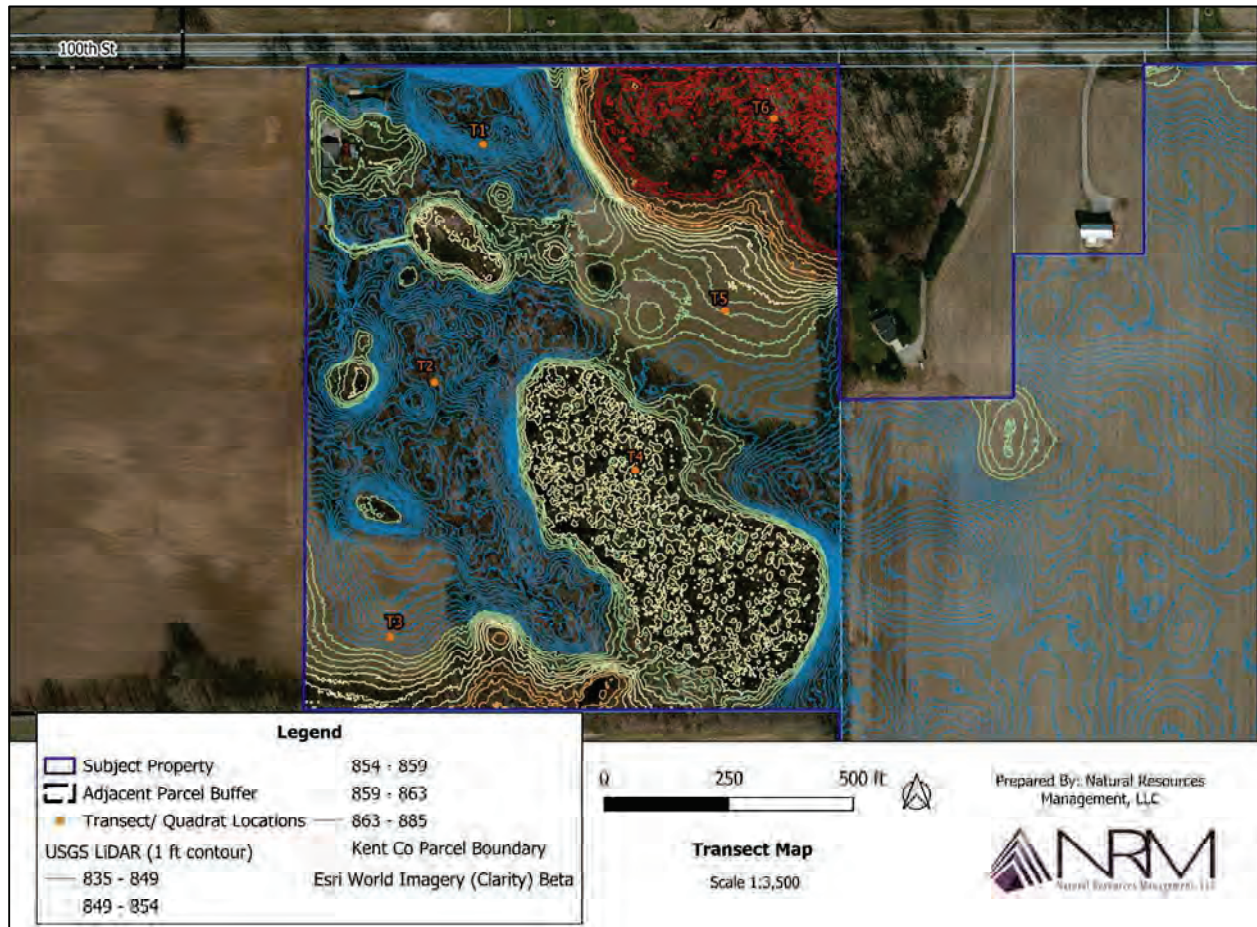
Sheet 2 represents the Operational and Reclamation Plan and contains information regarding the final development to agricultural land use on the project site. Site grading will be left as is post mining and will be restored with the placement of topsoil and seeded with vegetative cover.

5.0 Natural Flora & Fauna

5.1 Biological Background and Field Assessment

NRM completed both a desktop review and field assessment of the project site in order to identify potential threatened and endangered (T&E) species, flora and fauna, and wildlife habitats within the project site. The field assessment was completed on September 30, 2025, to document relevant findings. A summary of said findings is presented as follows. Survey transects are displayed in Figure 10.

Figure 10: Transect Map



Active agricultural land is the primary function of the existing conditions at the site (Approx 180 acres or 85%). Formal transects and quadrats were not completed in the agricultural area as volunteer vegetation was sparse and therefore the dominant species observed included *Zea mays* and *Glycine max*. However, several data plots (as recorded in the wetland delineation report) were completed which document the above vegetation findings.

The remainder of the site (15%) largely consisted of natural vegetation and was documented through the completion of two transects (three quadrats each) which included forested upland, wetlands of varying community structures, and lightly managed grasslands. T1 and T2 documented the forested upland community. The tree stratum predominantly consisted of *Acer saccharum* with secondary species including *Juglans nigra*, *Populus grandidentata*, *Sassafras albidum*, *Quercus alba*, and *Quercus rubra*. The understory was largely free of shrub species. Species recorded in the herbaceous layer included *Parthenocissus quinquefolia* as the dominant and sub-dominant *Persicaria virginiana*. Additional herbaceous species were noted throughout

which are common when disturbances are present such as *Phytolacca americana*, *Rubus allegheniensis*, and *Verbascum Thapsus*.

T3 and T5 documented the lightly managed grasslands and consisted of species typical to managed lawns such as *Poa pratensis* as the dominant cover and additional species such as *Plantago lanceolata*, *Trifolium pratense*, *Oxalis dillenii*, *Cirsium arvense*, *daucus carota*, *Digitaria ciliaris*, *Sonchus arvensis*, *Setaria viridis*, and *Ambrosia artemisiifolia*.

T4 (Wetland 8) and T6 (Wetland 1) documented the larger wetlands located on site. Please refer to the wetland delineation report for additional documented vegetation findings. The tree stratum in T4 was dominated by *Acer rubrum* and followed by *Nyssa sylvatica* and *Acer saccharinum*. Similar to the forested uplands, the understory was largely free of shrub species. Species identified in the herbaceous stratum included several mosses as well as *Osmundastrum connamomeum* and *Boehmeria cylindrica*. Common species associated with disturbances were also identified in the Wetland 8 and included *Phytolacca americana*, *Erechtites hieracifolius*, and *Rubus allegheniensis*. The tree stratum in T6 also contained *Nyssa sylvatica* but additionally *Ulmus rubra*. Shrub cover was present in T6 and contained *Ilex verticillata*. The herbaceous layer largely consisted of an invasive species i.e. *Phalaris arundinacea* but also contained patches of *Persicaria sagittata*.

5.2 Threatened & Endangered Species Research

According to the Information for Planning and Consultation Report (IPaC) there are four (4) species listed within Kent County that were either threatened or endangered (also includes proposed and experimental populations) that could possibly be located in the area of the property. These species are Indiana Bat, Whooping Crane, Eastern Massasauga, and Monarch Butterfly. Supporting research for the above-listed species via Michigan Natural Features Inventory is documented below in Section 5.2 and details any documented occurrences of the above species in Kent County as well as information regarding suitable habitat.

NRM completed both a desktop review of the project site as well as a field assessment in order to identify potential T&E species and wildlife habitats within the project site.

5.3 Protected Species Assessment

A review of the available information indicated the following listed species (U.S. Fish and Wildlife Service (USFWS)) were on the Information for Planning and Consultation (IPaC) report for Kent County. A total of four species were presented for review as listed below by common name, genus and species, and status.

1. Indiana Bat (*Myotis sodalis*) - Endangered
2. Whooping Crane (*Grus americana*) – Experimental Population, Non-Essential (EXPN)
3. Eastern Massasauga (*Sistrurus catenatus*) – Threatened
4. Monarch Butterfly (*Danaus plexippus*) – Proposed Threatened

IPaC did not isolate any critical habitats, coastal barriers, or fish hatcheries identified at this location.

The following migratory birds which are protected under the Migratory Bird Treaty Act and or the Bald and Golden Eagle Protection Act were listed for review by common name: American Golden-plover, Bald Eagle, Bobolink, Chimney Swift, Lesser Yellowlegs, Pectoral Sandpiper, Red-headed Woodpecker, Rusty Blackbird, Semipalmated Sandpiper, Short-billed Dowitcher, and Upland Sandpiper. Of the eleven listed species, five are documented to breed in the region while six breed elsewhere.

A review of both the eBird data mapping tool database and Michigan Natural Features Inventory database was conducted to determine which species have recorded observations on or near the site.

Table 3: T&E Species Occurrences for Kent County (MNFI)

Species	Occurrences	Year Last Observed
<i>Myotis sodalis</i>	Unlisted for Kent County	Unlisted for Kent County
<i>Grus americana</i>	N/A - EXPN	N/A - EXPN
<i>Sistrurus catenatus</i>	2	2006
<i>Danaus plexippus</i>	N/A - Proposed	N/A - Proposed

None of the T&E species presented for review have had recent documented occurrences in Kent County per MNFI. None of the eleven migratory bird species were found to have documented sightings on or in the immediate vicinity of the project site, as reported in eBird.

5.4 Suitable Habitat Assessment

A field assessment was conducted on September 30, 2025, to determine if suitable habitat was present for the above noted species. Table 4 presents the recommended survey time frames for said species as per MNFI and or the probability of presence per IPaC. Asterisk (*) Indicates deviation from T&E listing, i.e., proposed endangered, experimental population, candidate, etc. If no MNFI profile was available due to deviation from listing, observational dates for migratory species in the region were utilized for time frames. See Appendix III for survey time frame relative to MBTA species.

Table 4: Recommended Survey Time Frames by Species

Time Frame	Task	Species
1. From second week of May to second week of August 2. 05/01/2025-05/31/2025* 3. From first week of April to second week of September 4. 06/12/2025-07/07/2025*	Threatened and Endangered Species Survey <i>(Dates according to survey periods, per MNFI unless indicated otherwise)</i>	1. Indiana Bat 2. Whooping Crane* 3. Eastern Massasauga 4. Monarch Butterfly*

Given that there are no documented sightings or occurrences and the site is primarily active agriculture, it is unlikely that the above species occur within most of the bounds of the proposed site.

No evidence of listed threatened or endangered species was observed or identified on the project site or within the proposed action areas during the field assessment but as detailed below, would require surveys at the appropriate time of year. An overview of whether suitable habitat was present on site for the above noted species is provided below.

5.5 T&E Species Habitat Overview

***Myotis Sodalis* (Indiana Bat)** generally requires two separate habitats to suit its seasonal requirements. Roosting generally occurs in floodplain forests which provides loose bark or hollows and cavities of mature trees. Hibernacula sites consist of caves or other man-made facilities which



offer similar cave-like conditions. The project site does (in its current state) contain trees suitable for roosting activities, however, lacks conditions suitable for hibernacula. Few roosting trees were observed within the project area that could potentially support roosting habitat for the Indiana Bat as snags and trees with exfoliating bark. Tree clearing is recommended to occur between April 15 through September 30 or as indicated by U.S.FWS to avoid any impact to the Indiana Bat.

Grus americana* (Whooping Crane) generally has a quite long migratory route extending from southern U.S. to either Canada or Wisconsin depending on the population. It is possible they may stop in Michigan during migration but have not been recorded in Kent County since 2015 per the Grand Rapids Audubon Club. “During migration, whooping cranes use a variety of habitats; however, wetland mosaics appear to be the most suitable. For feeding, whooping cranes primarily use shallow, seasonally, and semi permanently flooded palustrine wetlands for roosting, and various cropland and emergent wetlands.” General conditions are present, but presence would be temporary and rare based on known movements during migration.



***Sistrurus catenatus* (Eastern Massasauga)** populations in southern Michigan are typically associated with open wetlands such as prairie fens according to MNFI. However, generally suitable habitat consists of “(1) open, sunny areas intermixed with shaded areas, presumably for thermoregulation; (2) presence of the water table near the surface for hibernation; and (3) variable elevations between adjoining lowland and upland habitats.” These conditions are found on site.



Danaus plexippus* (Monarch Butterfly) populations are limited by the presence of *Asclepias spp.* (Milkweed species) (the obligate host) given that caterpillars feed exclusively on this plant’s leaves though the adults are generalists. No milkweed species were noted during the flora and fauna survey so breeding area is unlikely to be present on site however, adult habitat may be present during migration.



5.5.1 Endangered Species Act

The following excerpts via the Congressional Research Service provides a brief description of some of the legal protections for listed T&E species per the U.S. FWS.

The Endangered Species Act of 1973 (ESA or the Act) (16 U.S.C. §§ 1531 et seq.) aims to protect threatened and endangered fish, wildlife, and plants from extinction. In its findings, Congress recognized the “esthetic, ecological, educational, historical, recreational, and scientific value” that threatened and endangered species provide. The Act creates a framework for facilitating recovery and conservation of endangered and threatened species and minimizing the effect of federal and private actions on these species and their habitats.

In general, Section 9 of the ESA prohibits persons from importing, exporting, transporting, or selling endangered species of fish, wildlife, and plants in interstate or foreign commerce. It is also illegal to “take” an endangered fish or wildlife species or possess taken species. Take means to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect,” or an attempt to do the same. It is unlawful to import or export endangered plant species from the United States or to remove, possess or maliciously damage or destroy such species on federal land or any other area in knowing violation of a state law or regulation.

5.6 Birds of Conservation Concern or Other Legally Protected Species Habitat Overview



***Pluvialis dominica* (American Golden-plover)** – Species breeds elsewhere i.e., arctic, and subarctic tundra. During migration, populations are known to feed in both lagoons and estuaries, neither of which are present on site. Flocks may gather in a variety of habitats during migration such as native prairies, farmland, shorelines, etc. Farmland is present on site.

***Haliaeetus leucocephalus* (Bald Eagle)** – Species breeds in range of project site from December 1 to August 31. Bald Eagles will inhabit a wide range of sites which provide snags or large live trees in close proximity to open water. They are also known to nest within man-made structures such as platforms or utility poles. Generally, suitable conditions are found on site; however, no nests were observed during the field investigation.



***Dolichonyx oryzivorus* (Bobolink)** – Species breeds in the range of project site from May 20 to July 31. Bobolinks generally breed in grasslands that contain a mixture of grasses and broad-leaved plants. May nest in hayfields and or meadows. These conditions are found on site.

***Chaetura pelagica* (Chimney Swift)** – Species breeds in the range of the project site from March 15 to August 25. Chimney Swifts will inhabit a variety of vertically enclosed and dim surfaces such as chimneys, air vents, wells, hollow trees, and caves. Foraging takes place in a variety of habitats as well including both urban and suburban areas, rivers, lakes, forests, and fields. Suitable habitat is present on site.



Tringa Flavipes (Lesser Yellowlegs) – Species breeds elsewhere i.e., boreal Canada but migrates through a large portion of the U.S. prior to the nonbreeding season in central and south America. Migratory habitat requirements include shallow weedy wetlands and flooded fields. These conditions are found on site.

Calidris melanotos (Pectoral sandpiper) - Species breeds elsewhere i.e., west coastal tundra however ‘migrants in North America use similar wet, grassy environments, from sewage ponds, plowed farm fields, sod farms, rice fields, and flooded golf courses to natural freshwater and saltwater marshes with low, grassy cover.’ These conditions are found on site.



Melanerpes erythrocephalus (Red-headed Woodpecker) – Species breeds in the range of the project site from May 10 to September 10 and has a wide range of habitats. Habitat includes deciduous woodlands, farmlands, grasslands, forest edges, roadsides, etc. and are considered somewhat “nomadic.” Generally suitable habitat is present on site.

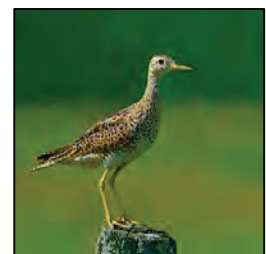
Euphagus carolinus (Rusty Blackbird) – Species breeds elsewhere i.e. primarily boreal forest. Migratory requirements include a preference for wet areas, including flooded woods, swamps, marshes, and the edges of ponds. Non-breeding habitat is present on site.



Calidris pusilla (Semipalmated Sandpiper)– Species breeds elsewhere i.e., low tundra however, ‘migrating birds stop over at sewage ponds, ephemeral wetlands (rain pools), beaches, tidal mudflats and sandbars, and freshwater impoundments with shallow margins.’ These conditions are not found on site.

Limnodromus griseus (Short-billed Dowitcher) – Species breeds elsewhere i.e. boreal wetlands. Migratory requirements are generally related to freshwater or saltwater wetlands with shallow water but also can include flooded fields and sewage ponds. Generally suitable non-breeding habitat is present on site.

Bartramia longicauda (Upland Sandpiper) – Species breeds in the range of the project site from May 1 to August 31. Habitat requirements are primarily limited to grasslands/ native prairies as this species is a terrestrial shorebird. ‘They also nest in pastures, both grazed and ungrazed, and in agricultural fields, especially fallow fields, but sometimes hay or other crop fields. Some even nest in road edges. Minimal woody vegetation and



minimal bare ground are prominent features of these grassland habitats. Suitable habitat is present on site.'

5.6.1 Migratory Bird Treaty Act

The MBTA (16 U.S.C. 703-712), prohibits the taking of any migratory bird or any part, nest, or egg, except as permitted by regulation. The MBTA was enacted in 1918; a 1972 agreement supplementing one of the bilateral treaties underlying the MBTA had the effect of expanding the scope of the Act to cover bald eagles and other raptors. Implementing regulations define "take" under the MBTA as "pursue, hunt, shoot, wound, kill, trap, capture, possess, or collect."

5.6.2 The Bald and Golden Eagle Protection Act

The Eagle Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" Bald Eagles, including their parts, nests, or eggs. The Act provides criminal and civil penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb." "Disturb" means:

"Disturb means to agitate or bother a bald or golden eagle to the degree that causes or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

5.7 Recommended Action

Based upon the review of the above species-specific habitat needs in conjunction with a comparison of the suitability of the site, it is unlikely that any threatened or endangered species occur within most of the bounds of the action area. The primary function of the existing condition of the proposed action area is mainly an agricultural field.

Suitable site conditions were present within the bounds of the project site or in close proximity and should be surveyed during the appropriate timeframes for confirmation of the presence or absence of individual species. No evidence of listed threatened or endangered species were observed or identified on the project site or within the proposed action areas during the field assessment conducted by NRM. No critical habitats, coastal barriers, or fish hatcheries were identified within the project site boundaries.

NRM understands that the identified wetlands will not be impacted by the proposed mining operation and that tree clearing will be conducted outside of the previously stated timeframe in reference to relevant species. Given that no observations that were associated with the listed birds, no specific recommendations apply at this time. However, if at any time, active nests are identified for protected bird species, tree clearing should not occur within associated breeding season. For more information regarding conservation measures, see Appendix V. To fully determine if the potential for take exists, additional surveys are necessary during the appropriate time of year upon with T&E species may be present on site.

6.0 ‘Impact and Nuisances’

6.1 Noise, Vibration, Dust

The operations that Stoneco currently conducts on their existing site are not reported to be any different than what is proposed for the expansion property. Therefore, any perceptive noise impacts would be similar. Stoneco has several site-screening (visual and auditory) and noise-buffer engineering and administrative controls in place and proposes additional measures, including earthen berms, that can reduce any potential impacts from noise.

NRM and Stoneco have conducted numerous evaluations of vibrations at current operating locations that will be similar in setting, hours of operation, site access, and haul route use at the proposed facility. A vibration study was conducted by Vibra-Tech Inc. at the nearby active Stoneco Burmeister Pit in September 2021. The Burmeister Pit is located at 6068 Steinbach Road and in this study, the vibration readings collected at the pit 150 and 420 feet from the active mining area are negligible.

Stoneco has a Michigan EGLE Air Quality Division (EGLE-AQD) approved fugitive dust plan that will limit impacts from dust. In our experience, Stoneco has been very proactive in its efforts to limit any dust exposure and utilizes both dust suppression and administrative controls (i.e., employee training) to limit it. Stoneco will be required to modify its current air permits from the EGLE-AQD to operate this facility if new or unpermitted equipment is introduced. Based upon these requirements and our experience in both noise and dust monitoring at similar facilities, it is our opinion that any impacts from noise or dust will be limited and not impact human health or the environment.

There are no proposed impacts as it related to ‘smoke, fumes, glare, or odor.’ By following the Fugitive Dust Plan (Appendix D of the application narrative) and Sound Level Compliance Plan (Appendix B of the application narrative), all equipment used on the expansion property will be operated in such a manner as to minimize dust, noise, and vibration conditions.

6.2 Traffic

There is no proposed change to the existing approved haul route and therefore no impact on the existing mobility, traffic, or access.

7.0 Findings and Conclusions

7.1 Environmental Impact Statement

Based upon the current and historical settings that were observed for the project site and surrounding properties, the proposed use of the project site as a mineral extraction operation was thoroughly planned. It is our professional opinion that no evidence has been presented to indicate that negative environmental impacts would occur if the project was completed as proposed. This can be demonstrated:

- Through historical research of the project site and surrounding areas. Mining activity has been present in adjacent parcels and the site is proposed to return to agriculture use upon reclamation also consistent with historical use as demonstrated in the historical review of aerial photographs (Section 2.3)
- A planned sequence of activities has been prepared by Engineers and Scientists that limits environmental impact from disturbed soils by creating a natural drainage area, provides for surface water retention on the property and addresses sedimentation and soil erosion control through a series of best management practices and in concert with State and Local regulations.
- Wetlands will not be impacted by the proposed mining area. No evidence of T&E species were observed on site but additional follow-up surveys during the appropriate time of year can be conducted.
- The proposed use will involve changes to the existing topography; however, these modifications are carefully limited to designated areas and managed with erosion controls, soil stabilization, and professional oversight to prevent environmental degradation and protect sensitive natural resources, ensuring compliance with the ordinance's intent.

7.1.1 Favorable vs. Adverse Environmental Impacts

Favorable environmental impacts include:

- The project will be designed to minimize stormwater flow off-site and continue to direct surface water flow to the excavated areas and not alter the natural flow to the adjoining surface water areas. This will lessen the chances of flooding during and at the completion of the project.
- The project site is proposed to be restored to its original land use of agricultural.
- The project does not reach the groundwater table (dry mining only).

No adverse impacts on public safety, health, or the environment have been shown in the studies presented herein or are expected as part of the proposed project. All riparian areas will be avoided. Required setbacks from property lines, riparian habitats, adjoining properties, and residential structures proposed by the local ordinances have been incorporated into the plan. Implementation of a Soil Erosion and Sediment Control Plan ensures that impacts on the environment from sediment run-off will be eliminated. The future use of the property is consistent with the community Master Plan and the special land use approval standards.

7.1.2 Methods to Minimize the Potential for Impacts

- Landscaped earthen berms will be constructed to create screening during mining from sound pressure levels and aesthetics.
- Federal, State, and local regulations are in-place to ensure that any unlikely impacts are addressed.

7.1.3 Alternatives

There are no alternatives for this proposed project. This project is being proposed at this location because the natural occurrence of minerals limits these types of projects to certain locations. Mineral reserves at the project site are proven. Federal, State, and local zoning regulations allow this type of project to legally take place on the project site under local permitting conditions.

7.1.4 Growth Inducing Aspects

There are no growth-inducing aspects proposed in this project. No residential development is proposed as part of this project currently; however, the site zoning presents an opportunity for residential development.

7.1.5 Calculation of Recommended Maximum Residential Density

No residential development is proposed as part of this project and therefore, no maximum residential densities were calculated.

7.2 Professional Opinions

Administrative and engineering controls are proposed for the project to limit any potential environmental impacts. A plan for the ongoing monitoring of the natural features throughout the course of the project has been presented. There is no evidence that this project would impair, pollute or destroy the surface water, wetlands, adjoining streams, rivers or waterways, air or groundwater conditions, natural resources, and/or the public trust.

8.0 References

Gaines Charter Township Zoning Ordinance Effective April 24, 2025

Gaines Charter Township Master Plan Dated April 10, 2023

Gaines Charter Township Official Zoning 2023 Map

USGS 7.5-Minute Topographic Quadrangle Map Caledonia, MI 2023

Michigan Department of Environmental Quality (DEQ), GeoWebFace

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey (WSS)

United States Fish & Wildlife Service (U.S. FWS), National Wetlands Inventory (NWI) Mapper

Department of Environment, Great Lakes, and Energy (EGLE) State and Federal Wetland Regulations

GIS Open Data, Michigan Department of Natural Resources, Major Watersheds-Subbasins

Larson, Linker, & Kincare (2000) The Surficial Geologic Map of Kent County, Michigan. Michigan State University, Michigan Geological & Land Management Division

Department of Environmental Quality (DEQ) Wellogic System

U.S. Fish & Wildlife Service Information for Planning and Consultation (IPaC)

Michigan Natural Features Inventory (MNFI): Michigan's Rare Animals and Plants

The Cornell Lab of Ornithology eBird Data Mapping Tool

APPENDIX I



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Allegan		Township: Leighton	
Well ID: 03000008437		Town/Range: 04N 11W	Section: 4	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 1/4 MILE SOUTH OF 108TH AND 25' EAST OF 7TH ST			
		Well Owner: JEREMY WEBER			
Elevation:		Well Address:		Owner Address:	
Latitude: 42.765554		4767 7TH ST		4767 7TH ST	
Longitude: -85.614708		CALEDONIA, MI 49316		CALEDONIA, MI 49316	
Method of Collection: Address Matching-House Number					

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 135.00 ft.	Pump Installation Date: 5/3/2006	HP: 0.75
Well Type: Replacement	Manufacturer: Grundfos	Pump Type: Submersible
Well Use: Household	Model Number: 10S07-12	Pump Capacity: 12 GPM
Date Completed: 5/3/2006	Drop Pipe Length: 80.00 ft.	Pump Voltage:
Casing Type: PVC plastic	Drop Pipe Diameter: 1.00 in.	Drilling Record ID:
Height: 1.00 ft. above grade	Draw Down Seal Used: No	
Casing Joint: Spline joint/CertaLok	Pressure Tank Installed: Yes	
Casing Fitting: Centralizer	Pressure Tank Type: Diaphragm/bladder	
Diameter: 5.00 in. to 125.00 ft. depth	Manufacturer: Well-X-Trol	
	Model Number: WX203	Tank Capacity: 33.4 Gallons
Borehole: 8.50 in. to 138.00 ft. depth	Pressure Relief Valve Installed: Yes	

Static Water Level: 54.00 ft. Below Grade	Formation Description	Thickness	Depth to Bottom
Well Yield Test:			
Yield Test Method: Air	Gravel Medium W/Sand	25.00	25.00
Pumping level 134.00 ft. after 1.00 hrs. at 100 GPM	Gravel Fine W/Sand	18.00	43.00
	Gray Clay W/Sand Medium	33.00	76.00
	Gray Clay W/Gravel Fine	9.00	85.00
	Gray Clay	38.00	123.00
	Sand Medium	2.00	125.00
	Gravel Fine W/Sand	13.00	138.00

Screen Installed: Yes	Filter Packed: Yes	Geology Remarks:
Screen Diameter: 5.00 in.	Blank:	
Screen Material Type: PVC-slotted		
Screen Installation Type: Attached		
Slot	Length	Set Between
15.00	10.00 ft.	125.00 ft. and 135.00 ft.
Fittings: None		
Well Grouted: Yes	Grouting Method: Grout pipe outside casing	
Grouting Material	Bags	Additives
Bentonite slurry	14.00	None
		Depth
		0.00 ft. to 118.00 ft.

Wellhead Completion: Pitless adapter, 12 inches above grade
--

Nearest Source of Possible Contamination:	Drilling Machine Operator Name: JAKE VANVOLKINBURG
Type	Employment: Employee
Distance	Pump Installer: BRENT WINGER
Direction	
Fuel tank	
50 ft.	
East	

Abandoned Well Plugged: Yes	Contractor Type: Water Well Drilling Contractor	Reg No: 41-2028
	Business Name: Buer Well Drilling	
	Business Address: 239 E Main, Caledonia, MI, 49316	

Casing Diameter: 3 in.	Casing Removed: No
Plugging Material: Bentonite chips/pellets	
No. of Bags: 7.00	Well Depth: 123 ft.
Water Well Contractor's Certification	
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
Signature of Registered Contractor	Date

General Remarks: NITRATES 0 PPM, IRON 0 PPM, HARDNESS 12 GR. 12.5 GPM @35# W/.5' D.D. INSTALLED OWNERS EXISTING PRESSURE TANK.

Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000000881 Elevation: 862 ft. Latitude: 42.78511 Longitude: -85.611823 Method of Collection: GPS Std Positioning Svc SA Off		Town/Range: 05N 11W	Section: 28	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection:			
		Well Owner: NEWHOR, TED			
		Well Address: 2121 100TH ST CALEDONIA, MI 49316		Owner Address: 2297 100TH ST CALEDONIA, MI 49316	

Drilling Method: Rotary Well Depth: 78.00 ft. Well Type: Replacement Casing Type: Unknown Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 72.00 ft. depth Borehole:	Well Use: Household Date Completed: 6/30/1980 Height:	Pump Installed: Yes Pump Installation Date: Manufacturer: Goulds Model Number: Drop Pipe Length: 63.00 ft. Drop Pipe Diameter: Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed: No	Pump Installation Only: No HP: Pump Type: Submersible Pump Capacity: 0 GPM Pump Voltage: Drilling Record ID:
--	--	---	---

Static Water Level: 50.00 ft. Below Grade Well Yield Test: Pumping level 50.00 ft. after 1.00 hrs. at 40 GPM Yield Test Method: Unknown	<table border="1"> <thead> <tr> <th>Formation Description</th> <th>Thickness</th> <th>Depth to Bottom</th> </tr> </thead> <tbody> <tr><td>Clay & Gravel</td><td>4.00</td><td>4.00</td></tr> <tr><td>Clay & Sand</td><td>9.00</td><td>13.00</td></tr> <tr><td>Red Sand Hard</td><td>12.00</td><td>25.00</td></tr> <tr><td>Clay Sand Gravel</td><td>9.00</td><td>34.00</td></tr> <tr><td>Gravel & Sand</td><td>7.00</td><td>41.00</td></tr> <tr><td>Gravel & Clay</td><td>5.00</td><td>46.00</td></tr> <tr><td>Clay & Gravel</td><td>8.00</td><td>54.00</td></tr> <tr><td>Gravel & Sand</td><td>2.00</td><td>56.00</td></tr> <tr><td>Clay Gravel Sand</td><td>1.00</td><td>57.00</td></tr> <tr><td>Sand & Gravel</td><td>13.00</td><td>70.00</td></tr> <tr><td>Sand</td><td>8.00</td><td>78.00</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Formation Description	Thickness	Depth to Bottom	Clay & Gravel	4.00	4.00	Clay & Sand	9.00	13.00	Red Sand Hard	12.00	25.00	Clay Sand Gravel	9.00	34.00	Gravel & Sand	7.00	41.00	Gravel & Clay	5.00	46.00	Clay & Gravel	8.00	54.00	Gravel & Sand	2.00	56.00	Clay Gravel Sand	1.00	57.00	Sand & Gravel	13.00	70.00	Sand	8.00	78.00									
Formation Description	Thickness	Depth to Bottom																																												
Clay & Gravel	4.00	4.00																																												
Clay & Sand	9.00	13.00																																												
Red Sand Hard	12.00	25.00																																												
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Clay Gravel Sand	1.00	57.00																																												
Sand & Gravel	13.00	70.00																																												
Sand	8.00	78.00																																												

Screen Installed: Yes Screen Diameter: 0.00 in. Screen Material Type: Stainless steel-wire wrapped Screen Installation Type: Unknown Slot Length Set Between: 10.00 6.00 ft. 72.00 ft. and 78.00 ft. Fittings: Neoprene packer	Filter Packed: No Blank: 0.00 ft. Above Grouting Method: Unknown Grouting Material: Other Bags: 0.00 Additives: None Depth:	Geology Remarks:
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Wellhead Completion: Pitless adapter	
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Nearest Source of Possible Contamination: Type: Septic tank Distance: 100 ft. Direction: Northeast	Drilling Machine Operator Name: Employment: Unknown
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Abandoned Well Plugged: No Reason Not Plugged: Unknown	Contractor Type: Unknown Business Name: Business Address:	Reg No: 41-0073
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	Water Well Contractor's Certification	
	This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
	Signature of Registered Contractor	Date

General Remarks:

Other Remarks: Grouting Material 1: Listed as other in Wellkey



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines		
Well ID: 41000000926 Elevation: 860 ft. Latitude: 42.7733265878 Longitude: -85.6171757905 Method of Collection: Interpolation-Map		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:	
		Source ID/Well No:				
		Distance and Direction from Road Intersection: 3/4 M S 100TH 40' W KALAMAZOO				
		Well Owner: PARKER BORTHER BUILDERS				
		Well Address: 10505 KALMAZOO CALEDONIA, MI 49316		Owner Address: 17 52ND ST GRAND RAPIDS, MI 49508		

Drilling Method: Hollow Rod Well Depth: 58.00 ft. Well Type: Replacement Casing Type: Unknown Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 3.00 in. to 53.00 ft. depth Borehole:	Well Use: Household Date Completed: 8/25/1971 Height: Pump Installed: Yes Pump Installation Date: Manufacturer: Other Model Number: Drop Pipe Length: 50.00 ft. Drop Pipe Diameter: Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed: No	Pump Installation Only: No HP: Pump Type: Jet Pump Capacity: 0 GPM Pump Voltage: Drilling Record ID:
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Static Water Level: 49.00 ft. Below Grade Well Yield Test: Pumping level 0.00 ft. after 1.00 hrs. at 1400 GPM Yield Test Method: Unknown	<table border="1"><thead><tr><th>Formation Description</th><th>Thickness</th><th>Depth to Bottom</th></tr></thead><tbody><tr><td>Clay Stoney</td><td>13.00</td><td>13.00</td></tr><tr><td>Sand</td><td>5.00</td><td>18.00</td></tr><tr><td>Sand Stoney</td><td>22.00</td><td>40.00</td></tr><tr><td>Sand W/Silt</td><td>9.00</td><td>49.00</td></tr><tr><td>Sand Water Bearing</td><td>9.00</td><td>58.00</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	Formation Description	Thickness	Depth to Bottom	Clay Stoney	13.00	13.00	Sand	5.00	18.00	Sand Stoney	22.00	40.00	Sand W/Silt	9.00	49.00	Sand Water Bearing	9.00	58.00																											
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Sand W/Silt	9.00	49.00																																												
Sand Water Bearing	9.00	58.00																																												

Screen Installed: Yes Screen Diameter: 2.00 in. Screen Material Type: Unknown Screen Installation Type: Unknown Slot Length Set Between 70.00 5.00 ft. 53.00 ft. and 58.00 ft. Fittings: Bremer check valve	Filter Packed: No Blank: 0.00 ft. Above Geology Remarks:
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Well Grouted: No	
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Wellhead Completion: Pitless adapter	
---	--

Nearest Source of Possible Contamination: <table border="1"><thead><tr><th>Type</th><th>Distance</th><th>Direction</th></tr></thead><tbody><tr><td>Septic tank</td><td>50 ft.</td><td>West</td></tr></tbody></table>	Type	Distance	Direction	Septic tank	50 ft.	West	Drilling Machine Operator Name: Employment: Unknown
Type	Distance	Direction					
Septic tank	50 ft.	West					

Abandoned Well Plugged: No Reason Not Plugged: Unknown	Contractor Type: Unknown Business Name: Business Address:	Reg No: 41-0761
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	Water Well Contractor's Certification This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
	Signature of Registered Contractor	Date

General Remarks: GEOLOGY UPDATED SC 12/29/2020

Other Remarks: Pump Manufacturer: BURKS
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Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent	Township: Gaines			
Well ID: 41000000929 Elevation: 863 ft. Latitude: 42.7791097042 Longitude: -85.6229094143 Method of Collection: Interpolation-Map		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:	Source ID/Well No:
		Distance and Direction from Road Intersection: 2/10 M S OF 100TH 75' W OF KALAMAZOO				
		Well Owner: BARNABY, GERAL				
		Well Address: 10195 KALAMAZOO CALEDONIA, MI 49316		Owner Address: 10195 KALAMAZOO CALEDONIA, MI 49316		

Drilling Method: Rotary Well Depth: 100.00 ft. Well Type: Replacement Casing Type: Unknown Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 95.00 ft. depth Borehole:	Well Use: Household Date Completed: 6/23/1976 Height: 0.00 ft. below grade Pump Installed: Yes Pump Installation Date: Manufacturer: Aermotor Model Number: Drop Pipe Length: 80.00 ft. Drop Pipe Diameter: Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed: No	Pump Installation Only: No HP: Pump Type: Submersible Pump Capacity: 0 GPM Pump Voltage: Drilling Record ID:
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Static Water Level: 53.00 ft. Below Grade Well Yield Test: Pumping level 53.00 ft. after 1.00 hrs. at 30 GPM Yield Test Method: Unknown	Formation Description	Thickness	Depth to Bottom
	Clay	10.00	10.00
Screen Installed: Yes Screen Diameter: 4.00 in. Screen Material Type: Stainless steel-wire wrapped Screen Installation Type: Unknown Slot Length Set Between 10.00 5.00 ft. 95.00 ft. and 100.00 ft. Fittings: Neoprene packer	Sand & Gravel	58.00	68.00
	Sand Fine	7.00	75.00
	Clay & Sand	2.00	77.00
	Sand	10.00	87.00
	Sand & Gravel	3.00	90.00
	Sand	10.00	100.00

Well Grouted: Yes Grouting Material: Other Grouting Method: Unknown Bags: 0.00 Additives: None Depth:	Geology Remarks:
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Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination: Type: Septic tank Distance: 50 ft. Direction: West	Drilling Machine Operator Name: Employment: Unknown
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Abandoned Well Plugged: No Reason Not Plugged: Unknown	Contractor Type: Unknown Business Name: Business Address:	Reg No: 41-0073
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	Water Well Contractor's Certification This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
	Signature of Registered Contractor	Date

General Remarks:

Other Remarks: Grouting Material 1: Listed as other in Wellkey



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000009450		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection:			
Elevation:		Well Owner: TIM HARKEMA			
Latitude: 42.77553728		Well Address:		Owner Address:	
Longitude: -85.61861898		10420 KALAMAZOO		768 STONEY RIDGE COURT	
Method of Collection: Interpolation-Map		CALEDONIA, MI		CALEDONIA, MI 49316	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 154.00 ft.	Pump Installation Date:	HP: 0.75
Well Type: Replacement	Manufacturer: Goulds	Pump Type: Submersible
Well Use: Household	Model Number: 10GS07	Pump Capacity: 20 GPM
Date Completed: 8/1/2000	Drop Pipe Length: 100.00 ft.	Pump Voltage:
Casing Type: PVC plastic	Drop Pipe Diameter: 1.25 in.	Drilling Record ID:
Casing Joint: Unknown	Draw Down Seal Used: No	
Casing Fitting: None	Pressure Tank Installed: Yes	
Height:	Pressure Tank Type: Unknown	
Diameter: 5.00 in. to 145.00 ft. depth	Manufacturer: Well-Rite-Flexcon	
	Model Number: WR120	Tank Capacity:
Borehole: 8.00 in. to 159.00 ft. depth	Pressure Relief Valve Installed: No	

Static Water Level: 61.50 ft. Below Grade	Formation Description	Thickness	Depth to Bottom
Well Yield Test:	Red Clay	3.00	3.00
Yield Test Method: Air	Sand & Gravel	19.00	22.00
Pumping level 120.00 ft. after 1.00 hrs. at 33 GPM	Sand	49.00	71.00
	Red Clay	1.00	72.00
	Red Sand Silty	8.00	80.00
	Gray Clay	56.00	136.00
	Gravel W/Clay W/Sand	6.00	142.00
	Sand	17.00	159.00

Screen Installed: Yes	Filter Packed: Yes	Geology Remarks:
Screen Diameter: 3.00 in.	Blank: 0.50 ft. Above	
Screen Material Type: PVC-wire wrapped		
Screen Installation Type: Telescoped		
Slot	Length	
15.00	9.00 ft.	
Set Between		
145.00 ft. and 154.00 ft.		
Fittings: Neoprene packer		

Well Grouted: Yes	Grouting Method: Unknown	
Grouting Material	Bags	Additives
Bentonite slurry	11.00	None
Depth	0.00 ft. to 140.00 ft.	
Wellhead Completion: Pitless adapter		

Nearest Source of Possible Contamination:	Drilling Machine Operator Name: STEVE BUER
Type	Employment: Employee
Septic tank	
Distance	
75 ft.	
Direction	
East	

Abandoned Well Plugged: Yes	Contractor Type: Water Well Drilling Contractor	Reg No: 41-1772
	Business Name: BUER WELL DRILLING INC.	
	Business Address:	
	Water Well Contractor's Certification	
	This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
Casing Removed:	Signature of Registered Contractor	Date

General Remarks: NITRATES 0 PPM IRON .1 PPM HARDNESS 13 GR 750# K&E FILTER PACK SAND DR DW 8' AFTER 30 MIN @ 18 GPM; FITTINGS: OTHER: SS CENTRLZ
--

Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent	Township: Gaines			
Well ID: 41000010321 Elevation: Latitude: 42.7763516 Longitude: -85.62045754 Method of Collection: Interpolation-Map		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:	Source ID/Well No:
		Distance and Direction from Road Intersection: 1 MILE SOUTH OF 100TH ON KALAMAZOO				
		Well Owner: PAUL JEPLAWY				
		Well Address: 10387 KALAMAZOO DUTTON, MI		Owner Address: 10387 KALAMAZOO DUTTON, MI		

Drilling Method: Rotary Well Depth: 148.00 ft. Well Type: Replacement Casing Type: PVC plastic Casing Joint: Unknown Casing Fitting: None Diameter: 5.00 in. to 140.00 ft. depth 3.00 in. to 148.00 ft. depth Borehole: 8.75 in. to 148.00 ft. depth	Well Use: Household Date Completed: 1/28/2001 Height: Pump Installed: Yes Pump Installation Date: Manufacturer: A.Y. McDonald Model Number: Drop Pipe Length: 120.00 ft. Drop Pipe Diameter: Draw Down Seal Used: No Pressure Tank Installed: Yes Pressure Tank Type: Unknown Manufacturer: Well-Mate Model Number: WM-9 Pressure Relief Valve Installed: No	Pump Installation Only: No HP: 0.75 Pump Type: Submersible Pump Capacity: 12 GPM Pump Voltage: Drilling Record ID: Tank Capacity: 9.0 Gallons
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Static Water Level: 80.00 ft. Below Grade Well Yield Test: Pumping level 120.00 ft. after 1.00 hrs. at 20 GPM Yield Test Method: Air	Formation Description	Thickness	Depth to Bottom
	Gravel	60.00	60.00
Screen Installed: Yes Screen Diameter: 3.00 in. Screen Material Type: Stainless steel-wire wrapped Screen Installation Type: Unknown Slot Length Set Between 10.00 12.00 ft. 136.00 ft. and 148.00 ft. Fittings: None	Sand & Gravel	35.00	95.00
	Clay	45.00	140.00
	Gravel	8.00	148.00

Well Grouted: Yes Grouting Material: Bentonite slurry Grouting Method: Unknown Bags: 14.00 Additives: None Depth: 0.00 ft. to 130.00 ft.	Geology Remarks:
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Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination: Type Drainfield/Dry well Fuel tank Distance 60 ft. 75 ft. Direction North Northwest	Drilling Machine Operator Name: WOLCOTTS Employment: Subcontractor
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Abandoned Well Plugged: Yes	Contractor Type: Water Well Drilling Contractor Business Name: HEATON AND SONS Business Address:	Reg No: 34-0346
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Casing Removed:	Water Well Contractor's Certification This well was drilled under my supervision and this report is true to the best of my knowledge and belief. Signature of Registered Contractor Date
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General Remarks:

Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000011780 Elevation: Latitude: 42.76880131 Longitude: -85.61451275 Method of Collection: Address Matching-House Number		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection:			
		Well Owner: JOE SEIF			
		Well Address: 10772 KALAMAZOO AVE CALEDONIA, MI 49316		Owner Address: 10772 KALAMAZOO AVE CALEDONIA, MI 49316	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 153.00 ft.	Pump Installation Date:	HP: 0.75
Well Type: Replacement	Manufacturer: Grundfos	Pump Type: Submersible
Casing Type: PVC plastic	Model Number:	Pump Capacity: 20 GPM
Casing Joint: Unknown	Drop Pipe Length: 80.00 ft.	Pump Voltage:
Casing Fitting: Unknown	Drop Pipe Diameter:	Drilling Record ID:
Height:	Draw Down Seal Used: No	
Diameter: 5.00 in. to 144.00 ft. depth	Pressure Tank Installed: Yes	
	Pressure Tank Type: Unknown	
Borehole: 8.00 in. to 156.00 ft. depth	Manufacturer: Well-Rite-Flexcon	Tank Capacity: 4.5 Gallons
	Model Number: JR15	
	Pressure Relief Valve Installed: No	

Static Water Level: 63.00 ft. Below Grade	Formation Description	Thickness	Depth to Bottom
Well Yield Test: Pumping level 137.00 ft. after 1.00 hrs. at 70 GPM			
Yield Test Method: Air	Red Clay Sandy	5.00	5.00
	Sand & Gravel	49.00	54.00
	Gray Clay	3.00	57.00
	Sand Fine	8.00	65.00
	Gray Clay	27.00	92.00
	Gray Clay W/Sand W/Gravel	5.00	97.00
	Gray Clay	38.00	135.00
	Sand & Clay	6.00	141.00
	Sand & Gravel Medium	15.00	156.00

Screen Installed: Yes	Filter Packed: Yes	Geology Remarks:
Screen Diameter: 3.00 in.	Blank: 0.50 ft. Above	
Screen Material Type: PVC-wire wrapped		
Screen Installation Type: Telescoped		
Slot Length Set Between: 0.02 9.00 ft. 144.00 ft. and 153.00 ft.		
Fittings: Neoprene packer		

Well Grouted: Yes	Grouting Method: Unknown
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Grouting Material: Bentonite slurry	Bags: 12.00	Additives: None	Depth: 0.00 ft. to 140.00 ft.
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Wellhead Completion: Pitless adapter, 12 inches above grade
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Nearest Source of Possible Contamination:	Drilling Machine Operator Name: STEVE BUER
Type: Septic tank	Employment: Employee
Distance: 75 ft.	
Direction: Northeast	

Abandoned Well Plugged: Yes	Contractor Type: Water Well Drilling Contractor	Reg No: 41-1772
	Business Name: BUER WELL DRLG INC	
	Business Address:	
	Water Well Contractor's Certification	
	This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
	Signature of Registered Contractor	Date

General Remarks: NITRATES 0 PPM IRON 0 PPM HARDNESS 16 GR 700# K&E FILTER SAND, SCREENED @ 54' 3 GPM, SCREENED @ 65' TANNON
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Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent	Township: Gaines			
Well ID: 41000016558 Elevation: Latitude: 42.781967 Longitude: -85.624309 Method of Collection: Address Matching-House Number		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:	Source ID/Well No:
		Distance and Direction from Road Intersection: 291 FEET SOUTH OF 100TH 61 FEET EAST OF KALAMAZOO				
		Well Owner: KATHY VANDERSTIL				
		Well Address: 10034 KALAMAZOO CALEDONIA, MI 49316		Owner Address: 10034 KALAMAZOO CALEDONIA, MI 49316		

Drilling Method: Cable Tool Well Depth: 79.00 ft. Well Type: Replacement Casing Type: Steel - galvanized Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 72.00 ft. depth Borehole: 3.88 in. to 88.00 ft. depth	Well Use: Household Date Completed: 10/21/2004 Height: 1.00 ft. above grade Pump Installed: Yes Pump Installation Date: 10/26/2004 Manufacturer: Goulds Model Number: 10GS07 Drop Pipe Length: 65.00 ft. Drop Pipe Diameter: 0.75 in. Draw Down Seal Used: Yes Pressure Tank Installed: No Pressure Relief Valve Installed: No	Pump Installation Only: No HP: 0.75 Pump Type: Submersible Pump Capacity: 17 GPM Pump Voltage: Drilling Record ID:
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Static Water Level: 52.00 ft. Below Grade Well Yield Test: 1.00 hrs. at 30 GPM Yield Test Method: Plunger	<table border="1"><thead><tr><th>Formation Description</th><th>Thickness</th><th>Depth to Bottom</th></tr></thead><tbody><tr><td>Red Clay Sandy</td><td>21.00</td><td>21.00</td></tr><tr><td>Gravel & Sand</td><td>35.00</td><td>56.00</td></tr><tr><td>Sand W/Gravel</td><td>10.00</td><td>66.00</td></tr><tr><td>Sand Wet/Moist Fine</td><td>14.00</td><td>80.00</td></tr><tr><td>Sand Gravel Clay</td><td>2.00</td><td>82.00</td></tr><tr><td>Gray Clay</td><td>6.00</td><td>88.00</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	Formation Description	Thickness	Depth to Bottom	Red Clay Sandy	21.00	21.00	Gravel & Sand	35.00	56.00	Sand W/Gravel	10.00	66.00	Sand Wet/Moist Fine	14.00	80.00	Sand Gravel Clay	2.00	82.00	Gray Clay	6.00	88.00																								
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Sand W/Gravel	10.00	66.00																																												
Sand Wet/Moist Fine	14.00	80.00																																												
Sand Gravel Clay	2.00	82.00																																												
Gray Clay	6.00	88.00																																												

Screen Installed: Yes Screen Diameter: 3.00 in. Screen Material Type: Stainless steel-wire wrapped Screen Installation Type: Telescoped Slot Length Set Between: 7.00 7.00 ft. 72.00 ft. and 79.00 ft. Fittings: Bottom plug	Filter Packed: No Blank: Well Grouted: Yes Grouting Method: Driven/dry grout Grouting Material: Bentonite dry granular Bags: 1.00 Additives: None Depth: 0.00 ft. to 72.00 ft.	Geology Remarks:
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Wellhead Completion: Pitless adapter, 12 inches above grade
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Nearest Source of Possible Contamination: Type: Septic tank Distance: 50 ft. Direction: East	Drilling Machine Operator Name: DENNIS AYERS Employment: Employee
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Abandoned Well Plugged: No Reason Not Plugged: Owner is plugging well	Contractor Type: Water Well Drilling Contractor Business Name: Buer Well Drilling Business Address: 239 E Main, Caledonia, MI, 49316 Reg No: 41-2028
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	Water Well Contractor's Certification This well was drilled under my supervision and this report is true to the best of my knowledge and belief.
	Signature of Registered Contractor _____ Date _____

General Remarks:

Other Remarks: Map Scale:Unknown



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000019917 Elevation: Latitude: 42.78237 Longitude: -85.60209 Method of Collection: GPS Std Positioning Svc SA Off		Town/Range: 05N 11W	Section: 34	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 4931' EAST OF KALAMAZOO AND 213' SOUTH OF 100TH			
		Well Owner: LINDA CRUMBACK			
		Well Address: 2508 100TH ST SE CALEDONIA, MI 49316		Owner Address: 2508 100TH ST SE CALEDONIA, MI 49316	

Drilling Method: Cable Tool	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 84.00 ft.	Pump Installation Date: 12/21/2006	HP: 0.75
Well Type: Replacement	Manufacturer: Aermotor	Pump Type: Submersible
Well Use: Household	Model Number: S12-75	Pump Capacity: 13 GPM
Date Completed: 12/21/2006	Drop Pipe Length: 71.00 ft.	Pump Voltage:
Casing Type: Steel - galvanized	Drop Pipe Diameter: 1.25 in.	Drilling Record ID:
Height: 1.00 ft. above grade	Draw Down Seal Used: Yes	
Casing Joint: Threaded & coupled	Pressure Tank Installed: Yes	
Casing Fitting: Drive shoe	Pressure Tank Type: Diaphragm/bladder	
Diameter: 4.00 in. to 79.00 ft. depth	Manufacturer: Well-X-Trol	
Borehole:	Model Number: WX203	Tank Capacity: 33.0 Gallons
	Pressure Relief Valve Installed: Yes	

Static Water Level: 75.00 ft. Below Grade	Formation Description	Thickness	Depth to Bottom
Well Yield Test:			
Yield Test Method: Plunger	Red Clay	31.00	31.00
Pumping level 75.00 ft. after 1.00 hrs. at 35 GPM	Gray Clay	12.00	43.00
	Sand W/Gravel	23.00	66.00
	Sand	18.00	84.00

Screen Installed: Yes	Filter Packed: No	Geology Remarks:
Screen Diameter: 3.00 in.	Blank: Above	
Screen Material Type: Stainless steel-wire wrapped		
Screen Installation Type: Attached		
Slot	Length	
12.00	5.00 ft.	
Set Between		
	79.00 ft. and 84.00 ft.	
Fittings: None		

Well Grouted: Yes	Grouting Method: Driven/dry grout
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Grouting Material	Bags	Additives	Depth
Bentonite dry granular	2.00	None	0.00 ft. to 79.00 ft.

Wellhead Completion: Pitless adapter, 12 inches above grade
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Nearest Source of Possible Contamination:	Drilling Machine Operator Name: DENNIS AYERS
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Type	Distance	Direction	Employment: Employee
Septic tank	60 ft.	Northeast	Pump Installer: BRENT WINGER

Abandoned Well Plugged: Yes	Contractor Type: Water Well Drilling Contractor	Reg No: 41-2028
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Casing Diameter: 2 in.	Casing Removed: No
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Plugging Material: Bentonite chips/pellets	Business Name: Buer Well Drilling
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No. of Bags: 0.75	Well Depth: 80 ft.	Business Address: 239 E Main, Caledonia, MI, 49316
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Water Well Contractor's Certification	
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This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
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Signature of Registered Contractor	Date
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General Remarks: NITRATES 0 PPM, IRON .5 PPM, HARDNESS 17 GR, 12.5 GPM @40#, VERBAL PERMISSION FROM MARK MINGERINK ON 12/18/06 TO UNSCREW DROP PIPE ON 2" WELL AND ABANDON.
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Other Remarks:

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Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000023205 Elevation: Latitude: 42.77853 Longitude: -85.604193 Method of Collection: Interpolation-Map		Town/Range: 05N 11W	Section: 34	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 600' SOSUTH OF 100TH ST 1/2 MILE EAST OF KALAMAZOO			
		Well Owner: TIM SCHOLLAART			
		Well Address: 2408 100TH ST CALEDONIA, MI 49316		Owner Address: 2408 100TH ST CALEDONIA, MI 49316	

Drilling Method: Rotary Well Depth: 115.00 ft. Well Type: New Casing Type: PVC plastic Casing Joint: Solvent welded/glued Casing Fitting: Centralizer Diameter: 5.00 in. to 102.00 ft. depth SDR: 21.00 Borehole: 8.50 in. to 125.00 ft. depth	Well Use: Household Date Completed: 9/28/2011 Height: 1.00 ft. above grade Pump Installed: Yes Pump Installation Date: 9/28/2011 Manufacturer: Goulds Model Number: 55GS50 3PH Drop Pipe Length: 96.00 ft. Drop Pipe Diameter: 2.00 in. Draw Down Seal Used: No Pressure Tank Installed: Yes Pressure Tank Type: Diaphragm/bladder Manufacturer: Challenger Model Number: PC 66 Pressure Relief Valve Installed: Yes	Pump Installation Only: No HP: 5.00 Pump Type: Submersible Pump Capacity: 50 GPM Pump Voltage: 230 Drilling Record ID:
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Static Water Level: 85.00 ft. Below Grade Well Yield Test: Pumping level 113.00 ft. after 1.00 hrs. at 15 GPM Yield Test Method: Air	<table border="1"> <thead> <tr> <th>Formation Description</th> <th>Thickness</th> <th>Depth to Bottom</th> </tr> </thead> <tbody> <tr><td>Brown Clay & Sand</td><td>25.00</td><td>25.00</td></tr> <tr><td>Gray Clay</td><td>8.00</td><td>33.00</td></tr> <tr><td>Gray Clay Sand Gravel</td><td>5.00</td><td>38.00</td></tr> <tr><td>Gray Clay</td><td>19.00</td><td>57.00</td></tr> <tr><td>Sand & Gravel W/Clay Brown</td><td>5.00</td><td>62.00</td></tr> <tr><td>Gray Clay</td><td>9.00</td><td>71.00</td></tr> <tr><td>Sand & Gravel</td><td>14.00</td><td>85.00</td></tr> <tr><td>Sand & Gravel W/Clay Brown</td><td>3.00</td><td>88.00</td></tr> <tr><td>Sand & Gravel</td><td>12.00</td><td>100.00</td></tr> <tr><td>Sand W/Gravel Fine</td><td>5.00</td><td>105.00</td></tr> <tr><td>Sand Fine To Coarse</td><td>10.00</td><td>115.00</td></tr> <tr><td>Sand Fine To Medium Gray</td><td>10.00</td><td>125.00</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </tbody> </table>	Formation Description	Thickness	Depth to Bottom	Brown Clay & Sand	25.00	25.00	Gray Clay	8.00	33.00	Gray Clay Sand Gravel	5.00	38.00	Gray Clay	19.00	57.00	Sand & Gravel W/Clay Brown	5.00	62.00	Gray Clay	9.00	71.00	Sand & Gravel	14.00	85.00	Sand & Gravel W/Clay Brown	3.00	88.00	Sand & Gravel	12.00	100.00	Sand W/Gravel Fine	5.00	105.00	Sand Fine To Coarse	10.00	115.00	Sand Fine To Medium Gray	10.00	125.00						
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Screen Installed: Yes Screen Diameter: 5.00 in. Screen Material Type: PVC-slotted Screen Installation Type: Attached Slot Length Set Between: 0.15 13.00 ft. 102.00 ft. and 115.00 ft. Fittings: Coupling	Filter Packed: Yes Blank: Well Grouted: Yes Grouting Method: Grout pipe outside casing Grouting Material: Bentonite slurry Bags: 9.00 Additives: None Depth: 0.00 ft. to 94.00 ft.	Geology Remarks:
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Wellhead Completion: Pitless adapter	Drilling Machine Operator Name: JASON BROWN
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Nearest Source of Possible Contamination: Type: Septic tank Distance: 100 ft. Direction: South-Southwest	Employment: Employee Pump Installer: BRUCE SCHELTEMA
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Contractor Type: Water Well Drilling Contractor Business Name: Buer Well Drilling Business Address: 239 E Main, Caledonia, MI, 49316	Reg No: 41-2028
---	------------------------

Water Well Contractor's Certification This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.	
Signature of Registered Contractor	Date

General Remarks: 9' OF DD @ 50PPM , NITRATES 4.58 PPM, IRON 1.0 GPM, HARDNESS 18GR, YASTIAWA VFD, PUMP VOLTAGE 230 3 PH
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Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent	Township: Gaines			
Well ID: 41000023657 Elevation: Latitude: 42.78535 Longitude: -85.61079 Method of Collection: GPS Std Positioning Svc SA Off		Town/Range: 05N 11W	Section: 28	Well Status: Active	WSSN:	Source ID/Well No:
		Distance and Direction from Road Intersection: 918' NORTH OF 100TH ST .7 MILES EAST OF KALAMAZOO AVE				
		Well Owner: CRAIG NEWHOFF				
		Well Address: 2121 100th ST SE CALEDONIA, MI 49316		Owner Address: 2121 100th ST SE CALEDONIA, MI 49316		

Drilling Method: Rotary Well Depth: 95.00 ft. Well Type: New Casing Type: PVC plastic Casing Joint: Solvent welded/glued Casing Fitting: Centralizer Diameter: 6.00 in. to 9.00 ft. depth SDR: 21.00 6.90 in. to 70.00 ft. depth SDR: 21.00 Borehole: 10.00 in. to 99.00 ft. depth	Well Use: Irrigation Date Completed: 8/23/2012 Height: 2.00 ft. above grade Pump Installed: Yes Pump Installation Date: 8/23/2012 Manufacturer: Grundfos Model Number: 230S100-4 Drop Pipe Length: 60.00 ft. Drop Pipe Diameter: 3.00 in. Draw Down Seal Used: Yes Pump Installation Only: No HP: 10.00 Pump Type: Submersible Pump Capacity: 230 GPM Pump Voltage: 230 Drilling Record ID: LQW Reg. No: 1992-20128-17 Pressure Tank Installed: Yes Pressure Tank Type: Other Manufacturer: Flex-Lite-Flexcon Model Number: FL-17 Pressure Relief Valve Installed: Yes Tank Capacity: 56.0 Gallons
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Static Water Level: 35.50 ft. Below Grade Well Yield Test: Pumping level 38.40 ft. after 2.00 hrs. at 100 GPM Yield Test Method: Air	<table border="1"><thead><tr><th>Formation Description</th><th>Thickness</th><th>Depth to Bottom</th></tr></thead><tbody><tr><td>Black Topsoil W/Clay Red</td><td>6.00</td><td>6.00</td></tr><tr><td>Sand & Gravel</td><td>18.50</td><td>24.50</td></tr><tr><td>Sand & Gravel W/Clay Brown</td><td>10.50</td><td>35.00</td></tr><tr><td>Sand W/Gravel Fine</td><td>25.00</td><td>60.00</td></tr><tr><td>Gray Clay</td><td>2.00</td><td>62.00</td></tr><tr><td>Sand Fine</td><td>5.00</td><td>67.00</td></tr><tr><td>Sand & Gravel Medium To Coarse</td><td>32.00</td><td>99.00</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	Formation Description	Thickness	Depth to Bottom	Black Topsoil W/Clay Red	6.00	6.00	Sand & Gravel	18.50	24.50	Sand & Gravel W/Clay Brown	10.50	35.00	Sand W/Gravel Fine	25.00	60.00	Gray Clay	2.00	62.00	Sand Fine	5.00	67.00	Sand & Gravel Medium To Coarse	32.00	99.00																					
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Screen Installed: Yes Screen Diameter: 5.00 in. Screen Material Type: PVC-slotted Screen Installation Type: Attached Slot Length Set Between: 0.15 25.00 ft. 70.00 ft. and 95.00 ft. Fittings: Coupling	Filter Packed: Yes Blank: Well Grouted: Yes Grouting Method: Grout pipe outside casing Grouting Material: Bentonite slurry Bags: 7.00 Additives: None Depth: 0.00 ft. to 62.00 ft.
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Wellhead Completion: Other	Geology Remarks:
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Nearest Source of Possible Contamination: <table border="1"><thead><tr><th>Type</th><th>Distance</th><th>Direction</th></tr></thead><tbody><tr><td>Fuel tank</td><td>115 ft.</td><td>South</td></tr></tbody></table>	Type	Distance	Direction	Fuel tank	115 ft.	South	Drilling Machine Operator Name: JASON BROWN Employment: Employee Pump Installer: BRENT WINGER
Type	Distance	Direction					
Fuel tank	115 ft.	South					

Contractor Type: Water Well Drilling Contractor Business Name: Buer Well Drilling Inc Business Address: 239 E Main St, Caledonia, MI, 49316	Reg No: 41-2028
--	------------------------

Water Well Contractor's Certification This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.	
Signature of Registered Contractor	Date

General Remarks: NITRATES <0.10 mg/L, IRON 1.3 PPM, HARDNESS 22GR., CERUS VFD
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Other Remarks: Wellhead Completion:SANITARY SEAL, Tank Type:FIBERGLASS



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000023686 Elevation: Latitude: 42.77435 Longitude: -85.6182 Method of Collection: GPS Std Positioning Svc SA Off		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 200' W of Kalamazoo Ave & 1 Mi N of 108th Ave			
		Well Owner: Eugene Holiday			
		Well Address: 10461 Kalamazoo Ave Caledonia, MI 49316		Owner Address: 10461 Kalamazoo Ave Caledonia, MI 49316	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 88.00 ft.	Pump Installation Date: 9/14/2012	HP: 0.50
Well Type: Replacement	Manufacturer: Sta-Rite	Pump Type: Submersible
Date Completed: 9/14/2012	Model Number: s10k05221	Pump Capacity: 10 GPM
Casing Type: PVC plastic	Drop Pipe Length: 80.00 ft.	Pump Voltage: 230
Height: 1.00 ft. above grade	Drop Pipe Diameter: 1.00 in.	Drilling Record ID:
Casing Joint: Solvent welded/glued	Draw Down Seal Used: No	
Casing Fitting: None	Pressure Tank Installed: Yes	
Diameter: 5.00 in. to 83.00 ft. depth SDR: 21.00	Pressure Tank Type: Diaphragm/bladder	
	Manufacturer: Flex-Lite-Flexcon	
Borehole: 8.75 in. to 88.00 ft. depth	Model Number: pc-88	Tank Capacity: 26.0 Gallons
	Pressure Relief Valve Installed: Yes	

Static Water Level: 58.00 ft. Below Grade	Formation Description	Thickness	Depth to Bottom
Well Yield Test:			
Yield Test Method: Air	Sand	37.00	37.00
Pumping level 75.00 ft. after 1.00 hrs. at 30 GPM	Brown Clay	8.00	45.00
	Sand & Gravel	29.00	74.00
	Gray Clay	2.00	76.00
	Sand & Gravel Water Bearing	12.00	88.00

Screen Installed: Yes	Filter Packed: Yes	Geology Remarks:
Screen Diameter: 5.00 in.	Blank:	
Screen Material Type: PVC-slotted		
Screen Installation Type: Attached		
Slot	Length	Set Between
15.00	5.00 ft.	83.00 ft. and 88.00 ft.
Fittings: None		

Well Grouted: Yes	Grouting Method: Grout pipe outside casing	Drilling Machine Operator Name: Mitch Vickery
Grouting Material	Bags	
Additives	Depth	
Bentonite slurry	8.00 None 0.00 ft. to 80.00 ft.	
Wellhead Completion: Pitless adapter		Employment: Employee
Nearest Source of Possible Contamination:		Pump Installer: Anthony Fales
Type	Distance	
Septic tank	60 ft.	
Direction		
Southeast		

Abandoned Well Plugged: Yes	Contractor Type: Water Well Drilling Contractor	Reg No: 03-1601
	Business Name: Ronald Kraai Well Drilling	
	Business Address: 110-124th Avenue, Shelbyville, MI, 49344	
	Water Well Contractor's Certification	
	This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.	
Casing Diameter: 2 in.	Casing Removed: No	
Plugging Material: Bentonite chips/pellets		
No. of Bags: 2.00	Well Depth: 60 ft.	
Signature of Registered Contractor	Date	

General Remarks:
Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000023726 Elevation: Latitude: 42.777281 Longitude: -85.618644 Method of Collection: Interpolation-Map		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 3/4 MI N 108th Ave & 1/4 MI E Kalamazoo Ave			
		Well Owner: JOhn Anema			
		Well Address: 10388 Kalamazoo Ave Caledonia, MI 49316		Owner Address: 10388 Kalamazoo Ave Caledonia, MI 49316	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 292.00 ft.	Pump Installation Date: 10/9/2012	HP: 1.50
Well Type: Replacement	Manufacturer: AquaDuty	Pump Type: Submersible
Well Use: Household	Model Number: 20fv15p4-2w230	Pump Capacity: 20 GPM
Date Completed: 10/9/2012	Drop Pipe Length: 144.00 ft.	Pump Voltage: 230
Casing Type: PVC plastic	Drop Pipe Diameter: 1.25 in.	Drilling Record ID:
Casing Joint: Solvent welded/glued	Draw Down Seal Used: No	
Casing Fitting: Shale packer/trap	Pressure Tank Installed: Yes	
Height: 1.00 ft. above grade	Pressure Tank Type: Diaphragm/bladder	
Diameter: 5.00 in. to 200.00 ft. depth SDR: 21.00	Manufacturer: Well-X-Trol	
5.00 in. to 240.00 ft. depth SDR: 17.00	Model Number: wx-302	Tank Capacity: 30.0 Gallons
Borehole: 8.75 in. to 240.00 ft. depth	Pressure Relief Valve Installed: Yes	
4.50 in. to 292.00 ft. depth		

Static Water Level: 73.00 ft. Below Grade	Formation Description	Thickness	Depth to Bottom
Well Yield Test:	Brown Clay & Sand	16.00	16.00
Yield Test Method: Air	Sand & Gravel	57.00	73.00
Pumping level 120.00 ft. after 1.00 hrs. at 30 GPM	Brown Clay	5.00	78.00
	Sand & Gravel	14.00	92.00
	Gray Clay	128.00	220.00
	Shale & Limestone	33.00	253.00
	Sandstone	39.00	292.00

Screen Installed: No	Intake: Bedrock Well	Well Grouted: Yes	Grouting Method: Grout pipe outside casing	Geology Remarks:
		Grouting Material	Bags	
		Additives	Depth	
		Bentonite slurry	21.00 None 0.00 ft. to 240.00 ft.	

Wellhead Completion: Pitless adapter	Drilling Machine Operator Name: Mitch Vlckery
Nearest Source of Possible Contamination:	Employment: Employee
Type	
Distance	
Direction	
Drainfield/Dry well	80 ft. West

Abandoned Well Plugged: Yes	Contractor Type: Water Well Drilling Contractor	Reg No: 03-1601
	Business Name: Ronald Kraai Well Drilling	
	Business Address: 110-124th Avenue, Shelbyville, MI, 49344	
	Water Well Contractor's Certification	
	This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.	
Casing Diameter: 5 in.	Casing Removed: No	
Plugging Material: Bentonite chips/pellets		
No. of Bags: 20.00	Well Depth: 292 ft.	
Signature of Registered Contractor	Date	

General Remarks: casing broke apart @ 105ft flushed out to bottom, continually filled in to 105ft. Therefore, top 105ft was plugged with bentonite chips bottom 187ft filled with clay & silt

Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000037191 Elevation: Latitude: 42.77615 Longitude: -85.61716 Method of Collection: GPS Std Positioning Svc SA Off		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection:			
		Well Owner: DAMON WADE			
		Well Address: 10390 KALAMAZOO AVE SE BYRON CENTER, MI		Owner Address: 5976 CLAY AVE SW GRAND RAPIDS, MI 49548	

Drilling Method: Cable Tool Well Depth: 107.00 ft. Well Type: New Casing Type: Steel - unknown Casing Joint: Threaded & coupled Casing Fitting: Unknown Diameter: 4.00 in. to 97.00 ft. depth Borehole:	Well Use: Household Date Completed: 8/31/1994 Height: 1.00 ft. above grade Pump Installed: Yes Pump Installation Date: Manufacturer: Goulds Model Number: 10E10 Drop Pipe Length: 80.00 ft. Drop Pipe Diameter: Draw Down Seal Used: Unknown Pump Installation Only: No HP: 1.00 Pump Type: Submersible Pump Capacity: 19 GPM Pump Voltage: 230 Drilling Record ID:
	Pressure Tank Installed: Yes Pressure Tank Type: Unknown Manufacturer: Well-X-Trol Model Number: WX302 Pressure Relief Valve Installed: Unknown Tank Capacity: 86.0 Gallons

Static Water Level: 49.00 ft. Well Yield Test: Pumping level 52.00 ft. after 1.00 hrs. at 42 GPM Yield Test Method: Unknown Unrestricted Flow Rate: Screen Installed: Yes Screen Diameter: 3.00 in. Screen Material Type: Stainless steel-wire wrapped Screen Installation Type: Unknown Slot Length Set Between: 7.00 10.00 ft. 97.00 ft. and 107.00 ft. Fittings: Neoprene packer	<table border="1"> <thead> <tr> <th>Formation Description</th> <th>Thickness</th> <th>Depth to Bottom</th> </tr> </thead> <tbody> <tr><td>Clay</td><td>6.00</td><td>6.00</td></tr> <tr><td>Gravel & Sand</td><td>42.00</td><td>48.00</td></tr> <tr><td>Sand</td><td>20.00</td><td>68.00</td></tr> <tr><td>Gray Clay</td><td>1.00</td><td>69.00</td></tr> <tr><td>Silt</td><td>2.00</td><td>71.00</td></tr> <tr><td>Gray Clay</td><td>25.00</td><td>96.00</td></tr> <tr><td>Sand Fine</td><td>11.00</td><td>107.00</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Formation Description	Thickness	Depth to Bottom	Clay	6.00	6.00	Gravel & Sand	42.00	48.00	Sand	20.00	68.00	Gray Clay	1.00	69.00	Silt	2.00	71.00	Gray Clay	25.00	96.00	Sand Fine	11.00	107.00																					
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Gray Clay	25.00	96.00																																												
Sand Fine	11.00	107.00																																												

Grouting Material Bags Additives Depth Bentonite dry granular 4.00 Unknown	Geology Remarks: FINE SAND AND CLAY AT 107'
Wellhead Completion: Pitless adapter	

Nearest Source of Possible Contamination: Type Distance Direction Septic tank 50 ft. North	Drilling Machine Operator Name: DENNIS AYERS Employment: Unknown
	Contractor Type: Water Well Drilling Contractor Reg No: 41-1772 Business Name: BUER WELL DRILLING Business Address: 239 E MAIN, CALEDONIA, MI
	Water Well Contractor's Certification This well and/or pump installation was performed under my registration.
	Signature of Registered Contractor Date

General Remarks: 2 PPM NITRATES
--

Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000037205		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection:			
Elevation:		Well Owner: ROGER ROOSIEN			
Latitude: 42.77729		Well Address: 10388 KALAMAZOO AVE SE BYRON CENTER, MI 49316		Owner Address: 1900 WILMONT KENTWOOD, MI 49508	
Longitude: -85.61859					
Method of Collection: GPS Std Positioning Svc SA Off					

Drilling Method: Cable Tool	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 71.00 ft.	Pump Installation Date:	HP: 1.00
Well Use: Household	Manufacturer: Goulds	Pump Type: Submersible
Well Type: New	Model Number: 10E10	Pump Capacity: 19 GPM
Date Completed: 10/6/1994	Drop Pipe Length: 54.00 ft.	Pump Voltage: 230
Casing Type: Steel - unknown	Drop Pipe Diameter:	Drilling Record ID:
Height: 1.00 ft. above grade	Draw Down Seal Used: Unknown	
Casing Joint: Threaded & coupled	Pressure Tank Installed: Yes	
Casing Fitting: Drive shoe	Pressure Tank Type: Unknown	
Diameter: 4.00 in. to 64.00 ft. depth	Manufacturer: Well-X-Trol	
Borehole:	Model Number: WX302	Tank Capacity: 86.0 Gallons
	Pressure Relief Valve Installed: Unknown	

Static Water Level: 53.00 ft.	Formation Description	Thickness	Depth to Bottom
Well Yield Test:			
Yield Test Method: Plunger			
Pumping level 55.00 ft. after 1.00 hrs. at 60 GPM	Sand Gravel Clay	12.00	12.00
Unrestricted Flow Rate:	Sand & Gravel	50.00	62.00
Screen Installed: Yes	Sand	9.00	71.00
Filter Packed: Unknown			
Screen Diameter: 3.00 in.			
Blank: 0.50 ft. Above			
Screen Material Type: Stainless steel-wire wrapped			
Screen Installation Type: Unknown			
Slot			
Length			
Set Between			
7.00			
4.00 ft.			
10.00			
3.00 ft.			
64.00 ft. and 68.00 ft.			
68.00 ft. and 71.00 ft.			
Fittings: Neoprene packer			

Grouting Material	Bags	Additives	Depth	Geology Remarks: SAND AND CLAY AT 71'
Bentonite dry granular	3.00	Unknown		
Wellhead Completion: Pitless adapter				

Nearest Source of Possible Contamination:			Drilling Machine Operator Name: DENNIS AYERS
Type	Distance	Direction	Employment: Unknown
Septic tank	60 ft.	Northeast	
			Contractor Type: Water Well Drilling Contractor
			Reg No: 41-1772
			Business Name: BUER WELL DRILLING
			Business Address: 239 E MAIN, CALEDONIA, MI
Water Well Contractor's Certification			
This well and/or pump installation was performed under my registration.			
Signature of Registered Contractor			Date

General Remarks: 4 PPM NITRATES LEMCO SEAL
Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000037207		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection:			
Elevation:		Well Owner: ELDON CRUMBACK			
Latitude: 42.78248		Well Address:		Owner Address:	
Longitude: -85.6097		2202 100TH ST SE		2202 100TH ST SE	
Method of Collection: GPS Std Positioning Svc SA Off		CALEDONIA, MI 49316		CALEDONIA, MI 49316	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 75.00 ft.	Pump Installation Date:	HP: 0.50
Well Type: Replacement	Manufacturer: Goulds	Pump Type: Submersible
Date Completed: 7/23/1997	Model Number: 10GS05	Pump Capacity: 15 GPM
Casing Type: PVC plastic	Drop Pipe Length: 63.00 ft.	Pump Voltage: 230
Height: 1.00 ft. above grade	Drop Pipe Diameter:	Drilling Record ID:
Casing Joint: Unknown	Draw Down Seal Used: Unknown	
Casing Fitting: Unknown	Pressure Tank Installed: Yes	
Diameter: 5.00 in. to 70.00 ft. depth	Pressure Tank Type: Unknown	
	Manufacturer: Well-Rite-Flexcon	
Borehole: 8.00 in. to 82.00 ft. depth	Model Number: WR120	Tank Capacity: 33.0 Gallons
	Pressure Relief Valve Installed: Unknown	

Static Water Level: 56.00 ft.	Formation Description	Thickness	Depth to Bottom
Well Yield Test:			
Yield Test Method: Test pump	Sand Gravel Clay	10.00	10.00
Pumping level 70.00 ft. after 1.00 hrs. at 14 GPM	Gravel & Sand	25.00	35.00
	Sand & Gravel	40.00	75.00
Unrestricted Flow Rate:	Gray Clay	7.00	82.00

Screen Installed: Yes	Filter Packed: Yes
Screen Diameter: 5.00 in.	Blank:
Screen Material Type: PVC-slotted	
Screen Installation Type: Unknown	
Slot	Length
20.00	5.00 ft.
Set Between	
70.00 ft. and 75.00 ft.	
Fittings: Other	

Grouting Material	Bags	Additives	Depth
Bentonite slurry	7.00	Unknown	0.00 ft. to 65.00 ft.
Wellhead Completion: Pitless adapter			

Nearest Source of Possible Contamination:			Drilling Machine Operator Name: STEVE BUER
Type	Distance	Direction	Employment: Unknown
Septic tank	60 ft.	Southwest	

Abandoned Well Plugged: Yes	Contractor Type: Water Well Drilling Contractor	Reg No: 41-1772
	Business Name: BUER WELL DRILLING	
	Business Address: 239 E MAIN, CALEDONIA, MI, 49316	

Water Well Contractor's Certification	
This well and/or pump installation was performed under my registration.	
Signature of Registered Contractor	Date

General Remarks: NITRATES NEAR 10 PPM CUSTOMER ACCEPTED 550 BADGER FILTER PACK LEMCO SEAL ABOVE PUMP

Other Remarks: Screen Fittings:GAP



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines		
Well ID: 41000037208		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:	
		Source ID/Well No:				
		Distance and Direction from Road Intersection: 1/2 MI N OF 100TH ON E SIDE OF KALAMAZOO SW OF HOUSE. 400 YDS E OF KALAMAZOO				
		Well Owner: EARL AND CHERYL MAIER				
Elevation:		Well Address:		Owner Address:		
Latitude: 42.776513		10392 KALAMAZOO AVE SE		5480 RANGER HILL		
Longitude: -85.615663		BYRON CENTER, MI		GRAND RAPIDS, MI		
Method of Collection: GPS Std Positioning Svc SA Off						

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 109.00 ft.	Pump Installation Date:	HP: 1.50
Well Type: New	Manufacturer: Fairbanks-Morse	Pump Type: Submersible
Casing Type: PVC plastic	Model Number: 18B153	Pump Capacity: 20 GPM
Casing Joint: Unknown	Drop Pipe Length: 19.00 ft.	Pump Voltage: 220
Casing Fitting: Unknown	Drop Pipe Diameter:	Drilling Record ID:
Height: 1.00 ft. above grade	Draw Down Seal Used: Unknown	
Diameter: 5.00 in. to 109.00 ft. depth SDR: 21.00	Pressure Tank Installed: Yes	
	Pressure Tank Type: Unknown	
	Manufacturer: Champion	
Borehole: 8.50 in. to 109.00 ft. depth	Model Number: 17002	Tank Capacity: 26.7 Gallons
	Pressure Relief Valve Installed: Unknown	

Static Water Level: 56.00 ft.	Yield Test Method: Air	Formation Description	Thickness	Depth to Bottom
Well Yield Test: at 50 GPM		Red Clay & Sand	3.00	3.00
Unrestricted Flow Rate:		Red Clay & Sand	10.00	13.00
Screen Installed: Yes	Filter Packed: Unknown	Gravel & Sand	16.00	29.00
Screen Diameter: 3.00 in.	Blank: 2.00 ft. Betw	Sand	34.00	63.00
Screen Material Type: Stainless steel-wire wrapped		Gravel & Sand	12.00	75.00
Screen Installation Type: Unknown		Sand	5.00	80.00
Slot	Length	Red Clay & Sand	6.00	86.00
10.00	8.00 ft.	Sand Silty Fine	11.00	97.00
	Set Between	Sand	12.00	109.00
	99.00 ft. and 109.00 ft.			
Fittings: Neoprene packer				

Grouting Material	Bags	Additives	Depth
Bentonite slurry	5.00	Unknown	0.00 ft. to 95.00 ft.
Wellhead Completion: Pitless adapter, 12 inches above grade			

Nearest Source of Possible Contamination:	Drilling Machine Operator Name: DOUGLAS FRANKLIN
Type	Employment: Employee
Unknown	
Distance	Contractor Type: Water Well Drilling Contractor
Direction	Reg No: 03-2167
North	Business Name: NEWTONS WELL SERVICE INC
	Business Address: 550 E Cloverdale Rd, HASTINGS, MI, 49058
	Water Well Contractor's Certification
	This well and/or pump installation was performed under my registration.
	Signature of Registered Contractor
	Date
General Remarks: 50 GPM W AIR LMECO SEAL USED 1 PPM NITRATES	
Other Remarks:	



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000037212 Elevation: Latitude: 42.77708 Longitude: -85.61993 Method of Collection: GPS Std Positioning Svc SA Off		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 4/10 MI S OF 100TH ST, 95' E OF KALAMAZOO			
		Well Owner: DON DENISON			
		Well Address: 10320 KALAMAZOO AVE SE CALEDONIA, MI 49316		Owner Address: 10320 KALAMAZOO AVE SE CALEDONIA, MI 49316	

Drilling Method: Cable Tool	Pump Installed: Yes	Pump Installation Only: Yes
Well Depth: 90.00 ft.	Pump Installation Date:	HP: 0.50
Well Type: Unknown	Manufacturer: Aermotor	Pump Type: Submersible
Well Use: Household	Model Number: SA50M230	Pump Capacity: 15 GPM
Date Completed: 12/12/1968	Drop Pipe Length: 73.00 ft.	Pump Voltage:
Casing Type: Unknown	Drop Pipe Diameter:	Drilling Record ID:
Height: 0.00 ft. below grade	Draw Down Seal Used: Unknown	
Casing Joint: Threaded & coupled	Pressure Tank Installed: No	
Casing Fitting: Drive shoe	Pressure Relief Valve Installed: Unknown	
Diameter: 4.00 in. to 85.00 ft. depth		
Borehole:		

Static Water Level: 54.00 ft.	Formation Description	Thickness	Depth to Bottom
Well Yield Test:	Gravel	55.00	55.00
Yield Test Method: Unknown	Sand	37.00	92.00
Pumping level 54.00 ft. after 10.00 hrs. at 20 GPM			
Unrestricted Flow Rate:			
Screen Installed: Yes			
Filter Packed: Unknown			
Screen Diameter: 4.00 in.			
Blank:			
Screen Material Type: Stainless steel-wire wrapped			
Screen Installation Type: Unknown			
Slot			
Length			
Set Between			
7.00			
5.00 ft.			
85.00 ft. and 90.00 ft.			
Fittings: Other			

Grouting Material	Bags	Additives	Depth	Geology Remarks:
Other		Unknown		
Wellhead Completion: Pitless adapter				

Nearest Source of Possible Contamination:			Drilling Machine Operator Name:
Type	Distance	Direction	Employment: Unknown
Septic tank	50 ft.	South	
Abandoned Well Plugged: Unknown			Contractor Type: Water Well Drilling Contractor
			Reg No: 41-0073
			Business Name: BUER WD
			Business Address: 239 E MAIN, CALEDONIA, MI
			Water Well Contractor's Certification
			This well and/or pump installation was performed under my registration.
Casing Removed:			Signature of Registered Contractor
			Date

General Remarks:
Other Remarks: Grouting Material 1:DRLG MUD, Screen Fittings:LEAD PACKER



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000037216 Elevation: Latitude: 42.78211 Longitude: -85.62413 Method of Collection: GPS Std Positioning Svc SA Off		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 100' S EAST CORNER 100TH AND KALAMAZOO SW OF HOUSE			
		Well Owner: JOHN SHACKELTON			
		Well Address: 10034 KALAMAZOO AVE SE CALEDONIA, MI 49316		Owner Address: 10034 KALAMAZOO AVE SE CALEDONIA, MI 49316	

Drilling Method: Hollow Rod	Pump Installed: No
Well Depth: 76.00 ft.	Pressure Tank Installed: No
Well Type: Replacement	Pressure Relief Valve Installed: Unknown
Well Use: Household	
Date Completed: 4/13/1990	
Casing Type: Steel - unknown	
Height: 1.00 ft. above grade	
Casing Joint: Unknown	
Casing Fitting: Drive shoe	
Diameter: 2.00 in. to 72.00 ft. depth 1.25 in. to 76.00 ft. depth	
Borehole:	

Static Water Level: 51.00 ft.	Formation Description	Thickness	Depth to Bottom
Well Yield Test:			
Yield Test Method: Unknown	Red Sand & Clay	20.00	20.00
Pumping level 51.00 ft. after 1.00 hrs. at 18 GPM	Sand & Gravel Coarse	56.00	76.00
Unrestricted Flow Rate:			
Screen Installed: Yes			
Filter Packed: Unknown			
Screen Diameter: 1.25 in.			
Blank: 1.00 ft.			
Screen Material Type: Stainless steel-wire wrapped			
Screen Installation Type: Unknown			
Slot			
Length			
Set Between			
10.00			
4.00 ft.			
72.00 ft. and 76.00 ft.			
Fittings: Bremer check valve			

Grouting Material	Bags	Additives	Depth	Geology Remarks:
Bentonite dry granular	1.00	Unknown		
Wellhead Completion:	12 inches above grade			

Nearest Source of Possible Contamination:			Drilling Machine Operator Name: WATSON V JOYCE
Type	Distance	Direction	Employment: Unknown
Septic tank	65 ft.	East	
Abandoned Well Plugged: Yes			Contractor Type: Water Well Drilling Contractor
			Reg No: 41-1887
			Business Name: JOYCE DRILLING INC
			Business Address: 4960 4TH, CALEDONIA, MI, 49316
			Water Well Contractor's Certification
			This well and/or pump installation was performed under my registration.
Casing Removed: Unknown			Signature of Registered Contractor
			Date

General Remarks: FIELD TEST FOR NITRATES 0
Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent	Township: Gaines			
Well ID: 41000058662 Elevation: Latitude: 42.779796 Longitude: -85.601124 Method of Collection: Interpolation-Map		Town/Range: 05N 11W	Section: 34	Well Status: Active	WSSN:	Source ID/Well No:
		Distance and Direction from Road Intersection: 1072' SOUTH AND 4125' WEST FROM INTERSECTION OF 100TH ST SE AND HANNA LAKE AVE SE				
		Well Owner: RDI COMPANIES				
		Well Address: 2550 100TH ST SE CALEDONIA, MI 49418		Owner Address: 1235 76TH ST SW BYRON CENTER, MI 49315		

Drilling Method: Rotary Well Depth: 115.00 ft. Well Type: New Casing Type: PVC plastic Casing Joint: Solvent welded/glued Casing Fitting: Centralizer Diameter: 5.00 in. to 105.00 ft. depth SDR: 21.00 Borehole: 8.75 in. to 118.00 ft. depth	Well Use: Household Date Completed: 11/1/2023 Height: 1.00 ft. above grade Pump Installed: Yes Pump Installation Date: 11/1/2023 Manufacturer: A.Y. McDonald Model Number: AY24500S Drop Pipe Length: 100.00 ft. Drop Pipe Diameter: 2.00 in. Draw Down Seal Used: Yes Pump Installation Only: No HP: 5.00 Pump Type: Submersible Pump Capacity: 55 GPM Pump Voltage: 230 Drilling Record ID: Pressure Tank Installed: Yes Pressure Tank Type: Diaphragm/bladder Manufacturer: Flex-Lite-Flexcon Model Number: FL 7 Tank Capacity: 22.0 Gallons Pressure Relief Valve Installed: Yes
---	---

Static Water Level: 79.00 ft. Below Grade Well Yield Test: Pumping level 113.00 ft. after 1.00 hrs. at 68 GPM Screen Installed: Yes Screen Diameter: 5.00 in. Screen Material Type: PVC-slotted Screen Installation Type: Attached Slot Length Set Between: 20.00 10.00 ft. 105.00 ft. and 115.00 ft. Fittings: Coupling	Yield Test Method: Air <table border="1"><thead><tr><th>Formation Description</th><th>Thickness</th><th>Depth to Bottom</th></tr></thead><tbody><tr><td>Brown Clay</td><td>5.00</td><td>5.00</td></tr><tr><td>Gray Clay</td><td>46.00</td><td>51.00</td></tr><tr><td>Sand & Gravel</td><td>11.00</td><td>62.00</td></tr><tr><td>Gray Clay & Gravel</td><td>4.00</td><td>66.00</td></tr><tr><td>Sand & Gravel</td><td>52.00</td><td>118.00</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	Formation Description	Thickness	Depth to Bottom	Brown Clay	5.00	5.00	Gray Clay	46.00	51.00	Sand & Gravel	11.00	62.00	Gray Clay & Gravel	4.00	66.00	Sand & Gravel	52.00	118.00																														
Formation Description	Thickness	Depth to Bottom																																															
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Gray Clay	46.00	51.00																																															
Sand & Gravel	11.00	62.00																																															
Gray Clay & Gravel	4.00	66.00																																															
Sand & Gravel	52.00	118.00																																															

Well Grouted: Yes Grouting Material: Bentonite slurry Grouting Method: Grout pipe outside casing Bags: 9.00 Additives: None Depth: 0.00 ft. to 100.00 ft.	Geology Remarks:
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Wellhead Completion: Pitless adapter	Drilling Machine Operator Name: JACK WIEST
---	---

Nearest Source of Possible Contamination: <table border="1"><thead><tr><th>Type</th><th>Distance</th><th>Direction</th></tr></thead><tbody><tr><td>Septic tank</td><td>80 ft.</td><td>South</td></tr></tbody></table>	Type	Distance	Direction	Septic tank	80 ft.	South	Employment: Employee Pump Installer: TAYLOR BURROWS
Type	Distance	Direction					
Septic tank	80 ft.	South					

Contractor Type: Water Well Drilling Contractor Business Name: Buer Well Drilling Inc Business Address: 239 E Main St, Caledonia, MI, 49316	Reg No: 41-2028
--	------------------------

Water Well Contractor's Certification This well and/or pump installation was performed under my registration.	
Signature of Registered Contractor	Date

General Remarks:
Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No: 41-22-23-200-009	Permit No:	County: Kent	Township: Gaines				
Well ID: 41000059074 Elevation: Latitude: 42.78221 Longitude: -85.61248 Method of Collection: Interpolation-Map		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:	Source ID/Well No:	
		Distance and Direction from Road Intersection: 207' SOUTH AND 3249' EAST FROM INTERSECTION OF KALAMAZOO AVE SE AND 100TH ST SE					
		Well Owner: TIM BURGESS					
		Well Address: 2070 100TH ST SE CALEDONIA, MI 49316			Owner Address: 6128 E FIELDSTONE HILLS DR CALEDONIA, MI 49316		

Drilling Method: Rotary Well Depth: 100.00 ft. Well Type: New Casing Type: PVC plastic Casing Joint: Solvent welded/glued Casing Fitting: Centralizer Diameter: 5.00 in. to 93.00 ft. depth SDR: 21.00 Borehole: 8.75 in. to 105.00 ft. depth	Well Use: Household Date Completed: 4/15/2024 Height: 1.00 ft. above grade Pump Installed: Yes Pump Installation Date: 4/19/2024 Manufacturer: A.Y. McDonald Model Number: AY23075K2 Drop Pipe Length: 88.00 ft. Drop Pipe Diameter: 1.25 in. Draw Down Seal Used: No Pressure Tank Installed: Yes Pressure Tank Type: Diaphragm/bladder Manufacturer: Flex-Lite-Flexcon Model Number: FL 12 Pressure Relief Valve Installed: Yes	Pump Installation Only: No HP: 0.75 Pump Type: Submersible Pump Capacity: 10 GPM Pump Voltage: 230 Drilling Record ID:
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Static Water Level: 69.00 ft. Below Grade Well Yield Test: Pumping level 98.00 ft. after 1.00 hrs. at 27 GPM Screen Installed: Yes Screen Diameter: 5.00 in. Screen Material Type: PVC-slotted Screen Installation Type: Attached Slot Length Set Between 20.00 7.00 ft. 93.00 ft. and 100.00 ft. Fittings: Coupling	Yield Test Method: Air <table><thead><tr><th>Formation Description</th><th>Thickness</th><th>Depth to Bottom</th></tr></thead><tbody><tr><td>Red Clay</td><td>11.00</td><td>11.00</td></tr><tr><td>Sand & Gravel</td><td>39.00</td><td>50.00</td></tr><tr><td>Red Clay W/Stones</td><td>9.00</td><td>59.00</td></tr><tr><td>Sand & Gravel</td><td>28.00</td><td>87.00</td></tr><tr><td>Sand & Gravel W/Clay Red</td><td>13.00</td><td>100.00</td></tr><tr><td>Sand Fine W/Clay</td><td>5.00</td><td>105.00</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></tbody></table>	Formation Description	Thickness	Depth to Bottom	Red Clay	11.00	11.00	Sand & Gravel	39.00	50.00	Red Clay W/Stones	9.00	59.00	Sand & Gravel	28.00	87.00	Sand & Gravel W/Clay Red	13.00	100.00	Sand Fine W/Clay	5.00	105.00																								
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Sand & Gravel W/Clay Red	13.00	100.00																																												
Sand Fine W/Clay	5.00	105.00																																												

Well Grouted: Yes Grouting Material: Bentonite slurry Bags: 8.00 Additives: None Depth: 0.00 ft. to 89.00 ft.	Grouting Method: Grout pipe outside casing Geology Remarks:
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Wellhead Completion: Pitless adapter	Drilling Machine Operator Name: JACK WIEST
---	---

Nearest Source of Possible Contamination: Type: Other Distance: 70 ft. Direction: West	Employment: Employee Pump Installer: RYAN VANDERMEER
---	---

Contractor Type: Water Well Drilling Contractor Business Name: Buer Well Drilling Inc Business Address: 239 E Main St, Caledonia, MI, 49316	Reg No: 41-2028
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Water Well Contractor's Certification This well and/or pump installation was performed under my registration.	
Signature of Registered Contractor	Date

General Remarks:

Other Remarks: Contamination Source 1:GRAY WATER SUMP
--

APPENDIX II



7901 Sylvania Avenue
Sylvania, Ohio 43560
Local 419-841-3232
Fax 419-882-8772
www.NRMsolution.com

December 16, 2020

**Stoneco of Michigan
3700 Patterson Road
Middleville, Michigan 49333**

Attention: Mr. Tony Halloran

**Reference: 10392 & 10388 Kalamazoo Avenue
Groundwater and Surface Water Evaluation**

Dear Mr. Halloran,

On behalf of Stoneco of Michigan (Stoneco), Natural Resources Management, LLC (NRM) has conducted a site visit and detailed data review of the surface and groundwater settings at the above referenced property (the subject properties). The purpose of this letter is to prepare and provide you with our findings and opinions of the surface and groundwater characteristics on the properties and more specifically, our opinion as to the low water elevation of the pond located on shared by the property owners. We also have assessed the potential for impacts to the pond from the existing and proposed 100th Street sand and gravel operation as previously completed in earlier reports. This letter and enclosures serve as an addendum to those evaluations.

Subject Properties Historical Review & Site Visit Summary

Previously, NRM reviewed a limited amount of historical aerial photographs for the subject properties and surrounding area. For this report, NRM conducted a more extensive review and obtained additional aerial photographs; the most recent being from the year 2020 and the oldest one being 1938. Historical topographic maps and wetland maps from various readily available sources were reviewed. A detailed review of the available domestic well logs on the subject properties was conducted that allowed for the construction of cross-sections relative to the reported groundwater tables and ground surface elevations. A site visit was conducted on December 11, 2020 with the property representatives at which time we made observations of the subject properties, collected photographs and conducted personal interviews. The following is a summary of our findings and opinions:

- In addition to the United States Geological Survey historical topographic maps for the years 1943, 1967, 2014, 2017 and 2019 previously reviewed, NRM obtained the most recently available lidar data for Kent County from the USGS National Land Cover Database and the Kent County GIS Parcel Mapper. This topographic layer is shown in the enclosed Subject Properties Topography Figure 1A. Based upon this review, the area of the pond on the subject properties are shown to have an elevation of approximately 838-feet, mean sea level (ft, msl) around the top of bank to approximately 834-ft, msl in elevation at its lowest mapped depressional area. The well locations on the subject properties in reference to the pond are presented in Figure 1A.

The approximate elevation of the ground surface at the well location identified as 10392 Kalamazoo Avenue appears to be at 865-ft, msl (see Figure 1A and Photograph 1). The approximate elevation of the ground surface at the water well location for 10388 Barn also identified in the well log as an "irrigation" well (see attached well log ID 4100001874)

appears to be at 846-ft, msl. This is the well on the property located at 10388 Kalamazoo Avenue and nearest to the pond. The ground surface elevation of a third domestic well reported to be a deep bedrock well for the domestic supply (Deep Well Location for 10388) is approximately 863-ft, msl.

- The pond on the subject properties was observed on several historical aerial photographs dated from 1938 through 2020 (see ERIS Historical Aerial Report Dated December 15, 2020). As stated in our previous reports, the surface water elevation in the pond appears to fluctuate seasonally as well as annually, likely based on available precipitation. Since at least 1938, it appeared the water contained in the depression appears nearly dry in some years and having more open water elevations in others. All photographs have indications that the pond exhibits characteristics of an emergent wetland with seasonal open water and is characteristic of seasonal and annual fluctuations in available precipitation. The pond surface is covered in vegetation in most of the photographs.
- Domestic water supply well logs on the subject properties and surrounding parcels were reviewed to determine the subsurface characteristics of the soils and evaluate the approximate groundwater elevation. Four well logs were reviewed and three wells appear to have been installed in the sand and gravel aquifer beneath the quarry floor (see Figure 2 for well locations and cross-section line A-A'). These three wells included; 1) the residence located at 10034 Kalamazoo Avenue (well ID 16558), 2) the well identified as an irrigation well located at the barn with the address 10388 Kalamazoo Avenue (well ID 18704), and 3) the residence located at 10392 Kalamazoo Avenue (no well ID). Static water elevations were recorded on the well logs for these wells.

Using the topographic information presented in Figure 2 and reported information on the well logs, the approximate elevation of the ground water table at 10034 Kalamazoo Avenue, 10392 Kalamazoo Avenue and the Barn or "irrigation" well at 10388 Kalamazoo Avenue was inferred to be at an elevation of approximately 809-ft, msl and 810-ft, msl and 812-ft, msl respectively. The surface material was described as Brown Clay and Sand and Sand & Gravel to elevations of 778-feet, msl; 757-ft, msl; and 759-ft, msl respectively. The well ID 23726 located at 10388 Kalamazoo Avenue was a deep well screened within the bedrock aquifer and therefore, not used for this evaluation but is depicted on the cross-section drawing.

A cross-section A-A' (enclosed) was constructed using this information and is presented in Figure 3. The cross section suggests that groundwater encountered in the vicinity of the subject property has static elevations of approximately 810-feet, msl (rounded) and occurs within the underlying sand and gravel at quantities sufficient for domestic supply. Although these water elevations were reported at different time periods, the elevations in these wells are fairly consistent with the expected groundwater elevations as reported in previous evaluations for the adjoining mining operation. We therefore consider the inferred general groundwater elevation to be approximately 810-feet, msl and likely fluctuates with available recharge.

- Elevations of the adjoining quarry floor are at elevations of 830-ft, msl and therefore, would be expected to be approximately 20-feet above the inferred groundwater table.
- Based upon the topographic information above, the bottom elevation of the pond is approximately 833 to 830-feet, msl and would also be several feet above the inferred ground water table.

- Historical precipitation data was obtained from the Byron Center, MI Weather Underground data base. The monthly and annual precipitation data is presented in the attached Table 1. The recorded precipitation for the year 2020 up to November 30, 2020 was reported as 33.9-inches. Only a trace of precipitation had been recorded at this station for the first 11 days of December 2020. The average annual precipitation for the four previous years was 43.5-inches. We compared the monthly recorded levels from the four previous years to the 2020 annual records. It appears with the exception of July 2020, the monthly precipitation levels during the summer and fall months were below average. Records indicate recorded precipitation for the months of August, September and October were *significantly* lower and would therefore, not contribute to surface water recharge as it would have in a year with normal precipitation levels. Evidence of the fluctuating water levels can be seen in the historical aerial photographs dating back to 1938.
- A site visit was conducted on December 11, 2020 by representatives of NRM, Stoneco of Michigan and the respective property owner representatives. See attached Photograph Log and Wetland Maps dated December 11, 2020 for reference. We reviewed the well locations for the properties and the pond characteristics on the subject property. The ground surface at the domestic well location at 10392 Kalamazoo Avenue appeared to be approximately 20 to 30-feet above the observed elevation of the bottom of the pond (Photograph 1), consistent with the topographic maps.

Based on the observed watermarks on the surrounding bank of the pond and dormant vegetation species, the ordinary high-water mark appeared to be approximately three (3) to four (4) feet above the bottom substrate and the top of bank appeared to be approximately 5-feet above the bottom of the pond. The pond appeared to have standing water in isolated low-lying pockets within the substrate at the time of the site visit. The substrate was observed to be of a sandy silt-to silty clay with high organic content. A layer of decaying leaves was observed throughout the bottom of the substrate. The banks of the pond were observed to be gray to tan fine sand and topsoil.

Dormant vegetation was observed in all areas of the exposed pond substrate that included but was not limited to lilly pad roots, reed canary grass stems, cattail stems, moss and lichen species. Portions of the banks included various species of shrubs. Bank erosion was observed along the banks. These observations are representative characteristics of shallow open water and emergent wetland habitats. This is supported by the fact that the area has been mapped as emergent wetlands with isolated fresh water pockets on the US Fish & Wildlife National Wetlands Maps (See Map 1 and Map 2 on the enclosed Photograph and Wetland Map Log).

It was reported that the pond was excavated several years prior and not artificially lined. It was also reported by the property owners that surface water is directed to the pond through field tile from the wetland complex located on the Barnaby property located approximately 300-feet from the north end of the pond. Additionally, field tile entering the pond was observed at the southwest edge of the pond. Extent or functionality of any of the field tiles observed or reportedly entering the pond were not determined at the time of the site visit.

Based on the above information, it is likely the bottom of the pond is situated within sandy silt or silty clay material that is poorly drained and would therefore hold water for a period of time. Surface water recharge is directly related to available precipitation. Evidence was observed indicating the pond is a shallow emergent wetland that contains areas of open water seasonally. The depth of the pond, surface area and amount of emergent vegetation that covers the surface in the growing season

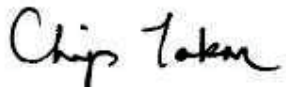
makes is more susceptible to evaporation and evapotranspiration. This would therefore, impact the surface water elevations more prominently in years exhibiting mild to severe drought conditions. The isolated nature of the perched semi-permeable layers will also allow the pond to leak into the dry sand and gravel and eventually into the ground water table, impacting the water levels more readily during seasons without normal rainfall.

Based on our interpretation of the static ground water elevations reported in the domestic well logs along with the topographic maps, the inferred ground water table would be approximately 15-feet below the apparent bottom elevation of the pond and therefore, this emergent wetland is not likely connected to the shallow groundwater table. It can further be documented from the historical aerial photographs, the pond on the properties has a history of higher and lower water elevations and varying surface water extent since at least 1938. Observed vegetation in the pond substrate and watermarks on the banks and shrubs indicate the pond can be characterized as a shallow open water and emergent wetland habitat. There is no evidence that the adjoining mining activities, which are being conducted above the inferred ground water elevation, would have any impacts to the surrounding wetlands or ponds. No active dewatering is occurring at the adjoining mining operation. We would expect the pond surface water levels to recharge as precipitation events reflect normal or above normal recorded levels.

As stated in our previous assessments, the information presented above supports our professional opinion that no significant environmental impacts would be expected from the proposed mining activities. The currently observed low water elevation of the pond is likely due to low recharge rates associated with the below-normal precipitation recorded in the area. This is supported by the fact that the pond substrate shows characteristics of a leaky or semi-confining layer that would allow surface water to infiltrate into the underlying sand and gravel aquifer that is inferred to be over 10-feet below the bottom of the pond. More importantly, the pond has been identified as an emergent wetland habitat with isolated pockets of open water and the findings presented herein support the fact that this condition has existed since at least 1938.

This evaluation and our opinions rely on some information presented by others and therefore, NRM reserves the right to revise this report if additional information is presented. We trust this clearly outlines our findings and opinions for your consideration with respect to the proposed mineral extraction operation. At this time, we would recommend the property owners install rain gauges to record precipitation events and install a staff gauge in the pond to record periodic observations of water levels throughout the year. Please contact me with any questions.

Sincerely,

A handwritten signature in black ink that reads "Chip Tokar". The signature is written in a cursive, slightly slanted style.

Chip Tokar, CPG, CPESC, CMS
Natural Resources Management, LLC

c: Ms. Susanne Hanf, P.E. – Stoneco of Michigan, via electronic mail

Figure 1A Topographic Map & Well Locations

December 16, 2020



Figure 2 Cross Section Location Map

December 16, 2020

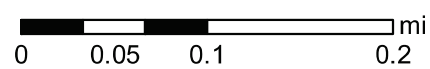


FIGURE 3: CROSS SECTION A-A' Kalamazoo Avenue Properties
PREPARED BY: FRANK "CHIP" TOKAR JR., C.P.G. (10865) NATURAL RESOURCES MANAGEMENT, LLC
PREPARED FOR: STONECO OF MICHIGAN, INC. 15203 S TELEGRAPH RD, MONROE, MI 48161 DATE: 12-16-2020

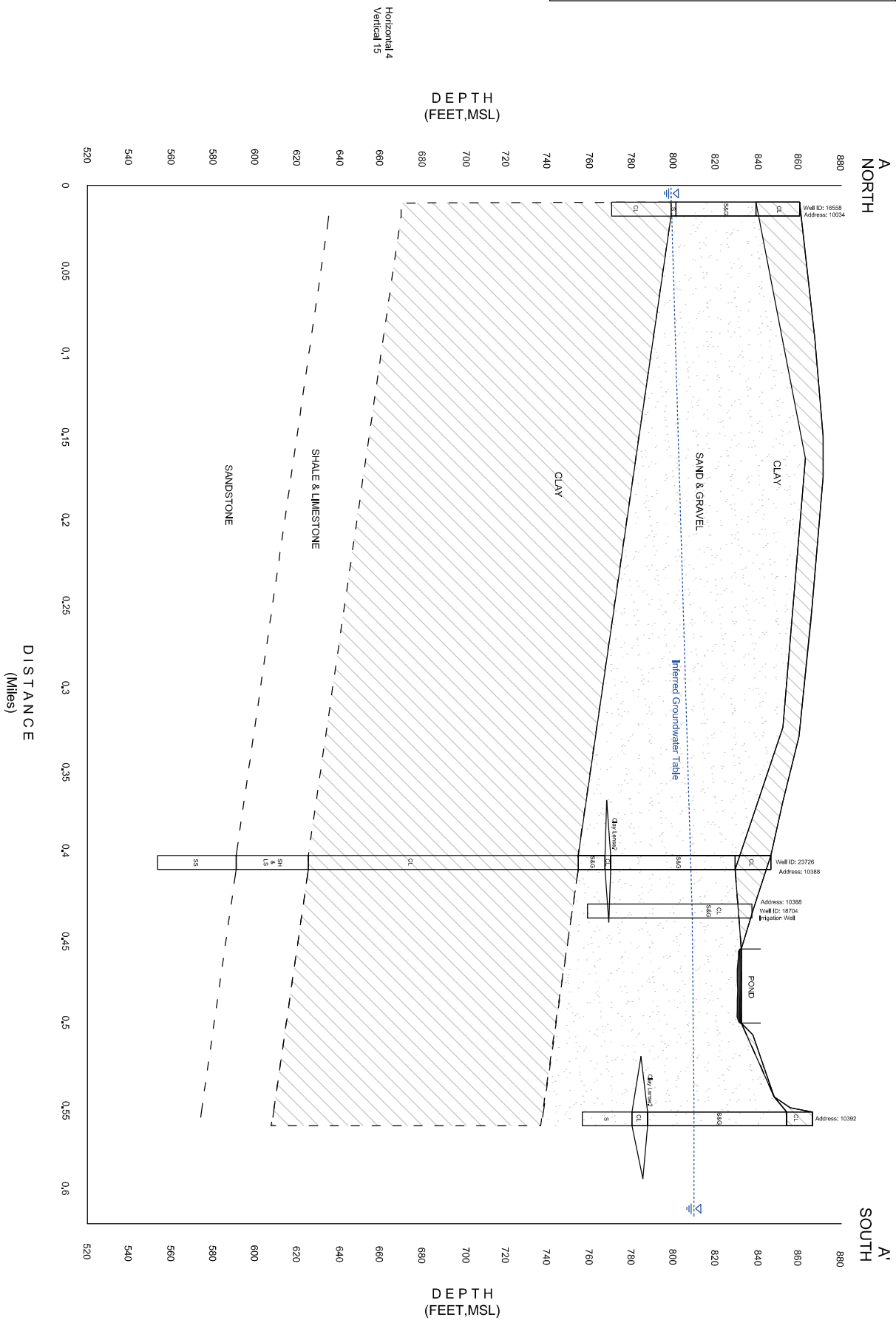


Table 1:
Monthly Precipitation
Byron Center, MI
12/11/2020

Month	Year (Precipitation in inches)					
	2016	2017	2018	2019	4-yr ave.	2020
January	1.71	3.00	2.02	2.67	2.35	3.22
Feburary	2.73	1.47	4.62	3.23	3.01	0.98
March	3.97	3.80	0.91	2.10	2.70	3.26
April	3.73	5.32	2.91	3.67	3.91	3.98
May	3.44	2.45	5.64	6.04	4.39	4.26
June	1.15	4.88	2.50	4.36	3.22	2.84
July	4.75	1.12	2.20	3.92	3.00	4.75
August	7.97	1.72	5.36	3.41	4.62	2.60
September	2.21	0.66	5.64	7.32	3.96	2.57
October	6.34	9.66	5.97	6.75	7.18	3.17
November	3.16	2.80	2.61	2.94	2.88	2.27
December	2.43	1.64	1.35	3.60	2.26	-
SUM:	43.59	38.52	41.73	50.01	43.46	33.90

Four Year Average Annual Precipitation (2016 - 2019) is 43.5-inches

Precipitation data collected from WeatherUnderground.com from Byron Center, MI



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines		
Well ID: 41000016558 Elevation: Latitude: 42.781967 Longitude: -85.624309 Method of Collection: Address Matching-House Number		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:	
		Source ID/Well No:				
		Distance and Direction from Road Intersection: 291 FEET SOUTH OF 100TH 61 FEET EAST OF KALAMAZOO				
		Well Owner: KATHY VANDERSTIL				
Well Address: 10034 KALAMAZOO CALEDONIA, MI 49316		Owner Address: 10034 KALAMAZOO CALEDONIA, MI 49316				

Drilling Method: Cable Tool Well Depth: 79.00 ft. Well Type: Replacement Casing Type: Steel - galvanized Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 72.00 ft. depth Borehole: 3.88 in. to 88.00 ft. depth	Well Use: Household Date Completed: 10/21/2004 Height: 1.00 ft. above grade Pump Installed: Yes Pump Installation Date: 10/26/2004 Manufacturer: Goulds Model Number: 10GS07 Drop Pipe Length: 65.00 ft. Drop Pipe Diameter: 0.75 in. Draw Down Seal Used: Yes Pump Installation Only: No HP: 0.75 Pump Type: Submersible Pump Capacity: 17 GPM Pump Voltage: Drilling Record ID: Pressure Tank Installed: No Pressure Relief Valve Installed: No
---	--

Static Water Level: 52.00 ft. Below Grade Well Yield Test: 1.00 hrs. at 30 GPM Screen Installed: Yes Screen Diameter: 3.00 in. Screen Material Type: Stainless steel-wire wrapped Screen Installation Type: Telescoped Slot Length Set Between: 7.00 7.00 ft. 72.00 ft. and 79.00 ft. Fittings: Bottom plug	Yield Test Method: Plunger <table border="1"><thead><tr><th>Formation Description</th><th>Thickness</th><th>Depth to Bottom</th></tr></thead><tbody><tr><td>Red Clay Sandy</td><td>21.00</td><td>21.00</td></tr><tr><td>Gravel & Sand</td><td>35.00</td><td>56.00</td></tr><tr><td>Sand W/Gravel</td><td>10.00</td><td>66.00</td></tr><tr><td>Sand Wet/Moist Fine</td><td>14.00</td><td>80.00</td></tr><tr><td>Sand Gravel Clay</td><td>2.00</td><td>82.00</td></tr><tr><td>Gray Clay</td><td>6.00</td><td>88.00</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	Formation Description	Thickness	Depth to Bottom	Red Clay Sandy	21.00	21.00	Gravel & Sand	35.00	56.00	Sand W/Gravel	10.00	66.00	Sand Wet/Moist Fine	14.00	80.00	Sand Gravel Clay	2.00	82.00	Gray Clay	6.00	88.00																								
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Sand Wet/Moist Fine	14.00	80.00																																												
Sand Gravel Clay	2.00	82.00																																												
Gray Clay	6.00	88.00																																												

Well Grouted: Yes Grouting Material: Bentonite dry granular Grouting Method: Driven/dry grout Bags: 1.00 Additives: None Depth: 0.00 ft. to 72.00 ft.	Geology Remarks:
--	-------------------------

Wellhead Completion: Pitless adapter, 12 inches above grade
--

Nearest Source of Possible Contamination: <table border="1"><thead><tr><th>Type</th><th>Distance</th><th>Direction</th></tr></thead><tbody><tr><td>Septic tank</td><td>50 ft.</td><td>East</td></tr></tbody></table>	Type	Distance	Direction	Septic tank	50 ft.	East	Drilling Machine Operator Name: DENNIS AYERS Employment: Employee
Type	Distance	Direction					
Septic tank	50 ft.	East					

Abandoned Well Plugged: No Reason Not Plugged: Owner is plugging well	Contractor Type: Water Well Drilling Contractor Business Name: Buer Well Drilling Business Address: 239 E Main, Caledonia, MI, 49316
--	---

	Water Well Contractor's Certification This well was drilled under my supervision and this report is true to the best of my knowledge and belief.
	Signature of Registered Contractor _____ Date _____

General Remarks:

Other Remarks: Map Scale:Unknown



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000018704 Elevation: Latitude: 42.776443 Longitude: -85.619704 Method of Collection: Interpolation-Map		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 0.75 MILE NORTH 108TH AVENUE AND 0.25 MILE EAST KALAMAZOO AVENUE; 10388 KALAMAZOO AVENUE CALEDONIA MICHIGAN			
		Well Owner: JOHN ANEMA			
		Well Address: 10388 KALAMAZOO AVENUE CALEDONIA, MI 49316		Owner Address: 10388 KALAMAZOO AVENUE CALEDONIA, MI 49316	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 87.00 ft.	Pump Installation Date:	HP: 1.00
Well Type: New	Manufacturer: Grundfos	Pump Type: Submersible
Casing Type: PVC plastic	Model Number: 16S10-10	Pump Capacity: 16 GPM
Casing Joint: Unknown	Drop Pipe Length: 60.00 ft.	Pump Voltage:
Casing Fitting: None	Drop Pipe Diameter:	Drilling Record ID:
Height:	Draw Down Seal Used: No	
Diameter: 5.00 in. to 77.00 ft. depth	Pressure Tank Installed: No	
Borehole: 8.50 in. to 87.00 ft. depth	Pressure Relief Valve Installed: No	

Static Water Level: 34.00 ft. Below Grade	Formation Description	Thickness	Depth to Bottom
Well Yield Test:			
Yield Test Method: Air	Brown Clay Sand Gravel	68.00	68.00
Pumping level 55.00 ft. after 1.00 hrs. at 60 GPM	Brown Sand & Gravel Water Bearing	19.00	87.00

Screen Installed: Yes	Filter Packed: Yes
Screen Diameter: 5.00 in.	Blank: *u
Screen Material Type: PVC-slotted	
Screen Installation Type: Attached	
Slot	Length
15.00	10.00 ft.
Set Between	
	77.00 ft. and 87.00 ft.
Fittings: None	

Well Grouted: Yes	Grouting Method: Unknown	Geology Remarks:
Grouting Material	Bags	
Bentonite slurry	8.00	
Additives	Depth	
None	0.00 ft. to 75.00 ft.	

Wellhead Completion: Pitless adapter	Drilling Machine Operator Name: DAVE HAZEN
---	---

Nearest Source of Possible Contamination:	Employment: Employee
Type	
Septic tank	
Distance	
300 ft.	
Direction	
West	

Contractor Type: Water Well Drilling Contractor	Reg No: 03-1601
Business Name: KRAAI WELL DRILLING INC	
Business Address:	

Water Well Contractor's Certification	
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
Signature of Registered Contractor	Date

General Remarks:

Other Remarks:



Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.



Import ID:

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Kent		Township: Gaines	
Well ID: 41000023726 Elevation: Latitude: 42.77855 Longitude: -85.61784 Method of Collection: GPS Std Positioning Svc SA Off		Town/Range: 05N 11W	Section: 33	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 3/4 MI N 108th Ave & 1/4 MI E Kalamazoo Ave			
		Well Owner: JOhn Anema			
		Well Address: 10388 Kalamazoo Ave Caledonia, MI 49316		Owner Address: 10388 Kalamazoo Ave Caledonia, MI 49316	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation Only: No
Well Depth: 292.00 ft.	Pump Installation Date: 10/9/2012	HP: 1.50
Well Type: Replacement	Manufacturer: AquaDuty	Pump Type: Submersible
Well Use: Household	Model Number: 20fv15p4-2w230	Pump Capacity: 20 GPM
Date Completed: 10/9/2012	Drop Pipe Length: 144.00 ft.	Pump Voltage: 230
Casing Type: PVC plastic	Drop Pipe Diameter: 1.25 in.	Drilling Record ID:
Casing Joint: Solvent welded/glued	Draw Down Seal Used: No	
Casing Fitting: Shale packer/trap	Pressure Tank Installed: Yes	
Height: 1.00 ft. above grade	Pressure Tank Type: Diaphragm/bladder	
Diameter: 5.00 in. to 200.00 ft. depth SDR: 21.00	Manufacturer: Well-X-Trol	
5.00 in. to 240.00 ft. depth SDR: 17.00	Model Number: wx-302	Tank Capacity: 30.0 Gallons
Borehole: 8.75 in. to 240.00 ft. depth	Pressure Relief Valve Installed: Yes	
4.50 in. to 292.00 ft. depth		

Static Water Level: 73.00 ft. Below Grade	Formation Description	Thickness	Depth to Bottom
Well Yield Test:	Brown Clay & Sand	16.00	16.00
Yield Test Method: Air	Sand & Gravel	57.00	73.00
Pumping level 120.00 ft. after 1.00 hrs. at 30 GPM	Brown Clay	5.00	78.00
	Sand & Gravel	14.00	92.00
	Gray Clay	128.00	220.00
	Shale & Limestone	33.00	253.00
	Sandstone	39.00	292.00

Screen Installed: No	Intake: Bedrock Well	Geology Remarks:

Well Grouted: Yes	Grouting Method: Grout pipe outside casing	Drilling Machine Operator Name: Mitch Vlckery
Grouting Material: Bentonite slurry	Bags: 21.00	Employment: Employee
Additives: None	Depth: 0.00 ft. to 240.00 ft.	
Wellhead Completion: Pitless adapter		

Nearest Source of Possible Contamination:	Contractor Type: Water Well Drilling Contractor	Reg No: 03-1601
Type: Drainfield/Dry well	Business Name: Ronald Kraai Well Drilling	
Distance: 80 ft.	Business Address: 110-124th Avenue, Shelbyville, MI, 49344	
Direction: West		

Abandoned Well Plugged: Yes	Water Well Contractor's Certification	
	This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.	
Casing Diameter: 5 in.	Casing Removed: No	
Plugging Material: Bentonite chips/pellets		
No. of Bags: 20.00	Well Depth: 292 ft.	
	Signature of Registered Contractor	Date

General Remarks: casing broke apart @ 105ft flushed out to bottom, continually filled in to 105ft. Therefore, top 105ft was plugged with bentonite chips bottom 187ft filled with clay & silt
--

Other Remarks:

7. CASING: ☒ Steel ☐ Threaded Height Above Below

13. NEAREST SOURCE OF POSSIBLE CONTAMINATION:

Type	Distance	ft.	Direction
Type <i>not identifiable</i>	Distance	ft.	Direction <i>N</i>

No. of Bags 3 Casing Removed? 3

17. DRILLING MACHINE OPERATOR:

SW-2-228 9/93

Model Number 11002 Capacity 24 Gallons

Signed J. A. H. Hester Date 5/13/91
AUTHORIZED REPRESENTATIVE

757

GS = ~ 8660 ft
↓ 757 ft



Photograph 1: Domestic well located at 10392 Kalamazoo Avenue looking north-northeast.



Photograph 2: Taken from north end of pond looking south at exposed bottom substrate.



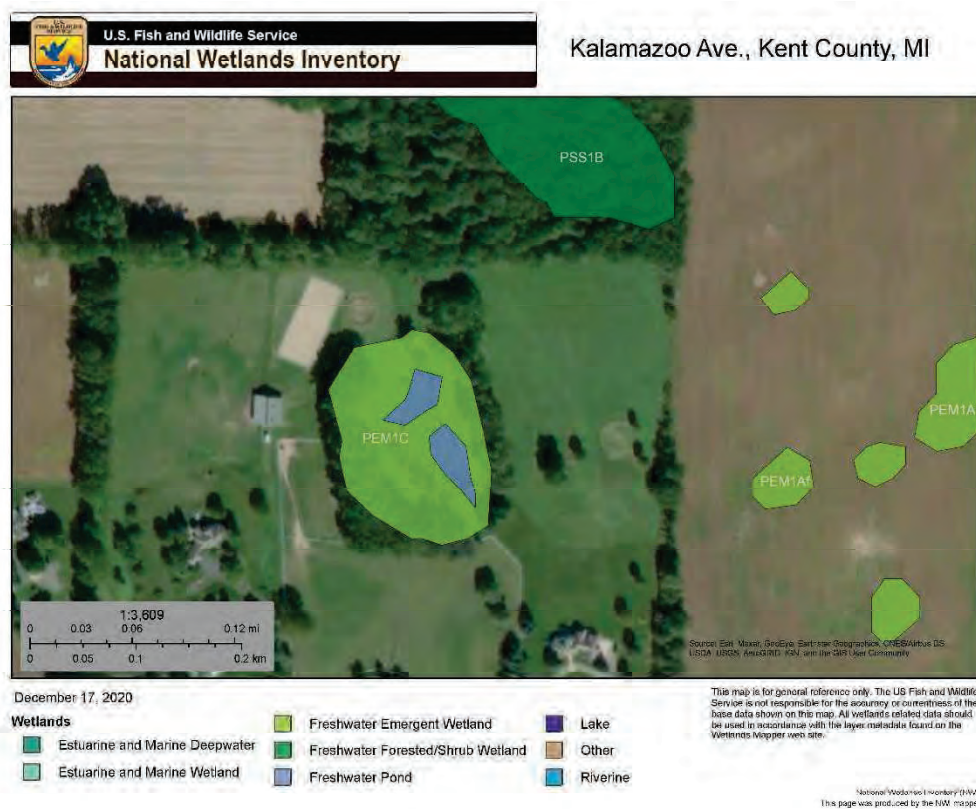
Photograph 3: Looking south-southwest at exposed substrate, dormant vegetation and west bank.



Photograph 4: Looking at southwest top of bank and exposed field tile entering pond.



Map 1: Area Identified as wetlands on the National Wetlands Inventory Maps and Michigan Resource Information System and contain mapped wetland soils (hatched area). Obtained from the EGLE Geowebface Data Base.



Map 2: Pond Area Identified dominantly as a Freshwater Emergent Wetland with isolated freshwater pond areas.

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



HISTORICAL **AERIALS**

Project Property:	Barnaby Property n/a Byron Center MI
Requested By:	Natural Resources Management, LLC
Order No:	20321400018
Data Completed:	December 15, 2020

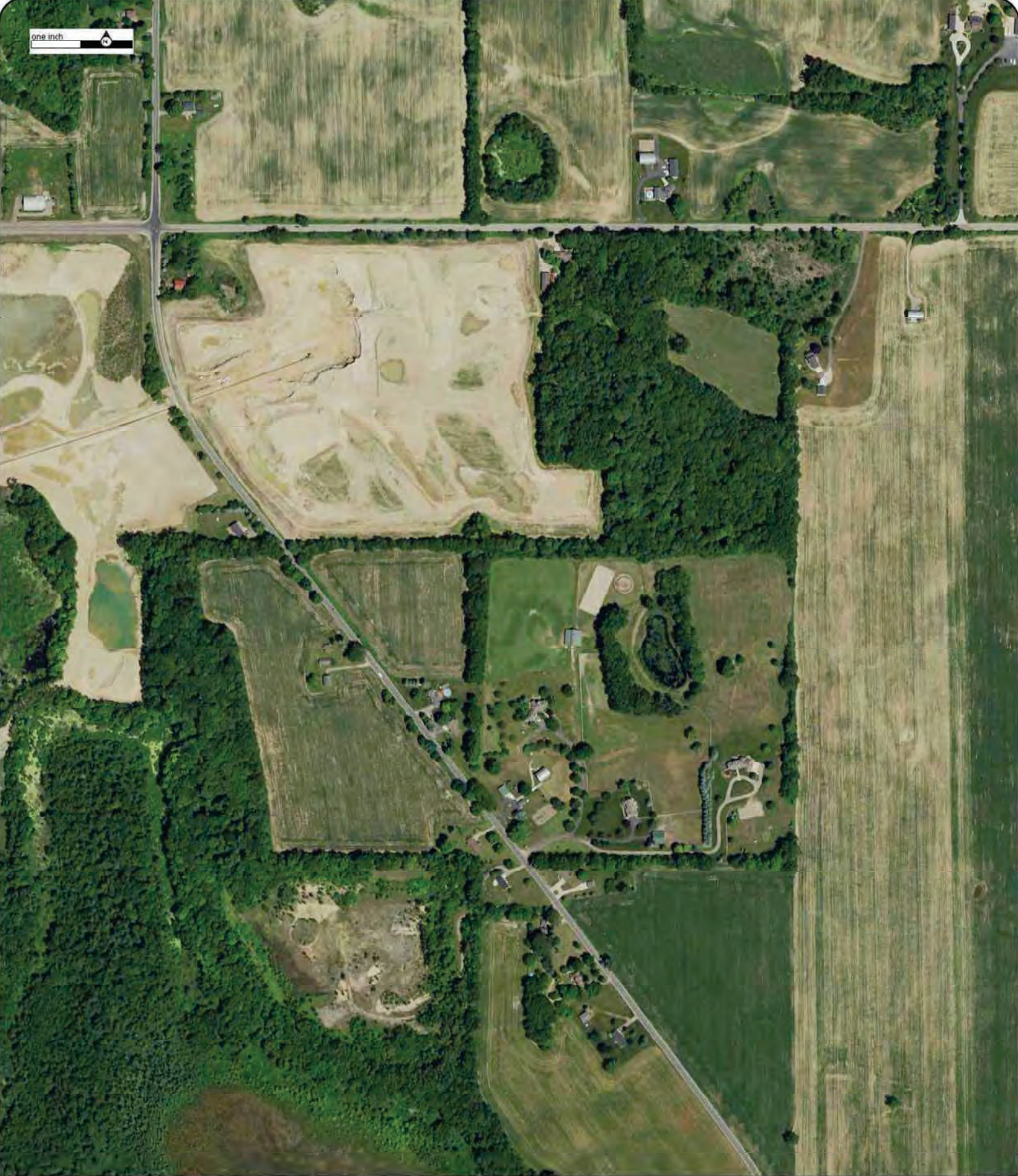
Date	Source	Source Scale	Comments
2020	National Agriculture Information Program	1" to 500'	
2018	National Agriculture Information Program	1" to 500'	
2016	National Agriculture Information Program	1" to 500'	
2014	National Agriculture Information Program	1" to 500'	
2012	National Agriculture Information Program	1" to 500'	
2010	National Agriculture Information Program	1" to 500'	
2009	National Agriculture Information Program	1" to 500'	
2006	National Agriculture Information Program	1" to 500'	
2005	National Agriculture Information Program	1" to 500'	
1999	US Geological Survey	1" to 500'	
1993	National Aerial Photography Program	1" to 500'	
1981	National High Altitude Photography	1" to 500'	
1972	US Geological Survey	1" to 500'	Best Copy Available
1965	US Geological Survey	1" to 500'	Best Copy Available
1957	US Geological Survey	1" to 500'	
1950	Agriculture and Soil Conservation Service	1" to 500'	
1938	Agriculture and Soil Conservation Service	1" to 500'	

Environmental Risk Information Services

A division of Glacier Media Inc.

1.866.517.5204 | info@erisinfo.com | erisinfo.com

one inch



Year:2020
Source:NAIP
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:2018
Source:NAIP
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:2016
Source:NAIP
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:2014
Source:NAIP
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:2012
Source:NAIP
Scale:1" to 500'
Comment:

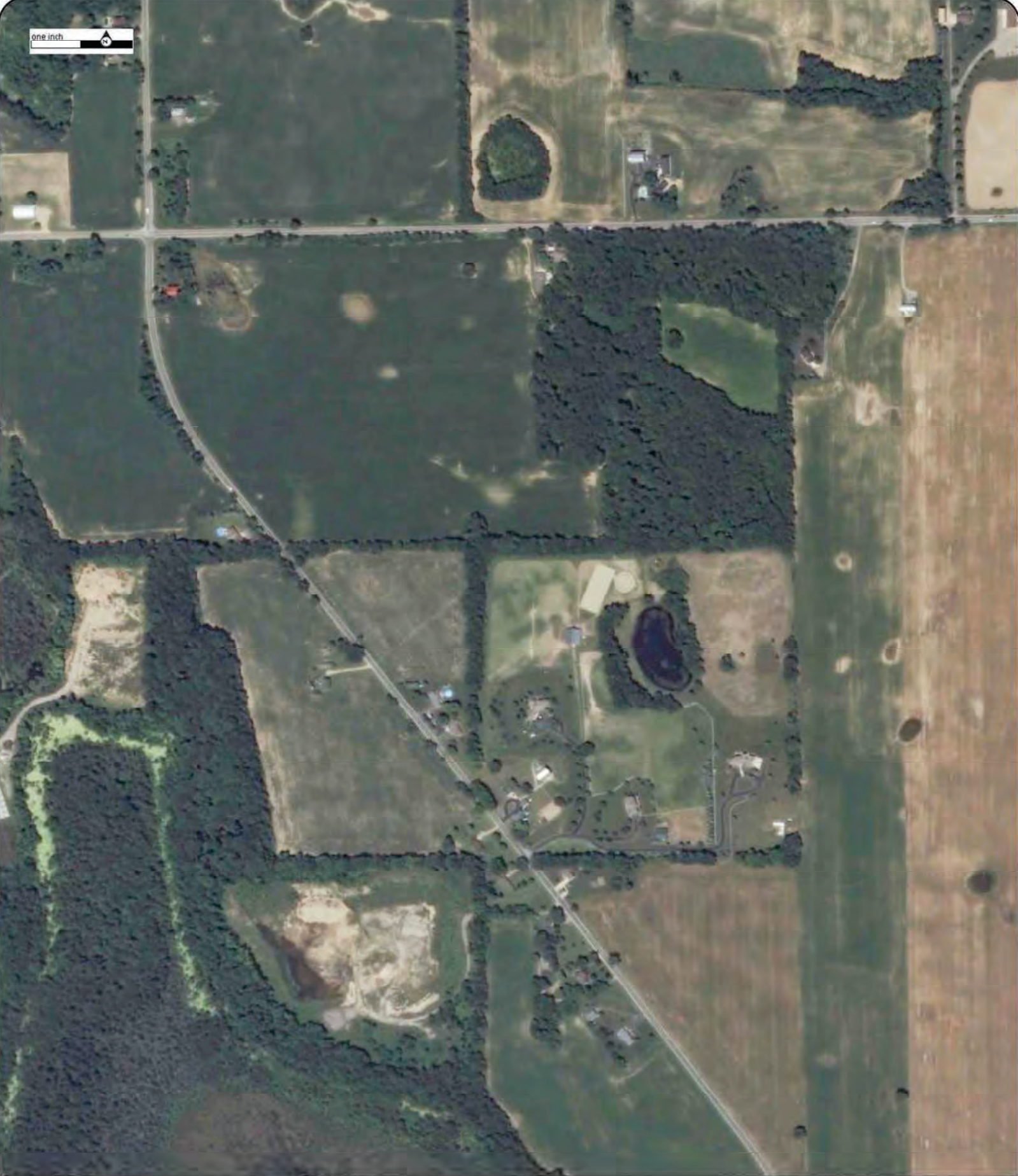
Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:2010
Source:NAIP
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:2009
Source:NAIP
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:2006
Source:NAIP
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:2005
Source:NAIP
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:1999
Source:USGS
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:1993

Address:n/a, Byron Center, MI

Order No:20321400018

Source:NAPP

Approx Center:42.77786403/-85.61904311

Scale:1" to 500'

Comment:

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:1981

Address:n/a, Byron Center, MI

Order No:20321400018

Source:NHAP

Approx Center:42.77786403/-85.61904311

Scale:1" to 500'

Comment:

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:1972

Address:n/a, Byron Center, MI

Order No:20321400018

Source:USGS

Approx Center:42.77786403/-85.61904311

Scale:1" to 500'

Comment:Best Copy Available

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:1965

Address:n/a, Byron Center, MI

Order No:20321400018

Source:USGS

Approx Center:42.77786403/-85.61904311

Scale:1" to 500'

Comment:Best Copy Available

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES





Year:1957
Source:USGS
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:1950
Source:ASCS
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:1938
Source:ASCS
Scale:1" to 500'
Comment:

Address:n/a, Byron Center, MI
Approx Center:42.77786403/-85.61904311

Order No:20321400018

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



APPENDIX III

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Kent County, Michigan



Local office

Michigan Ecological Services Field Office

☎ (517) 351-2555

📅 (517) 351-1443

2651 Coolidge Road Suite 101

East Lansing, MI 48823-6360

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
 2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered

Birds

NAME	STATUS
Whooping Crane <i>Grus americana</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Reptiles

NAME	STATUS
Eastern Massasauga (=rattlesnake) <i>Sistrurus catenatus</i> Wherever found This species only needs to be considered if the following condition applies: For all Projects: Project is within EMR Range No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2202	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found There is proposed critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ¹ and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

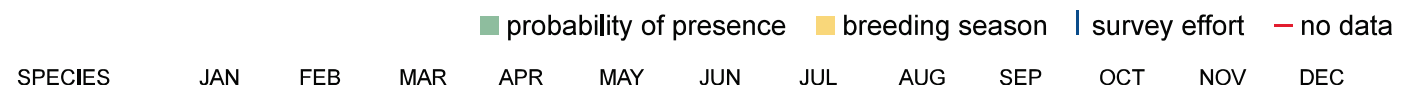
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

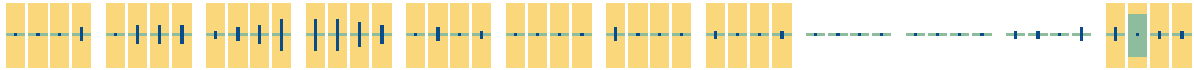
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald Eagle
Non-BCC
Vulnerable



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The [Migratory Birds Treaty Act](#) of 1918.

2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases [birds of concern](#), including [Birds of Conservation Concern \(BCC\)](#), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the [Nationwide avoidance and minimization measures for birds](#) document, and any other project-specific avoidance and minimization measures suggested at the link [Measures for avoiding and minimizing impacts to birds](#) for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles document](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25

Lesser Yellowlegs *Tringa flavipes*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Pectoral Sandpiper *Calidris melanotos*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker *Melanerpes erythrocephalus*

Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Rusty Blackbird *Euphagus carolinus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Semipalmated Sandpiper *Calidris pusilla*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Short-billed Dowitcher *Limnodromus griseus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9480>

Upland Sandpiper *Bartramia longicauda*

Breeds May 1 to Aug 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9294>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

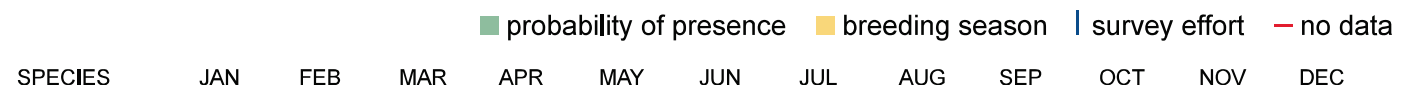
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

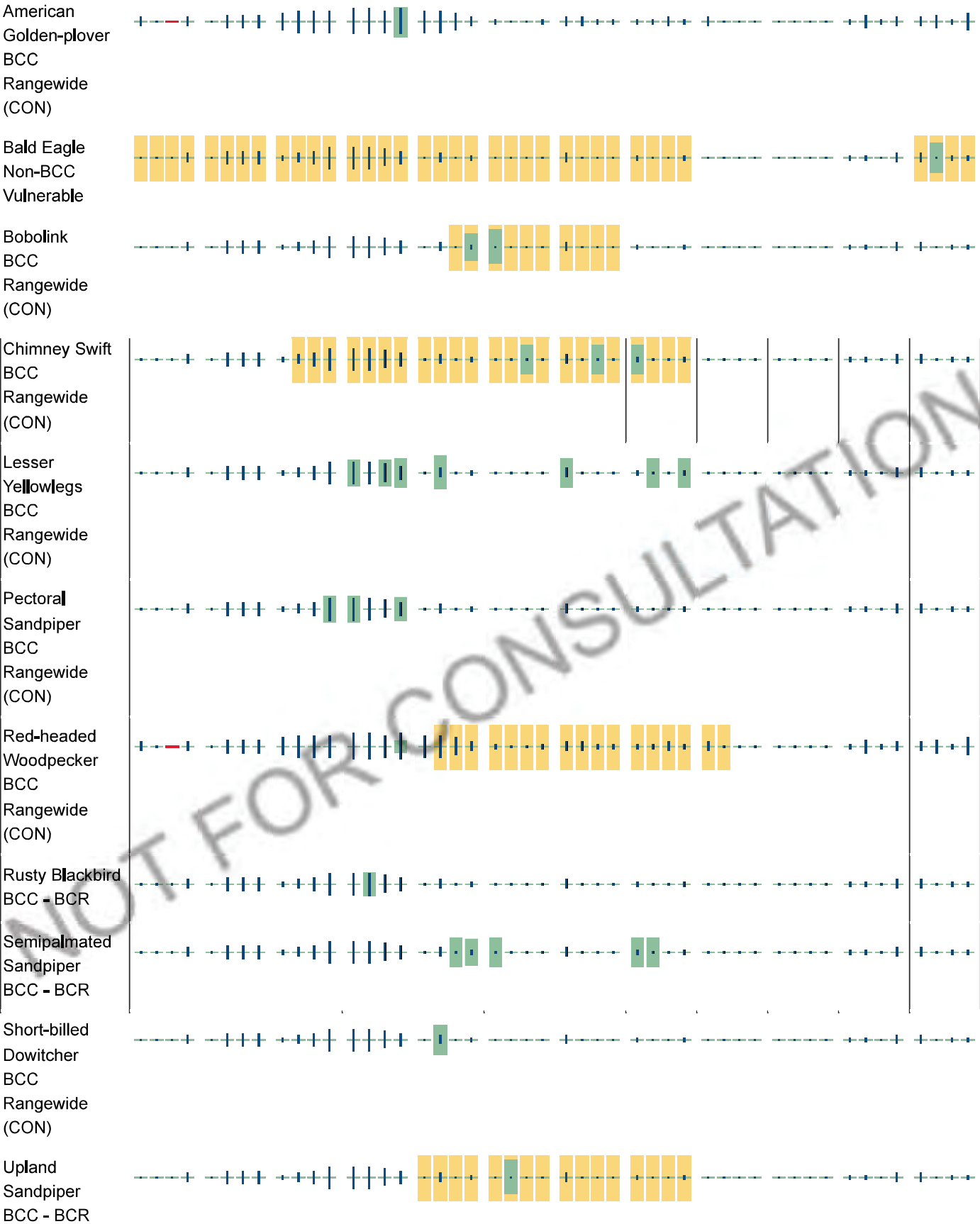
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Avoidance & Minimization Measures for Birds](#) describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the [Bald and Golden Eagle Protection Act](#) and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for the species are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird

species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Bald and Golden Eagle Protection Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

[PSS1D](#)

[PSS1A](#)

FRESHWATER POND

[PUBF](#)

OTHER

[Pf](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NATIONWIDE AVOIDANCE & MINIMIZATION MEASURES FOR BIRDS

Within this document are effective measures that should be employed at all project development sites nationwide as applicable and practicable with the goal of avoiding and minimizing impacts to birds and their habitats. These measures are grouped into three categories: General, Habitat Protection, and Stressor Management. These measures include information only related to federal regulations and laws, and do not encompass state and local regulations and laws. These measures may be updated through time. We recommend checking the U.S. Fish & Wildlife Service’s (FWS) [Avoiding and Minimizing Incidental Take of Migratory Birds](#) website regularly for the most up-to-date list.

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1. General Measures

- a. Educate all employees, contractors, and/or site visitors of relevant rules and regulations that protect wildlife. See the FWS webpage on [Regulations and Policies](#) for more information on regulations that protect migratory birds.
- b. Prior to removal of an inactive nest, ensure that the nest is not protected under the Endangered Species Act (ESA) (see [list of endangered and threatened wildlife 50 CFR 17.11](#)) or the Bald and Golden Eagle Protection Act (the Eagle Act). Nests protected under ESA or the Eagle Act cannot be removed without a valid permit. More information is available on [Bird nests: what you need to know](#).
- c. Do not collect birds (live or dead) or their parts (e.g., feathers) or nests, or remove active nests without valid authorization or permit. Please visit the [FWS permits page](#) for more information on permits and general authorizations.
- d. Provide enclosed solid waste receptacles at all project areas. Non-hazardous solid waste (trash) should be collected and deposited in the on-site receptacles. Solid waste should be collected and disposed of by a local waste disposal contractor. For more information about solid waste and how to properly dispose of it, see the [EPA Non-Hazardous Waste](#) website.
- e. If you suspect birds were illegally killed or if five or more birds are found dead, notify the [local FWS Office of Law Enforcement](#), and follow the instructions provided.
- f. Consult and follow [beneficial practices for industry](#).

2. Habitat Protection

- a. Minimize project creep by clearly delineating and maintaining project boundaries (including staging areas).
- b. Minimize use of undisturbed land and maximize use of disturbed land for all project activities (i.e., siting, lay-down areas, and construction), except for where there may be species that are associated with disturbed land that require special conservation consideration (e.g., Mountain Plover).
- c. If considering development on undisturbed land, ensure that the area is not an area of high value to bird conservation (e.g., Important Bird Areas).
- d. Implement [wildlife-friendly soil erosion and dust control measures](#). For example:
 - i. Choose products with natural fiber netting, or no netting (such as spray on mulch)
 - ii. Choose products with 100% biodegradable materials
 - iii. Carefully install materials using natural stakes and bury edges
- e. Remove erosion control products when no longer needed. Design and build culverts, roadways, and other structures in tidal areas such that they do not restrict tidal flow. Restricted tidal flow leads to marsh degradation. For additional information, resources, and recommendations for facilitating tidal restriction avoidance and removal during development, please reference the Environmental Protection Agency's (EPA) and Federal Highway's (FHWA) [Tidal Restrictions Synthesis Review](#).

3. Stressor Management

Stressor: Vegetation Removal

Conservation Goal: Avoid direct take of adults, chicks, or eggs.

Measure 1: Schedule all vegetation removal and trimming, grading of vegetated areas, and prescribed fire outside of the peak bird breeding season to the maximum extent practicable. Use available resources, such as internet-based tools (e.g., the FWS's [Information, Planning and Consultation \(IPaC\)](#) and Avian Knowledge Network's [Rapid Avian Information Locator \(RAIL\)](#) tools) to identify peak breeding months for local bird species; or, contact your local FWS [Migratory Bird Program Office](#) or state wildlife agency for location-specific information.

Measure 2: When project activities cannot occur outside the bird nesting season, conduct surveys prior to scheduled activity to determine if active nests are present within the area of impact and buffer any nesting locations found during surveys.

- 1) Generally, the surveys should be conducted no more than five days prior to the scheduled activity.
- 2) Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of vegetation disturbance.
- 3) If active nests or breeding behavior (e.g., courtship, nest building, territorial defense, etc.) are detected during these surveys, no vegetation removal activities should be conducted until nestlings have fledged, the nest fails, or breeding behaviors are no longer observed. If the activity must occur, establish a buffer zone around the nest and prohibit all activities within the buffer zone until nestlings have fledged and left the nest area. The dimension of the buffer zone will depend on the proposed activity, habitat type, and species present and should be coordinated with the local or regional FWS office.
- 4) When establishing a buffer zone, create a visible boundary (e.g., flagging tape, pin flags, and/or ropes/string) and signage to protect the area. If the boundary and/or signage is knocked down or destroyed, suspend work wholly, or in part, until the boundary is satisfactorily repaired.
- 5) When establishing a buffer zone, a qualified biologist should be present onsite to serve as a biological monitor during vegetation clearing and grading activities to ensure no take of migratory birds occurs. Prior to vegetation clearing, the monitor should ensure that the limits of construction have been properly staked and are readily identifiable. Any associated project activities that are inconsistent with the applicable avoidance and minimization measures, and activities that may result in the take of migratory birds will be immediately halted and reported to the appropriate FWS office within 24 hours.
- 6) If establishing a buffer zone is not feasible, contact the FWS for guidance to minimize impacts to migratory birds associated with the proposed project or removal of an active nest. To remove an active nest, the person removing the nest must have a [migratory bird permit](#) authorizing this action. The FWS recommends contacting a

[federally permitted migratory bird rehabilitator](#) prior to removing active nests for recommendations on disposition of nest contents.

- 7) When encountering a bird that is exhausted, ill, injured, or orphaned, you must immediately contact a federally permitted migratory bird rehabilitator and follow the rehabilitator's instructions. You may transport eggs or nestling to a federally permitted migratory bird rehabilitator, if the rehabilitator recommends that you do so.

Measure 3: Prepare a vegetation maintenance plan that outlines vegetation maintenance activities and schedules so that direct bird impacts do not occur.

Stressor: Invasive Species Introduction

Conservation Goal: Prevent the introduction of noxious or invasive plants.

Measure 1: Prepare a weed abatement plan that outlines the areas where weed abatement is required and the schedule and method of activities to ensure bird impacts are avoided.

Measure 2: For temporary and permanent habitat restoration/enhancement, use only native and local (when possible) seed and plant stock.

Measure 3: Create a vehicle wash and boot washing/scrubbing stations prior to entering sensitive habitat areas to prevent accidental introduction of non-native plants.

Measure 4: Remove invasive/noxious species that pose an attractive nuisance to migratory birds.

Stressor: Artificial Lighting

Conservation Goal: Reduce artificial nighttime lighting (e.g., light pollution).

Measure 1: To the maximum extent practicable, limit construction activities to the time between dawn and dusk to avoid the illumination of adjacent habitat areas, including the sky.

Measure 2: Follow any applicable recommendations on the FWS [nighttime lighting guidance webpage](#). Some recommendations from this collection are called out in measures 3-5 below.

Measure 3: If construction activity time restrictions are not possible, use down shielding or directional lighting to avoid light trespass into bird habitat and the sky (e.g., use a down-shielded 'Cobra' style light rather than an omnidirectional light system to direct light down to the roadbed), and keep lighting as close to the ground as possible.

Measure 4: To the maximum extent practicable, while allowing for public safety, use low intensity energy-saving lighting (e.g., LEDs) that provides the minimum lumens needed for the task. Avoid bright white light, such as is often used in LEDs, metal halide, halogen, fluorescent, mercury vapor and incandescent lamps. Select lighting with a Correlated Color

Temperature (CCT) that does not exceed 3000K in urban areas and does not exceed 2200K in parks, wildlife refuges, Important Bird Areas, and areas prone to fog.

Measure 5: Minimize lighting on associated construction or operation structures by using motion sensors or heat sensors.

Measure 6: Take measures to limit lighting as described in the measures above year-round, but especially during peak migration periods in spring and fall. You can reference resources like [Birdcast](#) to find peak migration dates or speak with the FWS's [Migratory Bird Program Office](#) in your region or a contracted biologist for additional guidance on specific bird migration timeframes in your area.

Stressor: Human Disturbance

Conservation Goal: Minimize prolonged human presence near nesting birds during construction and maintenance actions.

Measure 1: Restrict access to natural areas adjacent to the project site by erecting a barrier and/or avoidance buffers (e.g., gate, fence, wall) to minimize foot traffic and off-road vehicle uses.

Stressor: Collision

Conservation Goal: Minimize collision risk with project infrastructure and vehicles.

Measure 1: Minimize collision risk with project infrastructure (e.g., temporary and permanent) by increasing visibility and decreasing collision risk through appropriate marking and design features (e.g., [bird-friendly lighting](#) (if lighting is necessary), wire marking, etc.).

Measure 2: On bridge crossing areas, use fencing or metal bridge poles that extend to the height of the tallest vehicles that will use the structure.

Measure 3: Install wildlife friendly culverts so rodents and small mammals can travel under any new roadways instead of over them. This may help reduce raptor deaths associated with being struck while tracking prey or scavenging roadkill on the roadway.

Measure 4: Promptly remove roadkill to prevent scavenging and bird congregations along roadways.

Measure 5: Avoid planting “hazardous attractants” (e.g. fruited or preferred nesting vegetation) in medians or rights-of-way.

Measure 6: Eliminate use of steady burning lights on structures. Light with flashing lights or motion-sensor lights if lighting is necessary.

Measure 7: Reduce potential impacts to birds from fencing as follows: (1) Build a wildlife-friendly fence ([see recommendations](#)); (2) Attach ribbons or other distinctive markers at three

foot intervals along the fence to make it more visible to birds ([see recommendations](#)); (3) ensure the fence is no higher than absolutely necessary to prevent obstruction to low-flying birds that predate close to the ground; (4) make sure fencing is maintained to avoid broken wires that may snag or injure birds; and (5) if lighting is necessary, make sure the lighting is turned on only when absolutely necessary (lighting attracts and disorients birds, disrupting their natural flight patterns and may cause collisions and entanglement in fencing).

Measure 8: For existing infrastructure, make structures with glass more bird-friendly to reduce and avoid collisions by applying a pattern to the outside surface of windows and any other transparent surface (e.g., glass balcony railings), install bird friendly glass, or ensure all windows have exterior window screens. To make glass bird friendly, patterns must be applied to the exterior surface of the glass, with markers at least ¼" wide, spaced no more than two inches apart. In new construction, minimizing the total area covered in glass will save energy, reduce costs, and save birds. For more recommendations, visit the FWS's [Buildings & Glass Collisions webpage](#).

Measure 9: Avoid use of transparent noise walls along roads. If transparent noise walls are installed patterns must be applied to the exterior of the transparent surface, with markers at least ¼" wide, spaced no more than two inches apart (FWS standards). Products with patterns exist, but not all are bird-safe according to FWS standards. Use products that have been tested and vetted and proven effective in preventing collisions.

Stressor: Entrapment

Conservation Goal: Prevent birds from becoming trapped in project structures or perching and nesting in project areas that may endanger them.

Measure 1: Minimize entrapment and entanglement hazards through project design measures that may include:

1. Installing anti-perching devices on facilities/equipment where birds may commonly nest or perch.
2. Covering or enclosing all potential nesting surfaces on the structure with metal mesh netting, chicken wire fencing, or other suitable exclusion material prior to the nesting season to prevent birds from establishing new nests. The netting, fencing, or other material must have no opening or mesh size greater than 3/4" and must be maintained until the structure is removed. Flexible nylon or polypropylene netting sometimes marketed as "bird netting" can entrap and kill birds and is not recommended.
3. Cover/seal all vertical pipes/holes less 12" in diameter where birds may enter and become trapped.
4. Chimney caps must have ¾" or smaller steel mesh under the cap to prevent birds from entering.
5. If you live in the eastern half of the U.S. (Chimney Swift [*Chaetura pelagica*] range) and your chimney was built before 1960 and it is at least one foot in diameter or diagonal across or otherwise has evidence of Chimney Swift roosting or nesting, then follow the best practices for Chimney Swifts instead of the above measures. Best practices for Chimney Swifts are found here:

<https://www.fws.gov/story/chimney-swifts>.

6. Cover all open-top containers, pits and ponds containing toxic waste (e.g., oil pits and evaporation ponds) to prevent entrapment and illness. Oil or waste fluid spills or leaks should be cleaned up immediately.
7. Water containment areas that have steep edges and cannot be easily covered (e.g., stock tanks) should include wildlife escape ramps. There are numerous videos on the web about how to make effective wildlife escape ramps.

Measure 2: Use the appropriate deterrents to prevent birds from nesting and perching on structures where they cause conflicts, may endanger themselves, or create a human health and safety hazard.

1. During the time that the birds are trying to build or occupy their nests (generally, between April and August, depending on the geographic location), potential nesting surfaces where bird use of structures is likely to cause take (e.g., electric poles where fire/electrocution is possible), should be monitored at least once every three days for any nesting activity. Depending on the species (e.g., inactive Bald and Golden eagle nests are protected under the Eagle Act and inactive nests associated with threatened and endangered species [(see [list of endangered and threatened wildlife 50 CFR 17.11](#))] may have special protections under ESA) and on state and local regulations, it may be permissible to remove inactive nests (without birds, eggs, or otherwise dependent young), partially completed nests, or new nests as they are built (prior to occupation). If birds have started to build any nests, the nests shall be removed before they are completed, unless the nest is protected by federal, state, or local regulations.
2. If an active nest becomes established (i.e., there are viable eggs or young in the nest), all work that could result in abandonment or destruction of the nest shall be avoided until the young have fledged or the nest is unoccupied. Construction activities that may displace birds after they have laid their eggs and before the young have fledged should not be permitted. If the project continues into the following spring, this cycle shall be repeated. When work on the structure is complete, all netting shall be removed and properly disposed of.
3. Where there will be exposed flames (e.g., methane or natural gas flares) at mines, landfills, or other operations, install fencing tall enough to prevent direct flights through the superheated air, and top fencing with perch deterrents.

Stressor: Noise

Conservation Goal: Prevent the increase in noise above ambient levels during the bird breeding season.

Measure 1: Minimize an increase in noise above ambient levels during project construction by installing temporary structural barriers such as sandbags.

Measure 2: Avoid permanent additions to ambient noise levels from the proposed project by using baffle boxes or sound walls.

Stressor: Chemical Contamination

Conservation Goal: Prevent the introduction of chemical contaminants into the environment.

Measure 1: Avoid chemical contamination of the project area by implementing a Hazardous Materials Plan. For more information on hazardous waste and how to properly manage hazardous waste, see the [EPA Hazardous Waste](#) website.

Measure 2: Avoid soil contamination by using drip pans underneath equipment and containment zones at construction sites and when refueling vehicles or equipment.

Measure 3: Avoid contaminating natural aquatic and wetland systems with runoff by limiting all equipment maintenance, staging laydown, and dispensing of fuel, oil, etc., to designated upland areas.

Measure 4: Application of any pesticide product, including rodenticides and avicides, must comply with requirements on the product label. Implement the following wildlife-friendly application measures wherever possible.

1. Choose [non-chemical](#) alternatives
2. See EPA's website for [general measures to reducing impacts on wildlife from pesticides](#).

Stressor: Fire

Conservation Goal: Minimize potential fire impacts from project-related activities.

Measure 1: Reduce fire hazards from vehicles and human activities (e.g., use spark arrestors on power equipment, avoid driving vehicles off road).

Measure 2: Consider fire potential when developing vegetation management plans by planting temporary impact areas with low-growing, sparse, fire-resistant native species approved by the County Fire Department and local FWS Office.

Measure 3: Where there will be exposed flames (e.g., methane or natural gas flares) at mines, landfills or other operations, refer to beneficial practices to avoid and minimize bird injuries and mortalities from gas flares on the [FWS's website](#). For additional assistance with minimizing impacts from exposed flames, please contact your local FWS [Ecological FWS Field Office](#).

Measure 4: Schedule prescribed fire outside of the peak bird breeding season to the maximum extent practicable. Use available resources, such as internet-based tools (e.g., the FWS's [Information, Planning and Consultation \(IPaC\)](#) and Avian Knowledge Network's [Rapid Avian Information Locator \(RAIL\)](#) tools) to identify peak breeding months for local bird species; or, contact the FWS's [Migratory Bird Program Office](#) in your region for breeding bird information.

APPENDIX IV



Picture 1: view of Ribbed Bog Moss



Picture 2: view of Pincushion Moss



Picture 3: view of Seductive Entodon Moss



Picture 4: view of Wild Turkey feather



Picture 5: view of T4 facing north



Picture 6: view of T4 facing south



Picture 7: view of T4 facing east



Picture 8: view of T4 facing west



Picture 9: view of deer wetland 8 slope



Picture 10: view of burrow/den



Picture 11: view of T5 facing north



Picture 12: view of T5 facing south



Picture 13: view of T5 facing east



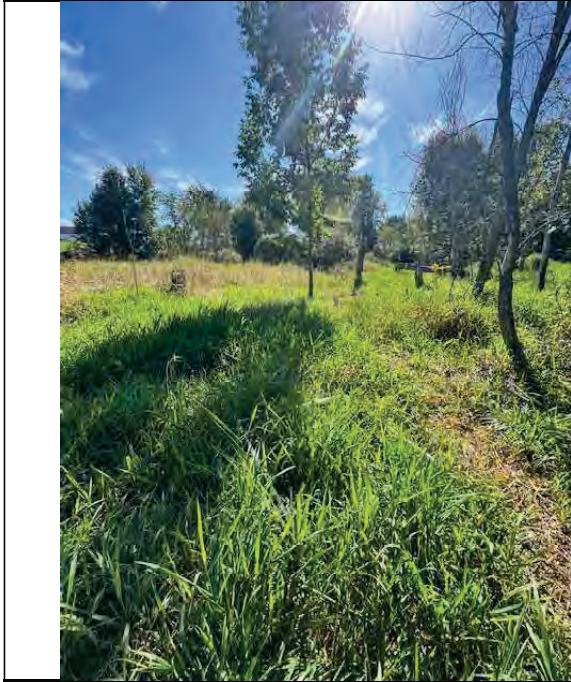
Picture 14: view of T5 facing west



Picture 15: view of T6 facing north



Picture 16: view of T6 facing south



Picture 17: view of T6 facing east



Picture 18: view of T6 facing west



Picture 19: view of T1 facing north



Picture 20: view of T1 facing south



Picture 21: view of T1 facing east



Picture 22: view of T1 facing west



Picture 23: Sugar Maple forest cont'd



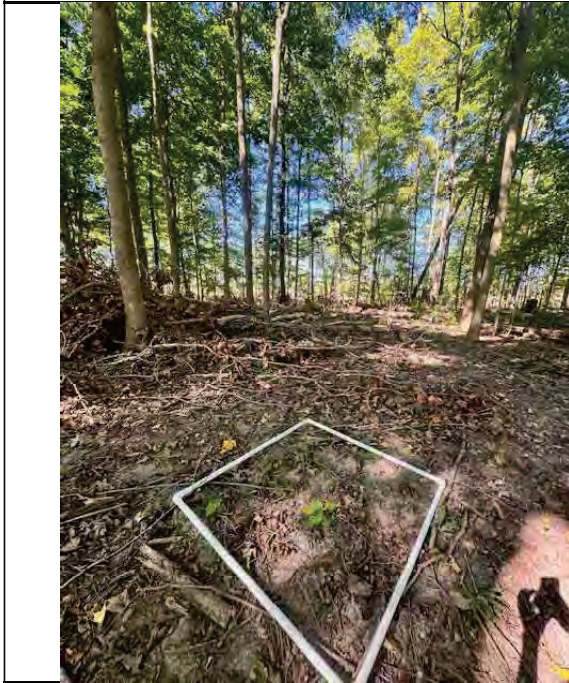
Picture 24: view of T2 facing north



Picture 25: view of T2 facing south



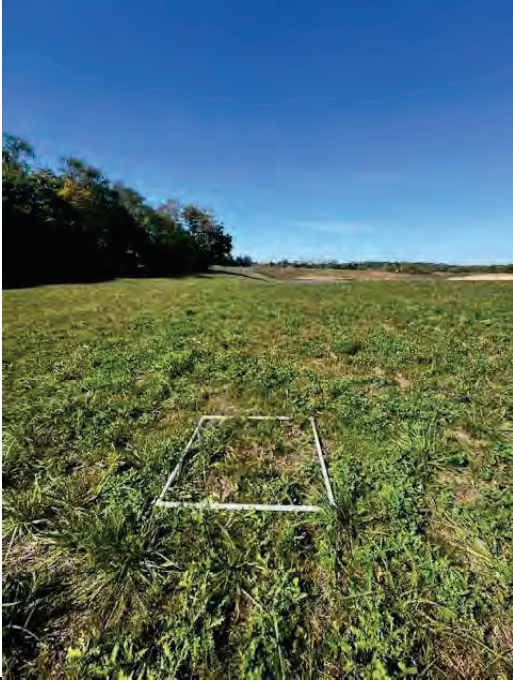
Picture 26: view of T2 facing east



Picture 27: view of T2 facing west



Picture 28: view of T3 facing north

 A photograph showing a grassy field with a white rectangular frame in the foreground. In the background, there is a dense line of trees under a clear blue sky.	 A photograph showing a grassy field with a white rectangular frame in the foreground. In the background, there is a dense line of trees under a clear blue sky.
Picture 29: view of T3 facing south	Picture 30: view of T3 facing east
 A photograph showing a grassy field with a white rectangular frame in the foreground. In the background, there is a dense line of trees under a clear blue sky.	
Picture 31: view of T3 facing west	

Appendix B



13923 Sherman White Road
Swanton, Ohio 43558
Local 419-841-3232
Fax 419-882-8772
www.NRMsolution.com

December 24, 2025

Stoneco of Michigan has adopted the following Sound Level Compliance Plan prepared by NRM for Stoneco's Use.

**Sound Level Compliance Plan
Stoneco of Michigan, 100th Street Operation**



Natural Resources Management, LLC (NRM) has reviewed the site plans for the above referenced Mineral Extraction permit being submitted to Gaines Charter Township. The purpose of this letter is to outline the Best Management Practices incorporated into your mining plan and operational activities and will serve as your sound level compliance plan.

Engineering Controls.

Engineering controls include sound barriers and/or sound reducing materials installed at the site or on a particular piece of equipment for the purpose of decreasing sound levels. The following Table 1 identifies activities at the site which are expected to contribute to the sound levels, and lists the associated engineering controls, expected location of the controls and comments referencing the particular best management practices that address those levels:

Table 1

ACTIVITY/EQUIPMENT	ENGINEERING CONTROL	LOCATION	BEST MANAGEMENT PRACTICES
All Site Activities	Earthen Berms Topographic Control	Property Perimeter	Maintain Berm Heights, Maintain Existing Natural Screening (Trees/shrubs) Active Mining Conducted at Ground Elevations Lower Than Earthen Berm Height
Bulldozer/Loader/Excavator/ Haul Truck	Topographic Control White Noise Back-Up Alarms (i.e. Brigade)	Mining Area	Activity is situated below the elevation of surrounding berm heights. Maintain Approved Back-Up Alarms as approved by MSHA
Feeder/Crusher, Conveyor, Loading and Unloading from Mining Face to Feeder	Topographic Control White Noise Back-Up Alarms (i.e. Brigade)	Mining Area	Maintain work elevation below top of surrounding berm heights Maintain Approved Back-Up Alarms as approved by MSHA
Equipment Maintenance	Topographic Control	Mining Area	Maintain work elevation below top of surrounding berm heights

Institutional Controls.

Institutional Controls, also known as administrative controls, include standard operational practices, procedures and/or policies. When put in practice, institutional controls reduce the potential for an increase in sound levels for a particular piece of equipment or activity. The following Table 2 identifies activities at the site which are expected to contribute to the sound levels, and lists the associated institutional controls, expected location of the controls and comments referencing the particular best management practices that address those levels:

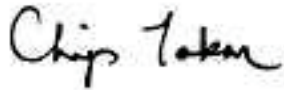
Table 2

ACTIVITY/EQUIPMENT	INSTITUTIONAL CONTROL	REFERENCE	BEST MANAGEMENT PRACTICES
All Site Activities	Operational Hours	Township Zoning	Maintain Operational Hours
On-site Haul Route to Feeder, Equipment Parking	Posted Speed Limits, increase conveyor length to shorten hauling distances.	Company/Federal MSHA Regulations	Activity is situated below the elevation of surrounding berm heights

NRM has conducted many sound level monitoring exercises at similar aggregate processing facilities and observed that when the best management practices and engineering controls are implemented the activities will not produce Sound Pressure Levels (SPLs) exceeding any regulatory levels or normal operational levels. We expect any measured sound levels at the property boundaries to be near or slightly above background levels at this facility mainly based on the fact that mining activities will be conducted at a lower ground elevation than the site surrounding property boundary.

We recommend that the above tables be reviewed and updated on an annual basis or when site activities change. Please feel free to contact us for further assistance.

Sincerely,



Frank "Chip" Tokar, CPG
Natural Resources Management, LLC

Appendix C



13923 Sherman White Rd.
Swanton, Ohio 43558
Local 419-841-3232
Fax 419-882-8772
www.NRMsolution.com

December 2025

**Stoneco of Michigan
100th Street Sand and Gravel Quarry
Gaines Charter Township, Michigan**

Fugitive Dust Plan

This letter outlines the Best Management Practices incorporated into the operational activities and will serve as a Fugitive Dust Compliance Plan. This Fugitive Dust Plan incorporates the Michigan Environmental Great Lakes, and Energy - Air Quality Division (EGLE-AQD) Compliance Requirements for Nonmetallic Mineral Crushing Facilities.

I. Plant, Feeder and Conveyors

The drop distance at each transfer point throughout the plant shall be reduced to the minimum the equipment can achieve.

II. Truck Traffic

On-site vehicles shall be loaded to prevent their contents from dropping, leaking, blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come in contact within six inches of the top of any sideboard, side panel or tailgate, otherwise, the truck shall be tarped.

III. Site Roadways and the Plant Yard

- (a) The dust on the site roadways and the plant yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds. Applications of dust suppressants shall be done as often as necessary to meet an opacity limit of five percent.
- (b) All paved roadways and the plant yards shall be swept as needed between applications of dust suppressants.
- (c) Any material spillage on roads shall be cleaned up immediately.
- (d) A record of all applications of dust suppressants and roadway and the plant yard sweepings shall be kept on file for the most recent five-year period and be made available to the EGLE - AQD upon request.

IV. Storage Piles

- (a) Stockpiling of all nonmetallic materials shall be performed to minimize drop distance and control potential dust problems.
- (b) Stockpiles shall be watered on an as needed basis in order to meet an opacity limit of five percent. Equipment to apply water or dust suppressant shall be available at the site, or on call for use at the site, within a given operating day.
- (c) A record of all watering shall be kept on file for the most recent five-year period and be made available to the EGLE - AQD upon request.

Appendix D

Construction Sand and Gravel Need and Marketability Analysis

Stoneco of Michigan

900 100th Street SE, Byron Center, MI 49315

Parcel IDs: 41-22-33-200-010 and 41-22-33-400-005

Gaines Township, Kent County, Michigan

December 5, 2025

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1.0 Executive Summary

Stoneco of Michigan, Inc. (Stoneco) conducted exploration activities of a natural resource deposit consisting of sand and gravel minerals on approximately 180-acres of agricultural property located in T05N, R11W Section 33, Gaines Township, Kent County, Michigan (100th Street site). Stoneco intends to expand their existing mining operations currently located to the west to extract the minerals on the proposed expansion parcels, process them, and market them for their own use and their customers. Subsequently, a special land use and site plan review application was prepared in accordance with the Gaines Township Zoning Ordinance for submission to the Gaines Township Planning Commission. Natural Resources Management, LLC (NRM) prepared this report to address the Gaines Township Zoning Ordinance Chapter 18 - Section 18.190(K)1 “In conducting this inquiry, the burden is on the applicant to show that there are valuable natural resources located on the subject property, that there is a need for the natural resources by the applicant or in the market served by the applicant,…”

Based on the comprehensive evaluation of readily available data, information obtained from Stoneco, and based on our professional knowledge and experience in production and sales of sand and gravel in the State of Michigan and Midwestern United States, we have the following findings and opinions:

- The proposed 100th Street site expansion contains approximately 8.6 million tons of sand and gravel that will supply Stoneco and the market area with a valuable commodity that can be legally extracted and Stoneco can receive revenue and reasonably expect to operate at a profit due to the inherent value of the minerals as a commodity.
- The location of the market herein described is the 30- and 50-mile radius of the 100th Street site location. A review of suppliers and end-users (i.e., sand and gravel mines, concrete and asphalt suppliers, contractors, etc.) exists in these market areas. It is our professional opinion that the annual market demand within the 30-mile radius of the Stoneco facility is approximately 4,200,000 tons (rounded) estimated using the most accurate statistical data published by the USGS in conjunction with the reported population of each county within the market area.
- The currently permitted Stoneco operation, adjoining the proposed 100th Street site in Gaines Township currently supplies approximately 13% of the market demand or 100% of its own need at the expected annual rate of 550,000 tons (500,000 metric tons). This material on the proposed 100th Street site will be needed to supplement the supply at the currently permitted operation for processing in the 2026 construction season in order to meet its market demand because the sand and gravel resources at Stoneco’s current operation is nearly depleted.
- Published data indicates that in the state of Michigan, there will be an overall increase in both production and consumption of construction sand and gravel through at least the year 2040. Additionally, historical growth (via GDP) of the construction sector, an influx of funding at the federal, state, and local levels, and an increase in the housing units of the primary county (Kent) in the market area for which 100th Street site serves, is projected to

continue into the future. This will require a continuous supply of material to meet current demands and support the projected increase in the market demand.

- The estimated supply of material is currently provided by approximately 56 facilities. These facilities (or a portion of) supply the market area with the above-referenced demand. It is our professional opinion, that the available supplies of the material to be mined from existing sources and reasonably anticipated other sites do not substantially exceed reasonably foreseeable needs. In fact, as the existing facilities are depleted, additional resources will need to be permitted so the current demand and projected future increases in demand can be met.
- Existing aggregate sources are non-renewable and depletion of these reserves will continue to occur, not only within the identified market area, but the entire State of Michigan, and will require replacement with new mineral resources.

From the information provided herein and continued letting of projects that require aggregate resources in Kent and surrounding counties in the market area, it has been shown that “... *there is a need for the natural resources by the person or in the market served by the person...*” per MCL 125.3205 via the Michigan Zoning Enabling Act and the Gaines Township Zoning Ordinance Chapter 18 - Section 18.190(K)1 in that it has with a certain degree of scientific certainty:

- a) Identified the present annual market demand of approximately 4.2 million tons in the market area.
- b) Provides the expected rate of extraction of approximately 550,000 tons (500,000 metric tons) annually.
- c) Identifies and characterizes the location of the markets presently in need of sand and gravel.
- d) Concludes that 1) the proposed 100th Street site currently supplies an estimated 13% of the market area including sand and gravel products for their own use, and 2) will continue to supply approximately 13% of the total market demand annually.

Moreover, this report presents evidence that the available supplies of the material to be mined from existing sources and reasonably anticipated other sites do not substantially exceed reasonably foreseeable needs. To the contrary, the information in this report supports our opinion, that if additional sand and gravel operations are not permitted, the current and future demands for these materials will continue to be depleted and a shortage will occur.

2.0 Limitations to Study

The USGS Aggregates Data from 1971-2023 is based on voluntarily submitted surveys and, therefore, may not represent construction sand and gravel sold or used tonnage in its entirety for the state of Michigan but is rather representative of the market’s performance overall. Major use categories were not added until 2010, and stockpiled production is not included in reported quantities (per USGS). Import and export data were not analyzed for the purposes of this study. Economic census data was limited in certain data sets. The EGLE Michigan Sand and Gravel

Operations data provided by the GIS open data is a tool for identifying probable locations of sand and gravel pits and. *“The data included in this map is one of many inventories created historically from a variety of sources, including but not limited to MDOT inventories. Data was last updated by the MDNR, Land and Mineral Services Division, Resource Mapping and Aerial Photography Section in 2001. This data is known to be out of date.”*

It is also important to note that examples researched within this analysis are only a sector of the industries that utilize construction sand and gravel and do not represent the total need for the material. Actual volumes would require obtaining information on all private and public residential, commercial, and industrial development projects. This information cannot be readily obtained.

Moreover, this report presents evidence that the available supplies of the material to be mined from existing sources and reasonably anticipated other sites do not substantially exceed reasonably foreseeable needs. On the contrary, the information in this report supports our opinion that if additional sand and gravel operations are not permitted, the current and future demands for these materials will continue to be depleted and a shortage will occur.

3.0 Introduction:

Stoneco of Michigan, Inc. (Stoneco) conducted exploration activities of a natural resource deposit on approximately 180-acres of agricultural property located in T05N, R11W Section 33, Gaines Township, Kent County, Michigan (100th Street Site). Stoneco intends to expand their existing mining operations currently located to the west to extract the minerals on the expansion property, process them, and market them for their own use and their customers. The extent of the natural resource deposit has been characterized through a series of subsurface exploration sample points, and the minerals were identified as construction sand and gravel. The volume of the mineable deposit is estimated to be approximately 6.1 million cubic yards as reported by Stoneco. This is equivalent to approximately 8.6 million US short tons using a conversion factor of 1.4 US short tons per cubic yard. Subsequently, a special land use and site plan review application was prepared in accordance with the Gaines Township Zoning Ordinance submitted to the Gaines Township Planning Commission. This report has been prepared to address the Gaines Township Zoning Ordinance Chapter 18 - Section 18.190(K)1.

Demonstration of the need for construction sand and gravel is accomplished through the presentation of factual evidence obtained from Stoneco, readily available information, published market and industry data, and NRM’s own professional experience over the past 25 years in the permitting, monitoring, operation, and valuation of mineral resources and mineral reserves throughout the midwestern United States and more specifically, in Michigan.

The natural resource in this report is defined as construction sand and gravel and is classified as a nonfuel mineral commodity. As with other commodities, the value of the sand and gravel is dependent upon average unit sales prices, which change over time. The average unit price for construction sand and gravel (all products) in Michigan was reported to be \$8.64/metric ton (rounded) in 2024, according to the United States Geological Survey (USGS 2025 Mineral Commodity Summaries, third Quarter 2025). It can therefore be argued that the sand and gravel sold or used by Stoneco has an inherent value, after it is mined and processed of approximately

\$9.50 per US short ton at the Stoneco 100th Street site. Moreover, these minerals are legally permissible to extract and once processed, are available for supply to Stoneco and its customers in the market area. The market refers to the area or region where the commodities are produced, sold, consumed, and transported. This report focuses on documenting the volume of minerals present and the need in the market area of the Stoneco 100th Street site.

This report was prepared for the benefit of Stoneco and to support the application for a Special Use Permit for review by the Gaines Township Planning Commission. These entities may rely upon the contents and conclusions in this report. Any use a third party makes of this report, any reliance upon it, or any decisions based on it are the sole responsibility of the third party. A third party is not afforded the status of a third-party beneficiary unless NRM expressly agrees in writing to such a third party.

4.0 The Need for and Value of Sand & Gravel as a Mineral Commodity:

According to the most recently available USGS Mineral Commodity Summary for construction sand and gravel (USGS, March 2025), U.S. construction sand and gravel production was about 890 million tons in 2024, a decrease of 13% compared with that in 2023. Apparent consumption also decreased to 890 million tons. Consumption of construction sand and gravel decreased in 2024 because of significant weather events and continued decreases in residential housing demand caused by interest rates continuing to be at some of the highest levels in 23 years. Usually, commercial and heavy-industrial construction activity, infrastructure funding, labor availability, new single family housing unit starts, and weather affect growth in construction sand and gravel production and consumption. Long-term increases in construction aggregates demand are influenced by activity in the public and private construction sectors, as well as by construction work related to infrastructure improvements around the nation.

The 2021 Infrastructure Investment and Jobs Act reauthorized surface transportation programs for 5 years and authorized investment of additional funding to repair roads and bridges and support major, transformational projects. The 2021 law authorized \$1.2 trillion in funding and will expire at the end of the 2026 Federal fiscal year. The funding included \$118 billion to the Highway Trust Fund—\$90 billion to the highway account and \$28 billion to the transit account. During the first 9 months of 2024, total highway construction spending was 13% more than that in the same period in 2023. The underlying factors that would support an increase in prices for construction sand and gravel are expected to be present in 2025, especially in and near metropolitan areas. Shortages in some urban and industrialized areas are expected to continue to increase owing to local zoning regulations and land-development alternatives. These issues are expected to continue and to cause new construction sand and gravel pits to be located away from large population centers. Resultant regional shortages of construction sand and gravel and higher fuel costs could result in higher-than-average price increases in industrialized and urban areas. The construction sand and gravel industry continued to address health and safety regulations, permitting and zoning issues, and environmental restrictions in 2024. (Appendix IV).

Sand and gravel remain crucial to the construction and transportation sector as the primary ingredient in the development of residential and commercial buildings, roads, highways, bridges,

etc. Estimates report that “Construction of one mile of four-lane interstate highway requires 85,000 tons of aggregate; the average six-room house requires 90 tons.” (Michigan State University). USGS reports that to maintain the current standard of living, the per-person use of sand and gravel weighs in at 7,254 pounds (3.6 tons rounded) of sand and gravel per year. According to the Organization for Economic Cooperation and Development, the use of sand, gravel, and crushed rock in construction is predicted to more than double by 2060 in direct correlation with population growth.

Sand and gravel is a valuable commodity. NRM has conducted several mineral valuations for sand and gravel processing facilities and undeveloped sand and gravel quarries. Production costs typically range from \$4.00 to \$7.00/ton. The range of production costs depend upon various items including but not limited to, energy costs, labor costs, land leases, royalties, type of mining (i.e. dry mining vs. water table excavation), and the size of the operation. Assuming the range of operating costs are from \$4.00 to \$7.00/ ton and the value referenced by the USGS of \$9.50/ton, it can be shown that an experienced producer can be expected to operate at a profit ranging from \$2.50 to \$5.50/ton (value – production cost = profit). At this location, Stoneco expects to produce and sell, as it does from several other facilities it operates, several hundreds of thousands of tons of construction aggregate annually and therefore can be expected to receive revenue and reasonably expect to operate at a profit.

Because of the future projected increases in the use of construction sand and gravel, production is projected to increase to keep up with the demand these infrastructure projects will create. Therefore, from the national to local levels, there is a need in the major end-use markets for the construction of sand and gravel. It is the goal of this report to evaluate the need in the market located in the vicinity of the project area, which can be documented by an evaluation of the state and regional mineral commodity data in comparison to the national data. More importantly, and absent any increase in market demand, the depletion in the supply of sand and gravel deposits is constant and, therefore, must be replaced in order to keep up with demand.

It is important to understand that construction sand and gravel, along with all mined mineral commodities, are non-renewable, naturally occurring resources. Construction sand and gravel can only be obtained from locations where they occur naturally in the subsurface. These locations are somewhat random and, typically, are independent of the character and use of the land surface. This means their occurrence can just as likely be located beneath agricultural land as well as beneath a lake, pond, wetland, or residentially developed subdivision. For example, a recent 2024 first quarter report for solar development in Michigan (LandGate Corp., 2024) reports the average solar farm size in Michigan is 60.8 acres producing 8.5 MW of electricity under ideal conditions. Solar farms in Michigan need an average of 7.2 acres per MW of capacity. As of October 2023, LandGate Corp. reports Michigan has 65 solar farms already operating with a current capacity of 2362 MW¹. Therefore, approximately 17,000 acres of land has been developed into these projects that would otherwise be available for potential sand and gravel extraction. These larger scale solar projects compete for land use with mineral extraction projects because both types of uses are typically permissible uses in agricultural zoned areas in Michigan. In other words, construction sand and gravel deposits require open-pit mining methods for their extraction. When the land

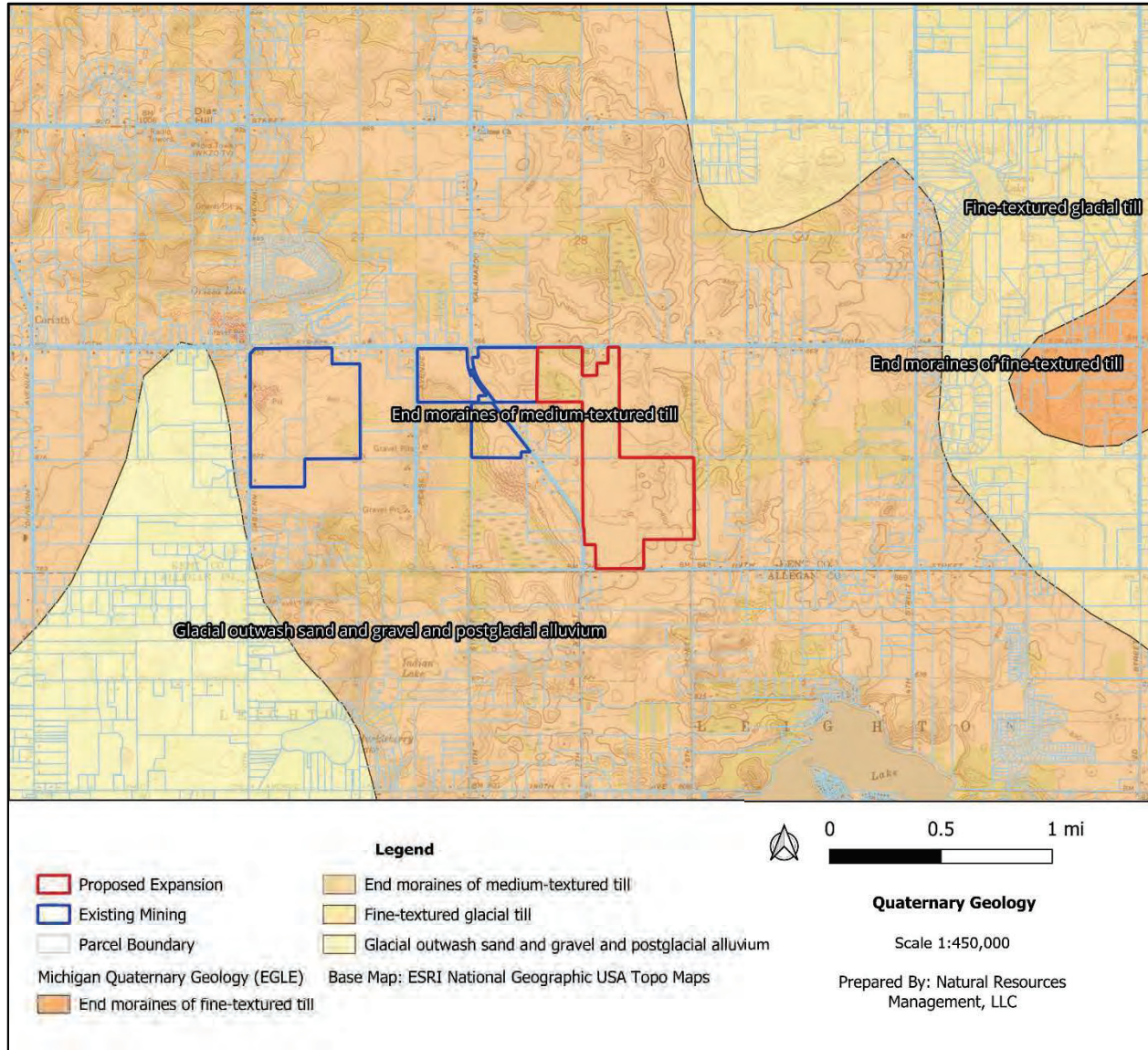
surface is developed by other uses, this places additional limitations on otherwise accessible mineral reserves because they cannot be extracted if the land surface is already developed by residential, commercial, or industrial structures. As the development of the land surface increases, access to these natural resources is lost. Moreover, land uses are also limited and/or isolated through environmental, zoning, and other regulatory permit restrictions.

Finally, as existing and established quarries produce and sell sand and gravel products, the mineral reserves are depleted. Unless new deposits are discovered and established to replenish the supply, the demand for the minerals cannot be met. In other words, mineral commodities such as construction sand and gravel cannot be renewed through recycling, synthetically produced, or grown. This requires new locations or expansions of existing quarries to be continually established in order to take the place of existing quarries that are constantly being depleted.

Michigan has consistently been ranked in the top 10 producers of construction sand and gravel in the continental United States. In at least the last 29 years, Michigan has been in the top five (5) states of leading producers of construction aggregates according to published USGS data (USGS Commodity Summaries 1996 – 2024). This consistency can primarily be attributed to the availability of construction sand and gravel in Michigan, which is geographically distributed in those locations where certain glacial depositional processes concentrated them. This includes geomorphological features commonly associated with sand and gravel deposits such as glacial moraines and outwash plains (Figure 1). Construction sand and gravel deposits are included in the most abundant aggregate resource suitable for use in various types of construction, building, and other uses in the State of Michigan. It is under these specific conditions which dictate where sand and gravel can be found and extracted.

In summary, construction sand and gravel (and all other open-pit mineral resources) in Michigan have a finite volume that is constantly being depleted, and therefore, the need for construction sand and gravel will continue in perpetuity. Just as important, the sources for these proven reserves are continually becoming less accessible because as the land surface is developed for other uses, it covers up the indicated resources. Adding to the list of limitations are the regulatory requirements for allowing proven reserves in Michigan to be extracted and processed. When a source is located and it is determined to be accessible to the market area, is it further subject to local zoning processes and environmental regulations that can restrict the accessibility of proven reserves.

Figure 1: Geologic Map of Project Area

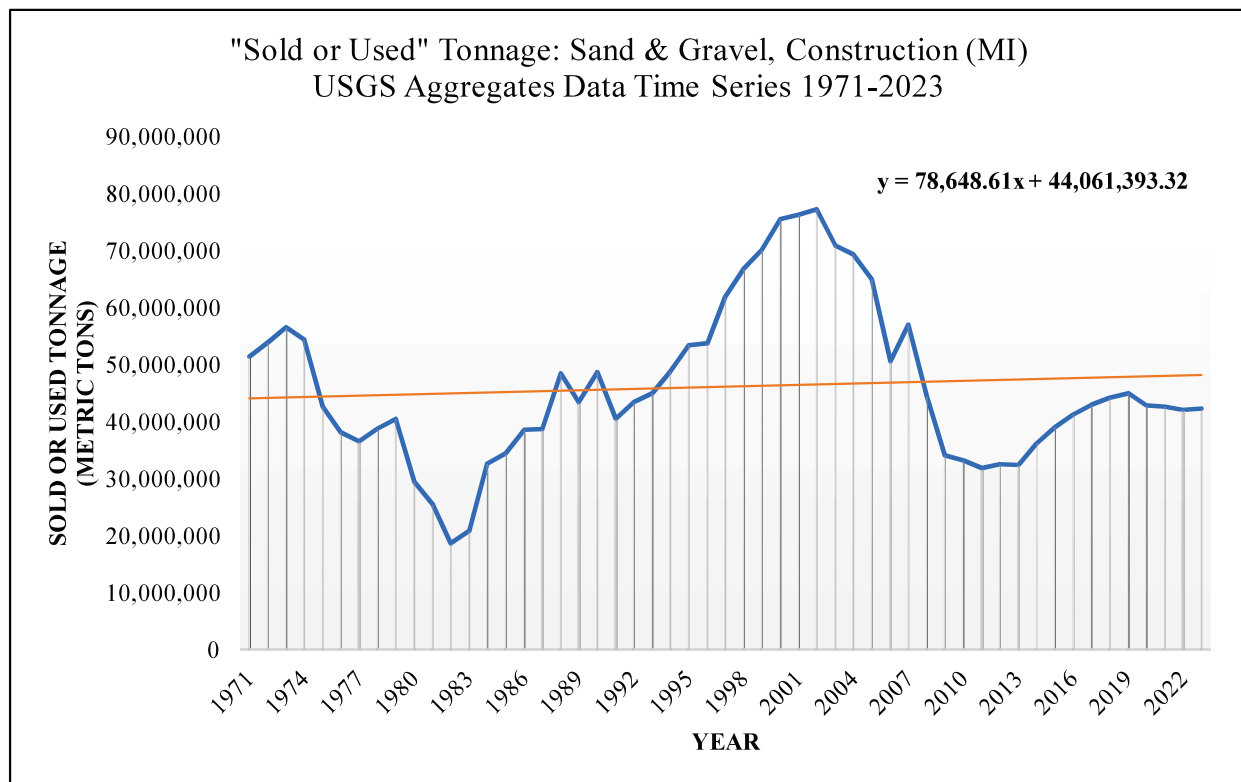


5.0 General Supply & Need of Sand & Gravel:

Evidence of the previously stated need can be demonstrated by evaluations of the historical and predicted trends in the supply and demand of this non-renewable natural resource. The market supply is provided by operating sand and gravel quarries with proven and permitted reserves. The total proven and permitted reserve volumes are not public information and therefore, not typically reported by the operators as the information is proprietary. Currently, the USGS or the State of Michigan Department of Natural Resources (MDNR), and Michigan Geological Survey does not provide detailed readily available records indicating the current total proven reserve volume in any particular region. However, operating facilities do report sales and used volumes to the United States Geological Survey (USGS). The USGS makes this data available on a quarterly and annual

basis for the United States and in certain years, data is also reported for individual states as well as regions (i.e., Midwest). Typically, these volumes are reported in either metric tons, US short tons, or cubic yards. For consistency in this report, all volumes discussed herein are reported in metric tons unless otherwise noted. The market demand can be expressed in the volume (i.e., tons or cubic yards) of construction sand and gravel sold or used in the state of Michigan using USGS Aggregates Data from 1971 to 2023. A review of this data found that over time, there is generally an increase in both sold and used materials for the State of Michigan and is displayed in Figure 2.

Figure 2: Historical Sold or Used Construction Sand and Gravel in Michigan

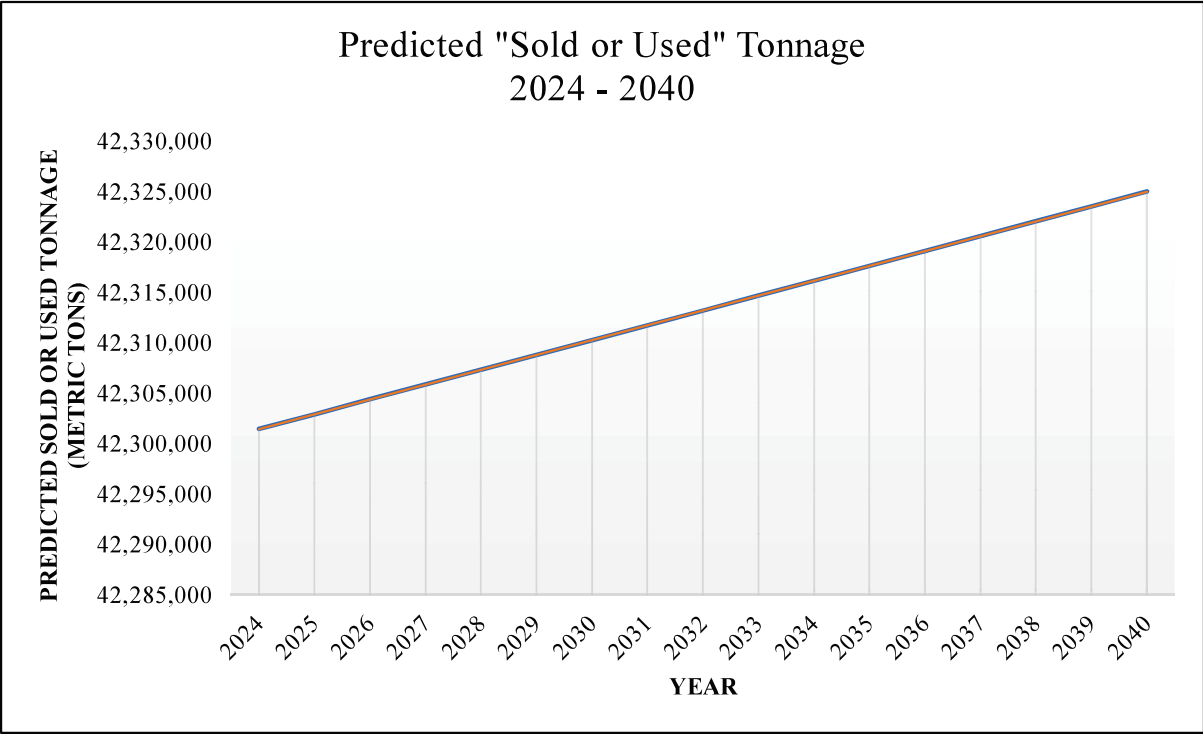


For this evaluation, the reported “sold or used” tonnage represents the demand. Consequently, the supply must keep up with the demand, and production volumes must keep up with the demand by producing construction aggregate from available proven and permitted reserves. As stated above, aggregate reserves are non-renewable natural resources. They must be replaced by newly proven and permitted reserves in order to keep up with the demand and as a result, sources of proven aggregate reserves must continuously be converted or processed into various products with certain specifications to meet the constant demand.

By defining historical trends in the sold or used volume of construction sand and gravel in a given region, future increases or decreases in supply and demand can be predicted. These predictions were accomplished statistically in this evaluation using the line equation from the historical trendline (Figure 2) to arrive at basic future predictions for sold and used tonnage. NRM

completed this analysis and graphically presents the predictions for post-ceding years (2024 to 2040) and are presented in Figure 3.

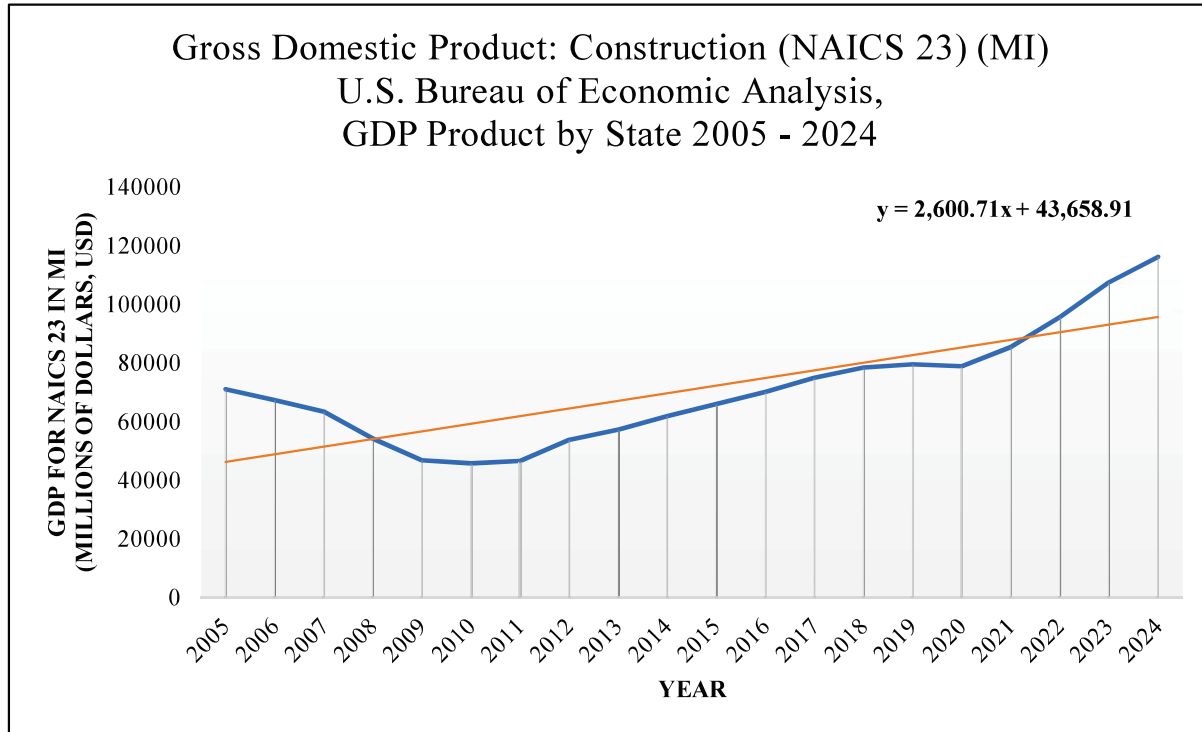
Figure 3: Predicted Sold or Used Tonnage of Construction Sand and Gravel in Michigan



The sold or used volume of construction sand and gravel generally coincides with the ups and downs in the economic conditions of the construction and infrastructure/transportation sectors as these represent the main buyers/ end users of the materials. In Figure 2, it can be seen that the volume of material sold/used followed similar trends as the Gross Domestic Product (GDP) from 2005 to present (Figure 4). For example, Figure 4 shows a decline from approximately 2005 to 2012, after which a reversal takes place as volumes and GDP begin to increase after 2012.

As stated above, infrastructure in Michigan has also seen a recent influx of spending and activity. As reported in the MDOT Five Year Transportation Program, the estimated total five-year plan investment for 2026 to 2030 is approximately \$16.1 billion of which \$10.7 billion is allocated for the Trunkline Highway Capital Program. This will amount to 1,431 lane-mile improvements per year and the repair or replacement of 56 bridges per year. The remaining funds will be allocated at approximately \$3.3 billion for Bus and Marine infrastructure, Rail infrastructure at \$1.1 billion and \$900 million for Aeronautics.

Figure 4: GDP of Construction Sector in Michigan



*Construction sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems).

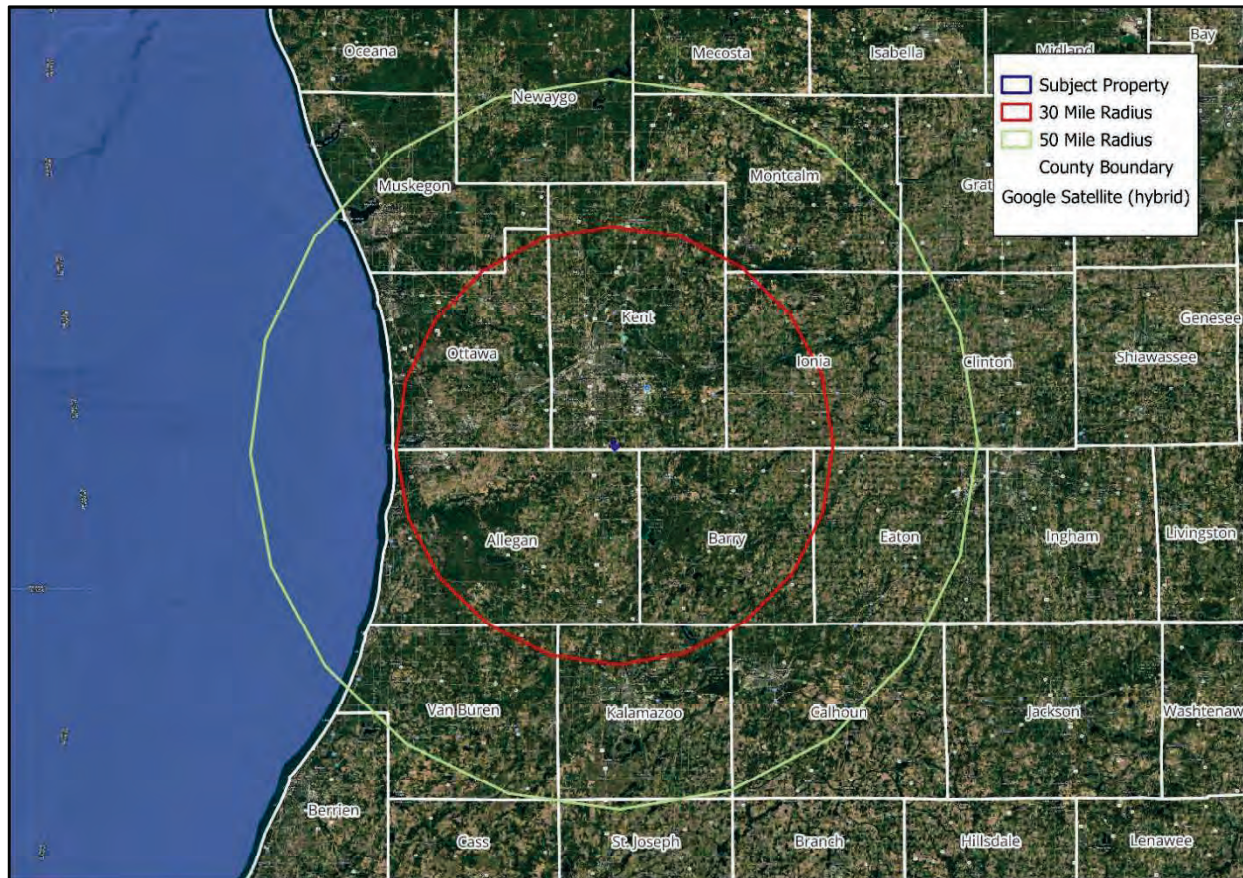
6.0 Review of Supply and Need in Market Area by Producers

According to Stoneco and consistent with published information (Michigan State University, Project Geo.), the proposed market area for this project site is estimated to be 30 miles from the source. The main restriction in this radius is the mode of transportation to the market and the proximity to main transportation routes such as interstate highways. The market area increases in distance from the source when transportation modes such as rail or main transportation routes such as Class A roads with no weather restrictions and interstate highways are directly accessible. In this case, market areas can increase up to 50 miles or farther (Robinson and Brown, 2002).

The 100th Street site has access to 100th Street Southeast, which is connected to a U.S. Highway, US-131. 100th Street Southeast access is approximately 1.3 miles east of US-131 which provides direct access to the markets of Grand Rapids, MI and Interstate corridors of I-96, I-196, and I-94. Additional main truck routes include US-131 to Allegan, Montcalm, and Mecosta and M-37 to Barry. These main truck routes allow the 30-mile market area to expand into a 50-mile radius since it will provide all-season access in all directions also using I-196, I-94. Moreover,

this allows for further expansion to other main transportation routes, allowing further access to the limits of Caledonia and Grand Rapids. The market areas are shown in Figure 5.

Figure 5: 30 and 50-mile Radius Market Area



The need for the minerals within the market area has been evaluated within the more conservative 30-mile market radius because this would represent the smaller ranges near the 100th Street site. Within the 30-mile radius of the proposed expansion property in Gaines Township, MI, there are a total of approximately 56 active mineral extraction sites which produce construction sand and gravel according to the EGLE Michigan Sand and Gravel Operations GIS Data. This data was edited based upon aerial review to ensure only active mineral extraction sites were included i.e. sites that have been historically mined and were subsequently reclaimed were excluded. These sites are primarily within the following counties: Allegan (16), Barry (16), Kent (13), Ionia (5), Ottawa (5), and Van Buren (1) as shown below in Figure 6. Out of the 56 facilities identified, only two of these facilities are located in Gaines Township and are adjacent to the proposed expansion site (Stoneco and South Kent Gravel) and only 10 of these sites were located in townships adjacent to Gaines Township and are largely clustered sites where resources are present on adjacent parcels and multiple producers are listed in close proximity to each other (see Appendix II). Moreover, these operating facilities vary in product specifications, facility size, and are being depleted continuously as they provide materials in the market area.

The remaining volume of reserves is not reported for all these facilities because the State of Michigan does not require reporting of aggregate reserve volumes or annual production and sales by the producer. Additionally, this information is proprietary, and these businesses are not willing to report this information to competitors. Voluntary reporting of aggregate sales is conducted by producers to the USGS and therefore, using the average annual sales of material from these producers can be used to estimate the need or demand for material in the market area.

The USGS compiles various production data in the annual Minerals Yearbook and quarterly Mineral Industry Surveys. As reported by the USGS in the third quarter 2025 Mineral Industry Surveys, *“The estimated production for consumption of construction sand and gravel in the third quarter of 2025 increased in six of the nine geographic divisions compared with that sold or used in the third quarter of 2024 (table 3).”* This data was [reported](#) in December 2025. The summary goes on to indicate... *“The five leading States were, in descending order of production for consumption, Texas, California, Minnesota, Michigan, and Arizona (table 4). Their combined total production for consumption was 98.8 Mt, an increase of 2% compared with that in the same period of 2024.”* (Willett, 2025).

Using the most recent 2025 data for Michigan, it was reported that a total increase in the volume of construction sand and gravel sold or used by producers increased approximately 3.3 % from the first three quarters of 2024 (USGS Third Quarter Mineral Industry Surveys). Again, this provides evidence of year to year increases in the demand for sand and gravel in the Michigan market area.

The data provided by the USGS for the mineral industries is broken down into individual States but is not broken down to individual mining operations. This information can be used to estimate the volume of material sold or used by producers in a certain market area if the number of producers in the market area is known or estimated and the annual tons sold or used by the facilities is known. As stated above, reported data for individual mining operations collected by the USGS in Michigan is not reported individually by location so we must make assumptions based on reported average volumes sold or used by producers then multiply the average annual tons sold or used by the number of producers in the market area, which in this case is 55 (not including Stoneco 100th street) and add the average volume sold or used by Stoneco at the 100th Street operation. This can be done by using the USGS data in the following method.

In the Midwestern United States, it is reported that most of the reported sand and gravel mining operations produce between less than 25,000 and 200,000 metric tons annually (2022 Minerals Yearbook Table 4A) as shown in Appendix I. By calculating the weighted average of the quantity (thousand metric tons) by number of operations within the size range brackets listed above, the overall average in metric tons per producer annually would be approximately 59,300. Assuming the majority of the 55 identified producers in the 30-mile radius market area (not including the 100th St facility), sells or uses and average of 59,300 metric tons, we can estimate 3,261,500 metric tons of sand and gravel is sold or supplied annually in the 30-mile radius market area. Adding the average volume that Stoneco sells or uses at the 100th St operation (500,000 metric tons) would then equal the estimated total annual market volume of 3,761,500 metric tons.

This represents the approximate volume of need in the 30-mile radius market area based on the number of producers in the market area.

Since supply must keep up with demand, it can be shown that the supply must meet the need (demand) for sand and gravel. Moreover, since the supply is not renewable and currently being depleted, those reserves must be replaced. Additionally, according to the continual increase in demand (Section 4.0) over time, the supply will increase. Using this information, it can be conservatively estimated that currently, the existing sources support a demand of approximately 3.76 million metric tons annually in the market area. It is our professional opinion that the available supplies of sand and gravel mined from existing sources and reasonably anticipated other sites that will be permitted to continuously meet the need, do not substantially exceed reasonably foreseeable needs. In fact, due to the trending increase in demand and constant depletion of sand and gravel in Michigan (including the market area in the vicinity of the Stoneco 100th Street operation) as discussed in Section 4.0 of this report, a shortage of this natural resource will result unless additional sand and gravel deposits are developed.

Stoneco's projected supply rate is approximately 500,000 metric tons annually from the proposed Gaines Township facility. This represents approximately 13% of the 3.76 million metric tons of current demand in the market area. It also represents 100% of the demand that Stoneco must meet to supply its own demand. It is a fact that Stoneco is continuously depleting its current resource, which at this time, permitted reserves are less than 200,000 tons. Stoneco will need to permit additional reserves to supply its own facilities as well as its current customers and therefore, the need for the material at its Gaines Township operation is high.

Moreover, Stoneco requires the use of not only MDOT approved materials for use in their concrete and road construction materials, but other particular specifications for certain products such as MDOT 22A road gravel, ASTM spec industrial sand products, and other related sorted sand and gravel materials (Appendix II). Not all of the 56 facilities are approved suppliers of MDOT spec sand and gravel products (Appendix II). Therefore, the pool of sources for the MDOT material is much smaller than the 56 facilities identified in this market area and limits the resources required for Stoneco to operate its business. Stoneco cannot rely on other producers to continually supply MDOT approved materials, mainly because they are not in control of what materials are produced, nor do they have any confidence in the quality of the material being produced by others. It is a necessity that Stoneco have control of its own sand and gravel deposit so it can be certain its products meet the quality standards of the projects it supplies.

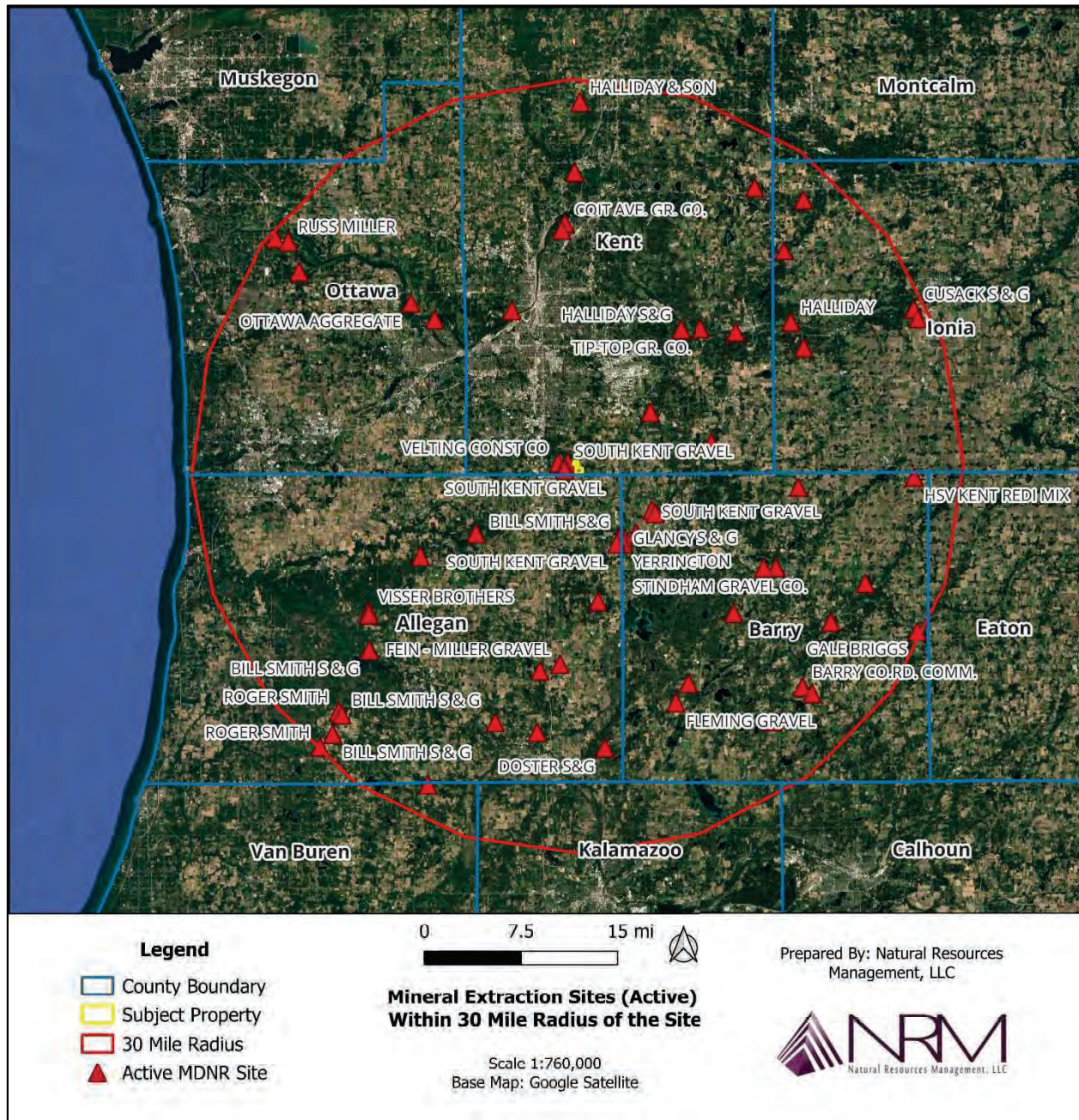
The important facts to note are that the reserves being utilized from these 56 locations are continually being depleted and it can be demonstrated that the available reserves at these locations are finite and will continue to be depleted as they supply the market area. Therefore, they need to be constantly replaced. The market area within the 30-mile radius of the Gaines Township facility has a demand or need of approximately 3.76 million metric tons of sand and gravel and the current resources that are available are being depleted. The proposed Stoneco facility will not only ensure the current production and sales of an average 500,000 metric tons of the material accounts for 13% of the overall market demand, which also represents 100% of the Stoneco's own demand.

The material quality at this facility can consistently meet the specifications required for use on MDOT approved projects as well as private projects with certain quality specifications.

This method in calculating the market demand is likely conservatively high due to the following limitations:

- Data for each facility reported is not available to the public
- Some of the reported facilities may be depleted or reclaimed
- Some of the reported facilities may be active but idle for an indefinite time period
- It is not feasible to research the current status of each facility and therefore, the reliability of the data is only an estimate based on those facilities that report voluntarily

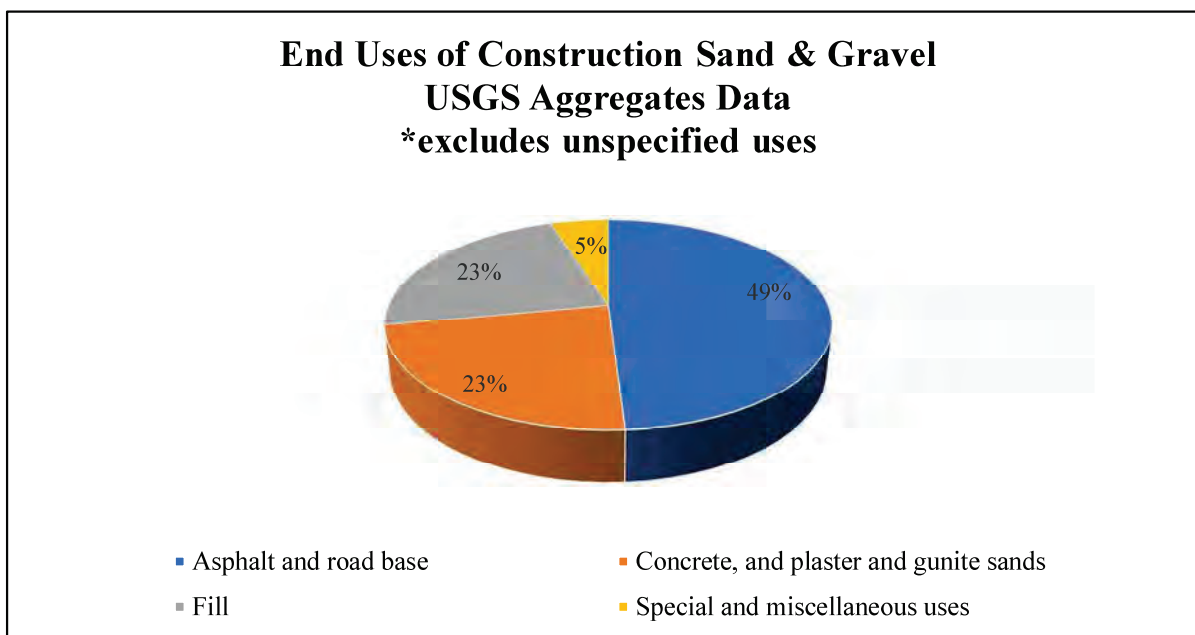
Figure 6: Active Mineral Extraction Sites in 30-mile radius of the Site



7.0 Need in the Market Area by Project & Location and Population

An evaluation of the users in specific road projects located in the 30-mile radius market area is one method we can use to arrive at an annual need for construction sand and gravel. The construction sector can be broken down into the primary buyers of the material which consist of concrete and asphalt plants as well as MDOT for road enhancement, repair, and or creation. USGS reports that in Michigan, asphalt, and ‘road/bridge base’ accounts for approximately half of the reported end use for construction sand and gravel, followed by concrete at 23%, fill at 23% and special/miscellaneous uses at 5% as shown in Figure 7.

Figure 7: End Uses of Construction Sand and Gravel in Michigan



We therefore used a method described below to evaluate the need for sand and gravel within the MDOT region and specific counties in the market area for road construction projects. Various public information is available to estimate the annual need for these projects and arrive at a volume (tons) of sand and gravel used in these projects. The limitation of this method is that the calculations are conservatively low because not every project MDOT or each county has made available to the public (current and future) contains a specific volume or enough information to estimate a volume and therefore these volumes are missing from the total. However, it is our opinion, this method demonstrates a minimum or low end of a range in market need. We can show this conservatively low end of the market need with a certain degree of scientific certainty based on the readily available reports and statistics for sand and gravel use in road construction for those projects that do contain enough information for estimating volumes.

Open-source searching identified approximately 6 concrete suppliers and 1 asphalt mixing plants. Notably, there were also numerous concrete and asphalt contractors who represent smaller-scale end users for projects such as repaving driveways which are not included.

In the previously stated counties, the following examples of MDOT projects currently underway or planned to be undertaken in the near future are listed in Table 1. This does not reflect all of the projects planned for future bidding because the project bid notifications are publicly available during certain windows of time typically in the previous year they are let and therefore, Table 1 may need to be revised as additional projects are finalized and represents a small portion of the currently estimated demand.

Table 1: MDOT Projects in Relevant Counties (Region: Grand)

Project Name - County	Estimated Timeframe	Funding	Length
Martin Luther King Jr. Street Partial Bridge Replacement	2026	\$30 million	Rebuilding 700feet of the bridge
I-96 Rebuilding	2026	\$105 million	Rebuilding 8 miles of I-96
M-37 Major Widening from south of 92nd Street to north of 76th Street	2026-2027	\$50 million	Widening 15,800 feet of M-37

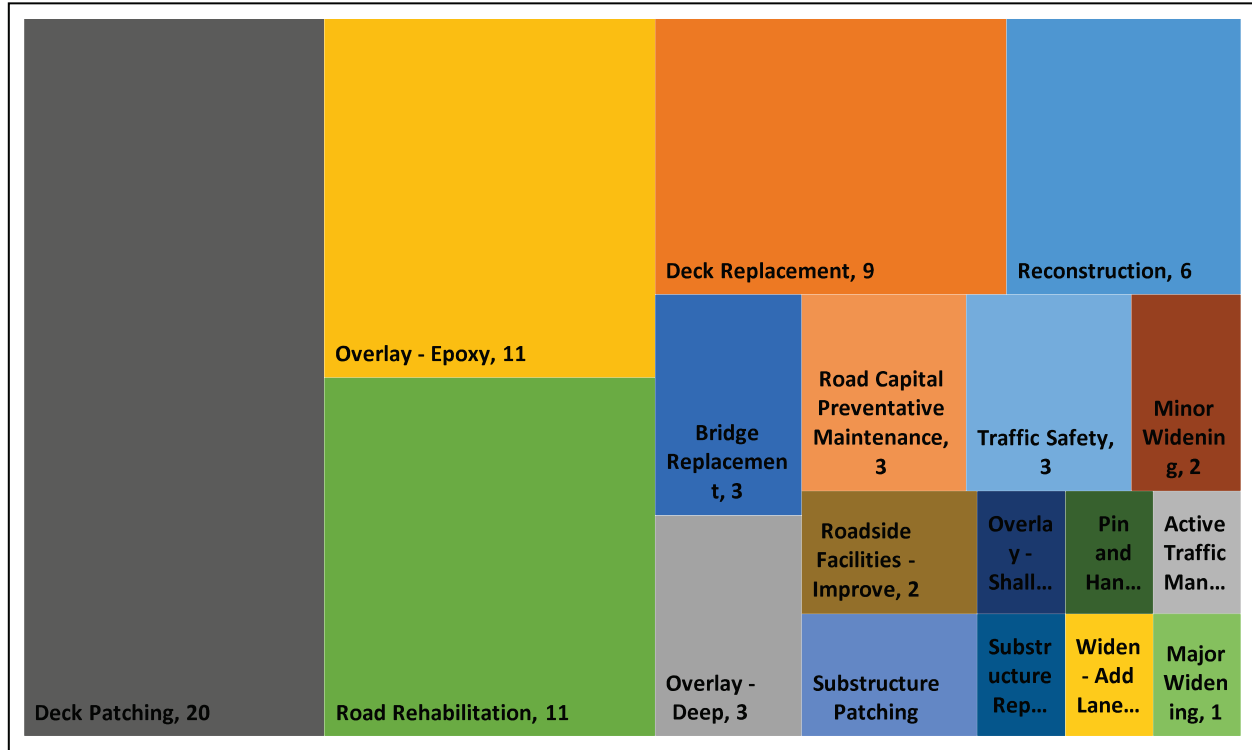
Moreover, the project list above does not include estimates for all bridge repair or replacement, or other construction-related projects presented through MDOT that also rely on the use of natural aggregate, concrete, or asphalt (all of which include construction sand and gravel). It is only a representative sample of projects in the nearby vicinity.

Conservative estimate calculations for this method of estimating volumes of sand and gravel by the end users were performed by either 1.) utilizing statistical assumptions of material needed per mile constructed or 2.) When necessary, obtaining relevant background data on each project name, i.e., total miles, description of the project (i.e., full rebuild or resurfacing), the average depth of sublayer, and the average width of the lane (per USGS and APAI), to gather estimated volumes. Buffers were included in depth and/or width to account for unlisted information regarding shoulders, culverts, and other various inclusions in roadway construction. Volume calculations included either a multiplier for the percentage by volume or weight of sand and gravel in the sublayer (compacted soil excluded). Estimated mass (in tons) was then obtained by accounting for density in each sublayer, as documented below.

Statistical assumptions: 85,000 tons of natural aggregate are used per one mile of a 4-lane interstate, 42,500 tons of aggregate are used per one mile of a 4-lane road, and 25,000 tons are used per one mile of a typical 2-lane road.

In the regional market, and in the coming five (5) years, the need only continues to rise. This is demonstrated in the 5-year plan for MDOT in the ‘Grand Region’ has 81 total projects, as displayed in Figure 8, of which the majority will require the use of construction sand and gravel (Appendix VI). The top two categories included Deck Patching and Overlay – Epoxy/ Road Rehabilitation, all of which rely upon the use of aggregate in some form. For all projects with listed lengths, the following estimates could be calculated for tons of aggregate required. Table 2 provides the estimated totals for construction sand and gravel with a grand total estimate of approximately 728,000 tons (rounded) for published projects in the market area where data was available. This would equate to an average of 146,000 tons (rounded) per year.

Figure 8: MDOT 5 Year Plan Summary for Construction Sand and Gravel



Estimated totals were calculated through the methodology described above or, when applicable, gathered from the county's bid. If the total was provided in tonnage, the percent by weight multiplier was included for sand and gravel as appropriate. Again, the totals in Table 2 only represent a portion of the projects where specific information was readily available and to estimate volumes of sand and gravel to be used in the projects and do not include bid information for 2026.

Table 2: Estimated Need for Construction Sand & Gravel by MDOT Category within Market Area next five years

MDOT Category	Estimated Need for Construction Sand & Gravel (Tons)
Major Widening	37,104.10
Minor Widening	3,816.99
Reconstruction	604,085.12
Road Rehabilitation	6,039.25
Widen - Add Lanes	76,649.59
Grand Total	727,695.06 (728,000 rounded)

In addition to MDOT-funded projects, the following counties have listed the below detailed proposed roadway work (either to be scheduled in the future or in progress), including resurfacing, construction-related projects, road gravel, hot mix asphalt (HMA), etc.

Table 3: Future County Roadway Projects in Kent County

Road	Limits	Work	Authority
10 Mile Road	At Myers Lake Avenue	Roundabout	KCRC
10 Mile Road	At Pine Island	Roundabout	KCRC
3 Mile Road (Drain Commission)	Dunnigan Avenue to Grand River Driver	Reconstruction	Other
Cannon Township	Neighborhood and Local Streets	Resurfacing	KCRC

The bidding website was not publicly available to obtain additional information on the above listed future projects. The above-listed examples represent only the immediate need, (i.e., currently proposed projects listed by the Kent County Road Commission and these materials are typically MDOT specified products, not all of which can be supplied by the 56 identified aggregate resources in the Market area. It is likely additional projects will be posted in the coming year as KCRC listed a total of 73 projects completed in 2025 alone. The Kent County Road Commission additionally has posted bids for ‘various road materials – gravel, stone, sand, and crushed concrete.’ As evidenced on Bid #26-MNT-03 for materials to be supplied in the year 2026 further indicating the need. Similar awarded bids have been posted for 2025 (#25-MNT-05), and 2024 (24-MNT-05) but just the fact that these projects, all requiring aggregate, demonstrate a need for sand and gravel.

A second method of identifying the need of specific volumes of sand and gravel is contained in the literature. Decades of data has enabled the USGS to estimate the need for various minerals for individuals in our daily lives (USGS, 2005). With a Kent County, MI population of approximately 673,000 in 2024, a need for sand and gravel can be estimated from USGS published statistics for daily use (USGS, 2005). It is estimated that approximately 3.6 tons of sand and gravel per person is utilized every year. Therefore, a total annual market share, estimated by population for each county in the market area, can be calculated. Using the USGS published information and the current population, we can show that an average annual market demand for sand and gravel in Kent County, MI is approximately 2,400,000 tons.

Allegan County Road Commission has also issued a list of road projects for the year 2026 however at the time of this report’s issuance, bid details had not been published as available for download. The projects included five reconstruction projects which were documented as follows;

- 132nd Avenue – 34th to 32nd St
- 61st Street – 138th Ave North (0.35 miles)
- 24th Street – M-89 to 114th Ave
- 49th Street – M-89 North (0.70 miles)

- 104th Avenue – 40th to 38th Street

As evidenced in Table 2, reconstruction projects result in the greatest need for construction sand and gravel. Utilizing the same estimated calculations, these five reconstruction projects will require approximately 105,000 tons of construction sand and gravel. This is a conservatively low estimate as stated above. A total market demand can also be calculated for Allegan County using the population data as we did in Kent County and is considered more reasonable. With a population of approximately 122,500 in 2024, it can be estimated that Allegan County's needs for sand and gravel, based on population, would be approximately 441,000 tons annually.

Barry County has not yet published projects for 2026 however local news sources have reported on upcoming projects that will require the use of aggregates. These include two bridge projects: Barger Road over Mud Creek and Quaker Brook Lane over Quaker Brook Creek. Therefore, we were not able to calculate a total market need for Barry County Road projects and is recognized as a data gap. A total market demand can be calculated for Barry County using the population data. With a population of approximately 64,000 in 2024, it can be estimated that Barry County's needs for sand and gravel annually would be approximately 230,400 tons.

Ottawa County has published 88 total projects for 2026 that will require the use of aggregates. These projects include 66 resurfacing efforts, 13 large culverts, 3 roundabout installations, 1 reconstruction, 4 bridge replacements and 1 bride rehabilitation. With a population of approximately 306,000 in 2024, it can be estimated that Ottawa County's needs for sand and gravel annually would be approximately 1,101,600 tons.

Since a smaller portion of Ionia County was included in the 30-mile radius, we did not calculate a need for use in construction projects or by population.

The MDOT Aggregate Source Inventory identifies the following totals of sources that provide MDOT aggregate quality sand and gravel material within the 30-mile market area; Allegan County (9), Kent County (8), Ottawa County (4), Ionia County (3), and Barry County (3). Of the 56 identified sand and gravel locations within the market area (Figure 6), only 27 of the facilities are listed that produce MDOT certified material. It is assumed the remainder of the facilities serve the more common commercial grade aggregates. This narrows the availability of products in the market area that are approved to provide materials for use in road construction projects requiring MDOT approved materials, which include the majority of asphalt and road base material and concrete. This market sector makes up approximately 73% of the demand but only about 50% of the producers are capable or providing MDOT material. This demonstrates that a need for additional producers that are capable of supplying MDOT approved material will be depleted unless additional MDOT sources are permitted and developed.

In summary, all of the counties listed above are in the 30-mile market area of the Stoneco 100th Street operation. Stoneco currently supplies approximately 550,000 tons annually. Based on this evaluation, it can be reasonably estimated with a degree of scientific certainty that the need for sand and gravel products in the market area (and for use by Stoneco) include:

Annual Use Calculated from Published Road Construction Estimates

- A minimum of 728,000 tons for MDOT funded projects in the next 5 years (average 146,000 tons/year)
- A minimum of 105,000 tons annually for listed road projects in Allegan County (the only County Road project list with sufficient details for listed projects to estimate)
- An undetermined volume of sand and gravel for use by the Kent, Barry, and Ottawa County Road Commissions, which likely is at least equal to the annual demand of Allegan County Road Commission and therefore conservatively estimated to be a total of 315,000 tons annually.
- Therefore, we can estimate, that a low-end volume of annual market demand would be 566,000 tons (rounded) of sand and gravel used for County Road Construction in the four County area.

Annual Use Calculated from Population and USGS Statistical Data

- An estimated annual need based on the populations of Kent, Allegan, Barry, Ottawa Counties of 4,200,000 tons (rounded).

Annual Demand Calculated from USGS Producer Data (See Section 6.0)

- A total of fifty-six (56) sand and gravel producers were reported to be within the 30-mile radius market area of the Stoneco 100th Street facility with an average estimated annual sale of 3.76 million metric tons. Stoneco produces an annual average of 500,000 metric tons in the market area.

It is our professional opinion that based on these three evaluation methods, there is a range in the annual market demand of sand and gravel products within a 30-mile radius of the Stoneco 100th Street facility of 566,000 tons to 4,200,000 tons. Each method has its advantages and disadvantages in calculating the market demand as indicated above. However, based on our professional experience and knowledge of the market area and current operators in the market area, we consider the annual demand based on the USGS statistical information calculated based on population, equal to approximately 4.2 million tons, to be the most accurate representation for the projected demand in the market area because it is the methodology that has the least amount of data gaps and is based on several decades of census and industry statistics. Stoneco has been producing approximately 550,000 tons (500,000 metric tons) of this material annually and will need to continue supplying the market.

8.0 Alternative Products and Process:

There are alternative sources for sand and gravel, but they are limited to other naturally occurring, non-renewable natural resources with similar physical characteristics to stone and sand. The two common substitutes are industrial sand and crushed stone. These resources are not located within the identified market area at any significant volume that would replace the depletion of the

operating sand and gravel quarries or increase in demand because they are non-existent or of limited supply.

As the mining process extracts the minerals from the ground surface, the land use is disrupted temporarily, and when mining is completed, it is subsequently placed back into its former use or into a different land use. In the case of this project in Gaines Township, the land use during mining will contain two separate components. The area subject to mineral extraction, and any unused land will continue to be used for planting row crops. Once mining is completed, enough of the land surface will remain on the property to facilitate future agricultural use or residential development if the final developer chooses. A number of future uses are possible once the mineral extraction process is complete.

9.0 Price and Cost of Materials:

Recent years have shown a steady increase in the unit value of construction sand and gravel for both concrete and asphalt end use (see Figures 9 and 10). Cost is largely dependent on overall supply, the distance of transportation, and the specifications of the product. If the product is locally sourced and transported within the nearby vicinity, the cost can remain low. Once the product has to be transported for long distances or imported or exported, the cost substantially increases. A hauling distance of + 30 miles will generally double the cost of delivered aggregate.

Due to the shorter haul distances from other locations, the 100th Street site will be able to offer competitive rates due to its close proximity to these projects. This will result in reduced transportation costs and will in turn save money directly for the projects and further translate into taxpayer savings.

With respect to trends and issues noted in the sand and gravel industry, the recent movement of sand and gravel operations away from densely populated regions is expected to continue where zoning regulations and local sentiment discouraged them, also serving as a barrier to entry. Subsequent regional shortages of construction sand and gravel and higher fuel costs could result in higher-than average price increases in industrialized and urban areas.

Figure 9: Price History for Concrete End Use of Construction Sand and Gravel

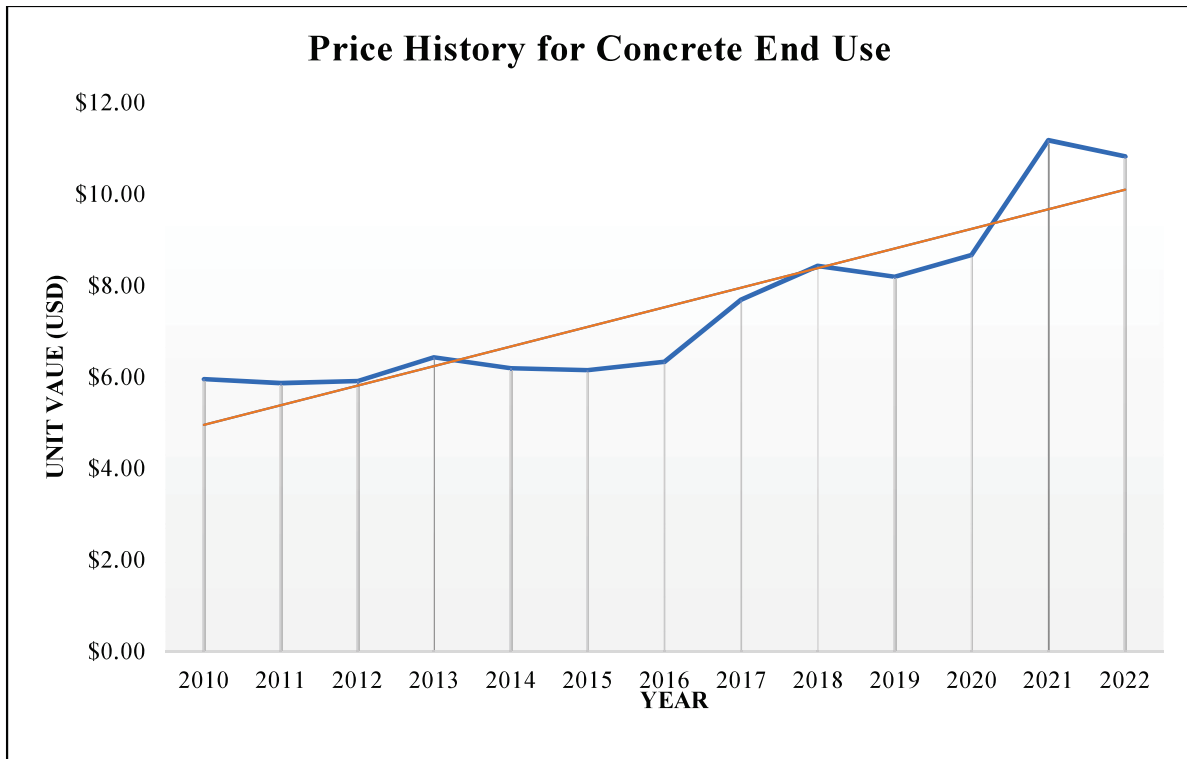


Figure 10: Price History for Asphalt End Use of Construction Sand and Gravel

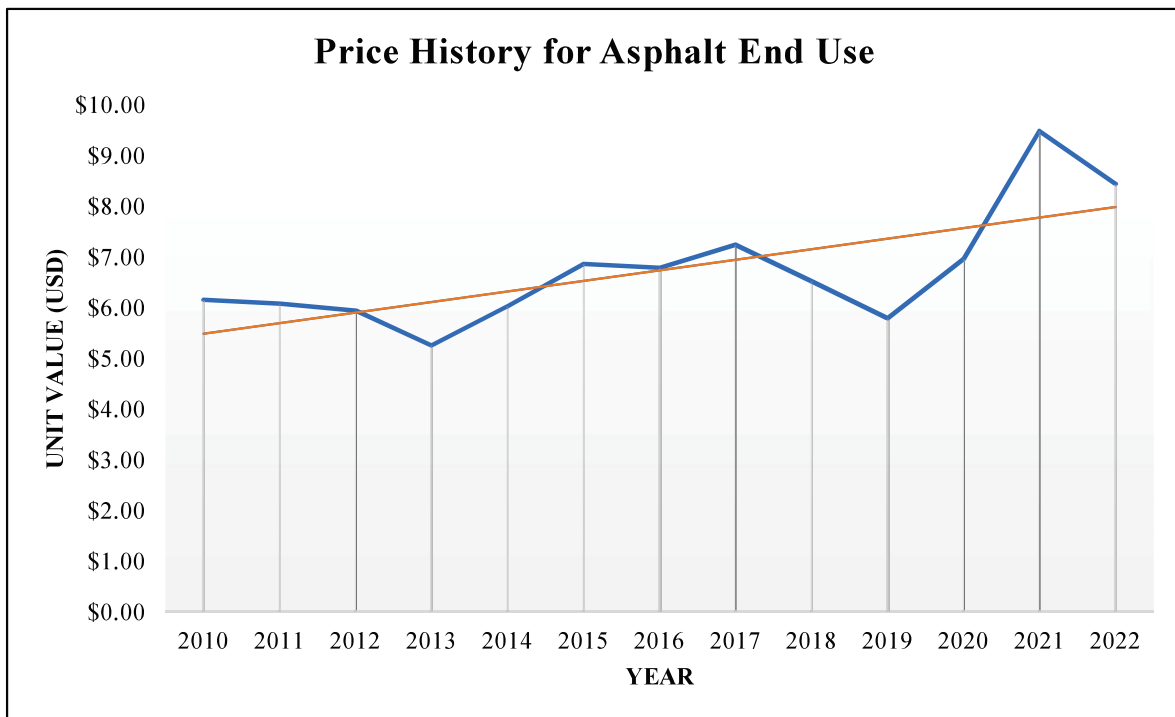
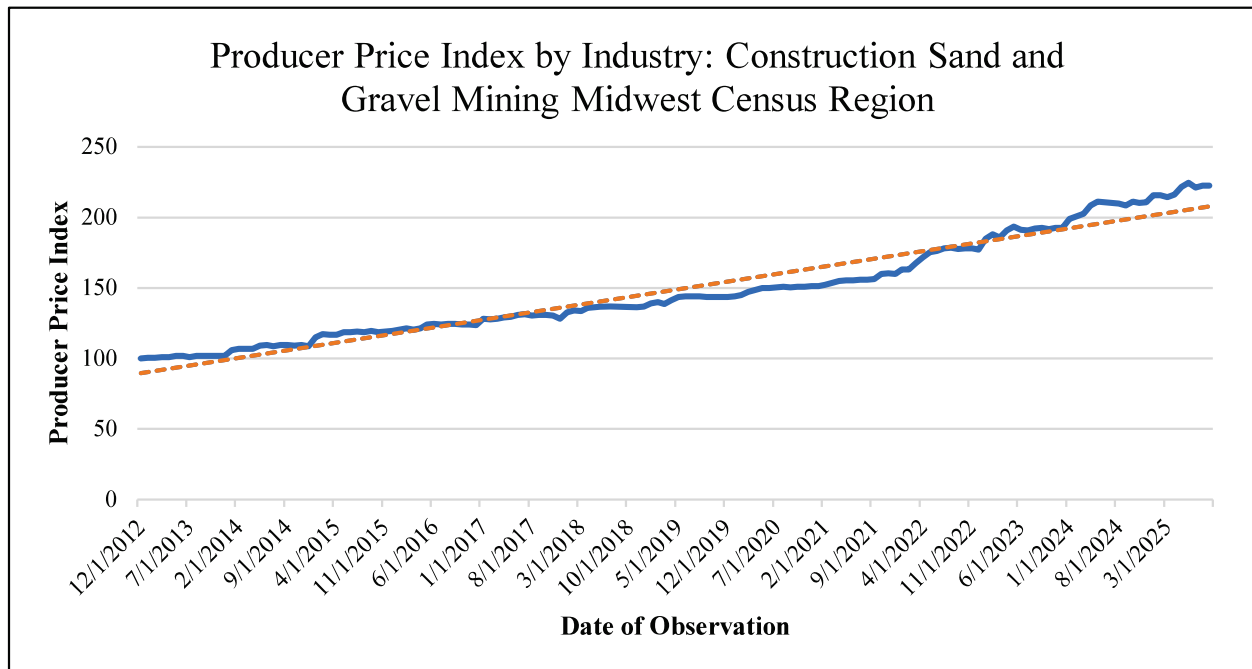


Figure 11: PPI History for Construction Sand and Gravel in Midwest Census Region

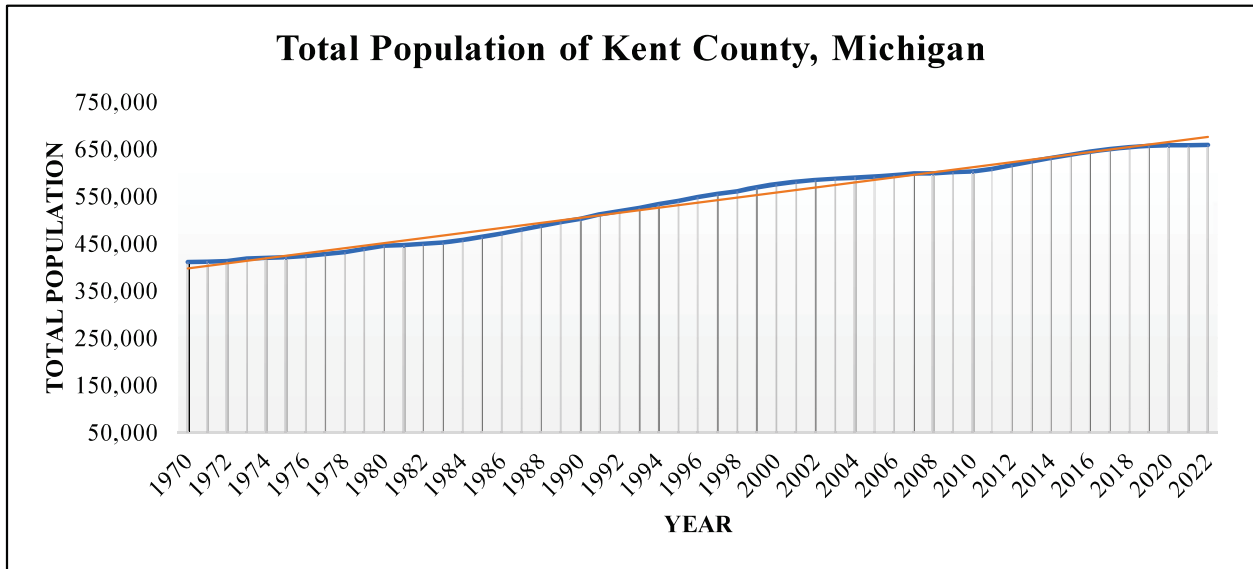


Economic census data also displays a general increase for the Midwest region as a whole in relation to producer price index (PPI) for construction sand and gravel. (See Figure 11) The U.S. bureau of Labor Statistics defines PPI as follows: “The Producer Price Index (PPI) is a family of indexes that measures the average change over time in selling prices received by domestic producers of goods and services. PPIs measure price change from the perspective of the seller.”

10.0 Population Projections - Kent County:

Given that Kent County, which includes Grand Rapids, Michigan’s second largest city, was encompassed within the 30-mile radius, it is necessary to review population-related data consistent with development projections which would require the use of construction sand and gravel. Kent County holds the 4th largest population of the 83 counties in Michigan. Figure 12 shows population totals from 1970 to 2022, according to recent Census data. The site is also close to Allegan County which is also encompassed within the 30-mile radius. Allegan County holds the 18th largest population of the 83 counties in Michigan.

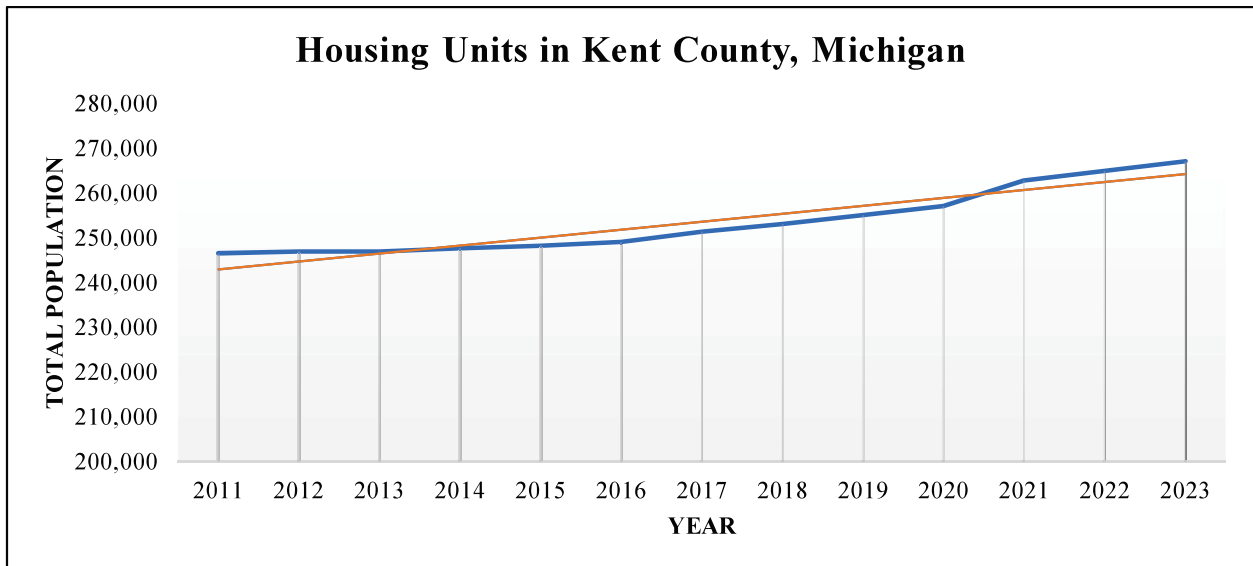
Figure 12: Total Population of Kent County, Michigan



In addition to the increase in the above-shown county population data, census data shows an increase in housing units* in Kent County, Michigan as well, see Figure 13.

*Housing units are defined per the Census Bureau as a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or, if vacant, is intended for occupancy) as separate living quarters.

Figure 13: Housing Units in Kent County, Michigan



11.0 Professional Knowledge and Experience:

Over the last 22 years, NRM and its partners have conducted over 25 mineral valuations for clients in the aggregates industry including construction sand and gravel, limestone, sandstone,

dimension stone and industrial sand deposits. We have permitted, operated, and managed several sand and gravel quarry operations in southeast Michigan. Several factors make the proposed project site desirable for an aggregate resource. These factors include but are not limited to; 1) mineral extracting is a legal permissible special land use in the rural residential zoning district in Gaines Township, Kent County, Michigan, 2) the project site contains approximately 8.6 million tons of mineral reserves that will be excavated and sold, 3) the minerals are sufficient volume, quality and are mineable using standard surface mining methods, 4) the site has direct access to a State Highway, and 5) there is a need for the material in the market area as shown in this report, and there is a need and desire for operators to obtain the reserves for their own use.

12.0 Findings and Opinions:

Overall, it can be expected to see an increase in both the production and consumption of construction sand and gravel in the coming years, not only for the state of Michigan but for the market area in and around the proposed sand and gravel quarry in Gaines Township, Kent County Michigan. As existing public and private mining operations are depleted, populations rise, and development continues in the public and private construction and infrastructure markets, the demand and therefore, need for sand and gravel will continue accordingly. Based on the comprehensive evaluation of readily available data, information obtained from Stoneco, and based on our professional knowledge and experience in production and sales of sand and gravel in the State of Michigan and Midwestern United States, we have the following findings and opinions:

- The proposed 100th Street site expansion contains approximately 8.6 million tons of sand and gravel that will supply Stoneco and the market area with a valuable commodity that can be legally extracted and Stoneco can receive revenue and reasonably expect to operate at a profit due to the inherent value of the minerals as a commodity.
- The location of the market herein described is the 30- and 50-mile radius of the 100th Street site location. A review of suppliers and end-users (i.e., sand and gravel mines, concrete and asphalt suppliers, contractors, etc.) exists in these market areas. It is our professional opinion that the annual market demand within the 30-mile radius of the Stoneco facility is approximately 4,200,000 tons (rounded) (3.8 million metric tons) estimated using the most accurate statistical data published by the USGS in conjunction with the reported population of each County within the market area.
- The currently permitted Stoneco operation, adjoining the proposed 100th Street site in Gaines Township currently supplies approximately 13% of the market demand or 100% of its own need at the expected annual rate of 550,000 tons (500,000 metric tons). This material on the proposed 100th Street site will be needed to supplement the supply at the currently permitted operation for processing in the 2026 construction season in order to meet its market demand because the sand and gravel resources at Stoneco's current operation is nearly depleted.
- Published data indicates that in the state of Michigan, there will be an overall increase in both production and consumption of construction sand and gravel through at least the year 2040. Additionally historical growth (via GDP) of the construction sector, an influx of

funding at the federal, state, and local levels, and an increase in the housing units of the primary County (Kent) in the market area for which 100th Street site serves, is projected to continue into the future. This will require a continuous supply of material to meet current demands and support the projected increase in the market demand.

- The estimated supply of material is currently provided by approximately 56 facilities. These facilities (depend upon their status) supply the market area with the above-referenced demand. It is our professional opinion, that the available supplies of the material to be mined from existing sources and reasonably anticipated other sites do not substantially exceed reasonably foreseeable needs. In fact, as the existing facilities are depleted, additional resources will need to be permitted so the current demand and projected future increases in demand can be met.
- Existing aggregate sources are non-renewable and depletion of these reserves will continue to occur, not only within the identified market area, but the entire State of Michigan, and will require replacement with new mineral resources.

From the information provided herein and continued letting of projects that require aggregate resources in Kent and surrounding counties in the market area, it has been shown that “... *there is a need for the natural resources by the person or in the market served by the person...*” per MCL 125.3205 via the Michigan Zoning Enabling Act and the Gaines Township Zoning Ordinance Chapter 18 - Section 18.190(K)1 in that it has with a certain degree of scientific certainty:

- a) Identified the present market demand of approximately 4.2 million tons (3.8 million metric tons) in the market area.
- b) Provides the expected rate of extraction of approximately 550,000 tons (500,000 metric tons) annually.
- c) Identifies and characterizes the location of the markets presently in need of sand and gravel.
- d) Concludes that 1) the proposed 100th Street site currently supplies an estimated 13% of the market area including sand and gravel products for their own use, and 2) will continue to supply approximately 13% of the total market demand annually until the reserves are depleted or additional facilities are established that may be shared in the market.

Moreover, this report presents evidence that the available supplies of the material to be mined from existing sources and reasonably anticipated other sites do not substantially exceed reasonably foreseeable needs. On the contrary, the information in this report supports our opinion that if additional sand and gravel operations are not permitted, the current and future demands for these materials will continue to be depleted and a shortage will occur.

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APPENDIX I

TABLE 6
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN 2022, BY STATE AND USE¹

(Thousand metric tons and thousand dollars)

State	Concrete aggregates (including concrete sand)		Plaster and gunitite sands		Concrete products (blocks, bricks, pipe decorative, and so forth)		Asphaltic concrete aggregates and other bituminous mixtures		Road base and coverings ²	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	2,480	19,400	--	--	--	--	W	W	W	W
Alaska	61	835	--	--	W	W	103	2,010	421	3,720
Arizona	6,290	93,100	150	1,940	W	W	2,830	49,900	2,500	27,500
Arkansas	452	4,440	--	--	--	--	W	W	177	1,140
California	22,200	338,000	592	9,490	W	W	8,370	117,000	8,130	85,900
Colorado	3,700	44,500	W	W	W	W	457	6,080	2,200	24,700
Connecticut	460	7,280	--	--	W	W	W	W	262	4,280
Delaware	W	W	--	--	W	W	W	W	W	W
Florida	W	W	W	W	W	W	W	W	W	W
Georgia	--	--	--	--	--	--	--	--	--	--
Hawaii	W	W	--	--	W	W	--	--	W	W
Idaho	1,720	16,100	--	--	W	W	W	W	4,350	30,600
Illinois	1,220	8,470	W	W	W	W	129	1,550	1,020	10,600
Indiana	5,090	49,700	W	W	W	W	347	3,280	81	858
Iowa	1,130	11,800	W	W	--	--	45	349	1,190	5,080
Kansas	547	3,710	W	W	--	--	216	1,550	947	8,690
Kentucky	W	W	--	--	--	--	W	W	--	--
Louisiana	1,630	18,500	W	W	--	--	W	W	W	W
Maine	212	1,300	--	--	W	W	111	1,440	577	5,720
Maryland	2,030	34,700	--	--	--	--	W	W	--	--
Massachusetts	912	14,900	3	66	W	W	W	W	W	W
Michigan	1,130	12,000	W	W	83	1,080	1,110	8,190	2,600	23,100
Minnesota	1,370	11,600	32	467	W	W	1,480	10,800	5,540	30,000
Mississippi	W	W	W	W	--	--	W	W	W	W
Missouri	3,060	24,700	W	W	W	W	W	W	W	W
Montana	600	7,970	--	--	W	W	184	2,320	1,030	10,400
Nebraska	726	6,530	14	72	--	--	119	1,450	725	9,670
Nevada	1,860	21,600	W	W	--	--	W	W	3,370	31,600
New Hampshire	55	850	W	W	--	--	W	W	1,300	16,500
New Jersey	4,460	45,100	3	57	W	W	W	W	26	423
New Mexico	609	9,220	13	247	W	W	W	W	609	7,560
New York	2,540	52,900	W	W	--	--	587	9,320	1,130	9,260
North Carolina	W	W	57	369	--	--	270	2,070	W	W
North Dakota	W	W	--	--	--	--	23	250	955	4,280
Ohio	5,890	73,100	22	417	203	2,040	1,140	12,500	1,500	20,700
Oklahoma	2,160	22,100	W	W	W	W	279	2,790	W	W
Oregon	712	9,280	W	W	W	W	258	4,440	715	10,100
Pennsylvania	612	6,720	--	--	7	75	2	17	348	4,210
Rhode Island	W	W	--	--	W	W	W	W	W	W
South Carolina	1,700	17,100	W	W	--	--	--	--	W	W
South Dakota	471	4,290	--	--	--	--	W	W	1,140	6,630
Tennessee	773	12,800	--	--	W	W	W	W	W	W
Texas	14,900	209,000	460	8,060	W	W	195	3,500	417	7,610
Utah	3,830	86,100	W	W	W	W	572	7,700	2,980	31,600
Vermont	W	W	--	--	--	--	W	W	545	5,960
Virginia	1,160	21,100	W	W	W	W	468	7,320	W	W
Washington	1,400	19,600	--	--	W	W	--	--	1,670	20,800
West Virginia	--	--	--	--	--	--	--	--	--	--
Wisconsin	2,870	22,500	--	--	W	W	278	2,080	1,860	12,300
Wyoming	401	4,090	W	W	W	W	117	1,180	784	7,560
Total	103,000	1,370,000	1,350	21,200	293	3,200	19,700	259,000	51,100	479,000
Total withheld	4,380	71,200	637	10,300	2,240	30,600	5,840	66,600	1,040	12,600
Grand total	108,000	1,440,000	1,980	31,500	2,540	33,800	25,500	326,000	52,100	492,000

TABLE 6
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN 2022, BY STATE AND USE¹

(Thousand metric tons and thousand dollars)

State	Fill		Snow and ice control		Railroad ballast		Other uses ³		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	W	W	--	--	W	W	10,100	132,000	13,500	157,000
Alaska	196	1,010	45	389	--	--	W	W	5,980	65,200
Arizona	W	W	--	--	W	W	35,900	498,000	49,200	690,000
Arkansas	W	W	--	--	--	--	6,480	66,200	7,200	72,700
California	W	W	W	W	W	W	56,600	859,000	100,000	1,480,000
Colorado	1,080	15,600	18	383	--	--	28,400	327,000	35,900	419,000
Connecticut	41	277	W	W	--	--	3,700	50,500	4,540	63,700
Delaware	W	W	--	--	--	--	1,870	14,600	2,440	18,800
Florida	W	W	--	--	6	249	18,200	280,000	26,300	389,000
Georgia	W	W	--	--	--	--	W	W	6,680	60,300
Hawaii	W	W	--	--	--	--	123	2,590	293	9,500
Idaho	1,100	6,050	16	108	W	W	15,800	116,000	23,600	172,000
Illinois	W	W	3	21	W	W	16,300	155,000	19,500	182,000
Indiana	1,070	9,660	30	173	--	--	11,500	124,000	18,100	189,000
Iowa	399	2,550	19	179	--	--	W	W	12,100	111,000
Kansas	245	1,200	18	111	--	--	W	W	10,300	88,500
Kentucky	W	W	--	--	--	--	7,910	77,200	8,530	84,200
Louisiana	1,340	9,260	--	--	2	7	11,700	152,000	14,700	180,000
Maine	210	924	30	204	1	33	W	W	8,960	83,600
Maryland	W	W	--	--	--	--	3,570	57,300	5,740	94,600
Massachusetts	233	1,780	11	79	--	--	7,530	99,700	9,600	128,000
Michigan	2,650	13,300	74	1,070	W	W	33,800	248,000	41,500	307,000
Minnesota	450	1,710	22	205	W	W	44,900	296,000	53,800	351,000
Mississippi	W	W	--	--	--	--	6,950	69,800	7,630	76,100
Missouri	W	W	W	W	--	--	4,860	41,700	8,030	67,700
Montana	40	306	38	257	W	W	11,700	125,000	13,600	147,000
Nebraska	168	728	W	W	--	--	W	W	12,000	134,000
Nevada	1,480	12,300	W	W	W	W	15,700	132,000	23,200	210,000
New Hampshire	263	1,500	39	604	W	W	5,920	71,300	7,790	93,900
New Jersey	136	1,240	W	W	--	--	8,160	77,800	13,600	127,000
New Mexico	301	3,420	W	W	--	--	6,450	91,200	9,990	140,000
New York	1,020	16,600	423	3,570	W	W	22,600	290,000	28,500	386,000
North Carolina	808	6,020	W	W	--	--	7,810	66,000	9,390	80,900
North Dakota	44	186	1	8	5	95	W	W	10,600	67,600
Ohio	1,650	19,100	8	62	--	--	21,500	229,000	31,900	357,000
Oklahoma	W	W	--	--	--	--	9,550	91,900	12,800	124,000
Oregon	W	W	--	--	18	215	13,300	172,000	15,100	196,000
Pennsylvania	W	W	68	722	--	--	W	W	9,870	109,000
Rhode Island	W	W	--	--	--	--	3,860	68,100	4,130	72,800
South Carolina	308	1,730	--	--	--	--	8,200	76,300	10,300	95,800
South Dakota	229	1,500	W	W	--	--	9,520	65,100	11,400	77,900
Tennessee	W	W	--	--	--	--	6,810	114,000	8,110	137,000
Texas	2,850	26,900	--	--	W	W	79,800	960,000	98,700	1,220,000
Utah	3,540	31,300	W	W	W	W	25,200	258,000	36,300	417,000
Vermont	115	839	147	1,390	W	W	3,790	41,600	4,820	53,300
Virginia	1,170	11,000	--	--	--	--	5,260	73,700	8,140	115,000
Washington	892	8,200	W	W	29	535	32,100	433,000	36,100	482,000
West Virginia	--	--	--	--	--	--	303	2,940	303	2,940
Wisconsin	399	2,080	W	W	--	--	22,800	174,000	28,400	215,000
Wyoming	109	450	4	16	1	15	12,100	113,000	13,500	127,000
Total	24,500	209,000	1,010	9,550	62	1,150	659,000	7,390,000	XX	XX
Total withheld	12,700	154,000	256	3,920	146	1,810	65,200	626,000	XX	XX
Grand total	37,300	363,000	1,270	13,500	208	2,950	724,000	8,020,000	953,000	10,700,000

W Withheld to avoid disclosing company proprietary data; included in "Total withheld." XX Not applicable. -- Zero.

¹Table includes data available through October 31, 2023. Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes road and other stabilization (cement and lime).

³Includes reported and estimated production without a breakdown by end use.

TABLE 4A
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY SIZE OF OPERATION¹

Size range (metric tons)	2021 ²				2022			
	Number of operations	Percent of total	Quantity (thousand metric tons)	Percent of total	Number of operations	Percent of total	Quantity (thousand metric tons)	Percent of total
Less than 25,000	1,632	28.6	14,600	1.6	1,555	27.4	13,800	1.4
25,000 to 49,999	816	14.3	26,900	2.9	745	13.1	24,700	2.6
50,000 to 99,999	928	16.3	60,800	6.5	991	17.4	65,100	6.8
100,000 to 199,999	901	15.8	119,000	12.6	898	15.8	116,000	12.2
200,000 to 299,999	482	8.5	107,000	11.4	494	8.7	110,000	11.6
300,000 to 399,999	232	4.1	73,000	7.8	267	4.7	84,100	8.8
400,000 to 499,999	183	3.2	74,500	7.9	208	3.7	85,200	8.9
500,000 to 599,999	139	2.4	69,300	7.4	128	2.3	63,800	6.7
600,000 to 699,999	79	1.4	46,000	4.9	90	1.6	53,000	5.6
700,000 to 799,999	58	1.0	39,500	4.2	65	1.1	43,800	4.6
800,000 to 899,999	49	0.9	37,400	4.0	52	0.9	40,200	4.2
900,000 to 999,999	35	0.6	30,200	3.2	33	0.6	28,400	3.0
1,000,000 to 1,499,999	102	1.8	112,000	12.0	104	1.8	117,000	12.3
1,500,000 and more	66	1.2	129,000	13.7	54	1.0	108,000	11.3
Total	5,702	100	939,000	100	5,684	100	953,000	100

¹Table includes data available through October 31, 2023. Production data are rounded to no more than three significant digits except “Number of operations” and “Percent of total”; may not add to totals shown. Does not include recycling plants.

²Estimated quantities have been recalculated.

APPENDIX II

**Michigan Department of Transportation
Aggregate Source Inventory**

*this listing includes sources identified as active by regions
with information on file at MDOT Aggregate Quality
-addresses may be approximate-

9/12/2023

ASI	County	Region	Historical/ASI	Quarry/Source Name	Producer	Source Address
01-0005SG	Alcona	North	01-005	Laidlaw(Wallace)	R. E. Glancy, Inc.	1048 M-65,Barton City,MI,48705
02-0060CA	Alger	Superior	02-060	Lindberg	A. Lindberg and Sons, Inc.	5741 Percy Road(Co Road653),Shingleton,MI,49884
02-0069SG	Alger	Superior	02-069	Turri	A. Lindberg and Sons, Inc.	3202 Ladoga Road(Co Road281), Trenary,MI,49891
02-0086SG	Alger	Superior	02-086	Carr	Bacco Construction Compa	E7779 M-28,Munising,MI,49862
02-0087SG	Alger	Superior	02-087	Forest Land Group	Bacco Construction Compa	Pit Access Road,Christmas,MI,49862
02-0088CA	Alger	Superior	02-088	Bed Rock	Mottes Sand & Gravel	6237 Percy Road (Co Road 653), Shingleton,MI,49884
02-0089SG	Alger	Superior	02-089	Cunningham	Mottes Sand & Gravel	County Road 705,Burt Township,MI,49884
02-0090SG	Alger	Superior	02-090	Peterson Pond		5370 Riely Lake Road,Rapid River,MI,49878
02-0091SG	Alger	Superior	02-091	Deerton		1387 M-28,Onota Township,MI,49822
02-0092SG	Alger	Superior	02-092	Kinnunen Percy Road Quarry	Bacco Construction Compa	E-12046 Roy Wright Road,Shingleton,MI,49884
02-0092CA	Alger	Superior	02-092	Kinnunen Percy Road Quarry	Bacco Construction Compa	E-12046 Roy Wright Road,Shingleton,MI,49884
02-0093SG	Alger	Superior	02-093	Lyme M-28 Pit	Bacco Construction Compa	M-28,Wetmore,MI,49862
03-1002SG	Allegan	Grand	03-	Miner Lake- Holcim	Holcim	...
03-1001SG	Allegan	Grand	03-	Vanderink Pit	Holcim	...
03-1000SG	Allegan	Grand	03-	Lenore Lake	Holcim	...
03-0005SG	Allegan	Grand	03-005	Currie	R. Smith and Sons	1065 44th Street,Pullman,MI,49450
03-0018SG	Allegan	Grand	03-018	Pomranka	River Front Ready mix, Inc	4th Street,Wayland,MI,49348
03-0035SG	Allegan	Grand	03-035	Doster, D	Doster Sand & Gravel, Inc	261 M-89,Plainwell,MI,49080
YD-0001	Allegan	Grand	03-035CC	Doster Crushed Concrete	Doster Sand & Gravel, Inc	261 M-89,Plainwell,MI,49080
03-0045SG	Allegan	Grand	03-045	Grigsby, G.	Brewers City Dock, Inc	3894 121st Avenue,Allegan,MI,49010
03-0053SG	Allegan	Grand	03-053	Del-Pier	R. Smith and Sons	557 48th Street,Lee,MI,49056
03-0062SG	Allegan	Grand	03-062	Hughes, R.	Brewers City Dock, Inc	1933 106th Avenue,Ostego,MI,49078
03-0065SG	Allegan	Grand	03-065	Sweet #2	Holcim	4540 108th Avenue,Pullman,MI,49450
03-0080SG	Allegan	Grand	03-080	Dugan	R. Smith and Sons	2208 102nd Avenue,Otsego,MI,49078
03-0088SG	Allegan	Grand	03-088	Wayland	Holcim	3149 Patterson Road,Middleville,MI,49333
03-0090SG	Allegan	Grand	03-090	Southwest Gravel	R. Smith and Sons	1149 44th Street,Pullman,MI,49450
03-0091SG	Allegan	Grand	03-091	Matheson Pit	Holcim	3291 130th Avenue,Hopkins,MI,49328
03-0093SG	Allegan	Grand	03-093	Patterson Road	Stoneco	3700 Patterson Road,Middleville,MI,49333
03-0102SG	Allegan	Grand	03-102	Warnhoff	Holcim	1124 44th Street,Pullman,MI,49010
03-0104SG	Allegan	Grand	03-104	Adriansen	R. Smith and Sons	1943 122nd Avenue,Hopkins,MI,49328
03-0105SG	Allegan	Grand	03-105	Tisscher	R. Smith and Sons	2772 32nd Street,Allegan,MI,49010
03-0106SG	Allegan	Grand	03-106	Gun River	Aggregate Resources	,Shelbyville,MI,49344
03-0109SG	Allegan	Grand	03-109	Hill Road Pit	Brewers City Dock, Inc	1294 Hill Road,Ostego,MI,49078
03-0110SG	Allegan	Grand	03-110	Rocky Top	Ben Hunderman	91 141st Avenue,Wayland,MI,49348
03-0111SG	Allegan	Grand	03-111	Jones	R. Smith and Sons	1281 108th Ave,Otsego,MI,49078
03-0112SG	Allegan	Grand	03-112	Saugatuck	Top Grade Aggregates, LLC	3514 63rd Street,Saugatuck,MI,49453
YD-0002	Allegan	Grand	03-112CC	Saugatuck Crushed Conc.	Top Grade Aggregates, LLC	3514 63rd Street,Saugatuck,MI,49453
03-0113SG	Allegan	Grand	03-113	Salem	Top Grade Aggregates, LLC	3100 142nd Avenue,Dorr,MI,49323
03-0115SG	Allegan	Grand	03-115	Brower Reserve-CLOSED INACTIVE	Top Grade Aggregates, LLC	3328 142nd Avenue,Dorr,MI,49323
03-0116SG	Allegan	Grand	03-116	Ravines Reserve	Top Grade Aggregates, LLC	133rd Avenue & Old Allegan Road,Saugatuck,MI,49453
03-0117SG	Allegan	Grand	03-117	Hamilton Reserve	Top Grade Aggregates, LLC	132nd Avenue,Hailton,MI,49419
03-0118SG	Allegan	Grand	03-118	L & L Materials LLC	L & L Materials LLC	1280 10th Street,Martin,MI,49070
YD-0003	Allegan	Grand	03-801	Project Temporary 03035-101615A	Kalin Construction Compan	0,Saugatuck,MI,49453
04-0041SG	Alpena	North	04-041	Gooding, O.	R. E. Glancy, Inc.	11511 Taylor Hawks Road,Herron,MI,49744
04-0042SG	Alpena	North	04-042	Klein #2	Bolen Asphalt Paving Inc	1100 Bolen Road,Lachine,MI,49753
04-0053CA	Alpena	North	04-053	Szymanski	Elmers Crane and Dozer	3870 E Hamilton Road,Alpena,MI,49707
04-0057CA	Alpena	North	04-057	S S P Alpena	E.C. Levy - Nat Agg Div	1014 Long Lake Road,Alpena,MI,49707
04-0058SG	Alpena	North	04-058	Van Wormer		4742 Kirchoff Road,Alpena,MI,49707

Please contact MDOT-AggregateQuality@michigan.gov
to update or add sources to this inventory

**Michigan Department of Transportation
Aggregate Source Inventory**

*this listing includes sources identified as active by regions
with information on file at MDOT Aggregate Quality
-addresses may be approximate-

9/12/2023

04-0059CA	Alpena	North	04-059	Fussey Quarry	R. E. Glancy, Inc.	3818 Wessel Road, Alpena, MI, 49707
04-0060SG	Alpena	North	04-060	Bolen #1	Bolen Asphalt Paving Inc	9960 M-32 Atlanta, MI, 49744
YD-0004	Alpena	North	04-060CC	Bolen #1	Bolen Asphalt Paving Inc	9960 M-32 Atlanta, MI, 49744
04-0061SG	Alpena	North	04-061	Goodrich	Everett Goodrich Trucking	15543 Wessel Road, Alpena, MI, 49707
05-0024SG	Antrim	North	05-024	Scholl #1	Halliday S & G	4384 Doerr Road, Mancelona, MI, 49659
05-0059SG	Antrim	North	05-059	Scholl #2	Halliday S & G	4316 Doerr Road, Mancelona, MI, 49659
05-0074SG	Antrim	North	05-074	Hodgkiss & Douma #1	Halliday Riley Construction Co	3002 Tobias Road, Elmira, MI, 49730
05-0083SG	Antrim	North	05-083	Pulley	Rieth Riley Construction Co	573 S US-131, Elmira, MI, 49730
05-0089SG	Antrim	North	05-089	Thumm Road.	Payne & Dolan, Inc.	11135 E Thumm Road, Elmira, MI, 49730
YD-0184	Antrim	North	05-089CC	Thumm Road.	Payne & Dolan, Inc.	11135 E Thumm Road, Elmira, MI, 49730
05-0090SG	Antrim	North	05-090	Dobleski	Halliday S & G	3191 Dobleski Road, Elmira, MI, 49730
06-1000SG	Arenac	Bay	06-	Bilacic Trucking Bessinger Road	...	...
06-0008CA	Arenac	Bay	06-008	Glancy Quarry - Omer	R. E. Glancy, Inc.	111 North Walker Road, Twining, MI, 48766
06-0014CA	Arenac	Bay	06-014	Glancy Quarry - Bessinger Road	R. E. Glancy, Inc.	approx 3653 W Bessinger Road, MI, 48703
06-0023SG	Arenac	Bay	06-023	Glancy	R. E. Glancy, Inc.	Turner Road, Tawas City, MI, 48763
06-0024CA	Arenac	Bay	06-024	Glancy Quarry - Lehman Road	R. E. Glancy, Inc.	approx 361 S Lehman Road, Twining, MI, 48766
07-0019SG	Baraga	Superior	07-019	Fox #1	Bacco Construction Compa	15189 Old M-28, Covington, MI, 49919
07-0036SG	Baraga	Superior	07-036	Celotex #1	R.H. Huhtala Aggregates In	23326 Baraga Plains Road, Baraga Township, MI, 49908
07-0050SG	Baraga	Superior	07-050	Fox #1 Old	R.H. Huhtala Aggregates In	14727 Old M-28, Covington, MI, 49919
07-0053SG	Baraga	Superior	07-053	Richardson	Payne & Dolan, Inc.	Ford Road, Covington Township, MI, 49970
07-0054SG	Baraga	Superior	07-054	Bulera Aggregate	Payne & Dolan, Inc.	Wilderness Area, Spurr, MI, 49861
07-0055SG	Baraga	Superior	07-055	Lyme Nestoria	R.H. Huhtala Aggregates In	2831 North Lincoln Road, Escanaba, MI, 49829
08-1000SG	Barry	Grand	08-	Airport Sand and Gravel	1950 W State Rd	Hastings, MI, 49058
08-0018SG	Barry	Grand	08-018	Patterson Road	Top Grade Aggregates, LLC	3300 Patterson Road, Middleville, MI, 49333
YD-0005	Barry	Grand	08-018CC	Patterson Road	Top Grade Aggregates, LLC	3300 Patterson Road, Middleville, MI, 49333
08-0049SG	Barry	Grand	08-049	C&D Hughes #2	C & D Hughes, Inc.	733 N. Durkee Street, Nashville, MI, 49073
YD-0006	Barry	Grand	08-049CC	C&D Hughes #2	C & D Hughes, Inc.	733 N. Durkee Street, Nashville, MI, 49073
08-0100SG	Barry	Grand	08-100	Wenger Pit	Stoneco	3701 Patterson Road, Middleville, MI, 49333
08-0089SG	Barry	Grand	08-089	Vliek Pit	Holcim	Butler Rd, Nashville, MI, 49073
08-0101SG	Barry	Grand	08-101	Osgood Pit	R. Smith and Sons	6736 Otis Lake Road, Delton, MI, 49046
08-0102SG	Barry	Grand	08-102	Superior Asphalt Delton Pit	Superior Asphalt Inc	9650 Keller Road, Delton, MI, 49046
YD-0216	Bay County	Bay Region	09-	Project Temporary 201403A	Kalin Construction Compan	Bay City, MI, 48706
DK-001	Bay	Bay	09-001	Bay Aggregates	Bay Aggregates, Inc	411 Tiernan Road Bay City, MI, 48706
YD-0007	Bay	Bay	09-801	Project Temporary 128585A	Kalin Construction Compan	769-699 E Linwood Road, Kawkawlin, MI, 48613
YD-0008	Benzie	North	10-800	Generic CC Yard	...	...
11-0018SG	Berrien	Southwest	11-018	Warren	Kalin Construction Compan	3816 Case Court, Waterlivet, MI, 49098
YD-0009	Berrien	Southwest	11-018CC	Warren Crushed Concrete	Kalin Construction Compan	3816 Case Court, Waterlivet, MI, 49098
11-0064SG	Berrien	Southwest	11-064	Rhodes	Michiana Aggregate, Inc	3265 WEST US-12, Niles-Buchanan, MI, 49120
YD-0010	Berrien	Southwest	11-064CC	Rhodes Crushed Concrete	R. Smith and Sons	3265 WEST US-12, Niles-Buchanan, MI, 49120
11-0068SG	Berrien	Southwest	11-068	Ott Pit	R. Smith and Sons	3600 Little Glendora Road, Buchanan, MI, 49107
11-0077SG	Berrien	Southwest	11-077	Carrol	12211 Range Line Road	Berrien Springs, MI, 49103
11-0082SG	Berrien	Southwest	11-082	Hildebrand	Kalin Construction Compan	North Red Bud Trail, Buchanan, MI, 49107
11-0083SG	Berrien	Southwest	11-083	Hendershot	Michiana Aggregate, Inc	2600 Winn Road SW- intersection of Smith at Geyer road
11-0084SG	Berrien	Southwest	11-084	Kiell	American Aggregate, Inc	2041 M-140, Niles, MI, 49120
11-0085SG	Berrien	Southwest	11-085	Reed	Brusky Trucking & Construc	2600 Winn Road, Niles, MI, 49120
YD-0011	Berrien	Southwest	11-085CC	Reed Crushed Concrete	Brusky Trucking & Construc	2600 Winn Road, Niles, MI, 49120
11-0086SG	Berrien	Southwest	11-086	Twin Springs	7595 M-139, Berrien Springs	MI, 49103
YD-0012	Berrien	Southwest	11-087	B & Z Pit	1812 Riverside Road, Benton Harbor	MI, 49022
YD-0197	Berrien	Southwest	11-088CC	Brusky Stevensville CC	Brusky Trucking & Construc	3409 Linco Road, Stevensville, MI, 49127

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YD-0013	Berrien	Southwest	11-801	Tacy Recycle	R. Smith and Sons	7174 Red Arrow Hwy, Waterlvet, MI, 49098
YD-0014	Berrien	Southwest	11-802	Kalin Recycle Yore	Kalin Construction Compan	2635 Yore Avenue, Sodus, MI, 49126
YD-0015	Berrien	Southwest	11-803	Klett	Klett Recycle	6902 Paw Paw Lake Road, Coloma, MI, 49038
YD-0016	Berrien	Southwest	11-804	Consumers Benton Harbor	Klett Recycle	1800 Yore Avenue, Benton Harbor, MI, 49022
YD-0175	Berrien	Southwest	11-805	Project Temporary 130008A, 207872A	Brusky Trucking & Construc	17700 Behner Road, New Buffalo, MI, 49117
YD-0017	Berrien	Southwest	11-810	Project Temporary 130008A Location West #1	D.J. McQuestion & Sons, Ineast of Crystal Avenue on the I-94BL, St Joesph, MI, 49805	
YD-0018	Berrien	Southwest	11-811	Project Temporary 130008A Location West #2	D.J. McQuestion & Sons, Ineast of I-94 on the I-94BL, St Joesph, MI, 49805	
YD-0019	Berrien	Southwest	11-812	Project Temporary 130008A Location East #3	D.J. McQuestion & Sons, Ineast of Crystal Avenue on the I-94BL, St Joesph, MI, 49805	
YD-0020	Berrien	Southwest	11-813	Project Temporary 130008A, Location Reed Pit 11-CD	D.J. McQuestion & Sons, In 2600 WINN Road, Niles, MI, 49120	
12-0031SG	Branch	Southwest	12-031	Stukey	Carly Drive, Coldwater, MI, 49036	
12-0037SG	Branch	Southwest	12-037	Quincy	Aggregate Resources	361 Aggregate Drive, Quincy, MI, 49082
YD-0217	Calhoun County	Southwest	13-	Top Grade Aggregates Battle Creek CC	3900 W. Dickman Rd, Springfield, MI, 49037	
13-0010SG	Calhoun	Southwest	13-010	Klingeman, N	Carr Brothers & Sons, Inc.	14301 West Drive S, Tekonsha, MI, 49092
YD-0021	Calhoun	Southwest	13-059CC	River Road Pit Crushed Concrete	Hoffman Bros. Inc	1350 River Road West, Battle Creek, MI, 49037
13-0078SG	Calhoun	Southwest	13-078	Blanchard	Rieth Riley Construction Co	14917 J Drive North Marshall, MI, 49068
13-0083SG	Calhoun	Southwest	13-083	Parker, C.	Carr Brothers & Sons, Inc.	14917 J Drive North, Marshall, MI, 49068
13-0089SG	Calhoun	Southwest	13-089	Bergenson		14695 South County Line Road, Tekonsha, MI, 49092
13-0091SG	Calhoun	Southwest	13-091	Battle Creek	Holcim	18646 12 Mile Road, Battle Creek, MI, 49104
13-0092SG	Calhoun	Southwest	13-092	Sebolt	Carr Brothers & Sons, Inc.	24 Mile Road, Albion, MI, 49224
13-0094SG	Calhoun	Southwest	13-094	Rockwell	Carr Brothers & Sons, Inc.	5782 29 Mile Road, Homer, MI, 49245
13-0095SG	Calhoun	Southwest	13-095	Sheldon	Carr Brothers & Sons, Inc.	23609 West Michigan Avenue, Albion, MI, 49224
13-0098SG	Calhoun	Southwest	13-098	JK Gravel	Gale Briggs, Inc	18907 F-Drive S, Marshall, MI, 49068
YD-0193	Calhoun	Southwest	13-098CC	JK Gravel Crushed Concrete	Gale Briggs, Inc	18907 F-Drive S, Marshall, MI, 49068
13-0100SG	Calhoun	Southwest	13-100	Komarcks	Hoffman Bros. Inc	8574 Verona Road, Battle Creek, MI, 49104
13-0101SG	Calhoun	Southwest	13-101	Adams	R. Smith and Sons	29 Mile Road, Homer, MI, 49245
13-0102SG	Calhoun	Southwest	13-102	Rodney Horton Recycle Yard	Kalin Construction Compan	15802 Division Drive, Marshall, MI, 49068
YD-0022	Calhoun	Southwest	13-102CC	Rodney Horton Recycle Yard	Kalin Construction Compan	15802 Division Drive, Marshall, MI, 49068
13-0103SG	Calhoun	Southwest	13-103	Homer Pit	Trojan S & G	24101 L Drive South, Homer, MI, 49425
YD-0023	Calhoun	Southwest	13-801	Komarcks Recycle	Hoffman Bros. Inc	8574 Verona Road, Battle Creek, MI, 49104
14-0006SG	Cass	Southwest	14-006	Lowitz, A.	Kalin Construction Compan	O'Keefe Road, Cassopolis, MI, 49031
14-0026SG	Cass	Southwest	14-026	Edwardsburg (Formerly Rose, G.)	Holcim	28862 US-12, Niles, MI, 49120
14-0033SG	Cass	Southwest	14-033	Decker, W.	Cass Co. Road, Comm.	59266 O'Keefe Road, Cassopolis, MI, 49031
14-0051SG	Cass	Southwest	14-051	Westshore	R. Smith and Sons	Bakeman Road, Dowagiac, MI, 49047
14-0067SG	Cass	Southwest	14-067	Moose Lake		1900 Barron Lake Road, Niles, MI, 49120
14-0069SG	Cass	Southwest	14-069	Hover		Indian Lake Road, Dowagiac, MI, 49047
14-0071SG	Cass	Southwest	14-071	Wicks	Klett Construction Co.	Topash Street, Dowagiac, MI, 49047
14-0074SG	Cass	Southwest	14-074	Rank Pit	Superior Gravel/Aggregate	24405 Dutch Settlement Street, Cassopolis, MI, 49031
14-0075SG	Cass	Southwest	14-075	Northrop	R. Smith and Sons	M-40, Marcellus, MI, 49067
14-0080SG	Cass	Southwest	14-080	C & E US12 Edwardsburg	C & E Excavating	19382 US 12, Edwardsburg, MI, 49112
15-0003SG	Charlevoix	North	15-003	Fall Park Pit	Elmers Crane and Dozer	380 Fall Park Road, Boyne City, MI, 49712
YD-0024	Charlevoix	North	15-003CC	Fall Park Yard	Elmers Crane and Dozer	380 Fall Park Road, Boyne City, MI, 49712
15-0009SG	Charlevoix	North	15-009	Massey #1	Rieth Riley Construction Co	5911 US-131 S, Boyne Falls, MI, 49713
15-0032SG	Charlevoix	North	15-032	Hodgkiss & Douma	Rieth Riley Construction Co	6725 US-31, Charlevoix, MI, 49720
YD-0025	Charlevoix	North	15-032CC	Hodgkiss & Douma Crushed Concrete	Rieth Riley Construction Co	6725 US-31, Charlevoix, MI, 49720
15-0047SG	Charlevoix	North	15-047	Hersha	Elmers Crane and Dozer	3437 6 Mile Lake Road, Ellsworth, MI, 49729
15-0055SG	Charlevoix	North	15-055	Hudson	Rieth Riley Construction Co	8699 Woodward Road, Elmira, MI, 49730
YD-0026	Charlevoix	North	15-055CC	Hudson Yard	Rieth Riley Construction Co	8699 Woodward Road, Elmira, MI, 49730
15-0057SG	Charlevoix	North	15-057	Norwood Pit		1195 Norwood Road, Charlevoix, MI, 49720
15-0058SG	Charlevoix	North	15-058	Ellsworth Road.	Mantheil Constnuction	2951 S Ranney Road, East Jordan, MI, 49727

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YD-0027	Charlevoix	North	15-800	Project Temporary 15011-200957A	Fisher Sand & Gravel	16188 Heise Road, Charlevoix, MI, 49720
YD-0028	Charlevoix	North	15-801	Project Temporary 150091-130013A	Champagne & Marx	US 131 and Glem Road, Boyne Falls, MI, 49713
YD-0210	Cheboygan	North	16-	Andy's Project Specific 130014	Fisher Construction Aggreg	7076 East Levering Road, Levering, MI, 49755
16-0014SG	Cheboygan	North	16-014	Co. Road, Comm. #3 (Dnr 51)		Meyer Pit Road, Cheboygan, MI, 49721
16-0017CA	Cheboygan	North	16-017	Afton Stone & Lime	R. E. Glancy, Inc.	5143 Quarry Road, Afton, MI, 49705
16-0022SG	Cheboygan	North	16-022	King	Rieth Riley Construction Co	4725 M-33, Onaway, MI, 49765
16-0031SG	Cheboygan	North	16-031	Darrow Pit	Halliday S & G	19763 Stimpson Rd, Mackinaw City, MI, 49701
16-0040SG	Cheboygan	North	16-040	Gildner (Elmers)		9144 N Black River Road, Cheboygan, MI, 49721
16-0041CA	Cheboygan	North	16-041	Skuse	R. E. Glancy, Inc.	11475 Hutchinson Hwy, Onaway, MI, 49765
16-0045SG	Cheboygan	North	16-045	Wilkinson Pit	Carrick Trucking & Gravel,	13709 Indian Trail Road, Cheboygan, MI, 49721
16-0052SG	Cheboygan	North	16-052	Rondo	Rieth Riley Construction Co	5768 Rondo Road, Wolverine, MI, 49799
16-0058SG	Cheboygan	North	16-058	Meyers Creek	Rieth Riley Construction Co	3916 Meyer Pit Road, Cheboygan, MI, 49721
16-0080SG	Cheboygan	North	16-080	Ginop	Rieth Riley Construction Co	11205 Levering Road, Levering, MI, 49755
16-0082CA	Cheboygan	North	16-082	M-68 Quarry	Rieth Riley Construction Co	411 E M-68 Hwy, Afton, MI, 49705
YD-0167	Cheboygan	North	16-082CC	M-68 Quarry Crushed Concrete	Rieth Riley Construction Co	411 E M-68 Hwy, Afton, MI, 49705
16-0083SG	Cheboygan	North	16-083	Sackrider	Sackrider Well Drilling	6508 Old Mackinaw Road, Cheboygan, MI, 49721
16-0084SG	Cheboygan	North	16-084	Bates Road	Halliday S & G	12552 Bates Road, Cheboygan, MI, 49721
17-0020SG	Chippewa	Superior	17-020	City Limits	Northern Sand & Gravel, Inc.	1050 W 3 Mile Road, Sault Ste. Marie, MI, 49783
17-0024SG	Chippewa	Superior	17-024	Whitehead #4	A. Lindberg and Sons, Inc.	15024 S M-129, Sault Ste. Marie, MI, 49783
17-0031SG	Chippewa	Superior	17-031	Hassett, Mrs.	Payne & Dolan, Inc.	1-519 West Baker St, Kinross, MI, 49752
17-0037SG	Chippewa	Superior	17-037	NSG- Kinross Pit- Thompson Road	Northern Sand & Gravel, Inc.	8156 W Thompson Road, Kinross, MI, 49752
17-0041SG	Chippewa	Superior	17-041	Federal Forest #4	Payne & Dolan, Inc.	17000 W Tower Road, Brimley, MI, 49715
17-0045SG	Chippewa	Superior	17-045	Ford Motor Company	Payne & Dolan, Inc.	34660 S Spring Bay Road, Detour, MI, 49725
17-0052SG	Chippewa	Superior	17-052	Norris Kinross Pit	Norris Contracting Inc	7376 S Thompson Road, Kinross, MI, 49788
17-0053SG	Chippewa	Superior	17-053	Thompson #3	Brow Crushing	9430 W. Thompson Road, Rudyard, MI, 49780
17-0058SG	Chippewa	Superior	17-058	Maple Ridge	Con-Agg. Inc.	49465 W Maple Ridge Road, Hulbert, MI, 49748
17-0059SG	Chippewa	Superior	17-059	Sanderson #1	Payne & Dolan, Inc.	1983 W 20 Mile Rd, Sault Ste. Marie, MI, 49774
17-0062SG	Chippewa	Superior	17-062	Co. Road, Comm. #3	Northern Sand & Gravel, Inc.	3866 S. Mackinac Trail, Sault Ste. Marie, MI, 49783
17-0063SG	Chippewa	Superior	17-063	Kinross Air Force Base	Payne & Dolan, Inc.	17395 S Wilson Road, Kinross Charter Township, MI, 49755
17-0066CA	Chippewa	Superior	17-066	Drummond Dolomite #2	O-N Minerals (Michigan) Cc	Truck Haul Road, Drummond, MI, 49726
17-0083SG	Chippewa	Superior	17-083	Smith Detour Pit	Norris Contracting Inc	S Smith Road, Detour, MI, 49725
17-0090SG	Chippewa	Superior	17-090	15 Mile Road	Payne & Dolan, Inc.	389 W 15 Mile Road, Sault Ste. Marie, MI, 49783
17-0091SG	Chippewa	Superior	17-091	Radar Road	Fox Aggregates, LLC	3239 S Radar Road, Sault Ste. Marie, MI, 49783
17-0093CA	Chippewa	Superior	17-093	Rockview	Payne & Dolan, Inc.	29111 Meridian Road, Messel, MI, 49774
17-0096SG	Chippewa	Superior	17-096	Huyck	Payne & Dolan, Inc.	13223 M-129, Daffier, MI, 49783
17-0097SG	Chippewa	Superior	17-097	Kinross Huyck	Payne & Dolan, Inc.	17777 S Caldwell Rd, Kinross Charter Township, MI, 49752
17-0098SG	Chippewa	Superior	17-098	NSG Radar	Northern Sand & Gravel, Inc.	1132 W. Donna Road, Sault Ste. Marie, MI, 49774
17-0099SG	Chippewa	Superior	17-099	Strong's	Payne & Dolan, Inc.	S Gravel Pit Road, Eckerman, MI, 49728
17-0100SG	Chippewa	Superior	17-100	Luppino Pit Mercer	Northwoods Paving Co. Div	17965 E South Caribou Lake Road, De Tour, MI, 49725
17-0101SG	Chippewa	Superior	17-101	UP Rock Pit 1	Ball Construction	14860 South M129, Sault Ste. Marie, MI, 49783
18-0077SG	Clare	Bay	18-077	Gullickson #1	Fisher Sand & Gravel	1516 South Clare Avenue, Harrison, MI, 48625
18-0079SG	Clare	Bay	18-079	Stone	Fisher Sand & Gravel	5503 South Cornwell Avenue, Clare, MI, 48617
YD-0029	Clare	Bay	18-079CC	Stone Crushed Concrete	Fisher Sand & Gravel	5503 South Cornwell Avenue, Clare, MI, 48617
18-0081SG	Clare	Bay	18-081	Clare Plant	Hubscher & Son Inc	6775 Clarabella Avenue, Clare, MI, 48617
19-0004SG	Clinton	University	19-004	Scott Road	Schlegel Sand & Gravel, Inc	3510 N Scott Road, St. Johns, MI, 48879
19-0033SG	Clinton	University	19-033	Haddix	Haddix S & G	14086 W State Road, Eagle, MI, 48822
YD-0030	Clinton	University	19-033CC	Haddix	Haddix S & G	14086 W State Road, Eagle, MI, 48822
19-0054SG	Clinton	University	19-054	Seafles Ovid	Seafles Const. Co.	8175 E M-21, Ovid, MI, 48866
19-0055SG	Clinton	University	19-055	Martin	Schlegel Sand & Gravel, Inc	3730 N. Chandler Road, St. Johns, MI, 48879

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19-0061SG	Clinton	University	19-061	Seattles #2	Seattles Const. Co.	4743 N Dewitt Road, St. Johns, MI, 48879
YD-0031	Clinton	University	19-061CC	Seattles #2 crushed concrete	Seattles Const. Co.	4743 N Dewitt Road, St. Johns, MI, 48879
19-0076SG	Clinton	University	19-076	Grandell Howe Road	Crandall Brothers	2285 E Howe Road, Dewitt, MI, 48906
19-0077SG	Clinton	University	19-077	Clark Road	E.T. MACKKENZIE CO.	14760 S OLD US27, Dewitt, MI, 48906
19-0078SG	Clinton	University	19-078	Chandler Road Pit	E.T. MACKKENZIE CO.	11040 Chandler Road, Dewitt, MI, 48820
19-0079SG	Clinton	University	19-079	Thayer	Seattles Const. Co.	4600 N Airport Road St. Johns, MI, 48879
YD-0032	Clinton	University	19-079CC	Thayer Crushed Concrete	Seattles Const. Co.	4600 N Airport Road, St. Johns, MI, 48879
YD-0033	Clinton	University	19-080	Wood Crushed Concrete	Schlegel Sand & Gravel, Inc.	16527 Wood Road, Lansing, MI, 48906
19-0082SG	Clinton	University	19-082	Clark Farms		10600 W. Clark Road, Eagle, MI, 48822
19-0083SG	Clinton	University	19-083	Forest Hill Pit	Carl Schlegel	7250 N. Forest Hill Rd, St. Johns, MI, 48879
19-0084SG	Clinton	University	19-084	Bauer	Stoneco	3471 Hall Road, St. Johns, MI, 48879
19-0085SG	Clinton	University	19-085	Maple Rapids	Schlegel Sand & Gravel, Inc.	7300 W. Island Road, St. Johns, MI, 48879
19-0086SG	Clinton	University	19-086	Seattles Bingham	Seattles Const. Co.	aprox 2729 Avery Road, St. Johns, MI, 48879
19-0087SG	Clinton	University	19-087	Carpenter Pit	AM Miller Trucking	11260 Monroe Road, Portland, MI, 48875
19-0090SG	Clinton	University	19-090	Smith Pit	Carl Schlegel	E Colony Road, St. Johns, MI, 48879
20-0033SG	Crawford	North	20-033	Wallace Stone Co.	R. E. Glancy, Inc.	Shepherds Trail, Roscommon, MI, 48653
21-1000SG			21-	Lindstrom Pit	...	
21-0012SG	Delta	Superior	21-012	Bichler Bros. #1	Bichler Concrete & Gravel	6801 M5 Road, Wells Township, MI, 49829
21-0020SG	Delta	Superior	21-020	Proehl Estate		11042 T.65 Road, Rapid River, MI, 49878
21-0022SG	Delta	Superior	21-022	Barbeau	Payne & Dolan, Inc.	12188 25th Road, Rapid River, MI, 49878
21-0063SG	Delta	Superior	21-063	Mottes Farm Pit (Formerly Caspian)	Payne & Dolan, Inc.	*8555 N.3 Lane ,Escanaba Township, MI, 49837
21-0065SG	Delta	Superior	21-065	Bichler Bros. #2	Bichler Concrete & Gravel	9138 N.3 Lane, Gladstone MI, 49837
21-0068SG	Delta	Superior	21-068	Van Drese, G.	Bichler Concrete & Gravel	4328 Meadow 24th, Cornell, MI, 49818
21-0069CA	Delta	Superior	21-069	Flatrock	Havelka Construction	4437 21st Road, Escanaba Township, MI, 49818
21-0071SG	Delta	Superior	21-071	Mcmahon	Payne & Dolan, Inc.	12144 25th Road, Rapid River, MI, 49878
21-0078CA	Delta	Superior	21-078	Solis	Payne & Dolan, Inc.	8292 N.3 Lane, Escanaba Township, MI, 49837
21-0086SG	Delta	Superior	21-086	Farmhouse	Payne & Dolan, Inc.	8917 N.3 Lane, Escanaba Township, MI, 49837
21-0095CA	Delta	Superior	21-095	Brayak Quarry	Bichler Concrete & Gravel	8167 N.3 Lane, Gladstone, MI, 49837
21-0103CA	Delta	Superior	21-103	Holquist	Bacco Construction Compa	6698 County 511 Y.5 Road, Rapid River, MI, 49878
21-0104SG	Delta	Superior	21-104	Wallace, Mert	Northstar Crushing & Scree	N15449 Delta Menominee C Road, Bark River, MI, 49807
21-0105SG	Delta	Superior	21-105	Duerson	Quarystone Inc	v.25 Road, Rapid River, MI, 49878
21-0106CA	Delta	Superior	21-106	Moss Lake Dorc	Payne & Dolan, Inc.	9448 JJ.5 Road, Nahma Township, MI, 49878
21-0108SG	Delta	Superior	21-108	Piriot Pit	Payne & Dolan, Inc.	1498 13.5 Lane, Bark River, MI, 49807
21-0109SG	Delta	Superior	21-109	Orchard Swede Pit	Bark River Concrete Producr	2211 Orchard 24th Lane, Cornell, MI, 49818
21-0110SG	Delta	Superior	21-110	Garden Pit	North Cove LLC	00.25th Road, Garden, MI, 49835
21-0111SG	Delta	Superior	21-111	Harper Pit	Northstar Crushing & Scree	8541 N.3 Lane, Gladstone MI, 49837
22-0008SG	Dickinson	Superior	22-008	Loretto #1	R.H. Huhtala Aggregates In	3200 Lake Louise Drive N, Waucedah Township, MI, 49892
22-0013SG	Dickinson	Superior	22-013	Weide Pit	Bacco Construction Compa	Co Road 569, Iron Mountain, MI, 49815
22-0017SG	Dickinson	Superior	22-017	Turner, Ray	Payne & Dolan, Inc.	N1639 Henry Street, Loretto, MI, 49852
22-0022CA	Dickinson	Superior	22-022	Keil Ridge Quarry		8007 US-141, Iron Mountain, MI, 49801
22-0025SG	Dickinson	Superior	22-025	Felch Sand & Gravel	Payne & Dolan, Inc.	Branstrom Road, Felch, MI, 49831
22-0049SG	Dickinson	Superior	22-049	Hanna Mining Co.	Mottes Sand & Gravel	Groveland Mine Road, Felch, MI, 49831
22-0025CA	Dickinson	Superior	22-054	Felch Quarry	Payne & Dolan, Inc.	Branstrom Road, Felch, MI, 49831
22-0063SG	Dickinson	Superior	22-063	Olsen #2	Reith-Riley Construction Cc	Baciak Road, Quinnesec, MI, 49876
22-0069SG	Dickinson	Superior	22-069	Lindberg	A. Lindberg and Sons, Inc.	4664 M-95, Iron Mountain, MI, 49801
22-0098SG	Dickinson	Superior	22-098	Gauthier, Arthur	Peters Construction Co.	8400 E Breitung Avenue, Kingsford, MI, 49802
22-0103SG	Dickinson	Superior	22-103	Breen Township Cemetery		W2332 Cemetery Road, Foster City, MI, 49834
22-0104CA	Dickinson	Superior	22-104	L. P.	Payne & Dolan, Inc.	N8504 M-95, Sagola, MI, 49881
22-0108SG	Dickinson	Superior	22-108	Moyle	Bacco Construction Compa	W7800 E Breitung Ave, Iron Mountain, MI, 49801

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22-0109SG	Dickinson	Superior	22-109	Morin	W7955 E Breitung Ave,Iron Mountain,MI,49801
YD-0034	Dickinson	Superior	22-109CC	Morin Crushed Concrete	W7955 E Breitung Ave,Iron Mountain,MI,49801
22-0110SG	Dickinson	Superior	22-110	Fleetwood	5351 Wuacedah Road,Wuacedah Township,MI,49892
23-0089SG	Eaton	University	23-089	Briggs, G.	707 W. Shepard Street,Charlotte,MI,48813
YD-0035	Eaton	University	23-089CC	Briggs, G. - Crushed Concrete	645 W. Shepard Street,Charlotte,MI,48813
23-0107CA	Eaton	University	23-107	Bellevue Stone Products	9400 Sand Road,Bellevue,MI,49021
23-0110SG	Eaton	University	23-110	Crandell #1	3659 E. Clinton Trail ,Charlotte,MI,48813
YD-0036	Eaton	University	23-110CC	Crandell#1 Crushed Concrete Yard	3659 E. Clinton Trail ,Charlotte,MI,48813
23-0112SG	Eaton	University	23-112	Gale Briggs - Vermontville	10320 W. Vermontville Hwy,Vermontville,MI,49096
23-0113SG	Eaton	University	23-113	Nixon Road Pit	A. Mclean & Son Trucking £7413 Nixon Road,Windsor Township,MI,48876
23-0114SG	Eaton	University	23-114	Crandell Bros. Trucking – Nixon Road. Pit	7413 Nixon Road,Windsor Township,MI,48876
YD-0037	Eaton	University	23-800	Lawson Road.	13150 Lawson Road,Grand Ledge,MI,48837
YD-0038	Eaton	University	23-801	Advance Paving	6600 Lansing Road,Charlotte,MI,48813
YD-0039	Eaton	University	23-804	Project Temporary 23081-130052	Fisher Construction Aggreg I-496 EB on-ramp from Creyts Road,Lansing,MI,48917
YD-0040	Eaton	University	23-810	Project Temporary 23061-115095 Stockpile #1	Kalin Construction Compan Klett- I96 and Cochran Road Interchange.,.,,
YD-0041	Eaton	University	23-811	Project Temporary 23061-115095 Stockpile #2	Kalin Construction Compan Kalin- I96 and Cochran Road Interchange.,.,
23-0812SG	Eaton	University	23-812	Project Temporary 125869-2	Kamminga & Roodvoets, In 3659 Clinton Trail,Charlotte,MI,48813
YD-0181	Eaton	University	23-812CC	Project Temporary 125869-2	Kamminga & Roodvoets, In 3659 Clinton Trail,Charlotte,MI,48813
24-0044SG	Emmet	North	24-044	James, R.	Rieth Riley Construction Co8772 Milton Road,Alanson,MI,49706
24-0054SG	Emmet	North	24-054	Jurek	Rieth Riley Construction Co1669 E Robinson Road,Pellston,MI,49769
24-0057SG	Emmet	North	24-057	Lewis	Rieth Riley Construction Co4340 Powers Road,Littlefield Twp,MI,49706
24-0058SG	Emmet	North	24-058	Conservation #1	Rieth Riley Construction Co12980 N Mackinaw Hwy,Mackinaw City,MI,49701
24-0063SG	Emmet	North	24-063	Bellmer	Rieth Riley Construction Co2254 Bellmer Road,Petoskey,MI,49770
YD-0042	Emmet	North	24-063CC	Bellmer	Fisher Sand & Gravel 2254 Bellmer Road,Petoskey,MI,49770
24-0064SG	Emmet	North	24-064	Rustic Road	5455 Rustic Road,Petoskey,MI,49770
24-0065SG	Emmet	North	24-065	Snyder	7921 Sommers Road,Levering,MI,49755
24-0066SG	Emmet	North	24-066	Super M	6507 US 31,Levering,MI,49755
24-0067SG	Emmet	North	24-067	Cedar Valley Road	Elmers Crane and Dozer 1300 Cedar Valley Road,Petoskey,MI,49770
YD-0043	Emmet	North	24-067CC	Cedar Valley Road Crushed Concrete	Elmers Crane and Dozer 1300 Cedar Valley Road,Petoskey,MI,49770
24-0068SG	Emmet	North	24-068	Red School Road	Manthei Constuction 3191 Red School Road,Brutus,MI,49716
24-0069SG	Emmet	North	24-069	Trulson	Reith-Riley Construction CoSchmalzied Road,Levering,MI,49755
24-0070SG	Emmet	North	24-070	Elmer's Powers Road Pit	Elmer's Crane and Dozer 5215 Powers Road,Alanson,MI,49706
YD-0200	Emmet	North	24-070CC	Elmer's Powers Crushed Concrete	Elmer's Crane and Dozer 5215 Powers Road,Alanson,MI,49706
24-0071SG	Emmet	North	24-071	D.J. McQuestion & Sons, Inc. - Levering	Fisher Construction Aggreg 4538 Mackinaw Highway,Levering,MI,49755
25-0032SG	Genesee	Bay	25-032	Martin (M-15)	Mark Martin & Sons Inc. 13325 North State Road,Otisville,MI,48463
YD-0044	Genesee	Bay	25-033	Bristol Road Plant	Tri-City Aggregate 3251 East Bristol Road,Burton,MI,48529
25-0034SG	Genesee	Bay	25-034	McKinley Road Pit	10241 North McKinley Road,Montrorse,MI,48457
YD-0045	Genesee	Bay	25-035	Modern Concrete Flint Yard	3275 West Pasadena Avenue,Flint,MI,48504
YD-0046	Genesee	Bay	25-036	Cydl Flint Yard	1420 East Carpenter Road,Flint,MI,48505
YD-0047	Genesee	Bay	25-037	Red Arrow Plant	Zito Construction 2374 Red Arrow Road,Burton,MI,48529
YD-0048	Genesee	Bay	25-039	Dye Road	Tri-City Aggregate 3178 South Dye Road,Flint,MI,48507
YD-0049	Genesee	Bay	25-040	Trp Crushing	3328 Torrey Road,Flint,MI,48507
YD-0050	Genesee	Bay	25-805	Project Temporary 25084-132026A	Great Lakes Aggregate Co. Hammerburg & 12th Street,Flint,MI,48507
26-0008SG	Gladwin	Bay	26-008	Hayward	Arden Shell 2481 North Bard,Gladwin,MI,48624
27-0025SG	Gogebic	Superior	27-025	Co. Road. Comm. #4	Milestone Materials 25615 Old US 2 East,Watersmeet,MI,49969
27-0026SG	Gogebic	Superior	27-026	Stoneman	Pitlik & Wick, Inc. 24997 Old US-2 E,Watersmeet Township,MI,49969
27-0033SG	Gogebic	Superior	27-033	Maher, T.	23999 US-2,Watersmeet Township,MI,49969
27-0034SG	Gogebic	Superior	27-034	Piispanen, E.	Angelo Luppino, Inc 11459 Hedberg Road,Ironwood Township,MI,49911
27-0048SG	Gogebic	Superior	27-048	Tiziani	E4251 Lake Road,Ironwood Township,MI,49938

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27-0055SG	Gogebic	Superior	27-055	Pit 602	Milestone Materials	25615 Old US-2 East, Watersmeet, MI, 49969
27-0088SG	Gogebic	Superior	27-088	Smiley Pit	Milestone Materials	16358 M-64, Maren sco, MI, 49947
27-0089SG	Gogebic	Superior	27-089	Keweenaw	Payne & Dolan, Inc.	610 Presque Isle Road, Wakefield Township, MI, 49968
27-0091SG	Gogebic	Superior	27-091	Wieneri	Payne & Dolan, Inc.	11574 Junet Road, Ironwood Township, MI, 49938
27-0092SG	Gogebic	Superior	27-092	Black River	Mottes Sand & Gravel	12987 Black River Road, Ironwood Township, MI, 49938
27-0093SG	Gogebic	Superior	27-093	Steiger	Iron River Sand and Gravel	7338 Stone Road, Bessemer Township, MI, 49911
27-0094SG	Gogebic	Superior	27-094	Rooni	N11908 Rooni Lane, Ironwood Township, MI, 49911	
27-0095SG	Gogebic	Superior	27-095	Moore	11177 Moore Road, Bessemer Township, MI, 49911	
27-0096SG	Gogebic	Superior	27-096	Pestka Pit	24575 US-2, Watersmeet Township, MI, 49969	
27-0097SG	Gogebic	Superior	27-097	La Grews	Angelo Luppino, Inc	N14511 Black River Road, Ironwood, MI, 49938
28-0044SG	Grand Traverse	North	28-044	Schworm	Rieth Riley Construction Co	1267 M-37, Traverse City, MI, 49685
YD-0051	Grand Traverse	North	28-044CC	Schworm Yard	Rieth Riley Construction Co	1267 M-37, Traverse City, MI, 49685
28-0046SG	Grand Traverse	North	28-046	Walton #2	Elmers Crane and Dozer	3682 Rennie School Road, Traverse City, MI, 49685
YD-0052	Grand Traverse	North	28-046CC	Walton #2	Elmers Crane and Dozer	3682 Rennie School Road, Traverse City, MI, 49685
28-0054SG	Grand Traverse	North	28-054	Norton Road	Elmers Crane and Dozer	5900 Norton Road, Grawn, MI, 49637
TP-0001	Gratiot County	Bay Region	29-	Project Temporary	211048-Central Concrete-Alma-	1277 Bridge Road, Alma, MI, 48858
29-0029SG	Gratiot	Bay	29-029	Warner Pit	Vestaburg Sand & Gravel	10301 Warner Road, Elwell, MI, 48832
29-0030SG	Gratiot	Bay	29-030	Gratiot Pit	Hubscher & Son Inc	West Washington/North Washington, Sumner, MI, 48889
30-0045SG	Hillsdale	University	30-045	Hillsdale	Gerken Materials Inc	11671 S. Tripp Road, Ransom Township, MI, 49266
30-0049SG	Hillsdale	University	30-049	Wade, J.	Carr Brothers & Sons, Inc.	9501 Homer Road, Litchfield, MI, 49252
30-0068SG	Hillsdale	University	30-068	Beck Road- Carr Bros	Carr Brothers & Sons, Inc.	3366 Beck Road, Jonesville, MI, 49250
30-0070SG	Hillsdale	University	30-070	Jonesville (Formerly Sloan)	Gerken Materials Inc	1660 E Chicago Road, Jonesville, MI, 49250
YD-0053	Hillsdale	University	30-070CC	Jonesville (Formerly Sloan) Yard	Gerken Materials Inc	1660 E Chicago Road, Jonesville, MI, 49250
30-0071SG	Hillsdale	University	30-071	Moscow	Stoneco	8760 E Chicago Road, Horton, MI, 49246
30-0075SG	Hillsdale	University	30-075	Brown Road	Sunrise Aggregates, LLC.	11231 Brown Road, Moscow, MI, 49250
30-0076SG	Hillsdale	University	30-076	Leaders	Carr Brothers & Sons, Inc.	2332 S. Hillsdale Road, Hillsdale, MI, 49242
31-0028IM	Houghton	Superior	31-028	Mjo - Calumet	Superior Sand & Gravel	58068 N Tamarack Road, Osceola Township, MI, 49913
31-0044SG	Houghton	Superior	31-044	Limestone Mountain Quarry	Superior Sand & Gravel	56043 Horseshoe Road., Laird Township, MI, 49958
31-0045SG	Houghton	Superior	31-045	Superior Sd. & Gr.	Payne & Dolan, Inc.	1491 Garden St., Hancock, MI, 49930
31-0073SG	Houghton	Superior	31-073	G & S Sd. & Gr.	17400 Oak Point Road, Stanton Township, MI, 49905	
31-0075SG	Houghton	Superior	31-075	Pebble	R.H. Huhtala Aggregates In	49345 US-41, Hancock, MI, 49930
31-0077SG	Houghton	Superior	31-077	Vitton	Payne & Dolan, Inc.	51730 US-41, Franklin Township, MI, 49930
31-0081IM	Houghton	Superior	31-081	Venture	Superior Sand & Gravel	50124 US-41, Hancock, MI, 49930
31-0086IM	Houghton	Superior	31-086	Moyle #2	Superior Sand & Gravel	783 Green Acre Road, Houghton, MI, 49931
31-0087IM	Houghton	Superior	31-087	Valley View	Mottes Sand & Gravel	46425 Green Acre Road, Houghton, MI, 49931
31-0089SG	Houghton	Superior	31-089	DP	Moyle Sand & Gravel	17367 Old Road, Portage Township, MI, 49916
31-0090SG	Houghton	Superior	31-090	M-26 Dollar Bay	Moyle Sand & Gravel	22728 M-26, Franklin Township, MI, 49930
31-0091SG	Houghton	Superior	31-091	Menco	Great Lakes Mineral Works	54761 US-41, Osceola Township, MI, 49913
31-0092CA	Houghton	Superior	31-092	Elbow	Superior Sand & Gravel	Bumbletown Road, Calumet, MI, 49913
31-0093SG	Houghton	Superior	31-093	Janovosky Road	Superior Sand & Gravel	Janovosky Rd, Houghton, MI, 49916
31-0094SG	Houghton	Superior	31-094	CP Pit	Valley View Concrete- Grea	16972 Chassell-Painesdale Road, Houghton, MI, 49916
31-0095SG	Houghton	Superior	31-095	Arens Pit	Bacco Construction Compa	Goodell Road, Painesdale, MI, 49905
31-0096SG	Houghton	Superior	31-096	Boundry Road Pit	Bacco Construction Compa	Boundry Road, Houghton, MI, 49931
32-0004CA	Huron	Bay	32-004	Wallace Stone	E.C. Levy- Burroughs	180 Bay Port Road, Bay Port, MI, 48720
32-0076SG	Huron	Bay	32-076	Ubyl Pit	Ace-Saginaw Paving Co.-	S2747 Premier Road, Ubyl, MI, 48475
32-0077SG	Huron	Bay	32-077	McAlpin	KIG Enterprises LLC	3548 McAlpin Road, Cass City, MI, 48726
32-0078SG	Huron	Bay	32-078	Stringer Excavating Pit	Stringer Excavating LLC	4500 Finkle Road, Port Hope, MI, 48468
YD-0054	Huron	Bay	32-800	Project Temporary	32022-119065	Kalin Construction Compan 1838 Thompson Road, Bad Axe, MI, 48413
33-0004SG	Ingham	University	33-004	West Pit	Sunrise Aggregates, LLC.	approx 932 E Dexter Trail, Dansville, MI, 48819

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33-0094SG	Ingham	University	33-094	Lyon, M.	Sunrise Aggregates, LLC.	1263 Ives Road,Mason,MI,48854
33-0103SG	Ingham	University	33-103	Backus #2	Sunrise Aggregates, LLC.	1905 E Dexter Trail ,Dansville,MI,48819
YD-0055	Ingham	University	33-103CC	Backus #2 crushed concrete yard	Sunrise Aggregates, LLC.	1905 E Dexter Trail ,Dansville,MI,48819
33-0115SG	Ingham	University	33-115	Osborne Road	Schlegel Sand & Gravel, Inc	1145 S. Osborne Road,Dansville,MI,48819
YD-0056	Ingham	University	33-121	L & L Crushed Concrete		6133 Aurelius Road,Lansing,MI,48911
33-0122SG	Ingham	University	33-122	Stockbridge	Sunrise Aggregates, LLC.	3380 Catholic Church Road,Stockbridge MI,49285
YD-0057	Ingham	University	33-123	Chamberlain Road	E.T. MACKKENZIE CO.	2899 Chamberlain Road,Lansing,MI,48906
33-0124CA	Ingham	University	33-124CA	Hoskins Quarry	Carrick Trucking & Gravel,	3878 Annis Road,Onondaga,MI,48854
33-0124SG	Ingham	University	33-124SG	Hoskins Pit	Carrick Trucking & Gravel,	3878 Annis Road,Onondaga,MI,48854
33-0125SG	Ingham	University	33-125	Majestic Pit	Anderson - Fischer & Assoc	700 W Barnes Road,Mason,MI,48854
YD-0198	Ingham	University	33-801	Project Temporary	Anderson - Fischer & Assoc	680 Eden Road,Mason,MI,48854
YD-0202	Ingham	University	33-802	Project Temporary Kipp Road	Kalin Construction Compan	2325 Kipp Road,Mason,MI,48854
34-0034SG	Ionla	Grand	34-034	Keefer Pit	Halliday S & G	...
34-0036SG	Ionla	Grand	34-036	Stoney Creek Pit	Halliday S & G	8206 E Bluewater Hwy,Lyons,MI,48851
34-0040SG	Ionla	Grand	34-040	Heinrich	Halliday S & G	8633 E Blue Water Hwy,Muir,MI,48860
34-0048SG	Ionla	Grand	34-048	Superior Asphalt Portland pit	Superior Asphalt Inc	8108 Emery Road,Portland,MI,48875
34-0052SG	Ionla	Grand	34-052	Fisher	Rieth Riley Construction Co	Peckins Road,Lyons,MI,48851
34-0057SG	Ionla	Grand	34-057	Antcliff		5166 Riverside Drive,Lyons,MI,48851
YD-0179	Ionla	Grand	34-057CC	Lyon Sand & Gravel Crushed Concrete		5166 Riverside Drive,Lyons,MI,48851
34-0063SG	Ionla	Grand	34-063	Brownell, W. (Westbrook)	Halliday S & G	6266 Stone Road,Ionia,MI,48846
34-0079SG	Ionla	Grand	34-079	Vanderveen	Rusche's Trucking Inc	10600 W Blue Water Hwy. ,Lowell,MI,49331
34-0084SG	Ionla	Grand	34-084	Reynolds	Halliday S & G	8142 Peckins Road,Lyons,MI,48851
34-0085SG	Ionla	Grand	34-085	Lyons		5428 Riverside Drive,Lyons,MI,48851
34-0087SG	Ionla	Grand	34-087	Ionia Pit	Top Grade Aggregates, LLC	468 Sprague Road,Ionia,MI,48846
34-0089SG	Ionla	Grand	34-089	Reimer Pit	Ken Coryell Trucking	2110 Harwood Road,Ionia,MI,48846
YD-0059	Ionla	Grand	34-089CC	Reimer Crushed Concrete	Ken Coryell Trucking	2110 Harwood Road,Ionia,MI,48846
34-0093SG	Ionla	Grand	34-093	Wandel	Ken Coryell Trucking	2935 E Blue Water Hwy ,Ionia,MI,48846
34-0094SG	Ionla	Grand	34-094	Schroutfe	Halliday S & G	8086 Peckins Road,Lyons,MI,48851
34-0100SG	Ionla	Grand	34-100	Nash Pit	Timpson Nash LLC	7550 Nash Highway,Clarksville,MI,48815
34-0101SG	Ionla	Grand	34-101	Pewamo Pit	Pung Excavating	10022 E Bluewater Highway,Pewamo,MI,48873
YD-0060	Iosco	North	35-800	Elmers Conc - Oscoda	Elmers Crane and Dozer	4356 F41,Oscoda,MI,48750
36-0010SG	Iron	Superior	36-010	Holmount	Walbec Group- Northeast	A 1199 Stager Lake Road,Mastodon Township,MI,49920
36-0012SG	Iron	Superior	36-012	Beechwood		171 Basswood Road,Iron River,MI,49935
36-0034SG	Iron	Superior	36-034	Fisher, L.	Mottes Sand & Gravel	...
36-0040SG	Iron	Superior	36-040	Caspian Lumber Co. #2	Payne & Dolan, Inc.	Mottes Road,Iron River,MI,49935
YD-0061	Iron	Superior	36-040CC	Caspian Lumber Co. #2	Payne & Dolan, Inc.	Mottes Road,Iron River,MI,49935
36-0056SG	Iron	Superior	36-056	Proksch #2	...	...
36-0058SG	Iron	Superior	36-058	Williams	R.H. Huhtala Aggregates In	525 Paint River Road,Crystal Falls Township,MI,49920
36-0063SG	Iron	Superior	36-063	Camp 5		284 Camp 5 Road,Mansfield,MI,49920
36-0063CA	Iron	Superior	36-063	Camp 5		284 Camp 5 Road,Mansfield,MI,49920
36-0066SG	Iron	Superior	36-066	Masuga	R.H. Huhtala Aggregates In	...
36-0069SG	Iron	Superior	36-069	Czapiga	Payne & Dolan, Inc.	3140 m-189 ,Stambaugh Township,MI,49935
36-0072SG	Iron	Superior	36-072	Keweenaw #1	R.H. Huhtala Aggregates In	2199 US-2,Crystal Falls Township,MI,49920
36-0073SG	Iron	Superior	36-073	Marsh Lake Pit	Bacco Construction Compa	...
36-0074SG	Iron	Superior	36-074	Paint River Road	Bacco Construction Compa	134 Paint River Road,Crystal Falls Township,MI,49920
36-0075SG	Iron	Superior	36-075	William'S Oss	R.H. Huhtala Aggregates In	...
36-0076SG	Iron	Superior	36-076	Spicer	Northstar Crushing & Scree	...
36-0077SG	Iron	Superior	36-077	Iron Hills	Payne & Dolan, Inc.	...
36-0078IG	Iron	Superior	36-078	Split Rock Quarry	Bacco Construction Compa Co	Road 424,Crystal Falls ,MI,49920

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36-0079SG	Iron	Superior	36-079	Mocorp 424 Pit	Mottes Sand & Gravel	Stambaugh, MI, 49935
36-0080SG	Iron	Superior	36-080	Fa Pit	Northstar Crushing & Scree	...
37-0026SG	Isabella	Bay	37-026	Deerfield	Hubscher & Son Inc	4425 West Remus Road, Mount Pleasant, MI, 48858
37-0040SG	Isabella	Bay	37-040	Davis	Vestaburg Sand & Gravel	West Freemont, Blanchard, MI, 49310
YD-0062	Isabella	Bay	37-045	Mt. Pleasant Yard	Central Concrete	900 South Bradley Street, Mount Pleasant, MI, 48858
38-00710SG	Jackson	University	38-010	G&A Gravel		12130 Lawrence Road, Norvell Township, MI, 49230
38-0021SG	Jackson	University	38-021	Crispell Lake	Carr Brothers & Sons, Inc.	...
38-0042SG	Jackson	University	38-042	Jackson County Road Commission	Lester Brothers Excavating	3990 Whipple Road, Jackson, MI, 49201
YD-0063	Jackson	University	38-046	Klumpp Bros. Yard	Holcim	4950 Loveland Road, Grass Lake, MI, 49240
38-0046SG	Jackson	University	38-046	Klumpp Bros.	Holcim	4950 Loveland Road, Grass Lake, MI, 49240
38-0066SG	Jackson	University	38-066	Wahl #1	Aggregate Resources	...
38-0079SG	Jackson	University	38-079	Swartz	Carr Brothers & Sons, Inc.	...
38-0081CA	Jackson	University	38-081	Napoleon Stone Quarry	Napoleon Stone LLC	338 Austin Road, Napoleon, MI, 49261
38-0086SG	Jackson	University	38-086	Elm Row Road	Carr Brothers & Sons, Inc.	14555 Elm Row Road, Concord, MI, 49224
YD-0064	Jackson	University	38-086CC	Carr crushed concrete	Carr Brothers & Sons, Inc.	14555 Elm Row Road, Concord, MI, 49224
38-0094SG	Jackson	University	38-094	Nims Road		13657 Nims Road, Henrietta Township, MI, 49272
38-0097CA	Jackson	University	38-097	Hard Rock Quarry	Hard Rock Quarry, LLC	5290 Bunkerhill Road, Jackson, MI, 49201
YD-0065	Jackson	University	38-097CC	Hard Rock crushed concrete	Hard Rock Quarry, LLC	5290 Bunkerhill Road, Jackson, MI, 49201
38-0098SG	Jackson	University	38-098	Dixon Road	Schlegel Sand & Gravel	Inc 7835 Dixon Road, Jackson, MI, 49201
YD-0066	Jackson	University	38-098CC	Dixon Crushed Concrete	Schlegel Sand & Gravel	Inc 7835 Dixon Road, Jackson, MI, 49201
38-0101SG	Jackson	University	38-101	Bohne Road- Grass Lake	Target Trucking	13650 Bohne Road, Grass Lake, MI, 49240
YD-0067	Jackson	University	38-101CC	Bohne Crushed Concrete	Target Trucking	13650 Bohne Road, Grass Lake, MI, 49240
38-0103SG	Jackson	University	38-103	Mann Road	Schlegel Sand & Gravel	Inc 4551 Mann Road, Concord, MI, 49237
YD-0068	Jackson	University	38-103CC	Mann Crushed Concrete	...	...
38-0105SG	Jackson	University	38-105	Coon Hill Road.	Lester Brothers Excavating	8045 Coon Hill Road, Henrietts, MI, 49259
38-0105CA	Jackson	University	38-105	Coon Hill Road.	Lester Brothers Excavating	8045 Coon Hill Road, Henrietts, MI, 49259
38-0106SG	Jackson	University	38-106	Seymour Road Pit	Lester Brothers Excavating	...
38-0107SG	Jackson	University	38-107	Michigan Avenue	Lester Brothers Excavating	6119 Smith Road, Jackson, MI, 49201
YD-0069	Jackson	University	38-806	Project Temporary 38101-115861	Great Lakes Aggregate Co.	...
YD-0176	Jackson	University	38-807	Project Temporary 38101-129153A	Great Lakes Aggregate Co.	2373 Cooper Street, Jackson, MI, 49201
39-0001SG	Kalamazoo	Southwest	39-001	American Agg. Corp. (Kalamazoo)	American Aggregate, Inc	...
39-0004SG	Kalamazoo	Southwest	39-004	Consumers Sd. & Gr.		3809 E Michigan Ave, Kalamazoo, MI, 49048
YD-0070	Kalamazoo	Southwest	39-004CC	American Agg. Corp. (Kalamazoo)		3809 E Michigan Ave, Kalamazoo, MI, 49048
39-0051SG	Kalamazoo	Southwest	39-051	Consumers Sd. & Gr.	Bailey Excavating	5500 Portage Road, Portage, MI, 49002
YD-0071	Kalamazoo	Southwest	39-051CC	Carney Crushed Concrete Yard	Bailey Excavating	5500 Portage Road, Portage, MI, 49002
39-0056SG	Kalamazoo	Southwest	39-056	Verhage, D.	Aggregate Resources	4274 Ravine Road, Kalamazoo, MI, 49006
39-0064SG	Kalamazoo	Southwest	39-064	Midway	Aggregate Resources	15600 E Michigan Ave, Charleston Township, MI, 49034
YD-0072	Kalamazoo	Southwest	39-064CC	Midway Crushed Concrete Yard	Aggregate Resources	15600 E Michigan Ave, Charleston Township, MI, 49034
39-0069SG	Kalamazoo	Southwest	39-069	Galesburg(Formerly Amer Agg Corp)	Aggregate Resources	14050 E Michigan Ave, Galesburg, MI, 49053
39-0070SG	Kalamazoo	Southwest	39-070	Worden, C.	American Aggregate, Inc	16124 E Michigan Ave, Charleston Township, MI, 49034
YD-0073	Kalamazoo	Southwest	39-070CC	Worden, C. crushed concrete yard	Klett Recycle	16124 E Michigan Ave, Charleston Township, MI, 49034
39-0071SG	Kalamazoo	Southwest	39-071	Byholt	Byholt S&G	11584 4th Street S, Prairie Ronde Township, MI, 49087
YD-0074	Kalamazoo	Southwest	39-071CC	Byholt - Crushed Concrete	Byholt S&G	11584 4th Street S, Prairie Ronde Township, MI, 49087
39-0073SG	Kalamazoo	Southwest	39-073	4Th Street	Aggregate Resources	11081 Paw Paw Lake Drive, Prairie Ronde Township, MI, 4
39-0076SG	Kalamazoo	Southwest	39-076	Ravine Road	Stonoco	2706 Ravine Road, Kalamazoo, MI, 49004
39-0077SG	Kalamazoo	Southwest	39-077	Superior Pit	Superior Gravel/Aggregate	1950 Ravine Road, Kalamazoo, MI, 49004
39-0078SG	Kalamazoo	Southwest	39-078	Kalamazoo West	Holcim	6000 West G Avenue, Kalamazoo, MI, 49009
39-0079SG	Kalamazoo	Southwest	39-079	Austin S&G	Austin's Sand & Gravel	6375 East K Avenue, Kalamazoo, MI, 49048
YD-0075	Kalamazoo	Southwest	39-079CC	Austin S&G crushed concrete yard	Austin's Sand & Gravel	6375 East K Avenue, Kalamazoo, MI, 49048

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39-0080SG	Kalamazoo	Southwest	39-080	Nichols Pit	Klett Construction Co.	11081 Paw Paw Lake Drive, Schoolcraft, MI, 49087
YD-0076	Kalamazoo	Southwest	39-080CC	Nichols Recycle	Klett Recycle	11081 Paw Paw Lake Drive, Schoolcraft, MI, 49087
YD-0177	Kalamazoo	Southwest	39-081CC	Henry's Crushed Concrete	Brusky Trucking & Construc ,,,	
39-0082SG	Kalamazoo	Southwest	39-082	Hillside Gravel	Balkema Excavating	2702 Ravine Road, Kalamazoo, MI, 49004
YD-0077	Kalamazoo	Southwest	39-082CC	Hillside Gravel Crushed Concrete Yard	Balkema Excavating	2702 Ravine Road, Kalamazoo MI, 49004
YD-0078	Kalamazoo	Southwest	39-083CC	Peters/Mosel	Peters Construction Co.	720 E Mosel Ave, Kalamazoo, MI, 49001
YD-0079	Kalamazoo	Southwest	39-084CC	Peters/Kilgore	Peters Construction Co.	3325 E Kilgore Road, Kalamazoo, MI, 49001
YD-0080	Kalamazoo	Southwest	39-801	Austin S&G Recycle	Austin's Sand & Gravel	6375 East K Avenue, Kalamazoo, MI, 49048
YD-0081	Kalamazoo	Southwest	39-802	Project Temporary 105885A	Kalin Construction Compan	Cork Street (I-94 design build- connected by ROW fencing
YD-0082	Kalamazoo	Southwest	39-803	Bailey Excavating Yard	Bailey Excavating	1727 Construction Drive, Kalamazoo, MI, 49048
40-0020SG	Kalkaska	North	40-020	Wood Road. Pit	TWS	492 Wood Road NW, Rapid City, MI, 49676
41-0013SG	Kent	Grand	41-013	Flake #1	Dean's Landscaping & Excc	17360 Shaner Avenue NE, Sand Lake, MI, 49343
YD-0083	Kent	Grand	41-013CC	Flake #1 (Gordy'S)	Dean's Landscaping & Excc	17360 Shaner Avenue NE, Sand Lake, MI, 49343
41-0035SG	Kent	Grand	41-035	Groenke #2	Barber Creek Sand & Grav	15920 Barber Creek Avenue NW, Kent City, MI, 49330
41-0043SG	Kent	Grand	41-043	Groenke #1	Barber Creek Sand & Grav	1815 19 mile Road NW, Kent City, MI, 49330
41-0070SG	Kent	Grand	41-070	Woodworth	Grand Rapids Gravel Co.	1227 Woodworth Street NE, Grand Rapids, MI, 49525
41-0111SG	Kent	Grand	41-111	Morse Lake Ave	9000 Morse Lake Ave, Alto, MI, 49302	
41-0117SG	Kent	Grand	41-117	100Th Street	Stoneco	900 100TH Street SE, Byron Center, MI, 49315
YD-0084	Kent	Grand	41-117CC	100Th Street	Stoneco	900 100TH Street SE, Byron Center, MI, 49315
YD-0085	Kent	Grand	41-145	K & R Recycle	Custom Crushing & Recycl	3435 B Roadmoor Avenue SE , Grand Rapids, MI, 49512
41-0146SG	Kent	Grand	41-146	Algoma Ave.	Halliday S & G	12156 Algoma Ave NE, Sparta, MI, 49345
YD-0086	Kent	Grand	41-146CC	Algoma Ave. Crushed Concrete	Halliday S & G	12156 Algoma Ave NE, Sparta, MI, 49345
41-0148SG	Kent	Grand	41-148	Grand Rapids Gravel #18	Grand Rapids Gravel Co.	3800 7 Mile RoadNE, Belmont, MI, 49306
YD-0178	Kent	Grand	41-148CC	Grand Rapids Gravel #18 Crushed Concrete	Grand Rapids Gravel Co.	3800 7 Mile RoadNE, Belmont, MI, 49306
41-0152SG	Kent	Grand	41-152	Coit-Ottawa	4672 Coit Ave NE, Grand Rapids MI, 49525	
41-0155SG	Kent	Grand	41-155	Belding Road	Lakeside Aggregate LLC	13359 Belding Road, Belding, MI, 49809
41-0156SG	Kent	Grand	41-156	Butterworth	Lakeside Aggregate LLC	2151 Butterworth Street SW, Grand Rapids, MI, 49534
YD-0087	Kent	Grand	41-156CC	Meekof East Crushed Concrete	Lakeside Aggregate LLC	2151 Butterworth Street SW, Grand Rapids, MI, 49534
41-0160SG	Kent	Grand	41-160	Crawford Pit	C & D Hughes, Inc.	2388 10 mile Road NW , Sparta, MI, 49345
YD-0088	Kent	Grand	41-160CC	Crawford Pit	C & D Hughes, Inc.	2388 10 mile Road NW , Sparta, MI, 49345
41-0162SG	Kent	Grand	41-162	Maynard Pit	Cordes, Inc.	731 Maynard, Grand Rapids, MI, 49534
YD-0089	Kent	Grand	41-163	West Michigan Recycle	Top Grade Aggregates, LLC	2359 Ivanrest Avenue SW , Grandville, MI, 49418
41-0164SG	Kent	Grand	41-164	Legion	Shoemaker & Sons	2327 Wilson Avenue SW , Grand Rapids, MI, 49534
YD-0090	Kent	Grand	41-165	Kraft Ave Cc	Kammiga & Roodvoets, In	3675 Kraft Avenue SE , Grand Rapids, MI, 49512
41-0166CA	Kent	Grand	41-166	Timpson	Timpson Nash LLC	3020 Alden Nash Ave SE, Lowell, MI, 49931
YD-0091	Kent	Grand	41-166CC	Timpson	Timpson Nash LLC	3020 Alden Nash Ave SE, Lowell, MI, 49931
41-0168SG	Kent	Grand	41-168	Schimmel Pit	2311 O'Brien Road SW, Walker, MI, 49534	
41-0169SG	Kent	Grand	41-169	Pease Pit	Kammiga & Roodvoets, In	10300 Pease Ave SE, Byron Center, MI, 49315
41-0170SG	Kent	Grand	41-170	Plainfield Pit	Rusche's Trucking	4640 Coit Avenue, Grand Rapids, MI, 49525
YD-0092	Kent	Grand	41-170CC	Plainfield Pit Crushed Concrete	Rusche's Trucking	4640 Coit Avenue, Grand Rapids, MI, 49525
41-0171SG	Kent	Grand	41-171	Keller	Dean's Landscaping & Excc	14055 Keller Ave, Cedar Springs, MI, 49319
YD-0093	Kent	Grand	41-172CC	M & K yard	8087 Clyde Park Ave, Byron Center, MI, 49315	
41-0173SG	Kent	Grand	41-173	Whitneyville Sand Pit	Morren	7777 Whitneyville Avenue SE, Alto, MI, 49302
YD-0094	Kent	Grand	41-800	Superior Asphalt Inc- Dutton Plant	Custom Crushing & Recycl	6900 East Paris Ave SE, Caledonia, MI, 49316
42-0030SG	Keweenaw	Superior	42-030	Universal Oil Products	R.H. Huhtala Aggregates In	2629 M-26 ,Allouez Township MI 49901
42-0032SG	Keweenaw	Superior	42-032	New Allouez	Bacco Construction Compa	142 M-26, Allouez Township, MI, 49901
42-0033IM	Keweenaw	Superior	42-033	Copper Stamp Sand Piles	***	
44-1001SG	Lapeer	Bay	44-	Attica Materials	***	
44-1000SG	Lapeer	Bay	44-	Latigo Transport, Inc	***	

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44-0002SG	Lapeer	Bay	44-002	Darling	Weber S & G	4582 North Lapeer Road, Columbiaville, MI, 48421
44-0030SG	Lapeer	Bay	44-030	North #2	5380 Churchill, Brown City, MI, 48416	
44-0049SG	Lapeer	Bay	44-049	Kage	190 West Newark Road, Lapeer, MI, 48446	
44-0051SG	Lapeer	Bay	44-051	Krake, L.	Ken Measel Supply	7725 Willis Road, Brown City, MI, 48416
44-0060SG	Lapeer	Bay	44-060	Hilltop/Reddog	Hill Top - RedDog Aggregat	4932 Churchill Road, Brown City, MI, 48416
44-0064SG	Lapeer	Bay	44-064	Metamora	1709 East Dryden Road	Metamora, MI, 48455
44-0071SG	Lapeer	Bay	44-071	Deanville Road	E.C. Levy - Nat Agg Div	7420 Deanville, Brown City, MI, 48416
44-0073SG	Lapeer	Bay	44-073	Starr Aggregates	3356 North Inlay City Road, Attica, MI, 48412	
44-0076SG	Lapeer	Bay	44-076	Superior	7148 Inlay City Road, Inlay City, MI, 48444	
44-0077SG	Lapeer	Bay	44-077	I-75 North	I-75 Aggregates, Inc.	NORTH ELBA Road, Lapeer, MI, 48446
44-0078SG	Lapeer	Bay	44-078	Dryden Road	Wiegand	1717 East Dryden Road, Metamora, MI, 48455
44-0079SG	Lapeer	Bay	44-079	Summers Road	Novak Construction	1202 North Summers Road, Inlay City, MI, 48444
YD-0095	Lapeer	Bay	44-080	Novak	Novak Construction	3620 Van Dyke Road, Almont, MI, 48003
44-0081SG	Lapeer	Bay	44-081	Van Dyke	Weber S & G	6942 Muck Road, Inlay City, MI, 48444
44-0082SG	Lapeer	Bay	44-082	A&A Aggregates	A & A Aggregates, Inc	4300 Lake Plasant Road, North Branch, MI, 48461
44-0083SG	Lapeer	Bay	44-083	Martin (Otter Lake Pit)	Mark Martin & Sons, Inc.	4255 Otter Lake Road, Otter Lake, MI, 48464
44-0084SG	Lapeer	Bay	44-084	Lapeer County Pit MSHA 2002674	JT Express, Ltd.	4200 N Van Dyke, Brown City, MI, 48416
YD-0190	Lapeer	Bay	44-801	Project Temporary 204418A	Champagne & Marx	S Wilder Rd, Attica, MI, 48412
45-0019SG	Leelanau	North	45-019	Pierce	Kasson S & G	10282 S Pierce Road, Maple City, MI, 49664
45-0037SG	Leelanau	North	45-037	669	Elmers Crane and Dozer	10202 S Coleman Road, Maple City, MI, 49664
45-0038SG	Leelanau	North	45-038	M-72	Elmers Crane and Dozer	2302 W Empire Hwy, Empire, MI, 49630
45-0039SG	Leelanau	North	45-039	Hulbert	Elmers Crane and Dozer	1480 W Baatz Road, Maple City, MI, 49664
45-0040SG	Leelanau	North	45-040	Traverse Agg	Rieth Riley Construction Co	9802 S Coleman Road, Maple City, MI, 49664
46-0047SG	Lenawee	University	46-047	Round Lake	Gerken Materials Inc	8707 Round Lake Highway, Addison, MI, 49220
46-0051SG	Lenawee	University	46-051	Tecumseh Quarry	Gerken Materials Inc	2000 Ives Road, Tecumseh, MI, 49286
YD-0096	Lenawee	University	46-052	Round Lake West Yard	Gerken Materials Inc	approx 9964 Round Lake Hwy, Addison, MI, 49220
46-0052SG	Lenawee	University	46-052	Round Lake West	Gerken Materials Inc	approx 9964 Round Lake Hwy, Addison, MI, 49220
46-0053SG	Lenawee	University	46-053	CTA	Clinton Tecumseh Aggrega	10555 TEC Hwy, Tecumseh, MI, 49286
47-0003SG	Livingston	University	47-003	Spring Hill	McColg Group LLC	7676 Rushton Road, Brighton, MI, 48116
47-0016SG	Livingston	University	47-016	Rupp	E.C. Levy - Nat Agg Div	13017 Buno Road, Brighton, MI, 48360
47-0030SG	Livingston	University	47-030	Muir Road	Ashleyland Development C	3333 Muir Road, Brighton, MI, 48380
YD-0097	Livingston	University	47-030CC	Muir RoadCrushed Concrete Plant	Ashleyland Development C	3334 Muir Road, Brighton, MI, 48380
47-0047SG	Livingston	University	47-047	Natural Agg Corp #2	Natural Aggregate Corporat	...
47-0054SG	Livingston	University	47-054	Delta Sand & Gravel Inc.	E.C. Levy - Nat Agg Div	110 Swarthout, Pinckney, MI, 48169
47-0056SG	Livingston	University	47-056	Pinckney Road	Fyke Washed Sand & Grav	approx 8793 Pinckney Road, Putnam, MI, 48169
47-0057SG	Livingston	University	47-057	Hogan Road	GBM Sand & Gravel, LLC	7191 Hogan Road, Fenton, MI, 48430
47-0058SG	Livingston	University	47-058	Hartland	E.C. Levy - Nat Agg Div	1380 N Pleasant Valley Road, Hartland, MI, 48353
47-0063SG	Livingston	University	47-063	Bradley Road Pit	Culver Escavating	2800 Bradley Road, Webberville, MI, 48892
YD-0098	Livingston	University	47-065	Kensington Road Plant	GBM Recycled Concrete LL	7272 Kensington Road, Brighton, MI, 48116
47-0066SG	Livingston	University	47-066	Grand River Pit	Culver Escavating	11800 W Grand River, Handy Township, MI, 48836
YD-0186	Livingston	University	47-080CC	Livingston Concrete	Livingston Concrete	550 N Old US HWY 23, Brighton, MI, 48114
48-0002SG	Luce	Superior	48-002	Anderson	Payne & Dolan, Inc.	14135 M-28 , Pentland Township, MI, 49868
48-0010SG	Luce	Superior	48-010	Schaefer, R.	...	...
48-0024SG	Luce	Superior	48-024	Brow #2	...	...
48-0030SG	Luce	Superior	48-030	Richmond	Payne & Dolan, Inc.	...
48-0031SG	Luce	Superior	48-031	Bow Crushing	...	...
49-0002SG	Mackinac	Superior	49-002	Derusha/Miller #1	Northstar Crushing & Scree	W7725 Davis Road, Hudson Township, MI, 49762
49-0007CA	Mackinac	Superior	49-007	Hendrick'S Quarry	Payne & Dolan, Inc.	10258 Borgstrom Road, Hudson Township, MI, 49762
49-0011SG	Mackinac	Superior	49-011	Lankinen, H.	Rieth Riley Construction Co	3250 Criderman Road, Hessel, MI, 49781

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49-0016SG	Mackinac	Superior	49-016	Luepnitz, J.	Trieth Riley Construction Co	2395 Charles Moran Road, Brevort Township, MI, 49760
49-0023SG	Mackinac	Superior	49-023	Peters, A.	A. Lindberg and Sons, Inc.	7276 Hiawatha Trail, Hendricks Township, MI, 49762
49-0038SG	Mackinac	Superior	49-038	Hossack	O-N Minerals (Michigan)	Cc 5085 M-134 , Cedarville, MI, 49719
49-0051CA	Mackinac	Superior	49-051	Simmons Quarry	Con-Agg. Inc.	4576 S Mackinac Trail, Sault Sainte Marie, MI, 49783
49-0055SG	Mackinac	Superior	49-055	Cheeseman Hill	Payne & Dolan, Inc.	1836 Cheeseman Road, Moran Township, MI, 49781
49-0065CA	Mackinac	Superior	49-065	Cedarville	O-N Minerals (Michigan)	Cc 5085 M-134 , Clark Township MI, 49719
49-0067SG	Mackinac	Superior	49-067	Stellwagon #2	...	...
49-0074SG	Mackinac	Superior	49-074	Butkovich #2	Mottes Sand & Gravel	14671 Linck Road, Engadine, MI, 49827
49-0078SG	Mackinac	Superior	49-078	Amarose	Payne & Dolan, Inc.	5306 WStreetIgnace Road, Hessel, MI, 49745
49-0097SG	Mackinac	Superior	49-097	Ozanich	Payne & Dolan, Inc.	14240 Hiawatha Road, Engadine, MI, 49827
49-0098CA	Mackinac	Superior	49-098	Ozark Quarry	Payne & Dolan, Inc.	7359 M-123, Moran Township, MI, 49760
49-0105SG	Mackinac	Superior	49-105	Huskey	...	...
49-0108SG	Mackinac	Superior	49-106	Syversen	1026 Martin Lake, St Ignace, MI, 49781	
49-0107SG	Mackinac	Superior	49-107	Kay, R. A.	1709 N Blind Line Road, Clark Township, MI, 49719	
49-0112SG	Mackinac	Superior	49-112	Rudyard Agg Site	Payne & Dolan, Inc.	3254 Criderman Road, Hessel, MI, 49781
49-0114SG	Mackinac	Superior	49-114	Sand Products/Manitou Paymen Sand Plant	Canadian Silica Industries I	5021 US-2, Naubinway, MI, 49762
49-0116SG	Mackinac	Superior	49-116	Bill Burton	Northern Sand & Gravel, In	17316 US-2, Newton Township, MI, 49838
49-0117SG	Mackinac	Superior	49-117	John Hessel #2	Payne & Dolan, Inc.	1737 N 3 Mile Road, Clark Township, MI, 49745
49-0118SG	Mackinac	Superior	49-118	Swede Rd.	Bacco Construction Compa	...
49-0121SG	Mackinac	Superior	49-121	Simmons	Norris Contracting Inc	...
49-0122CA	Mackinac	Superior	49-122	Graymont Rexton	Graymont LLC	W5340 County Road H 40, Naubinway, MI, 49762
49-0123SG	Mackinac	Superior	49-123	Kopecky pit	Bacco Construction Compa	W17671 US-2, Gould City, MI, 49838
YD-0214	Macomb	Metro	50-	GLA Mound Road 207178	Great Lakes Aggregate Co.	33200 Mound Road, Sterling Heights, MI, 48310
YD-0099	Macomb	Metro	50-048	Sherwood	Great Lakes Aggregate Co.	26400 Sherwood Avenue, Warren, MI, 48091
YD-0100	Macomb	Metro	50-049	Clancy Crushed Conc	29950 Little Mack Avenue, Roseville, MI, 48066	
YD-0101	Macomb	Metro	50-050	Roseville Crushed Concrete Yard	North Amer. Excav. & Truc	29765 Groesbeck Hwy, Roseville, MI, 48066
YD-0102	Macomb	Metro	50-051	New Haven	Great Lakes Aggregate Co.	57295 AJAX Drive, New Haven, MI, 48048
YD-0103	Macomb	Metro	50-052	Fiore Crushed Concrete Mound Road	Fiore Crushed Concrete	33200 MOUND Road, Streling Heights, MI, 48310
YD-0104	Macomb	Metro	50-053	Groesbeck Yard	Wiegand	23055 Groesbeck Hwy, Warren, MI, 48089
YD-0105	Macomb	Metro	50-054	Shelby Plant	Cadillac Asphalt	51800 Napi DR, Shelby Charter Township, MI, 48315
50-0055SG	Macomb	Metro	50-055	Mound Road	Wiegand	66611 Mound Road, Washington Township, MI, 48065
YD-0106	Macomb	Metro	50-056	Wiegand Mack Yard	Wiegand	37580 MOUND Road, Streling Heights, MI, 48310
YD-0107	Macomb	Metro	50-058	State Crushing- Sherwood	State Crushing, Inc.	25501 Sherwood Avenue, Warren, MI, 48091
YD-0196	Macomb	Metro	50-060	Parmar Crushing Plant	Great Lakes Aggregate Co.	52011 Gratiot Avenue, New Baltimore, MI, 48051
YD-0108	Macomb	Metro	50-802	Project Temporary #50022-208482- Hazemag	Great Lakes Aggregate Co.	46000 Towne Center Blvd, New Baltimore, MI, 48047
YD-0109	Macomb	Metro	50-807	Project Temporary #50022-208482- Parmar	Great Lakes Aggregate Co.	52011 Gratiot Avenue, New Baltimore, MI, 48051
51-0051SG	Manistee	North	51-051	Fisher #1	Fisher Companies	22955 Caberfae Hwy, Wellston, MI, 49689
51-00058SG	Manistee	North	51-058	Deerhorn Pit	Fisher Construction Aggreg	Laverne Road, Wellston, MI, 49689
52-1000SG	Marquette		52-	Conery Pit	...	...
52-0007SG	Marquette	Superior	52-007	Lemaire, Mrs.	A. Lindberg and Sons, Inc.	, Marquette, MI, 49822
52-0009SG	Marquette	Superior	52-009	Lindberg #3	A. Lindberg and Sons, Inc.	1051 CR-480 , Sands Township, MI, 49855
52-0034SG	Marquette	Superior	52-034	Lawson	A. Lindberg and Sons, Inc.	237 Lawson Road, Skandia Township, MI, 49885
52-0054SG	Marquette	Superior	52-054	Felber	Payne & Dolan, Inc.	47720 CR-426, Wells Township, MI, 49831
52-0055SG	Marquette	Superior	52-055	Hodgins	A. Lindberg and Sons, Inc.	152 CR-510 , Negaunee Township, MI, 49866
52-0061SG	Marquette	Superior	52-061	Couveau, J.	R.H. Huhtala Aggregates In	5014 Grosbeak Lane, Republic Township, MI, 49879
52-0072SG	Marquette	Superior	52-072	Lablanc #2	Payne & Dolan, Inc.	597 Big Bay Road, Marquette MI, 49855
52-0075SG	Marquette	Superior	52-075	Payne & Dolan	Payne & Dolan, Inc.	51 Morgan Meadows Road, Negaunee Township, MI, 49855
52-0078SG	Marquette	Superior	52-078	Evergreen	R.H. Huhtala Aggregates In	4800 M-28 , Ely Township, MI, 49814
52-0084IM	Marquette	Superior	52-084	Rock Quarry	R.H. Huhtala Aggregates In	...

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52-0086IM	Marquette	Superior	52-086	Empire Mine	A. Lindberg and Sons, Inc.	1746 M-35 ,Richmond Township,MI,49866
52-0091SG	Marquette	Superior	52-091	Customs	Custom Crushing & Recycl County Road NC,Sands Township,MI,49855	
52-0091CA	Marquette	Superior	52-091	Customs	Custom Crushing & Recycl County Road NC,Sands Township,MI,49855	
52-0094IM	Marquette	Superior	52-094	Paul Smith #1	R.H. Huhtala Aggregates In 500 Kalkaska Drive,Negaunee Township,MI,49855	
52-0097CA	Marquette	Superior	52-097	Old Airport	Mottes Sand & Gravel	
52-0098SG	Marquette	Superior	52-098	Sands	Associated Constructors	230 County Road ND,Sands Township,MI,49841
52-0100SG	Marquette	Superior	52-100	550		139 Big Bay Road,Marquette,MI,49855
52-0107SG	Marquette	Superior	52-107	North Lake #2	Payne & Dolan, Inc.	5976 Diorite Road,Ely Township,MI,49849
52-0108SG	Marquette	Superior	52-108	Vandamme	Payne & Dolan, Inc.	100 Powerline Ln,Forsyth Township,MI,49841
52-0009CA	Marquette	Superior	52-109	480 Kona	A. Lindberg and Sons, Inc.	1051 CR-480 ,Sands Township,MI,49855
52-0009IM	Marquette	Superior	52-110	480 Black	A. Lindberg and Sons, Inc.	1051 CR-480 ,Sands Township,MI,49855
52-0111SG	Marquette	Superior	52-111	Humboldt Stone	A. Lindberg and Sons, Inc.	11337 M-28,Humboldt,MI,49814
52-0112SG	Marquette	Superior	52-112	Humboldt Wetlands	A. Lindberg and Sons, Inc.	M-28,Champion,MI,49814
52-0113IM	Marquette	Superior	52-113	Eagle Mills Pit	Associated Constructors	,Harvey,MI,49855
54-0027SG	Mecosta	Grand	54-027	Davidson, W.	Rieth Riley Construction Co	20610 Northland Drive,Paris,MI,49338
54-0068SG	Mecosta	Grand	54-068	Consumers #2	Halliday S & G	21718 8 mile Road,Stanwood,MI,49346
54-0069SG	Mecosta	Grand	54-069	Tyler Road	Halliday S & G	23242 Tyler Road,Morley,MI,49346
YD-0110	Mecosta	Grand	54-069CC	Tyler Road	Halliday S & G	23242 Tyler Road,Morley,MI,49346
54-0073SG	Mecosta	Grand	54-073	Taft Road	Rieth Riley Construction Co	18220 Taft Road,Big Rapids,MI,49307
55-0004SG	Menominee	Superior	55-004	B & K Gr. Co.	Biehl Const. Co. Inc.	5518 US-41 ,Mellen township,MI,49893
55-0044SG	Menominee	Superior	55-044	Roubal		N2974 CR-577, Menominee Township,MI,49858
55-0118SG	Menominee	Superior	55-118	Runge	Menominee County Road CN3830 CR-577, Menominee Township,MI,49893	
55-0143CA	Menominee	Superior	55-143	Tunistra		
55-0150SG	Menominee	Superior	55-150	Christopherson		N4624 N-3 Ln, Menominee Township,MI,49893
55-0170SG	Menominee	Superior	55-170	Rasner	Payne & Dolan, Inc.	W4628 CR-338,Ingallston townshp,MI,49893
55-0182SG	Menominee	Superior	55-182	Thoney		9099 Walnut Road,Stephenson Township,MI,49821
55-0193SG	Menominee	Superior	55-193	Palzewic-Barley	Biehl Const. Co. Inc.	W5886 14 LN,Mellen Township,MI,49893
55-0194CA	Menominee	Superior	55-194	Havelka	Havelka Construction	W6041 CO RoadG-08,Mellen Township,MI,49893
55-0200SG	Menominee	Superior	55-200	Malmsten	A. Lindberg and Sons, Inc.	W5719 10 Road, Menominee Township,MI,49893
55-0201SG	Menominee	Superior	55-201	Malawka	Bacco Construction Compa	W6650 No. 12 Road,Mellen Township,MI,49893
55-0202SG	Menominee	Superior	55-202	Fredericksen	Payne & Dolan, Inc.	W7469 Co. Road, G-12,Lake Township,MI,49887
55-0203SG	Menominee	Superior	55-203	Havelka	Bacco Construction Compa	7110 Co. Road, 338, Menominee Township,MI,49893
55-0204CA	Menominee	Superior	55-204	Wildwood	Iron City Enterprise	N6029 US-41,Mellen Township,MI,49887
55-0205SG	Menominee	Superior	55-205	Kell	Payne & Dolan, Inc.	
55-0206CA	Menominee	Superior	55-206	Kraniak	Walbec Group- Northeast A	
55-0207CA	Menominee	Superior	55-207	Snuff Box	Iron City Enterprise	W5961 Snuff Box Road,Meyer Township,MI,49847
55-0209SG	Menominee	Superior	55-209	Sturris Pit	Payne & Dolan, Inc.	N17797 CR 551,Wilson Twp,MI,49886
55-0210SG	Menominee	Superior	55-210	Davis Pit	Havelka Construction	N2622 Rangeline Drive M-1, Menominee,MI,49858
57-0001SG	Missaukee	North	57-001	Callahan Aggregate Supply	Callahan Aggregate Supply	*5400 N Brown Road,Manton,MI,49663
57-0006SG	Missaukee	North	57-006	Gundy	SRM	1317-C West Sandborn Road,Lake City,MI,49651
YD-0111	Missaukee	North	57-006CC	Gundy	SRM	1317-C West Sandborn Road,Lake City,MI,49651
57-0009SG	Missaukee	North	57-009	Meyers #2	Halliday S & G	4080 S 13 Mile,Fallmouth,MI,49632
57-0020SG	Missaukee	North	57-020	Kwinski	2686 E Beeler Road,Aetha Twp,MI,49651	
57-0030SG	Missaukee	North	57-030	Wiggins & Sons	Halliday S & G	700 W Moorestown Road,Pioneer,MI,49651
YD-0219	Monroe County	University	58-	MBC Victory Rd Crushing Yard		10670 Victory Rd,Erie MI,48133
58-0003CA	Monroe	University	58-003	Ottawa Lake	Stoneco	approx 7651 Whiteford Road,Ottawa Lake,MI,49267
YD-0112	Monroe	University	58-003CC	Ottawa Lake Yard	Stoneco	approx 7651 Whiteford Road,Ottawa Lake,MI,49267
58-0004CA	Monroe	University	58-004	Maybee Quarry	Stoneco	6837 Scofield Road,Maybee,MI,48159
YD-0113	Monroe	University	58-004CC	Maybee Yard	Stoneco	6837 Scofield Road,Maybee,MI,48159

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58-0006CA	Monroe	University	58-006	Holcim	Holcim	15215 Day Road, Dundee, MI, 48131
58-0009CA	Monroe	University	58-009	Denniston Farms	Stonoco	15203 S Telegraph, Monroe, MI, 48161
58-0011CA	Monroe	University	58-011	Newport	Stonoco	7250 Reaume Road, Newport, MI, 48166
58-0013CA	Monroe	University	58-013	Sylvania Minerals	Great Lakes Aggregate Co.	5699 Ready Road, South Rockwood, MI, 48179
58-0017SG	Monroe	University	58-017	Oelke Road Pond- Giraud	Ed Giraud Trucking	12337 Oelke Road, Maybee, MI, 48159
58-0018SG	Monroe	University	58-018	Ida West Road	Stonoco	13534 Ida Road, Petersburg, MI, 49270
58-0022SG	Monroe	University	58-022	Allison Road Pond-Cross	Ed Giraud Trucking	11447 Allison Road, Maybee, MI, 48159
58-0023SG	Monroe	University	58-023	Salenbien Materials LLC	Salenbien Materials LLC	14467 Ida West Road, Petersburg, MI, 49270
58-0024SG	Monroe	University	58-024	Oakville-Waltz Road Pond-Ross	Ed Giraud Trucking	14109 Oakville-Waltz Road, Willis, MI, 48191
58-0025SG	Monroe	University	58-025	Mayer Road Pond- White	Ed Giraud Trucking	12980 Mayer Road, Maybee, MI, 48159
YD-0194	Monroe	University	58-026CC	Michigan Recycled Aggregates LLC	Michigan Recycled Aggregates	9250 Telegraph Road, Carleton, MI, 48117
YD-0114	Monroe	University	58-803	Project Temporary 58151-119803A	Great Lakes Aggregate Co. ...	
59-0005SG	Montcalm	Grand	59-005	Borton		7575 Edgar Road, Vestaburg, MI, 48891
59-0044SG	Montcalm	Grand	59-044	Wheeler #2 (Dnr 120 & Dnr 121)	High Grade Materials	8281 W. Snows Lake Road, Greenville, MI, 48838
YD-0115	Montcalm	Grand	59-044CC	Wheeler #2 (Dnr 120 & Dnr 121)	High Grade Materials	8281 W. Snows Lake Road, Greenville, MI, 48838
59-0084SG	Montcalm	Grand	59-084	FOOR Pit	Vestaburg Sand & Gravel	6402 E Edgar Road, Vestaburg, MI, 48891
60-0007SG	Montmorency	North	60-007	Gapinski	Rieth Riley Construction Co	3230 M-32, Atlanta, MI, 49709
60-0018SG	Montmorency	North	60-018	Mccready	Lewiston S&G	5122 CO Road612 (Buttles Road), Atlanta, MI, 49709
60-0029SG	Montmorency	North	60-029	Glancy, M.(Buttles)	R. E. Glancy, Inc.	8637 Buttles Road, Atlanta, MI, 49709
60-0032SG	Montmorency	North	60-032	Old Black		9720 Mattews Road, Atlanta, MI, 49709
61-0001SG	Muskegon	Grand	61-	Hall Road Pit	...	
61-0011SG	Muskegon	Grand	61-011	White Lake Excavating	White Lake Excavating	2571 Holton Whitehall Road, Whitehall, MI, 49461
YD-0116	Muskegon	Grand	61-011CC	White Lake Recycle	White Lake Excavating	2571 Holton Whitehall Road, Whitehall, MI, 49461
YD-0117	Muskegon	Grand	61-012	Franklin Recycle - Ael	Custom Crushing & Recycl	2295 Valley Street, Muskegon, MI, 49444
61-1000SG	Muskegon	Grand	61-014	Russell Road Pit		5430Russell Rd, Twin Lake, MI, 49457
62-1000SG	Newaygo	Grand	62-	Alpine Contracting Pit	...	
62-0005SG	Newaygo	Grand	62-005	Johnson	Barber Creek Sand & Gravel	600 S Catalpa Avenue, Newago, MI, 49337
62-0062SG	Newaygo	Grand	62-062	Warner	Halliday S & G	9408 96th St, Croton, MI, 49337
62-0068SG	Newaygo	Grand	62-068	Bitely		1394 E 14 mile Road, Bitely, MI, 49309
63-0004SG	Oakland	Metro	63-004	AA- Oxford	E.C. Levy - Nat Agg Div	...
63-0009SG	Oakland	Metro	63-009	Koenig Materials	Koenig Materials	1955 E Lakeville Road, Oxford, MI, 48371
63-0054SG	Oakland	Metro	63-054	Groveland	E.C. Levy - Nat Agg Div	16255 Tindall Road, Holly, MI, 48442
63-0072SG	Oakland	Metro	63-072	Springfield	E.C. Levy - Nat Agg Div	...
63-0083SG	Oakland	Metro	63-083	Ultimate Services Co, LLC	Ultimate Services Co LLC	2922 Sleeth Road, Commerce Township, MI, 48382
YD-0118	Oakland	Metro	63-083CC	Ultimate Services Co, LLC	Ultimate Services Co LLC	2922 Sleeth Road, Commerce Township, MI, 48382
63-0092SG	Oakland	Metro	63-092	AA- Grange Hall Road	E.C. Levy - Nat Agg Div	...
63-0093SG	Oakland	Metro	63-093	Haas Road	Hass Road Crushing And R	21270 Haas Road, Wixom, MI, 48393
YD-0119	Oakland	Metro	63-093CC	Hass Road Crushed Concrete	Hass Road Crushing And R	21270 Haas Road, Wixom, MI, 48393
63-0098SG	Oakland	Metro	63-098	Mickelson #4 (Ray Road)	Tri-City Aggregate	275 Ray Road, Oxford, MI, 48371
63-0106SG	Oakland	Metro	63-106	Quality Agg.	Great Lakes Aggregate Co.	1955 E. Lakeville Road, Oxford, MI, 48371
YD-0120	Oakland	Metro	63-108	Rochester Hills	Great Lakes Aggregate Co.	2240 Avon Industrial Drive, Rochester Hills, MI, 48309
63-0112SG	Oakland	Metro	63-112	Groveland #2	Tri-City Aggregate	16821 Dixie Highway, Holly, MI, 48442
63-0114SG	Oakland	Metro	63-114	Highland	E.C. Levy - Nat Agg Div	6454 Hickory Ridge, Holly, MI, 48442
63-0115SG	Oakland	Metro	63-115	Ray Road	E.C. Levy - Nat Agg Div	275 Ray Road, Oxford, MI, 48371
63-0166SG	Oakland	Metro	63-116	Foran Pit	Tri-City Aggregate	...
63-0118SG	Oakland	Metro	63-118	South Flint Gravel	South Flint Gravel	6090 Belford Road, Holly, MI, 48442
YD-0121	Oakland	Metro	63-120	Pontiac Crushed Conc	Fyke Washed Sand & Grav	4733 Broomfield Way, Lake Orion, MI, 48359
63-0121SG	Oakland	Metro	63-121	Holdridge Road	Holly Disposal	...
YD-0122	Oakland	Metro	63-122	Novi Crushed Concrete Yard	Novi Crushed Concrete	46900 W. 12 Mile Road, Novi, MI, 48377

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YD-0123	Oakland	Metro	63-124	State Crushing	State Crushing, Inc.	2260 Auburn Road,Auburn Hills,MI,48326
63-0125SG	Oakland	Metro	63-125	Dixie Hwy Pit	Zito Construction Co	6728 Belford Road,Holly,MI,48442
YD-0124	Oakland	Metro	63-801	Project Temporary #63112-121505	Great Lakes Aggregate Co.	1955 E Lakeville Road,Oxord,MI,48371
YD-0125	Oakland	Metro	63-802	Project Temporary #25084-132026	Great Lakes Aggregate Co.	225 East Columbia Ave,Pontiac,MI,48340
YD-0126	Oakland	Metro	63-803	Project Temporary #44044-210066	Great Lakes Aggregate Co.	225 East Columbia Ave,Pontiac,MI,48340
64-1001SG	Oceana	Grand	64-	Ken Adams	...	...
64-1000SG	Oceana	Grand	64-	Miller Pit	...	...
64-0020SG	Oceana	Grand	64-020	Beckman	Beckman Bros.	467 W Shelby Road,Shelby,MI,49455
YD-0127	Oceana	Grand	64-059	Adams Recycle		8770 N Oceana Drive,Pontwater,MI,49449
65-0007SG	Ogemaw	North	65-007	Rosevear		706 S Fairview Road(West side of Road),West Branch,MI
YD-0128	Ogemaw	North	65-007CC	Rosevear	Fisher Sand & Gravel	706 S Fairview Road(West side of Road),West Branch,MI
65-0046SG	Ogemaw	North	65-046	Ewing, E.	Bunting S&G	3247 Cook Road,West Branch,MI,48661
65-0055SG	Ogemaw	North	65-055	Glancy, R.E.	R. E. Glancy, Inc.	706 S Fairview Road(East of Road,Last pit on trail),West E
YD-0129	Ogemaw	North	65-055CC	Glancy, R.E.	R. E. Glancy, Inc.	706 S Fairview Road(East of Road,Last pit on trail),West E
66-0012BF	Ontonagon	Superior	66-012	White Pine	Copper Range Company	29639 Willow Road,White Pine,MI,49971
66-0086CA	Ontonagon	Superior	66-086	Pestka	Payne & Dolan, Inc.	...
66-0091SG	Ontonagon	Superior	66-091	M-38	R.H. Huhtala Aggregates In	...
66-0092SG	Ontonagon	Superior	66-092	Bergland Quarry	Milestone Materials	...
66-0092CA	Ontonagon	Superior	66-092	Bergland Quarry	Milestone Materials	...
66-0093SG	Ontonagon	Superior	66-093	Emerson	Bacco Construction Compa	Caledonia Rd,Mass City,MI,49948
66-0094SG	Ontonagon	Superior	66-094	Primrose Acres	Bacco Construction Compa	Old Us 45,Rockland,MI,49960
66-1000SG	Ontonagon	Superior	66-NA	Turpinen Pit	Great Lakes Mineral Works	3022 US-45,Ontonagon,MI,49953
66-1000CA	Ontonagon	Superior	66-NA	Turpinen Pit	Great Lakes Mineral Works	3022 US-45,Ontonagon,MI,49953
67-0028SG	Oscoda	Grand	67-028	White	Halliday S & G	13792 US-10,Hersey,MI,49639
YD-0130	Oscoda	Grand	67-801	18 Mile	D. J. McQuestion & Sons, In	17708 18 Mile Road,LeRoy,MI,49655
69-0050SG	Ogemaw	North	69-050	N Townline	Reith Riley Construction Co	3006 Martindale Road,Gaylord,MI,49735
YD-0174	Ogemaw	North	69-053CC	J & N Excavating	J & N Excavating	1223 Anna Dr,Gaylord,MI,49735
69-0054SG	Osago	North	69-054	Martindale	Reith Riley Construction Co	3006 Martindale Road,Gaylord,MI,49735
70-1001SG	Ottawa	Grand	70-	JMM Pit	...	...
70-1000SG	Ottawa	Grand	70-	Overway Pit	...	...
70-0027SG	Ottawa	Grand	70-027	Huizenga #1	Huizenga and Sons, Inc.	1861 Fillmore Street,Jenison,MI,49428
70-0058SG	Ottawa	Grand	70-058	S & M Gravel Co.	S & M Gravel	14433 108th Ave ,Grand Haven,MI,49417
70-0062SG	Ottawa	Grand	70-062	Pickitt And Schreur	S & M Gravel	12432 104th Avenue,Robinson,MI,49417
70-0064SG	Ottawa	Grand	70-064	Grand Rapids Gravel Co. #16	Grand Rapids Gravel Co.	1405 Taylor Street ,Jenison,MI,49428
YD-0131	Ottawa	Grand	70-078	Lakeside Nunica Recycle	Lakeside Aggregate LLC	16861 120th Ave , Nunica,MI,49448
70-0082SG	Ottawa	Grand	70-082	Tga Jenison	Top Grade Aggregates, LLC	1601 Chicago Drive ,Jenison,MI,49428
70-0083SG	Ottawa	Grand	70-083	Croswell Pit	Lakeshore Sand	15055 Croswell Street,West Olive,MI,49460
YD-0132	Ottawa	Grand	70-087	Fillmore Compost Operation	Top Grade Aggregates, LLC	10501 Fillmore Street,Zeeland,MI,49464
YD-0133	Ottawa	Grand	70-088	Highgrade Allendale Yard	Custom Crushing & Recycli	10561 Linden Drive NE,Grand Rapids,MI,49504
70-0090SG	Ottawa	Grand	70-090	Jamestown Reserve	Top Grade Aggregates, LLC	1856 Riley St,Hudsonville,MI,49426
YD-0134	Ottawa	Grand	70-803	High Grade Allendale-retired-03/2023	High-Grade Allendale	10561-Linden Drive-NE,Grand Rapids,MI,49534
YD-0185	Ottawa	Grand	70-805	Project Temporary 113122A, 212753A	Kalin Construction Compan	Median of US-31/196 at Washington Ave Exit Ramp,Holla
YD-0188	Ottawa	Grand	70-806	Project Temporary 201166A	Fisher Construction Aggreg	Median of 196 between 48 and 52nd Ave,Hudsonville,MI,4
71-0003CA	Presque Isle	North	71-003	Port Calcite	O-N Minerals (Michigan) Cc	1035 Calcite Road,Rogers City,MI,49779
71-0039SG	Presque Isle	North	71-039	Hincka	Alpena Aggregate Inc	4869 US-23 S,Rogers City,MI,49779
71-0047CA	Presque Isle	North	71-047	Presque Isle Stone	Holcim	11351 East Grand Lake Road,Presque Isle,MI,49777
71-0050SG	Presque Isle	North	71-050	King, H.	Fleis Excavation, Inc.	3038 Quarry Road,Rogers City,MI,49779
71-0068CA	Presque Isle	North	71-068	Schaedig, K.	R. E. Glancy, Inc.	1703 N Trout Road,Rogers City,MI,49779
71-0069SG	Presque Isle	North	71-069	Tedrock	Alpena Aggregate Inc	13935 Melvell Road,Posen,MI,49776

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72-0005SG	Roscommon	North	72-005	Arthur #2	Halliday S & G	3025 W School Road, Roscommon, MI, 48653
72-0006SG	Roscommon	North	72-006	Federal Forest (Dnr 125)	Halliday S & G	3008 Landfill Road, Roscommon, MI, 48653
72-0012SG	Roscommon	North	72-012	Yorty, E.	Halliday S & G	5120 W Pine Drive, Roscommon, MI, 48653
72-0027SG	Roscommon	North	72-027	Carter	Halliday S & G	1975 3rd Lake Road, Roscommon, MI, 48653
72-0029SG	Roscommon	North	72-029	Yongs		6291 W Nestel Road, Houghton Lake, MI, 48629
72-0043SG	Roscommon	North	72-043	Tomak/Carrick Pit	Carrick Trucking & Gravel, I	7916 Hillcrest Road, Roscommon, MI, 48653
73-0010SG	Saginaw	Bay	73-010	Oakley	Constine Gravel Company	18257 S Raucholz Road, Oakley, MI, 48649
YD-0135	Saginaw	Bay	73-017	C&M Yard	Champagne & Marx	6500 N Michigan Road, Saginaw, MI, 48604
YD-0136	Saginaw	Bay	73-018	Queen Street Crushing Operation	Eggers Excavating	1518 Queen Street, Saginaw, MI, 48602
YD-0201	Saginaw	Bay	73-019CC	DHT Excavating	DHT Excavating	2695 W Vassar Rd, Reese, MI, 48757
YD-0137	Saginaw	Bay	73-801	Project Temporary 73111-127021	Champagne & Marx	200 North Outer Drive, Saginaw, MI, 48601
YD-0138	Saginaw	Bay	73-802	1st Dock	E.C. Levy- Burroughs	1701 N 1st Street, Saginaw, MI, 48061
74-0012SG	Sanilac	Bay	74-012	Elmer Township	Wiegand	3790 W Sanilac Road, Snover, MI, 48471
74-0051SG	Sanilac	Bay	74-051	Wilson Pit	Mid Michigan Materials	7009 Fisher Road., Jeddo, MI, 48032
74-0073SG	Sanilac	Bay	74-073	Palmer S & G	Inactive	1303 N Sandusky Road, Cluster Township, MI, 48471
YD-0139	Sanilac	Bay	74-073CC	Palmer S & G Crushed Concrete	Inactive	1303 N Sandusky Road, Cluster Township, MI, 48471
75-0002SG	Schoolcraft	Superior	75-002	Curran's #2	Payne & Dolan, Inc.	...
75-0005CA	Schoolcraft	Superior	75-005	Port Inland #1	O-N Minerals (Michigan) Cc,	Port Inland, MI, 49840
75-0041SG	Schoolcraft	Superior	75-041	Brown	...	...
75-0042SG	Schoolcraft	Superior	75-042	Gray	Bacco Construction Compa	County Road 442, Manistique, MI, 49854
75-0060SG	Schoolcraft	Superior	75-060	Moon	Payne & Dolan, Inc.	M-77, Germfask, MI, 49836
75-0067SG	Schoolcraft	Superior	75-067	M.R.I. #4	Stephen Hartman Excavati	r Flodin Road, Maistique, MI, 49854
75-0068SG	Schoolcraft	Superior	75-068	Cooks- combined with 75-042 03/2023	Northstar-Crushing & Sere	e County Road 442, Manistique, MI, 49854
76-0048SG	Shiawassee	Bay	76-048	Grand River Road. #2	Fouss S & G	2638 Grand River Road, Owosso, MI, 48867
76-0055SG	Shiawassee	Bay	76-055	Ovid	Schlegel Sand & Gravel, Inc	9520 W M-21, Ovid, MI, 48866
76-0057SG	Shiawassee	Bay	76-057	Baldwin Road	Constine Gravel Company	6235 Simpson Road, Ovid, MI, 48867
76-0058SG	Shiawassee	Bay	76-058	M-52	Constine Gravel Company	7613 S M-52, Bennington, MI, 48867
YD-0140	Shiawassee	Bay	76-058CC	M-52 Crushed Concrete	Constine Gravel Company	7613 S M-52, Bennington, MI, 48867
76-0059SG	Shiawassee	Bay	76-059	McBride	6490 McBride Road, Owosso	, MI, 48867
76-0064SG	Shiawassee	Bay	76-064	Krouse Road. Pit	Constine Gravel Company	3409 Krouse Road, Owosso, MI, 48867
76-0066SG	Shiawassee	Bay	76-066	Pit M-78	...	...
YD-0141	Shiawassee	Bay	76-801	Project Temporary 76024-201424	C & D Hughes, Inc.	9842 Beard Road, Lainsburg, MI, 48848
77-0026SG	St Clair	Bay	77-026	Smiths Creek	1824 Sturdevant Road, Kimball,	MI, 48074
77-0027SG	St Clair	Bay	77-027	DIF Pit	720 Wales Ridge Road, Goodells,	MI, 48027
YD-0142	St Clair	Bay	77-028	Pamar Recycle Yard	3212 Petis Street, Port Huron,	MI, 48060
YD-0143	St Clair	Bay	77-029	Grosso Trucking - Marine City Hwy	10015 Marine City Hwy, Casco,	MI, 48023
77-0030SG	St Clair	Bay	77-030	Blue Water Materials	Blue Water Materials	3420 Fruit St, Algonac, MI, 48001
YD-0144	St Clair	Bay	77-032	Torello Crushed Concele Yard	Great Lakes Aggregate Co.	3500 Dove Road, Port Huron, MI, 48060
YD-0145	St Clair	Bay	77-033	Range Road Crushed Concrete Yard	E.C. Levy - Saginaw Aspha	1750 N Range Road, Kimball, MI, 48074
77-0034SG	St Clair	Bay	77-034	Burgess Pit	Mid Michigan Materials	4343 Abbottsford Road, Ruby, MI, 48049
77-0035SG	St Clair	Bay	77-035	Memphis Sand and Gravel-StreetClair Co	1280 Kinney Road, Mephis,	MI, 48041
77-0036SG	St Clair	Bay	77-036	Hyde's Sand & Gravel	Hyde's Excavating LLC	2063 Allen Road, Kimball, MI, 48074
77-0037SG	St Clair	Bay	77-037	Algonac Sand & Supply	3480 Fruit Street, Algonac,	MI, 48001
YD-0146	St Clair	Bay	77-801	Project Temporary 210066 44044	Great Lakes Aggregate Co. Lippmann Location,...	
78-0035SG	St Joseph	Southwest	78-035	Sturgis	Stonoco	68710 Big Hill Road, Sturgis, MI, 49091
YD-0147	St Joseph	Southwest	78-045CC	Roberts Crushed Concrete	Kalin Construction Compan	13603 B Roadway Road, Three Rivers, MI, 49093
79-0071SG	Tuscola	Bay	79-071	Karpovich #1	KIG Enterprises LLC	3131 Cat Lake Road, Caro, MI, 48723
79-0080SG	Tuscola	Bay	79-080	Gillings	MI Gravel	10236 Sheridan Road, Millington, MI, 48746
79-0082SG	Tuscola	Bay	79-082	Saginaw Asphalt	E.C. Levy - Saginaw Aspha	5900 Washburn Road, Tuscola, MI, 48768

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79-0092SG	Tuscola	Bay	79-092	Castle Road.	E.C. Levy - Saginaw Aspha	2034 Goodrich Road,Fostoria,MI,48435
79-0094SG	Tuscola	Bay	79-094	Washburn Road		5163 Washburn Road,Vassar,MI,48744
79-0097SG	Tuscola	Bay	79-097	Harris	E.C. Levy - Saginaw Aspha	4848 Mertz Road,Mayville,MI,48744
79-0098SG	Tuscola	Bay	79-098	Two Creeks Pit		6760 N Cemetery Road,Cass City,MI,48726
79-0099SG	Tuscola	Bay	79-099	Reed Road Pit		7751 Reed Road,Cass City,MI,48726
79-0100SG	Tuscola	Bay	79-100	Tuckey		5874 Cass City Road,Cass City,MI,48726
79-0101SG	Tuscola	Bay	79-101	Thumb Aggregate Sales Llc		6867 M-81,Cass City,MI,48726
79-0102SG	Tuscola	Bay	79-102	Sheridan Road	Eggers Excavating	4537 Sheridan Road,Vassar,MI,48768
79-0104SG	Tuscola	Bay	79-104	Kappen Pit	KIG Enterprises LLC	2580 W Caro Road,Caro,MI,48723
79-0105SG	Tuscola	Bay	79-105	Mikinaak Sand & Gravel		2270 W Snover Road,Mayville,MI,48744
79-0106SG	Tuscola	Bay	79-106	Wells Road	Buchholz Transport	2387 Wells Road,Caro,MI,48723
79-0107SG	Tuscola	Bay	79-107	Karpovich Sheridan Road Pit	Buchholz Transport	2749 S Sheridan Road,Caro,MI,48723
79-0110SG	Tuscola	Bay	79-110	Warner Road Pit	Shagene Excavation	2500 Warner Road,Deford,MI,48729
80-0019SG	Van Buren	Southwest	80-019	South Gravel Hill	Stonoco	46046 W Red Arrow Hwy,Lawrence Township,MI,49079
80-0026SG	Van Buren	Southwest	80-026	Stonoco Paw Paw	Stonoco	46046 56th Avenue,Paw Paw Township,MI,49079
80-0042SG	Van Buren	Southwest	80-042	Baseline	Holcim	29803 1st Avenue,Pine Grove Township,MI,49055
80-0045SG	Van Buren	Southwest	80-045	Winkle #2		62162 46th Street,Lawrence,MI,49064
80-0047SG	Van Buren	Southwest	80-047	Klett, O.	Klett Construction Co.	61885 CR-665,Paw Paw Township,MI,49079
YD-0148	Van Buren	Southwest	80-047CC	Klett, O.	Klett Recycle	61885 CR-665,Paw Paw Township,MI,49079
80-0054SG	Van Buren	Southwest	80-054	Cleveland Pit	R. Smith and Sons	19635 CR-665,Bloomingdale Township,MI,49026
80-0055SG	Van Buren	Southwest	80-055	Paw Paw Gravel	Michiana Aggregate, Inc	65826 46th Street,Paw Paw,MI,49079
80-0056SG	Van Buren	Southwest	80-056	Troy Pit	R. Smith and Sons	...
YD-0149	Van Buren	Southwest	80-057	Paw Paw Yard		58356 CR-671,Paw Paw,MI,49079
80-0058SG	Van Buren	Southwest	80-058	KE Sand & Gravel, LLC.	Kalamazoo Excavation	70000 39th St,Paw Paw,MI,49079
81-0019SG	Washtenaw	University	81-019	Pleasant Lake Aggregates	E.C. Levy	9985 Pleasant Lake Road,Ann Arbor,MI,48103
81-0021SG	Washtenaw	University	81-021	Clinton	Gerken Materials Inc	13350 Allen Road,Clinton,MI,49236
81-0050SG	Washtenaw	University	81-050	Short Hills Gr.		6901 M-52,Manchester,MI,48158
81-0084SG	Washtenaw	University	81-084	Pleasant Hills	Barrett Paving	12475 E. Pleasant Lake Road,Manchester,MI,48158
81-0092SG	Washtenaw	University	81-092	Drake	Stonoco	2381 S. Zeeb Road,Ann Arbor,MI,48103
81-0093SG	Washtenaw	University	81-093	Burneister	Stonoco	6071 Steinbach Road,Ann Arbor,MI,48103
81-0097SG	Washtenaw	University	81-097	M-52 Sand & Gravel (Manchester)	Holcim	6700 M-52,Manchester,MI,48158
YD-0150	Washtenaw	University	81-098	Ann Arbor Crushed Concrete Yard	Stonoco	3660 Carpenter Road,Ypsilanti,MI,48197
81-0099SG	Washtenaw	University	81-099	Feldkamp Pit		8099 Feldkamp Road,Saline,MI,48176
YD-0151	Washtenaw	University	81-100	Chubb Rd., Northville	Kraken Crushed Concrete	7871 Chubb Road,Northville,MI,48168
81-0101SG	Washtenaw	University	81-101	Mid Michigan Materials- Vella Pit	Mid Michigan Materials	4984 Earhart Road,Ann Arbor,MI,48105
YD-0152	Washtenaw	University	81-801	Salem Plant	Great Lakes Aggregate Co.	7767 Chubb Road,Northville,MI,48168
YD-0215	Wayne	Metro	82-	MMCR- Eureka Rd	Mid-Michigan Crushing & R	34000 Eureka Rd,Detroit,MI,48242
82-0002CA	Wayne	Metro	82-002	Us Silica	Great Lakes Aggregate Co.	20837 N Huron River Drive,Rockwood,MI,48173
82-0006CA	Wayne	Metro	82-006	Michigan Foundation	Ajax Materials	Fort at Sibly, Trenton,MI,48183
82-0019BF	Wayne	Metro	82-019B	Levy Dix #1-BFS	E.C. Levy	8800 Dix Avenue,Detroit,MI,48209
82-0019SF	Wayne	Metro	82-019S	Levy Dix #1-SFS	E.C. Levy	8800 Dix Avenue,Detroit,MI,48209
82-0020BF	Wayne	Metro	82-020	Levy Mercer #2-BFS	E.C. Levy	9300 Dix Avenue,Detroit,MI,48209
82-0021SF	Wayne	Metro	82-021	Levy Westfield #3	E.C. Levy	100 E. Westfield Street,Ecorse,MI,48229
82-0024SF	Wayne	Metro	82-024	Levy Mellon #6	E.C. Levy	13910 Mellon,Detroit,MI,48217
YD-0153	Wayne	Metro	82-025	Highland Park	Great Lakes Aggregate Co.	15150 Oakland Avenue,Highland Park,MI,48203
YD-0154	Wayne	Metro	82-026	Taylor	Great Lakes Aggregate Co.	27130 Ecorse,Taylor,MI,48180
YD-0155	Wayne	Metro	82-028	Michigan Crushed Concrete	Michigan Crushed Concrete	24940 Plymouth,Redford,MI,48239
YD-0156	Wayne	Metro	82-030	Springwells Crushed Concrete Yard	McCoig Group LLC	1515 Springwells Court,Detroit,MI,48209
YD-0157	Wayne	Metro	82-031	West Road.	Mid-Michigan Crushing & R	23718 Westwood,Woodhaven,MI,48183

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YD-0158	Wayne	Metro	82-032	14411 Oakland Ave.	Caveman Crushing and Re	14411 Oakland Avenue, Highland Park, MI, 48203
YD-0159	Wayne	Metro	82-033	Nagle Recycling	Detroit Recycled Concrete	13301 Levan, Livonia, MI, 48150
YD-0160	Wayne	Metro	82-034	Detroit Recycle Concrete	Detroit Recycled Concrete	14294 Meyers, Detroit, MI, 48227
YD-0180	Wayne	Metro	82-035	Greenfield, Detroit	Dino-Mite Crushing and Re	12701 Greenfield Road, Detroit, MI, 48227
YD-0161	Wayne	Metro	82-036	Mid-Michigan Crushing & Recycling Ecorse Yard	Mid-Michigan Crushing & R	28233 Ecorse, Romulus, MI, 48174
YD-0165	Wayne	Metro	82-037	Allen Rd, Brownstown, MI	Kraken Crushed Concrete	18550 Allen Road, Brownstown, MI, 48193
YD-0199	Wayne	Metro	82-038CC	Mid-Michigan Crushing & Recycling Taylor Yard	Mid-Michigan Crushing & R	20538 Pennsylvania Road, Taylor, MI, 48180
YD-0162	Wayne	Metro	82-805	Pamar	Fort at Sibly, Trenton, MI,	48183
YD-0163	Wayne	Metro	82-806	West Plant	Great Lakes Aggregate Co.	32300 Glendale, Livonia, MI, 48150
YD-0164	Wayne	Metro	82-809	Freeport	Freeport Stone & Supply	20225 Pennsylvania Road, Brownstown, MI, 48193
YD-0183	Wayne	Metro	82-810	Ann Arbor Road Yard	Great Lakes Aggregate Co.	Crusher Plant located at the ramp from Ann Arbor Road to
YD-0195	Wayne	Metro	82-811	Project Temporary 82293-111073-2	Great Lakes Aggregate Co.	6868 Hannan Road, Wayne, MI, 48187
YD-0203	Wayne	Metro	82-812	Project Temporary 82024-113553	Toebe Construction	Mt Elliott, Detroit, MI, 48217
83-0006SG	Wexford	North	83-006	Sidall, P.	Rieth Riley Construction Co	5902 N 47 Road, Manton, MI, 49663
83-0040SG	Wexford	North	83-040	Houghtaling	Fisher Sand & Gravel	560 N 31 Road, Hoxeyville, MI, 49601
83-0062SG	Wexford	North	83-062	Lowe	Elmer's Crane and Dozer	9580 W 14 Road, Mesick, MI, 49668
91-0004CA	Illinois	Southwest	91-004	Mccook	Vulcan Materials	5500 Joliet Road, McCook, IL, 60525
91-0006CA	Illinois	Southwest	91-006	Thornton Quarry	Hanson/Heidelberg	322 S Williams Street, Thornton, IL, 60476-5724
91-0010CA	Illinois	Southwest	91-010	Kankakee	Vulcan Materials	1277 S. 7000 W. Road, Kankakee, IL, 60901
91-0016SF	Illinois	Southwest	91-016	Riverdale	Phoenix Services	13500 S Perry Ave, Riverdale, IL, 60827
91-0017CA	Illinois	Southwest	91-017	Lisbon Quarry	Vulcan Materials	10425 Joliet Road, Newark, IL, 60541
92-0001CA	Indiana	Southwest	92-001	Ardmore Quarry	Hanson/Heidelberg	6100 Ardmore, Fort Wayne, IN, 46809
92-0007CA	Indiana	Southwest	92-007	Francesville Quarry	U.S. Aggregates- Francesv	14530 West 700 South, Francesville, IN, 47976
92-0011BF	Indiana	Southwest	92-011	Burns Harbor	Phoenix Services	6662 S Boundary Road, Portage, IN, 46368
92-0019CA	Indiana	Southwest	92-019	Angola Quarry	Hanson/Heidelberg	260 E. 300 N Road, Angola, IN, 46703
92-0025BF	Indiana	Southwest	92-025	South Shore Slag	Beemsterboer	1 N. Buchanan Road, Gary, IN, 46402
92-0030CA	Indiana	Southwest	92-030	Pleasant Mills	U.S. Aggregates- Portland	699 S 500 E, Decatur, IN, 46733
92-0031BF	Indiana	Southwest	92-031	Indiana Harbor East - Blast	Fritz Enterprises	3210 Watling Street, East Chicago, IN, 46312
92-0032SF	Indiana	Southwest	92-032	Indiana Harbor West - Steel	Phoenix Services	3001 Dickey Road, East Chicago, IN, 46312
92-0035BF	Indiana	Southwest	92-035	Indiana Harbor West - Blast	Phoenix Services	3001 Dickey Road, East Chicago, IN, 46312
92-0036SF	Indiana	Southwest	92-036	South Shore Plant 2	Beemsterboer	1 North Buchanan Street, Gary, IN, 47402
92-0038SF	Indiana	Southwest	92-038	Indiana Harbor East - Steel	Phoenix Services	3001 Dickey Road, East Chicago, IN, 46312
92-0040SG	Indiana	Southwest	92-040	L-Bob	Niblock	US-33, Kimmel, IN, 46760
92-0042CA	Indiana	Southwest	92-042	Midwest Quarry	Hanson/Heidelberg	22821 Dawkins Road, Woodburn, IN, 46797
92-0046CA	Indiana	Southwest	92-046	Kenter Creek		6601 West Old US-24, Wabash, IN, 46992
92-0048SG	Indiana	Southwest	92-048	Angola S & G	Stonoco	5460 W 100 N, Angola, IN, 46703
92-0050SF	Indiana	Southwest	92-050	Butler Mills	Niblock	4506 Co Rd 59, Butler, IN, 46721
92-0051CA	Indiana	Southwest	92-051	South Lake Stone	Rieth Riley Construction Co	18900 Clay St, Hebron, IN, 46341
92-0052SG	Indiana	Southwest	92-052	Angola	Clifford Aggregate Inc	225 South 600 West, Angola, IN, 46703
YD-0187	Indiana	Southwest	92-060CC	C & E Bendix South Bend	C & E Excavating	1702 N Bendix Drive, South Bend, IN, 46628
YD-0189	Indiana	Southwest	92-061CC	C & E Adams St Elkhart	C & E Excavating	54023 Adams St, Elkhart, IN, 46514
92-0062SG	Indiana	Southwest	92-062	Ligonier	Clifford Aggregate Inc	1430 Lincolnway W, Ligonier, IN, 46703
92-0063SG	Indiana	Southwest	92-063	Henschen	Clifford Aggregate Inc	7445 E 400 S, Wolcottville, IN, 46795
93-0001CA	Ohio	University	93-001	Marblehead Quarry	Holcim	831 S Quarry Road, Lakeside, OH, 43440
93-0003CA	Ohio	University	93-003	Sylvania/(Silica)	Hanson/Heidelberg	4100 Centennial Road, Sylvania, OH, 43560
93-0004CA	Ohio	University	93-004	Waterville	Hanson/Heidelberg	600 S River Road, Waterville, OH, 43566
93-0005CA	Ohio	University	93-005	White Rock Quarry	Stonoco	3800 North Bolander Road, Clay Center, OH, 43408
93-0021CA	Ohio	University	93-021	Carey Quarry	National Lime and Stone	370 N, Patterson Road, Carey, OH, 43316
93-0022CA	Ohio	University	93-022	Findlay Quarry	National Lime and Stone	9860 County Road 313, Findlay, OH, 45840

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93-0023CA	Ohio	University	93-023	Lima Quarry	National Lime and Stone	1314 Findlay Road, Lima, OH, 45801
93-0031CA	Ohio	University	93-031	Wyandot Dolomite Inc.	Stoneco	1794 Co Hwy 99, Carey, OH, 43316
93-0035CA	Ohio	University	93-035	West Millgrove	Gerken Materials Inc	6126 Main Street, West Milgrove, OH, 43467
93-0037CA	Ohio	University	93-037	Portage Quarry	Stoneco	11580 South Dixie Highway, Portage, OH, 43451
93-0039CA	Ohio	University	93-039	Auglaize Quarry	Stoneco	13762 Road 179, Oakwood, OH, 45873
93-0040SF	Ohio	University	93-040	Fulton Mill Service	E.C. Levy	6565 Co Rd, Delta, OH, 43515
93-0044CA	Ohio	University	93-044	Custar	Gerken Materials Inc	24290 Portage Road, Custar, OH, 43511
93-0045CA	Ohio	University	93-045	Bluffton	Gerken Materials Inc	310 Quarry Drive, Bluffton, OH, 45817
93-0047CA	Ohio	University	93-047	Upper Sandusky #403	Olen Corp	6326 County Highway 61, Upper Sandusky, OH, 43351
93-0048CA	Ohio	University	93-048	York Center	Olen Corp	28855 SR 739, West Mansfield, OH, 43358
93-0053CA	Ohio	University	93-053	Woodville	Olen Corp	659 N Anderson Road, Woodville, OH, 43469
93-0054CA	Ohio	University	93-054	Digeronimo	Digeronimo	8900 Hemlock Road, Independence, OH, 44131
93-0055SG	Ohio	University	93-055	Barrett Paving Materials Haddix	Barrett Paving	10400 Haddix Road, Fairborn, OH, 45324
93-0056SG	Ohio	University	93-056	Chesterville Sand & Gravel	National Lime and Stone	7250 SR 95 E, Chesterville, OH, 43317
93-0057SG	Ohio	University	93-057	United Aggregate		16364 Millersburg Road, Danville, OH, 43014
93-0058SG	Ohio	University	93-058	American Sand and Gravel		9500 Forty Corners Road NW, Massillon, OH, 44647
94-1000SG	State of Wisconsin	Superior	94-	Holtan Pit	Pitlik & Wick Inc.	8365 Old B Rd, Land O Lakes, WI, 54540
94-1001SG	State of Wisconsin	Superior	94-	Volkmann Pit	Pitlik & Wick Inc.	City HWY A, Phelps, WI, 54554
94-0024SG	Wisconsin	Superior	94-024	T-Bird	Pitlik & Wick, Inc.	4841 Old Pioneer Road, Mercer, WI, 54547
94-0032CA	Wisconsin	Superior	94-032	Brackett	Mathy Construction Co.	Town Line Road, Hurley, WI, 54534
94-0034SG	Wisconsin	Superior	94-034	Gabriel, L.	Bieh1 Const. Co. Inc.	21st Road, Pound, WI, 54161
94-0035SG	Wisconsin	Superior	94-035	Crooked Lake	Milestone Materials	64450 Crooked Lake Road, Onalaska, WI, 54650
94-0037IM	Wisconsin	Superior	94-037	Wagner	Marinette Concrete Product	3749 WI-180 Trunk, Wausaukee, WI, 54177
94-0038IM	Wisconsin	Superior	94-038	Kimball	Mathy Construction Co.	7355 US-2, Hurley, WI, 54534
94-0041IM	Wisconsin	Superior	94-041	Specialty Minerals	Specialty Granules Inc	N 190304 Mine Rd, Pembine, WI, 54156
94-0045SG	Wisconsin	Superior	94-045	Riopel	Payne & Dolan, Inc.	3277 County Road North, Rhinelander, WI, 54501
94-0047CA	Wisconsin	Superior	94-047	Pit Lane	Pit lane, Porterfield, WI, 54159	
94-0048IM	Wisconsin	Superior	94-048	Evenson	Evenson Construction	15500 County Road C, Valders, WI, 54245
94-0049CA	Wisconsin	Superior	94-049	King	Pitlik & Wick, Inc.	6330 Rocky Road, Rhinelander, WI, 54501
94-0050CA	Wisconsin	Superior	94-050	Romitti	Payne & Dolan, Inc.	5 Romitti Drive, Florence, WI, 54121
94-0052SG	Wisconsin	Superior	94-052	Shawano Fish Club	Walbec Group- Northeast A	16499 Forest Road 2169, Long Lake, WI, 54542
94-0053SG	Wisconsin	Superior	94-053	Ilg	Pitlik & Wick, Inc.	Korean War Veterans Memorial Highway, Manitowish Waters, WI, 54150
94-0054CA	Wisconsin	Superior	94-054	Highbridge Quarry	Milestone Materials	38112 Poppe Road, Highbridge, WI, 54846
94-0057CA	Wisconsin	Superior	94-057	Valders	Eden-Valders Stone	Quarry lane, Valders, WI, 54245
94-0058SG	Wisconsin	Superior	94-058	Mercer Pit Luppino	Northwoods Paving	Mercer Lake Circle S, Mercer, WI, 54547
95-0005CA	Ontario	Superior	95-005	Manitoulin Dolomite	Holcim	95 Mississagi Lighthouse Rd , Meldrum Bay, ON, POP 11
95-0006SF	Ontario	Superior	95-006	Algoma Steel Corp. Limited	Inter-Ontario Equipment Re	105 West Street, Sault Ste. Marie, ON, Canada, P6A 7BA
95-0009IM	Ontario	Superior	95-009	Thessalon (Nestorville Quarry)	Holcim	161 Peachey Street, Thessalon, ON, Canada, P0R 1L0
95-0010IM	Ontario	Superior	95-010	Bruce Mines	Ontario Trap Rock Limited	9630 Highway 17, Bruce Mines ON P0R 1C0, ON, Canada
95-0013SG	Ontario	Superior	95-013	Maple Ridge	Holcim	161 Peachey Street, Thessalon, ON, Canada, P0R 1L0
95-0014IM	Ontario	Superior	95-014	Wawa	Michipicoten Harbor, Wawa, ON, Canada,	
95-0015MM	Ontario	Superior	95-015	Badgley Island (Quartzite)	Unimin Canada Ltd.	Badgley Island, Killarney, ON, Canada,
95-0015IG	Ontario	Superior	95-016	Badgley Island (Trap Rock)	Unimin Canada Ltd.	Badgley Island, Killarney, ON, Canada,
95-0015CA	Ontario	Superior	95-017	Badgley Island (Carbonate)	Unimin Canada Ltd.	Badgley Island, Killarney, ON, Canada,
YD-0213	Oakland	Metro	N/A	I-96 Hass Road 124103	Great Lakes Aggregate Co.	27120 Hass Road, Wixom, MI, 48393
DK-008	Ottawa	Grand	NA	Holland	Brewers City Dock, Inc	24 Pine Avenue, Holland, MI, 49423
YD-0206	Van Buren	Southwest	NA	Compton Excavating	Compton Excavating	1201 8th Ave, South Haven, MI, 49090
YD-0209	Ottawa	Grand	NA	Temporary I-196 Median Hudsonville	D.J. McQuestion & Sons, Inc	In median of I-196, 4.5 miles west of M-6, Hudsonville, MI,
YD-0205	Isabella	Bay	NA	Valley Road Yard CC	Fisher Construction Aggreg	11502 E Valley Rd, Mt Pleasant, MI, 48858

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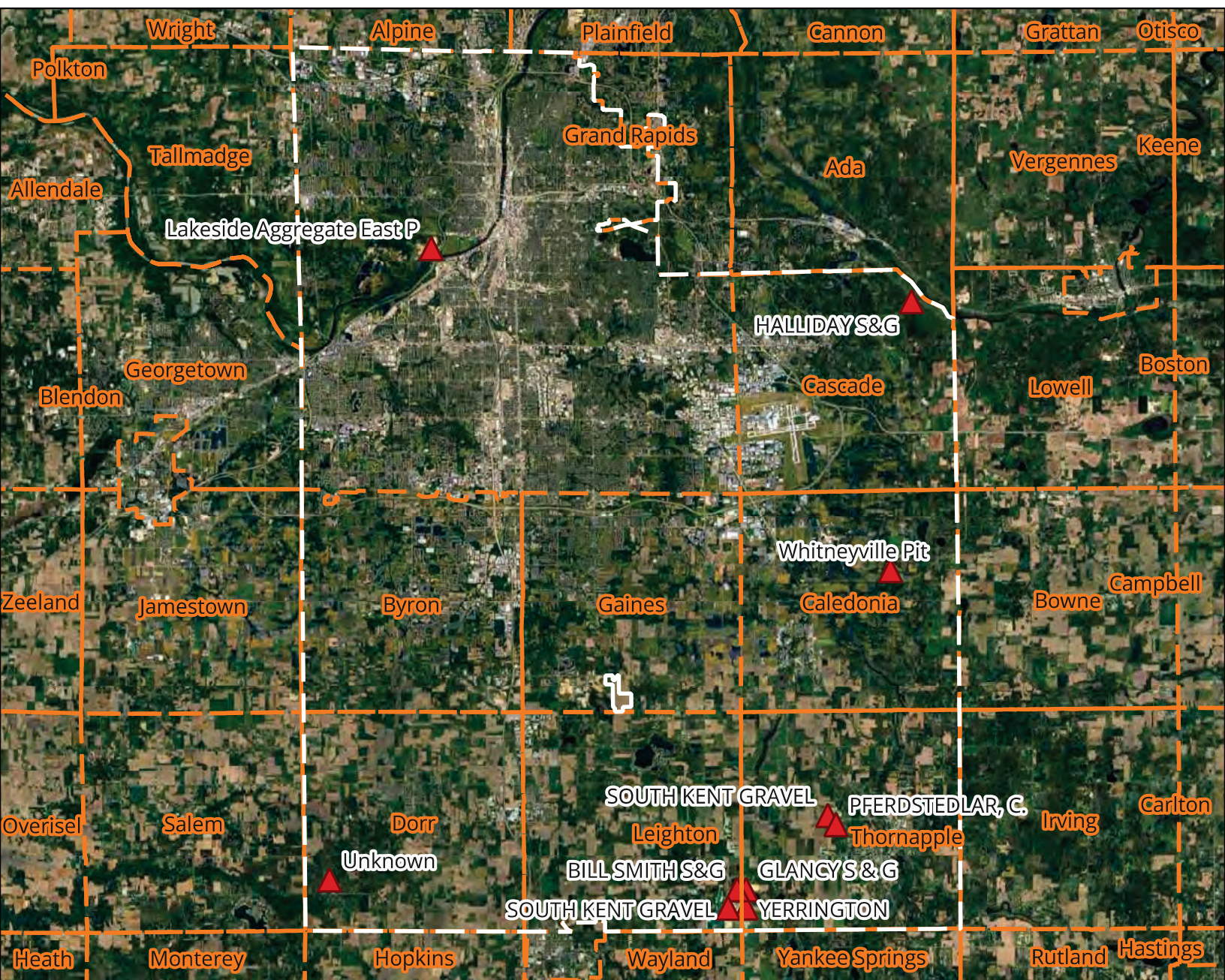
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YD-0212	Oakland	Metro	NA	I-696 Temporary Crusher 131589	Great Lakes Aggregate Co. Oakland Community College-east Lot, Farmington Hills, MI
YD-0208	Washtenaw	University	NA	GLA Chubb Road Yard	Great Lakes Aggregate Co. 7667 Chubb Road, Northville, MI, 48168
YD-0171	Roscommon	North	NA	Arthur #2	Haliday S & G 3025 W School Road, Roscommon, MI, 48653
YD-0170	Roscommon	North	NA	Federal Forest (Dnr 125)	Haliday S & G 3008 Landfill Road, Roscommon, MI, 48653
YD-0204	Wayne	Metro	NA	Detroit Aggregate, LLC	Hercules Materials Holdings 12225 Stephens Road, Warren, MI, 48089
YD-0207	Jackson	University	NA	I-94 #127621 Bailey Temporary CC Site	Kalin Construction Compan 6505 W Michigan Ave, Jackson, MI, 49201
YD-0168	Kent	Grand	NA	Grandville Yard	Lakeside Aggregate LLC 3531 Busch Drive SW, Grandville, MI, 49418
DK-002	Ottawa	Grand	NA	D & M Dock Grand Haven	Lakeside Aggregate LLC 1231 N 3rd Steet, Grand Haven, MI, 49417
02-1000SG	Alger	Superior	NA	Northern Excavating H-58 Sand Pit	Northern Excavating LLC County Road H-58, Munising, MI, 49682
YD-0173	Antrim	North	NA	Thumm Road.	Payne & Dolan, Inc. 11135 E Thumm Road, Elmira, MI, 49730
YD-0172	Cheboygan	North	NA	M-68 Quarry	Rieth Riley Construction Co 411 E M-68 Hwy, Afton, MI, 49705
YD-0169	Wexford	North	NA	Sidall, P.	Rieth Riley Construction Co 5902 N 47 Road, Manton, MI, 49663
78-0045SG	St. Joseph Coun Southwest	NA	NA	Broadway Road Pit	Roberts 13603 Broadway Rd, Three Rivers, MI, 49093
YD-0167	Kent	Grand	NA	Grand Rapids Rail Yard	Stoneco 1700 Frontage SW, Grand Rapids, MI, 49503
YD-0166	Muskegon	Grand	NA	Getty Street Recycle	Verplank's 101 N Getty Street, Muskegon, MI, 49442
DK-007	Ottawa	Grand	NA	Holland #2	Verplank's 233 West 8th Street, Holland, MI, 49423
DK-006	Muskegon	Grand	NA	Ferrysburg #1	Verplank's 705 W 2nd Street, Ferrysburg, MI, 49409
DK-005	Muskegon	Grand	NA	Mart #6	Verplank's 560 Mart Street, Muskegon, MI, 49440
DK-004	Muskegon	Grand	NA	Lakeside #8	Verplank's 1800 Lakeshore Drive, Muskegon, MI, 49441
DK-003	Ottawa	Grand	NA	Cobb #4	Verplank's 559 N Causeway, Muskegon, MI, 49445
YD-0220	63-	Metro	NA	Pamar	
37-1000SG	Isabella	Bay	NA	Valley Road Pit	
24-1000SG	Emmet	North	NA	M-119 Harbor Springs	
YD-0182	Alger	Superior	Yard	Kinnunen Percy Road Yard	Bacco Construction Compa E-12046 Roy Wright Road, Shingleton, MI, 49884
YD-0211			Yard	Shoemaker and Sons Yard	

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APPENDIX III



Legend

- Adjacent Townships
- Property Boundary
- Township Boundary
- Active MDNR Site

0 2.5 5 mi



Mineral Extraction Sites Bordering Gaines Township

Prepared By: Natural
Resources Management, LLC



APPENDIX IV

SAND AND GRAVEL (CONSTRUCTION)¹

(Data in million metric tons unless otherwise specified)

Domestic Production and Use: In 2024, an estimated 890 million tons of construction sand and gravel valued at \$12 billion was produced by an estimated 3,400 companies operating 6,500 pits and more than 200 sales and (or) distribution yards in 50 States. Leading producing States were, in order of decreasing tonnage, California, Texas, Arizona, Minnesota, Michigan, Washington, Utah, Colorado, Idaho, and Wisconsin, which together accounted for about 53% of total output. An estimated 42% of construction sand and gravel was used as portland cement concrete aggregates, 20% for road base and coverings, 12% for construction fill, and 9% for asphaltic concrete aggregate and for other bituminous mixtures. The remaining amount was used for concrete products, drainage and rip rap, filtration, golf course maintenance, landscaping, masonry sand, pea gravel, pipe bending, plaster and gunite sands, railroad ballast, road stabilization, roofing granules, snow and ice control, and other miscellaneous uses.

The estimated output of construction sand and gravel in the United States shipped for consumption in the first 9 months of 2024 was 684 million tons, a decrease of 6% compared with that in the same period in 2023. Third-quarter shipments for consumption decreased by 8% compared with those in the same period in 2023. Additional production information, by quarter, for each State, geographic division, and the United States is reported by the U.S. Geological Survey in its quarterly Mineral Industry Surveys for construction sand and gravel and crushed stone.

Salient Statistics—United States:

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024^e</u>
Sold or used by producers	919	939	959	967	890
Imports for consumption	5	5	4	5	5
Exports	(²)	(²)	(²)	(²)	(²)
Consumption, apparent ³	924	943	963	972	890
Price, average unit value, dollars per metric ton	9.95	10.52	11.35	12.54	13.90
Employment, mine and mill, number ⁴	37,900	37,800	39,100	40,100	40,200
Net import reliance ⁵ as a percentage of apparent consumption	1	(²)	(²)	(²)	1

Recycling: Road surfaces made of asphalt concrete and portland cement concrete surface layers, which contain sand and gravel aggregate, were recycled on a limited but increasing basis in most States. In 2024, asphalt and portland cement concrete road surfaces were recycled in all 50 States.

Import Sources (2020–23): Canada, 93%; Mexico, 3%; and other, 4%.

<u>Tariff:</u>	<u>Item</u>	<u>Number</u>	<u>Normal Trade Relations</u> <u>12–31–24</u>
	Sand, other	2505.90.0000	Free.
	Pebbles and gravel	2517.10.0015	Free.

Depletion Allowance: Common varieties, 5% (domestic and foreign).

Government Stockpile: None.

SAND AND GRAVEL (CONSTRUCTION)

Events, Trends, and Issues: U.S. construction sand and gravel production was about 890 million tons in 2024, a decrease of 8% compared with that in 2023. Apparent consumption also decreased to 890 million tons. Consumption of construction sand and gravel decreased in 2024 because of significant weather events and continued decreases in residential housing demand caused by interest rates continuing to be at some of the highest levels in 23 years. Usually, commercial and heavy-industrial construction activity, infrastructure funding, labor availability, new single-family housing unit starts, and weather affect growth in construction sand and gravel production and consumption. Long-term increases in construction aggregates demand are influenced by activity in the public and private construction sectors, as well as by construction work related to infrastructure improvements around the Nation.

The 2021 Infrastructure Investment and Jobs Act reauthorized surface transportation programs for 5 years and authorized investment of additional funding to repair roads and bridges and support major, transformational projects. The 2021 law authorized \$1.2 trillion in funding and will expire at the end of the 2026 Federal fiscal year. The funding included \$118 billion to the Highway Trust Fund—\$90 billion to the highway account and \$28 billion to the transit account. During the first 9 months of 2024, total highway construction spending was 8% more than that in the same period in 2023.

The underlying factors that would support an increase in prices for construction sand and gravel are expected to be present in 2025, especially in and near metropolitan areas. Shortages in some urban and industrialized areas are expected to continue to increase owing to local zoning regulations and land-development alternatives. These issues are expected to continue and to cause new construction sand and gravel pits to be located away from large population centers. Resultant regional shortages of construction sand and gravel and higher fuel costs could result in higher-than-average price increases in industrialized and urban areas.

The construction sand and gravel industry continued to address health and safety regulations, permitting and zoning issues, and environmental restrictions in 2024.

World Mine Production and Reserves:

	Mine production		Reserves ⁶
	2023	2024 ^e	
United States	967	890	Reserves are controlled largely by land use and (or) environmental concerns.
Other countries ⁷	NA	NA	
World total	NA	NA	

World Resources:⁶ Sand and gravel resources are plentiful throughout the world. However, because of environmental regulations, geographic distribution, and quality requirements for some uses, sand and gravel extraction is uneconomical in some cases. The most important commercial sources of sand and gravel have been glacial deposits, river channels, and river flood plains. Use of offshore deposits in the United States is mostly restricted to beach erosion control and replenishment. Other countries routinely mine offshore deposits of aggregates for onshore construction projects.

Substitutes: Crushed stone, the other major construction aggregate, is often substituted for natural sand and gravel, especially in more densely populated areas of the Eastern United States. Crushed stone remains the dominant choice for construction aggregate use. Increasingly, recycled asphalt and portland cement concretes are being substituted for virgin aggregate, although the percentage of total aggregate supplied by recycled materials remained very small in 2024.

^eEstimated. NA Not available.

¹See also the Sand and Gravel (Industrial) and the Stone (Crushed) chapters.

²Less than ½ unit.

³Defined as sold or used by producers + imports – exports.

⁴Including office staff. Source: Mine Safety and Health Administration.

⁵Defined as imports – exports.

⁶See Appendix C for resource and reserve definitions and information concerning data sources.

⁷No reliable production information is available for most countries owing to the wide variety of ways in which countries report their sand and gravel production. Some countries do not report production for this mineral commodity. Production information for some countries is available in the U.S. Geological Survey Minerals Yearbook, volume III, Area Reports—International.

Mineral Industry Surveys

For information, contact:

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Internet:

<https://www.usgs.gov/centers/national-minerals-information-center/mineral-industry-surveys>

CRUSHED STONE AND SAND AND GRAVEL IN THE THIRD QUARTER 2025

An estimated 441 million metric tons (Mt) of *crushed stone* was sold or used in the United States in the third quarter of 2025, an increase of 7% compared with that in the third quarter of 2024 (table 1). The estimated production for consumption in the first 9 months of 2025 decreased to 1.10 billion metric tons (Gt) from 1.12 Gt in the same period of 2024.

Construction sand and gravel sold or used in the United States in the third quarter of 2025 was estimated to have increased to 262 Mt from 260 Mt in the same period of 2024 (table 3). The estimated production for consumption in the first 9 months of 2025 was 657 Mt, a decrease of 2% compared with that in the same period of 2024.

An estimated 703 Mt of *construction aggregates* was sold or used in the United States in the third quarter of 2025, an increase of 5% compared with that in the third quarter of 2024 (table 5). The estimated production for consumption in the first 9 months of 2025 decreased to 1.76 Gt from 1.78 Gt in the same period of 2024.

The above estimates are based on information reported to the U.S. Geological Survey (USGS) on its quarterly sample survey by *construction aggregates* producers.

Portland (including blended) cement consumption was estimated to have increased by 4% in the third quarter of 2025 compared with that of the third quarter of 2024. Consumption in the first 9 months of 2025 was estimated to have decreased by 2% compared with that in the same period of 2024. This information was obtained from the USGS monthly survey of U.S. cement producers.

This sample survey generates production for consumption estimates by quarters, based on information reported voluntarily by a limited number of producing companies. In most quarters, a few companies may report amounts sold in the current quarter that vary greatly from the amounts reported in the previous year during the same quarter. This change in sales is almost never an indicator of a change in demand in the State as a whole. Typically, large changes can be attributed to the opening or closing of an operation, weather, or an external force that only the affected company or one of its operations experienced in that quarter. Previously reported data are occasionally revised, and the estimated quantities for the prior quarters are then recalculated. The latest release of the quarterly Mineral Industry

Surveys contains the most recent estimated totals and supersedes previously published reports.

The estimated production for consumption of *crushed stone* in the third quarter of 2025 increased in seven of the nine geographic divisions compared with that sold or used in the third quarter of 2024 (table 1). The five leading States were, in descending order of production for consumption, Texas, Pennsylvania, Missouri, Ohio, and Florida (table 2). Their combined total production for consumption was 150 Mt, an increase of 5% compared with that in the same period of 2024.

The estimated production for consumption of *construction sand and gravel* in the third quarter of 2025 increased in six of the nine geographic divisions compared with that sold or used in the third quarter of 2024 (table 3). The five leading States were, in descending order of production for consumption, Texas, California, Minnesota, Michigan, and Arizona (table 4). Their combined total production for consumption was 98.8 Mt, an increase of 2% compared with that in the same period of 2024.

The estimated production for consumption of *construction aggregates* in the third quarter of 2025 increased in six of the nine geographic divisions compared with that sold or used in the third quarter of 2024 (table 5). The five leading States were, in descending order of production for consumption, Texas, California, Ohio, Pennsylvania, and Missouri (table 6). Their combined total production for consumption was 209 Mt, an increase of 5% compared with that in the same period of 2024. The five leading States combined total production for consumption in the first 9 months of 2025 increased to 535 Mt from 532 Mt in the same period of 2024 and represented 30% of the U.S. total.

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <https://www.usgs.gov/centers/national-minerals-information-center/minerals-information-publication-list-services>

TABLE 1. Crushed stone sold or used by producers in the United States, by division.

[Quarterly totals shown are estimates based on a sample survey. Estimated quantities for prior quarters have been recalculated. Data are in thousand metric tons and thousand dollars.]

Region/Division ¹	2024				2025					
	Quantity				Value		Percent change ⁵			
	1st qtr.	2d qtr.	3d qtr.	4th qtr.	1st–4th qtr. ^{2,3}	1st–4th qtr. ^{2,4}	1st qtr.	2d qtr.	3d qtr.	Percent change ⁵
Northeast										
New England	3,670	12,300	15,200	9,950	41,200	689,000	2,760	11,700	13,100	-13.5
Middle Atlantic	22,400	40,400	46,200	37,100	146,000	2,850,000	20,900	43,300	48,600	5.1
Midwest										
East North Central	37,700	64,600	71,600	57,000	231,000	3,270,000	33,400	62,500	73,500	2.6
West North Central	26,100	39,500	42,500	34,400	143,000	1,560,000	22,400	38,900	44,200	4.1
South										
South Atlantic	79,000	94,200	84,400	83,600	341,000	7,930,000	75,600	84,100	92,900	10.2
East South Central	31,200	40,900	40,600	36,000	149,000	2,920,000	29,800	39,600	46,200	13.7
West South Central	62,700	67,800	72,000	65,400	268,000	4,330,000	60,400	67,900	76,600	6.4
West										
Mountain	10,200	20,100	17,500	14,500	64,900	856,000	9,440	16,200	17,800	1.4
Pacific	15,900	22,500	23,800	18,600	80,800	1,220,000	14,600	21,100	23,600	-0.8
Total⁶	295,000	405,000	412,000	359,000	1,470,000	25,800,000	277,000	384,000	441,000	6.9

¹Sales region equivalent to U.S. Census Bureau Geographic Division as follows: New England (CT, MA, ME, NH, RI, VT); Middle Atlantic (NJ, NY, PA); East North Central (IL, IN, MI, OH, WI); West North Central (IA, KS, MN, MO, NE, ND, SD); South Atlantic (DE, FL, GA, MD, NC, SC, VA, WV); East South Central (AL, KY, MS, TN); West South Central (AR, LA, OK, TX); Mountain (AZ, CO, ID, MT, NM, NV, UT, WY); Pacific (CA, OR, WA).

²Data may not add to totals shown because of independent rounding and differences between projected totals by States and by divisions.

³Estimates based on data from the 2023 Minerals Yearbook

⁴Dollar value estimates based on data from the 2023 Minerals Yearbook

⁵Compared with same period of preceding year; all percentages are calculated using unrounded totals.

⁶Includes all 50 States.

TABLE 2. Crushed stone sold or used by producers in the United State, by state.

[Quarterly totals shown are estimates based on a sample survey. Estimated quantities for prior quarters have been recalculated. Data are in thousand metric tons and thousand dollars. W, withheld to avoid disclosing company proprietary data.]

State	2024					2025						
	Quantity					Value	Quantity	Percent	Quantity	Percent	Quantity	Percent
	1st qtr.	2d qtr.	3d qtr.	4th qtr.	1st-4th qtr. ^{1,2}	1st-4th qtr. ^{1,3}	1st qtr.	change ⁴	2d qtr.	change ⁴	3d qtr.	change ⁴
Alabama	8,230	10,800	10,200	9,070	38,300	736,000	8,220	-0.2	9,670	-10.1	10,700	4.6
Alaska	(⁵)	(⁵)	(⁵)	(⁵)	559	7,460	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Arizona	2,480	3,920	3,660	3,030	13,100	187,000	2,520	1.7	3,540	-9.7	3,180	-13.0
Arkansas	6,730	8,710	8,990	8,380	32,800	392,000	7,060	5.0	9,330	7.1	9,230	2.7
California	8,090	11,200	12,000	9,630	41,000	660,000	7,610	-5.8	11,100	-1.6	12,500	4.1
Colorado	2,030	4,100	3,860	2,710	12,700	188,000	1,650	-18.9	2,210	-46.1	3,910	1.3
Connecticut	1,040	3,190	3,630	2,530	10,400	173,000	800	-22.8	2,990	-6.5	3,220	-11.5
Delaware	W	W	W	W	W	W	W	W	W	W	W	W
Florida	23,500	23,100	20,200	21,300	88,100	1,730,000	21,200	-9.7	21,100	-8.7	20,200	-0.2
Georgia	14,200	17,800	15,900	14,400	62,200	1,690,000	13,100	-7.5	15,000	-15.6	16,600	4.1
Hawaii	(⁵)	(⁵)	(⁵)	(⁵)	5,940	153,000	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Idaho	396	1,770	1,350	1,280	4,790	39,500	377	-4.9	1,330	-24.5	1,320	-2.2
Illinois	6,310	13,000	15,200	12,000	46,500	721,000	5,210	-17.5	12,400	-4.7	16,000	5.4
Indiana	8,390	14,600	15,900	13,200	52,100	734,000	7,400	-11.8	14,100	-3.6	16,900	5.9
Iowa	3,330	7,400	7,890	6,230	24,900	295,000	2,830	-15.2	7,380	-0.3	8,310	5.3
Kansas	4,020	5,030	4,720	4,590	18,400	193,000	2,590	-35.5	5,260	4.5	4,250	-10.1
Kentucky	9,880	13,700	14,000	11,700	49,200	759,000	7,460	-24.5	12,800	-6.8	16,000	14.7
Louisiana	W	W	W	W	W	W	W	W	W	W	W	W
Maine	309	1,340	1,590	1,120	4,360	57,300	270	-12.4	1,480	10.0	1,710	7.5
Maryland	3,770	5,970	5,490	4,950	20,200	351,000	4,010	6.4	6,350	6.5	6,800	23.7
Massachusetts	1,110	4,190	4,500	3,240	13,000	246,000	697	-37.0	3,860	-8.0	4,130	-8.3
Michigan	3,310	9,850	11,000	7,500	31,700	382,000	2,700	-18.6	9,090	-7.7	9,760	-11.6
Minnesota	221	2,290	3,240	1,650	7,400	104,000	255	15.3	1,940	-15.3	3,130	-3.4
Mississippi	489	597	475	486	2,050	93,000	400	-18.1	617	3.3	689	44.9
Missouri	16,600	20,500	21,900	18,200	77,200	753,000	14,900	-10.0	20,700	1.0	23,800	8.7
Montana	(⁵)	(⁵)	(⁵)	(⁵)	2,720	43,500	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Nebraska	W	W	W	W	W	W	W	W	W	W	W	W
Nevada	1,970	1,990	2,140	2,280	8,390	119,000	1,930	-2.1	2,450	23.1	2,490	16.6
New Hampshire	625	1,270	1,580	938	4,400	79,200	448	-28.3	1,300	2.7	1,470	-6.7
New Jersey	2,860	4,950	5,450	4,310	17,600	374,000	2,310	-19.2	4,760	-3.8	5,550	1.8
New Mexico	621	2,750	895	780	5,050	79,200	563	-9.4	788	-71.4	962	7.5
New York	5,330	11,400	13,500	10,700	41,000	678,000	5,090	-4.5	13,400	16.8	15,300	13.1
North Carolina	15,200	19,000	16,200	17,400	67,900	1,790,000	15,200	0.2	14,900	-21.4	18,800	15.7
North Dakota	(⁵)	(⁵)	(⁵)	(⁵)	389	4,380	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Ohio	12,200	20,000	21,800	18,200	72,200	1,100,000	10,400	-14.2	19,600	-2.0	23,700	8.9
Oklahoma	9,410	10,000	10,800	9,730	40,000	451,000	8,600	-8.7	9,500	-5.3	12,100	12.2
Oregon	4,820	7,040	6,650	4,990	23,500	319,000	4,060	-15.8	5,830	-17.2	7,300	9.7
Pennsylvania	14,200	24,100	27,200	22,100	87,600	1,790,000	13,500	-4.9	25,100	4.5	27,700	1.8
Rhode Island	263	682	577	497	2,020	29,000	255	-3.1	529	-22.4	620	7.4
South Carolina	8,260	9,690	9,050	8,320	35,300	823,000	8,340	1.0	8,560	-11.7	10,100	11.9
South Dakota	505	2,330	2,630	1,690	7,160	74,600	453	-10.2	2,090	-10.2	2,570	-2.2
Tennessee	12,600	15,900	16,000	14,700	59,200	1,340,000	13,700	8.7	16,500	4.1	18,800	17.8
Texas	45,800	48,200	51,700	46,600	192,000	3,410,000	44,000	-4.0	48,400	0.3	54,500	5.4
Utah	1,740	3,270	3,140	2,580	10,700	130,000	1,650	-5.1	4,080	24.7	3,480	10.8
Vermont	327	1,670	3,310	1,630	6,940	104,000	288	-12.0	1,580	-5.3	2,000	-39.7
Virginia	11,000	14,800	13,600	13,800	53,300	1,300,000	10,900	-0.8	14,300	-3.3	16,400	20.5
Washington	2,970	4,270	5,120	3,980	16,300	245,000	2,900	-2.2	4,250	-0.4	3,810	-25.6
West Virginia	3,000	3,760	3,650	3,310	13,700	219,000	2,770	-7.5	3,750	-0.3	3,870	6.1
Wisconsin	7,510	7,120	7,640	6,160	28,400	329,000	7,680	2.3	7,300	2.6	7,120	-6.8
Wyoming	922	2,250	2,510	1,820	7,500	68,900	754	-18.1	1,820	-19.2	2,450	-2.3
Total²	295,000	405,000	412,000	359,000	1,470,000	25,800,000	277,000	-6.0	384,000	-5.2	441,000	6.9

¹Data may not add to totals shown because of independent rounding and differences between projected totals by States and divisions.

²Estimates based on data from the 2023 Minerals Yearbook.

³Dollar value estimates based on data from the 2023 Minerals Yearbook.

⁴Compared with the same period of preceding year; all percentages are calculated using unrounded totals.

⁵State not included in quarterly survey.

TABLE 3. Construction sand and gravel sold or used by producers in the United States, by division.
[Quarterly totals shown are estimates based on a sample survey. Estimated quantities for prior quarters have been recalculated. Data are in thousand metric tons and thousand dollars.]

Region/Division ¹	2024					2025					
	Quantity				Value 1st–4th qtr. ^{2,3}	Quantity				Percent change ⁵	
	1st qtr.	2d qtr.	3d qtr.	4th qtr.		1st–4th qtr. ^{2,4}	1st qtr.	2d qtr.	3d qtr.		
Northeast											
New England	1,910	7,140	10,500	6,710	39,000	563,000	1,540	8,170	10,500	14.4	-0.4
Middle Atlantic	8,090	14,200	14,800	11,400	48,400	724,000	6,790	14,100	15,400	-0.3	4.1
Midwest											
East North Central	10,300	27,500	31,400	21,700	118,000	1,250,000	9,030	28,800	32,100	5.0	2.2
West North Central	7,940	25,400	34,700	22,700	102,000	944,000	7,380	24,400	35,200	-3.8	1.4
South											
South Atlantic	15,900	18,400	16,200	15,200	72,800	1,080,000	14,500	15,600	16,700	-14.8	3.4
East South Central	4,690	7,010	6,840	5,940	39,200	555,000	4,280	7,080	8,480	1.0	23.9
West South Central	29,800	33,300	33,700	30,700	127,000	1,930,000	28,500	33,500	36,500	0.5	8.2
West											
Mountain	31,300	56,300	56,900	43,800	188,000	2,660,000	30,500	52,900	55,300	-6.0	-2.7
Pacific	29,200	39,100	40,900	33,300	143,000	2,450,000	28,800	36,900	38,100	-5.7	-7.0
Total ⁶	166,000	247,000	260,000	210,000	883,000	12,200,000	158,000	237,000	262,000	-4.0	0.9

¹Sales region equivalent to U.S. Census Bureau Geographic Division as follows: New England (CT, MA, ME, NH, RI, VT); Middle Atlantic (NJ, NY, PA); East North Central (IL, IN, MI, OH, WI); West North Central (IA, KS, MN, MO, NE, ND, SD); South Atlantic (DE, FL, GA, MD, NC, SC, VA, WV); East South Central (AL, KY, MS, TN); West South Central (AR, LA, OK, TX); Mountain (AZ, CO, ID, MT, NM, NV, UT, WY); Pacific (CA, OR, WA).

²Data may not add to totals shown because of independent rounding and differences between projected totals by States and by divisions.

³Estimates based on data from the 2023 Minerals Yearbook

⁴Dollar value estimates based on data from the 2023 Minerals Yearbook

⁵Compared with same period of preceding year; all percentages are calculated using unrounded totals.

⁶Includes all 50 States.

TABLE 4. Construction sand and gravel sold or used by producers in the United States, by state.

[Quarterly totals shown are estimates based on a sample survey. Estimated quantities for prior quarters have been recalculated. Data are in thousand metric tons and thousand dollars.]

State	2024					2025						
	Quantity					Value	Quantity	Percent	Quantity	Percent	Quantity	Percent
	1st qtr.	2d qtr.	3d qtr.	4th qtr.	1st–4th qtr. ^{1,2}	1st–4th qtr. ^{1,3}	1st qtr.	change ⁴	2d qtr.	change ⁴	3d qtr.	change ⁴
Alabama	(⁵)	(⁵)	(⁵)	(⁵)	14,700	205,000	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Alaska	(⁵)	(⁵)	(⁵)	(⁵)	5,060	63,700	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Arizona	10,700	13,000	11,500	10,600	45,900	785,000	10,300	-4.2	13,000	-0.3	12,200	6.2
Arkansas	1,580	1,930	2,030	1,940	7,480	100,000	1,560	-1.1	2,030	5.0	2,060	1.5
California	19,900	26,100	27,100	22,300	95,300	1,720,000	20,100	1.2	25,300	-3.0	26,300	-2.8
Colorado	4,720	9,720	9,660	7,410	31,500	455,000	5,170	9.5	8,570	-11.9	9,770	1.2
Connecticut	527	1,390	1,610	1,340	4,860	80,100	391	-25.9	1,370	-1.5	1,770	9.8
Delaware	406	754	964	521	2,650	25,800	321	-20.9	615	-18.4	523	-45.8
Florida	7,260	6,770	5,350	5,380	24,800	451,000	5,910	-18.6	5,960	-12.0	6,190	15.8
Georgia	(⁵)	(⁵)	(⁵)	(⁵)	7,100	82,600	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Hawaii	(⁵)	(⁵)	(⁵)	(⁵)	630	22,700	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Idaho	2,980	8,230	9,340	5,990	26,500	227,000	3,070	2.9	6,780	-17.6	7,450	-20.2
Illinois	1,110	3,540	4,390	3,350	12,400	146,000	1,110	0.2	4,180	18.1	5,170	17.8
Indiana	2,650	4,500	4,880	3,280	15,300	201,000	1,960	-26.1	3,950	-12.1	4,360	-10.6
Iowa	1,130	2,780	3,390	2,400	9,700	105,000	880	-22.1	3,140	13.1	3,620	6.8
Kansas	1,790	2,480	2,630	2,190	9,080	101,000	1,420	-21.0	2,660	7.4	2,270	-13.5
Kentucky	1,400	2,240	2,180	1,860	7,690	87,500	978	-30.3	2,000	-11.1	2,950	35.0
Louisiana	3,470	3,700	3,360	3,120	13,700	198,000	2,990	-13.9	3,620	-2.4	4,470	33.1
Maine	362	2,400	4,370	2,640	9,770	106,000	322	-11.0	3,410	42.3	5,730	31.1
Maryland	1,010	1,330	1,270	1,120	4,720	100,000	859	-15.1	1,490	12.0	1,420	12.0
Massachusetts	(⁵)	(⁵)	(⁵)	(⁵)	9,200	141,000	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Michigan	2,830	11,900	13,900	8,760	37,400	323,000	2,600	-8.1	13,200	10.6	14,000	0.8
Minnesota	1,430	12,000	19,600	11,000	44,100	341,000	1,590	11.5	10,000	-16.5	19,800	1.0
Mississippi	1,840	2,670	2,390	2,270	9,170	102,000	1,780	-3.5	2,760	3.7	2,950	23.3
Missouri	1,400	2,320	2,480	1,910	8,120	95,900	1,380	-1.8	2,650	14.2	2,700	8.5
Montana	942	3,170	3,670	2,010	9,790	133,000	643	-31.7	2,650	-16.3	3,160	-14.0
Nebraska	1,560	2,710	2,860	2,660	9,780	136,000	1,390	-11.1	2,830	4.5	2,870	0.4
Nevada	3,240	5,510	4,850	4,360	18,000	192,000	2,810	-13.2	5,820	5.7	5,770	19.0
New Hampshire	915	2,020	2,760	1,660	7,360	111,000	689	-24.7	2,080	2.8	1,710	-38.3
New Jersey	2,180	3,880	3,880	2,460	12,400	152,000	1,710	-21.5	3,140	-19.0	3,280	-15.6
New Mexico	2,100	4,150	3,580	3,020	12,800	215,000	1,990	-5.2	2,870	-30.7	3,360	-5.9
New York	4,080	7,610	8,220	6,520	26,400	448,000	3,750	-7.9	8,170	7.4	9,290	13.1
North Carolina	2,360	3,140	2,750	2,780	11,000	112,000	2,300	-2.3	2,590	-17.6	2,900	5.4
North Dakota	(⁵)	(⁵)	(⁵)	(⁵)	11,100	80,500	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Ohio	3,730	7,490	8,210	6,270	25,700	348,000	3,360	-9.9	7,520	0.3	8,520	3.8
Oklahoma	2,630	3,400	3,530	3,070	12,600	159,000	2,800	6.2	3,000	-11.9	3,560	0.9
Oregon	2,440	3,640	3,590	2,670	12,300	198,000	2,030	-16.8	2,870	-21.2	3,320	-7.4
Pennsylvania	1,830	2,670	2,670	2,390	9,570	124,000	1,330	-27.8	2,800	4.8	2,800	4.8
Rhode Island	(⁵)	(⁵)	(⁵)	(⁵)	3,500	68,900	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
South Carolina	2,620	3,620	3,530	3,250	13,000	142,000	3,350	27.6	2,510	-30.7	3,680	4.1
South Dakota	629	3,120	3,720	2,490	9,960	84,200	729	15.9	3,140	0.5	3,890	4.4
Tennessee	1,450	2,100	2,270	1,810	7,620	161,000	1,520	4.9	2,320	10.6	2,580	13.8
Texas	22,100	24,300	24,800	22,500	93,700	1,470,000	21,200	-4.1	24,900	2.4	26,400	6.4
Utah	5,440	8,950	10,200	7,810	32,400	522,000	5,440	0.2	9,710	8.5	9,970	-2.0
Vermont	110	1,330	1,790	1,080	4,310	56,100	141	28.3	1,310	-1.7	1,290	-28.0
Virginia	2,060	2,540	2,120	2,020	8,740	157,000	1,630	-20.7	2,280	-10.3	1,810	-15.0
Washington	6,920	9,430	10,300	8,300	34,900	534,000	6,710	-3.0	8,740	-7.4	8,440	-17.9
West Virginia	151	209	204	179	742	8,570	112	-25.5	203	-2.5	225	10.4
Wisconsin	(⁵)	(⁵)	(⁵)	(⁵)	26,900	230,000	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
Wyoming	1,210	3,550	4,100	2,620	11,500	127,000	1,110	-8.0	3,530	-0.5	3,620	-11.7
Total ²	166,000	247,000	260,000	210,000	883,000	12,200,000	158,000	-4.7	237,000	-4.0	262,000	0.9

¹Data may not add to totals shown because of independent rounding and differences between projected totals by States and divisions.

²Estimates based on data from the 2023 Minerals Yearbook.

³Dollar value estimates based on data from the 2023 Minerals Yearbook.

⁴Compared with the same period of preceding year; all percentages are calculated using unrounded totals.

⁵State not included in quarterly survey.

TABLE 5. Construction aggregates sold or used by producers in the United States, by division.

[Quarterly totals shown are estimates based on a sample survey. Estimated quantities for prior quarters have been recalculated. Data are in thousand metric tons and thousand dollars.]

Region/Division ¹	2024					2025				
	Quantity					Percent change ⁵				
	1st qtr.	2d qtr.	3d qtr.	4th qtr.	1st–4th qtr. ^{2,3}	Value	Quantity	1st qtr.	2d qtr.	Percent change ⁵
Northeast										
New England	5,580	19,976	25,728	16,662	80,157	1,251,859	4,301	-22.9	19,899	-0.4
Middle Atlantic	30,500	54,600	61,000	48,500	195,000	3,570,000	27,700	-9.1	57,400	5.1
Midwest										
East North Central	48,000	92,100	103,000	78,700	349,000	4,520,000	42,400	-11.5	91,300	-0.8
West North Central	35,700	68,100	81,000	59,900	245,000	2,510,000	31,400	-12.1	66,500	-2.2
South										
South Atlantic	94,800	113,000	101,000	98,800	414,000	9,010,000	90,100	-5.0	99,700	-11.4
East South Central	35,900	47,900	47,500	41,900	188,000	3,480,000	34,100	-5.1	46,600	-2.7
West South Central	92,500	101,000	106,000	96,000	395,000	6,260,000	88,900	-3.8	101,000	0.4
West										
Mountain	41,500	76,300	74,400	58,300	253,000	3,510,000	39,900	-3.7	69,100	-9.4
Pacific	45,100	61,700	64,800	51,900	223,000	3,670,000	43,400	-3.7	58,000	-5.9
Total⁶	460,000	652,000	672,000	569,000	2,350,000	38,000,000	435,000	-5.5	621,000	-4.8

¹Sales region equivalent to U.S. Census Bureau Geographic Division as follows: New England (CT, MA, ME, NH, RI, VT); Middle Atlantic (NJ, NY, PA); East North Central (IL, IN, MI, OH, WI); West North Central (IA, KS, MN, MO, NE, ND, SD); South Atlantic (DE, FL, GA, MD, NC, SC, VA, WV); East South Central (AL, KY, MS, TN); West South Central (AR, LA, OK, TX); Mountain (AZ, CO, ID, MT, NM, NV, UT, WY); Pacific (CA, OR, WA).

²Data may not add to totals shown because of independent rounding and differences between projected totals by States and by divisions.

³Estimates based on data from the 2023 Minerals Yearbook

⁴Dollar value estimates based on data from the 2023 Minerals Yearbook.

⁵Compared with same period of preceding year; all percentages are calculated using unrounded totals.

⁶Includes all 50 States.

APPENDIX V

**MDOT**

Martin Luther King Jr. Street Partial Bridge Replacement

About the project

The Martin Luther King Jr. Street partial bridge replacement involves rebuilding approximately 700 feet of the Martin Luther King Jr. Street bridge east of US-131. This section of the bridge was built in the 1920s to cross the numerous railroad tracks that are still prominent in this area. Some of the original bridge components are still in place from the early 20th century.

The adjacent western section of the bridge over Century Avenue and US-131 was rebuilt with the construction of the freeway in the late 1950s and is not included in this project.

The bridge will be closed with traffic detoured via Hall Street, Division Avenue and Wealthy Street. The northbound US-131 on and off ramps will be closed during the project; the southbound on and off ramps will remain open.

Project details

Schedule

Spring - November 2026

Location

City of Grand Rapids
Kent County

Cost

\$30 million

Benefits

Increase safety
Improve ride quality
Extend bridge service life

Lane closures and detours

- **Large truck detour:**
 - **West of US-131:** Eastbound Hall Street, northbound Century Avenue, westbound Logan Street and northbound Ceaser E. Chavez Avenue to eastbound Wealthy Street.
 - **East of US-131:** Northbound Hynes Avenue, eastbound Wallen Avenue/Canton Street and southbound Buchanan Avenue to westbound Hall Street.
- **Vehicular:** Division Avenue, Hall Street and Century Avenue.
- **Pedestrians:** Use the existing sidewalk network to access Hall Street approximately one-half mile south of the Martin Luther King Jr. Street bridge.
- **Bicyclists:** Ionia Avenue, Cherry Street and Century Avenue.

[Check current lane closures on Mi Drive](#) >

Follow this project



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[Follow us on X](#)



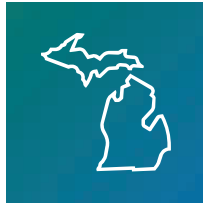
[Sign up for e-mail updates](#)

Project questions? Contact [John Richard](#), Grand Region Communications Representative, or the Grand Region at 616-451-3091.



Martin Luther King Jr. Street Partial Bridge Replacement

Copyright State of Michigan

**MDOT**

M-37 Rebuilding - Caledonia

MDOT, in partnership with Caledonia Township and the Kent County Road Commission, is rebuilding 2.7 miles of M-37 (Broadmoor Avenue) in Caledonia Township and the village of Caledonia. The project will extend the existing boulevard that ends north of 76th Street to 92nd Street to address operational and safety needs in this growing area. Improvements include:

- Widen to a four-lane boulevard with indirect left-turns (Michigan left).
- Improve intersections for better traffic flow.
- Install new traffic signals at 92nd, 84th and 76th streets to improve access along M-37 and at the 84th Street and Cherry Valley Avenue intersection.
- Improve nonmotorized trails and connectivity, including a new multi-use path along the west side of M-37 at 84th Street.

[M-37 Environmental Assessment](#)

Project details

Schedule

Spring 2026 - Fall 2027

Location

Caledonia
Kent County

Cost

\$50 million (estimated)

Benefits

Improved safety
Improved mobility

Know before you go!

Check Mi Drive for current lane closures



M-37 Rebuilding - Caledonia

Copyright State of Michigan

**MDOT**

I-96 Rebuilding - Ionia County

About this project

MDOT is investing approximately \$105 million to rebuild 8 miles of I-96 between Bliss Road and Sunfield Road. Work includes rebuilding the roadway, drainage improvements, new culverts, new guardrail, concrete curb and gutter, and improvements on the Jordan Lake Road bridge over I-96.

Project details

Schedule

June 2024 - November 2026

Location

Ionia County

Cost

\$105 million

Benefits

Increased safety
Extended roadway service life

Project map and information

Traffic impacts

- Lane closures, traffic shifts, and ramp closures will be in effect throughout the project.
- Jordan Lake Road is closed over I-96.
- On and off ramps are open.

[Check current lane closures on Mi Drive](#) >

Additional information

The [I-96 project in Ionia County](#) is made possible by Gov. Gretchen Whitmer's [Rebuilding Michigan program](#) to rebuild the state highways and bridges that are critical to the state's economy and carry the most traffic. The investment strategy is aimed at fixes that result in longer useful lives and improves the condition of the state's infrastructure.

Follow this project



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[Sign up for e-mail updates](#)

Project questions? Contact [John Richard](#), Media Representative, or the Grand Rapids TSC at 616-464-1800.



I-96 Rebuilding - Ionia County

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APPENDIX VI



Michigan Department
of Transportation

2026-2030 Five-Year Transportation Program





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Accessibility Notice:

If you require assistance accessing this information or require it in an alternative format, contact the Michigan Department of Transportation’s (MDOT) Americans with Disabilities Act (ADA) coordinator at Michigan.gov/MDOT-ADA.

Introduction from Director Brad Wieferich

Dear Reader:

The Michigan Department of Transportation (MDOT) is pleased to present the 2026-2030 Five-Year Transportation Program (5YTP). MDOT updates the 5YTP annually to give the public an opportunity to provide input on MDOT's progress toward creating and maintaining an equitable, resilient and sustainable transportation system. As required under state statute, this includes a list of transportation projects under MDOT's authority that are planned for funding and construction over the next five years and represent a \$16.1 billion total investment in multimodal transportation.

In the 2025-2029 5YTP, MDOT began providing updates regarding its Strategic Plan that better connect the mobility vision established in the State Long-Range Transportation Plan (SLRTP) - Michigan Mobility 2045 (MM2045) - with the recently updated MDOT mission. MDOT has made progress in connecting aspects of the Strategic Plan as they relate to program development and how these improvements will help address the challenges faced by the department to make transportation safer, more reliable and efficient across the state of Michigan.

These include in-process updates to MDOT's investment strategy, the expansion from a five-year transportation program to a 10-year multimodal capital plan, and new key performance indicators (KPIs) linked to SLRTP goals and objectives. Once implemented, these strategic enhancements will help ensure that MDOT's resources are invested where they are most needed and are in alignment with our established long-range goals and objectives.

Public participation is, and will continue to be, integral to making efficient, effective and responsive transportation decisions, and MDOT will continue to provide public comment opportunities through the [MDOT website](#), social media accounts and project-level public meetings. We look forward to this new chapter in our program development process and anticipate providing updates through the 5YTP and other sources as progress continues.

Sincerely,



Bradley C. Wieferich, P.E.
Director



"MDOT has made progress in connecting aspects of the Strategic Plan as they relate to program development and how these improvements will help address the challenges faced by the department."

5YTP Requirements, Objectives and Process

5YTP Requirements and Objectives

The MDOT 5YTP includes a state-required list of projects and provides a high-level overview of planned investments in trunkline transportation programs and projects over a five-year period. Produced annually, each 5YTP overlaps across a four-year interval, while adding a fifth year of projects. This document provides information on investments for the five-year period spanning 2026-2030.

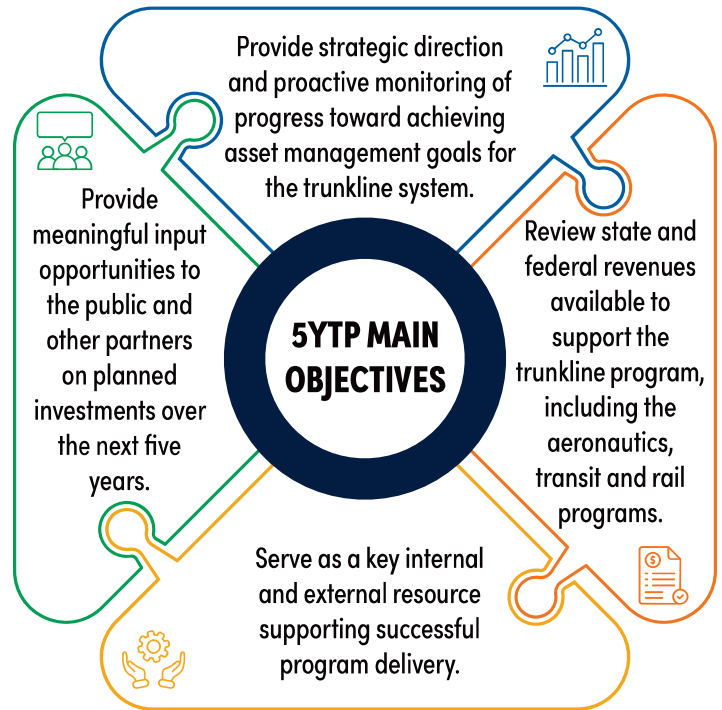
The 5YTP covers all components of the transportation network for which MDOT is responsible, including highways, bridges and other structures on the trunkline¹ system, as well as bus, rail, aviation, marine and active transportation. The 5YTP informs the federally required [State Transportation Improvement Program \(STIP\)](#), providing the foundation for short-range planning and program development. The investment strategies, goals and projects highlighted in these pages are established to be consistent with [MM2045](#) and [State Transportation Commission \(STC\)](#) goals and policies, ensuring a comprehensive approach to decision-making that prioritizes preservation of the transportation network and a safe and connected system for Michigan's citizens.

MDOT's mission of "serving and connecting people, communities and the economy through transportation" can only be accomplished when key partners are identified and brought into the planning process. The 5YTP provides this opportunity each year, with a 30-day comment period during the summer season. The feedback received is recorded, responded to and summarized in the final document that is delivered to the Michigan Legislature before March 1.

5YTP Process

The 5YTP is a rolling, year-long, multi-stage development process that connects the goals, objectives, policies and programs of statewide planning with input from the public and sets the stage for successful program delivery and evaluation. Each year, the first year of projects is implemented, a new year is added, and program and project adjustments are made to the other years, as required. The steps in this process are shown below. More information can be found on the [MDOT 5YTP webpage](#).

5YTP Process



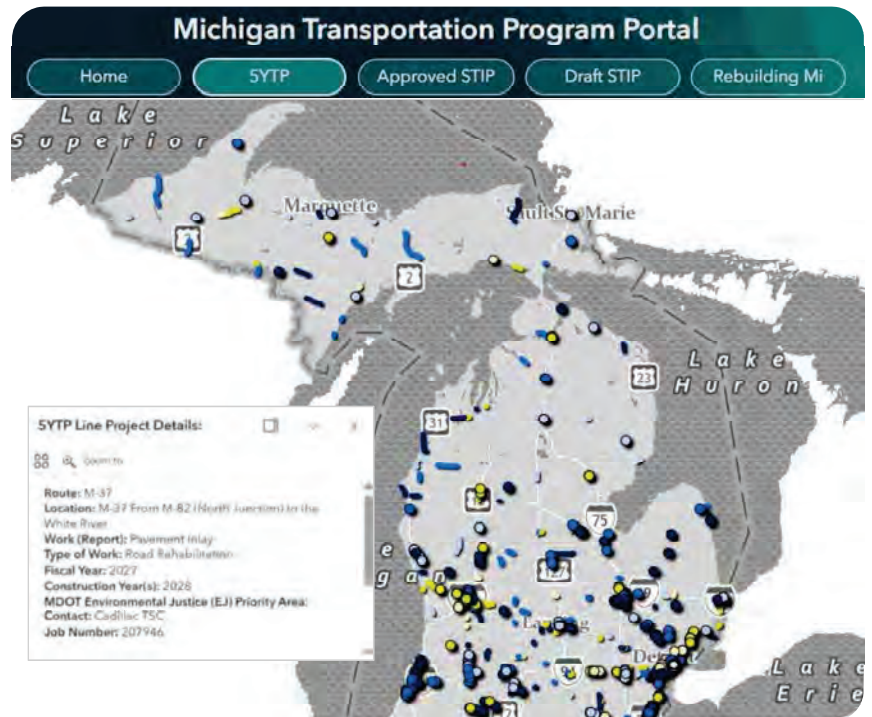
¹ As of 2025, the MDOT trunkline transportation network includes nearly 10,000 route miles of pavement and 4,800 structures, such as bridges, culverts, signals and signs, as well as other assets on Michigan roadways that begin with an I, US or M prefix.

Michigan Transportation Program Portal

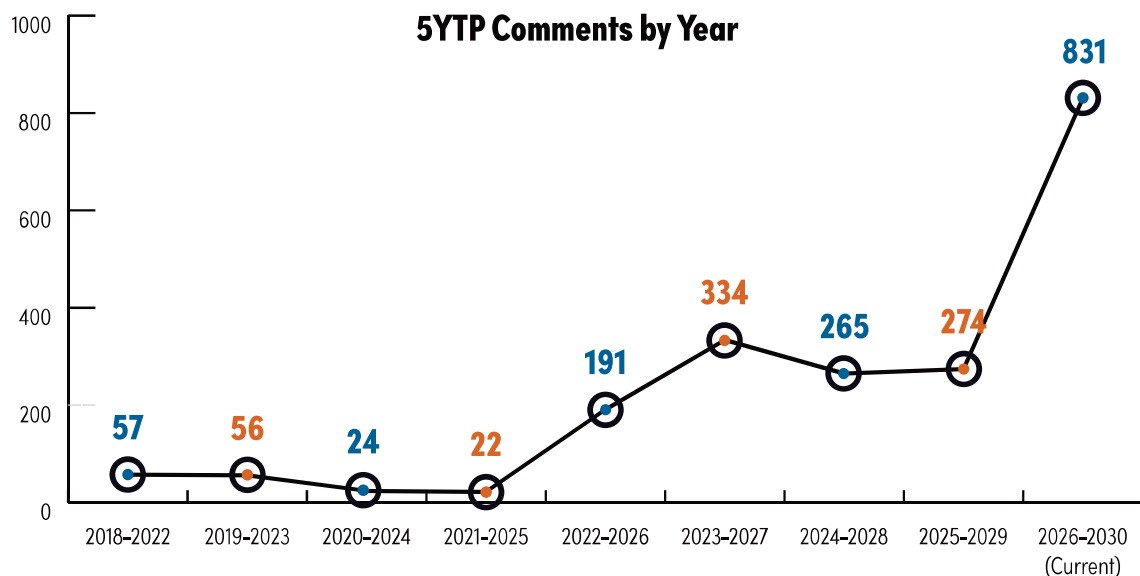
In early 2020, MDOT began assembling its requirements for a new ArcGIS-based platform that combined information on the 5YTP, STIP and supporting information into one site, making input and involvement both easier and more transparent. This new interface, the [Michigan Transportation Program Portal \(MTPP\)](#), includes interactive maps, tables and figures and other important information for each program, alongside the ability to provide comment at designated times. The MTPP is the primary tool for receiving comments on the 5YTP.

A major part of the 5YTP process is providing the public and partners with the opportunity to review and comment on MDOT's planned investments over the next five years. For the 5YTP, the MTPP interactive map includes only trunkline road and bridge projects that are in the Project Lists section of the document, shown as points (bridges and other structures) or lines (road segments) over the road network, color coded by year of funding obligation.

Project details are displayed in a pop-up once a line or point is clicked on and include route or structure location, type of work, the structure and/or job number, the fiscal year funds anticipated to be obligated, calendar year(s) for construction and point of contact. During the comment period, a link in the pop-up will take the commenter to a survey where they can leave feedback and request a response from MDOT.



Since the rollout of the MTPP for the 2022-2026 5YTP, MDOT has experienced a large increase in comments it receives during the program comment period. The MTPP reinforces MDOT's longstanding leadership and commitment to enhancing online government services and improving overall user experience for state residents, businesses and visitors.



Public Outreach and Engagement

The 5YTP team works with the [MDOT Office of Communications](#) as well as its local partners and seven region offices (Bay, Grand, Metro, North, Southwest, Superior and University) to distribute announcements about public input opportunities and collect comments for a 30-day period. The following includes the results and feedback received this year.

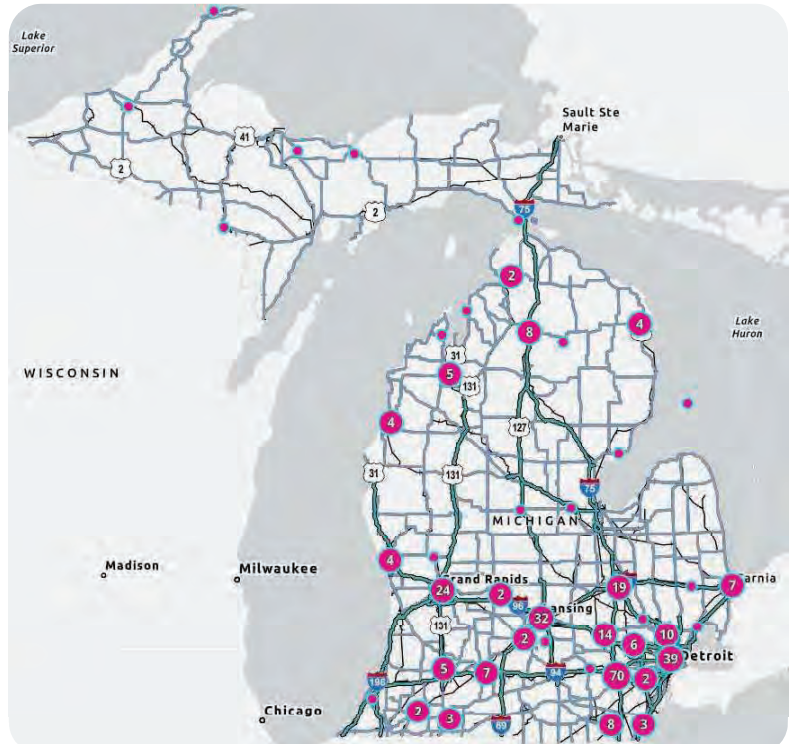
Following approval by the STC on July 31, MDOT posted the draft 5YTP document and the interactive project map online and invited comments for 30 days. Outreach to support the comment period included issuing a news release distributed by email and social media, a schedule of social media posts focusing on key highlights of the 5YTP, and presentations to businesses, local governments and community groups, by request.

Between Aug. 1 and Sept. 1, MDOT received 831 public comments on the draft 5YTP. To promote awareness of and participation in the comment period, MDOT posted 24 social media posts with 12 each on Facebook and Twitter/X. Each post included a link to the 5YTP webpage where options for submitting comments were provided. Resources for persons who require accessibility assistance were also publicized.

During the comment period, social media posts reached a total of 969,621 people, with 959,604 through Facebook and 10,017 through Twitter/X. Of this total, 4,098 engaged in some form over Facebook, including likes, shares, comments and clicks on the provided links to the MDOT 5YTP webpage. Corresponding data for Twitter/X was not available due to the monetary cost of acquisition.

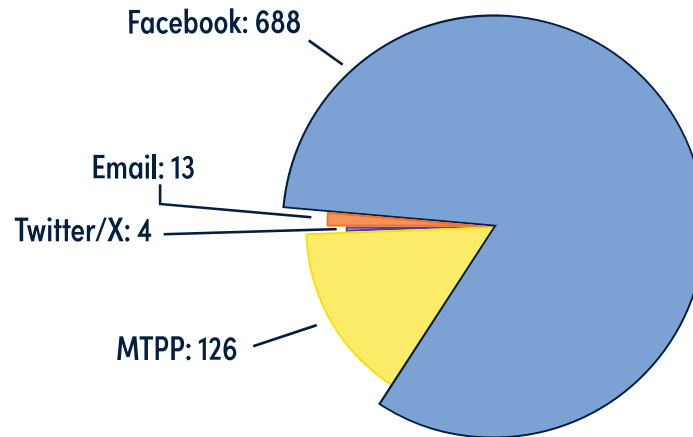
Content for the 5YTP is provided both in a dynamic web format across four webpages, including the MTPP, and in a PDF format on the main 5YTP page. MDOT received a total of 13,583 views, with 7,837 users on the 5YTP pages and 5,746 views of the interactive map provided through the MTPP. The 2026-2030 PDF document had 2,129 downloads with an additional 773 downloads of other documentation available on the 5YTP webpages. The type of device used to access the webpages was tracked, with 72.3 percent using a mobile device, 21.5 percent using a desktop, and 6.2 percent using a tablet. A similar distribution for device type usage was observed for document downloads.

Comments received by platform and the common themes that emerged over the four-week comment period are shown and detailed on the next page.

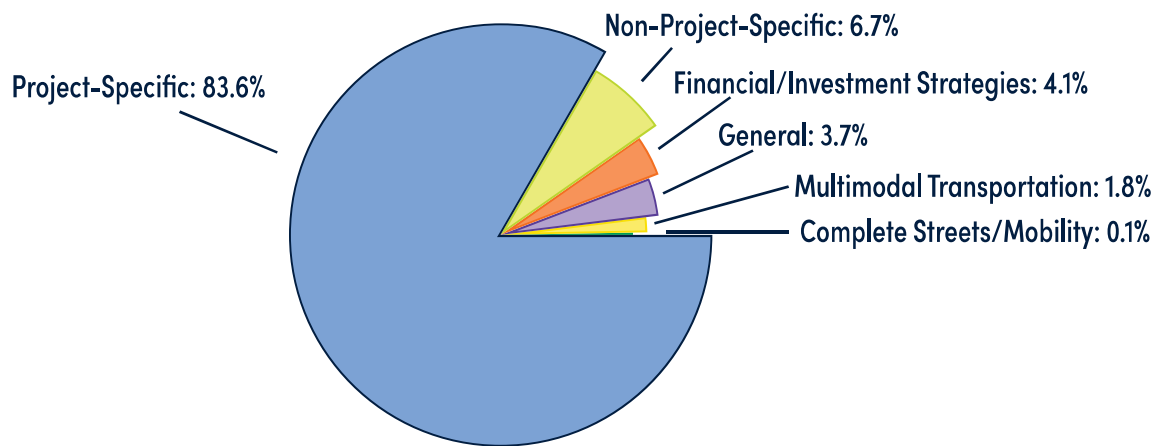


*Comments excluded where location was not provided or available.

2026-2030 5YTP Comments by Source



2026-2030 5YTP Comments by Theme



Key Engagement Themes (All Comments and Platforms)

Project-Specific, 695 Comments, 83.6 Percent of Total Comments

Topic	Comments	% of Total
General Project Comment and/or Question (Including Project Opposition and Support)	355	42.7%
Concern with Design, Safety and/or Congestion-Related to Project	192	23.1%
Request for Additions and/or Changes on Project	81	9.7%
Concern Over Road/Bridge Conditions on Project	32	3.9%
Support for More Safety and/or Mobility Infrastructure on Project (Including Public Transportation)	28	3.4%
Guideline, Plan and/or Policy Update Impacting a Project	7	0.8%

Public Outreach and Engagement, Continued

Non-Project-Specific, 56 Comments, 6.7 Percent of Total Comments

Topic	Comments	% of Total
Request for Additions and/or Changes to Road or Bridge Not in Program	20	2.4%
Concern with Design, Safety and/or Congestion on Road/Bridge Not in Program	15	1.7%
Concern Over Road/Bridge Conditions on Road/Bridge Not in Program	9	1.1%
General Comment and/or Question on a Road or Bridge (Including Opposition and Support)	8	1.0%
Support for More Safety and/or Mobility Infrastructure (Including Public Transportation)	3	0.4%
General Guideline, Plan and/or Policy Updates	1	0.1%

Financial/Investment Strategies, 33 Comments, 4.1 Percent of Total Comments

Topic	Comments	% of Total
Comment and/or Question (Including Opposition and Support)	18	2.2%
Highway Program Investment Support	7	0.9%
Support for More Safety and/or Mobility Infrastructure Investments (Including Public Transportation)	5	0.6%
Funding Guideline, Plan and/or Policy Update	3	0.4%

General, 31 Comments, 3.7 Percent of Total Comments

Topic	Comments	% of Total
General Comment and/or Question (Including Opposition and Support)	18	2.2%
General Guideline, Plan and/or Policy Updates	6	0.7%
General Concern with Design, Safety and/or Congestion	4	0.5%
General Program Support	2	0.2%
General Concern Over Road/Bridge Conditions	1	0.1%

Multimodal Transportation, 15 Comments, 1.8 Percent of Total Comments

Topic	Comments	% of Total
General Support for More Safety and/or Mobility Infrastructure (Including Public Transportation)	11	1.3%
General Comment and/or Question (Including Opposition and Support)	3	0.4%
Request for Additions and/or Changes to Service	1	0.1%

Complete Streets/Mobility, 1 Comment, 0.1 Percent of Total Comments

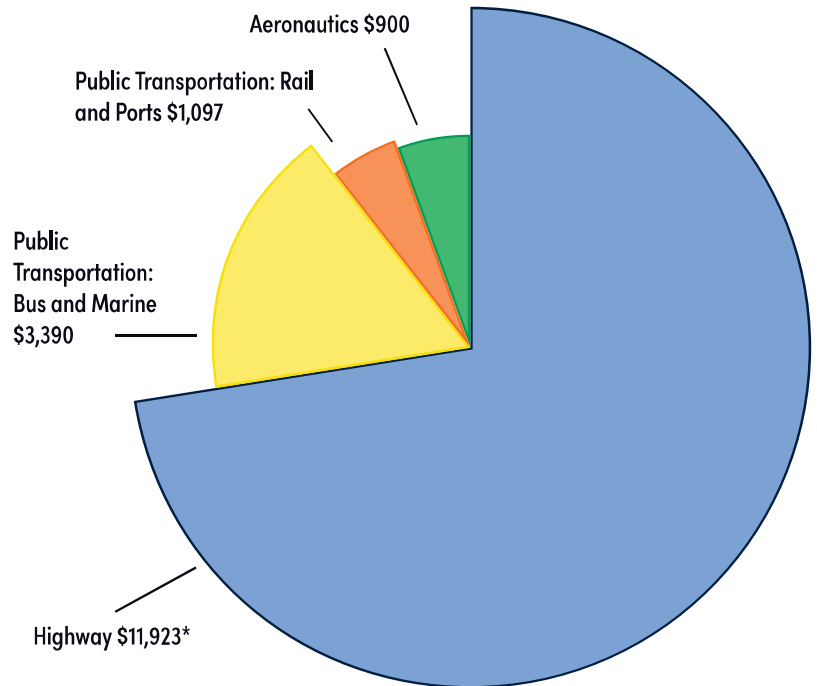
Topic	Comments	% of Total
Guideline, Plan and/or Policy Updates	1	0.1%

A full list of comments received on the 2026-2030 5YTP is available by request to MDOT-Five-Year-Program@Michigan.gov.

2026-2030 5YTP Funding Estimates

The MDOT 5YTP is financially supported by a combination of state and federal funding sources. Highway Program funding comes from the Federal Highway Administration's Highway Trust Fund, the State Trunkline Fund (STF), and state bond financing. The Public Transportation Program is funded with federal discretionary and formula programs and the Michigan Comprehensive Transportation Fund (CTF). Public Act 51 of 1951 (Act 51) mandates how state transportation funds credited to the Michigan Transportation Fund are distributed between MDOT and local entities and directs transportation revenue between the STF, local road agencies and the CTF. As of August 2025, the State of Michigan's total transportation funding available for FYs 2026-2030 is \$17.3 billion.

Estimated Total State and Federal Funding for 2026-2030 5YTP: \$17.3 Billion

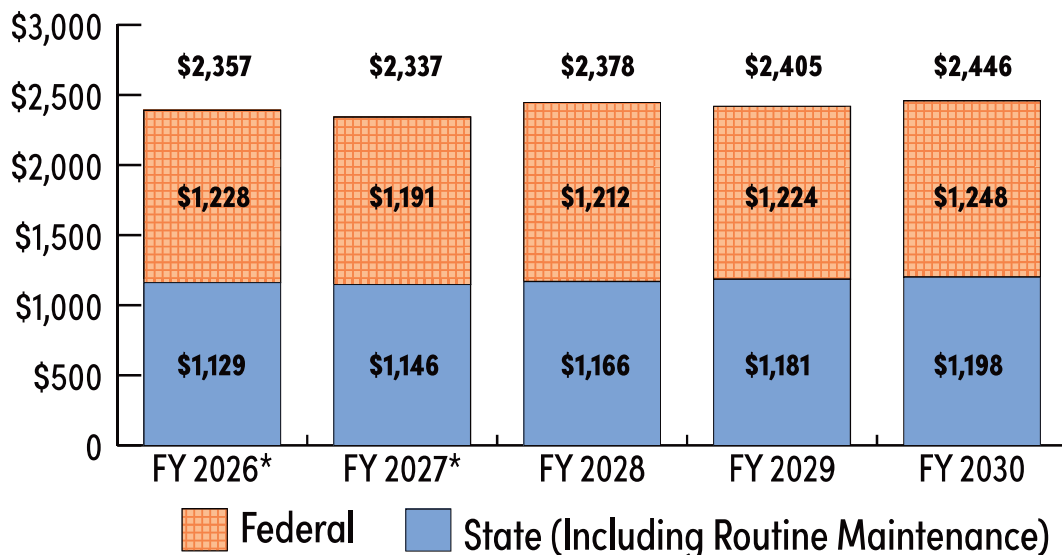


Highway Program Funding

The total federal and state highway program funding expected for the FY 2026-2030 5YTP is \$11.9 billion. Federal funding accounts for approximately 51 percent of this total and includes general fund (GF) appropriations from the Infrastructure Investment and Jobs Act (IIJA), discretionary grants awarded for specific projects, and an expected growth of approximately 1.1 percent annually from FY 2026 to 2030.

State revenues are expected to grow at approximately 1.5 percent annually and are supported by state fuel tax rates, state vehicle registration fees, \$235 million per year in an income tax redirect from the GF, and \$49 million per year in excise tax on recreational marijuana.

Estimated Trunkline Highway Capital Program Revenue Before Pre-Capital Uses: \$11.9 Billion



Highway Capital Program funding as of Aug. 31, 2025, and before \$1.9 billion in pre-capital costs, such as debt service.

*State funds include \$50,000 in FY 2026 and \$31 million in 2027 in Rebuilding Michigan Program (RBMP) bond financing.

Public Transportation Program Funding

The total federal and state Public Transportation Program funding (rail, intercity bus, public transit and marine/port) for FY 2026-2030 is \$4.5 billion.

For the intercity bus, public transit and marine/port programs, funding is estimated at \$3.4 billion. Federal funding estimates are based upon FY 2026 funds and programs available in the IIJA, with a small annual increase according to estimates provided by the Federal Transit Administration for funds allocated by formula. The CTF is the primary source of state funding for capital and operating expenses for Public Transportation.

For rail, funding is estimated at approximately \$1.1 billion. The IIJA provides competitive funding opportunities for passenger services, grade crossings, freight improvements and port projects but no ongoing federal revenue other than for grade crossing safety programs.

More about the CTF and funding for Public Transportation and Rail programs can be found on the [MDOT Mobility webpage](#).

Aeronautics Program Funding

The total federal and state Aeronautics Program funding is approximately \$900 million. Federal revenue is estimated based on the Federal Aviation Administration (FAA) Reauthorization Act of 2024 that reauthorized funding for FAA and aviation programs through FY 2028, with similar funding levels anticipated for FY 2029 and 2030. This includes the Airport Improvement Program (AIP) that has traditionally provided entitlement and discretionary grant funds to the 94 Michigan airports that are part of the National Plan of Integrated Airport Systems. State revenue comes from the State Aeronautics Fund, which includes revenue from sales and excise taxes on aviation fuel and the Airport Parking Tax (APT). The APT will sunset once the debt service on bonds it supports are repaid in 2032.



2026-2030 5YTP Investments

MDOT develops investment strategies accounting for factors that include revenue trends, achieving and maintaining a State of Good Repair (SOGR), federal and state law, level of service provided by the system, minimizing risks, and public input. For FY 2026-2030, MDOT is anticipating a total investment of \$16.1 billion, as shown in the chart below.

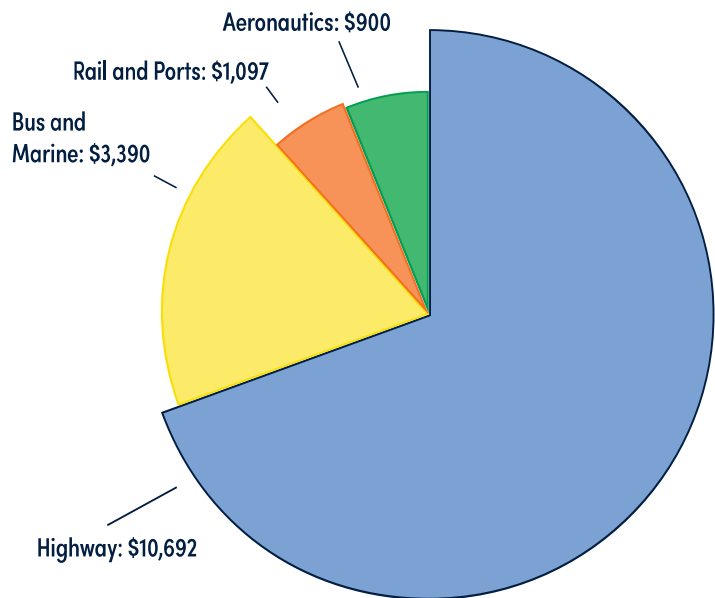
Highway Program Investment

MDOT's 2026-2030 Trunkline Highway Capital Program investment is estimated at approximately \$10.7 billion. This total reflects investments for pre-construction (scoping, design, environmental clearance and right-of-way acquisition) and construction activities but excludes pre-capital program costs valued at \$1.9 billion, such as debt service payments. This investment will provide Michigan travelers with an average of:

- 1,431 lane-mile improvements per year, covering:
 - Replacement and improvement of 211 lane miles per year,
 - Extending the life of 1,220 lane miles each year through capital preventive maintenance (CPM).
- Repair or replacement of 56 bridges per year.

Estimated Total 5YP Investment for 2026-2030

\$16.1 Billion



Trunkline Highway Capital Program (in millions)	FY 2026	Five-Year Total	Annual Average
Repair and Rebuild Roads*	\$1,338	\$5,029	\$1,006
Repair and Rebuild Bridges**	\$389	\$1,417	\$283
Routine Maintenance	\$504	\$2,648	\$529
System Safety, Management and Operations	\$211	\$929	\$186
Roadside Facilities	\$22	\$65	\$13
Additional State and Federally Funded Programs	\$123	\$604	\$121
Total	\$2,587	\$10,692	\$2,138

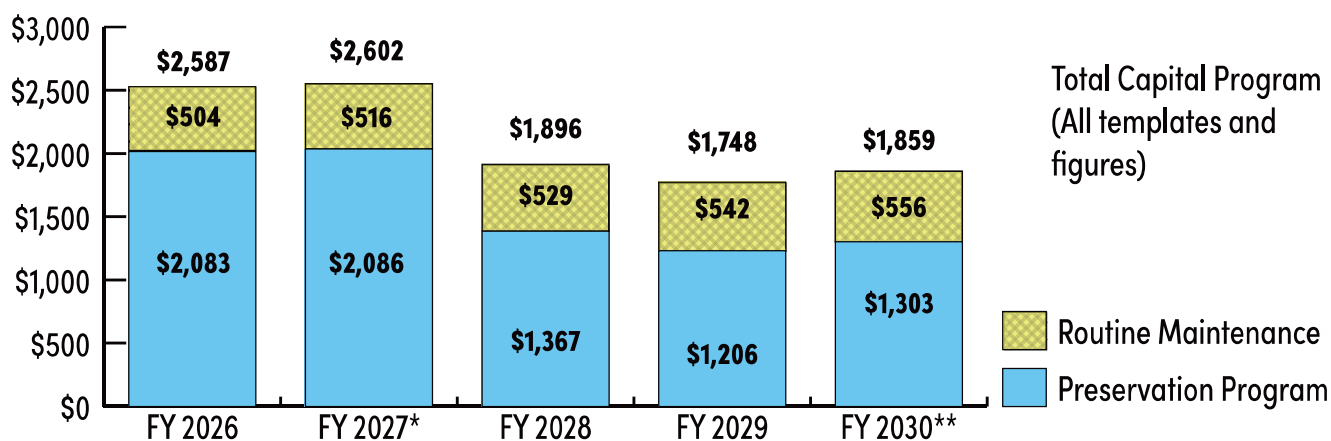
*Including Trunkline Modernization for I-94, with \$216 million in FY 2026 and \$749 million total.

**Includes \$90 million in FY 2026 and \$190 million total for ongoing work on the Blue Water Bridge (BWB) Plaza accounted for in previous years. Five-year totals are estimates as of Oct. 1, 2025, and include Routine Maintenance, BWB Plaza Investments, and TAP, but exclude \$1.9 billion in other pre-capital program costs such as debt service.

2026-2030 5YTP Investments, Continued

MDOT Highway Program investments are comprised of projects that are focused on either preservation or routine maintenance. The preservation portion of the investment covers road and bridge reconstruction and rehabilitation, CPM, freeway and non-freeway resurfacing, and other improvements. Routine maintenance covers activities such as snowplowing and deicing, sign and signal maintenance, litter pickup, pothole repair, crack-sealing, and drainage inspections. The successful delivery of the MDOT preservation program involves several processes, including scoping, engineering, design, permitting, obligation of funding, and more. Large fluctuations between fiscal years are explained in the footnote below the graph.

Estimated 5YTP Highway Program Investment by Fiscal Year for 2026-2030: \$10.7 Billion



Estimates as of Oct. 1, 2025.

*FY 2027 includes \$355 million for I-94 Segment 3 (from Burns Avenue to Barrett Avenue), including local service drives, in the city of Detroit and \$229.4 million for US-23 from M-14 to I-94.

Public Transportation Program Investment

MDOT's Public Transportation Program investment is estimated at approximately \$3.4 billion. This total reflects investments to preserve the existing network and a forward focus on expanding and improving services, technology and innovation. Funding will be provided for demonstration projects and innovative mobility solutions throughout the state. Specific program investments include:

- Preserving local bus operating (LBO) for transit to maintain current services.
- Preservation and maintenance of existing services and infrastructure with routine vehicle replacements, transit facility renovations, matching federal discretionary funding for maintaining transit agency infrastructure in an SOGR, replacement of aging ferry boats, and innovations that improve transit agency efficiency and public access to mobility options.
- Preservation and possible expansion of state subsidized intercity bus service and terminal development, continuing northern subsidized routes, and demolition of the Detroit Intercity Bus Facility.
- Regional demonstration projects that utilize technology and innovative service models to improve mobility both locally and regionally.



Bus and Marine	FY 2026	Five-Year Total
SPECIALIZED SERVICES/ENHANCED MOBILITY TOTAL	\$26.7	\$136.1
Federal Formula	\$13.7	\$71.1
CTF	\$13.0	\$65.0
LOCAL BUS OPERATING	\$271.6	\$1,473.4
CTF	\$271.6	\$1,473.4
FEDERAL NONURBAN OPERATING AND CAPITAL	\$40.6	\$211.4
Federal Formula	\$40.6	\$211.4
MUNICIPAL CREDIT PROGRAM	\$2.0	\$10.0
CTF	\$2.0	\$10.0
SERVICE INITIATIVES	\$17.0	\$87.0
Federal Formula	\$3.9	\$20.2
Federal Discretionary	\$5.8	\$30.3
CTF	\$7.3	\$36.5
TRANSIT CAPITAL	\$214.8	\$1,122.0
Federal Formula	\$70.3	\$365.8
Federal Discretionary	\$76.6	\$398.7
CTF	\$67.9	\$357.5
VAN POOLING	\$0.4	\$2.0
CTF	\$0.4	\$2.0
INTERCITY BUS	\$9.2	\$47.2
Federal Formula	\$6.3	\$32.8
CTF	\$2.9	\$14.4
MARINE PASSENGER SERVICE	\$20.0	\$102.8
Federal Formula	\$3.0	\$17.8
Federal Discretionary	\$15.0	\$75.0
CTF	\$2.0	\$10.0
INFRASTRUCTURE PROJECTS AUTHORITY FUND	\$65.0	\$325.0
Separate fund per Public Act 22 of 2025 *	\$65.0	\$325.0
BUS AND MARINE GRAND TOTAL	\$667.3	\$3,389.9

In millions

Subject to appropriation of state and federal expenditure authority. Includes only state and federal.

For CTF: Office of Revenue and Tax Analysis data is used for 2027 and then a 2.3 percent increase year over year for 2028-2030. All estimates are then averaged.

Federal: 2 percent increase year over year for 2027-2030 and then averaged.

* Article 15, State Transportation Department, Part 1, Line-Item Appropriations

2026-2030 5YTP Investments, Continued

Passenger Rail, Freight Rail and Ports Program Investment

MDOT's Passenger, Freight Rail and Port Program is estimated at approximately \$1.1 billion. This reflects state and federal funds to preserve and enhance Michigan's intercity passenger rail services and safety at railroad crossings as well as promote economic development. Programs rely primarily on CTF revenue as federal rail funding is available only through competitive opportunities. Specific investments include:

- Amtrak operating support and equipment for three Michigan routes.
- Maintenance and capital investments in the Kalamazoo-Dearborn corridor to facilitate and maintain passenger train speeds of up to 110 mph.
- Capital projects, including track curve modification and signal work, the study of a new intercity passenger connection in Battle Creek and preliminary engineering and environmental review for the replacement of four bridges.
- Plans for the existing Wolverine, Blue Water and Pere Marquette corridors and a potential new corridor serving Grand Rapids, Lansing and Detroit.
- Projects that support rail-related economic development and rail freight system preservation.
- Local crossings with 40-60 surface improvements and warning device enhancements at 30-40 locations, and state trunkline crossing improvements and/or device upgrades at 20-25 locations.
- Improvements on the 530-mile state-owned freight-only system, including capacity, safety and rail enhancements, support for new/expanding businesses, and replacement of the Manistee River Bridge.
- Detroit-Wayne County Port Authority administrative and marketing expenditures

Passenger Rail, Freight Rail and Ports	FY 2026	Five-Year Total
Property Management	\$1.3	\$6.5
Rail Operations and Infrastructure*	\$149.4	\$1,042.5
Rail Grade Crossing (Local Grade Crossing Program)	\$6.0	\$30.0
Local Crossing Surface Program	\$3.0	\$15.0
Detroit/Wayne County Port Authority (Operating Assistance)	\$0.6	\$3.0
TOTAL RAIL AND PORTS GRAND TOTAL	\$160.3	\$1,097.0

In millions

For further breakdown on Rail and Port Program investments, see pie chart on page 17.

* FY 2026 Includes \$33.8 million federal/local/private spending authority and \$6 million Rail Freight Fund spending authority. FY 2027 onward includes \$103.8 million federal/local/private spending authority.





Aeronautics Program Investment

MDOT’s 2026-2030 Aeronautics Program is estimated at approximately \$900 million. These priorities are a significant part of supporting MDOT’s mission and vision, including:

- Reducing system and facility deficiencies based on the 2017 Michigan Aviation System Plan (MASP).
- Preserving critical infrastructure, particularly pavements, with 90 percent of all Tier I airport primary runways in good or fair condition, as well as navigational aids and protection of airspace.
- Maximizing federal funds by leveraging state, local and private funding, supporting job growth and economic development, attracting and retaining air service through the implementation of the Air Service Program (ASP), and supporting emerging aviation and advanced air mobility infrastructure.

Aeronautics Program	FY 2026	Five-Year Total
Airport Improvement Program (AIP)*	\$120	\$600
Air Service Program	\$0.05	\$0.25
Infrastructure Investment and Jobs Act (IIJA) Airport Programs	\$120	\$300
AERONAUTICS GRAND TOTAL	\$240.05	\$900.25

In millions

Includes comprehensive program of needed investments for primary airports and general aviation airports, as identified in the MDOT AIP.

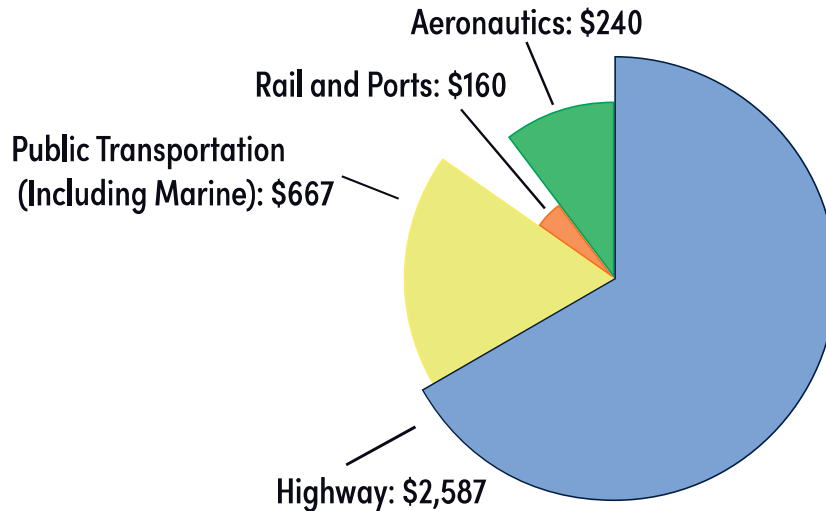
Excludes state revenue for other costs, such as staff time.

*Excludes local and private funds.

Highlighting Upcoming FY 2026 Investments

MDOT's FY 2026 Transportation Program is based on anticipated federal and state revenue and additional funding sources such as discretionary grants and is subject to change over time.

FY 2026 Transportation Program Investment: \$3.6 billion



MDOT's \$3.6 billion FY 2026 Transportation Program is a vital part of Michigan's economy, estimated to support more than 45,000 jobs by continuing to invest in the preservation of the transportation system, safe mobility for motorists and efficient system operations. Of that total investment, MDOT will dedicate approximately:

- \$2.6 billion to the preservation, maintenance, safety and operation of state trunkline roads and bridges.
- \$1.1 billion for the bus, marine, rail, port and aeronautics programs, providing capital and operating assistance, technical support and safety oversight for Michigan's multimodal transportation system.

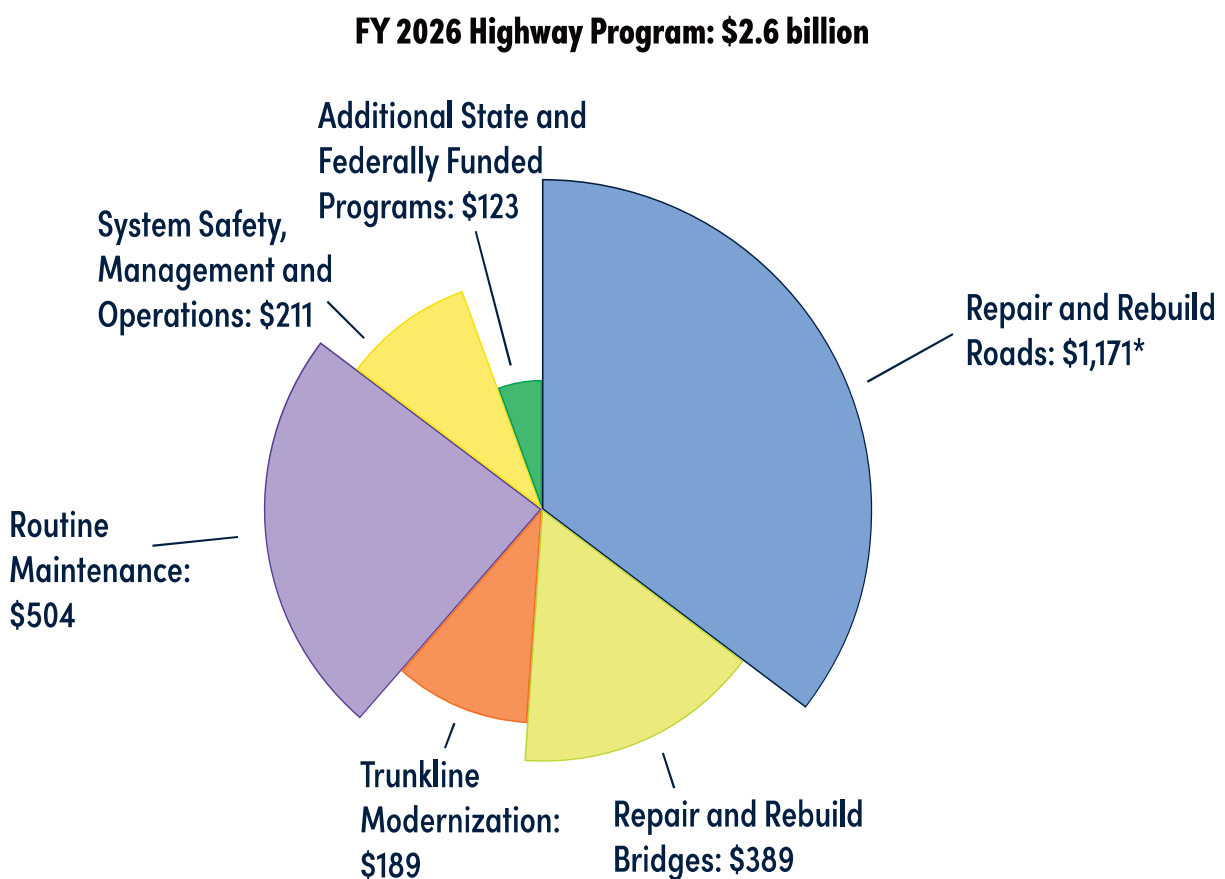


FY 2026 Highway Program

MDOT's \$2.6 billion FY 2026 Highway Program investment will provide Michigan travelers with:

- 296 lane miles of road rehabilitation and reconstruction.
- 733 lane miles of road CPM.
- 78 lane miles of freeway and 218 non-freeway resurfacing.
- Replacement, preservation and CPM on 92 bridges/structures.
- Trunkline modernization, including I-94 modernization in Wayne County.
- Routine maintenance, including snowplowing, sweeping, grass cutting and other activities.
- Safety and systems operations, including signs, pavement markings, traffic signals and other programs.
- Transportation Systems Management and Operations projects.
- Nonmotorized elements and facilities, including but not limited to trails and pathways used for active transportation

For more information, see the [MDOT Highway Programs webpage](#).



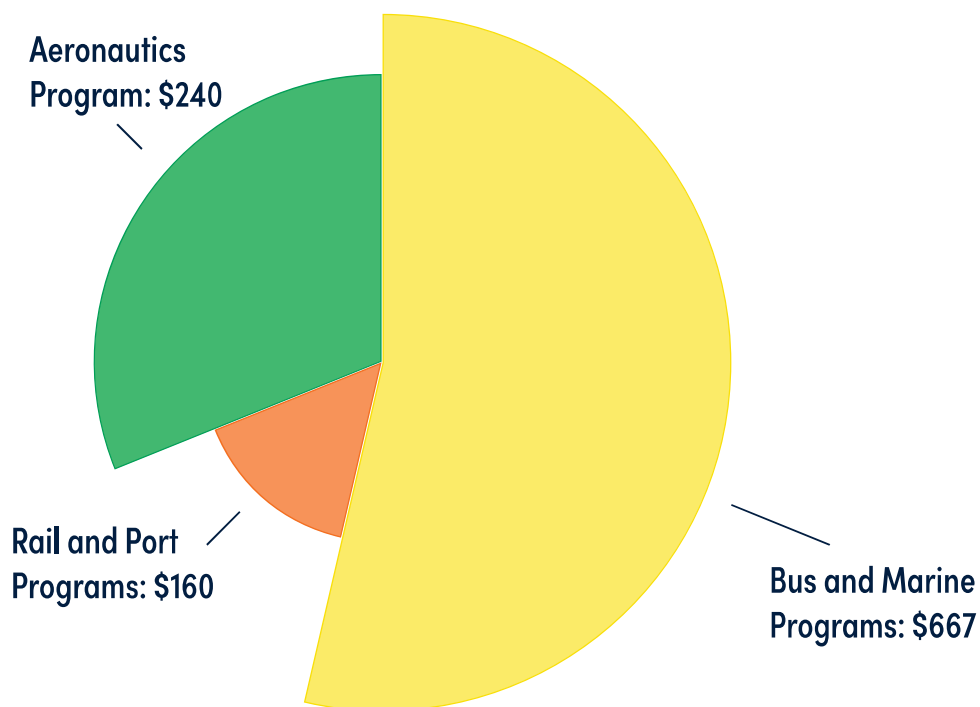
*Includes \$22 million for Roadside Facilities.

FY 2026 Multimodal Program

A connected and sustainable multimodal transportation system is vital to Michigan's future economic viability and competitiveness. It is also essential that Michigan's future transportation network is resilient while continuing to address the safe and easy movement of people and goods throughout the state. From aviation to public transportation, rail, freight and marine, MDOT is involved in all modes of transportation.

MDOT anticipates an investment of approximately \$1.1 billion in the FY 2026 Multimodal Program, which includes bus, marine, rail, port and aeronautics programs.

FY 2026 MDOT Multimodal Program Investment: \$1.1 billion

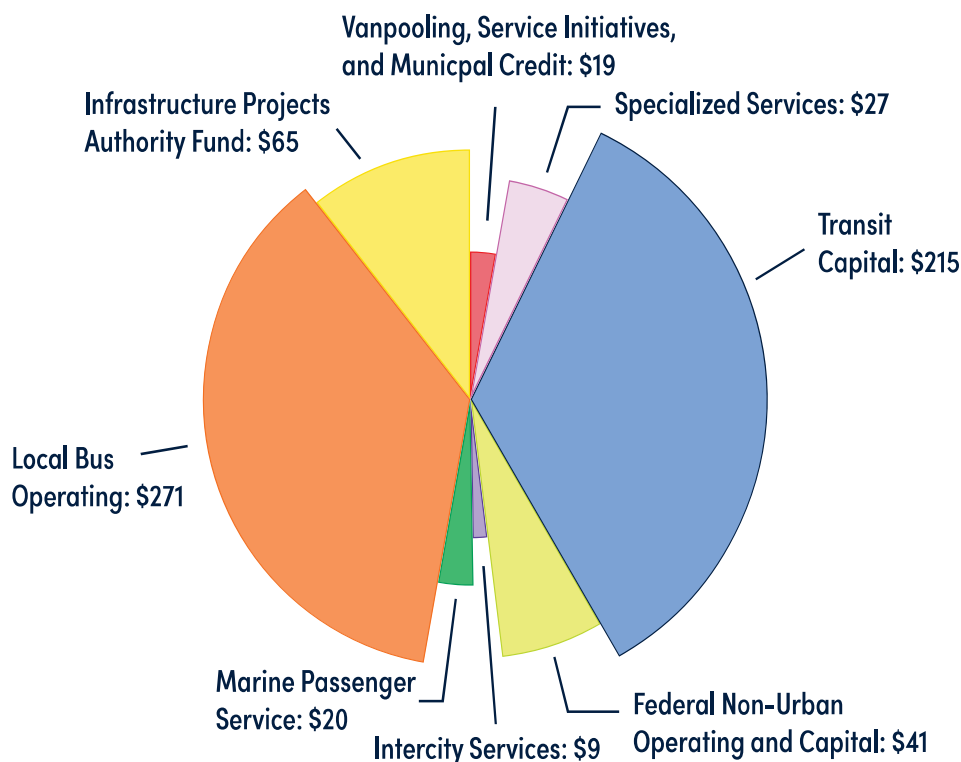


FY 2026 Bus and Marine Programs

MDOT's \$667 million Bus and Marine Program investments will support the preservation of existing local transit and marine services, including 79 local bus agencies, four passenger ferry systems and 38 specialized service providers, as well as preservation of public transit, ferry and state-subsidized intercity bus services, including vehicle replacements and infrastructure needs identified through the federally mandated transit asset management (TAM) plans.

The Bus and Marine Programs are paid from [Michigan's CTE](#), which is derived from a portion of state motor fuel taxes, vehicle registration fees and state sales taxes on automobiles and other auto-related products, as well as departmental policy. More information can be found on the [Michigan Passenger Transportation Programs webpage](#).

FY 2026 Bus and Marine Programs: \$667 million

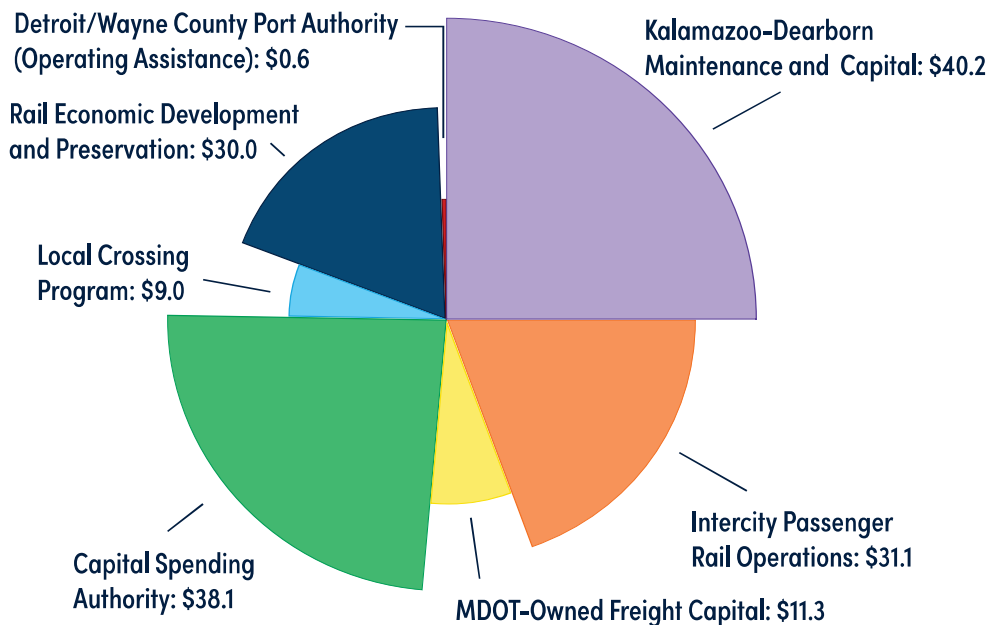


FY 2026 Rail and Port Programs

MDOT's \$160 million Rail and Port Program investments will support operations and capital for three intercity passenger routes, 530 miles of freight rail corridors, safety improvements and port operations, maintenance and capital improvements on the 135-mile accelerated rail corridor between Kalamazoo and Dearborn, grade crossing safety improvements on local and state trunkline roads, and operating assistance to the Detroit-Wayne County Port Authority.

For more information, visit the [MDOT Office of Rail webpage](#).

FY 2026 Rail and Port Programs: \$160 million



Highlighting Upcoming FY 2026 Investments, Continued

FY 2026 Aeronautics Program

MDOT's \$240 million Aeronautics Program investment will apply an asset management approach to reduce system and facility deficiencies and continue updates to the MASP, as well as preserve critical infrastructure and support job growth, economic development and statewide efforts to attract and retain air service through the implementation of the ASP.

Further information can be found on the [MDOT Office of Aeronautics webpage](#).

FY 2026 Aeronautics Programs: \$240 million

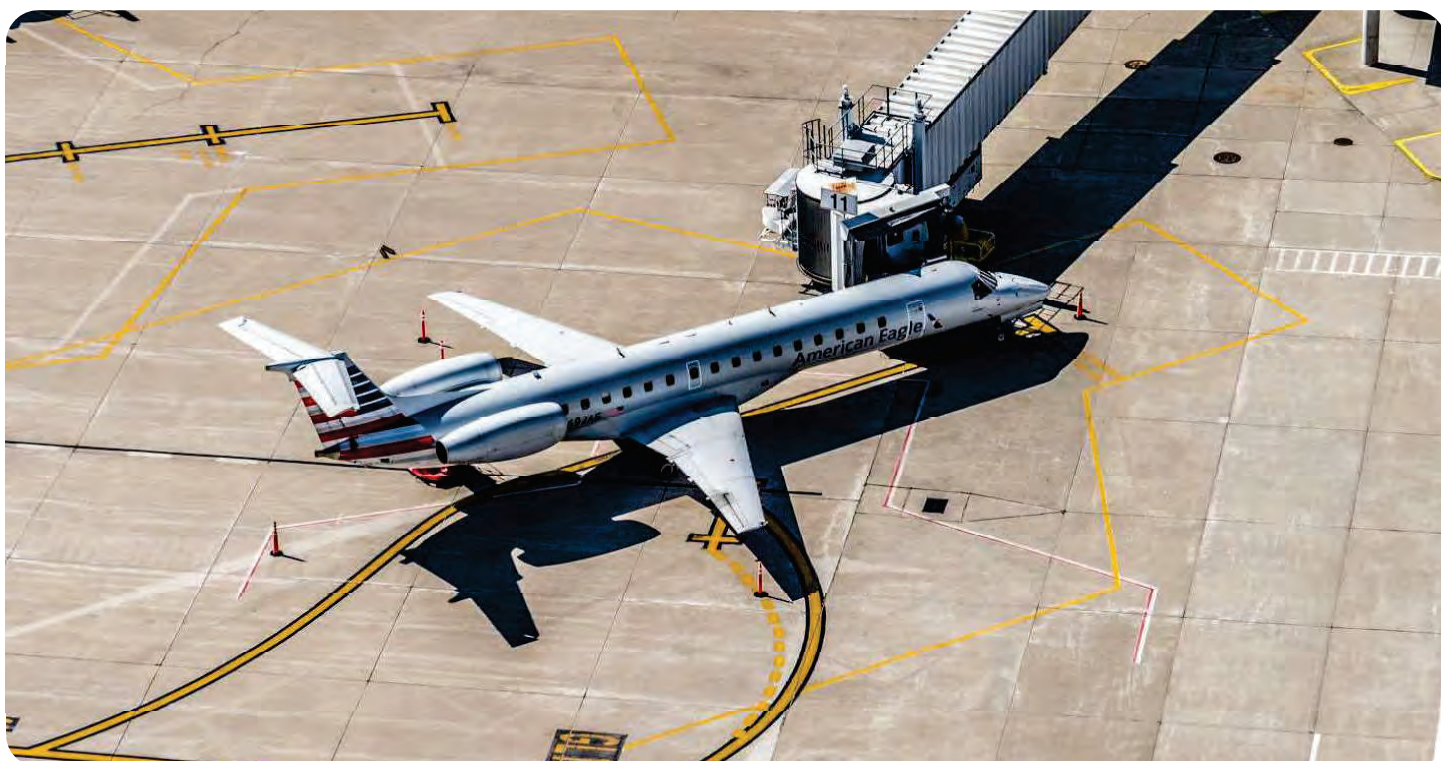
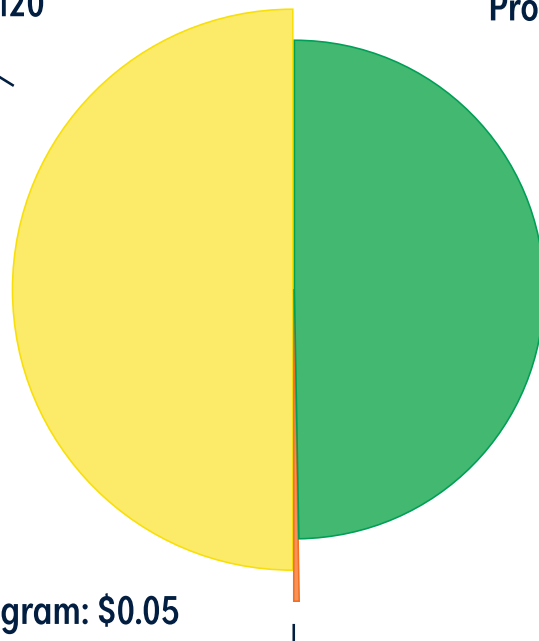
Infrastructure Investment and Jobs Act (IIJA)

Airport Programs: \$120

Airport Improvement

Program (AIP): \$120

Air Service Program: \$0.05



Economic Impacts of 5YTP Investments

The Economic Benefit Analysis (EBA) of the highway and bridge programs is provided through the Transportation Economic Development Impact System (TREDIS) and the TREDIS Transit System Value Tool for the Passenger Transit program. TREDIS is specifically designed for transportation-related economic analysis and considers the broad economic landscape and factors critical to transportation projects. Its assessments, in this case, are based on employment projections from the U.S. Bureau of Labor Statistics and economic outlook data for the United States and Michigan sourced from the Research Seminar in Quantitative Economics at the University of Michigan.

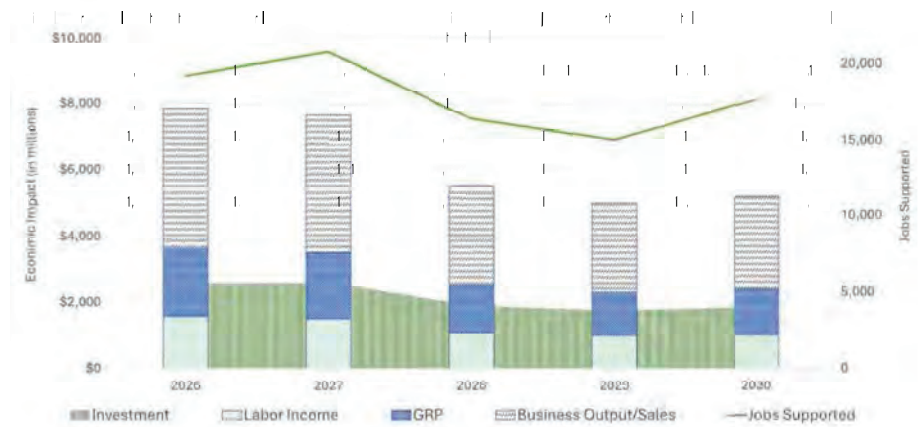
Highway Program Economic Impacts

The economic benefits of the nearly \$10.7 billion investment through the FY 2026-2030 highway program result in an annual average of 17,876 jobs supported, including both new jobs resulting from increased economic competitiveness and jobs retained that would have been lost without this transportation investment. In addition, the highway program investment annually supports \$1.2 billion in labor income, \$3.4 billion in business output, and more than \$1.6 billion in Gross Regional Product (GRP).

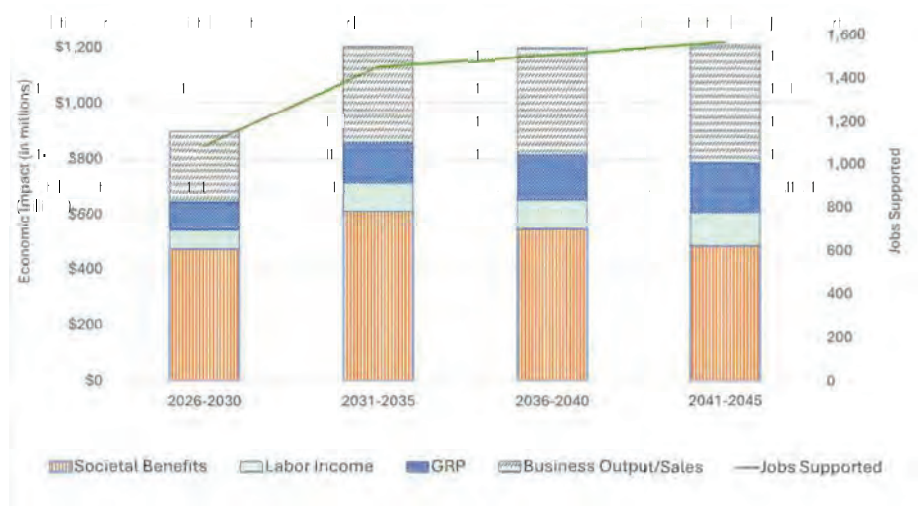
Investments in Michigan's Highway and Bridge Program improve the performance of the transportation network by addressing bridge conditions, pavement quality, capacity and safety. These performance improvements result in savings for individuals and businesses, improved safety and reduced environmental impact from vehicle emissions. The effects last beyond the years of investment and support ongoing economic and societal benefits.

More information about cumulative benefits can be found on the [MDOT 5YTP Economic Benefits webpage](#).

Economic Benefits Supported by the FY 2026-2030 Highway Program Investment



Cumulative Benefits Supported by the FY 2026-2030 Highway Program Investment

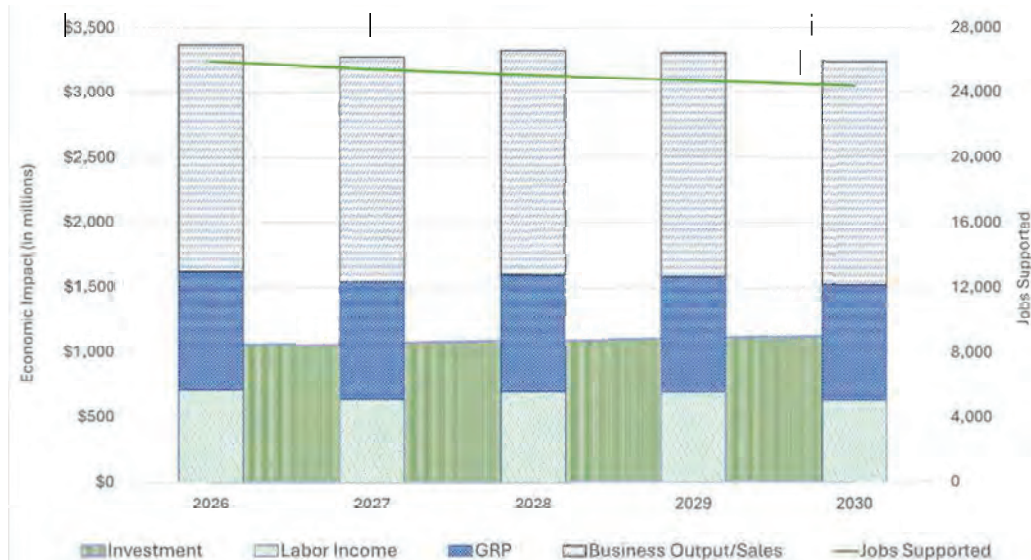


Economic Impacts of 5YTP Investments, Continued

Public Transportation Program Impacts

The economic benefits of the \$5.4 billion investment allocated for Michigan's Public Transportation Program for FY 2026-2030 are detailed below. This includes federal, state and local operating revenues, as well as federal and state capital invested in intercity bus services, local bus operations and capital costs covered through apportionments to urban areas from FTA. As a result of these investments, an annual average of 25,088 jobs will be supported, generating \$671 million in added labor income annually. Additionally, the investment contributes more than \$1.7 billion annually in increased business output/sales and \$899 million annually to the GRP.

Economic Benefits Supported by the FY 2026-2030 Public Transportation Program Investment



Societal Benefits of FY 2026-2030 Public Transit Program

Michigan's Public Transit Program provides societal benefits beyond transportation by reducing medical costs and public assistance expenditures through improved access to essential services. Investing in public transportation is crucial for the local economy, as it creates and improves access to jobs, fosters business growth and social equity, reduces costs, congestion and emissions, and attracts eco-friendly businesses.

More information about these benefits can be found on the [MDOT 5YTP Economic Benefits webpage](#).

Public Transportation Programs Societal Savings/Benefits for FY 2026-2030

Cost Savings	Total
Travel Time Savings	\$112,107,422
Vehicle Operating Cost Savings	\$38,067,079
Avoided Public Assistance Expenditures	\$70,516,552
Avoided Medical Costs	\$734,760,850

Outputs based on 2026 Transit Operating and Capital Dollars

Enabled Trips	Total
Work Trips	2,182,859
Medical Trips	1,720,390
School Trips	558,346
Shopping Trips	2,355,349
Social Trips	1,363,704
Other	845,647
Total Enabled Trips	9,026,295

- Jobs Supported refers to cumulative job-years supported by the FY 2026-2030 Five-Year Transportation Program.
- Labor income is comprised of the sum of salaries, wages, proprietors' income and employer-paid benefits.
- Business Output/Sales is final sales, or total revenues by industry, and can be any combination of other businesses, households or federal/state/local government, as defined by TREDIS.
- Societal benefits capture the performance effects of transportation investments and their value to society in monetary (dollar value) terms, using nationally accepted valuation factors.
- All cost-benefit values are expressed in 2022 dollars, discounted at 3.1 percent per U.S. Department of Transportation guidelines.

MDOT Multimodal Asset Performance Updates

Federal legislation, namely the Fixing America's Surface Transportation (FAST) Act, required state and metropolitan areas to adopt performance-based planning processes in safety, pavement and bridge condition, system performance and TAM by 2018. This section provides updates in these areas as they pertain to MDOT trunkline pavements and bridges, as well as the Public Transportation and Aeronautics programs.

Trunkline Pavement Condition

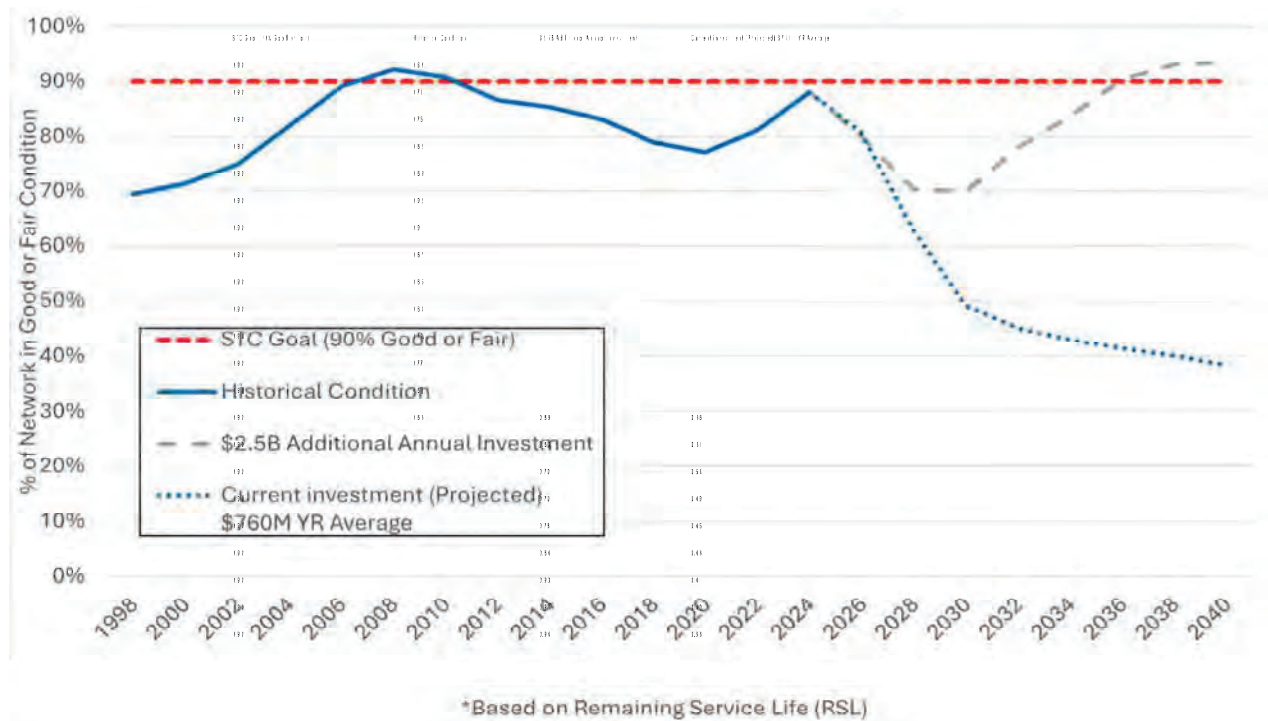
The key performance measure for highway pavement used by MDOT is called remaining service life (RSL), defined as the anticipated time in years that a pavement section can continue to provide acceptable levels of service, considering factors such as distresses, structural integrity, ride quality and functionality. It is typically determined through a combination of performance modeling, visual inspections and expert judgment. When pavements reach an RSL of two years or less, they are considered "poor" and are ready for rehabilitation. As shown in the chart below, MDOT met its STC goal in 2006 but has not had sufficient revenue to sustain it. An additional \$2.5 billion per year is needed to once again reach and sustain the current performance goal.

MDOT Remaining Service Life Ratings

RSL Category	Amount RSL	Rating
I	0-2 years	Poor
II	3-7 years	Fair
III	8-12 years	Good
IV	13-17 years	Good
V	18-22 years	Good
VI	23-27 years	Good
VII	28-32 years	Good

MDOT continues to develop new and innovative pavement investment strategies that focus on mix of fix-type applications to reduce overall life-cycle costs. While the benefits of these changes have yet to be fully realized, they are expected to impact the forecasts and resulting needs analysis depicted below. MDOT is committed to providing a robust transportation network at the lowest cost possible to its users and is making strategic improvements to support that commitment

State Trunkline Combined Freeway/Non-Freeway: Projected Pavement Conditions Current Investment Versus Additional Funding



Trunkline Bridge Condition

In 1998, the STC established state trunkline bridge performance goals to achieve 95 percent good or fair condition for freeway bridges and 85 percent good or fair for non-freeway bridges by 2008. MDOT met these goals by the stated year but has not had sufficient revenue to sustain them, with an additional \$81 million per year needed for freeway and \$49 million for non-freeway.

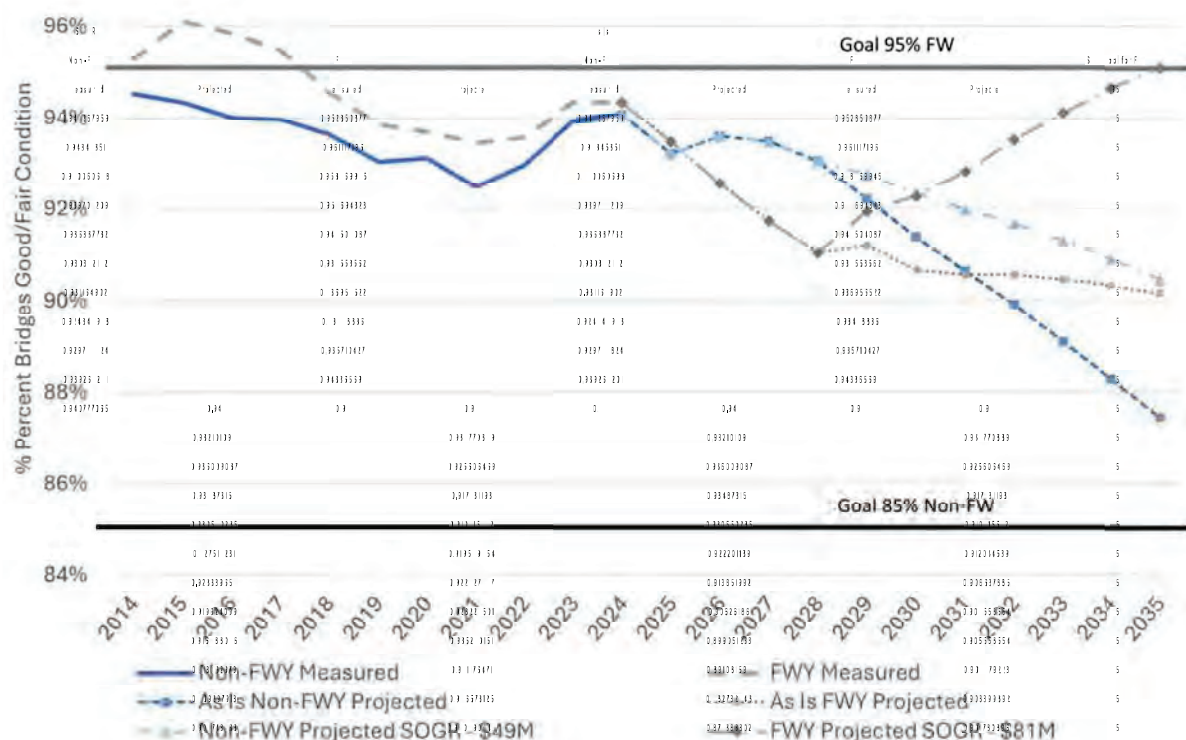
MDOT's Bridge Management System is an important part of the asset management approach used by the department to keep the infrastructure in the best condition possible. BMS is a strategic approach to linking data, strategies, programs and projects into a systematic process to ensure desired results. An important tool within BMS is the Bridge Condition Forecasting System (BCFS), which uses current bridge conditions, bridge deterioration rates, project costs, expected inflation and fix strategies to estimate the future condition of the state trunkline bridge system.

Condition ratings are based on a 0-9 scale and are assigned for the deck, superstructure and substructure of each bridge, or as an overall rating for bridge-length culverts. These ratings are recorded in the National Bridge Inventory (NBI) database and are a crucial tool for transportation asset management, as they are used to identify preventive maintenance needs and to determine improvement and replacement projects that require funding.

NBI Condition Ratings

Rating	Condition	Action
7-9	Good Condition	Routine maintenance candidate.
5-6	Fair Condition	Preventive maintenance and minor rehabilitation candidate.
4	Poor	Major rehabilitation or replacement candidate.
2-3	Serious or Critical	Emergency repair or high-priority major rehabilitation or replacement candidate. Unless closely monitored, it may be necessary to close until corrective action can be taken.
0-1	Imminent Failure/Failed	Major rehabilitation or replacement candidate. Bridge is closed to traffic.

Trunkline Freeway (FWY)/Non-Freeway Historic and Projected Bridge Condition Current Investment Versus Additional Funding Needed



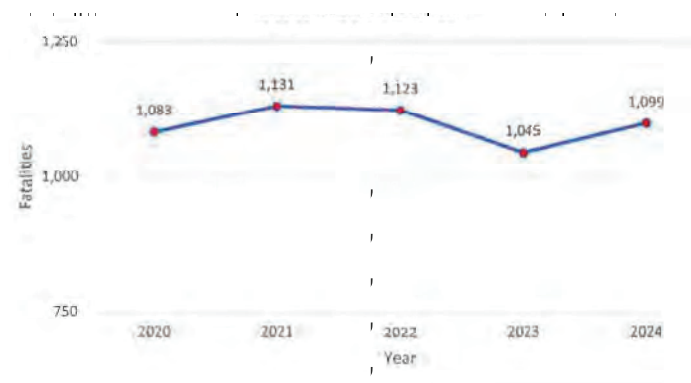
Safety Goals

MDOT's trunkline safety goal is to reduce both fatalities and serious injuries to zero by 2050 in support of the [Michigan Strategic Highway Safety Plan \(SHSP\)](#) and the Toward Zero Deaths (TZD) National Strategy. As seen below, fatalities and serious injuries statewide peaked in 2021 and have been gradually declining each year since, while progress has been mostly flat on the trunkline network. To achieve the TZD vision, MDOT is working with industry partners on safety initiatives and strategies to maintain a [Safe System Approach](#), which acknowledges human mistakes and vulnerability. This approach designs for a redundant system to prevent crashes and ensures those that do occur do not result in serious injury or death.

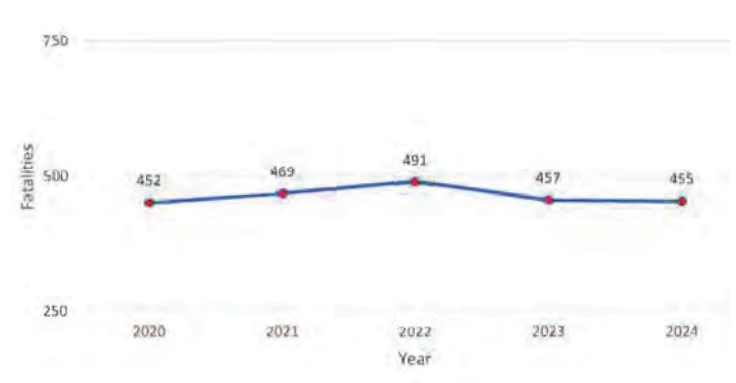
Following new federal requirements for state safety programs under the IIJA, MDOT and the State of Michigan completed a Vulnerable Road User (VRU) Safety Assessment in 2023, which evaluates safety performance and outlines strategies and countermeasures ranging from the design of projects to policies that support reducing the frequency and severity of crashes in areas identified as high-risk for VRUs. VRUs are defined as those most at risk in traffic, namely road users unprotected by an outside shield, such as pedestrians and bicyclists. These users have a much greater risk of injury in any collision against a vehicle and are therefore in need of protection.

In FY 2024, Michigan exceeded the 15 percent threshold for VRUs represented in total state fatalities in a single year, requiring 15 percent of its Highway Safety Improvement Program funds be allocated to projects on a public road consistent with the SHSP and that correct or improve a hazardous road location or feature, or address a highway safety problem. As of March 2025, MDOT had met and exceeded that goal and anticipates the requirement will apply in future years as well.

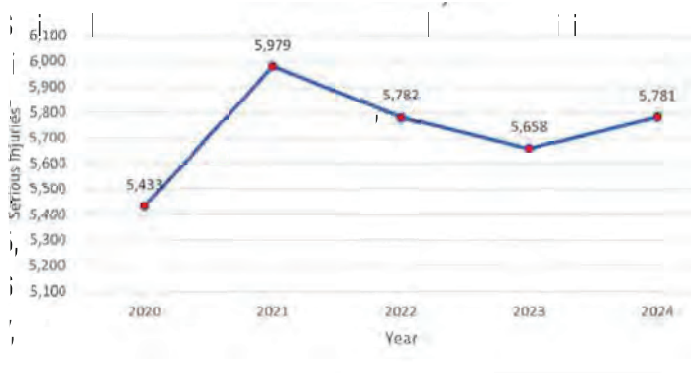
Statewide Fatalities



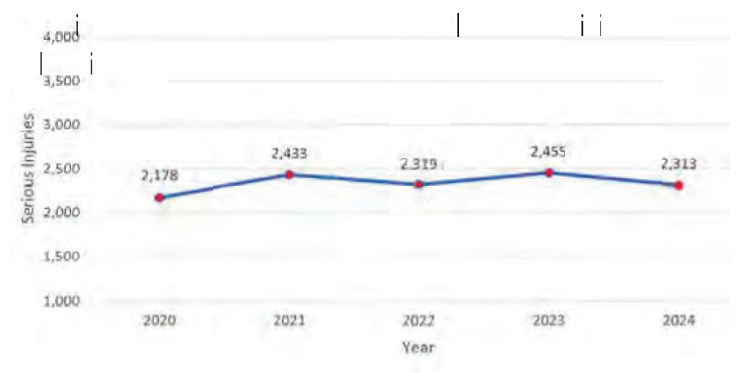
Trunkline Fatalities



Statewide Serious Injuries



Trunkline Serious Injuries



As of Oct 1, 2025. All crash data pulled is from RoadSoft (RS) and is a snapshot based on the Michigan State Police Traffic Crash Database totals at the time of download. For questions regarding more recent data, please contact MDOT-RoadSoft@Michigan.gov.

Public Transportation Performance Measures

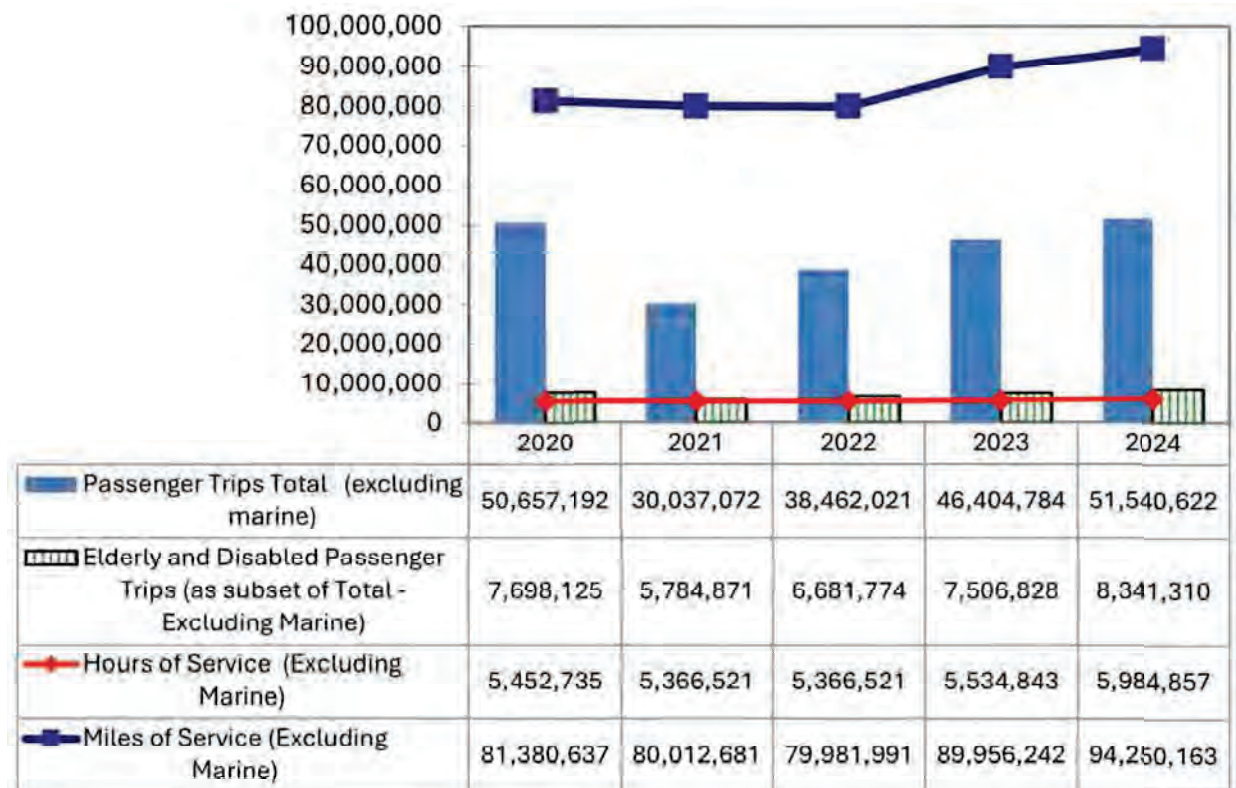
Public Transit

Program requirements included in the FAST Act for TAM plans, safety planning and other related measures are in place. MDOT's Office of Passenger Transportation officially adopted a TAM plan in October 2018 that included FY 2019 targets for Federal Section 5310 and Section 5311 subrecipient agencies of the state.

Local Transit Level of Service

The local transit level of service is measured using total annual hours and miles of service and total annual passenger trips, considering elderly/disabled led passenger trips as a subset of the total. The goal is to preserve service levels and continue providing service in all 83 counties.

Local Bus Transit Levels of Service Indicators



Rural Transit Fleet Condition

The condition of the rural transit fleet is based on the percentage of vehicles past their useful life. The goal is to have less than 20 percent of the rural fleet beyond useful life. Since 2019, MDOT has met and continues to meet this goal.

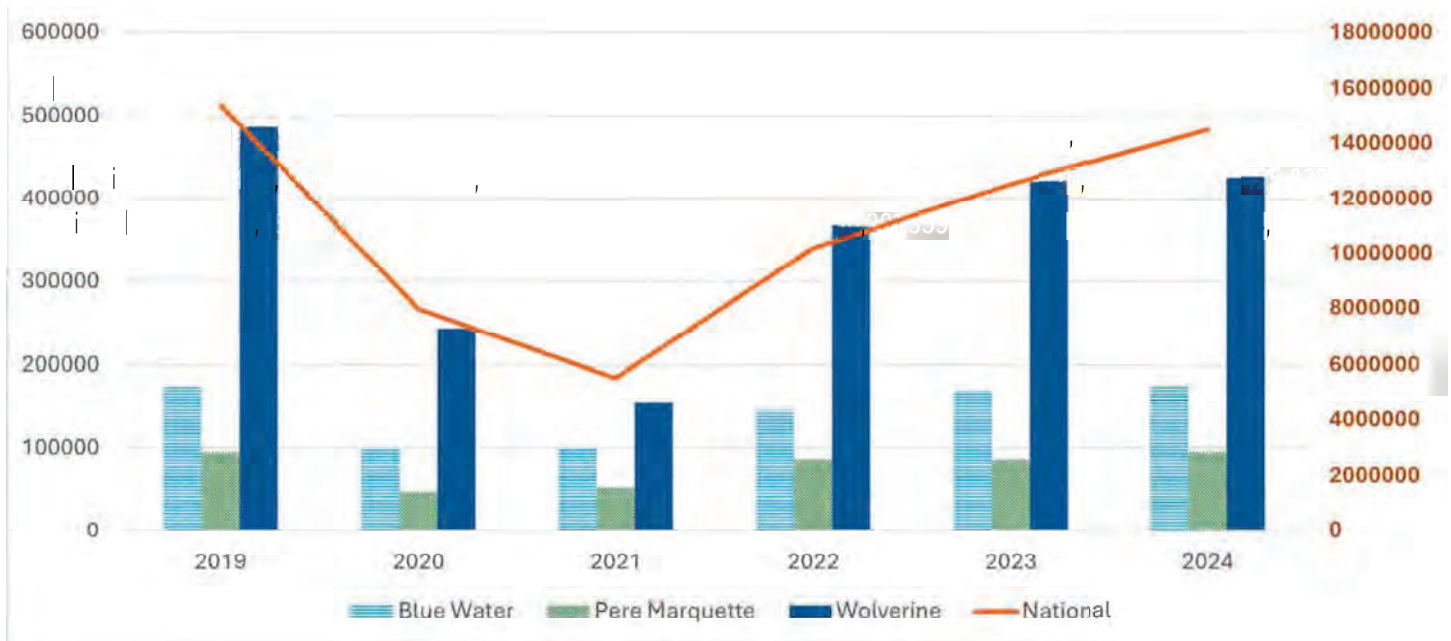
Percent of Rural and Specialized Transit Vehicles Past Their Useful Life



Passenger Rail Ridership

MDOT monitors the total number of passengers using state-supported passenger rail services, with a goal of maintaining ridership consistent with or better than national trends (within 10 percent). MDOT is meeting its goal.

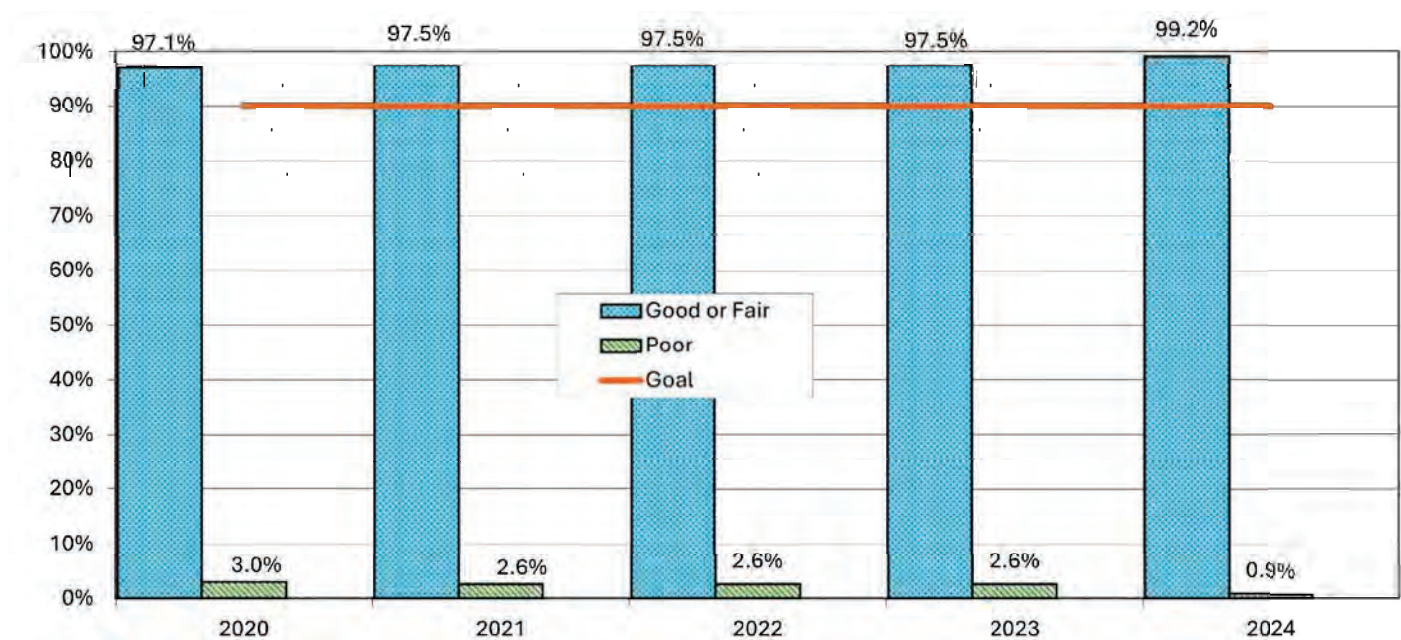
Passenger Rail Ridership Trends: Michigan Routes and Nationwide



Railroad Crossing Conditions

MDOT monitors the railroad crossing surface condition on the state trunkline system with a goal of at least 90 percent in good or fair condition. The percentage of the railroad crossing surfaces on the state trunkline system in at least fair condition continues to increase. At the end of FY 2024, 99 percent of the crossing surfaces were in good or fair condition.

Trunkline Highway-Railroad Grade Crossing Surface Conditions

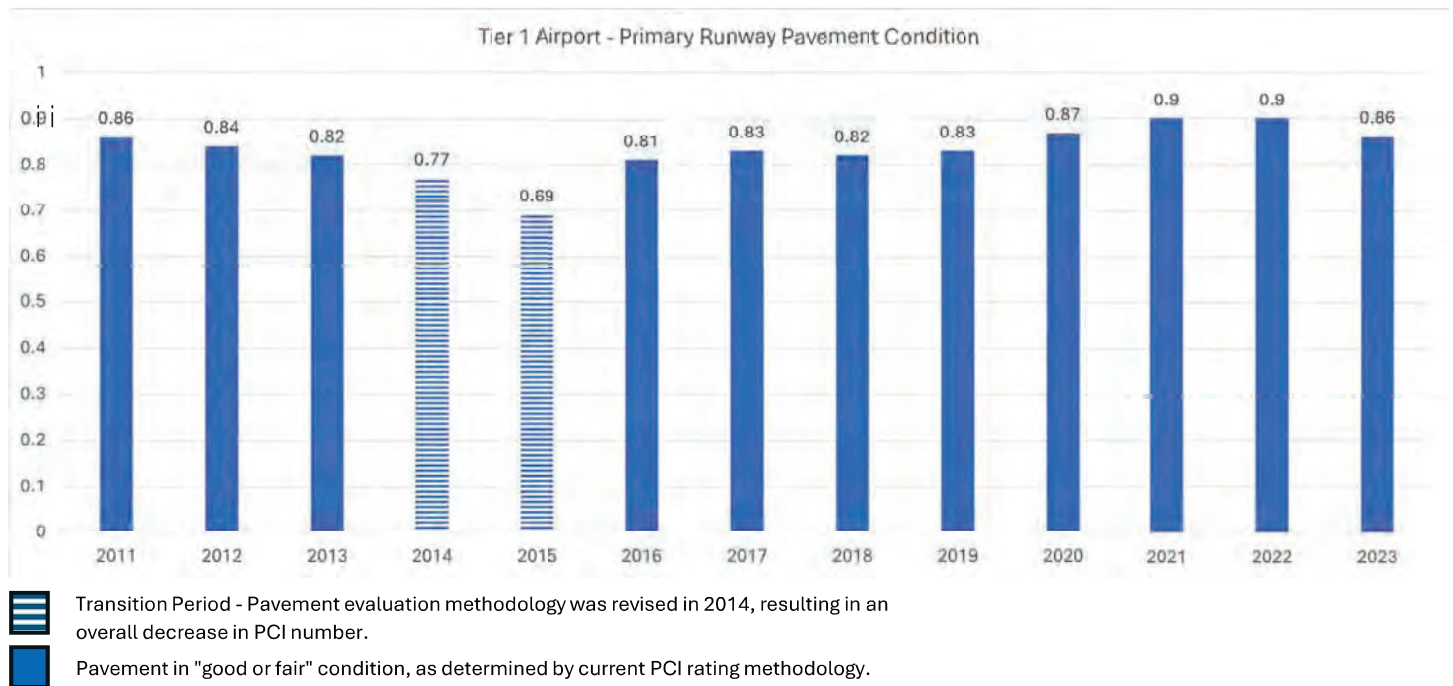


Aeronautics Performance Measures

The Office of Aeronautics updated its MASP in 2017. As part of the update, new statewide goals and individual airport facility goals were developed.

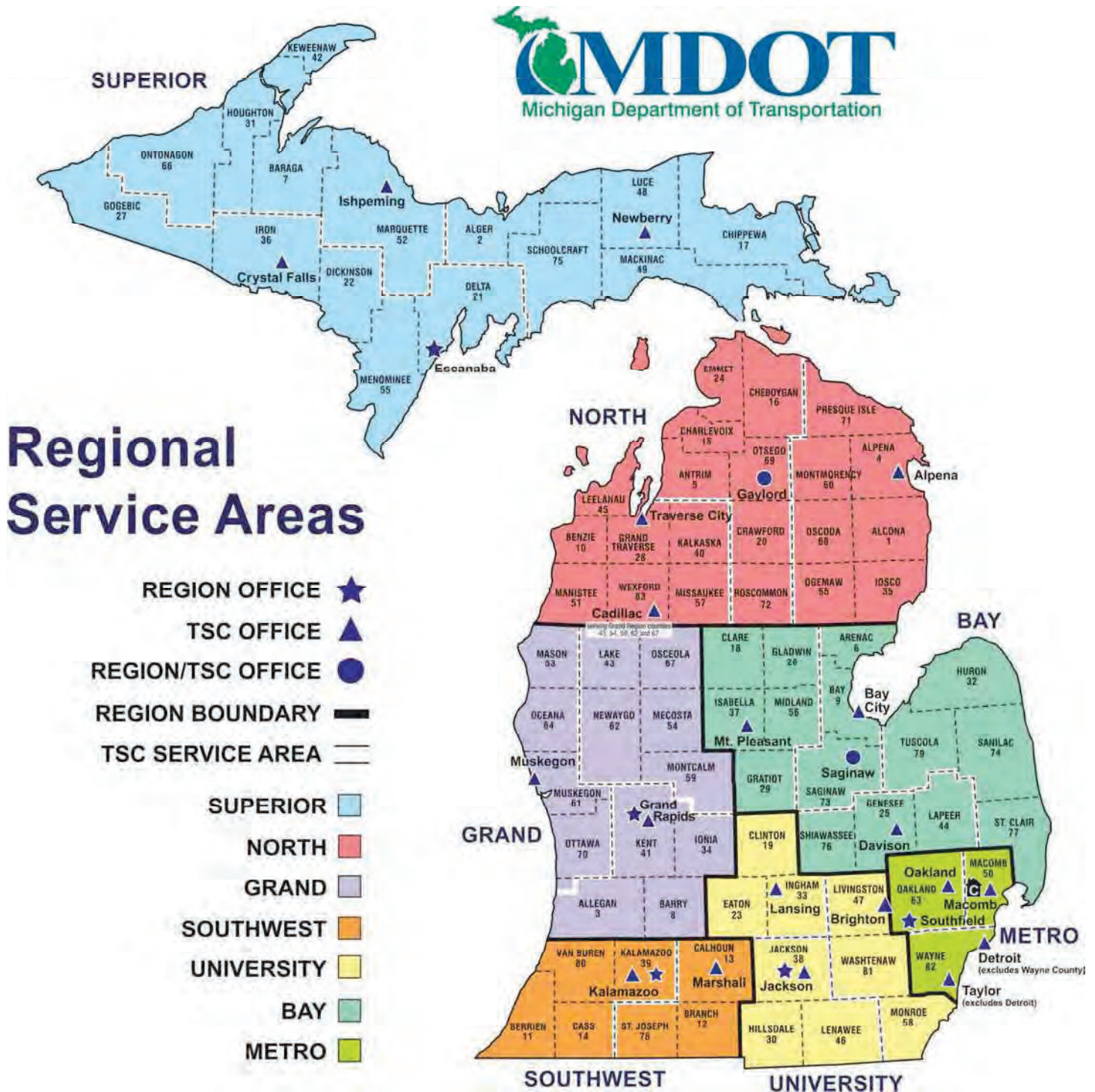
The current primary performance measurement goal is to maintain 90 percent of all Tier 1 Airport Primary Runways in good or fair condition, as determined from Pavement Condition Index (PCI) inspections, in alignment with MDOT highway pavement condition goals. The latest inspections show that the achievement rate is 89 percent, based on 2023 data. Inspection data for 2024 is currently being evaluated.

Tier 1 Airport - Primary Runway Pavement Condition



Highway Program Project List

The following section contains a list of Highway Program capital projects, divided by MDOT region, to be built during FY 2026-2030. Projects financed through the Rebuilding Michigan Program (RBMP) are marked with ★ and highlighted for ease of reference. For more information on projects and 5YTP updates, please visit the [MDOT 5YTP webpage](#).



Region: Bay

Bridge - Big Bridge Program

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
St. Clair	217215	9956	I-94BL	I-94 BL Over BLACK RIVER	Miscellaneous Bridge CPM	N/A	\$/CON	CON	CON	N/A	N/A
St. Clair	219165	13579	I-94 W	PINE GROVE AV CONN Over BLACK RIVER & SCOTT AVE	Overlay - Epoxy	N/A	N/A	\$/CON	CON	N/A	N/A
St. Clair	219165	13580	I-94 W	I-94 & I-69 EB Over BLACK RIVER & SCOTT AVE	Overlay - Epoxy	N/A	N/A	\$/CON	CON	N/A	N/A
St. Clair	219165	13581	I-94 W	I-94 & I-69 WB Over BLACK RIVER & SCOTT AVE	Overlay - Epoxy	N/A	N/A	\$/CON	CON	N/A	N/A

Bridge Replacement and Preservation

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Midland	213361	6913	US-10	HOPE ROAD Over US-10	Bridge Replacement	N/A	\$	CON	N/A	N/A	N/A
Midland	213361	6914	US-10	STARK ROAD Over US-10	Bridge Replacement	N/A	\$	CON	N/A	N/A	N/A
Gratiot	214897	3096	US-127 S	US-127 SB Over US-127 BR (POLK RD)	Deck Replacement	N/A	\$	CON	N/A	N/A	N/A
Gratiot	214897	3097	US-127 S	US-127 NB Over US-127 BR (POLK RD)	Deck Replacement	N/A	\$	CON	N/A	N/A	N/A
St. Clair	123305	9968	M-29	M-29 Over SWAN CREEK	Overlay - Epoxy	N/A	N/A	\$/CON	N/A	N/A	N/A
Genesee	201637	2575	M-21	M-21 Over CSX Railroad (Abandoned)	Culvert Replacement	N/A	N/A	\$/CON	CON	N/A	N/A
Genesee	214893	2573	M-21	M-21 Over SWARTZ CREEK	Bridge Replacement	N/A	N/A	\$/CON	N/A	N/A	N/A
Genesee	213365	2506	I-75	CARPENTER ROAD Over I-75	Bridge Replacement	N/A	N/A	N/A	\$/CON	CON	N/A
Genesee	213365	2507	I-75	COLDWATER ROAD Over I-75	Bridge Replacement	N/A	N/A	N/A	\$/CON	CON	N/A
Midland	220927	6950	M-30	M-30 (MERIDIAN RD) Over PINE RIVER	Bridge Replacement	N/A	N/A	N/A	\$/CON	N/A	N/A
Lapeer	208916	5304	M-24	M-24 Over FOSTORIA DRAIN	Deck Replacement	N/A	N/A	N/A	N/A	\$	CON
Arenac	213368	379	I-75	M-33 CONN Over D&M RR & OLD M-76	Deck Replacement	N/A	N/A	N/A	N/A	\$	CON

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Arenac	213368	427	I-75	M-33 Over I-75	Bridge Replacement	N/A	N/A	N/A	N/A	\$	CON
Gratiot	215668	3129	M-46	M-46 Over SEVILLE SUMNER DRAIN	Bridge Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
St. Clair	217674	9976	M-29	M-29 Over BELLE RIVER	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
Shiawassee	220635	9749	I-69	BANCROFT ROAD Over I-69	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
Shiawassee	220635	9750	I-69	NEWBURG ROAD Over I-69	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
Shiawassee	220635	9751	I-69	VERNON ROAD Over I-69	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
Genesee	221607	2525	N I 75/I-69 E Ramp	I-75 TO I-69 RMP B Over GTW RR & I-75	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON

Capacity Improvement - Total Length: 0.913

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
St. Clair	211793	N/A	I-94 E	Blue Water Bridge Plaza	Reconstruction	0.913	CON	N/A	N/A	N/A	N/A

Freeway Resurfacing Program - Total Length: 4.239

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Genesee	219816	N/A	I-75	from US-23 to Court Street	Road Capital Preventive Maintenance	4.239	\$/CON	N/A	N/A	N/A	N/A

Non-Freeway Resurfacing Program (NFRP) - Total Length: 8.084

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Huron	212691	N/A	M-142	from Ruth Road to Harbor Beach West Village Limits	Road Capital Preventive Maintenance	4.081	\$	CON	N/A	N/A	N/A
Isabella	219813	N/A	US-127BR	from High Street to Corporate Drive	Road Capital Preventive Maintenance	1.283	\$	CON	N/A	N/A	N/A
Genesee	219817	N/A	M-57	from Linden Road to Clio West Village Limits	Road Capital Preventive Maintenance	1.489	\$/CON	N/A	N/A	N/A	N/A

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Shiawassee	219818	N/A	M-71	from Gould Street to Legion Road	Road Capital Preventive Maintenance	1.231	\$	CON	N/A	N/A	N/A

Road - Rehabilitation and Reconstruction- Total Length: 45.897

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
★ Genesee	210086		I-475	Thread Creek to Flint River and 15 Structure Locations	Reconstruction	2.600	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2641	I-475	AVON ST WALKOVER Over I-475	Pin & Hanger Replacement	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2665	I-475	FIFTH ST, M-21 Over I-475 & RAMPS C&D	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2666	I-475	COURT ST - WB Over I-475	Deck Replacement	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2667	I-475	THIRD ST Over I-475	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2668	I-475	SECOND ST Over I-475	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2669	I-475	KEARSLEY ST Over I-475	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2670	I-475	E BD LONGWAY BLVD Over I-475	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2671	I-475	W BD LONGWAY BLVD Over I-475	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2672	I-475	I-475 AND RAMP B Over CHAVEZ DR	Deck Replacement	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	2673	I-475	I-475 Over DAVISON - BROADWAY AVES	Bridge Removal	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	14708	I-475	NB I-475 Over DAVISON	New Structure on Existing Route	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	14709	I-475	SB I-475 Over DAVISON	New Structure on Existing Route	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	14710	I-475	NB I-475 Over BROADWAY AVES	New Structure on Existing Route	N/A	\$/CON	CON	N/A	N/A	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
★ Genesee	210086	14711	I-475	SB I-475 Over BROADWAY AVES	New Structure on Existing Route	N/A	\$/CON	CON	N/A	N/A	N/A
★ Genesee	210086	14730	I-475	RAMP B TO EB-475 Over CHAVEZ DR	Deck Replacement	N/A	\$/CON	CON	N/A	N/A	N/A
Genesee	215485		I-475 N	Bristol Road to Thread Creek and 17 Structures	Reconstruction	2.479	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2636	I-475 N	I-475 Over THREAD CREEK	Deck Replacement	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2645	I-475 N	I-475 Over CSX RR & NB SERV RD(ABN)	Bridge Removal	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2646	I-475 N	GTW RR & SERV RD Over I-475	Bridge Removal	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2648	I-475 N	I-475 SB Over I-75 NB	Deck Replacement	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2649	I-475 N	HILL RD Over I-475	Overlay - Epoxy	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2650	I-475 N	I-475 SB Over MAPLE RD	Overlay - Epoxy	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2651	I-475 N	BRISTOL RD(OLDM121 Over I-475	Overlay - Epoxy	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2652	I-475 N	HEMPHILL RD Over I-475	Deck Replacement	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2653	I-475 N	I-475 Over ATHERTON RD	Deck Replacement	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2654	I-475 N	I-475 Over M-54 BR (SAGINAW ST)	Deck Replacement	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2655	I-475 N	12TH ST Over I-475	Overlay - Deep	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2685	I-475 N	I-475 NB Over MAPLE RD	Overlay - Epoxy	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2688	I-475 N	LEFT TURN LANE NO1 Over I-475	Bridge Removal	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2689	I-475 N	LEFT TURN LANE NO2 Over I-475	Bridge Removal	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2690	I-475 N	I-475 Over LEFT TURN LANE NO 3	Bridge Removal	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2700	I-475 N	14TH ST Over I-475	Bridge Removal	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	2701	I-475 N	GTW RR Over I-475	Substructure Patching	N/A	\$/CON	CON	CON	N/A	N/A

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Genesee	215485	14712	I-475 N	NB I-475 Over NB SERV RD	New Structure on Existing Route	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	14713	I-475 N	SB I-475 Over NB SERV RD	New Structure on Existing Route	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	14717	I-475 N	OAKLEY ST PED-X Over I-475	New Structure on New Route	N/A	\$/CON	CON	CON	N/A	N/A
Genesee	215485	14718	I-475 N	CARMAN ST PED-X Over I-475	New Structure on New Route	N/A	\$/CON	CON	CON	N/A	N/A
St. Clair	209212	N/A	M-29	from River Road to I-94 Business Loop	Road Rehabilitation	4.744	\$	CON	N/A	N/A	N/A
Huron	211421	N/A	M-142	from west village limits of Harbor Beach to M-25	Road Rehabilitation	0.725	\$	CON	N/A	N/A	N/A
St. Clair	214965	N/A	I-94BL	from Black River to Glenwood Avenue	Reconstruction	0.435	\$	CON	CON	CON	N/A
Genesee	215328	N/A	M-15	from South Street to Rising Street	Reconstruction	0.129	\$	CON	N/A	N/A	N/A
Genesee	215328	2612	M-15	M-15 Over BLACK CREEK	Culvert Replacement	0.129	\$	CON	N/A	N/A	N/A
Genesee	222417	N/A	Thompson Rd	from Jennings Rd to Torrey Rd	Reconstruction	0.582	\$	CON	N/A	N/A	N/A
St. Clair	208697	N/A	M-29	from Church Road to Palms Road	Road Rehabilitation	3.627	N/A	\$/CON	N/A	N/A	N/A
Lapeer	208831	N/A	I-69	from Lake George Road to Newark Road	Reconstruction	1.887	N/A	\$/CON	N/A	N/A	N/A
Clare	209082	N/A	US-127	from Long Lake Road to the Clare/Roscommon County Line	Road Rehabilitation	3.989	N/A	\$/CON	CON	N/A	N/A
Genesee	214943	N/A	M-21	from Swartz Creek to I-475	Reconstruction	0.887	N/A	\$/CON	CON	N/A	N/A
Bay	208823	N/A	M-25 W	from M-25 Freeway End to Walnut Street	Reconstruction	1.262	N/A	N/A	\$/CON	CON	N/A
Bay	208827	N/A	M-25 E	from M-25 Freeway End to Walnut Street	Reconstruction	1.211	N/A	N/A	\$/CON	CON	N/A
St. Clair	209211	N/A	I-69BL EB	from 32nd Street to I-94 Business Loop	Road Rehabilitation	1.960	N/A	N/A	\$/CON	N/A	N/A
Isabella	210168	N/A	M-20	from US-127 to Turtle Trail	Road Rehabilitation	1.110	N/A	N/A	\$/CON	N/A	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
St. Clair	212692	N/A	M-29	from Belle River to Marine City North City Limits	Road Rehabilitation	0.897	N/A	N/A	\$/CON	N/A	N/A
Genesee	213791	N/A	I-75	from Court Street to North Junction I-475	Road Rehabilitation	6.429	N/A	N/A	\$/CON	N/A	N/A
Lapeer	204355	N/A	M-53	from Newark Road to Capac Road	Road Rehabilitation	1.882	N/A	N/A	N/A	\$/CON	N/A
Lapeer	213794	N/A	M-53	At I-69 Interchange	Road Rehabilitation	0.630	N/A	N/A	N/A	\$/CON	N/A
St. Clair	110678	N/A	M-29	from Macomb/St. Clair County Line to Church Road	Road Rehabilitation	0.860	N/A	N/A	N/A	N/A	\$/CON
Sanilac	212694	N/A	M-46	from Goetze Road to Port Sanilac West Village Limits	Road Rehabilitation	4.089	N/A	N/A	N/A	N/A	\$/CON
Lapeer	213843	N/A	M-24	from Dryden Road to Pratt Road	Reconstruction	1.554	N/A	N/A	N/A	N/A	\$/CON
Saginaw	213847	N/A	M-58 E	from M-84 to Michigan Ave	Reconstruction	1.326	N/A	N/A	N/A	N/A	\$/CON
Clare	213849	N/A	US-127BR	from Industrial Parkway to 3rd Street	Reconstruction	0.475	N/A	N/A	N/A	N/A	\$

Traffic And Safety - Safety Programs - Total Length: 0.325

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
St. Clair	214089	N/A	I-94BL E	at Ravenswood Road	Traffic Safety	0.075	N/A	\$/CON	N/A	N/A	N/A
Isabella	211737	N/A	M-20	at Summerton Road	Traffic Safety	0.250	N/A	N/A	\$/CON	N/A	N/A

Region: Grand

Bridge - Big Bridge Program

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Ottawa	222219	13460	M-231	M-231 Over GRAND RIVER	Overlay - Epoxy	N/A	\$	CON	N/A	N/A	N/A
Kent	212929	12868	US-131 NB	US-131 NB Over CESAR E. CHAVEZ AVENUE	Overlay - Epoxy	N/A	N/A	\$	CON	CON	N/A
Kent	213068	12869	US-131 S	US-131 SB Over Cesar E. Chavez Avenue	Overlay - Epoxy	N/A	N/A	N/A	\$	CON	N/A

Bridge Replacement and Preservation - Total Length: 0.326

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Montcalm	126716	7419	US-131	PIERSON ROAD Over US-131	Deck Patching	N/A	\$/CON	N/A	N/A	N/A	N/A
Montcalm	126716	7423	US-131	LAKE MONTCALM ROAD Over US-131 SB	Deck Patching	N/A	\$/CON	N/A	N/A	N/A	N/A
Montcalm	126716	7424	US-131	LAKE MONTCALM ROAD Over US-131 NB	Deck Patching	N/A	\$/CON	N/A	N/A	N/A	N/A
Kent	213211	4739	I-96	M-44 (E BELT LINE) Over I-96	Bridge Replacement	0.326	\$	CON	N/A	N/A	N/A
Kent	214959	4947	US-131	Martin Luther King Jr. St Over US-131 & CSX RR	Bridge Replacement	N/A	\$/CON	CON	N/A	N/A	N/A
Kent	204378	4985	US-131	US-131 SB Over W RIVER DR&MDOT RR(ABN)	Deck Replacement	N/A	\$	CON	CON	N/A	N/A
Kent	204378	4986	US-131	US-131 NB Over W RIVER DR&MDOT RR (ABN)	Deck Replacement	N/A	\$	CON	CON	N/A	N/A
Oceana	211435	8357	US-31	US-31 BUSINESS LOOP Over US-31	Pin & Hanger Replacement	N/A	\$	CON	N/A	N/A	N/A
Kent	211495	4846	M-37	32ND Street Over M-37	Bridge Replacement	N/A	\$	CON	N/A	N/A	N/A
Ottawa	221814	13300	M-231	M-231 Over STERNS CREEK	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
Ottawa	221814	13302	M-231	M-231 Over LITTLE ROBINSON CREEK	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
Ottawa	221814	13449	M-231	M-231 Over RICH STREET	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Ottawa	221814	13452	M-231	M-231 Over BUCHANAN STREET	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
Ottawa	221814	13456	M-231	M-231 Over SLEEPER STREET	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
Ottawa	221814	13458	M-231	M-231 Over NORTH CEDAR DRIVE	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
Ottawa	221814	13462	M-231	M-231 Over LEONARD STREET	Overlay - Epoxy	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3978	I-96 E	I-96 EB Over GRAND RIVER & MARKET RD	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3979	I-96 E	I-96 WB Over GRAND RIVER & MARKET RD	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3992	I-96 E	I-96 EB Over KENT RD	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3993	I-96 E	I-96 WB Over KENT RD	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3994	I-96 E	I-96 EB Over OKEMOS RD	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3995	I-96 E	I-96 WB Over OKEMOS RD	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3996	I-96 E	I-96 EB Over CHARLOTTE HWY	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3997	I-96 E	I-96 WB Over CHARLOTTE HWY	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3998	I-96 E	I-96 EB Over GRAND RIVER AVE	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Ionia	222018	3999	I-96 E	I-96 WB Over GRAND RIVER AVE	Deck Patching	N/A	\$/CON	CON	N/A	N/A	N/A
Muskegon	201316	7601	US-31 S	WHITE LAKE DRIVE Over US-31 SB	Deck Replacement	N/A	N/A	\$	CON	N/A	N/A
Muskegon	201316	7602	US-31 S	WHITE LAKE DRIVE Over US-31 NB	Deck Replacement	N/A	N/A	\$	CON	N/A	N/A
Ionia	208924	3976	I-96	MORRISON LAKE ROAD Over I-96	Overlay - Shallow	N/A	N/A	\$/CON	CON	N/A	N/A
Allegan	211493	146	US-131	US-131 NB Over GRAND ELK RAILROAD	Substructure Patching	N/A	N/A	\$/CON	CON	N/A	N/A
Allegan	211493	147	US-131	US-131 SB Over GRAND ELK RAILROAD	Substructure Patching	N/A	N/A	\$/CON	CON	N/A	N/A
Ottawa	211401	8780	I-96	I-96 EB Over 88TH AVENUE	Deck Patching	N/A	N/A	N/A	\$	CON	N/A
Ottawa	211401	8781	I-96	I-96 WB Over 88TH AVENUE	Deck Patching	N/A	N/A	N/A	\$	CON	N/A

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Ottawa	211401	8787	I-96	I-96 EB Over M-11 WB RAMP	Deck Patching	N/A	N/A	N/A	\$	CON	N/A
Kent	211402	4749	I-96	I-96 EB Over COOPERSVILLE & MARNE RR	Overlay - Deep	N/A	N/A	N/A	\$	CON	N/A
Kent	211402	4750	I-96	I-96 WB Over COOPERSVILLE & MARNE RR	Overlay - Deep	N/A	N/A	N/A	\$	CON	N/A
Kent	211402	8788	I-96	I-96 EB Over 4 MILE ROAD	Deck Patching	N/A	N/A	N/A	\$	CON	N/A
Kent	211402	8789	I-96	I-96 WB Over 4 MILE ROAD	Overlay - Deep	N/A	N/A	N/A	\$	CON	N/A
Kent	211403	4757	I-96	I-96 EB Over BRISTOL ROAD	Deck Patching	N/A	N/A	N/A	\$	CON	N/A
Kent	211403	4758	I-96	I-96 WB Over BRISTOL ROAD	Deck Patching	N/A	N/A	N/A	\$	CON	N/A
Allegan	211429	137	M-40	M-40 M-89 Over KALAMAZOO RIVER	Substructure Repair	N/A	N/A	N/A	\$	CON	N/A
Kent	213792	4812	I-196	I-196 EB Over CHICAGO DRIVE	Overlay - Epoxy	N/A	N/A	N/A	\$/CON	CON	N/A
Kent	213792	4813	I-196	I-196 WB Over CHICAGO DRIVE	Deck Replacement	N/A	N/A	N/A	\$/CON	CON	N/A
Kent	220486	4825	I-196	I-196 EB Over Bridge Street	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
Kent	220486	4826	I-196	I-196 WB Over Bridge Street	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
Kent	220486	4827	I-196	I-196 EB Over Valley & Garfield Avenues	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
Kent	220486	4828	I-196	I-196 WB Over Valley & Garfield Avenues	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON

Freeway Resurfacing Program - Total Length: 4.167

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Ionia	219486	N/A	I-96 E	from The Grand River east to Ionia E Co Line	Road Capital Preventive Maintenance	4.167	\$	CON	N/A	N/A	N/A

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Non-Freeway Resurfacing Program (NFRP) - Total Length: 5.346

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Allegan	200626	N/A	M-222	from the Kalamazoo River east to Grand Ravine Drive	Road Capital Preventive Maintenance	0.803	\$	CON	N/A	N/A	N/A
Montcalm	213346	N/A	M-46	From Miles Road east to M-66 (East Junction)	Road Capital Preventive Maintenance	4.543	\$	CON	CON	N/A	N/A

Operations - Total Length: 19.454

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Kent	211694	N/A	US-131	From I-96 north to Post Drive	Active Traffic Management	6.185	\$	CON	N/A	N/A	N/A
Kent	211694	4989	US-131	US-131 SB Over 6 MILE RD	Widen - Add Lanes	6.185	\$	CON	N/A	N/A	N/A
Kent	211694	4990	US-131	US-131 NB Over 6 MILE RD	Deck Patching	6.185	\$	CON	N/A	N/A	N/A
Kent	220402	N/A	US-131 Southbound	exit ramp to 84th Street	Minor Widening	0.172	N/A	N/A	\$	CON	N/A
Allegan	220404	N/A	US-131 Southbound	exit ramp to 142nd Avenue	Minor Widening	0.136	N/A	N/A	\$	CON	N/A
Kent	220397	N/A	M-57	at Northland Drive	Traffic Safety	0.304	N/A	N/A	N/A	\$/CON	N/A
Ottawa	213616	N/A	US-31	at Jackson Street	Traffic Safety	0.287	N/A	N/A	N/A	N/A	\$

Rest Areas

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Mecosta	213323	N/A	US-131	Big Rapids Rest Area #534R	Roadside Facilities - Improve	N/A	N/A	\$/CON	CON	N/A	N/A
Montcalm	203287	N/A	US-31	Morley Rest Area #533-R	Roadside Facilities - Improve	N/A	N/A	N/A	\$/CON	CON	N/A

Road - Rehabilitation and Reconstruction - Total Length: 59.509

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Kent	210063		M-37	from south of 92nd Street to north of 76th Street	Major Widening	2.994	\$/CON	CON			
Muskegon	214896		M-46	from Muskegon Avenue east to Home Street	Reconstruction	2.083	\$/CON				

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Mason	200682	N/A	US-31	from Freeman Road north to Hoague Road	Road Rehabilitation	4.101	\$	CON	N/A	N/A	N/A
Kent	210046	N/A	M-11	from Division Avenue east to Kalamazoo Avenue	Reconstruction	1.850	\$/CON	CON	N/A	N/A	N/A
Barry	210819	N/A	M-66	from M-50 north to Barry/Ionia County Line	Road Rehabilitation	1.028	\$	CON	N/A	N/A	N/A
Montcalm	211041	N/A	M-91	from Stanton Road north to Kendaville Road	Road Rehabilitation	4.377	\$	CON	N/A	N/A	N/A
Muskegon	214169	N/A	US-31 BR	From the White River north to Stanton Boulevard	Road Rehabilitation	0.670	\$	CON	N/A	N/A	N/A
Ionia	214339	N/A	M-66	from Tuttle Road north to Wells Street	Reconstruction	2.100	\$	CON	N/A	N/A	N/A
★ Kent	224553		US-131	from the Grand Elk Railroad north to 100th Street	Reconstruction	1.728	\$	CON	N/A	N/A	N/A
Newaygo	207946	N/A	M-37	From M-82 (North Junction) to the White River	Road Rehabilitation	8.777	N/A	\$	CON	N/A	N/A
Oceana	207968	N/A	US-31 BR	From US-31 to Johnson Street	Road Rehabilitation	2.296	N/A	\$	CON	N/A	N/A
Ottawa	213157	N/A	US-31 NB	From Ransom Street north to Port Sheldon Street	Road Rehabilitation	2.625	N/A	\$	CON	N/A	N/A
Barry	216488	N/A	M-37	from Cook Road east to Broadway Street	Reconstruction	0.918	N/A	\$	CON	N/A	N/A
Kent	200112	N/A	M-6	from East Branch Rush Creek east to Burlingame Avenue	Road Rehabilitation	2.825	N/A	N/A	\$	CON	N/A
Osceola	201143	N/A	US-131 SB	From US-10 to 14 Mile Road, Ashton & Luther/ Leroy Carpool Parking Lots	Road Rehabilitation	7.714	N/A	N/A	\$/CON	N/A	N/A

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CON = Construction

\$ = Obligation Year

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Muskegon	211173	N/A	I-96	from US-31 east to Apple Drive	Road Rehabilitation	8.637	N/A	N/A	\$	CON	N/A
Ionia	213132	N/A	I-96	West of Sunfield Highway east to Portland Road	Reconstruction	3.305	N/A	N/A	N/A	N/A	\$
Ottawa	216348	N/A	US-31	Madison Street north to 3rd Street	Road Rehabilitation	1.481	N/A	N/A	N/A	N/A	\$

Traffic And Safety - Safety Programs - Total Length: 0.491

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Lake	222402	N/A	M-37	at N junction of US-10, W 24th St, Lake County	Traffic Safety	0.491	N/A	N/A	N/A	N/A	\$

Region: Metro

Bridge Replacement and Preservation

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Wayne	129149	11544	I-96 E	GREENFIELD RD Over I-96 & CSX RR	Bearing Realignment	N/A	\$/CON	N/A	N/A	N/A	N/A
Wayne	129149	11560	I-96 E	HUBBELL AVE Over I-96 (JEFFRIES FRWY)	Deck Replacement	N/A	\$/CON	N/A	N/A	N/A	N/A
Wayne	129149	11561	I-96 E	FULLERTON AVE Over I-96 (JEFFRIES FRWY)	Bridge Removal	N/A	\$/CON	N/A	N/A	N/A	N/A
Wayne	129149	11600	I-96 E	CSX RR Over I-96 (JEFFRIES FRWY)	Substructure Patching	N/A	\$/CON	N/A	N/A	N/A	N/A
Wayne	214143	11560	Hubbell St	HUBBELL AVE Over I-96 (JEFFRIES FRWY)	Deck Replacement	N/A	\$/CON	N/A	N/A	N/A	N/A
Macomb	224992	6182	I-94	M-3 & M-29 Over I-94	Painting - Zone	N/A	\$/CON	N/A	N/A	N/A	N/A
Wayne	127665	11328	M-153	M-153 WB Over ROUGE RIVER	Deck Replacement	N/A	\$	CON	N/A	N/A	N/A
Wayne	127665	11329	M-153	M-153 EB Over ROUGE RIVER	Deck Replacement	N/A	\$	CON	N/A	N/A	N/A
Oakland	210111	7988	M-150	M-150 Over PAINT CREEK	Overlay - Epoxy	N/A	\$	CON	N/A	N/A	N/A

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Oakland	210111	7989	M-150	M-150 Over GTW RR, CLIN R, 1ST&2ST	Overlay - Epoxy	N/A	\$	CON	N/A	N/A	N/A
Oakland	210113	7857	M-1	M-1 Over STONEY CROFT DRAIN	Culvert Replacement	N/A	\$/CON	CON	N/A	N/A	N/A
Oakland	210219	7846	M-59	M-150 Over M-59	Overlay - Epoxy	N/A	\$	CON	N/A	N/A	N/A
Wayne	219825	11773	I-75 N/ Grand River Ramp	I-75 N TO M-10 RMP Over M-10 TO I-75N RAMP	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Wayne	219827	11377	M-8 E/S I 75 Ramp	EB M-8 RMP TO I-75 Over S SERVICE DRIVE, M-8	Deck Replacement	N/A	\$	CON	N/A	N/A	N/A
Oakland	219828	8019	I-75	SASHABAW RD Over I-75	Bearing Realignment	N/A	\$/CON	N/A	N/A	N/A	N/A
Oakland	219828	8021	I-75	I-75 NB Over CLARKSTON RD	Overlay - Shallow	N/A	\$/CON	N/A	N/A	N/A	N/A
Wayne	215054	11403	M-10	GRAND RIVER AVE Over M-10	Overlay - Epoxy	N/A	N/A	\$/CON	N/A	N/A	N/A
Wayne	215054	11435	M-10	WEBB AVE Over M-10	Overlay - Epoxy	N/A	N/A	\$/CON	N/A	N/A	N/A
Wayne	215054	11439	M-10	M-10 RAMP Over M-8 EB DAVISON	Overlay - Epoxy	N/A	N/A	\$/CON	N/A	N/A	N/A
Wayne	215054	11450	M-10	MYERS RD Over M-10	Deck Patching - Full Depth	N/A	N/A	\$/CON	N/A	N/A	N/A
Wayne	215054	11771	M-10	I-75 W S RAMP Over M-10	Overlay - Epoxy	N/A	N/A	\$/CON	N/A	N/A	N/A
Wayne	215054	13499	M-10	M-10 WB Over M-8 RAMP TO M-10 SB	Overlay - Epoxy	N/A	N/A	\$/CON	N/A	N/A	N/A
Wayne	223612	11412	M-10	HOLDEN AVE WALKOVER Over M-10	Bridge Replacement	N/A	N/A	\$	CON	N/A	N/A
Wayne	224671	11388	M-10	MERRICK AVE WALKOV Over M-10	Bridge Replacement	N/A	N/A	\$/CON	N/A	N/A	N/A
Macomb	130126	6139	I-94	I-94 Over CLINTON RIVER CONTROL CH	Overlay - Epoxy	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130126	6140	I-94	I-94 RAMP(WB BEACH Over CLINTON RIVER SPILLWAY	Overlay - Epoxy	N/A	N/A	N/A	\$/CON	N/A	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Macomb	130126	6141	I-94	I-94 WB Over CLINTON RIVER, N&S RDS	Scour Protection	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130126	6142	I-94	I-94 EB Over CLINTON RIVER, N&S RDS	Scour Protection	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130126	6145	I-94	I-94 EB Over SELFRIDGE ANGB SPUR TRK	Healer Sealer	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130126	6146	I-94	I-94 WB Over SELFRIDGE ANGB SPUR TRK	Healer Sealer	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130126	6170	I-94	I-94 EB Over CROCKER RD	Overlay - Epoxy	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130126	6171	I-94	I-94 WB Over CROCKER RD	Overlay - Epoxy	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130126	6172	I-94	I-94 EB Over JOY RD	Superstructure Repair - Concrete	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130126	6173	I-94	I-94 WB Over JOY RD	Superstructure Repair - Concrete	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130126	6182	I-94	M-3 & M-29 Over I-94	Joint Replacement	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130128	6175	I-94	21 MILE ROAD Over I-94	Overlay - Epoxy	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	130128	6176	I-94	COTTON ROAD Over I-94	Healer Sealer	N/A	N/A	N/A	\$/CON	N/A	N/A
Wayne	215542	11284	US-24	US-24 Over CONRAIL	Deck Replacement	N/A	N/A	N/A	\$/CON	N/A	N/A
Macomb	213854	6078	I-696	EB 11 MILE ROAD Over I-696	Deck Replacement	N/A	N/A	N/A	N/A	\$/CON	N/A
Macomb	213881	6124	I-696	BELANGER AVENUE Over I-696	Deck Replacement	N/A	N/A	N/A	N/A	\$/CON	N/A
Macomb	213881	6125	I-696	BARKMAN AVENUE Over I-696	Deck Replacement	N/A	N/A	N/A	N/A	\$/CON	N/A
Wayne	214963	11685	M-39	HUBBARD AV EB Over M-39	Substructure Replacement	N/A	N/A	N/A	N/A	\$/CON	N/A
Wayne	214963	11686	M-39	HUBBARD AV WB Over M-39	Substructure Replacement	N/A	N/A	N/A	N/A	\$/CON	N/A
Wayne	214963	11688	M-39	WARREN AVE Over M-39	Miscellaneous Bridge CPM	N/A	N/A	N/A	N/A	\$/CON	N/A
Wayne	214963	11690	M-39	JOY RD Over M-39	Miscellaneous Bridge CPM	N/A	N/A	N/A	N/A	\$/CON	N/A

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Wayne	214963	11692	M-39	W CHICAGO AVE Over M-39	Miscellaneous Bridge CPM	N/A	N/A	N/A	N/A	\$/CON	N/A
Wayne	221825	11558	I-96	I-96 RAMP Over LAND	Deck Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON

Operations - Total Length: 1.882

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Macomb	214565	N/A	I-94 W	I-94 Between M-59 and 21 Mile Road	Minor Widening	1.882	N/A	N/A	\$/CON	N/A	N/A

Road - Rehabilitation and Reconstruction - Total Length: 33.878

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Wayne	210324		US-12	I-96 to Cass Ave	Reconstruction	1.621	\$/CON	CON	N/A	N/A	N/A
Oakland	221839		M-59 E	EB at Ormond Rd	Reconstruction	0.241	\$	CON	N/A	N/A	N/A
Wayne	225323		I-75	Savannah Avenue over I-75	Traffic Safety	N/A	\$	CON	N/A	N/A	N/A
Wayne	225358		US-12	CSX RR Bridge (str 11308) over US-12	Bridge Miscellaneous	N/A	\$	CON	N/A	N/A	N/A
Wayne	225358	11308	US-12	CSX RR Over US-12	Railroad Oversight	N/A	\$	CON	N/A	N/A	N/A
Wayne	120048	N/A	M-85	Rosa Parks Blvd to Griswold	Road Rehabilitation	1.120	\$	CON	N/A	N/A	N/A
Oakland	204314	N/A	M-150	Avon to Clinton River and Paint Creek to Tienken	Reconstruction	1.464	\$	CON	CON	N/A	N/A
Oakland	210081	N/A	M-150	M-59 to Avon Road	Road Rehabilitation	2.781	\$	CON	CON	N/A	N/A
Oakland	210599	N/A	I-75BL (Woodward Ave Loop)	I-75 BL (Woodward Ave Loop), M-59, and US-24 BR (N Cass Ave)	Reconstruction	2.696	\$/CON	CON	N/A	N/A	N/A
Oakland	210599	7991	I-75BL (Woodward Ave Loop)	US-24 BR Over PONTIAC CREEK	Joint Repair	N/A	\$/CON	CON	N/A	N/A	N/A
Oakland	210599	8137	I-75BL (Woodward Ave Loop)	I-75 BR Over CLINTON RIVER	Miscellaneous Rehabilitation	N/A	\$/CON	CON	N/A	N/A	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Oakland	210599	8138	I-75BL (Woodward Ave Loop)	I-75 BR Over PONTIAC CREEK	Crack Sealing	N/A	\$/CON	CON	N/A	N/A	N/A
Oakland	210599	8139	I-75BL (Woodward Ave Loop)	I-75 BR Over PONTIAC CREEK	Joint Repair	N/A	\$/CON	CON	N/A	N/A	N/A
Oakland	210599	13756	I-75BL (Woodward Ave Loop)	I-75 BR Over CLINTON RIVER	Crack Sealing	N/A	\$/CON	CON	N/A	N/A	N/A
Oakland	210599	13757	I-75BL (Woodward Ave Loop)	M-59 (E HURON ST) Over PONTIAC CREEK	Crack Sealing	N/A	\$/CON	CON	N/A	N/A	N/A
Macomb	211179	N/A	M-3 NB	Church St to Canfield Dr	Reconstruction	1.478	\$/CON	N/A	N/A	N/A	N/A
Wayne	211181	N/A	M-10	Meyers to I-75	Road Rehabilitation	9.480	N/A	\$/CON	N/A	N/A	N/A
Wayne	220874	N/A	US-12	County Line to Denton Rd	Road Rehabilitation	1.421	N/A	\$/CON	N/A	N/A	N/A
Wayne	220988	N/A	US-12	Haggerty to Lotz and EB / 0.2 miles west of Pershing to Howe	Reconstruction	2.023	N/A	\$/CON	N/A	N/A	N/A
Wayne	76899	N/A	US-24	Carter to Pennsylvania	Reconstruction	2.633	N/A	N/A	\$/CON	CON	N/A
Wayne	123138	N/A	M-153	W. of Sheldon Rd. to W. of Lotz Rd.	Reconstruction	2.412	N/A	N/A	\$/CON	CON	N/A
Wayne	221901	N/A	M-39	Lafayette Blvd to Porter St	Reconstruction	0.432	N/A	N/A	N/A	\$/CON	CON
Macomb	221899	N/A	M-59	Ryan Rd to Van Dyke Ave	Road Rehabilitation	1.981	N/A	N/A	N/A	N/A	\$/CON
Oakland	221906	N/A	M-59	Pontiac Lake Rd to Airport Rd	Reconstruction	2.095	N/A	N/A	N/A	N/A	\$/CON

Traffic And Safety - Safety Programs - Total Length: 1.604

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Wayne	221478	N/A	M-102 E	M-102 (8 Mile Road) at Pinecrest	Traffic Safety	0.218	\$/CON	CON	N/A	N/A	N/A
Oakland	214148	N/A	I-75 Ramps	at Grange Hall Road	Traffic Safety	0.943	N/A	\$/CON	N/A	N/A	N/A
Oakland	214047	N/A	US-24	at White Lake Road	Traffic Safety	0.294	N/A	N/A	\$	CON	N/A
Macomb	222418	N/A	M-19	at Gratiot Ave and County Line Rd	Traffic Safety	0.149	N/A	N/A	N/A	\$	CON

Trunkline Modernization I-375 Detroit - Total Length: 3.362

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Wayne	130035	N/A	I-375	I-75 Interchange to Atwater Street	Reconstruction	3.362	CON	CON	CON	N/A	N/A
Wayne	130035	11326	I-375	M-3 (GRATIOT AVE) Over DEQUINDRE CUT	Bridge Replacement	N/A	CON	CON	CON	N/A	N/A
Wayne	130035	11392	I-375	LARNED ST Over I-375	Bridge Removal	N/A	CON	CON	CON	N/A	N/A
Wayne	130035	11393	I-375	JEFFERSON AVE Over I-375	Bridge Removal	N/A	CON	CON	CON	N/A	N/A
Wayne	130035	11394	I-375	HASTINGS ST Over I-375	Bridge Removal	N/A	CON	CON	CON	N/A	N/A

Trunkline Modernization I-94 Detroit - Total Length: 1.226

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Wayne	224586		I-94 E	Brooklyn Street pedestrian bridge over I-94	Bridge Miscellaneous	0.096	\$/CON	N/A	N/A	N/A	N/A
Wayne	224586	11168	I-94 E	BROOKLYN AV WALKOV Over I-94	Bridge Removal	N/A	\$/CON	N/A	N/A	N/A	N/A
Wayne	222848	N/A	I-94 W	from Cadillac Avenue to Barrett Avenue, City of Detroit	Road Rehabilitation	1.130	\$/CON	CON	N/A	N/A	N/A
Wayne	200216	N/A	I-94 E	at Conrail Railroad (X01 of 82025)	New Structure	N/A	N/A	\$	CON	CON	CON
Wayne	200216	11270	I-94 E	CR RR Over I-94	Bridge Removal	N/A	N/A	\$	CON	CON	CON
Wayne	200216	11271	I-94 E	CR RR SPUR BR(ABN) Over I-94	Bridge Removal	N/A	N/A	\$	CON	CON	CON
Wayne	200216	14358	I-94 E	CONRAIL RR Over I-94	New Structure on Existing Route	N/A	N/A	\$	CON	CON	CON
Wayne	200216	14359	I-94 E	CONRAIL RR Over I-94	New Structure on Existing Route	N/A	N/A	\$	CON	CON	CON
Wayne	200217	N/A	I-94	at Conrail Railroad (X02 of 82024)	Bridge Replacement	N/A	N/A	\$	CON	CON	N/A
Wayne	200217	11227	I-94	CONRAIL Over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Wayne	202543	N/A	I-94 E	from Burns Avenue to Barrett Avenue, City of Detroit	Reconstruction	1.019	N/A	\$	CON	CON	CON
Wayne	210984	N/A	I-94 E	Conner Ave over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	CON
Wayne	210984	11248	I-94 E	SB CONNER AVE Over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	CON
Wayne	210984	11249	I-94 E	NB CONNER AVE Over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	CON
Wayne	210985	N/A	I-94 E	Rohns Ave over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	CON
Wayne	210985	11206	I-94 E	ROHNS AVE WALKOVER Over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	CON
Wayne	210986	N/A	I-94 E	Barrett Street over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	CON
Wayne	210986	11250	I-94 E	BARRETT AVE Over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	CON
Wayne	210987	N/A	I-94 W	Lemay St over I-94	New Structure	N/A	N/A	\$	CON	CON	CON
Wayne	210987	14371	I-94 W	LEMAY ST Over I-94	New Structure on Existing Route	N/A	N/A	\$	CON	CON	CON
Wayne	210988	N/A	I-94 E	Malcolm Ave Walkover over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	CON
Wayne	210988	11230	I-94 E	MALCOLM AVE WALKOV Over I-94	Bridge Replacement	N/A	N/A	\$	CON	CON	CON
Wayne	210989	N/A	I-94 W	Conner Creek Greenway (Iron Belle Trail) over I-94	New Structure	N/A	N/A	\$	CON	CON	CON
Wayne	210989	14373	I-94 W	IRON BELLE TRAIL Over I-94	New Structure on New Route	N/A	N/A	\$	CON	CON	CON
Wayne	217121	N/A	I-94 W	Various locations adjacent to the I-94 Mega Project	Environmental	N/A	N/A	N/A	N/A	N/A	\$/CON

Region: North

Bridge - Big Bridge Program

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Charlevoix	224499	1471	US-31	US-31 Over PINE RIVER	Miscellaneous Bridge	N/A	N/A	\$/CON	CON	N/A	N/A
Presque Isle	209348	8965	US-23	US-23 Over OCQUEOC RIVER	Substructure Replacement	N/A	N/A	\$/CON	N/A	N/A	N/A
Iosco	219358	4116	Old M 65	M-65 PED ONLY Over AU SABLE RIVER	Overlay - Epoxy	N/A	N/A	\$/CON	CON	N/A	N/A

Bridge Replacement and Preservation

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Emmet	221521	2446	US-31	US-31, M-68 Over BEAR CREEK	Substructure Patching	N/A	\$/CON	N/A	N/A	N/A	N/A
Crawford	211042	2032	I-75	I-75 SB Over LAKE STATE RR	Deck Replacement	N/A	N/A	\$/CON	CON	N/A	N/A
Crawford	211042	2033	I-75	I-75 NB Over LAKE STATE RR	Deck Replacement	N/A	N/A	\$/CON	CON	N/A	N/A
Crawford	211042	2036	I-75	I-75 SB Over M-72	Bridge Replacement	N/A	N/A	\$/CON	CON	N/A	N/A
Crawford	211042	2037	I-75	I-75 NB Over M-72	Bridge Replacement	N/A	N/A	\$/CON	CON	N/A	N/A
Cheboygan	217117	1507	M-68	M-68 Over I-75 SB	Superstructure Repair - Steel	N/A	N/A	N/A	\$	CON	N/A
Cheboygan	217117	1508	M-68	M-68 Over I-75 NB	Superstructure Repair - Steel	N/A	N/A	N/A	\$	CON	N/A
Cheboygan	217117	1509	M-68	ONAWAY RD/ OLD M-68 Over I-75	Superstructure Repair - Steel	N/A	N/A	N/A	\$	CON	N/A
Presque Isle	214945	8952	M-68	M-68 Over RAINY RIVER	Bridge Replacement	N/A	N/A	N/A	N/A	N/A	\$

Non-Freeway Resurfacing Program (NFRP) - Total Length: 22.510

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Manistee	208838	N/A	M-55	from Udell Hills Road to M-37	Road Capital Preventive Maintenance	11.656	\$/CON	N/A	N/A	N/A	N/A
Cheboygan	213441	N/A	M-68	from US-31 to King Road	Road Capital Preventive Maintenance	6.864	\$	CON	N/A	N/A	N/A

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Project obligating in later years may also not show construction if outside the five-year timeframe.

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Charlevoix	217244	N/A	M-75	from US-131 to Air Industrial Park	Road Capital Preventive Maintenance	3.990	\$/CON	N/A	N/A	N/A	N/A

Operations - Total Length: 0.405

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Grand Traverse	214656	N/A	US-31	at the southerly M-37 intersection.	Minor Widening	0.405	N/A	N/A	\$/CON	N/A	N/A

Road - Rehabilitation and Reconstruction - Total Length: 21.004

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Otsego	225165	N/A	Regionwide	Various Locations - North Region	Contracts	N/A	\$/CON	N/A	N/A	N/A	N/A
Ogemaw	221471	N/A	M-33	from Grand Jean Road to Oyster Road	Road Rehabilitation	1.871	N/A	N/A	N/A	N/A	\$/CON
Otsego	215026	N/A	M-32	at the M-32 Interchange.	Major Widening	4.087	\$/CON	CON	CON	N/A	N/A
Otsego	215026	8677	M-32	I-75 SB Over M-32	Bridge Replacement	N/A	\$/CON	CON	CON	N/A	N/A
Otsego	215026	8678	M-32	I-75 NB Over M-32	Bridge Replacement	N/A	\$/CON	CON	CON	N/A	N/A
Iosco	210956	N/A	US-23	from the Tawas River Bridge to Tawas Beach Road.	Reconstruction	3.154	N/A	\$/CON	N/A	N/A	N/A
Manistee	211379	N/A	US-31	from Stronach Road to Mason Street and from Van Buren Street to M-55.	Reconstruction	4.702	N/A	\$/CON	CON	N/A	N/A
Oscoda	213198	N/A	M-72	from Fourteenth Street to M-33.	Reconstruction	1.532	N/A	N/A	\$/CON	N/A	N/A
Emmet	221469	N/A	US-31	from East Levering Road to the Carp Lake River bridge	Road Rehabilitation	3.787	N/A	N/A	N/A	N/A	\$/CON
Ogemaw	221471	N/A	M-33	from Grand Jean Road to Oyster Road	Road Rehabilitation	1.871	N/A	N/A	N/A	N/A	\$/CON

Traffic And Safety - Safety Programs - Total Length: 0.240

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Grand Traverse	222643	N/A	M-37	at the M-113 Intersection	Traffic Safety	0.240	N/A	N/A	N/A	N/A	\$

Region: Southwest

Bridge Replacement and Preservation - Total Length 0.270

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Calhoun	203293	1192	M-89 (Washington Avenue)	M-89 (WASHINGTON) Over GTW RR & KALAMAZOO RIVER	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	211178	4601	M-96	M-96 (KING HWY) Over KALAMAZOO RIVER	Overlay - Deep	N/A	\$	CON	N/A	N/A	N/A
Berrien	211253	929	I-196	RIVERSIDE ROAD Over I-196	Bridge Barrier Railing Replace	N/A	\$	CON	N/A	N/A	N/A
Berrien	211253	930	I-196	CENTRAL AVENUE Over I-196	Bridge Barrier Railing Replace	N/A	\$	CON	N/A	N/A	N/A
Van Buren	211334	10703	I-94	58 TH STREET (CR 681) Over I-94	Overlay - Shallow	N/A	\$	CON	N/A	N/A	N/A
Berrien	211558	925	I-196	RED ARROW HIGHWAY Over I-196	Overlay - Deep	N/A	\$	CON	N/A	N/A	N/A
Van Buren	211566	10704	I-94	54 TH STREET (CR 215) Over I-94	Overlay - Shallow	N/A	\$	CON	N/A	N/A	N/A
Calhoun	213719	1191	M-89	M-89 (WASHINGTON) Over BATTLE CREEK RIVER	Superstructure Replacement	0.270	\$/CON	CON	N/A	N/A	N/A
Berrien	214931	832	I-94	I-94 EB Over M-139	Healer Sealer	N/A	\$/CON	CON	N/A	N/A	N/A
Berrien	214931	833	I-94	I-94 WB Over M-139	Healer Sealer	N/A	\$/CON	CON	N/A	N/A	N/A
Berrien	214931	834	I-94	NICKERSON AVE Over I-94	Healer Sealer	N/A	\$/CON	CON	N/A	N/A	N/A
Berrien	214931	849	I-94	FRIDAY ROAD Over I-94	Healer Sealer	N/A	\$/CON	CON	N/A	N/A	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Calhoun	214947	1212	I-94BL	I-94 BL (E MICH) Over MDOT RR CORRIDOR	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	214964	4552	US-131	CENTRE AVE (Q AVE) Over US-131	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	214964	4553	US-131	MILHAM RD (O AVE) Over US-131	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	214964	4558	US-131	PARKVIEW (M AVE) Over US-131	Asphalt overlay w/ waterproofing membrane	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	214964	4559	US-131	I-94 BL (STADIUM) Over US-131	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	214964	4560	US-131	MICHIGAN AVE Over US-131	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	214964	4561	US-131	M-43 (MAIN STREET) Over US-131	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	214964	4562	US-131	H AVE Over US-131	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	214964	4565	US-131	US-131 SB Over D AVE	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	214964	4566	US-131	US-131 NB Over D AVE	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Berrien	214992	12899	US-31	NAPIER AVE Over US-31	Healer Sealer	N/A	\$	CON	N/A	N/A	N/A
Berrien	215028	837	I-94	NAPIER ROAD Over I-94	Overlay - Epoxy	N/A	\$	CON	N/A	N/A	N/A
Kalamazoo	215034	4579	I-94	SPRINKLE ROAD Over I-94	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Kalamazoo	215052	4567	US-131	B AVE Over US-131	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Calhoun	217224	1316	M-294	M-294 (BEADLE LK) Over KALAMAZOO RIVER	Healer Sealer	N/A	\$/CON	N/A	N/A	N/A	N/A
Calhoun	211021	13362	M-311	M-311 (11 MILE ROAD) Over ALDER CREEK	Bridge Replacement	N/A	N/A	\$/CON	N/A	N/A	N/A
Kalamazoo	213236	4564	US-131	RAVINE ROAD Over US-131	Overlay - Deep	N/A	N/A	\$	CON	N/A	N/A
Calhoun	213631	1205	I-194 NB & SB	I-194 NB Over GOLDEN AVENUE	Overlay - Shallow	N/A	N/A	\$/CON	CON	N/A	N/A

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Calhoun	213631	1206	I-194 NB & SB	I-194 SB Over GOLDEN AVENUE	Overlay - Shallow	N/A	N/A	\$/CON	CON	N/A	N/A
Calhoun	217672	1321	M-311	M-311 (11 MILE RD) Over NOTTAWA CREEK	Bridge Replacement	N/A	N/A	\$/CON	N/A	N/A	N/A
St. Joseph	200913	10274	M-60 and M-66	M-60 AND M-66 Over NOTTAWA CREEK	Overlay - Epoxy	N/A	N/A	N/A	\$/CON	CON	N/A
St. Joseph	211326	10270	M-60	M-60 & US-131 BR Over ROCKY RIVER	Overlay - Deep	N/A	N/A	N/A	\$/CON	CON	N/A
St. Joseph	211326	10271	M-60	M-60 & US-131 BR Over ROCKY RIVER RACE	Overlay - Shallow	N/A	N/A	N/A	\$/CON	CON	N/A
St. Joseph	211326	10272	M-60	M-60 Over PORTAGE RIVER	Bridge Replacement	N/A	N/A	N/A	\$/CON	CON	N/A
St. Joseph	211326	10281	M-60	M-86 (SOUTH MAIN STREET) Over ST JOSEPH RIVER	Healer Sealer	N/A	N/A	N/A	\$/CON	CON	N/A
Calhoun	217338	1211	M-89	M-89 Over WABASCON CREEK	Deck Replacement	N/A	N/A	N/A	\$/CON	N/A	N/A
Van Buren	221481	10697	I-94	I-94 EB Over PINE CREEK	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10698	I-94	I-94 WB Over PINE CREEK	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10701	I-94	64 TH ST (CR687) Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10702	I-94	62 ND STREET Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10705	I-94	52 ND ST (CR365) Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Van Buren	221481	10706	I-94	50 TH STREET Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10707	I-94	46 TH STREET Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10708	I-94	M-51 Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10711	I-94	I-94 EB Over E BR OF PAW PAW RIVER	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10714	I-94	I-94 EB Over AMTRAK	Overlay - Epoxy	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10715	I-94	I-94 WB Over AMTRAK	Overlay - Epoxy	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10716	I-94	41 ST STREET Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10717	I-94	PAW PAW ROAD Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10720	I-94	28 TH ST (CR657) Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	221481	10721	I-94	24 TH STREET Over I-94	Healer Sealer	N/A	N/A	N/A	N/A	N/A	\$/CON

Freeway Resurfacing Program - Total Length: 6.356

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Van Buren	219291	N/A	I-196 S	From Berrien County Line to closed Covert Rest Area	Road Capital Preventive Maintenance	6.356	\$/CON	N/A	N/A	N/A	N/A

Marshall Modernization - Total Length: 15.240

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Calhoun	217737	N/A	M-96	East of Eden Street to 15 Mile Road South	Reconstruction	2.466	CON	CON	CON	N/A	N/A
Calhoun	218872	N/A	I-69	I-69 at M-96 Interchange, I-69 from M-96 to I-94	Reconstruction	2.848	CON	CON	CON	N/A	N/A
Calhoun	219004	N/A	M-96	Strongwood Ave to East of Eden St	Reconstruction	3.483	CON	CON	CON	N/A	N/A
Calhoun	219007	N/A	I-94	Kalamazoo River to I-69	Reconstruction	6.443	CON	CON	CON	CON	N/A

Non-Freeway Resurfacing Program (NFRP) - Total Length: 12.531

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Calhoun	219406		I-94BL	from Dickman Road to Amtrak railroad crossing	Road Capital Preventive Maintenance	1.338	\$/CON	N/A	N/A	N/A	N/A
Cass	216909	N/A	US-12	from M-62 to Union	Road Capital Preventive Maintenance	11.193	\$/CON	N/A	N/A	N/A	N/A

Operations - Total Length: 2.705

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Calhoun	222973	N/A	M-96	at M-294 (Beadle Lake Rd)	Reconstruction	0.062	N/A	N/A	\$/CON	CON	N/A
Cass	220408	N/A	US-12	US-12 at Gumwood Road	Traffic Safety	2.643	N/A	N/A	N/A	\$/CON	N/A

Road - Rehabilitation and Reconstruction - Total Length: 17.053

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Berrien	210875	N/A	M-139	from 0.44 miles south of I-94 to I-94 BL	Reconstruction	4.280	\$/CON	CON	N/A	N/A	N/A
Berrien	210875	14725	M-139	M-139 NB (MLK DR) Over HANCOCK & EASTMAN DR	Culvert Replacement	N/A	\$/CON	CON	N/A	N/A	N/A
Berrien	210875	14726	M-139	M-139 SB (FAIR AVE) Over HANCOCK & EASTMAN DR	Culvert Replacement	N/A	\$/CON	CON	N/A	N/A	N/A
Berrien	213168	N/A	M-63	from Central Avenue to the Blossomland and Bicentennial Bridges	Reconstruction	1.287	N/A	\$/CON	CON	CON	N/A
St. Joseph	211043	N/A	M-60	M-60, M-86, US-131BR in the City of Three Rivers	Reconstruction	3.862	N/A	N/A	\$/CON	CON	CON
St. Joseph	214876	N/A	M-66	From US-12 to Lafayette Street	Reconstruction	0.777	N/A	N/A	N/A	\$/CON	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Van Buren	204883	N/A	I-94	from east of M-51 to east of M-40	Road Rehabilitation	6.847	N/A	N/A	N/A	N/A	\$/CON
Van Buren	204883	10709	I-94	I-94 EB Over S BR PAW PAW RIVER	Overlay - Epoxy	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	204883	10710	I-94	I-94 WB Over S BR PAW PAW RIVER	Overlay - Epoxy	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	204883	10713	I-94	I-94 Over THREE MILE LAKE DRAIN	Minor Concrete Patching	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	204883	10718	I-94	M-40 Over I-94	Bridge Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
Van Buren	204883	10731	I-94	M-40 Over E BR PAW PAW RIVER	Superstructure Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON

Traffic And Safety - Safety Programs - Total Length: 0.003

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Cass	222448	N/A	US-12	At Baldwin Prairie Road	Traffic Safety	0.003	N/A	N/A	N/A	N/A	\$/CON

Region: Superior

Bridge - Big Bridge Program

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Houghton	212997	3380	US-41	US-41&M-26,RR(ABN) Over PORTAGE LAKE & EB M-26	Deck Replacement	N/A	\$	CON	CON	N/A	N/A
Chippewa	214198	1570	I-75 BS	I-75 BS (ASHMUN) Over POWER CANAL	Overlay - Epoxy	N/A	N/A	\$/CON	CON	N/A	N/A
Chippewa	214198	1571	I-75 BS	I-75 BS (PORTAGE) Over POWER CANAL	Overlay - Epoxy	N/A	N/A	\$/CON	CON	N/A	N/A
Baraga	219333	482	US-41	US-41 Over STURGEON RIVER	Overlay - Epoxy	N/A	N/A	\$/CON	CON	N/A	N/A
Baraga	219333	8491	US-41	M-28 Over M BR ONTONAGON RIVER	Overlay - Epoxy	N/A	N/A	\$/CON	CON	N/A	N/A

Bridge Replacement and Preservation

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Chippewa	220528	1609	M-129	M-129 Over FLETCHER CREEK	Bridge Replacement	N/A	\$/CON	N/A	N/A	N/A	N/A
Marquette	201715	13666	US-41	OLD M-28 Over CARP RIVER	Bridge Removal	N/A	N/A	\$/CON	N/A	N/A	N/A
Gogebic	211547	2945	US-2	US-2 Over POWDER MILL CREEK	Deck Replacement	N/A	N/A	N/A	\$	CON	N/A
Marquette	217042	13417	M-553	M-553 Over HALFWAY CREEK	Culvert Replacement	N/A	N/A	N/A	\$	CON	N/A
Mackinac	219779	5930	US-2	US-2 Over BLACK RIVER	Superstructure Replacement	N/A	N/A	N/A	N/A	\$	CON
Keweenaw	213374	5263	M-26	M-26 Over ELIZA CREEK	Culvert Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON

Non-Freeway Resurfacing Program (NFRP) - Total Length: 39.735

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Schoolcraft	219521	N/A	M-94	from Dodge Lake Road to Alger County line	Road Capital Preventive Maintenance	22.210	\$	CON	N/A	N/A	N/A
Ontonagon	219538	N/A	M-64	from Bergland to Silver City	Road Capital Preventive Maintenance	17.525	\$	CON	N/A	N/A	N/A

Operations - Total Length: 0.960

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Delta	214595	N/A	US-2	at North 30th Street in Escanaba.	Traffic Safety	0.130	N/A	N/A	\$	CON	N/A
Delta	219198	N/A	US-2 E	at M-35 in the city of Gladstone.	Traffic Safety	0.830	N/A	N/A	N/A	\$	CON

Road - Rehabilitation and Reconstruction - Total Length: 55.879

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Delta	222017	2086	US-2	C&NW RR Over US-2	Railroad Oversight	N/A	N/A	\$	CON	N/A	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Iron	203897	N/A	US-2	from the state line northerly to County Airport Road	Reconstruction	3.765	\$/CON	N/A	N/A	N/A	N/A
Alger	208891	N/A	US-41	from the Delta/ Alger county line to the Alger/ Marquette county line	Road Rehabilitation	11.031	\$	CON	N/A	N/A	N/A
Mackinac	211047	N/A	M-134	from southbound I-75 ramps to east of northbound I-75 ramps	Road Rehabilitation	0.408	\$	CON	N/A	N/A	N/A
Delta	214958	N/A	US-2	from North 30th Street to 9th Avenue in the city of Escanaba	Reconstruction	1.325	\$	CON	CON	N/A	N/A
Gogebic	201228	N/A	US-2	from Eddy Street to Pierce Street in the city of Wakefield	Reconstruction	1.073	N/A	\$	CON	N/A	N/A
Marquette	217409	N/A	M-95	from County Road FH to County Road 601	Road Rehabilitation	0.579	N/A	\$	CON	N/A	N/A
Delta	219531	N/A	US-2	from 9th Avenue northerly to Danforth Road in Escanaba.	Reconstruction	0.925	N/A	\$	CON	N/A	N/A
Delta	219531	2086	US-2	C&NW RR Over US-2	Bridge Replacement	N/A	N/A	\$	CON	N/A	N/A
Gogebic	208803	N/A	US-45	from the state line northerly to US-2	Road Rehabilitation	7.423	N/A	N/A	\$	CON	N/A
Marquette	215469	N/A	M-35	from Marshall Drive to Smith Street	Road Rehabilitation	1.291	N/A	N/A	\$	CON	N/A
Mackinac	217178	N/A	US-2	from Worth Road to Wildwood Road	Road Rehabilitation	4.443	N/A	N/A	\$	CON	N/A
Iron	219523	N/A	US-2	from north of County Road 424 southerly to County Airport Road.	Reconstruction	3.627	N/A	N/A	\$	CON	N/A

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Delta	211067	N/A	M-35	from US-2 to 13th Street in the city of Gladstone	Reconstruction	0.157	N/A	N/A	N/A	\$	CON
Alger	211012	N/A	M-28	from the Marquette/Alger county line to Shelter Bay Road	Road Rehabilitation	8.177	N/A	N/A	N/A	N/A	\$
Gogebic	213446	N/A	US-2	from Old US-2 west of Watersmeet easterly to the Gogebic/Iron county line.	Road Rehabilitation	11.655	N/A	N/A	N/A	N/A	\$

Traffic And Safety - Safety Programs - Total Length: 0.260

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Alger	214028	N/A	M-28	at Autrain Forest Lake Road intersection	Traffic Safety	0.260	N/A	\$/CON	N/A	N/A	N/A

Region: University

Bridge - Big Bridge Program

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Monroe	222004	7173	I-75 N	I-75 Over CONRAIL, RAISIN R, FRONT	Railroad Oversight	N/A	N/A	\$/CON	CON	N/A	N/A
Monroe	221124	7173	I-75 N	I-75 Over CONRAIL, RAISIN R, FRONT	Bridge Replacement	N/A	N/A	N/A	\$/CON	CON	CON

Bridge Replacement and Preservation

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Monroe	221976	7172	I-75 N	I-75 Over CN, GTW & NS RR'S	Railroad Oversight	N/A	N/A	\$	CON	CON	CON
Monroe	221977	7172	I-75 N	I-75 Over CN, GTW & NS RR'S	Railroad Oversight	N/A	N/A	\$	CON	CON	CON
Hillsdale	211678	3258	M-49	M-49 Over ST JOSEPH RIVER	Superstructure Replacement	N/A	\$/CON	N/A	N/A	N/A	N/A

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\$ = Obligation Year

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Monroe	221353	7097	US-23 N	US-23 Over LOCKWOOD CREEK	Substructure Patching	N/A	\$/CON	CON	CON	N/A	N/A
Monroe	221353	7098	US-23 N	US-23 Over HOEGLE DRAIN	Culvert Replacement	N/A	\$/CON	CON	CON	N/A	N/A
Monroe	221353	7106	US-23 N	RAUCH RD Over US-23	Overlay - Epoxy	N/A	\$/CON	CON	CON	N/A	N/A
Monroe	221353	7107	US-23 N	SUMMERFIELD RD Over US-23	Overlay - Epoxy	N/A	\$/CON	CON	CON	N/A	N/A
Monroe	221353	7108	US-23 N	IDA CENTER RD Over US-23	Overlay - Epoxy	N/A	\$/CON	CON	CON	N/A	N/A
Jackson	221989	13948	I-94 E	I-94 EB Over JAIL RR & GRAND RIVER	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Jackson	221989	13949	I-94 E	I-94 WB Over JAIL RR & GRAND RIVER	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Jackson	221989	14499	I-94 E	I-94 EB Over US-127	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Jackson	221989	14500	I-94 E	I-94 WB Over US-127	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Washtenaw	129977	10838	US-23	US-23 NB Over I-94	Overlay - Epoxy	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10839	US-23	US-23 SB Over I-94	Overlay - Epoxy	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10863	US-23	US-23 NB Over CONRAIL & HURON RIVER	Bridge Replacement	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10864	US-23	US-23 SB Over CONRAIL & HURON RIVER	Bridge Replacement	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10865	US-23	US-23NB, I-94BL Over PACKARD RD	Bridge Replacement	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10866	US-23	US-23SB, I-94BL Over PACKARD RD	Bridge Replacement	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10867	US-23	US-23 NB Over US-23 BR	Bridge Replacement	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10868	US-23	US-23 SB Over US-23 BR	Bridge Replacement	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10869	US-23	US-23 NB Over HURON RIVER DRIVE	Bridge Replacement	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10870	US-23	US-23 SB Over HURON RIVER DRIVE	Bridge Replacement	N/A	N/A	\$/CON	CON	CON	N/A

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Washtenaw	129977	10871	US-23	GEDDES RD Over US-23	Overlay - Deep	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10872	US-23	EARHART RD Over US-23	Bridge Replacement	N/A	N/A	\$/CON	CON	CON	N/A
Washtenaw	129977	10874	US-23	ELLSWORTH RD Over US-23	Overlay - Epoxy	N/A	N/A	\$/CON	CON	CON	N/A
Ingham	208841	1892	US-127	US-127 SB Over COLEMAN RD	Overlay - Epoxy	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	1893	US-127	US-127 NB Over COLEMAN RD	Overlay - Epoxy	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3842	US-127	US-127 NB Over RED CEDAR RIVER & RAMP V	Bridge Replacement	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3843	US-127	US-127 SB Over RED CEDAR RIVER & RAMP V	Bridge Replacement	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3844	US-127	US-127 SB RAMP Over RAMP TO I-496 WB	Deck Replacement	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3845	US-127	RAMP FROM I-496 EB Over US-127 NB RAMP	Deck Replacement	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3846	US-127	US-127 SB Over KALAMAZOO STREET	Bridge Barrier Railing Replace	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3847	US-127	US-127 SB Over M-143	Overlay - Epoxy	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3848	US-127	US-127 SB Over VINE STREET	Bridge Barrier Railing Replace	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3849	US-127	US-127 SB Over SELLERS STREET	Bridge Barrier Railing Replace	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3850	US-127	M-43 EB Over US-127	Bridge Barrier Railing Replace	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3851	US-127	M-43 WB Over US-127	Deck Replacement	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3852	US-127	US-127 NB Over KALAMAZOO STREET	Bridge Barrier Railing Replace	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3853	US-127	US-127 NB Over M-143	Overlay - Epoxy	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3854	US-127	US-127 NB Over VINE STREET	Bridge Barrier Railing Replace	N/A	N/A	\$	CON	CON	N/A
Ingham	208841	3855	US-127	US-127 NB Over SELLERS STREET	Bridge Barrier Railing Replace	N/A	N/A	\$	CON	CON	N/A

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Ingham	208841	3856	US-127	LAKE LANSING ROAD Over US-127	Overlay - Epoxy	N/A	N/A	\$	CON	CON	N/A
Lenawee	217553	5512	US-223	US-223 Over WOLF CREEK	Overlay - Epoxy	N/A	N/A	\$/CON	N/A	N/A	N/A
Lenawee	217553	5513	US-223	US-223 Over WOLF CREEK	Asphalt overlay w/ waterproofing membrane	N/A	N/A	\$/CON	N/A	N/A	N/A
Lenawee	217553	5521	US-223	US-223 Over MDOT RR COR & M-34	Overlay - Epoxy	N/A	N/A	\$/CON	N/A	N/A	N/A
Washtenaw	202036	10934	I-94 E	I-94 EB Over CONRAIL	Overlay - Epoxy	N/A	N/A	N/A	N/A	\$/CON	CON
Washtenaw	202036	10935	I-94 E	NOTTEN RD Over I-94	Overlay - Epoxy	N/A	N/A	N/A	N/A	\$/CON	CON
Washtenaw	202036	10936	I-94 E	KALMBACH RD Over I-94	Deck Replacement	N/A	N/A	N/A	N/A	\$/CON	CON
Washtenaw	202036	10937	I-94 E	I-94 EB Over PIERCE RD	Overlay - Epoxy	N/A	N/A	N/A	N/A	\$/CON	CON
Washtenaw	202036	10938	I-94 E	I-94 WB Over PIERCE RD	Overlay - Epoxy	N/A	N/A	N/A	N/A	\$/CON	CON
Washtenaw	202036	10939	I-94 E	M-52 Over I-94	Deck Replacement	N/A	N/A	N/A	N/A	\$/CON	CON
Washtenaw	202036	10940	I-94 E	FREER RD Over I-94	Overlay - Epoxy	N/A	N/A	N/A	N/A	\$/CON	CON
Washtenaw	217633	10831	I-94 E	I-94 Over I-94 BL	Superstructure Repair - Steel	N/A	N/A	N/A	N/A	\$/CON	N/A
Washtenaw	217633	10949	I-94 E	JACKSON AV WB,94BR Over I-94 RAMP	Overlay - Epoxy	N/A	N/A	N/A	N/A	\$/CON	N/A
Lenawee	219119	5518	US-223	US-223 Over RAISIN RIVER	Overlay - Epoxy	N/A	N/A	N/A	N/A	\$/CON	N/A
Monroe	205628	7203	I-75	READY ROAD Over I-75	Bridge Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON
Ingham	221997	14587	I-96	I-96 EB Over FROST DRAIN	Miscellaneous Rehabilitation	N/A	N/A	N/A	N/A	N/A	\$/CON
Ingham	221997	14588	I-96	I-96 WB Over FROST DRAIN	Miscellaneous Rehabilitation	N/A	N/A	N/A	N/A	N/A	\$/CON

Freeway Resurfacing Program - Total Length: 2.864

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Clinton	219768	N/A	I-69 E	I-69 from I-69BL (Saginaw St) to Shiawassee County Line	Road Rehabilitation	2.864	\$/CON	N/A	N/A	N/A	N/A

Non-Freeway Resurfacing Program (NFRP) - Total Length: 5.990

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Eaton	217479	N/A	M-50	M-50 in Charlotte	Road Capital Preventive Maintenance	N/A	\$/CON	N/A	N/A	N/A	N/A
Washtenaw	204075	N/A	M-153	from M-14 to Frains Lake Road	Road Capital Preventive Maintenance	1.553	\$/CON	N/A	N/A	N/A	N/A
Monroe	219757	N/A	US-24	South of 7th Street to Stewart Road	Road Capital Preventive Maintenance	2.316	\$/CON	N/A	N/A	N/A	N/A
Ingham	219773	N/A	M-43/ Saginaw St	EB M-43/I-69BL (Saginaw St) from Stanley St to Pennsylvania Ave	Road Capital Preventive Maintenance	2.121	\$	CON	N/A	N/A	N/A

Operations - Total Length: 7.111

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Livingston	210655	N/A	M-59	M-59 at Latson Road	Minor Widening	0.450	N/A	\$/CON	CON	N/A	N/A
Livingston	211937	N/A	Kensington/ I-96 W Ramp	Kensington Rd from Larkins Rd to Grand River Ave	Minor Widening	0.890	N/A	N/A	\$/CON	CON	N/A
Eaton	211941	N/A	M-43	Broadbent to I-96	Traffic Safety	1.174	N/A	N/A	\$/CON	CON	N/A
Livingston	214555	N/A	Highland/ I-96 E Ramp	I-96 at M-59	Traffic Safety	0.802	N/A	N/A	\$/CON	CON	N/A
Washtenaw	214522	N/A	M-153	M-153 at Plymouth Rd	Minor Widening	0.452	N/A	N/A	N/A	\$/CON	N/A
Washtenaw	210997	N/A	I-94	I-94 from Ann Arbor/Saline Road to US-23; US-23/I-94 interchange	Minor Widening	3.343	N/A	N/A	N/A	N/A	\$/CON

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County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Washtenaw	210997	10836	I-94	STONE SCHOOL RD Over I-94	Bridge Replacement	N/A	N/A	N/A	N/A	N/A	\$/CON

Road - Rehabilitation and Reconstruction - Total Length: 40.719

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Jackson	211147	N/A	M-99	South Street north and east to Gibbs Road	Road Rehabilitation	1.451	\$/CON	N/A	N/A	N/A	N/A
Hillsdale	211153	N/A	M-49	Southern Village Limits of Camden to bridge over St Joe River	Reconstruction	0.960	\$/CON	CON	N/A	N/A	N/A
Eaton	211163	N/A	M-78	550' south of Sharkey Street to the Battle Creek River	Road Rehabilitation	1.217	\$/CON	CON	N/A	N/A	N/A
Monroe	213488	N/A	US-23	School Road to Ida Center Road	Reconstruction	4.020	\$/CON	CON	CON	N/A	N/A
Ingham	221111	N/A	US-127 N	US-127 from Lake Lansing to Clark Rd	Road Rehabilitation	4.085	\$/CON	N/A	N/A	N/A	N/A
Ingham	221111	1892	US-127 N	US-127 SB Over COLEMAN RD	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Ingham	221111	1893	US-127 N	US-127 NB Over COLEMAN RD	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Ingham	221111	3856	US-127 N	LAKE LANSING ROAD Over US-127	Overlay - Epoxy	N/A	\$/CON	N/A	N/A	N/A	N/A
Ingham	132605	N/A	US-127 N	I-496 to Lake Lansing Rd	Road Rehabilitation	2.278	N/A	\$/CON	CON	N/A	N/A
Washtenaw	211155	N/A	US-23 N	M-14 to I-94	Reconstruction	7.316	N/A	\$/CON	CON	CON	N/A
Washtenaw	211155	10862	US-23 N	US-23 Over OAK PK & WAST HTS CO DR	Culvert Replacement	N/A	N/A	\$/CON	CON	CON	N/A
Jackson	213442	N/A	I-94BL	Dwight Street to Bender Street	Reconstruction	1.258	N/A	N/A	\$/CON	N/A	N/A
Monroe	217456	N/A	I-75	LaPlaisance Road to N Dixie Highway	Reconstruction	3.423	N/A	N/A	\$/CON	CON	CON
Monroe	217456	7166	I-75	I-75 NB Over PLUM CREEK	Bridge Replacement	N/A	N/A	N/A	\$/CON	CON	CON
Monroe	217456	7167	I-75	I-75 SB Over PLUM CREEK	Bridge Replacement	N/A	N/A	N/A	\$/CON	CON	CON

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Monroe	217456	7168	I-75	I-75 Over PAPER CO WATER MAINS	Bridge Replacement	N/A	N/A	N/A	\$/CON	CON	CON
Monroe	217456	7172	I-75	I-75 Over CN, GTW & NS RR'S	Bridge Replacement	N/A	N/A	N/A	\$/CON	CON	CON
Monroe	217456	7174	I-75	I-75 Over NORFOLK SOUTHERN RR	Bridge Replacement	N/A	N/A	N/A	\$/CON	CON	CON
Monroe	217456	13897	I-75	I-75 Over MASON DRAIN	Culvert Replacement	N/A	N/A	N/A	\$/CON	CON	CON
Monroe	217456	13898	I-75	I-75 Over UNNAMED DRAIN	Culvert Replacement	N/A	N/A	N/A	\$/CON	CON	CON
Lenawee	208282	N/A	US-223	Ogden Highway to High Street in Blissfield, Lenawee County	Road Rehabilitation	6.669	N/A	N/A	N/A	\$/CON	N/A
Clinton	211164	N/A	M-21	Morton Street to Scott Road	Reconstruction	1.411	N/A	N/A	N/A	\$/CON	N/A
Eaton	208754	N/A	I-69	Island Highway to Vermontville Highway	Reconstruction	6.631	N/A	N/A	N/A	N/A	\$/CON

Traffic And Safety - Safety Programs - Total Length: 0.517

County	Job Number	Structure Number	Major Route	Location	Type of Work	Length	2026	2027	2028	2029	2030
Jackson	214083	N/A	M-60	at Cross Road	Traffic Safety	0.150	\$	CON	N/A	N/A	N/A
Hillsdale	211777	N/A	US-127	at Harper Road/ Lewis Road	Traffic Safety	0.307	N/A	\$/CON	N/A	N/A	N/A
Lenawee	218702	N/A	M-50	at Matthews Highway in Lenawee County	Traffic Safety	0.060	N/A	N/A	\$/CON	N/A	N/A

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Acronyms

5YTP	Five-Year Transportation Program	MM2045	Michigan Mobility 2045
AIP	Airport Improvement Program	MTPP	Michigan Transportation Program Portal
APT	Airport Parking Tax	NBI	National Bridge Inventory
ASP	Air Service Program	RBMP	Rebuilding Michigan Program
BWB	Blue Water Bridge	RSL	Remaining Service Life
CPM	Capital Preventive Maintenance	SAF	State Aeronautics Fund
CTF	Comprehensive Transportation Fund	SHSP	Strategic Highway Safety Plan
EBA	Economic Benefits Analysis	SLRTP	State Long-Range Transportation Plan
FAA	Federal Aviation Administration	SOGR	State of Good Repair
FAST	Fixing America's Surface Transportation Act	STC	State Transportation Commission
FY	Fiscal Year	STF	State Trunkline Fund
GF	General Fund	STIP	State Transportation Improvement Program
GRP	Gross Regional Product	TAM	Transit Asset Management
IIJA	Infrastructure Investment and Jobs Act	TREDIS	Transportation Economic Development Impact System
KPI	Key Performance Indicator	TZD	Toward Zero Deaths
LBO	Local Bus Operating	VRU	Vulnerable Road Users
MDOT	Michigan Department of Transportation		
MASP	Michigan Aviation System Plan		



MICHIGAN DEPARTMENT
OF TRANSPORTATION

2026-2030
DRAFT FIVE-YEAR
TRANSPORTATION
PROGRAM

VOLUME XXVII

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MDOT-Five-Year-Program@Michigan.gov.

***Serving and connecting people, communities,
and the economy through transportation.***

County	Major Route	Type of Work	LENGTH (Miles)	Length (Feet)	Width of Lane	Total Width (Feet)	Total Height (feet)	Aggregate Base Sub-total (Ft3)	Concrete Sub- total (ft3)	Asphalt Surface Sub-total (Ft3)	Total Estimated Volume (ft3)	Total Estimated Density (tons)	Maximum Range USGS Assumption (tons)
Kent	US-131	Widen - Add Lanes	6	32657	12	12	3	718,449.60	220,433.40	249,824.52	1,188,707.52	76,649.59	77,312.50
Kent	US-131	Minor Widening	0	908	12	12	3	19,979.52	6,130.08	6,947.42	33,057.02	2,131.57	2,150.00
Allegan	US-131	Minor Widening	0	718	12	12	3	15,797.76	4,847.04	5,493.31	26,138.11	1,685.42	1,700.00
Kent	M-37	Major Widening	3	15808	12	12	3	347,783.04	106,706.16	120,933.65	575,422.85	37,104.10	37,425.00
Muskegon	M-46	Reconstruction	2	10998	12	48	3	822,668.35	252,409.61	286,064.22	1,361,142.18	87,768.43	88,527.50
Ottawa	US-31	Road Rehabilitation	1	7820	12	72	0	-	-	11,964.11	11,964.11	867.40	N/A
Kent	M-11	Reconstruction	2	9768	12	48	3	730,646.40	278,974.08	169,377.12	1,178,997.60	75,646.81	78,625.00
Barry	M-66	Road Rehabilitation	1	5428	11	22	0	-	-	2,537.52	2,537.52	183.97	N/A
Ionla	M-66	Reconstruction	2	11088	12	36	3	622,036.80	190,852.20	216,299.16	1,029,188.16	66,363.55	66,937.50
Kent	US-131	Reconstruction	2	9124	12	48	3	682,463.23	209,392.13	237,311.08	1,129,166.44	72,810.30	73,440.00
Ottawa	US-31 NB	Road Rehabilitation	3	13860	12	24	0	-	-	7,068.60	7,068.60	512.47	N/A
Barry	M-37	Reconstruction	1	4847	12	48	3	362,558.59	111,239.57	126,071.51	599,869.67	38,680.47	39,015.00
Kent	M-6	Road Rehabilitation	3	14916	12	48	0	-	-	15,214.32	15,214.32	1,103.04	N/A
Muskegon	I-96	Road Rehabilitation	9	45603	12	48	0	-	-	46,515.43	46,515.43	3,372.37	N/A
Ionla	I-96	Reconstruction	3	17450	14	56	5	2,463,414.80	755,820.45	856,596.51	4,075,831.76	262,815.57	280,925.00

APPENDIX VII

ALLEGAN COUNTY ROAD COMMISSION

[ABOUT](#)[PROJECTS & BIDS](#)[MAPS](#)[NEWS](#)[CONTACT](#)[PERMITS](#)[LAKESHORE DRIVE](#)

2026 PROJECTS & BIDS

Specifications and plans are ready to bid and available to download when they are underlined. Plan holders must email the Road Commission at jkernodle@alleganroads.org to be added to the plan holders list.

Federal Aid project information is available on the MDOT Bid Information [website](#).

ROAD PROJECTS

Project Information Bid

Documents

132nd Avenue - 34th to 32nd Street Specs

Bid Date: Plans

Reconstruction (LH 400191) Bid

Results

61st Street - 138th Ave North 0.35 mi Specs

Bid Date: Plans

Reconstruction & Pave (LH 400194) Bid

Results

24th Street - M-89 to 114th Avenue Specs

Bid Date: Plans

Project Information Bid

Documents

142nd Ave, 2nd St, 141st Ave

(Kalamazoo Drive to Patterson Road - 3.23 mi)

MDOT Federal Project

Bid Date:

Resurfacing (PH 300053)

2026 Primary Paving Specs

Bid Date: January 7, 2026 Bid

Results

Paving (Various Projects)

2026 Local Paving Specs

Reconstruction (LH 400240)

Bid

Bid Date:

Bid

Results

Results

49th Street - M-89 North 0.70 mi

Specs

Bid Date:

Plans

Reconstruction (LH 400253)

Bid

Results

104th Avenue - 40th to 38th St

Specs

Bid Date:

Plans

Reconstruction (LH 400278)

Bid

Results

MATERIAL BIDS**Material****Bid****Documents**

Concrete Culverts

Ad

Bid Date:

Specs &

Proposal

Bid

Results

Corrugated Metal Culverts

Ad

Bid Date:

Specs &

Proposal

Bid Results

Corrugated Plastic Culverts

Ad

Bid Date:

Specs &

Proposal

Bid Results

LoMaterial**Bid****Documents**

Yard Aggregates

Ad

Bid Date:

Specs &

Proposal

Bid

Results

Local Gravel Resurfacing

Ad

Bid Date:

Specs &

Proposal

Bid Results

Ottawa County Road Commission - 2026 Planned Projects

TOWNSHIP	STREET	SEGMENT	TYPE OF WORK
Blendon/Georgetown	48th Ave./Baldwin St.	Intersection	Roundabout
Chester	36th Ave.	Truman St. to Sherman St.	Resurface + Paved Shoulder
Crockery	Cleveland St.	M-104 to 96th Ave.	Resurface + Paved Shoulder
	Wilson St.	130th Ave. to 112th Ave.	Resurface + Paved Shoulder
Georgetown	Baldwin St.	20th Ave. to Cottonwood Dr.	Resurfacing
	28th Ave.	City Limits to Bauer Rd.	Resurfacing
	12th Ave.	Port Sheldon St. to Baldwin St.	Resurfacing
Grand Haven/Robinson	144th Ave./Lincoln St.	Intersection	Roundabout
Holland	Butternut Dr.	Lakewood Blvd. to Riley St.	Resurfacing
Olive	120th Ave./Port Sheldon St.	Intersection	Roundabout
Olive/Robinson	120th Ave.	Taylor St. to M-45	Resurfacing
Polkton	56th Ave.	N. of Cleveland St. to Wilson St.	Resurfacing
Robinson	120th Ave.	M-45 to Lincoln St.	Resurface + Paved Shoulder
Spring Lake	Leonard St.	Spring Lake to 148th Ave.	Resurfacing
Tallmadge	Linden Dr.	M-45 to Leonard St.	Resurface + Paved Shoulder
Tallmadge/Wright	Hayes St.	16th Ave. to Ironwood Dr.	Resurface + Paved Shoulder
Wright	Arthur St.	8th Ave. to Kenowa Ave.	Resurface + Paved Shoulder
Allendale	Pierce St.	48th Ave. to 42nd Ave.	Resurfacing + Paved Shoulders
Blendon	Baldwin St.	56th Ave. to 48th Ave.	Resurfacing
Georgetown	Rosewood St.	28th Ave. to 12th Ave.	Resurfacing
	Parsons St.	14th Ave. to 8th Ave.	Resurfacing + Paved Shoulders

Georgetown/Jamestown	New Holland St.	Chicago Dr. to Hudsonville City Limit	Resurfacing + Paved Shoulders
Grand Haven	Ferris St.	Lakeshore Dr. to U.S. 31	Resurfacing
Holland	Beeline Rd./Greenly St.	Riley St. to 120th Ave.	Resurfacing + Paved Shoulders
Park	160th Ave.	Ottawa Beach Rd. to New Holland St.	Resurfacing
	160th Ave.	Ottogan St. to South Shore Dr.	Resurfacing + Paved Shoulders
Spring Lake	Taft St.	174th Ave. to 168th Ave.	Resurfacing + Paved Shoulders
Wright	Arthur St.	48th Ave. to 8th Ave.	Resurfacing
Zeeland	88th Ave.	Zeeland to New Holland St.	Resurfacing + Paved Shoulders
Chester	Truman St.	Squires Rd. to Kenowa Ave.	Cape Seal Surfacing
	32nd Ave.	Sehler St. to Harrisburg Rd.	Cape Seal Surfacing
	Harrisburg Rd.	32nd Ave. to Truman St.	Cape Seal Surfacing
Polkton	80th Ave.	Cleveland St. to Wilson St.	Cape Seal Surfacing
Blendon	54th Ave.	Rosewood St. to Tyler St.	Seal Coat (Chip Seal) Surfacing
Blendon	56th Ave.	Port Sheldon St. to Fillmore St.	Seal Coat (Chip Seal) Surfacing
Blendon	60th Ave.	Port Sheldon St. to Tyler St.	Seal Coat (Chip Seal) Surfacing
Blendon	64th Ave.	South of Barry St.	Seal Coat (Chip Seal) Surfacing
Blendon	76th Ave.	Taylor St. to Fillmore St.	Seal Coat (Chip Seal) Surfacing
Blendon	84th Ave.	Van Buren St. to Port Sheldon St.	Seal Coat (Chip Seal) Surfacing
Blendon	88th Ave.	Van Buren St. to Port Sheldon St.	Seal Coat (Chip Seal) Surfacing
Blendon	88th Ave.	Baldwin St. to Taylor Street	Seal Coat (Chip Seal) Surfacing
Blendon	Barry St.	72nd Ave. to 48th Ave.	Seal Coat (Chip Seal) Surfacing
Blendon	Bingham St.	96th Ave. to 88th Ave.	Seal Coat (Chip Seal) Surfacing

Blendon	Blair Street	96th Ave. east to end	Seal Coat (Chip Seal) Surfacing
Blendon	New Holland Street	96th Ave. to 88th Ave.	Seal Coat (Chip Seal) Surfacing
Blendon	Rosewood Street	54th Ave. east to end	Seal Coat (Chip Seal) Surfacing
Blendon	Tyler St.	72nd Ave. to 48th Ave.	Seal Coat (Chip Seal) Surfacing
Blendon	Tyler St.	96th Ave. to 72nd Ave.	Seal Coat (Chip Seal) Surfacing
Georgetown	4th Ave.	Jackson St. to Barry St.	Seal Coat (Chip Seal) Surfacing
Georgetown	16th Ave.	Barry St. to Van Buren St.	Seal Coat (Chip Seal) Surfacing
Georgetown	40th Ave.	Bauer Rd. to Fillmore St.	Seal Coat (Chip Seal) Surfacing
Georgetown	Barry St.	West end to City Limits	Seal Coat (Chip Seal) Surfacing
Georgetown	Barry St.	8th Ave. to Kenowa Ave.	Seal Coat (Chip Seal) Surfacing
Georgetown	Barry St.	City Limits to 16th Ave.	Seal Coat (Chip Seal) Surfacing
Georgetown	Luce St.	48th Ave. to 42nd Ave.	Seal Coat (Chip Seal) Surfacing
Georgetown	McClelland St.	16th Ave. to Kenowa Ave.	Seal Coat (Chip Seal) Surfacing
Jamestown	16th Ave.	Byron Rd. to Quincy St.	Seal Coat (Chip Seal) Surfacing
Jamestown	28th Ave.	Mason St. to Perry St.	Seal Coat (Chip Seal) Surfacing
Jamestown	36th Ave.	Adams St. to Perry St.	Seal Coat (Chip Seal) Surfacing
Jamestown	40th Ave.	County Line to north of Quincy St.	Seal Coat (Chip Seal) Surfacing
Jamestown	Angling Rd.	Quincy St. to Jackson St.	Seal Coat (Chip Seal) Surfacing
Jamestown	Felch St.	40th Ave. east	Seal Coat (Chip Seal) Surfacing
Jamestown	Gordon St.	40th Ave. to 32nd Ave.	Seal Coat (Chip Seal) Surfacing
Jamestown	Greenly St.	48th Ave. to 8th Ave.	Seal Coat (Chip Seal) Surfacing
Jamestown	Mason St.	32nd Ave. to 28th Ave.	Seal Coat (Chip Seal) Surfacing
Jamestown	Perry St.	48th Ave. to Kenowa Ave.	Seal Coat (Chip Seal) Surfacing

Jamestown	Ransom St.	40th Ave. west to end	Seal Coat (Chip Seal) Surfacing
Jamestown	Riley St.	48th Ave. to 32nd Ave.	Seal Coat (Chip Seal) Surfacing
Jamestown	Riley St.	8th Ave. to Kenowa Ave.	Seal Coat (Chip Seal) Surfacing
Georgetown	12th Ave.	North of Jackson St.	Reconstruct
Crockery	Cleveland St.	Over Crockery Creek	Bridge Replacement
Georgetown	12th Ave.	Over Rush Creek	Bridge Rehabilitation
Holland	104th Ave.	Over Black Creek	Bridge Replacement
Jamestown	Adams St.	Over Kampen-Struk Drain	Bridge Replacement
Park	South Shore Dr.	Montello Park Drain	Bridge Replacement
Blendon	96th Ave.	At Barry St.	Large Culvert
	96th Ave.	N. of Blair St.	Large Culvert
Georgetown	Bauer Rd.	W. of 44th Ave.	Large Culvert
Holland	Beeline Rd.	N. of Greenly St.	Large Culvert
Jamestown	24th Ave.	S. of Riley St.	Large Culvert
	8th Ave.	S. of Riley St.	Large Culvert
	Quincy St.	E. of 40th Ave.	Large Culvert
	Quincy St.	E. of 40th Ave.	Large Culvert
Olive	Tyler St.	At 96th Ave.	Large Culvert
	96th Ave.	S. of Stanton St.	Large Culvert
Port Sheldon	152nd Ave.	At Tyler St.	Large Culvert
Tallmadge	Linden Dr.	N. of River Hills Dr.	Large Culvert
Zeeland	64th Ave.	N. of Perry St.	Large Culvert

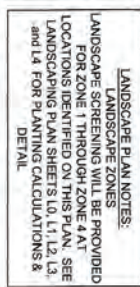
MICHIGAN POPULATION, by COUNTY
Selected Years 1990-2024

	2020			2010			2000			1990	2020-2024	2010-2020	2000-2010	
	2024	2023	2022	2021	Census	2015	Census	2005	Census	1995	Census	Pct. Change	Pct. Change	Pct. Change
Michigan	10,140,459	10,083,356	10,050,877	10,041,351	10,077,331	9,931,715	9,883,640	10,092,426	9,938,444	9,659,871	9,295,287	0.6%	2.0%	-0.6%
Alcona County	10,624	10,513	10,375	10,285	10,167	10,330	10,942	11,489	11,719	10,538	10,145	4.5%	-7.1%	-6.6%
Alger County	8,695	8,740	8,767	8,770	8,842	9,255	9,601	9,535	9,862	9,936	8,972	-1.7%	-7.9%	-2.6%
Allegan County	122,429	121,874	121,262	121,055	120,502	114,112	111,408	111,985	105,665	97,412	90,509	1.6%	8.2%	5.4%
Alpena County	28,903	28,700	28,813	28,933	28,907	28,722	29,598	30,135	31,314	30,649	30,605	0.0%	-2.3%	-5.5%
Antrim County	24,536	24,466	24,296	23,877	23,431	23,035	23,580	24,198	23,110	20,155	18,185	4.7%	-0.6%	2.0%
Arenac County	15,087	15,152	15,115	15,023	15,002	15,307	15,899	16,955	17,269	16,137	14,906	0.6%	-5.6%	-7.9%
Baraga County	8,169	8,222	8,194	8,231	8,158	8,585	8,860	8,687	8,746	8,483	7,954	0.1%	-7.9%	1.3%
Barry County	64,025	63,881	63,389	63,141	62,423	59,426	59,173	58,976	56,755	52,882	50,057	2.6%	5.5%	4.3%
Bay County	102,651	102,774	102,754	103,116	103,856	105,237	107,771	108,673	110,157	111,219	111,723	-1.2%	-3.6%	-2.2%
Benzie County	18,520	18,460	18,336	18,240	17,970	17,390	17,525	17,439	15,998	13,710	12,200	3.1%	2.5%	9.5%
Berrien County	152,703	152,651	153,064	153,598	154,316	155,022	156,813	160,467	162,453	161,546	161,378	-1.0%	-1.6%	-3.5%
Branch County	46,187	45,613	44,612	45,209	44,862	43,639	45,248	46,356	45,787	42,759	41,502	3.0%	-0.9%	-1.2%
Calhoun County	133,785	133,505	133,475	133,905	134,310	134,327	136,146	138,289	137,985	139,287	135,982	-0.4%	-1.3%	-1.3%
Cass County	51,550	51,566	51,409	51,523	51,589	51,342	52,293	50,909	51,104	49,546	49,477	-0.1%	-1.3%	2.3%
Charlevoix County	26,105	26,089	26,117	26,192	26,054	26,210	25,949	26,286	26,090	23,487	21,468	0.2%	0.4%	-0.5%
Cheboygan County	25,964	26,078	25,946	25,746	25,579	25,399	26,152	27,061	26,448	22,716	21,398	1.5%	-2.2%	-1.1%
Chippewa County	36,253	36,340	36,236	35,861	36,785	37,973	38,520	38,605	38,543	36,788	34,604	-1.4%	-4.5%	-0.1%
Clare County	31,405	31,376	31,321	31,143	30,856	30,616	30,926	31,212	31,252	27,989	24,952	1.8%	-0.2%	-1.0%
Clinton County	80,050	79,823	79,652	79,432	79,128	77,009	75,382	68,818	64,753	61,609	57,893	1.2%	5.0%	16.4%
Crawford County	13,599	13,557	13,431	13,271	12,988	13,853	14,074	14,732	14,273	13,568	12,260	4.7%	-7.7%	-1.4%
Delta County	36,687	36,846	36,818	36,838	36,903	36,415	37,069	37,823	38,520	38,742	37,780	-0.6%	-0.4%	-3.8%
Dickinson County	25,995	26,069	25,977	25,824	25,947	25,661	26,168	27,219	27,472	27,133	26,831	0.2%	-0.8%	-4.7%
Eaton County	109,494	109,072	108,962	108,921	109,175	108,661	107,759	107,237	103,655	98,570	92,879	0.3%	1.3%	4.0%
Emmet County	33,949	34,039	34,204	34,303	34,112	32,924	32,694	33,298	31,437	27,360	25,040	-0.5%	4.3%	4.0%
Genesee County	402,279	401,711	402,031	404,713	406,211	410,461	425,790	439,050	436,141	433,930	430,459	-1.0%	-4.6%	-2.4%
Gladwin County	25,995	25,959	25,667	25,475	25,386	25,227	25,692	26,748	26,023	24,130	21,896	2.4%	-1.2%	-1.3%
Gogebic County	14,217	14,263	14,399	14,372	14,380	15,536	16,427	16,558	17,370	17,803	18,052	-1.1%	-12.5%	-5.4%
Grand Traverse County	96,625	96,457	96,337	95,985	95,238	91,541	86,986	83,415	77,654	70,671	64,273	1.5%	9.5%	12.0%
Graziott County	41,372	41,434	41,134	41,298	41,761	41,331	42,476	42,166	42,285	39,935	38,982	-0.9%	-1.7%	0.5%
Hillsdale County	45,590	45,616	45,714	45,622	45,746	45,883	46,688	46,818	46,527	45,288	43,431	-0.3%	-2.0%	0.3%
Houghton County	38,041	37,847	37,792	37,528	37,361	36,228	36,628	35,514	36,016	35,977	35,446	1.8%	2.0%	1.7%
Huron County	30,780	30,943	31,150	31,319	31,407	31,763	33,118	34,072	36,079	35,235	34,951	-2.0%	-5.2%	-8.2%
Ingham County	290,427	287,710	284,761	271,662	284,900	287,096	280,895	280,354	279,320	284,929	281,912	1.9%	1.4%	0.6%
Ionia County	66,250	66,104	66,774	66,853	66,804	64,056	63,905	63,878	61,518	64,394	57,024	-0.8%	4.5%	3.9%
Iosco County	25,361	25,361	25,460	25,362	25,237	25,343	25,887	26,530	27,339	24,988	30,209	0.5%	-2.5%	-5.3%
Iron County	11,709	11,722	11,686	11,597	11,631	11,320	11,817	12,158	13,138	13,154	13,175	0.7%	-1.6%	-10.1%
Isabella County	65,072	64,485	64,483	64,264	64,394	70,767	70,311	66,164	63,351	56,789	54,624	1.1%	-8.4%	11.0%
Jackson County	160,233	159,835	159,828	160,181	160,366	159,264	160,248	162,561	158,422	153,414	149,756	-0.1%	0.1%	1.2%
Kalamazoo County	264,780	263,297	261,417	260,566	261,670	259,676	250,331	242,419	238,603	228,122	223,411	1.2%	4.5%	4.9%
Kalkaska County	18,618	18,422	18,230	17,994	17,939	17,248	17,153	17,110	16,571	14,917	13,497	3.8%	4.6%	3.5%
Kent County	673,002	665,109	660,134	658,979	657,974	637,164	602,622	595,339	574,335	530,818	500,631	2.3%	9.2%	4.9%
Keweenaw County	2,161	2,181	2,151	2,108	2,046	2,123	2,156	2,116	2,301	1,953	1,701	5.6%	-5.1%	-6.3%
Lake County	13,005	12,766	12,665	12,281	12,096	11,697	11,539	11,663	11,333	9,581	8,583	7.5%	4.8%	1.8%
Lapeer County	89,168	89,060	88,701	88,667	88,619	88,368	88,319	92,337	87,904	83,505	74,768	0.6%	0.3%	0.5%
Leelanau County	22,871	22,970	22,891	22,630	22,301	21,633	21,708	21,847	21,119	18,207	16,527	2.6%	2.7%	2.8%
Lenawee County	97,746	97,621	98,284	99,105	99,423	98,391	99,892	101,056	98,980	96,323	91,476	-1.7%	-0.5%	1.0%
Livingston County	196,976	196,772	196,083	195,344	193,866	187,171	180,967	179,238	156,951	133,334	115,645	1.6%	7.1%	15.3%
Luce County	6,328	6,389	6,254	5,976	5,339	6,430	6,631	6,753	7,024	5,580	5,763	18.5%	-19.5%	-5.6%
Mackinac County	11,144	10,942	10,983	10,906	10,834	10,821	11,113	11,170	11,943	11,040	10,674	2.9%	-2.5%	-6.9%
Macomb County	886,175	879,271	875,735	877,789	881,217	864,960	840,978	824,621	788,149	765,957	717,400	0.6%	4.8%	6.7%
Manistee County	25,519	25,485	25,334	25,340	25,032	24,457	24,733	24,936	24,527	22,854	21,265	1.9%	1.2%	0.8%
Marquette County	67,979	67,654	67,103	66,278	66,017	67,326	67,077	65,109	64,634	65,279	70,887	3.0%	-1.6%	3.8%
Mason County	29,093	29,199	29,357	29,350	29,052	28,738	28,705	28,710	28,274	27,378	25,537	0.1%	1.2%	1.5%
Mecosta County	41,947	41,722	41,424	40,692	39,714	43,005	42,798	42,317	40,553	37,509	37,308	5.6%	-7.2%	5.5%
Menominee County	23,050	23,123	23,289	23,325	23,502	23,476	24,029	24,556	25,326	24,539	24,920	-1.9%	-2.2%	-5.1%
Midland County	84,022	84,007	83,761	83,504	83,404	83,662	83,629	83,123	82,874	79,541	75,651	0.6%	-0.2%	0.9%
Missaukee County	15,239	15,325	15,228	15,176	15,052	14,882	14,849	15,034	14,478	13,461	12,147	1.2%	1.4%	2.6%
Monroe County	156,045	155,590	155,412	155,569	154,809	149,353	152,021	152,219	145,945	138,906	133,600	0.8%	1.8%	4.2%
Montcalm County	69,314	68,431	67,317	67,361	66,614	62,763	63,342	63,098	61,266	57,951	53,059	4.1%	5.2%	3.4%
Montmorency County	9,828	9,714	9,563	9,304	9,153	9,287	9,765	10,350	10,315	9,716	8,936	7.4%	-6.3%	-5.3%
Muskegon County	177,428	176,476	175,526	175,581	175,824	172,447	172,188	173,981	170,200	163,620	158,983	0.9%	2.1%	1.2%
Newaygo County	51,504	51,189	50,771	50,401	49,978	47,882	48,460	49,419	47,874	43,428	38,206	3.1%	3.1%	1.2%
Oakland County	1,296,888	1,281,836	1,275,098	1,272,776	1,274,395	1,244,602	1,202,362	1,204,396	1,194,156	1,150,954	1,083,592	1.8%	6.0%	0.7%
Oceana County	27,014	27,010	26,964	26,873	26,659	26,323	26,570	27,892	26,873	23,941	22,455	1.3%	0.3%	-1.1%
Ogemaw County	20,985	20,983	20,890	20,781	20,770	20,877	21,699	21,622	21,645	20,593	18,681	1.0%	-4.3%	0.2%
Ontonagon County	5,824	5,857	5,895	5,872	5,816	6,037	6,780	7,234	7,818	8,587	8,854	0.1%	-14.2%	-13.3%
Osceola County	23,484	23,289	23,257	23,190	22,891	23,177	23,528	23,416	23,197	21,743	20,146	2.6%	-2.7%	1.4%
Oscoda County	8,596	8,572	8,400	8,322	8,219	8,277	8,640	9,036	9,418	8,686	7,842	4.6%	-4.9%	-8.3%
Otsego County	26,083	25,785	25,583	25,335	25,091	24,203	24,164	24,290	23,301	20,752	17,957	4.0%	3.8%	3.7%
Ottawa County	306,235	303,575	300,910	298,394	296,200	280,859	263,801	254,044	238,314	210,013	187,768	3.4%	12.3%	10.7%
Presque Isle County	13,230	13,278	13,357	13,174	12,982	12,801	13,376	13,998	14,411	14,320	13,743	1.9%	-2.9%	-7.2%
Roscommon County	23,932	23,920	23,711	23,651	23,459	23,912	24,449	25,720	25,469	22,428	19,776	2.0%	-4.0%	-4.0%
Saginaw County	187,714	187,769	188,425	189,533	190,124	193,305	200,169	206,427	210,039	211,599	211,946	-1.3%	-5.0%	-4.7%
Saint Clair County	160,308	160,280	159,882	160,243	160,383	159,700	163,040	169,527	164,235					

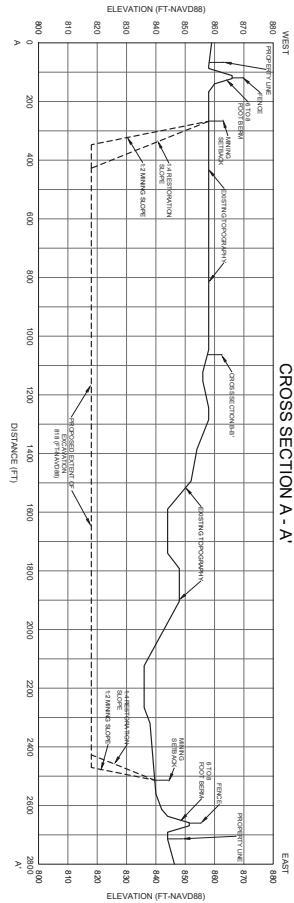
George V. Oravetz

STATE OF MICHIGAN
GEORGE V. ORAVETZ
ENGINEER
No. 820701660
PROFESSIONAL

PROFESSIONAL SEAL

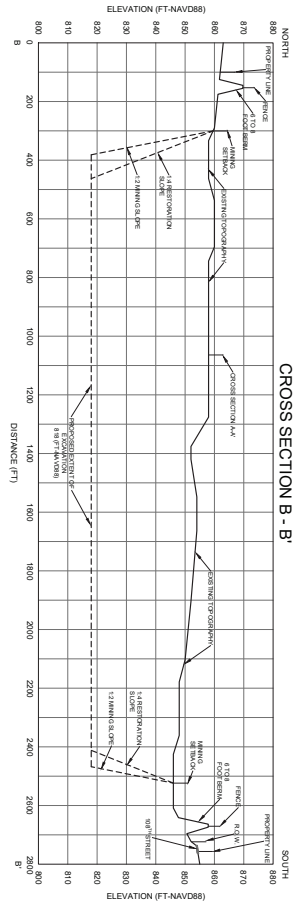


SHEET 2: OPERATIONAL, RESTORATION & END USE PLAN STONECO 100TH STREET OPERATION 900 100TH STREET SE, GAINES CHARTER TOWNSHIP, MI 49315 PREPARED FOR: STONECO OF MICHIGAN, INC ATTN: GARRETT SINGER 3700 PATTERSON RD, MIDDLEVILLE, MI 49333 (269) 795-3500 Garrett.Singer@mpmc.com PREPARED BY: Oraveva Consulting & OCES Engineering Services LLC George V. Oraveva, Consulting Engineer 2807 West Course Road, Maumee, OH 43537	DATE: 1/18/2025	REVISION DATE: 2/4/2025	DESCRIPTION UPDATED MINING SETBACKS, RECLAMATION CONTOURS AND ADDED TREE PLANTINGS ON THE BERM NEAR RESIDENCES.
	DESIGNED BY: R.A.M.	7/17/2024	UPDATED PROPOSED PLANTING LOCATIONS, NOTE 16, ADDED PLANTING DETAIL LOCATIONS AND UPDATED ENGINEER INFORMATION.
	DRAWN BY: J.P.B.	8/4/2024	UPDATED PROPOSED PLANTING LOCATIONS, NOTE 26 AND ADDITIONAL DETAILS ON SCREENING OF OFF-SITE HOUSES.
	CHECKED BY: G.V.O.	8/17/2024	ADDED LANDSCAPE NOTES: ADDED ZONES 1, 2, 3, and 4 SHOWING ADDITIONAL SCREENING AREAS. REFER TO SHEETS U-1, L1, L3, and L4.
	SCALE: 1"=200'		
	PROJECT NO: -		



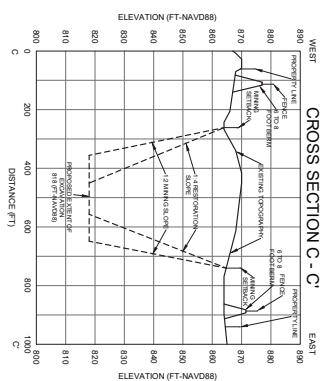
HORIZONTAL SCALE:
1"=200'

VERTICAL SCALE:
1"=20'



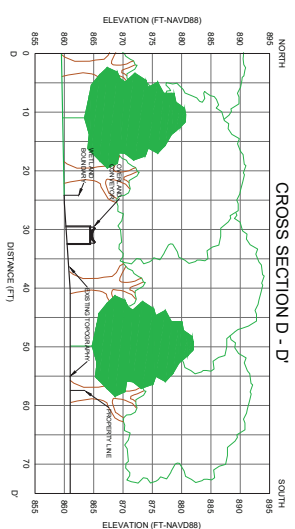
HORIZONTAL SCALE:
1"=200'

VERTICAL SCALE:
1"=20'



HORIZONTAL SCALE:
1"=200'

VERTICAL SCALE:
1"=20'



HORIZONTAL SCALE:
1"=10'

VERTICAL SCALE:
1"=10'



PROFESSIONAL SEAL

SHEET 3: CROSS SECTIONS STONECO 100TH STREET OPERATION 900 100TH STREET SE, GAINES CHARTER TOWNSHIP, MI 49315	DATE: 12/18/2025	REVISION DATE: 2/5/2026	DESCRIPTION: UPDATED MINING SETBACKS. UPDATED MINING AND RESTORATION SLOPE LOCATIONS.
	DESIGNED BY: R.A.M.	7/17/2026	UPDATED ENGINEER INFORMATION.
PREPARED FOR: STONECO OF MICHIGAN, INC ATTN: GARRETT SINGER 3700 PATTERSON RD, MIDDLEVILLE, MI 49333 (269) 756-3500 GARR	DRAWN BY: J.P.B.		
	CHECKED BY: G.V.O.		
PREPARED BY: OCES Oravec Consulting & Engineering Services LLC George V. Oravec, Consulting Engineer 2807 West Course Road, Maumee, OH. 43537	SCALE: -		
	PROJECT NO: -		

[illegible]

1. IF A PORTABLE LIGHT TOWER IS USED, LIGHTS WILL HAVE SHIELDING.
2. LIGHTS SHALL BE CONFINED ON-SITE BY DIRECTING LIGHT DOWN TOWARDS THE GROUND TO PREVENT LIGHT SPILLBACK ON ADJACENT OR NEIGHBORING PROPERTY.
3. IF A PORTABLE LIGHT TOWER IS USED, IT WILL BE PLACED AT A DISTANCE GREATER THAN 100 FEET FROM ANY ADJACENT LOT OR ROAD RIGHT-OF-WAY.
4. LIGHT INTENSITY WILL NOT EXCEED 10 FOOTCANDLES. LIGHT INTENSITY AT ANY ADJACENT LOT BOUNDARY WILL NOT EXCEED 1 FOOTCANDLE.

LANDSCAPE ZONES
LANDSCAPE SCREENING WILL BE PROVIDED
FOR ZONE 1 THROUGH ZONE 4 AT
LOCATIONS IDENTIFIED ON LANDSCAPING
PLANS. REFER TO SHEET L0, L1, L2, L3, and
L4 FOR PLANTING CALCULATIONS & DETAIL

Diagram illustrating the cross-section of a berm detail for a 6-8 foot tall wall. The diagram shows the proposed wall, existing grade, proposed grade, and property line. Key dimensions include a 10' wide berm, a 3' high berm, and a 1' wall thickness. The diagram is labeled "BERM DETAIL (6 - 8 FOOT TALL)".



SHEET 4: PHASING MAP STONECO 100TH STREET OPERATION 900 100TH STREET SE, GAINES CHARTER TOWNSHIP, MI 49315 PREPARED FOR: STONECO OF MICHIGAN, INC ATTN: GARRETT SINGER 3700 PATTERSON RD, MIDDLEVILLE, MI 49333 (269) 795-3500 Garrett.Singer@mjpmc.com	DATE:	REVISION DATE:	DESCRIPTION:
		12/18/2025	
	DESIGNED BY:	2/5/2026	
	R.A.M.	7/17/2026	
PREPARED BY: MASON JAKIEMEC, DRONE SURVEY TECHNICIAN	PREPARED BY:	8/17/2026	
	M.J.		
	CHECKED BY:		
	G.S.		
	SCALE:		
	1"=200'		
	PROJECT NO:		
	--		

CONSULTANTS

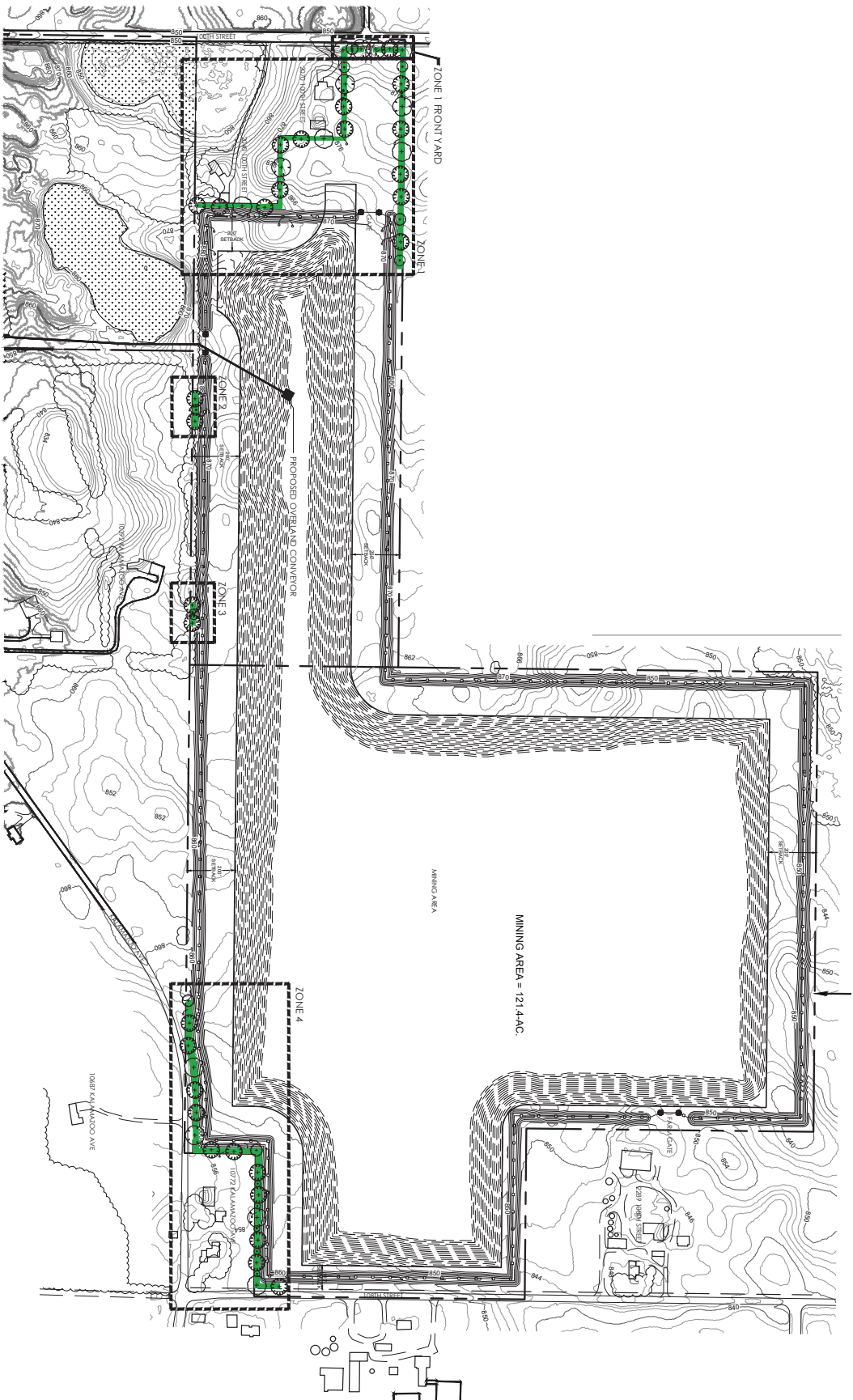
Stoneco 100th
Street Operation

PROJECT NAME
900 100TH STREET SE
GAINES TOWNSHIP, MI 48161

CLIENT
Natural Resources
Management
19750 WOODVIEW RD.
SANDHURST OH 43088

PROJECT NO. 26164.0
DATE: 08.17.26
DRAWN BY:

NOT FOR CONSTRUCTION
OVERALL
LANDSCAPE PLAN



1 OVERALL PLAN
Scale: 1" = 200'-0"



Stoneco 100th
Street Operation

900 100TH STREET SE
GAINES TOWNSHIP, MI 48161

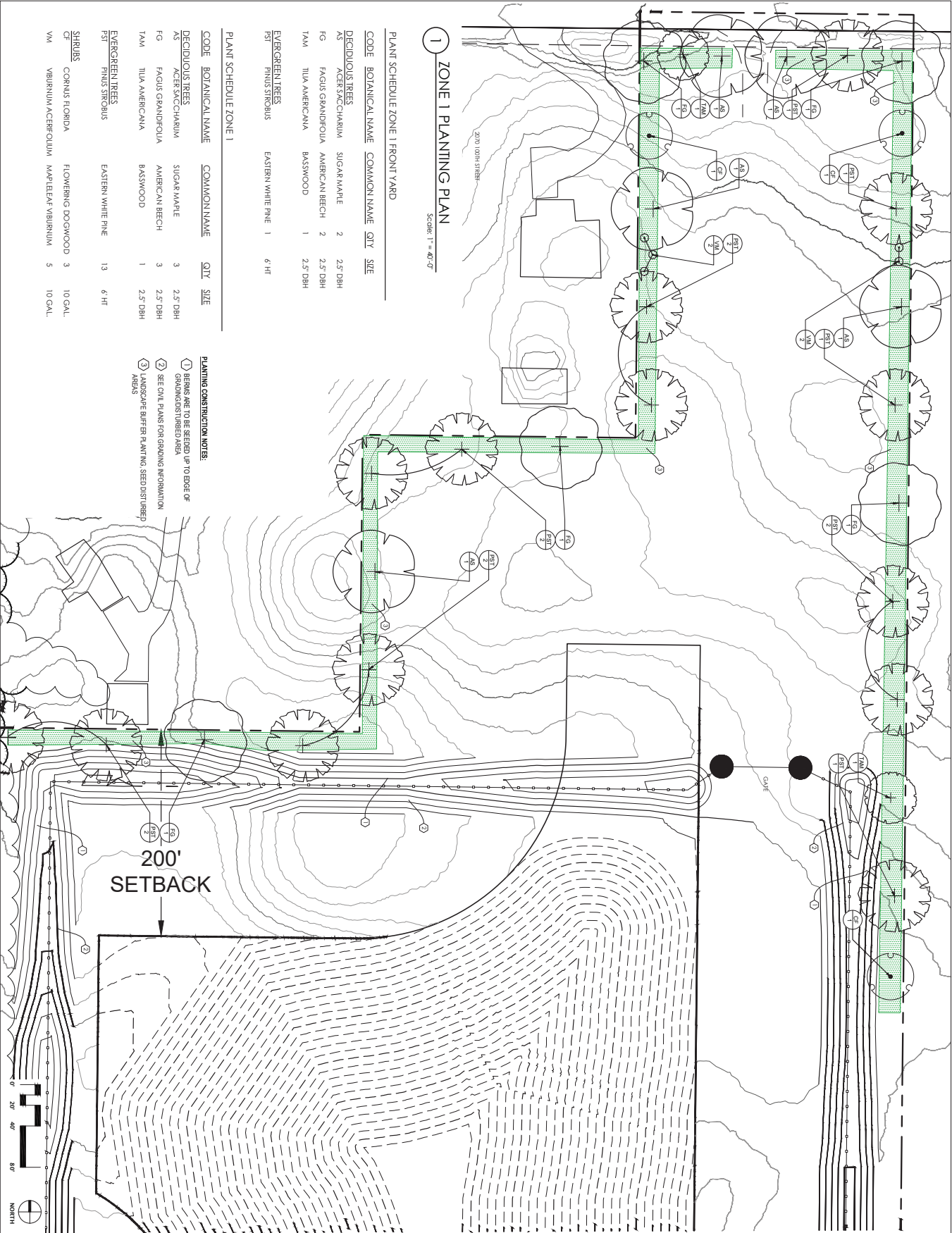
Natural Resources
Management
13923 Sherman White Rd.
Swanton OH, 43558

PROJECT NO. 26166J

Date: 08.17.26

Issued for

NOT FOR CONSTRUCTION
PLANTING PLAN
ZONE 1



CONSULTANTS

Stoneco 100th
Street Operation

PROJECT NAME
900 100TH STREET SE
GAINES TOWNSHIP, MI 48161

CLIENT
Natural Resources
Management
13725 Spring Hill Rd.
Southport, OH 43558

PROJECT NO. 26164.0
DATE: 08.17.26
DRAWN BY:

SHEET TITLE
NOT FOR CONSTRUCTION
PLANTING PLAN
ZONE 2 & 3



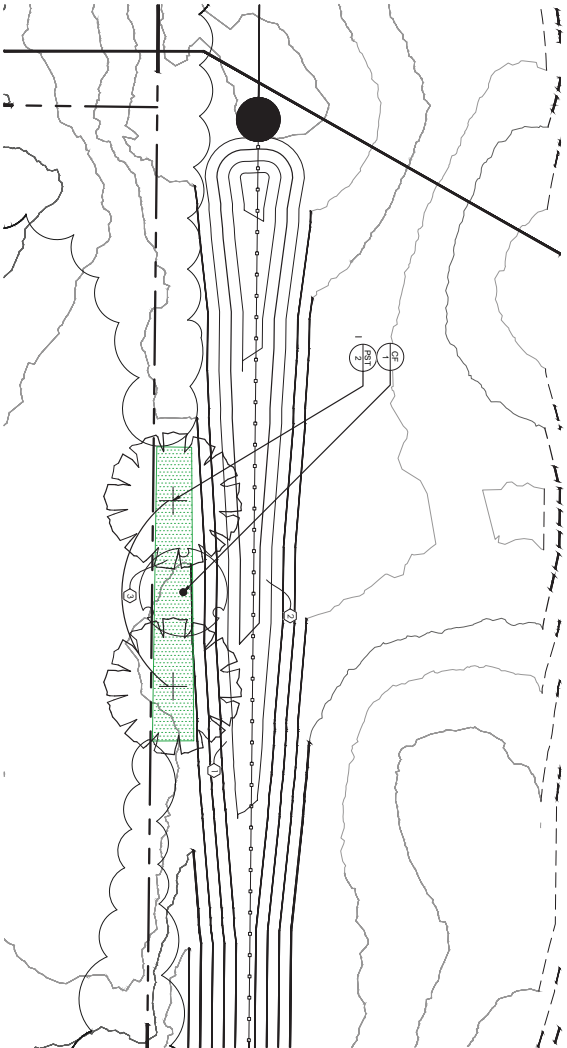
PLANT SCHEDULE ZONE 2

CODE	BOTANICAL NAME	COMMON NAME	QTY	SIZE
ET	EVERGREEN TREES			
FS1	PRINUS STROBUS	EASTERN WHITE PINE	2	6' HT
SR	SHRUBS			
CF	CORNUS FLORIDA	FLOWERING DOGWOOD	1	10 GAL.

PLANTING CONSTRUCTION NOTES:

- ① BERMS ARE TO BE SEEDBED UP TO EDGE OF GRADING/DISTURBED AREA
- ② SEE CIVIL PLANS FOR GRADING INFORMATION
- ③ LANDSCAPE BUFFER PLANTING, SEED DISTURBED AREAS

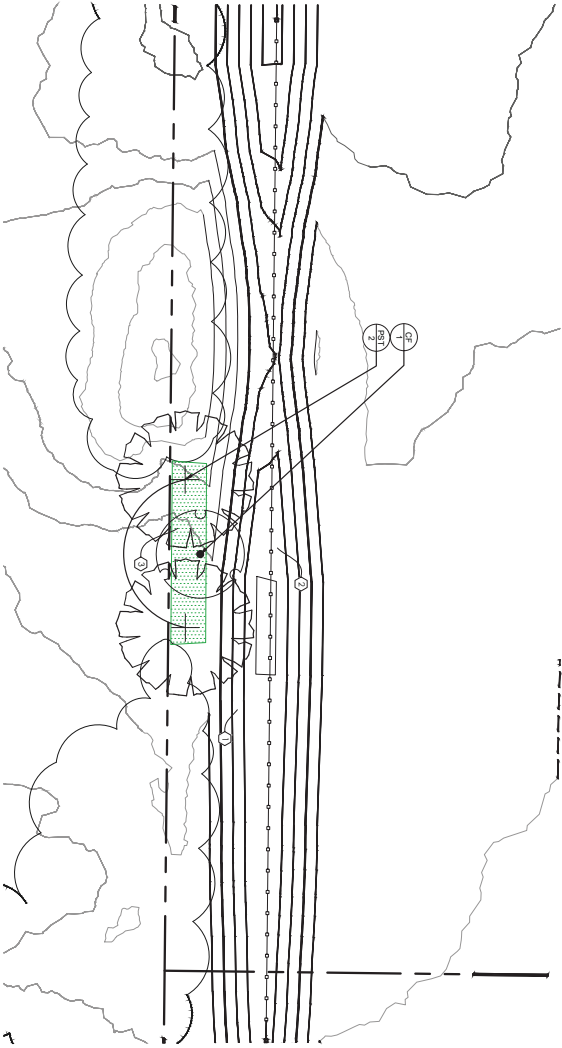
1 ZONE 2 PLANTING PLAN
Scale: 1" = 30'-0"

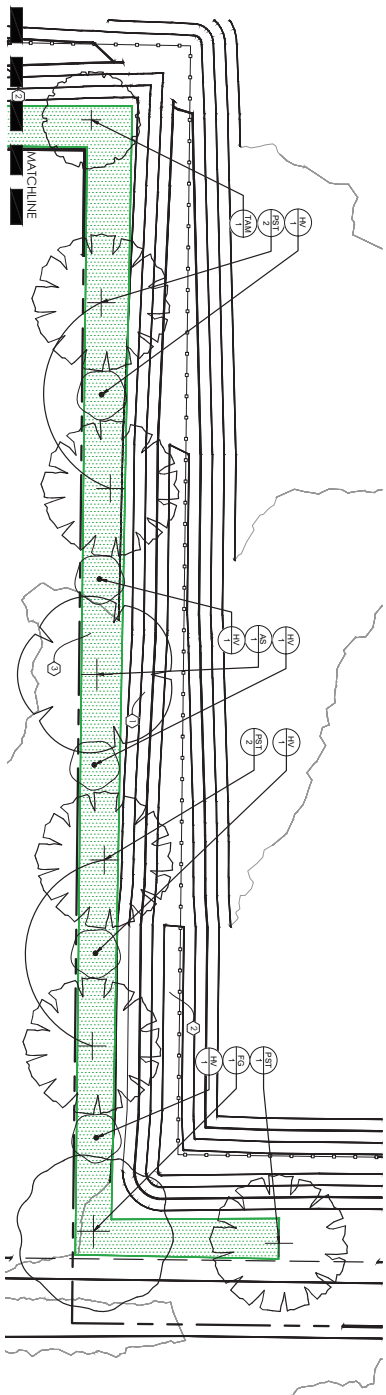


PLANT SCHEDULE ZONE 3

CODE	BOTANICAL NAME	COMMON NAME	QTY	SIZE
ET	EVERGREEN TREES			
FS1	PRINUS STROBUS	EASTERN WHITE PINE	2	6' HT
SR	SHRUBS			
CF	CORNUS FLORIDA	FLOWERING DOGWOOD	1	10 GAL.

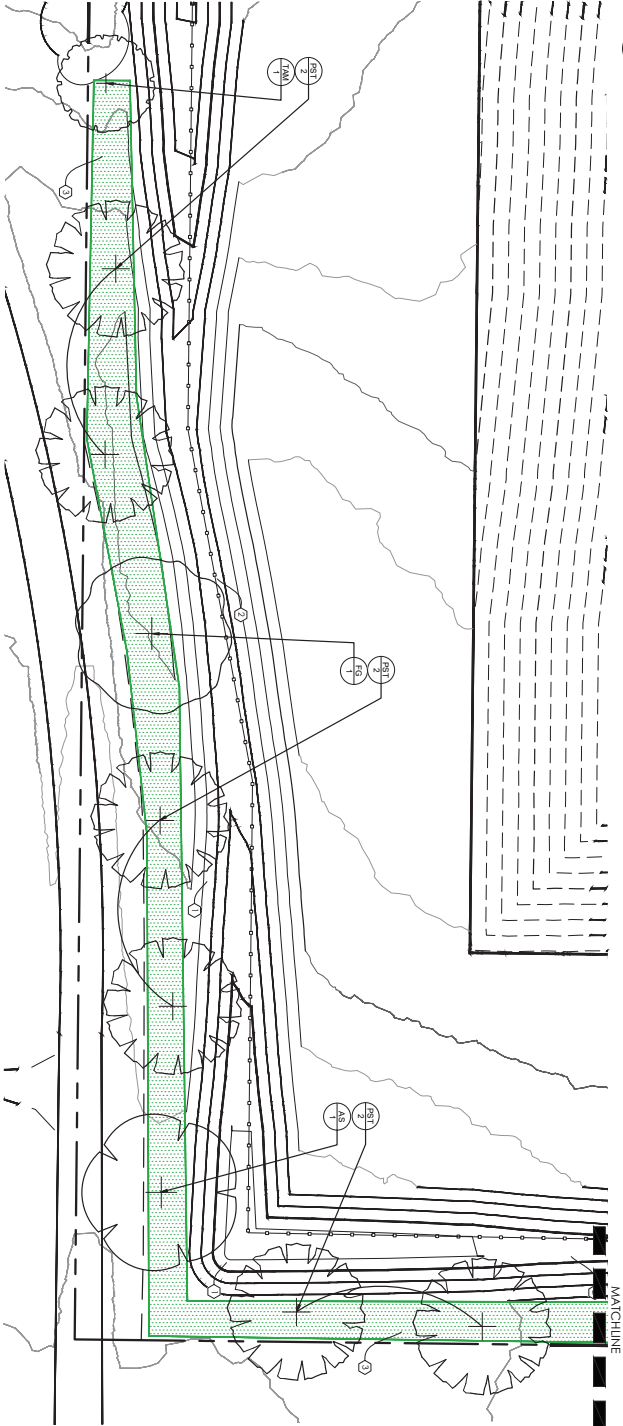
1 ZONE 3 PLANTING PLAN
Scale: 1" = 30'-0"





1 ZONE 4 PLANTING PLAN
Scale: 1" = 30'-0"

- PLANTING CONSTRUCTION NOTES:
- 1) BIRDS ARE TO BE SEEDS UP TO EDGE OF GRASSY/SHRUBBED AREA.
 - 2) SEE CIVIL PLANS FOR GRADING INFORMATION
 - 3) LANDSCAPE BUFFER PLANTING, SEED DISTURBED AREAS



2 ZONE 4 PLANTING PLAN
Scale: 1" = 30'-0"

PLANT SCHEDULE ZONE 4

CODE	BOTANICAL NAME	COMMON NAME	QTY	SIZE
DECIDUOUS TREES				
AS	ACER SACCCHARUM	SUGAR MAPLE	2	2.5" DBH
FG	FAGUS GRANDIOLIA	AMERICAN BEECH	2	2.5" DBH
TAM	TILIA AMERICANA	BASSWOOD	2	2.5" DBH
EVERGREEN TREES				
PSJ	PRINUS STROBUS	EASTERN WHITE PINE	11	6" HT
SHRUBS				
IV	HAMAMELIS VIRGINIANA	COMMON WITCH HAZEL	5	10 GAL.



CONSULTANTS
Stoneco 100th
Street Operation

PROJECT NAME
900 100TH STREET SE
GAINES TOWNSHIP, MI 48161

CLIENT
Natural Resources
Management
13725 SHILOH RD.
SOUTH OCH, 43558

PROJECT NO. 26164.0
DATE: 08.17.26
DRAWN BY:

NOT FOR CONSTRUCTION
PLANTING PLAN
ZONE 4



CALCULATIONS:

ZONE 1: (FRONT YARD) 7' FEET SECTION 23.50 (34.0)

APPROXIMATELY 265 FT OF FRONTAGE = 215 FT TOTAL

Species	Common Name	Minimum Size	Classification	Crown Spread	Spacing	Number	Result	Percent of Total
ACER	American Maple	2.5 ft dbh	115 ft max	80 ft	45 ft x 2	=90	=90	33%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	=90	=90	33%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	=90	=90	33%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	=90	=90	33%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	=90	=90	33%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	=90	=90	33%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	=90	=90	33%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	=90	=90	33%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	=90	=90	33%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	=90	=90	33%

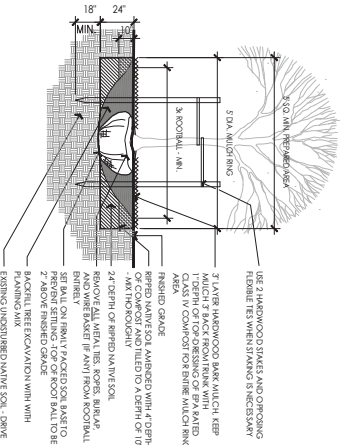
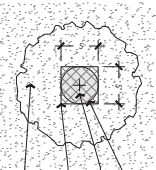
NOTE: ALL CONTENT IN THE TABLE ABOVE WAS CALCULATED AND PROVIDED BY NATURAL RESOURCES MANAGEMENT

ZONE 1 - 4" (BUFFERS) TYPE B PER TABLE 23.60

APPROXIMATELY 3.91 IS LINEAR FT TOTAL WITH 50% REDUCTION=1,958 LINEAR FT

Species	Common Name	Minimum Size	Classification	Crown Spread	Spacing	Count	Result	% of Total
ACER	American Maple	2.5 ft dbh	115 ft max	80 ft	45 ft x 2	5	225	9%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	5	225	9%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	5	225	9%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	5	225	9%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	5	225	9%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	5	225	9%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	5	225	9%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	5	225	9%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	5	225	9%
ACER	American Maple	2.5 ft dbh	100 ft max	80 ft	45 ft x 2	5	225	9%

NOTE: ALL CONTENT IN THE TABLE ABOVE WAS CALCULATED AND PROVIDED BY NATURAL RESOURCES MANAGEMENT



1 TREE PLANTING DETAIL

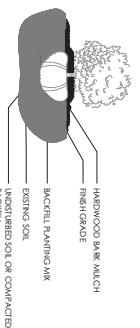
Scale: NTS

PLANT SCHEDULE ZONE 1 FRONT YARD

CODE	BOTANICAL NAME	COMMON NAME	QTY	SIZE
AC	ACER SACHARUM	SUGAR MAPLE	2	2.5" DBH
FG	FAGUS GRANDIFOLIA	AMERICAN BEECH	2	2.5" DBH
TAM	TILIA AMERICANA	BASSWOOD	1	2.5" DBH
EVERGREEN TREES				
PIST	PINUS STROBUS	EASTERN WHITE PINE	1	6 HT

PLANT SCHEDULE ZONE 1-4

CODE	BOTANICAL NAME	COMMON NAME	QTY	SIZE
AC	ACER SACHARUM	SUGAR MAPLE	5	2.5" DBH
FG	FAGUS GRANDIFOLIA	AMERICAN BEECH	5	2.5" DBH
TAM	TILIA AMERICANA	BASSWOOD	3	2.5" DBH
EVERGREEN TREES				
PIST	PINUS STROBUS	EASTERN WHITE PINE	28	6 HT
SHRUBS				
CF	CORNUS FLORIDA	FLOWERING DOGWOOD	5	10 GAL
HV	HAMAMELIS VIRGINIANA	COMMON WITCH HAZEL	5	10 GAL
VM	VIBURNUM ACERIFOLIUM	MARLEAF VIBURNUM	5	10 GAL



2 SHRUB PLANTING DETAIL

Scale: NTS

GENERAL NOTES: LANDSCAPE PLANTING

1. THE CONTRACTOR IS TO OBTAIN THE NECESSARY PERMITS AND APPROVALS FOR ALL PLANTING AND CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
2. EXISTING TREES SHALL BE PROTECTED AND MAINTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
3. IF THE CONTRACTOR IS REQUIRED TO REMOVE ANY EXISTING TREES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
4. ALL PLANTING OPERATIONS SHALL COMPLY WITH THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2014). THE CONTRACTOR IS RESPONSIBLE FOR ALL PLANTING OPERATIONS.
5. QUANTITIES OF PLANTS AS SHOWN IN THE PLANT SCHEDULES SHALL BE QUANTITIES SHOWN IN THE PLANT LIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
6. ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
7. ALL MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
8. ALL PLANTING SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.



Stoneco 100th Street Operation

900 100TH STREET SE
GAINES TOWNSHIP, MI 48161

Natural Resources Management
1935 S. 10th St.
Southfield, MI 48034

PROJECT NO. 26164.0
DATE: 08.17.26
DRAWN BY: [Signature]

NOT FOR CONSTRUCTION
DETAILS, NOTES, & SCHEDULES



OVERVIEW:

The applicant is requesting site plan review for Phase 3 of the Dutton Center PUD, which makes up the multifamily portion of the development. During the approval for the overall Dutton Center PUD in 2024, the Planning Commission made a positive recommendation to the Township Board of Trustees with several conditions recommended by staff, one of which requires that “Phases 2 (plat), 3, 4, and 5 shall be subject to the final site plan review process by the Planning Commission”.

Dutton Center Depot is planned to feature 96 total dwelling units across eight 12-unit buildings. Four of the proposed buildings will be 2-stories tall, and the remaining four will be 3-story buildings. The site plan includes details pertaining to lighting, landscaping, utilities, and several amenities including courtyards, pedestrian infrastructure, and enclosed dumpsters.

In addition to satisfying all applicable standards from the Zoning Ordinance, the submitted site plans must also demonstrate conformity with the approved Dutton Center PUD. Minor deficiencies have been identified by staff and are subject to review and approval by the Planning Commission.

SURROUNDING ZONING:

	NORTH: General Commercial (GC)	
WEST: Hanna Lake Ave, Suburban Residential (SR)	SUBJECT PARCEL	EAST: Dutton Center PUD, Phase 1
	SOUTH: Office and Service (OS), Dutton United Reformed Church	

PROCESS:

The request for site plan review is subject to the following process:

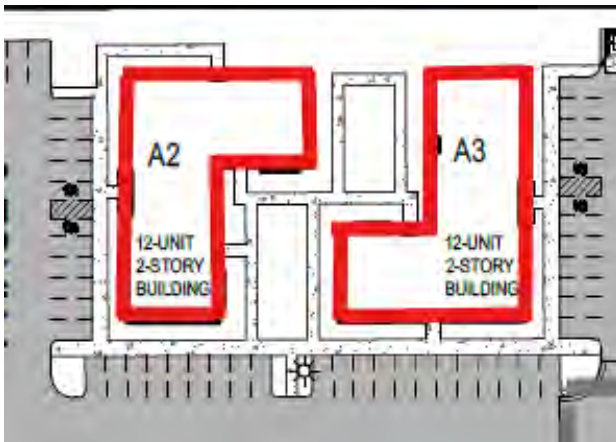
1. Submittal by applicant (Section 25.20 A-C)
2. Completeness review by Zoning Administrator (25.20 D)
3. If complete, administrative review by Zoning Administrator
4. Review and decision by the Planning Commission (Section 25.50)

STANDARDS OF REVIEW:

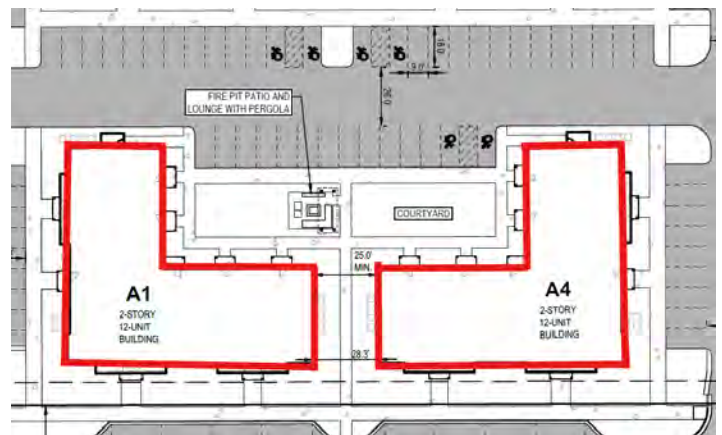
The request for site plan review is subject to review against standards outlined in Section 26.40 of the Zoning Ordinance – “Site Plan Standards of Approval”. The Planning Commission shall review all details of the application and submittal to ensure satisfaction with the requirements outlined in Section 26.40.

A. ZONING COMPLIANCE AND COMPATIBILITY: Site plan proposals shall conform to all zoning district requirements (Chapters 4 to 13, as applicable), land use regulation (Chapter 15), building requirements (Chapter 16), general requirements (Chapter 17), and any applicable specific use requirements (Chapter 18). If necessary, variances shall be secured prior to the Planning Commission’s approval (Chapter 30). Site planning shall consider both zoning compliance and compatibility with adjacent properties and land uses. All uses, structures, and buildings will fully comply with this Ordinance and all other applicable Township ordinances.

Substantially complies. The provided site plan indicates moderate deviations from the original PUD approval, most notably the reconfiguration of the site layout for all eight buildings. In the approved PUD plan (dated 3/14/2025), the layout called for the 3-story buildings to line the north and south sides of Cloudcroft Street, and the 2-story buildings to be configured behind those/farthest from the right-of-way. The most recent iteration of the site plan (dated 6/25/2026) depicts the opposite, with 2-story buildings lining Cloudcroft Street and the 3-story buildings behind and farthest from the right-of-way. The 2-story buildings have also been rotated and arranged differently than they were in the approved PUD plan.



Approved PUD Plan



Phase III Plan

REQUIREMENT	COMPLIANCE	COMMENT
DUTTON CENTER PUD REQUIREMENTS		
Max. Building Height – 35’ or 2 stories, whichever is less within 50’ of PUD boundary; 45 feet or 3 stories	Yes	Four 3-story buildings and four 2-story buildings
Min. Distance to PUD Boundary – 30’	Yes	
Min. Distance to Adjacent ROW – 10’	Yes	Note of 10-foot setback west of building A6
Minimum building separation – 25’	Yes	Greatest proposed separation is 28.3’
Min. Dwelling Unit Size – 720 SF	Yes	No specific details depicting unit layout, but site plan notes call for compliant square footage

Section 16.60 of the Zoning Ordinance outlines specific building requirements for multiple-family dwellings, commonly referred to as apartments. The site plan demonstrates compliance with the requirements of Chapter 16, as all buildings face towards primary streets and/or courtyard areas to promote accessible pedestrian mobility.

Site plans indicate that the proposed buildings will incorporate step-backs to break up the mass of the buildings, and distinct architectural features to emulate the appearance of large single-family townhomes. The buildings are proposed to be arranged in a way which embodies the spirit of traditional side-yard setbacks by centering them around courtyards and street frontages.

Elevations and site plans indicate that exterior and interior walls satisfy the design requirements outlined in Section 16.60 via the use of several distinct architectural features proposed on all four sides of the buildings, including:

- Balconies
- Prominent entry features
- Windows (at least 10% of building facades)

- Door openings
- Variation in materials
- Variation in roof form
- Projected and recessed building walls

B. LIGHTING: Lighting plans shall demonstrate compliance with all requirements and shall be designed to ensure safe conditions and minimal impact on neighboring properties and the night sky (Chapter 19).

Partially complies, conditions recommended. The applicant has submitted a photometric plan that indicates 24 light poles throughout Phase 3; the applicant has not specified what height they will be mounted at.

REQUIREMENT	COMPLIANCE	COMMENT
LIGHTING – CH 19		
Max. Color Temperature (19.40.B)	No	Fixtures noted to exceed 2,700K, however, could consider this a mixed-use district which calls for max temperature of 4,000K. PC must make a determination on whether this phase of development should follow residential or mixed-use lighting guidelines.
Fixture Type (19.40.C)	Yes	Fixtures are fully cut off and down lit.
Mounting Height (19.40.D)	Undetermined	20' maximum, applicant has not noted mounting heights for poles
Illumination Levels (19.50)	No	Illumination should be 0fc at all lot lines adjacent to residential uses, several deficiencies

C. PARKING AND LOADING: Parking lot design shall demonstrate compliance with all dimensional and circulation requirements and shall be arranged to provide safe and convenient access to buildings and land uses (Chapter 20). If applicable, stacking and loading spaces shall be designed to minimize the impact on internal circulation routes and off-site traffic patterns.

Meets standard. Details pertaining to parking and loading demonstrate compliance with the overall PUD plan, originally approved in 2024, and the requirements outlined in Chapter 20 of the Zoning Ordinance. Drive aisles, setbacks, and dimensions of spaces all exhibit consistency with provisions of Chapter 20, in addition to the number of spaces provided.

In the original approval, 354 parking spaces were provided which were intended to serve both the apartments and the mixed-use areas; the new submittal indicates that proposed parking counts have been reduced but still demonstrate compliance with the provisions of Chapter 20. Section 20.50 stipulates that 2.25 parking spaces must be provided per every dwelling unit in multifamily housing, which makes for a minimum requirement of 216 spaces – the site plan provides 236 including 16 on-street spaces and 12 ADA-compliant spaces.

The site plan also specifies that some of the parking included in Phase 3 is still intended to support commercial uses in Phase 4, as originally approved, but does not provide a number or specifically designate any spaces. Retail uses require 1 parking spot per every 250 square feet. Spaces intended for use by both phases will require some clarification, however, the plan for Phase 3 alone demonstrates compliance. Staff recommends that the applicant explain calculations and request any necessary parking deviations at the time of Phase 4 site plan review.

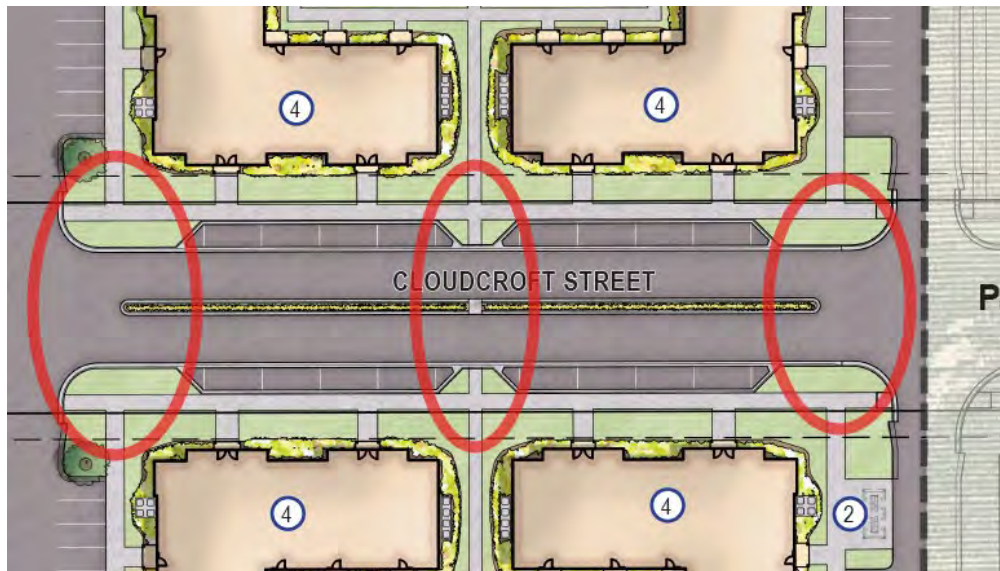
The Gaines Charter Township Fire Marshal has reviewed and approved the provided site plan.

D. MOBILITY, TRAFFIC, AND ACCESS: Pedestrian and bicycle travel shall be accommodated in accordance with this Ordinance (Section 21.20). Acceptable traffic conditions shall be maintained (Section 21.30). Driveway placement, connectivity, and shared access shall be designed to promote safe and efficient access to and from the site and circulation within the site. Compliance with access management requirements shall be demonstrated (Section 21.40). All sites and buildings shall be accessible to emergency service vehicles and personnel to respond to emergencies and calls for service. Streets and driveways shall conform to the requirements of Chapter 22.

Substantially complies, conditions recommended. Dutton Center Depot will be accessible via sidewalks, internal parking lots, and Cloudcroft Street, a private road extending eastward from Hanna Lake Avenue. Parking areas and Cloudcroft will be lined with sidewalks, providing reasonable access to other phases of the PUD, Hanna Lake Avenue, and beyond. The applicant has also committed to defining a specific trail with markers that

directs cyclists towards Shadyside Park and the Paul Henry Thornapple trail, as pedestrian mobility was identified as a priority by the development team and the Planning Commission during PUD approval.

An observation was made that the site plan does not indicate whether there will be bike racks provided; staff finds it appropriate to require a condition in which the applicant must provide bike racks for residents and retail users. Additionally, no crosswalks are depicted in the site plan to offer safe access across Cloudcroft, although staff identified three areas where a crosswalk could potentially be implemented (pictured below). Staff recommends the applicant work with the Kent County Road Commission to provide a designated crosswalk providing safe north-south pedestrian travel across Cloudcroft. All site plans are subject to review and approval by the Gaines Charter Township Fire Department and Kent County Road Commission.



E. LANDSCAPING, SCREENING, AND ENVIRONMENTAL PROTECTION: All applicable landscaping, buffering, screening, and environmental requirements shall be satisfied (Chapter 23), and sites shall not be significantly disturbed in ways beyond what is appropriate for the reasonable development of a site. Site plans shall demonstrate that the impact of exterior uses and activities is minimized by required landscaping and screening.

Substantially complies. All landscaping requirements outlined in Chapter 23 of the Zoning Ordinance are satisfied through the provided landscaping plan, however, staff would note that buffering/screening to the north is not depicted but may be preferable to soften the

view of industrial users to the north. The Planning Commission may consider requiring the applicant to implement screening to the north.

REQUIREMENT	COMPLIANCE	COMMENT
LANDSCAPING – CH 23		
Native Plantings and Variety (23.30.D)	Yes	More than 25% of trees and shrubs native, compliant variety
Planting Separations (23.30.E)	Undetermined	In some instances looks like trees may be closer to curb than 4 feet
Installation Size (23.30.E)	Yes	
Irrigation (23.30.F)	Yes	Specified that the site will be irrigated
Prohibited Trees (23.30.J)	Yes	
Landscaping Plan Requirements (23.40.B)	Substantial	Only missing identification of where snow storage areas are planned to be located
Front Yard Trees (23.50)	Yes	590 feet of frontage, 17 medium trees or 13 large trees, proposing 15 of 41 total trees
Screening (23.70)	Yes	Stone enclosure and evergreen shrubs
Parking Lot Landscaping (23.80)	Yes	1 tree per 12 spaces, 20 canopy trees required; 41 trees provided
Multi-Family Site Landscaping (23.90)	Yes	1 shrub per 5 feet of building width; 87 shrubs per every 2-story building and 70 shrubs per every 3-story building; 628 required, 928 provided

F. STORMWATER AND WATER QUALITY: Stormwater detention, retention, and drainage systems shall be designed to protect neighboring properties from the negative impacts of increased stormwater run-off and flooding. Systems shall be designed to function with public stormwater drainage systems under the authority of the Kent County Drain Commission, Kent County Road Commission, or the Michigan Department of Transportation (MDOT).

Substantially complies. The Township Engineer has reviewed the provided site plans and made several recommendations for the development team, including a request for an updated stormwater calculations package to account for the modified layout. All stormwater plans are subject to review and final approval by the Township Engineer and the Kent County Road Commission.

G. SIGNS: Proposed signs shall meet dimensional and location requirements and shall be placed in locations that limit driver distraction and prevent visual clutter (Chapter 24).

Undetermined. Although no signage plan was submitted during original approval in 2024, the applicant committed to compliance with the Zoning Ordinance and the application did not include any PUD modifications to accommodate signage. The site plan associated with Dutton Center Depot (dated 6/25/2026) similarly does not contain any details on signage. Staff notes that this phase of development does, however, encompass the right-of-way on both Cloudcroft and Hanna Lake, and areas where an entry point sign would typically be located. Absent a sign plan, the provided building elevations also did not specify whether wall signage would be included for building identification, or if any additional signage is intended to be placed for wayfinding purposes. Staff would request that signage be delegated to be reviewed administratively.

Additionally, staff would point out that Chapter 24 of the GCTZO has been updated since original approval in 2024 and contains specific guidelines for permanent signs in residential zoning districts. Staff would ask that the applicant take new ordinance requirements into consideration prior to submitting a signage plan.

H. WATER AND SEWER: Public water and sewer connections shall be approved by the Byron Gaines Utility Authority (BGUA) in accordance with Section 17.90 B as applicable. The site plan will not overburden BGUA's ability to provide public services while at the same time adequately providing for sewage collection and treatment

Substantially complies. The applicant is continuing to work with the Township Engineer and the Byron Gaines Utility Authority on the utility review process; no water or sewer infrastructure has been placed for this phase of development yet.

The Township Engineer pointed out one deficiency that doesn't pertain to underground infrastructure; a light pole on Toggenburg Street must be moved to be at least 10 feet from a proposed fire hydrant.

I. OUTSIDE AGENCIES: Applicants must secure all applicable outside agency approvals, including but not limited to the Kent County Health Department, Kent County Road Commission, Kent County Drain Commission, Fire Department, and State of Michigan regulatory agencies. Securing applicable approvals may also be a condition of approval if not received prior to the Planning Commission review.

Substantially complies. The applicant is working closely with all applicable outside agencies to secure necessary approvals as the project progresses through development phases.

STAFF RECOMMENDATION

The Planning Commission must make the following determinations:

1. Shall the applicant be required to implement additional screening to the north?
2. Shall signage be delegated to be reviewed administratively?
3. Shall this phase of development follow guidelines for residential lighting or mixed-use lighting?

Staff endorses approval of the request for site plan review, with the following recommendations:

1. Bike racks must be provided for residential and retail users.
2. Applicant must work with the Kent County Road Commission to establish a safe crosswalk across Cloudcroft, providing safe north-south pedestrian access.

3. Applicant must obtain all applicable outside agency approvals, including but not limited to:

- Kent County Road Commission
- Kent County Drain Commission
- Department of Environment, Great Lakes, and Energy (EGLE)
- Township Engineer
- Gaines Charter Township Fire Department
- Byron Gaines Utility Authority

June 24, 2026

Community Development Director
Gaines Charter Township
8555 Kalamazoo Ave., SE
Caledonia, MI 49316

SUBJECT: Dutton Center Planned Unit Development Phase 3 Multi-family Residential

Dear Dan,

On behalf of Allen Edwin Homes, we are pleased to submit the enclosed application materials for Final Site Plan Review of Phase 3 of the Dutton Center Planned Unit Development (PUD) located at 3316 68th St SE Caledonia, MI.

As you are aware, the Gaines Charter Township Planning Commission granted Final PUD approval for the project on August 22, 2024. As part of that approval, the Planning Commission adopted staff-recommended conditions, including the following:

"Phases 2 (plat), 3, 4, and 5 shall be subject to the final site plan review process by the Planning Commission."

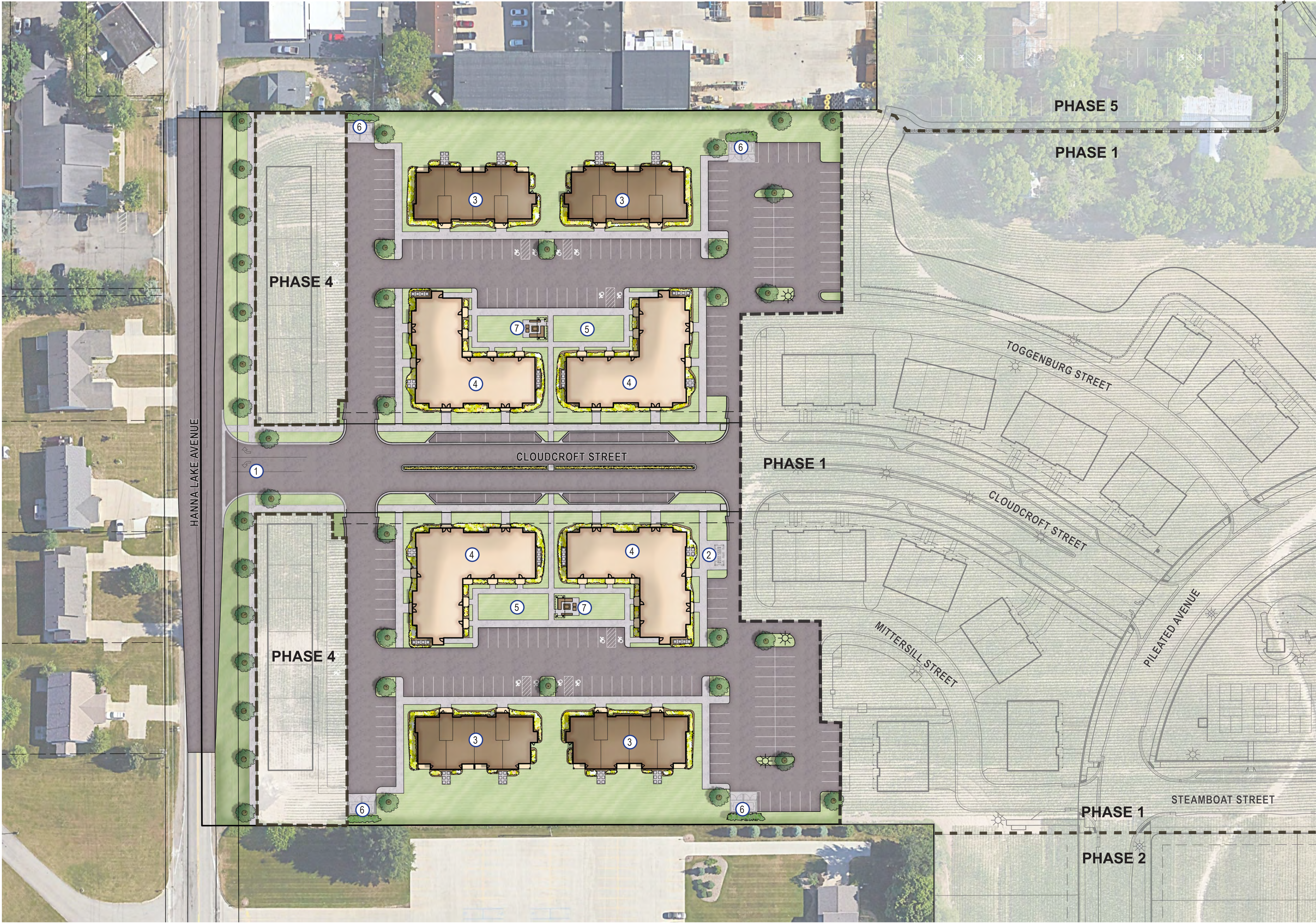
This application is being submitted in accordance with that condition of approval and the established phasing plan for the development. The enclosed materials provide the information necessary for Planning Commission review of Phase 3 and demonstrate conformance with the approved PUD framework. The photometric plan is not included with this set but will be forthcoming.

We appreciate Township staff's assistance throughout the review process and look forward to working with the Township and Planning Commission on this next phase of development. Should you require any additional information or have questions regarding the submission, please do not hesitate to contact me.

Sincerely,



Aaron Besmer



- LEGEND**
- 1 SITE ENTRANCE
 - 2 MAIL KIOSK
 - 3 12-UNIT 3-STORY BUILDING
 - 4 12-UNIT 2-STORY BUILDING
 - 5 COURTYARD
 - 6 TRASH RECEPTACLE
 - 7 FIRE PIT PATIO WITH PERGOLA

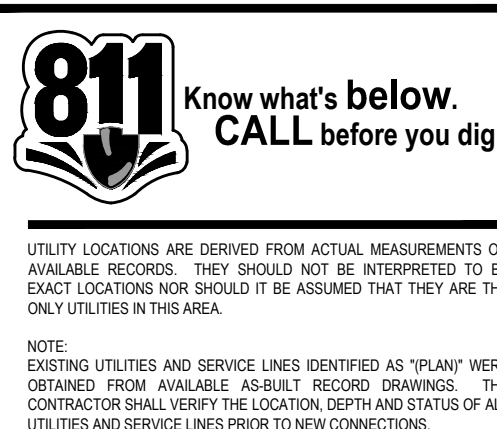
NOTES

Site Location:	3316 68th Street SE, Gaines Township, Michigan, 49315
Total Area of Phase	= 6.1 ac.
Existing Zoning of Property	= PUD [Planned Unit Development]
Total Dwellings Proposed	= 96
2-Story 12-Unit Buildings	= 4 Buildings (48 Dwellings)
3-Story 12-Unit Buildings	= 4 Buildings (48 Dwellings)
Parking Spaces Provided	= 236 (Including 16 on-street spaces)

REVISIONS:

Title: Chapter 26 Review Submittal
Drawn: DC/EG Checked: DC Date: 2026.06.2

Part of the Northwest 1/4 of Section 11, Town 5 North, Range 11 West, Gaines Township, Kent County, Michigan, described as: Commencing at the Northwest corner of said Section; thence N00°03'34"E 165.00 feet along the West line of said Section to the Point of Beginning; thence continuing N00°03'34"E 843.41 feet along said West line; thence N89°52'04"E 577.10 feet parallel with the North line of said Section; thence N00°03'34"W 92.46 feet; thence S89°50'26"W 18.00 feet; thence N00°03'34"W 72.52 feet; thence S89°52'04"W 99.08 feet; thence N00°07'54"W 311.97 feet; thence N89°52'04"E 118.83 feet; thence N00°07'56"W 166.48 feet; thence S89°52'04"W 579.08 feet to the Point of Beginning. Contains 7.66 acres. Subject to easements, restrictions and rights-of-way of record. Also subject to highway right-of-way for Hanna Lake Avenue over the most Westerly 33.00 feet thereof.



NEDERVELD
www.nederveld.com
800.222.1868
GRAND RAPIDS
217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190
ANN ARBOR
CHICAGO
COLUMBUS
HOLLAND
INDIANAPOLIS

PREPARED FOR:
Green Development Ventures, LLC
Attn: Mike West
2186 E. Centre Ave.
Portage, MI 49002
Phone: 269.365.8548

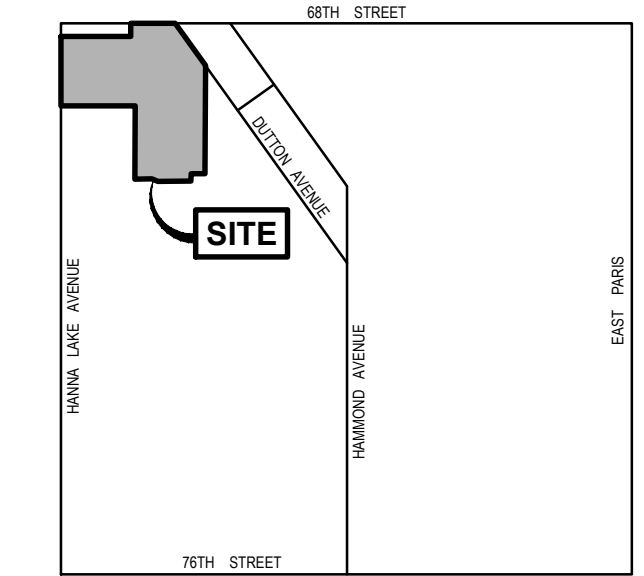
REVISIONS:
Title: Chapter 26 Review Submittal
Drawn: DCEG Checked: DC Date: 2026.06.25

DUTTON CENTER DEPOT
DUTTON CENTER PUD - PHASE 3
Overall PUD Plan
6870 HANNA LAKE AVENUE SE
PART OF THE NW 1/4 OF SECTION 11, T5N, R11W,
GAINES TOWNSHIP, KENT COUNTY, MICHIGAN

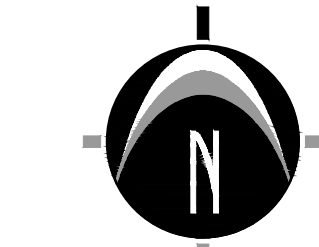
STAMP:
NATHANIEL
ANDREW VOIGT
License No.
6201063797
Professional Engineer
State of Michigan

PROJECT NO:
26400417

SHEET NO:
C-205



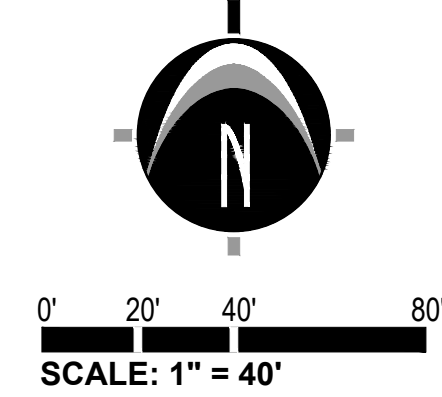
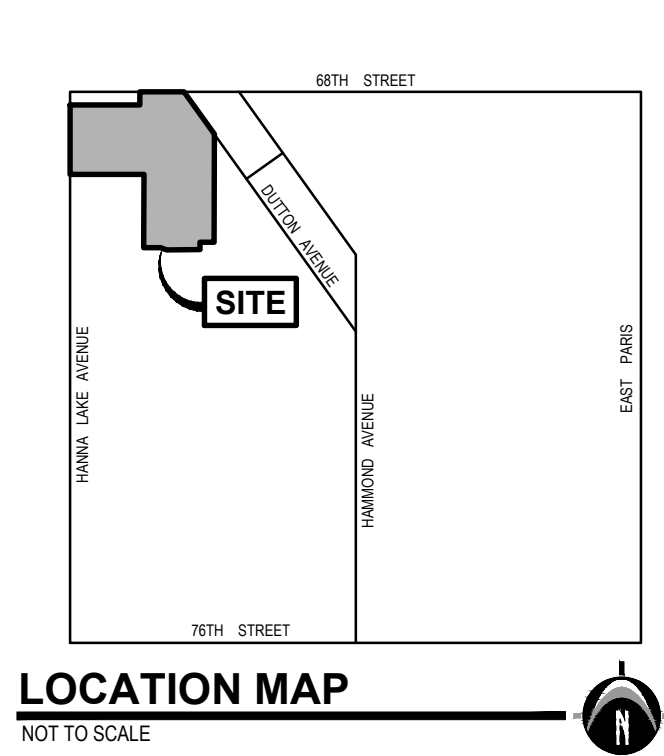
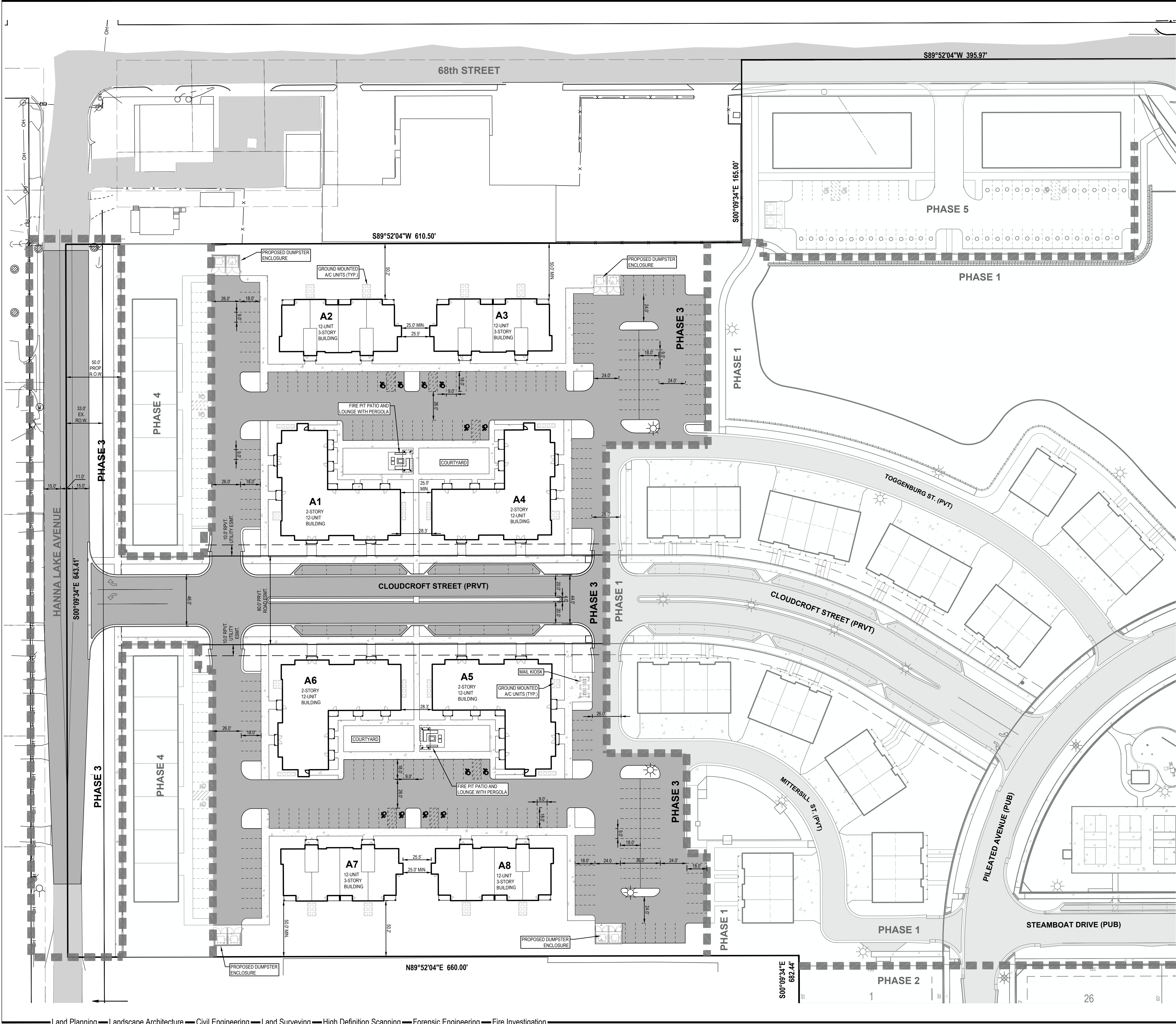
LOCATION MAP
NOT TO SCALE



0' 50' 100' 200'
SCALE: 1" = 100'



UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.
NOTE: EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "PLANS" WERE OBTAINED FROM AVAILABLE AS-BUILT RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL UTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.



GENERAL NOTES

- 1) ZONING OF PROPERTY: PUD (PLANNED UNIT DEVELOPMENT)
- 2) APPROVED SITE REGULATING STANDARDS:
MULTIPLE FAMILY BUILDINGS (A1-A8)
 1. MAXIMUM BUILDING HEIGHT = 35 FT. OR 2 STORIES, WHICHEVER IS LESS FOR BUILDING AREAS WITHIN 50 FT. OF THE PUD BOUNDARY; 45 FT. OR 3 STORIES, WHICHEVER IS LESS FOR ALL OTHER BUILDING AREAS.
 2. MINIMUM DISTANCE TO PUD BOUNDARY = 30 FT.
 3. MINIMUM DISTANCE TO ADJACENT R.O.W. = 10 FT.
 4. MINIMUM BUILDING TO BUILDING SEPARATION DISTANCE (FOUNDATION WALL TO FOUNDATION WALL) = 25 FT.
 5. MINIMUM DWELLING UNIT SIZE = 720 SQ.FT.
- 3) SUMMARY OF LAND USE:
 - A) TOTAL ACREAGE OF PHASE 3 = 6.10 ACRES (265,731 SQ.FT.) (EXCLUDING EX. R.O.W.)
 - B) TOTAL DWELLING UNITS PROPOSED = 96 DWELLINGS (8 BUILDINGS)
 1. 2-STORY, 12-UNIT BUILDINGS = 48 DWELLINGS (4 BUILDINGS)
 2. 3-STORY, 12-UNIT BUILDINGS = 48 DWELLINGS (4 BUILDINGS)
 - C) ZONING OF PARCELS TO NORTH = C-2
 - D) ZONING OF PARCELS TO EAST = RL-10
 - E) ZONING OF PARCELS TO WEST = C-2, RL-10, & O-S
 - F) ZONING OF PARCELS TO SOUTH = RL-14
- 4) PARKING REQUIREMENTS:
 - A) MINIMUM REQUIRED SPACE PER TOWNSHIP = 9'x19' (24' AISLE)
 - B) TYPICAL PARKING SPACE PROVIDED = 9'x18' (24' AISLE)
 - C) TYPICAL VAN ACCESSIBLE PARKING SPACE = 11'x18' WITH 5' AISLE
 - D) TYPICAL CAR ACCESSIBLE PARKING SPACE = 8'x18' WITH 5' AISLE
 - E) NUMBER OF SPACES REQUIRED (2.25 PER DWELLING UNIT) = 216
 - F) NUMBER OF SPACES PROVIDED = 238 (INCLUDING 16 ON-STREET SPACES)
 1. NORTHERN PARKING AREA = 121 SPACES (INCLUDING 8 ON-STREET SPACES)
 2. SOUTHERN PARKING AREA = 115 SPACES (INCLUDING 8 ON-STREET SPACES)
 3. NOTE: A PORTION OF THE PARKING BEING CONSTRUCTED IN THIS PHASE WILL SUPPORT THE FUTURE COMMERCIAL USES OF PHASE 4
- 5) THIS PROJECT IS NOT LOCATED IN THE 100 YEAR FLOOD PLAIN, BASED ON THE NATIONAL FLOOD INSURANCE PROGRAM RATE MAPS.
- 6) BEST MANAGEMENT PRACTICES WILL BE UTILIZED DURING AND AFTER CONSTRUCTION OF THE PROJECT. MEASURES WILL INCLUDE THE USE OF SEEDING AND MULCHING, SEDIMENT INLET FILTERS, COMPACTION AND PAVING. THE OWNER OF THE SUBJECT PARCEL SHALL HAVE THE RESPONSIBILITY TO MAINTAIN THE PERMANENT SOIL EROSION PROTECTION MEASURES.
- 7) ALL LIGHTING SHALL BE SHIELDED FROM ALL ADJACENT PROPERTIES.
- 8) THE PERMANENT PARCEL NUMBER FOR THIS SITE IS 41-22-11-101-022. THE ADDRESS OF THE PROPERTY IS 6870 HANNA LAKE AVENUE SE.



UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NOTE:
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PREPARED FOR:
Green Development Ventures, LLC
Attn: Mike West

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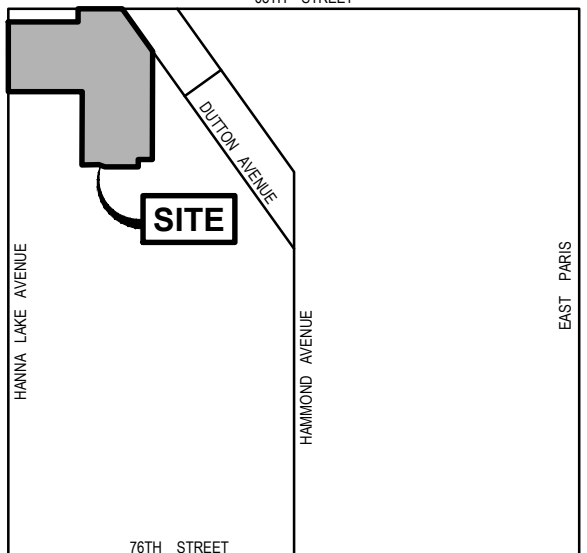
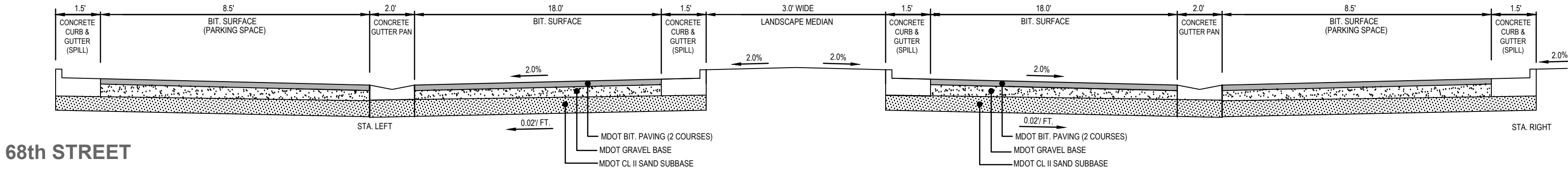
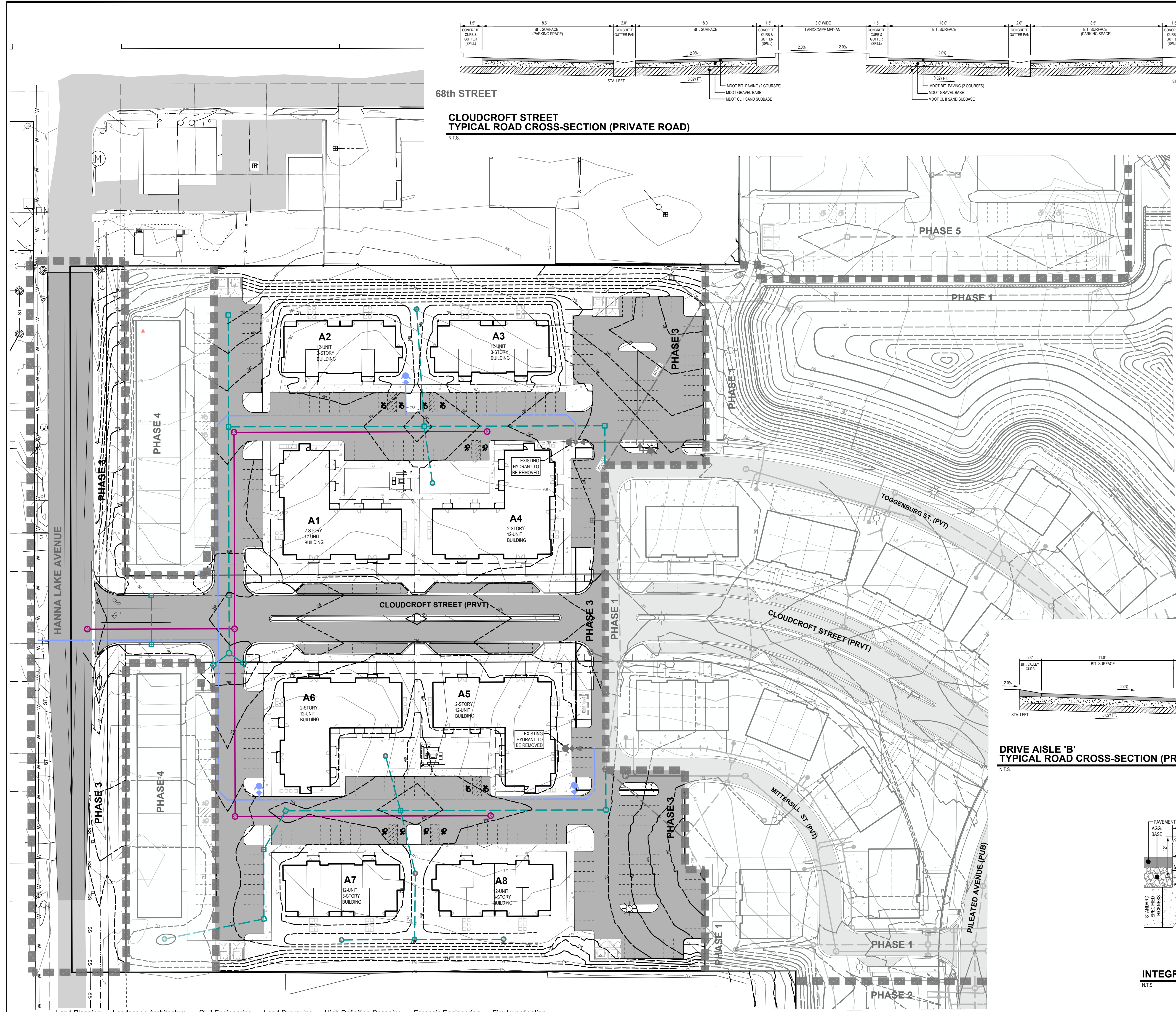
REVISIONS:
Title: Chapter 26 Review Submittal
Drawn: DCEG Checked: DC Date: 2026.06.25

DUTTON CENTER DEPOT
DUTTON CENTER PUD - PHASE 3
Site Layout Plan
6870 HANNA LAKE AVENUE SE
PART OF THE NW 1/4 OF SECTION 11, T5N, R14W,
GAINES TOWNSHIP, KENT COUNTY, MICHIGAN

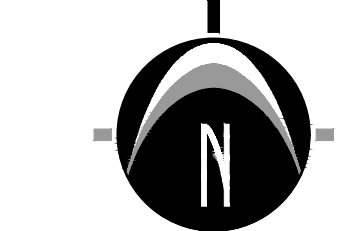
STAMP:
STATE OF MICHIGAN
NATHANIEL
ANDREW VOIGT
License No.
6201063797
REGISTERED PROFESSIONAL ENGINEER
Nathan Voigt

PROJECT NO:
26400417

SHEET NO:
C-206



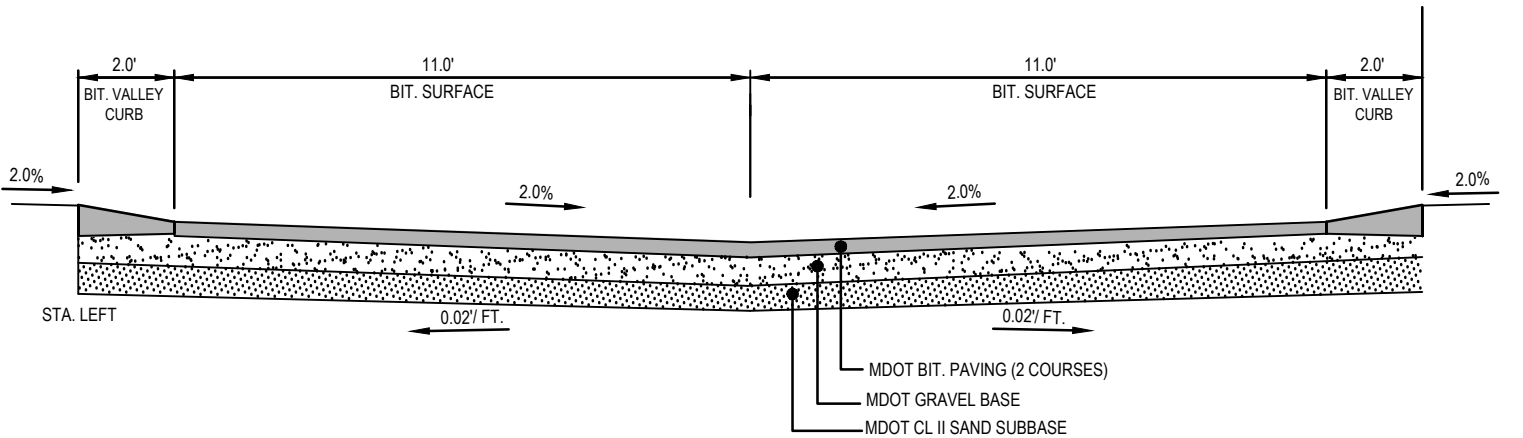
LOCATION MAP
NOT TO SCALE



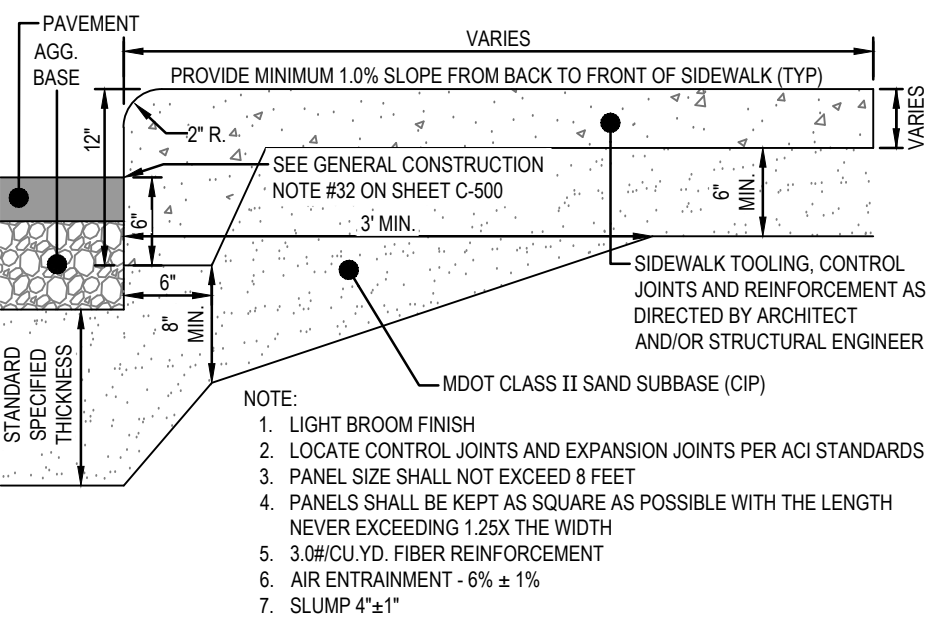
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SCALE: 1" = 40'

LEGEND

	EX. GRADE CONTOUR
	PROP. GRADE CONTOUR
	EX. BITUMINOUS
	EX. CONCRETE
	PROPOSED BITUMINOUS (STANDARD DUTY)
	PROPOSED CONCRETE (STANDARD DUTY)
	PROP. STORM SEWER
	PROP. SANITARY SEWER
	PROP. WATERMAIN



DRIVE AISLE 'B'
TYPICAL ROAD CROSS-SECTION (PRIVATE ROAD)
N.T.S.



INTEGRAL CURB AND WALK DETAIL
N.T.S.

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PREPARED FOR:
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Attn: Mike West

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Phone: 269.365.8548

REVISIONS:
Title: Chapter 26 Review Submittal
Drawn: DCEG
Checked: DC
Date: 2026.06.25

DUTTON CENTER DEPOT
DUTTON CENTER PUD - PHASE 3
Grading & Utilities Plan
6870 HANNA LAKE AVENUE SE
PART OF THE NW 1/4 OF SECTION 11, T5N, R11W,
GAINES TOWNSHIP, KENT COUNTY, MICHIGAN

STAMP:
STATE OF MICHIGAN
NATHANIEL
ANDREW VOIGT
License No.
6201063797
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO:
26400417

SHEET NO:
C-300



LANDSCAPE NOTES

PLANTING NOTES:

- 1) ALL PLANT MATERIAL SHALL BE LOCALLY NURSERY GROWN NO.1 GRADE AND INSTALLED ACCORDING TO ACCEPTED PLANTING PROCEDURES. ALL PLANT MATERIALS SHALL MEET CURRENT AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS. DO NOT PLANT MATERIALS UNTIL DIRECTED BY OWNER, LANDSCAPE ARCHITECT, AND/OR CONSTRUCTION MANAGER. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL, FOR ANY REASON BEFORE OR AFTER IT IS INSTALLED.
- 2) SIZES SPECIFIED ARE MINIMUM SIZES TO WHICH THE PLANTS ARE TO BE INSTALLED.
- 3) ANY PLANT SUBSTITUTIONS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
- 4) MAINTENANCE OF LANDSCAPING ITEMS, TREES, AND PLANTS SHALL BE PERFORMED BY THE PROPERTY OWNER OR A QUALIFIED PROFESSIONAL. ALL LANDSCAPING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH APPLICABLE MUNICIPAL STANDARDS AND IN ACCORDANCE WITH CURRENT INDUSTRY STANDARDS IN A NEAT, HEALTHY AND WEED FREE CONDITION. ANY DEAD, DISEASED OR DAMAGED PLANT MATERIALS ARE TO BE REPLACED IMMEDIATELY AFTER NOTIFIED TO DO SO.
- 5) PLANT TREES AND SHRUBS IN ACCORDANCE WITH PLANTING DETAILS. DIG TREE PITS PER DETAILS. PLANT TREES AND SHRUBS AT THE SAME GRADE LEVEL AT WHICH THEY WERE GROWN AT THE NURSERY. IF HEAVY CLAY SOILS ARE EVIDENT, PLANT TREES AND SHRUBS HIGHER, APPROX. 1/4 OF THE ROOT BALL ABOVE GRADE, AND BACKFILL TO TOP OF ROOT BALL.
- 6) REMOVE ALL TWINE, WIRE, NURSERY TREE GUARDS, TAGS AND INORGANIC MATERIAL FROM ROOT BALLS. REMOVE THE TOP 1/3 OF BURLAP FROM EARTH BALLS AND REMOVE BURLAP FROM AROUND TRUNK.
- 7) FINELY SHREDDED HARDWOOD BARK MULCH, NATURAL COLOR (NON-COLORED), IS REQUIRED FOR ALL PLANTINGS AND PLANTING BEDS. MULCH PER PLANTING DETAILS. MULCH IN PLANT BEDS SHALL BE 3" THICK AT TIME OF INSPECTION AND AFTER COMPACTED BY RAIN OR IRRIGATION. ALL PLANTING BEDS SHALL BE EDGED WITH 6" X 12 GAUGE STEEL LANDSCAPE EDGING.
- 8) LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES. IF A CONFLICT WITH UTILITIES EXIST, NOTIFY OWNER/CONSTRUCTION MANAGER PRIOR TO PLANTING.
- 9) PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR AFTER PLANTING AND ACCEPTANCE.

TOPSOIL AND TURF NOTES:

- 1) WHEREVER GROUND IN ITS NATURAL STATE HAS BEEN DISTURBED, APPROVED LANDSCAPING OR GRASS SHALL BE FULLY INSTALLED, AND ESTABLISHED WITHIN A REASONABLE PERIOD OF TIME, BUT NO LONGER THAN ONE GROWING SEASON (UNLESS OTHERWISE NOTED AND APPROVED).
- 2) DURING EXCAVATION, GRADING, AND INSTALLATION OF REQUIRED LANDSCAPING, ALL SOIL EROSION AND SEDIMENTATION CONTROL REGULATIONS SHALL BE STRICTLY FOLLOWED AND COMPLIED WITH.
- 3) ALL LAWN AREAS SHALL RECEIVE SOD OR HYDROSEED. TURF SHALL BE INSTALLED ON TOPSOIL UNLESS APPROVED OTHERWISE. DO NOT PLANT UNTIL ACCEPTANCE OF FINISH GRADE.
- 3) SOD SHALL BE GROWN ON TOPSOIL UNLESS APPROVED OTHERWISE. SOD SHALL BE 2 YEARS OLD AND STRONGLY ROOTED. PLACE SOD THIRTIY WITH NO GAPS AND WITH GRASS IN SAME DIRECTION. SEAMS OF SOD SHALL BE STAGGERED IN A RUNNING BOND PATTERN. SOD SHALL BE WATERED IMMEDIATELY TO AVOID DRYING OUT. DO NOT INSTALL SOD UNTIL ACCEPTANCE OF FINISH GRADE AND IRRIGATION SYSTEM IS OPERATING PROPERLY UNLESS DIRECTED IN WRITING TO DO OTHERWISE. FINISH ROLL SOD WITH A WATER FILLED LAWN ROLLER, ROLL PERPENDICULAR TO LENGTH OF SOD.
- 4) TURF SHALL BE INSTALLED ON A MIN. OF 3'-4" OF LIGHTLY COMPACTED APPROVED TOPSOIL. TOPSOIL SHALL BE FERTILE, SCREENED, FRABLE TOPSOIL FREE OF STONES 1/2" IN DIA. AND LARGER, ROOTS, STICKS, OR OTHER EXTRANEOUS MATERIAL INCLUDING NOXIOUS PLANTS. PH BETWEEN 6.0 AND 6.5, SALTS 500 PARTS PPM, ORGANIC CONTENT 3% MIN. DO NOT INSTALL TOPSOIL UNTIL APPROVED BY OWNER/C.M. TOPSOIL SHALL BE FINE GRADED TO A SMOOTH FINISH, FREE OF LUMPS AND DEPRESSIONS.
- 5) ALL LANDSCAPE ISLANDS WITHIN PARKING LOTS SHALL BE BACK FILLED WITH TOPSOIL TO A DEPTH OF 18" MIN.

IRRIGATION NOTES:

- 1) ALL PLANTING AREAS, LAWN AREAS AND LANDSCAPE ISLANDS SHOWN ARE TO HAVE A COMPLETE IRRIGATION SYSTEM. THE G.C. SHALL BE RESPONSIBLE FOR RETAINING A QUALIFIED FIRM FOR THE DESIGN OF THE IRRIGATION SYSTEM. THE DESIGN MUST SHOW HOW THE SYSTEM TIES INTO THE BUILDING AND MUST SHOW ALL OF THE NECESSARY EQUIPMENT FOR A COMPLETE SYSTEM. THE G.C. SHALL SUBMIT THE IRRIGATION SYSTEM DESIGN TO THE ARCHITECT/OWNER FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.

LANDSCAPE CALCULATIONS

MINIMUM PLANT SIZES

REQUIRED: MEDIUM AND LARGE DECIDUOUS TREES = 2.5 INCHES DBH, SMALL DECIDUOUS TREES - 1.5 INCHES DBH, EVERGREEN TREES = 6 FEET HEIGHT, SHRUBS = 18 INCHES SPREAD OR HEIGHT
PROPOSED: AS SHOWN IN LANDSCAPE LEGEND/SCHEDULE

FRONT YARD TREES (SEC 23.50): 1 MEDIUM TREE PER 35.0' AND/OR 1 LARGE TREE PER 45.0'

REQUIRED: 550.0' OF FRONTAGE ON HANNAH LAKE AVE (590/35 = 17 OR 590/45 = 13 TREES)

PROPOSED: 15

LANDSCAPE BUFFERING (SEC 23.60):

REQUIRED: N/A

PROPOSED: N/A

SCREENING (SEC 23.70): SCREENING OF DUMPSTER ENCLOSURE

REQUIRED: SOLID ARCHITECTURAL SCREENING AROUND DUMPSTER

PROPOSED: SOLID ARCHITECTURAL SCREEN AND EVERGREEN SHRUBS AROUND DUMPSTER ENCLOSURES

PARKING LANDSCAPE REQUIREMENTS (SEC 23.80): 1 TREE PER 12 SPACES AND 2 SHRUBS PER PARKING SPACE THAT ABUTS ROW

REQUIRED CANOPY TREES: 236 SPACES / 12 = 20.0 TREES

REQUIRED SCREENING OF ROW: N/A

PROPOSED: N/A

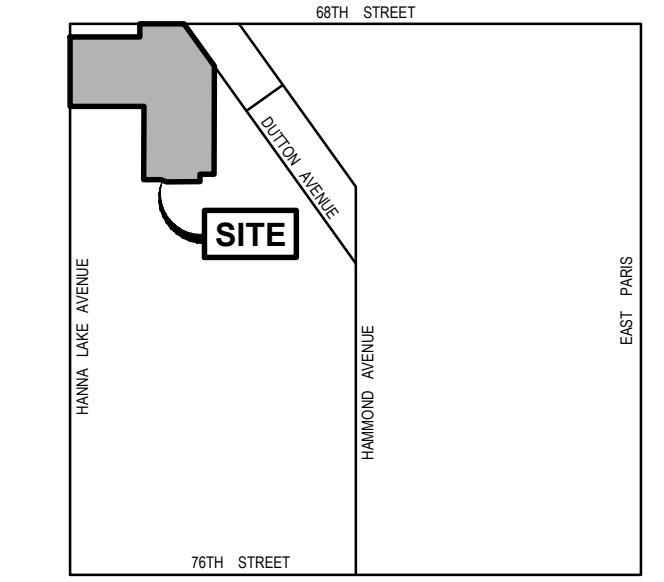
MULTI-FAMILY BUILDING SITE LANDSCAPE

REQUIRED: 1 SHRUB PER EVERY 5 FEET OF BUILDING WIDTH FOR EACH SIDE

REQ: 4 BUILDINGS (A2, A3, A7, & A8) AT 349.0' = 70 SHRUBS PER BUILDING

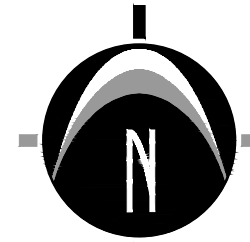
REQ: 4 BUILDINGS (A1, A4, A5, & A6) AT 443.0' = 87 SHRUBS PER BUILDING

PROPOSED: 70 SHRUBS FOR BUILDINGS A2, A3, A7, & A8 AND 87 SHRUBS FOR BUILDINGS A1, A4, A5, & A6



LOCATION MAP

NOT TO SCALE



0' 20' 40' 80'
SCALE: 1" = 40'

LANDSCAPE LEGEND / SCHEDULE

PLANT SCHEDULE CODE COMPLIANT ONLY

SYMBOL	CODE	BOTANICAL NAME	COMMON NAME	SIZE	QTY
--------	------	----------------	-------------	------	-----

TREES

	Aa	Acer x freemanii 'Jeffersred'™	Autumn Blaze Freeman Maple	2.0" Cal.	3
	Cel prs	Celtis occidentalis 'JFS-KSU1'	Prairie Sentinel® Hackberry	2.0" Cal.	2
	Ls	Liquidambar styraciflua	Sweet Gum	2.0" Cal.	8
	Lt	Liriodendron tulipifera	Tulip Poplar	2.0" Cal.	7
	Na	Nyssa sylvatica 'Autumn Cascades'	Autumn Cascades Tupelo	2.0" Cal.	11
	Que bic	Quercus bicolor	Swamp White Oak	2.0" Cal.	8
	Tb	Tilia americana 'Boulevard'	Boulevard American Linden	2.0" Cal.	2

SHRUBS/PERENNIALS

	Cle tom	Clethra alnifolia 'Tom's Compact'	Tom's Compact Summersweet	#5	104
	Hb	Hydrangea paniculata 'ILVOBO'™	Bobo Panicle Hydrangea	#3	40
	Hyd l75	Hydrangea paniculata 'SMHPLQF'	Little Quick Fire® Panicle Hydrangea	#5	32
	Jw	Juniperus scopulorum 'Wichita Blue'	Wichita Blue Juniper	#5	28
	Jl2	Juniperus virginiana 'Taylor'	Taylor Eastern Redcedar	#15	44
	Jx	Juniperus x 'Grey Owl'	Grey Owl Juniper	#5	56
	Mp	Myrica pensylvanica	Northern Bayberry	#7	12
	Ns2	Nepeta x 'Six Hills Giant'	Six Hills Giant Catmint	#1	164
	Phy t66	Physocarpus opulifolius 'SMPOTW'	Tiny Wine® Ninebark	#5	128
	Si	Sorghastrum nutans 'MNYG318153'	Golden Sunset® Indian Grass	#3	104
	Tc2	Thuja occidentalis 'Congabe'	Fire Chief™ Arborvitae	#5	116
	Tg	Thuja occidentalis 'Golden Globe'	Golden Globe Arborvitae	#5	36
	Vib muf	Viburnum dentatum 'Blue Muffin'	Blue Muffin Arrowwood Viburnum	#5	64

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217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190
ANN ARBOR
CHICAGO
COLUMBUS
HOLLAND
INDIANAPOLIS

PREPARED FOR:

Green Development Ventures, LLC
Attn: Mike West

2186 E. Centre Ave.
Portage, MI 49002
Phone: 269.365.8548

REVISIONS:

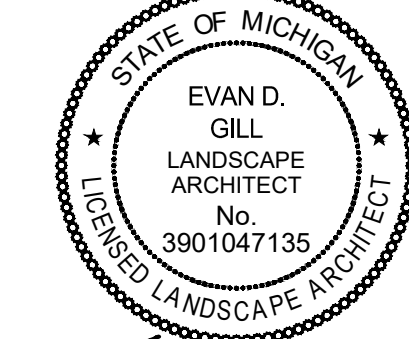
Title: Chapter 26 Review Submittal
Drawn: DCEG Checked: DC Date: 2026.06.25

DUTTON CENTER DEPOT
DUTTON CENTER PUD - PHASE 3

Landscape Plan

6870 HANNA LAKE AVENUE SE
PART OF THE NW 1/4 OF SECTION 11, T5N, R14W,
GAINES TOWNSHIP, KENT COUNTY, MICHIGAN

STAMP:



Evan Gill

PROJECT NO:

26400417

SHEET NO:

L-100

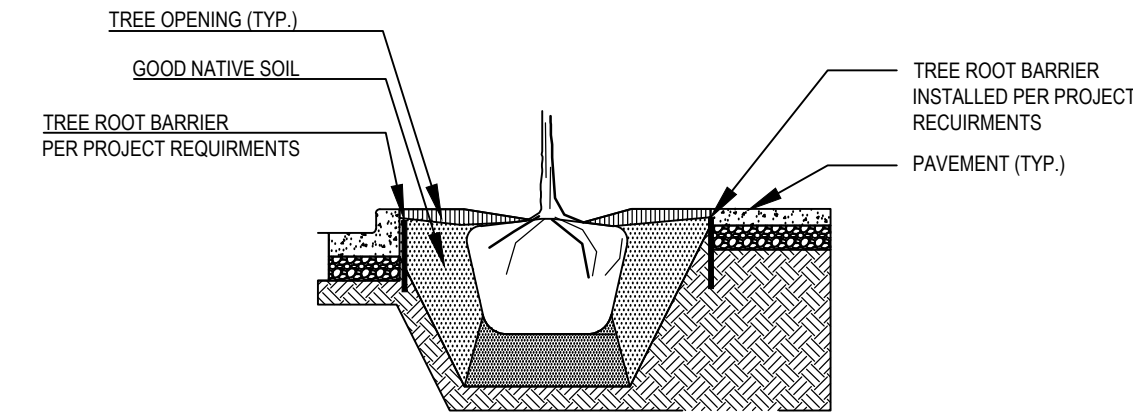
UB 18-2 TECH SHEET

This 18" high by 24" wide barrier is for linear, surround, and root pruning applications. It is suitable for use on sidewalks, paths, and patios, as well as other tree planting situations.

UB 18-2	SPECIFICATIONS + FEATURES
	USES Redirect tree roots down and away from hardscapes. MATERIALS High-quality 75% reprocessed recycled injection molded co-polymer polypropylene. Manufactured in ISO 9001:2008 registered factories. SIZES & PACKAGING Each panel is 18" (46 cm) x 24" (61 cm) 26 Panels (52 linear feet / 16 m) per carton, 20 cartons per pallet, approximately 43 lbs. (19.5 kg) per carton FEATURES • 90° ribs redirect root growth down and away from hardscapes • Instant assembly: panels slide together with a zipper joiner system • Patented double top edge for strength, safety, appearance and root overgrowth protection • Added UV inhibitors prevent breakdown from sun exposure • Rounded edges for safety in handling • Made in the USA
APPLICATIONS	LINEAR Provide maximum hardscape protection while utilizing all available rooting space for improved tree health by placing guides in a straight line directly along the hardscape to be protected. SURROUND Protect hardscapes that surround a planting on all four sides. Plan to line the perimeter of the planting area with the panels—this provides the maximum available uncompacted soil volume for immediate root growth. ROOT PRUNING Root pruning can help save existing trees and prevent future damage to paving. Disruptive roots are cleanly cut and removed. Linear Root Barrier is then installed. There are limitations to root pruning and an ISA Certified Arborist should be consulted. HOW TO SPECIFY: 1. Determine linear, surround, root pruning or specialty application. 2. Pick appropriate barrier depth for application and site. 3. Calculate number of panels required. 4. For details on these or any other installation instructions, please refer to our Specification and Installation Manual, or visit www.deeproot.com. ZIPPER JOINING SYSTEM Each panel has a built-in zipper joiner along one edge, making assembly of the panels in the field quick and easy. DOUBLE TOP EDGE Patented double top edge adds strength, safety, and root overgrowth protection.

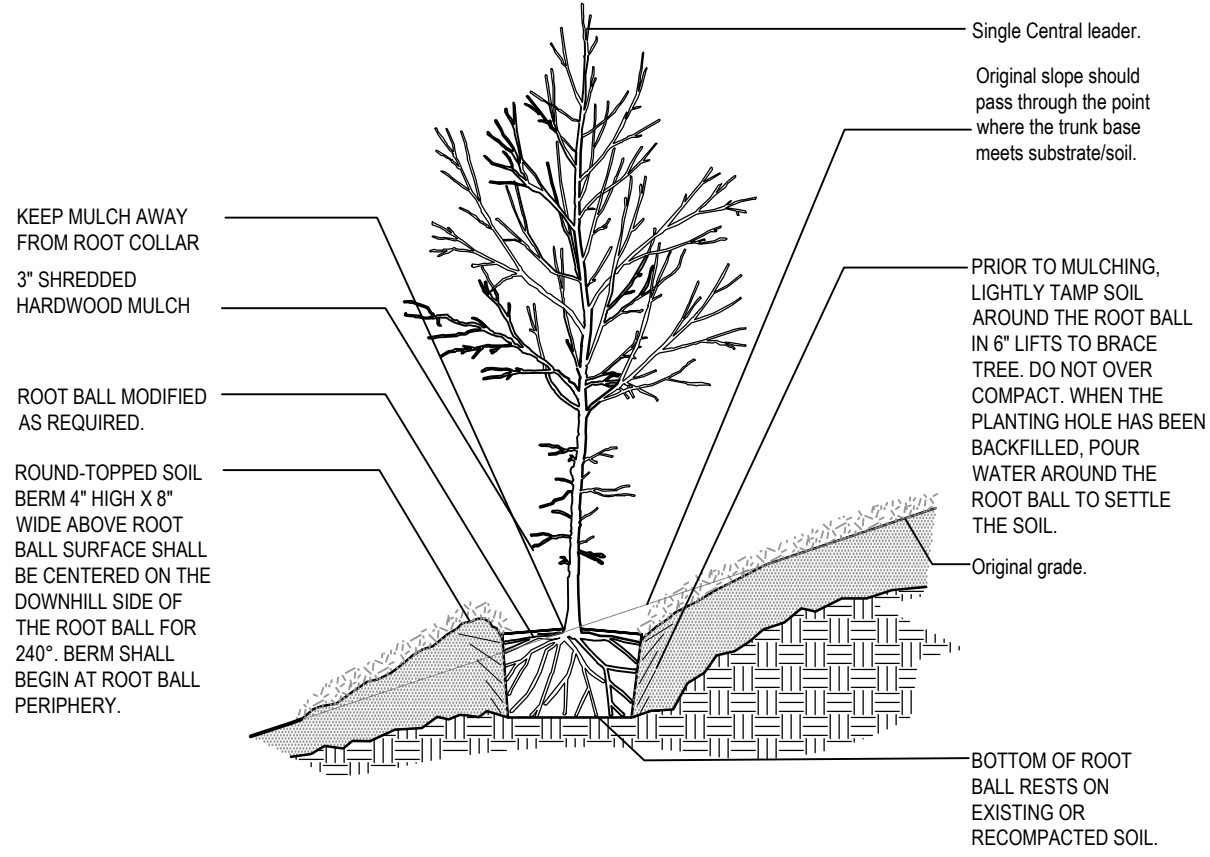
DeepRoot Green Infrastructure, LLC
Corporate Office: 530 Washington Street, San Francisco, CA 94111
1-800-LV-ROOT (438.7668) • 800.227.7668 • www.deeproot.com
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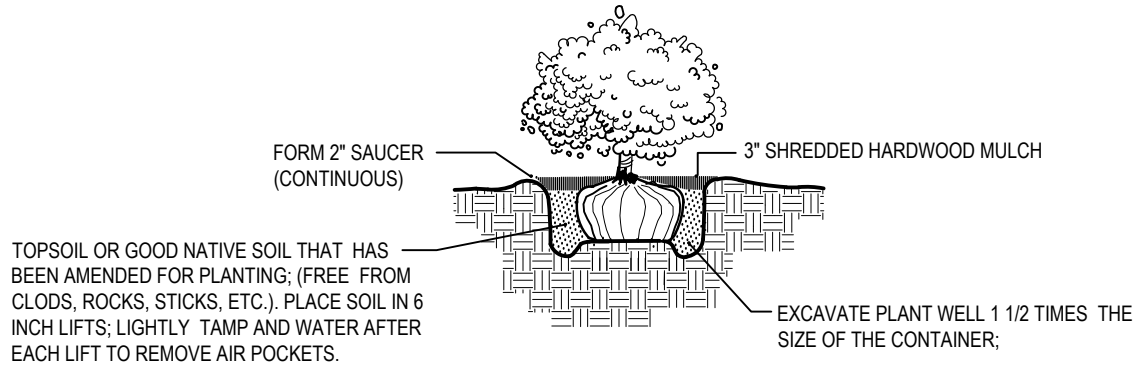
ROOT BARRIER

N.T.S.



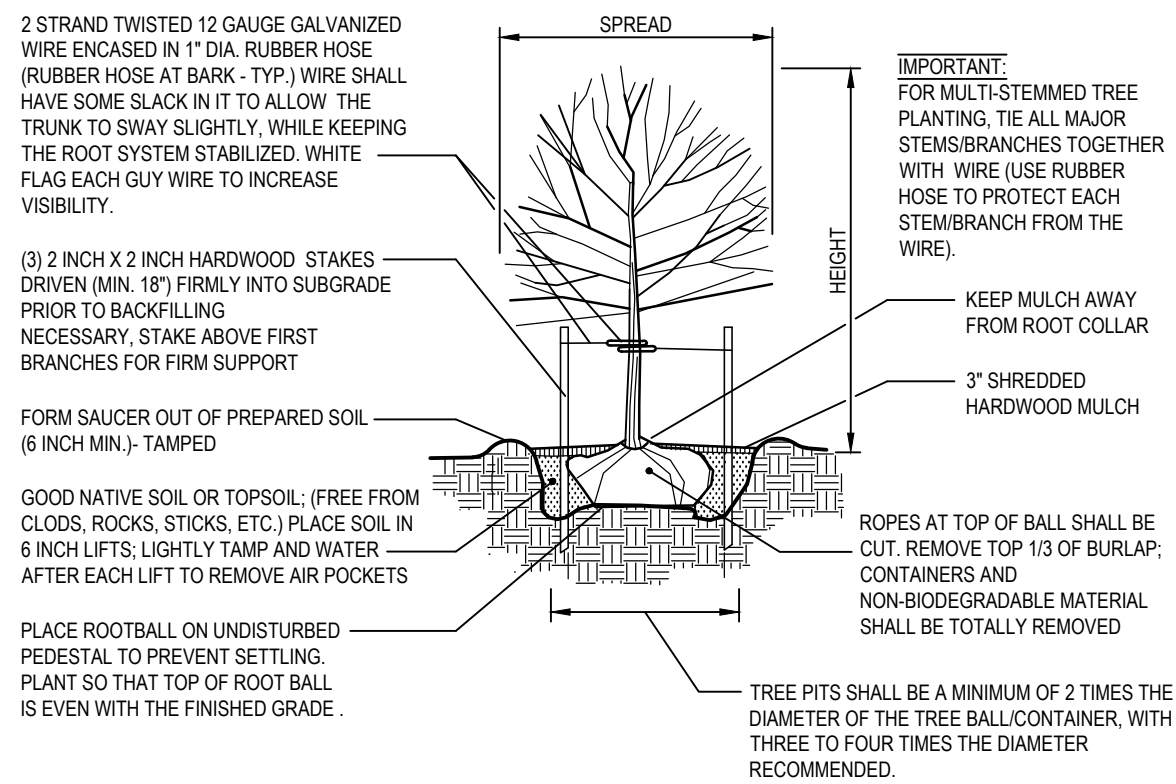
TREE ON SLOPE PLANTING DETAIL

N.T.S.



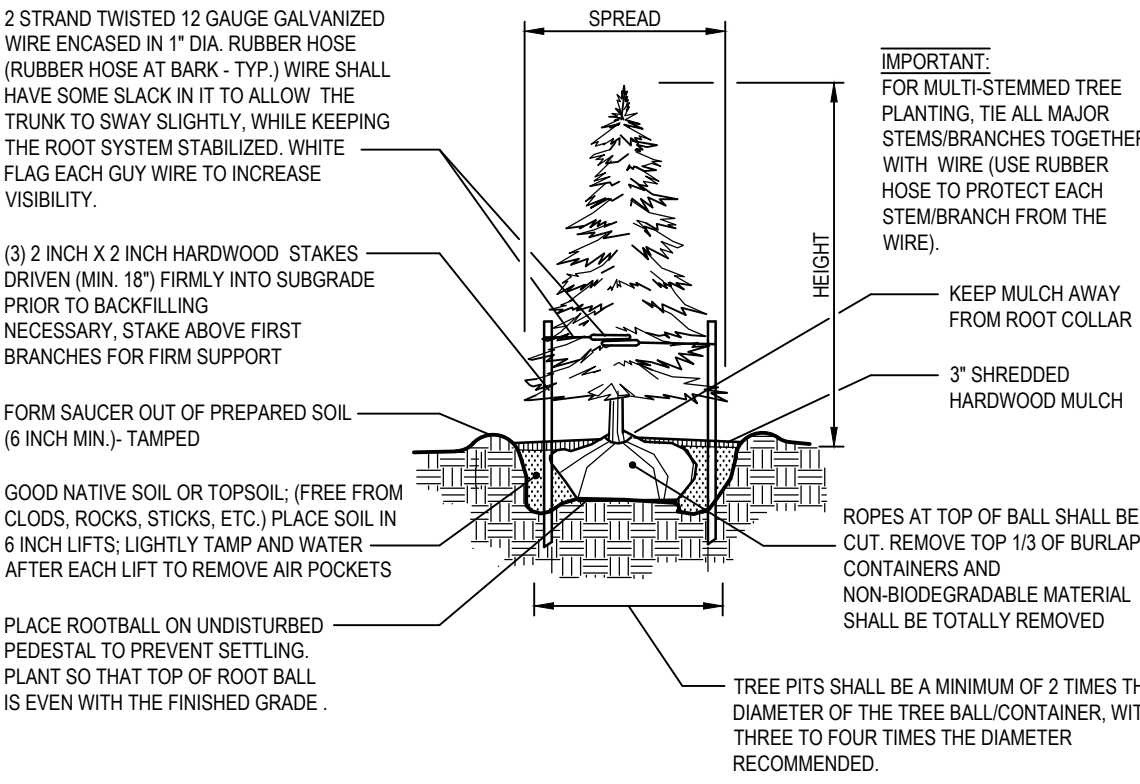
TYPICAL SHRUB / PERENNIAL / ORNAMENTAL GRASS PLANTING DETAIL

N.T.S.



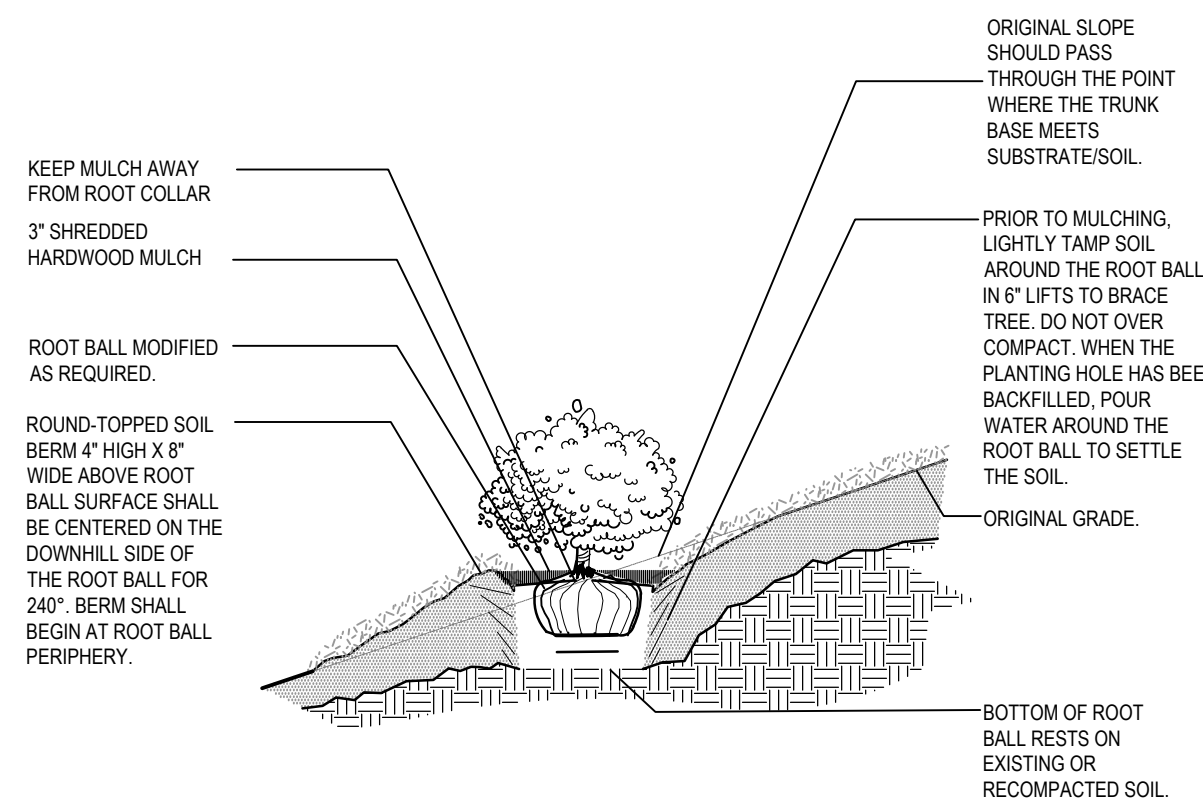
TYPICAL TREE PLANTING DETAIL

N.T.S.



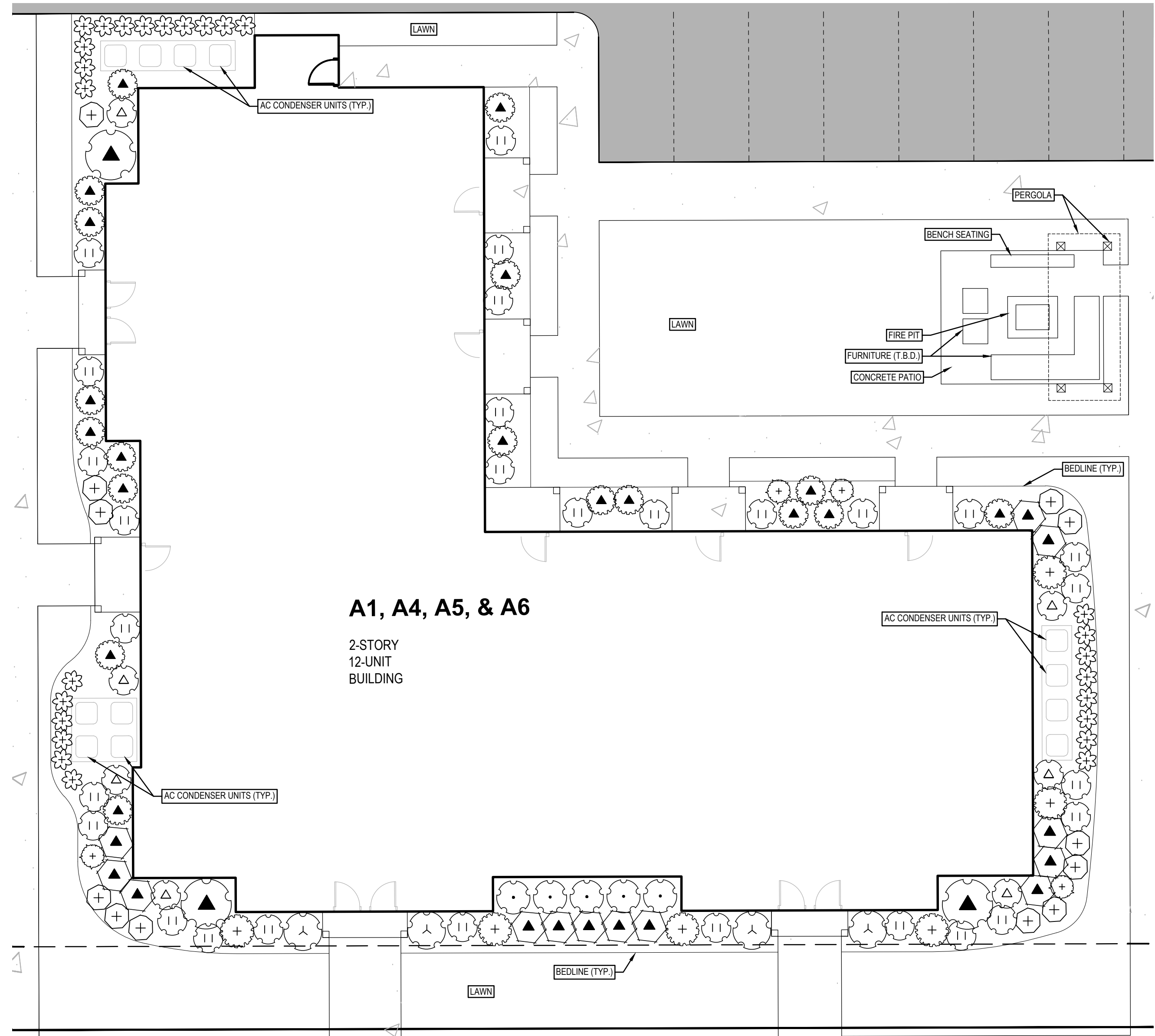
TYPICAL EVERGREEN TREE PLANTING DETAIL

N.T.S.



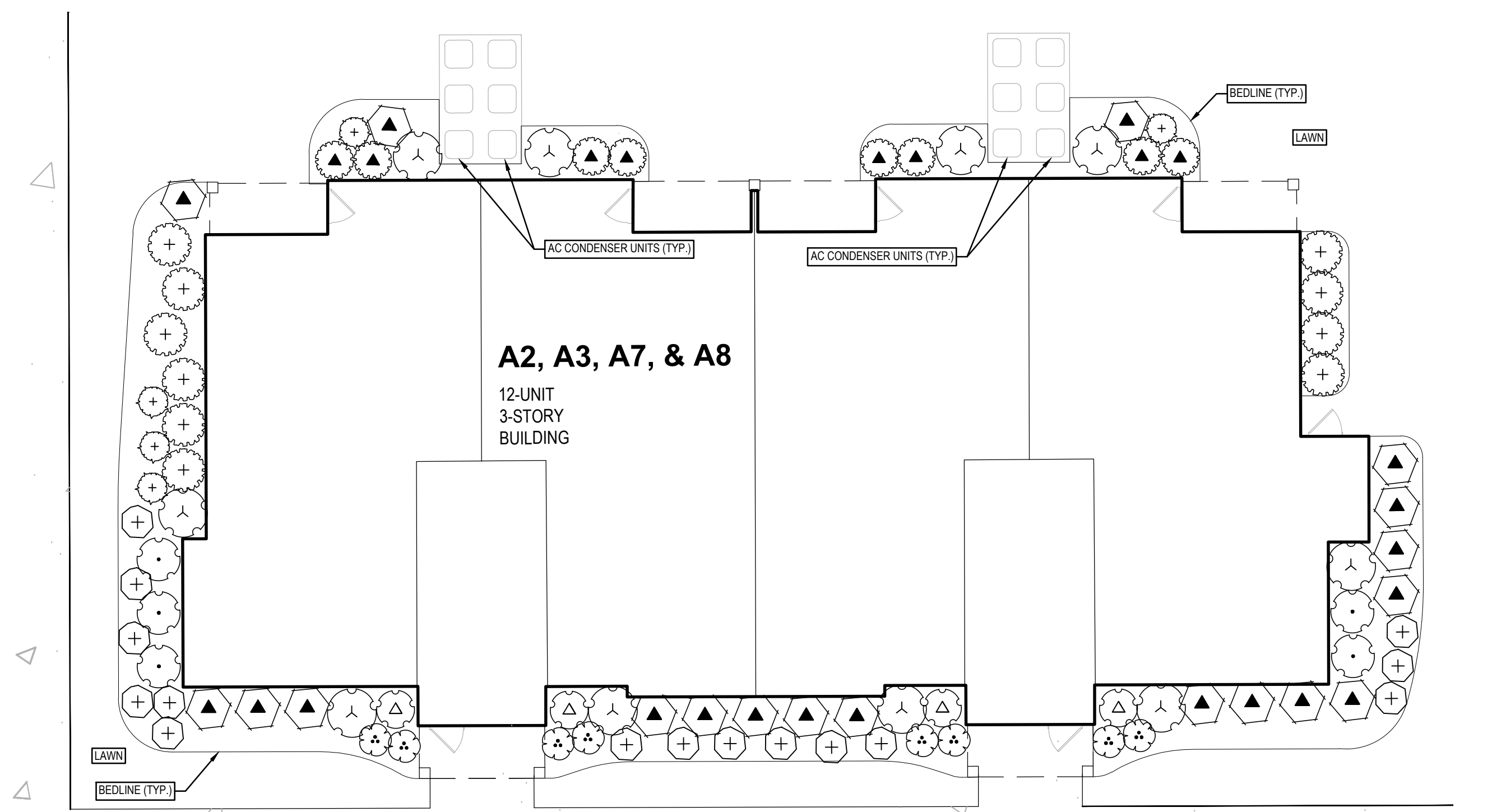
SHRUB ON SLOPE PLANTING DETAIL

N.T.S.



TYPICAL BUILDING LANDSCAPE PLAN - *SEE SHEET L-100 FOR LANDSCAPE SCHEDULE

N.T.S.



TYPICAL BUILDING LANDSCAPE PLAN - *SEE SHEET L-100 FOR LANDSCAPE SCHEDULE

N.T.S.

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PREPARED FOR:
Green Development Ventures, LLC
Attn: Mike West

2186 E. Centre Ave.
Portage, MI 49002
Phone: 269.365.8548

REVISIONS:
Title: Chapter 26 Review Submittal
Drawn: DCEG Checked: DC Date: 2026.06.25

DUTTON CENTER DEPOT
DUTTON CENTER PUD - PHASE 3
Landscape Plan - Details
6870 HANNA LAKE AVENUE SE
PART OF THE NW 1/4 OF SECTION 11, T5N, R11W,
GAINES TOWNSHIP, KENT COUNTY, MICHIGAN

STAMP:
STATE OF MICHIGAN
EVAN D. GILL
LANDSCAPE ARCHITECT
No. 3901047135
LICENSED LANDSCAPE ARCHITECT
Evan Gill

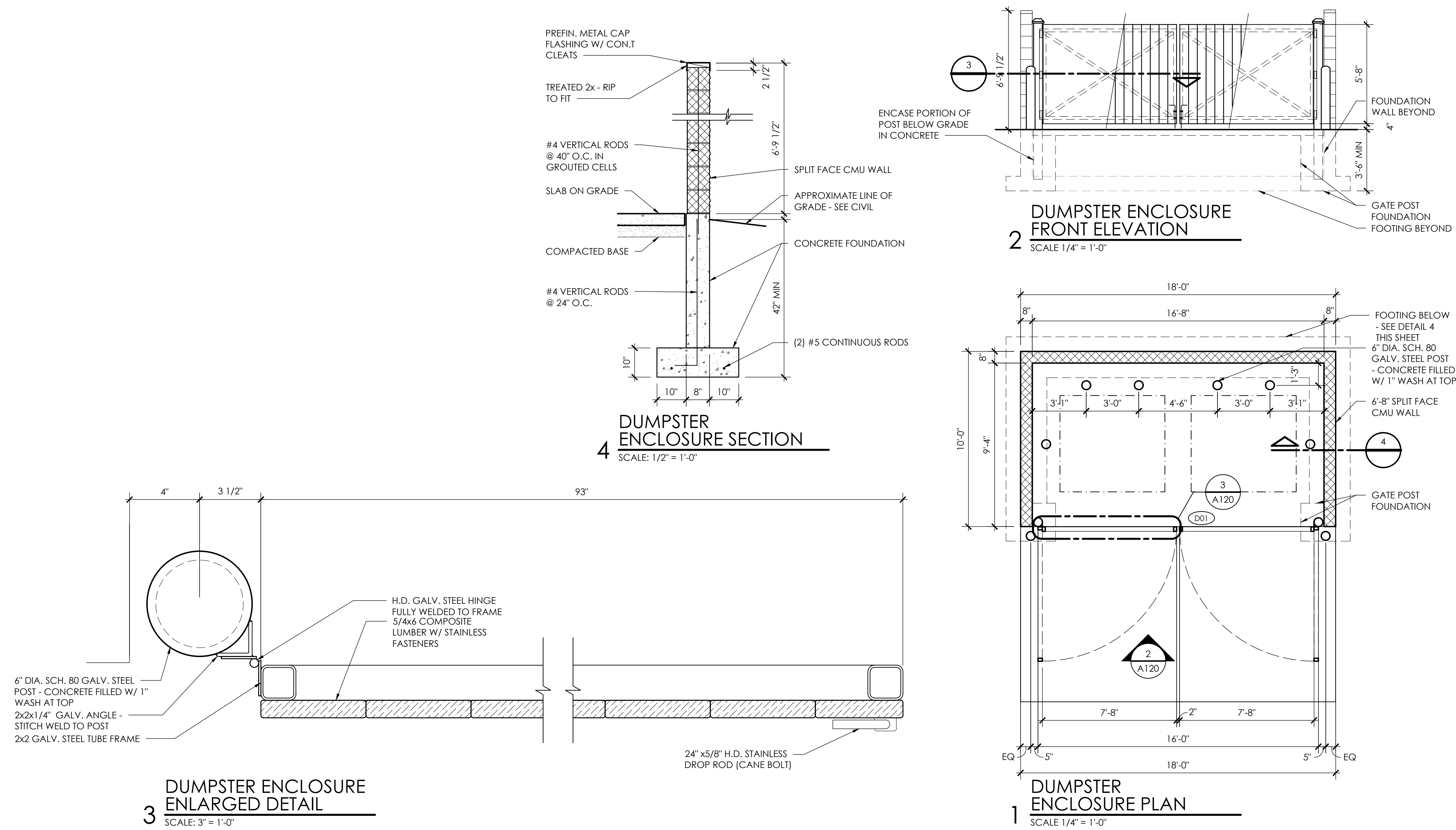
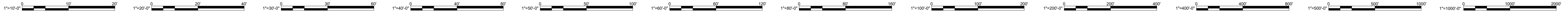
PROJECT NO:
26400417

SHEET NO:
L-101

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

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NOTE: EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "PLANT" WERE OBTAINED FROM AVAILABLE AS-BUILT RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL UTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.



Green Development Ventures, LLC
795 Clyde Ct
Byron Center, MI 49315

BUTTON CENTER DEPOT
3316 68TH Street SE,
Caledonia, MI

GHAFARI
37 OTTAWA AVENUE NW
SUITE 700
GRAND RAPIDS, MI 49503-2900 USA
TEL +1.616.771.0909
www.ghafari.com

CONSULTANT INFORMATION

REGISTRATION SEAL

REGISTRATION SEAL

NOT FOR
CONSTRUCTION

[illegible]

PROJECT #	2400605
PROJECT MANAGER	A. SMITH
DESIGNED BY	T. TOOLEY
DRAWN BY	A. SMITH
QUALCHECK	A. ECKERT
SHEET TITLE	

**DUMPSTER
ENCLOSURE**

AE1-20-01
SHEET NUMBER





GHAFARI



GHAFARI



GHAFAARI



August 11, 2026
1650

Via Email: dan.wells@gainestownship.org

Dan Wells, Community Development Director
Gaines Charter Township
8555 Kalamazoo Ave SE
Caledonia, MI 49316

RE: Dutton Center Phase 3 – Preliminary Site Plan Review
6870 Hanna Lake Ave SE, Section 11, Gaines Township

Dear Dan:

We have reviewed the site plan for the proposed Dutton Center Phase 3 development located at 6870 Hanna Lake Ave SE that we received on July 8, 2026. We provide the following comments for the consideration of the Applicant and the Planning Commission.

1. The proposed private street connection and public utility work in the Hanna Lake Avenue Right-of-Way (ROW) will require the review and approval of the Kent County Road Commission (KCRC). A copy of any reviews or approvals shall be provided to the Township and our office.
2. The Applicant's Engineer shall submit drainage plans and an updated stormwater calculation package including the current version of the LGROW spreadsheet, maps showing the delineated drainage areas, site C-factors, rainfall intensities, and storm sewer pipe sizing calculations for review. The stormwater facilities shall be designed to comply with all requirements of the Kent County Drain Commissioner's Site Development Rules. We note that the layout of this phase appears to have changed from the original layout shown when the overall PUD was approved. The Applicant's Engineer shall confirm that the altered layout aligns with the original drainage design. If there is more impervious area than planned, additional detention volume may need to be provided for the site. Please submit a stormwater calculation package showing the drainage areas, C-factors, rainfall intensities, and pipe calculations for the site.
3. The Applicant is proposing an inverted crown cross section design for some of the private streets. Inverted crown road designs are not allowed under the Township's private street ordinance, and this shall be revised to a crowned or single sloped cross section. All aspects of the design and construction of the proposed private streets must meet the requirements of the KCRC Standards and Specifications for public streets.

4. The Applicant shall provide a list of all water-using appurtenances for each proposed building, and a meter size will be determined for each building. We note that the Applicant will be responsible for all costs related to purchasing and installing the meters.
5. The Applicant's Engineer shall provide a cover sheet on the plans in future submittals.
6. The Applicant's Engineer shall show all existing public and private utilities. All existing utilities shall be labeled with type and diameter.
7. A detailed construction plan review of the proposed public utilities will be performed by our office and the Byron-Gaines Utility Authority at a later date. The Applicant's Engineer shall submit detailed public utility construction plans with plan and profile views of the proposed watermain and sanitary sewer. Stations and invert elevations shall be called out for all watermain fittings, valves, and deflection points, and sanitary manhole rims and inverts. The grades and lengths between all fittings, valves, and deflection points shall be shown on the watermain profile. All relevant existing and proposed utility information shall be shown in the profile views.
8. While a detailed construction plan review will be performed later, we have a few preliminary public utility comments at this time.
 - a. The watermain location on the south side of buildings A5 and A6 has less than 5-feet of separation from the building footprints. This shall be revised so that the watermain is a minimum of 10-feet away from any part of the building structures.
 - b. The watermain connection out to Hanna Lake shall be revised to the north side of Cloudcroft Street.
 - c. The existing sanitary sewer in Hanna Lake Ave shall be shown on future plans. The proposed sanitary sewer shall connect to the existing sanitary manhole in Hanna Lake Avenue approximately 30-feet north of the current location shown.
 - d. The hydrant between buildings A2 and A3 shall be moved to the greenspace island.
 - e. A light pole is being shown on top of the existing hydrant in Toggenburg Street near the point of connection. This shall be revised to be a minimum of 10-feet away from the hydrant.

Thank you for your consideration in this matter. If you have any questions or concerns, please do not hesitate to call.

Dan Wells, Community Development Director

August 11, 2026

Page 3

Sincerely,

VK Civil



Nathan Bosma, P.E.

NFB/jmg

- c. Bob Terpstra, Supervisor
- Rod Weersing, Manager
- Brad Waayenberg, Planning Commission Chair
- Dakota Swan, Assistant Planner
- Tracy Lawrence, Water & Sewer Administrator
- John Stuyfzand, Building Inspector
- Ken Van Hall, Fire Chief
- Pat Quick, Fire Marshall
- Micah Huver, Byron-Gaines Utility Authority
- Barry Korhorn, Byron-Gaines Utility Authority
- Erik Easterly, P.E., Kent County Road Commission
- Dave Beck, Kent County Road Commission
- Dan Larabel, Allen Edwin Homes
- Nate Voigt, P.E., Nederveld
- Jeff Gritter, P.E., VK Civil



Gaines Charter Township Fire Department Inspection Report

Plan Review-Site Plan Inspection Result

Inspection Status

Completed

Inspected by

24-53 - Pat Quick

Completed at

08/19/2026

Business Name	Address	Suite	City	Zip
Dutton Center	3316 68th St SE	--	Caledonia	49316

Introduction:

ITEM: REVIEW REQUIREMENTS We have reviewed your plans for the above facility. The following items are noted for compliance with code requirements. Code references to the International Fire Code 2024, as amended, are noted IFC; references to the Michigan/International Building Code are noted MBC; references to National Fire Protection Association codes and standards are noted NFPA. Please review the appropriate code for further details. All construction and processes must meet applicable code provisions.

RESULT: Plan Review

REMARK:

Phase III of Dutton Center consisting of (4) 2 story 12 unit apartment buildings and (4) 3 story 12 unit apartment buildings.

General Construction and Demolition:

ITEM: VEHICLE ACCESS Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus road shall comply with the requirements of this section and shall extend to within 150 feet of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility. Fire apparatus access roads shall be installed and arranged in accordance with sections 503.2.1 through 503.2.8. Where fire apparatus access roads or a water supply for fire protection are required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except where approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection where construction of new roadways allow passage by vehicles in accordance

with section 505.2 (IFC 501.4, 503.1.1, 503.4)

RESULT: Plan Review

ITEM: WATER SUPPLY FOR FIRE PROTECTION An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible materials arrive on site, on commencement of vertical combustible construction and on installation of a standpipe system in buildings under construction in accordance with Sections 3307.2.1 through 3307.4 (IFC 3307.2)

RESULT: Plan Review

ITEM: STREET or ROAD SIGNS Streets and roads shall be identified with approved signs. Temporary signs shall be installed at each intersection when construction of new roadways allow passage by vehicles. Signs shall be of approved size, weather resistant and be maintained until replaced by permanent signs. (IFC 505.2)

RESULT: Plan Review

ITEM: TRAFFIC CALMING DEVICES PROHIBITED Traffic calming devices shall be prohibited unless approved by the fire code official (IFC 503.4.1)

RESULT: Plan Review

Fire Protections Systems:

ITEM: SPRINKLER SYSTEM REQUIRED An approved automatic sprinkler system shall be provided throughout the entire building or in specific portion (s)/area(s) identified by the Fire Marshal in accordance with the code. (IFC 903; NFPA 13)

RESULT: Plan Review

REMARK:

All buildings to be sprinkled.

ITEM: LOCATION OF FIRE DEPARTMENT CONNECTIONS With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of the fire department connections shall be approved by the fire code official. (IFC 912.2)

RESULT: Plan Review

ITEM: VISIBLE LOCATION OF FIRE DEPARTMENT CONNECTIONS Fire department connections shall be located on the street side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access or as otherwise approved by the fire code official. (IFC 912.2.1)

RESULT: Plan Review

Closing:

ITEM: SUBJECT TO FIELD INSPECTION There may be additional requirements as a result of conditions found during inspections. Call the Gaines Township Fire Department at 616-893-2906 at least 24 hours in advance to schedule inspections.

RESULT: Plan Review

Plans Approved or Denied:

ITEM: PLAN APPROVAL Any changes must be reviewed and approved by the Gaines Township Fire Department. All construction and processes must meet applicable codes and standards.

RESULT: Approved

Inspection Signatures

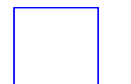
Inspector Signature



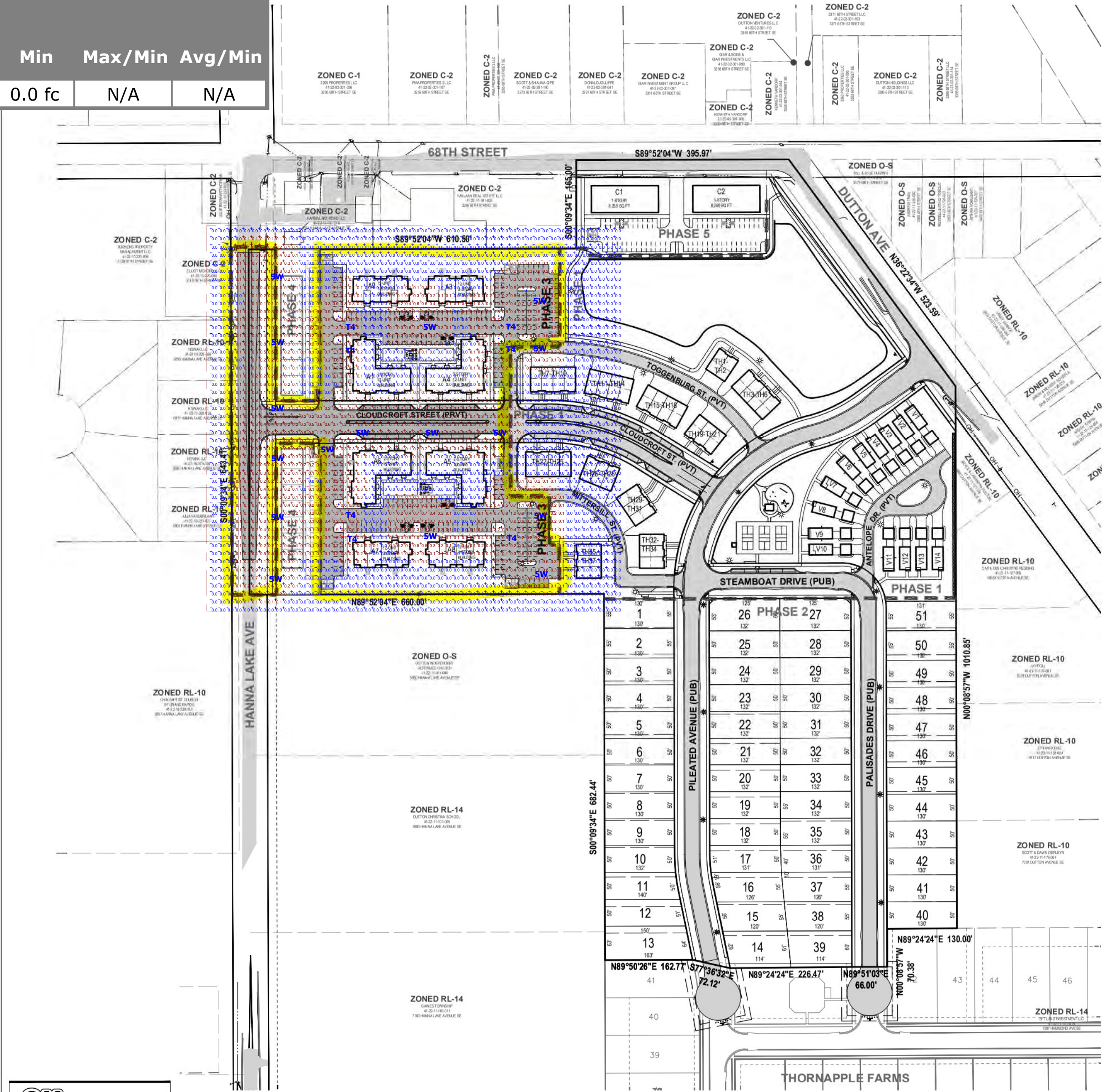
24-53 - Pat Quick
Fire Marshal
Deputy Chief

--

pat.quick@gainestownship.org

Schedule							
Symbol	Label	QTY	Catalog Number	Description	Number Lamps	Lumens per Lamp	LLF Wattage
	T4	7	UTLD-PA1-40-740-U-T4W	TRADITIONAIRE LED DOWNLIGHT LUMINAIRE (1) 70 CRI, 4000K, 500mA LIGHT ENGINE WITH 24 LEDS AND TYPE IV WIDE OPTICS	24	217	0.9 40
	5W	16	UTLD-PA1-40-740-U-5WQ	TRADITIONAIRE LED DOWNLIGHT LUMINAIRE (1) 70 CRI, 4000K, 500mA LIGHT ENGINE WITH 24 LEDS AND TYPE V WIDE OPTICS	24	225	0.9 40

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #3	+	0.2 fc	2.7 fc	0.0 fc	N/A	N/A





Know what's below.
CALL before you dig.

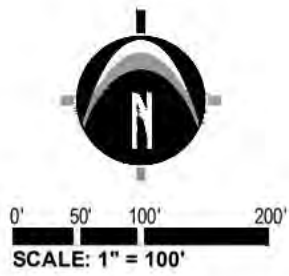
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Land Planning — Landscape Architecture — Civil Engineering — Land Surveying — High Definition Scanning — Forensic Engineering — Fire Investigation

Plan View
Scale - 1" = 150ft

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Grand Rapids, MI 49503
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HOLLAND
INDIANAPOLIS

PREPARED FOR:
Green Development Ventures, LLC
Attn: Mike West

2166 E. Centre Ave.
Portage, MI 49002
Phone: 269.365.8548

REVISIONS:
Title: Chapter 60 Review Submittal
Drawn: DCEG Checked: DC Date: 2026.06.29

DUTTON CENTER DEPOT
DUTTON CENTER PUD - PHASE 3

Overall PUD Plan

6070 HANNA LAKE AVENUE SE
PART OF THE NW 1/4 OF SECTION 11, T1N, R11W,
GARNET TOWNSHIP, KENT COUNTY, MICHIGAN

STAMP:



NATHANIEL
ANDREW VOIGT
License No.
6201053797
PROFESSIONAL ENGINEER

PROJECT NO:
26400417

SHEET NO:
C-205

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DUTTON CENTER DEPOT

Designer

Date
07/02/2026

Scale
Not to Scale
Drawing No.

Summary

Project		Catalog #		Type	
Prepared by		Notes		Date	



Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Energy and Performance Data page 3

Streetworks

UTLD Traditionaire

Decorative Post Top Luminaire

Product Certifications & Features



Product Specifications

OPTICAL

- Choice of five patented, high-efficiency AccuLED Optic technology manufactured from injection-molded acrylic.
- Optics are precisely designed to shape the light output, maximizing efficiency and application spacing.
- AccuLED Optic technology creates consistent distributions with the scalability to meet customized application requirements.
- Optional 2700K, 3000K, 4000K and 5000K CCT. For the ultimate level of spill light control, an optional house-side shield accessory can be field, or factory installed.
- Optics are IP66 enclosure rated.
- Offered open sided as a standard with four lens options.

ELECTRICAL

- 120-277V 50/60Hz operation. 347V and 480V options available
- 10kV and 20kV surge protection options with series or parallel configurations
- 0-10V dimming standard
- Ambient operating temperature from -40°C to 40°C
- Standard three-position tunnel type compression terminal block

PHYSICAL CHARACTERISTICS

- Hinged (stainless steel hinge pins) die-cast aluminum housing and cover with cupola.
- Self-aligning pole-top fitter for 3" O.D. pole tops or vertical tenons.
- Square headed 1-1/4" polymer coated mounting bolts with a lock nut.
- Cast components finished in a super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear.
- Optional colors include bronze, grey and white. RAL and custom color matches available.

CONTROLS

- 3- and 7-pin photocell receptacle options
- Field Adjustable Dimming Control option for manual adjustment of power consumption and lumen output. Factory preset to highest output level

COMPLIANCE

- UL wet location rated
- Configurations available that meet DLC and DLC Premium requirements, submission in progress - visit www.designlights.org to confirm listed variants
- BAA domestic preference option meets BAA requirements. See DOMESTIC.PREFERENCES website or consult the CLS Domestic Preferences team for more information
- FHWA and FTA agencies are utilizing their BAA rules for BABA compliance. Cooper's products with a BAA designation are manufactured in the US and utilize a BAA COTS exemption rule for compliance. To verify a configured product with specific accessories and options meet BABA Domestic Preference Requirements; submit this catalog number to Cooper Lighting Quotation team for validation by our Engineering and Manufacturing teams. Please refer to the DOMESTIC.PREFERENCES website or consult the CLS Domestic Preferences team for more information. Components shipped separately may be separately analyzed under domestic preference requirements

SHIPPING DATA

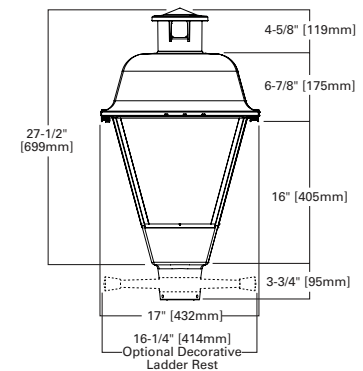
- Approximate Net Weight: 37 lbs. (17 kgs.)
- Effective Projected Area: 2.3 (Sq. Ft.)

WARRANTY

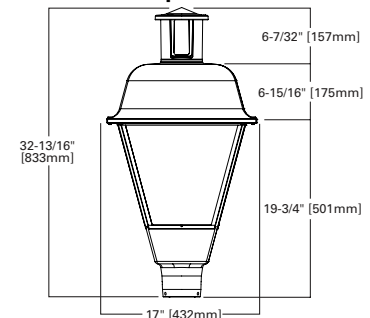
- Five-year limited warranty. Consult website for details. www.cooperlighting.com/legal

Dimensional Details

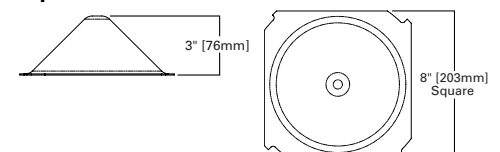
UTLD



UTLD - Tall Cupola



Optional Bird Cone



Ordering Information

SAMPLE NUMBER: UTLD-PA1-100-740-U-T2U-CL-BK

Product Family ¹	Configuration	Wattage Bucket	Color Temperature	Voltage	Distribution	Lens	Finish
UTLD =Traditionaire™ LED Downlight BAA-UTLD =Traditionaire LED Downlight Buy American Act Compliant ¹³ TAA-UTLD =Traditionaire LED Downlight Trade Agreements Act Compliant ¹³ BABA-UTLD =Traditionaire LED Downlight Build America Buy America Act Compliant ¹⁷	PA1 =Direct Mount Rectangle (24 LED)	20 =20W ² 30 =30W 40 =40W 50 =50W 60 =60W 70 =70W 80 =80W 90 =90W 100 =100W	740 =70CRI, 4000K 727 =70CRI, 2700K ⁶ 827 =80CRI, 2700K ⁶ 730 =70CRI, 3000K ⁶ 750 =70CRI, 5000K ⁶ AMB =Amber 590nm ¹⁵	U =Universal (120-277V) 2 =120V ² 8 =480V ^{4,5} 9 =347V ⁵ PV = 12v/24v DC/DC enabled solar driver ^{16, 17, 18}	T2U =Type II Urban T3 =Type III T4W =Type IV Wide 5WQ =Type V Square Wide SL3 =Type III w/ Spill Control	[Blank] =Open (No Lens) A =Refractive Lens Panels ⁹ CL =Clear Lens Panel ⁹ FP =Frosted Lens Panel ⁹ TL =Textured Lens Panel ⁹	BK =Black AP =Grey BZ =Bronze WH =White
Options (Add as Suffix)			Controls		Accessories (Order Separately) ¹⁴		
10K =Series 10kV UL 1449 Surge Protective Device 20K =Series 20kV UL 1449 Surge Protective Device 20KI =Series 20kV UL 1449 Surge Protective Device with light indicator 20MSP =Parallel 20kV MOV Surge Protective Device 10MSP =10kV MOV Surge Protection Device HA =50°C High Ambient Temperature ⁸ W =20" #10 Input Leads S =Snap Latches for Tool-less Light Replacement J =Factory Installed Ladder Rest BC =Bird Cone ⁹ HSS =Factory Install UTLD House Side Shield ¹⁰ TC =Tall Cupola ¹¹ PSC =Photocontrol Shorting Cap NPC =NEMA Photocontrol - Multi-Tap LLPC =Longlife Photocontrol Included CC =Coastal construction finish ¹² Dxxxxx =DOT Configuration - Contact Quotes Team Uxxxxx =Utility Configuration - Contact Quotes Team			5LTD =DALI ³ PR =NEMA Photocontrol Receptacle ⁷ PR7 =NEMA 7-PIN Twistlock Photocontrol Receptacle FADC =Field Adjustable Dimming Controller ¹⁴		TA1BK =Decorative Ladder Rest for Field Installation (Black) OA/RA1013 =Photocontrol Shorting Cap OA/RA1014 =NEMA Photocontrol - 120V OA/RA1016 =NEMA Photocontrol - Multi-Tap OA/RA1027 =NEMA Photocontrol - 480V OA/RA1201 =NEMA Photocontrol - 347V OA1223 =10kV Surge Module Replacement HS-UTLD-24 =Field Installed UTLD House Side Shield for PA1 ¹⁰ VGS-ARCH =Short Vertical Drop Shield VGL-ARCH =Long Vertical Drop Shield		
NOTES: 1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information. 2. PA1-20 only available in 120V. 3. Only available in universal voltage. Consult your lighting representative at Cooper Lighting Solutions if custom programming is required. Not available with PA1-90, PA1-100. Consult your lighting representative at Cooper Lighting Solutions if greater than PA1-80 (83W) is needed. 4. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems). 5. Not available with 5LTD driver. 6. Use dedicated IES files for when performing layouts. These files are published on the UTLD Traditionaire product page on the website. 7. If "PR" selected, dimming functionality not available, dimming leads will be capped. 8. Not available with HSS or 5LTD driver. 9. Lens panel and birdcone cannot be ordered together. 10. HSS not available with 5WQ distribution. 11. Use tall cupola to accommodate network control solutions requiring the 7-pin receptacle 12. Coastal construction finish salt spray tested to over 5,000-hours per ASTM B117, with a scribe rating of 9 per ASTM D1654. 13. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements. 14. Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information. 15. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose drive current A; supplied at 500mA drive current only. Exact luminaire wattage available in IES files. Available with 5WQ, 5MQ, SL2, SL3 and SL4 distributions. Can be used with HSS option. 16. DC/DC drivers receive direct current as an input in 12v or 24v configurations. 17. Controls not compatible with DC/DC drivers. 18. Available in PA1-70, PA1-80, PA1-90, & PA1-100 19. Cannot be used with PR7 or other motion response control options. 20. FHWA and FTA agencies are utilizing their BAA rules for BABA compliance. Cooper's products with a BAA designation are manufactured in the US and utilize a BAA COTS exemption rule for compliance. To verify a configured product with specific accessories and options meet BABA Domestic Preference Requirements, submit this catalog number to Cooper Lighting Quotation team for validation by our Engineering and Manufacturing teams. Please refer to the DOMESTIC PREFERENCES website or consult the CLS Domestic Preferences team for more information. Components shipped separately may be separately analyzed under domestic preference requirements							

Energy and Performance Data

Power and Lumens (Standard Configuration - No Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
T2U	4000K	2,875	4,024	5,231	6,705	7,794	8,723	9,544	10,321	10,343
	Lumens per Watt	137	130	131	124	122	118	115	110	108
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
	3000K	2,618	3,665	4,764	6,107	7,098	7,944	8,692	9,400	9,419
	Lumens per Watt	125	118	119	113	111	107	105	100	98
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3
T2U-A	4000K	2,461	3,444	4,476	5,740	6,672	7,466	8,168	8,834	8,853
	Lumens per Watt	117	111	112	106	104	101	98	94	92
	BUG Rating	B1-U3-G1	B1-U3-G1	B1-U3-G2	B2-U3-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2
	3000K	2,241	3,136	4,077	5,227	6,076	6,798	7,438	8,045	8,063
	Lumens per Watt	107	101	102	97	95	92	90	86	84
	BUG Rating	B1-U3-G1	B1-U3-G1	B1-U3-G2	B1-U3-G2	B2-U3-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2
T2U-CL	4000K	2,682	3,754	4,880	6,258	7,273	8,138	8,905	9,631	9,651
	Lumens per Watt	128	121	122	116	114	110	107	102	101
	BUG Rating	B1-U2-G1	B1-U3-G1	B2-U3-G2	B2-U3-G2	B2-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3
	3000K	2,443	3,419	4,445	5,698	6,624	7,412	8,110	8,770	8,790
	Lumens per Watt	116	110	111	106	104	100	98	93	92
	BUG Rating	B1-U2-G1	B1-U2-G1	B2-U3-G2	B2-U3-G2	B2-U3-G2	B2-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3
T2U-TL	4000K	2,637	3,690	4,799	6,152	7,151	8,002	8,755	9,468	9,488
	Lumens per Watt	126	119	120	114	112	108	105	101	99
	BUG Rating	B1-U3-G1	B1-U3-G1	B2-U3-G2	B2-U3-G2	B2-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3
	3000K	2,402	3,362	4,369	5,602	6,512	7,287	7,973	8,622	8,640
	Lumens per Watt	114	108	109	104	102	98	96	92	90
	BUG Rating	B1-U2-G1	B1-U3-G1	B2-U3-G2	B2-U3-G2	B2-U3-G2	B2-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3
T2U-FP	4000K	2,458	3,441	4,473	5,736	6,668	7,460	8,164	8,828	8,847
	Lumens per Watt	117	111	112	106	104	101	98	94	92
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4
	3000K	2,240	3,134	4,075	5,224	6,072	6,795	7,434	8,039	8,056
	Lumens per Watt	107	101	102	97	95	92	90	86	84
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
T2U-HSS	4000K	1,949	2,728	3,547	4,546	5,285	5,914	6,471	6,998	7,013
	Lumens per Watt	93	88	89	84	83	80	78	74	73
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2
	3000K	1,775	2,485	3,230	4,141	4,813	5,386	5,893	6,374	6,387
	Lumens per Watt	85	80	81	77	75	73	71	68	67
	BUG Rating	B0-U0-G0	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1

NOTE: * Photometric data is reported for lower hemisphere only.

Power and Lumens (Standard Configuration - No Lenses or Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
SL3	4000K	2,784	3,896	5,065	6,493	7,547	8,446	9,241	9,994	10,015
	Lumens per Watt	133	126	127	120	118	114	111	106	104
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	3000K	2,535	3,548	4,612	5,913	6,873	7,692	8,416	9,102	9,120
	Lumens per Watt	121	114	115	110	107	104	101	97	95
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3
SL3-A	4000K	2,320	3,247	4,219	5,410	6,288	7,037	7,699	8,326	8,344
	Lumens per Watt	110	105	105	100	98	95	93	89	87
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3
	3000K	2,112	2,956	3,842	4,926	5,726	6,408	7,011	7,583	7,599
	Lumens per Watt	101	95	96	91	89	87	84	81	79
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3
SL3-CL	4000K	2,608	3,651	4,746	6,085	7,073	7,915	8,660	9,365	9,385
	Lumens per Watt	124	118	119	113	111	107	104	100	98
	BUG Rating	B1-U2-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,375	3,325	4,322	5,542	6,441	7,208	7,886	8,529	8,546
	Lumens per Watt	113	107	108	103	101	97	95	91	89
	BUG Rating	B1-U2-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
SL3-TL	4000K	2,527	3,535	4,597	5,893	6,849	7,665	8,387	9,070	9,090
	Lumens per Watt	120	114	115	109	107	104	101	96	95
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,300	3,220	4,186	5,366	6,239	6,981	7,639	8,261	8,278
	Lumens per Watt	110	104	105	99	97	94	92	88	86
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
SL3-FP	4000K	2,344	3,282	4,265	5,470	6,359	7,114	7,784	8,419	8,437
	Lumens per Watt	112	106	107	101	99	96	94	90	88
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B1-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
	3000K	2,136	2,989	3,885	4,980	5,790	6,479	7,089	7,667	7,683
	Lumens per Watt	102	96	97	92	90	88	85	82	80
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
SL3-HSS	4000K	2,305	3,226	4,194	5,376	6,250	6,994	7,652	8,276	8,293
	Lumens per Watt	110	104	105	100	98	95	92	88	86
	BUG Rating	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2
	3000K	2,099	2,938	3,820	4,896	5,692	6,369	6,969	7,537	7,552
	Lumens per Watt	100	95	96	91	89	86	84	80	79
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2

NOTE: * Photometric data is reported for lower hemisphere only.

Power and Lumens (Standard Configuration - No Lenses or Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
T3	4000K	2,853	3,992	5,190	6,653	7,733	8,654	9,469	10,241	10,262
	Lumens per Watt	136	129	130	123	121	117	114	109	107
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	3000K	2,598	3,636	4,726	6,059	7,043	7,882	8,624	9,326	9,345
	Lumens per Watt	124	117	118	112	110	107	104	99	97
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3
T3-A	4000K	2,425	3,395	4,413	5,657	6,577	7,359	8,052	8,709	8,727
	Lumens per Watt	115	110	110	105	103	99	97	93	91
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
	3000K	2,209	3,091	4,019	5,152	5,989	6,702	7,332	7,931	7,947
	Lumens per Watt	105	100	100	95	94	91	88	84	83
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
T3-CL	4000K	2,695	3,773	4,905	6,288	7,309	8,179	8,949	9,679	9,698
	Lumens per Watt	128	122	123	116	114	111	108	103	101
	BUG Rating	B1-U2-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,455	3,435	4,467	5,726	6,656	7,448	8,150	8,815	8,832
	Lumens per Watt	117	111	112	106	104	101	98	94	92
	BUG Rating	B1-U2-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
T3-TL	4000K	2,616	3,661	4,760	6,102	7,093	7,937	8,685	9,392	9,413
	Lumens per Watt	125	118	119	113	111	107	105	100	98
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,382	3,334	4,335	5,558	6,459	7,229	7,909	8,554	8,572
	Lumens per Watt	113	108	108	103	101	98	95	91	89
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
T3-FP	4000K	2,430	3,401	4,420	5,668	6,588	7,372	8,066	8,723	8,742
	Lumens per Watt	116	110	111	105	103	100	97	93	91
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
	3000K	2,213	3,097	4,026	5,161	5,999	6,714	7,345	7,945	7,961
	Lumens per Watt	105	100	101	96	94	91	88	85	83
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
T3-HSS	4000K	2,126	2,976	3,869	4,959	5,765	6,451	7,059	7,634	7,650
	Lumens per Watt	101	96	97	92	90	87	85	81	80
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2
	3000K	1,973	2,710	3,523	4,517	5,250	5,875	6,428	6,952	6,967
	Lumens per Watt	94	87	88	84	82	79	77	74	73
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2

NOTE: * Photometric data is reported for lower hemisphere only.

Power and Lumens (Standard Configuration - No Lenses or Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
T4W	4000K	2,856	3,997	5,196	6,660	7,742	8,664	9,480	10,253	10,274
	Lumens per Watt	136	129	130	123	121	117	114	109	107
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	3000K	2,601	3,640	4,732	6,066	7,051	7,891	8,634	9,337	9,356
	Lumens per Watt	124	117	118	112	110	107	104	99	97
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
T4W-A	4000K	2,388	3,343	4,346	5,572	6,476	7,247	7,929	8,576	8,594
	Lumens per Watt	114	108	109	103	101	98	96	91	90
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
	3000K	2,175	3,044	3,958	5,073	5,899	6,600	7,221	7,809	7,827
	Lumens per Watt	104	98	99	94	92	89	87	83	82
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3
T4W-CL	4000K	2,684	3,758	4,885	6,262	7,280	8,145	7,913	9,639	9,660
	Lumens per Watt	128	121	122	116	114	110	95	103	101
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,445	3,422	4,449	5,703	6,629	7,418	8,118	8,779	8,797
	Lumens per Watt	116	110	111	106	104	100	98	93	92
	BUG Rating	B1-U2-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
T4W-TL	4000K	2,595	3,631	4,721	6,053	7,036	7,873	8,615	9,316	9,336
	Lumens per Watt	124	117	118	112	110	106	104	99	97
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,363	3,306	4,300	5,513	6,407	7,170	7,845	8,485	8,502
	Lumens per Watt	113	107	108	102	100	97	95	90	89
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
T4W-FP	4000K	2,414	3,377	4,391	5,629	6,542	7,322	8,012	8,663	8,683
	Lumens per Watt	115	109	110	104	102	99	97	92	90
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
	3000K	2,197	3,076	3,999	5,126	5,958	6,667	7,296	7,890	7,907
	Lumens per Watt	105	99	100	95	93	90	88	84	82
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
T4W-HSS	4000K	2,092	2,928	3,806	4,879	5,671	6,347	6,944	7,510	7,525
	Lumens per Watt	100	94	95	90	89	86	84	80	78
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2
	3000K	1,905	2,666	3,466	4,443	5,165	5,780	6,324	6,840	6,854
	Lumens per Watt	91	86	87	82	81	78	76	73	71
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2

NOTE: * Photometric data is reported for lower hemisphere only.

Power and Lumens (Standard Configuration - No Lenses or Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
5WQ	4000K	2,971	4,158	5,405	6,929	8,055	9,014	9,862	10,666	10,688
	Lumens per Watt	141	134	135	128	126	122	119	113	111
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G3	B4-U0-G3
	3000K	2,706	3,787	4,923	6,310	7,335	8,209	8,982	9,714	9,734
	Lumens per Watt	129	122	123	117	115	111	108	103	101
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
5WQ-A	4000K	2,480	3,471	4,513	5,786	6,726	7,525	8,235	8,905	8,924
	Lumens per Watt	118	112	113	107	105	102	99	95	93
	BUG Rating	B1-U3-G1	B1-U3-G2	B2-U3-G2	B2-U3-G2	B2-U4-G2	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
	3000K	2,259	3,161	4,110	5,269	6,125	6,853	7,499	8,110	8,128
	Lumens per Watt	108	102	103	98	96	93	90	86	85
	BUG Rating	B1-U3-G1	B1-U3-G2	B2-U3-G2	B2-U3-G2	B2-U3-G2	B2-U4-G2	B2-U4-G3	B2-U4-G3	B2-U4-G3
5WQ-CL	4000K	2,854	3,995	5,192	6,658	7,739	8,660	9,475	10,248	10,269
	Lumens per Watt	136	129	130	123	121	117	114	109	107
	BUG Rating	B2-U3-G2	B3-U3-G2	B3-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B4-U3-G3	B4-U3-G3	B4-U3-G3
	3000K	2,599	3,639	4,730	6,063	7,048	7,886	8,630	9,333	9,352
	Lumens per Watt	124	117	118	112	110	107	104	99	97
	BUG Rating	B2-U3-G1	B3-U3-G2	B3-U3-G2	B3-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3
5WQ-TL	4000K	2,730	3,821	4,967	6,368	7,402	8,283	9,063	9,802	9,823
	Lumens per Watt	130	123	124	118	116	112	109	104	102
	BUG Rating	B2-U3-G2	B3-U3-G2	B3-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3	B4-U3-G3	B4-U3-G3
	3000K	2,486	3,480	4,524	5,799	6,741	7,544	8,254	8,926	8,945
	Lumens per Watt	118	112	113	107	105	102	99	95	93
	BUG Rating	B2-U3-G2	B2-U3-G2	B3-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3
5WQ-FP	4000K	2,545	3,563	4,630	5,938	6,901	7,722	8,450	9,140	9,158
	Lumens per Watt	121	115	116	110	108	104	102	97	95
	BUG Rating	B1-U3-G2	B2-U3-G2	B2-U3-G3	B2-U4-G3	B3-U4-G3	B3-U4-G3	B3-U4-G4	B3-U4-G4	B3-U4-G4
	3000K	2,318	3,245	4,217	5,408	6,285	7,033	7,696	8,322	8,340
	Lumens per Watt	110	105	105	100	98	95	93	89	87
	BUG Rating	B1-U3-G2	B2-U3-G2	B2-U3-G3	B2-U4-G3	B3-U4-G3	B3-U4-G3	B3-U4-G3	B3-U4-G4	B3-U4-G4

NOTE: * Photometric data is reported for lower hemisphere only.

Lumen Maintenance

Light Engine	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
PA1	Up to 40°C	> 98%	> 800,000

FADC Settings

FADC Position	Percent of Typical Lumen Output
1	25%
2	46%
3	55%
4	62%
5	72%
6	77%
7	82%
8	85%
9	90%
10	100%

Note: +/-5% typical value

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97



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PLANNING COMMISSION MEMO

Meeting Date: August 27th 2026

AGENDA ITEM: 5.C

ZONING: Universal

PROPOSED REQUEST: Introduction to
Zoning Ordinance Text Amendments
(Various)

APPLICANT: Staff Request

ADDRESS: Universal

REPORT BY: Dan Wells, Community
Development Director; David Jirousek,
AICP, Planning Consultant; Dakota
Swan, Assistant Planner

PARCEL NUMBER: Universal

OVERVIEW

A large update and overhaul of the Gaines Charter Township Zoning Ordinance was approved and adopted by the Township Board in April of 2025 (amended through December 2025). Staff has been applying new guidelines and standards to applications and various zoning requests over the last year and have noted a number of deficiencies and/or sections that need clarification. Deficient sections were identified by staff while executing reviews and communicating requirements, in addition to numerous applicants who interfaced with the Zoning Ordinance during the application and approval process.

Staff would note that the initiative to take up such amendments and clarifications is to a certain extent, to be expected. The Zoning Ordinance rewrite entailed a plethora of improvements and major reformatting for a document which had been reworked and referenced over the course of decades. A change as large as the one adopted in 2025 will certainly influence how applicants interact with the ordinance and how staff interprets and administers zoning requirements. Staff determined that now is a good time to introduce potential amendments as the ordinance has been used in practice for over a year now, and for the sake of getting ahead of other unknown deficiencies coming to surface.

DISCUSSION

The Planning Commission's role is to discuss the proposed amendments and provide any feedback or additions to staff who will continue to revise and refine the proposed amendments prior to final submittal. Staff has compiled proposed amendments into an amendable document to be reviewed and modified prior to final submittal.

PROCESS

This agenda item serves solely as an introduction and a jumping point for further discussion and edits to potential amendments. No decision is to be made on this agenda item, discussion is intended to provide further instruction and direction to staff.

After amendments are refined, finalized, and ready for a recommendation from the Planning Commission to the Township Board, the process for the amendment request is as follows:

1. Public hearing and review and recommendation by the Planning Commission (Section 25.50).
2. First reading by the Township Board, public hearing scheduled (Section 25.70).
3. Public hearing and decision by the Township Board .
4. Publication of the approval notice within a newspaper of general circulation within the Township within 14 days.
5. Effective date of the approval is the expiration of seven (7) days after publication unless a longer timeframe is set.

STANDARDS OF REVIEW

All zoning text amendments are subject to review by the Planning Commission, and a recommendation is given to the Board for either approval or denial. The request will then get two readings at the Township Board, one of which will be a public hearing. Requests for text amendments are subject to review using all applicable standards from Section 31.40.B, Zoning Amendment Approval Standards – Zoning Text Amendment. When staff is ready to submit the amendments for final consideration, the standards of review used to analyze the request will be as follows:

****The amendment shall satisfy at least one (1) of these factors.**

- 1. The amendment will implement the Township's Master Plan.**
- 2. The amendment addresses changing conditions in development trends, housing types, industrial standards, environmental best practices, and citizen preferences.**
- 3. The proposed text amendment would clarify the intent of the Zoning Ordinance.**
- 4. The proposed text amendment would correct an error in the Zoning Ordinance.**

- 5. The proposed text amendment would address changes to the State legislation, recent case law, opinions of the Attorney General of the State of Michigan, or any other county, state, or federal regulations.**
- 6. In the event the amendment will add a use to a district, that use shall be fully consistent with the character of the range of uses provided for within the district.**
- 7. The amendment shall not create incompatible land uses within a zoning district or between adjacent districts.**
- 8. The proposed change shall be consistent with the Township's ability to provide adequate public facilities and services.**
- 9. The proposed change shall be consistent with the Township's desire to protect the public health, safety, and welfare of the community.**

Amendment 1.

STAFF NOTES: Intends to prevent corner lots from being able to reclassify as interior lots via a lot line adjustment to encompass access easements and ultimately circumvent street side setback requirements. A diagram will be provided as part of this particular amendment to help visualize a scenario as such, and will be submitted to the Planning Commission for review once completed at a later time.

Section 3.30 B.2. Creation of a Corner Lot by a New Street

2. Lot, Corner. A lot with at least two (2) contiguous sides abutting two (2) intersecting streets and where the interior angle of the intersecting streets is less than 135 degrees. Also, a lot located on a curved street or streets, if tangents of the curve, at the points of beginning with the lot or the points of intersection of the side lot lines with the street line, intersect at an interior angle of less than 135 degrees.

In the case where a private street and a private street easement are established on a lot abutting and along the side lot line of an interior lot with existing buildings, the interior lot shall not be reclassified as a corner lot.

OR

In the case where a private street and a private street easement are established on a lot abutting and along the side lot line of an interior lot with existing buildings, the interior lot shall be reclassified as a corner lot.

Amendment 2.

STAFF NOTES: Clarity on clear vision requirements depending on type of intersection, whether two streets or a street and a driveway.

Section 3.40 C. Clear Vision Corner at Driveway Intersections.**C. CLEAR VISION CORNER**

1. **Street Intersections.** Signs, fences, walls, structures, benches, shrubbery, or other potential obstructions to vision shall not be permitted to exceed a height of three (3) feet within a triangular area formed by the intersection of two (2) street right-of-way lines and a line connecting two (2) points located on those intersecting right-of-way lines 20 feet from the point where the right-of-way lines intersect; provided, utility poles, street lights, and street signs shall be exempt from this requirement (Figure 3-5).

2. **Street and Driveway Intersections.** A 10-foot radius from the intersection of the outside edges of driveways and a public street right-of-way or private street easement.

STAFF NOTES: Clarification regarding how parallel plan lots may include undevelopable area for the purpose of calculating the number of units.

2. Submittal Requirements. In addition to the requirements of the applicable approval process, an application for the development of land under the provisions of this section shall also include the following:

- STAFF NOTES: Although excluded in the current ordinance, we see no reason why the following uses could not be integrated into NC as a permitted use.

Use	Residential				Commercial and Mixed-Use			Industrial			Other
	ARR	SR	VR	MFR	NC	GC	OS	MB	LI	HI	
Offices and Services. Includes businesses and organizations that provide professional, administrative, healthcare, personal services, and vehicle-oriented services, including corporate offices, financial institutions, medical facilities, and automotive services.											

TABLE 15.40 D: PRINCIPAL LAND USE REGULATION

Use	Residential				Commercial and Mixed-Use			Industrial			Other
	ARR	SR	VR	MFR	NC	GC	OS	MB	LI	HI	
General Offices and Services	--	--	--	--	P	P	P	P	--	--	NONE

Current definition:

General Offices and Services. Establishments that offer financial, business, business support, medical, personal, professional, and administrative services.

- Business Services. Establishments providing direct services to consumers, including, but not limited to: employment agencies, insurance agent offices, real estate offices, and travel agencies.
- Business Support Services. Establishments providing services to other businesses, including, but not limited to, computer rental and repair, copying, quick printing, and mailing and mailbox services.
- Financial Services. Financial institutions, including, but not limited to, banks, credit agencies, investment companies, security, and commodity exchanges.
- Medical. A facility other than a hospital where medical, dental, mental health, surgical, and/or other personal health care services are provided on an outpatient basis, including, but not limited to, chiropractors, medical doctors, psychiatrists, etc., other than nursing staff.
- Personal Services. Establishments providing non-medical services to individuals, including, but not limited to, barber and beauty shops, tattoo parlors, self-serve laundry facilities, dry cleaning pick-up and dropoff, small appliance repair, laundromats, massage therapists, shoe repair shops, and tanning salons. These uses may include incidental retail sales related to the services they provide.
- Professional and Administrative Services. Office-type facilities occupied by businesses or agencies that provide professional or government services or are engaged in the production of intellectual property.

Amendment 5.

STAFF NOTES: Specifying that utility trailers are also required to follow the same requirements as recreational equipment and recreational trailers.

Sections 17.80 and 35.70. Recreational Vehicles and Recreational & Utility Trailers.

SECTION 35.70

Recreational and Utility Trailers Equipment. Any of the following: ~~recreation vehicle, boat,~~ boat trailer, ~~snowmobile~~ snowmobile trailer, ~~motorcycle or~~ motorcycle trailer, ~~all-terrain vehicle,~~ all-terrain vehicle trailer, enclosed trailers, utility trailers, or similarly ~~licensed vehicles~~ trailers ~~intended to be pulled by a motorized vehicle via hitch or other attachment..~~

SECTION 17.80 RECREATIONAL VEHICLES AND RECREATIONAL & UTILITY TRAILERS

A. INTENT

This section applies only to recreational vehicles intended for camping or travel with sleeping areas, including travel trailers, camping trailers, motor homes, and truck campers, ~~as well as recreational vehicles & utility trailers.~~ ~~However, t~~ This section does not apply to any recreational vehicle at a campground, recreational vehicle park, or self-storage facility.

B. REQUIREMENTS FOR RECREATIONAL VEHICLES

1. Principal Building. Recreational vehicles shall not be stored or parked on any property without a principal building.
2. Setbacks. Recreational vehicles shall not be parked within the minimum setbacks required for principal buildings.
3. Location.
 - a. Recreational vehicles shall not be parked in front yards or secondary front yards except on a formal driveway surface.
 - b. Recreational vehicles may be stored for extended periods outside of principal building setbacks in side or rear yards, provided the vehicle is on a hard-surfaced, stone, or gravel area suitable for that purpose and is screened from view of adjoining properties in accordance with the requirements of Section 23.70.
4. Number.
 - a. No more than one (1) recreational vehicle shall be parked on lots under one (1) acre.
 - b. No more than two (2) recreational vehicles shall be parked on lots one (1) acre or greater.
5. Licensing and Condition. Unless stored or parked at a commercial storage facility or a repair facility, all recreational vehicles shall be licensed, operable, and regularly used for their intended purposes.
6. Connections. Recreational vehicles shall not be connected to a permanent dedicated power source or to well and septic service.
7. Living Purposes Prohibited. Recreational vehicles are not considered single-family dwellings or lawful residential dwellings and are prohibited from being used for living or habitation purposes unless approved as a temporary dwelling in accordance with Section 18.300 C.
8. Temporary Stays. Recreational vehicles may be used for temporary guest stays for periods not to exceed 10 days no more than twice per calendar year, provided the recreational vehicle:
 - 1a. contains sleeping accommodations;
 - 2b. is solely for the use of the owner of the lot or guests of the owner; and
 - 3c. is parked on a driveway outside the required front and side street setbacks.

C. REQUIREMENTS FOR RECREATIONAL & UTILITY TRAILERS

1. Principal Building. Recreational & utility trailers shall not be stored or parked on any property without a principal building.
2. Setbacks. Recreational & utility trailers shall not be parked within the minimum setbacks required for principal buildings.
3. Location.
 - a. Recreational & utility trailers shall not be parked in front yards or secondary front yards except on a formal driveway surface.
 - b. Recreational & utility trailers may be stored for extended periods outside of principal building setbacks in side or rear yards, provided the vehicle is on a hard-surfaced, stone,

or gravel area suitable for that purpose and is screened from view of adjoining properties in accordance with the requirements of Section 23.70.

4. Number.

a. No more than one (1) recreational & utility trailer shall be parked on lots under one (1) acre.

b. No more than two (2) recreational & utility trailers shall be parked on lots one (1) acre or greater.

Amendment 6.

STAFF NOTES: First, moving away from having a separate 200SF shed designation, and lumping it back into a total per parcel so people have more flexibility.

Second, clarifying that the accessory buildings are per attached dwelling unit, to clarify that it applies to each unit in multifamily situations rather than the entire building.

Third, bumped up the number from 3 to as many as desired in SR.

Section 18.20 A, Table 18.20 A. Residential Accessory Storage Buildings and Detached Garages

TABLE 18.20 A: ACCESSORY BUILDING DIMENSIONAL AND NUMERIC REQUIREMENTS					
Requirement		Zoning District			
		Agricultural - Rural Residential	Suburban Residential	Village Residential	Multiple-Family Residential
Accessory Building Less Than 200 Square Feet					
Min. Setback (ft.)	Front	60	Greater than or equal to the established front setback for the principal building		
	Street Side	60	Greater than or equal to the established street side setback for the principal building		
	Side	3	3	3	3
	Rear	3	3	3	3
Accessory Buildings 200 Square Feet or Greater					
Min. Setback (ft.)	Front	60	Greater than or equal to the established front setback for the principal building		
	Street Side	60	Greater than or equal to the established street side setback for the principal building		
	Side	20	8	8	8
	Rear	5	5	5	5
Requirements for All Accessory Buildings					
Separation from Other Buildings (ft.)		10	10	10	10
Maximum Height (ft.)		25	16	16	16

TABLE 18.20 A: ACCESSORY BUILDING DIMENSIONAL AND NUMERIC REQUIREMENTS

Requirement		Zoning District			
		Agricultural - Rural Residential	Suburban Residential	Village Residential	Multiple-Family Residential
Maximum Square Footage (s.f.) Accessory buildings serving as garages for attached dwelling units and dwelling units within multiple-family buildings may be attached	Lots less than 6,500 s.f.	5776 per detached dwelling unit plus one building 200 or less	5776 per detached dwelling unit plus one building 200 or less	5776 per detached dwelling unit plus one building 200 or less / 576 per attached dwelling unit	576 per detached dwelling unit
	Lots 6,500 to 9,999 s.f.	8641,064 per detached dwelling unit plus one building 200 or less	8641,064 per detached dwelling unit plus one building 200 or less	8641,064 per detached dwelling unit plus one building 200 or less / 576 per attached dwelling unit	576 per detached dwelling unit
	Lots 10,000 to 19,999 s.f.	1,064 864 per detached dwelling unit plus one building 200 or less	1,064 864 per detached dwelling unit plus one building 200 or less	1,064 864 per detached dwelling unit plus one building 200 or less / 576 per attached dwelling unit	576 per detached dwelling unit
	Lots 20,000 s.f. to One (1) Acre	1,296 1,496 per detached dwelling unit plus one building 200 or less	1,496 1,296 per detached dwelling unit plus one building 200 or less	1,064 846 per detached dwelling unit plus one building 200 or less / 576 per attached dwelling unit	576 per detached dwelling unit
	Lots Greater than One (1) Acre	2,400 2,600 per detached dwelling unit plus one building 200 or less plus 500 square feet per whole acre over one (5,000 square feet max.)	1,296 1,496 per detached dwelling unit plus one building 200 or less	1,064 864 per detached dwelling unit plus one building 200 or less / 576 per attached dwelling unit	576 per detached dwelling unit
Maximum Number of Accessory Buildings		No Limit	No Limit 3	2 per detached dwelling unit and 1 per attached dwelling unit	1 per dwelling unit

Amendment 7.

STAFF NOTES: Add the Office Service zoning district to 18.20.B.2

Section 18.20 B. Non-Residential Accessory Storage Buildings and Detached Garages**B. NON-RESIDENTIAL ACCESSORY STORAGE BUILDINGS AND DETACHED GARAGES**

1. Dimensional Requirements. Accessory buildings for authorized non-residential uses in residential zoning districts and non-residential uses in non-residential zoning districts shall be subject to all of the requirements for principal buildings.

2. Size.

a. NC, GC, OS, and MB Districts. The total square footage of accessory buildings on a lot shall not exceed the square footage of the principal building on the lot on which they are situated.

b. LI and HI. The total square footage of accessory buildings on a lot shall not exceed the square footage of the principal building on the lot on which they are situated. However, if the use involves a collective use of buildings for general business operations, there is no limitation on building sizes.

Amendment 9.

STAFF NOTES: Clarifies that heavy equipment repair as a business is included as a prohibited activity.

Section 18.150 B. Prohibited Uses- Home Occupations**B. PROHIBITED USES**

The following uses are prohibited as home occupations:

1. Restaurants.
2. Vehicle, heavy equipment, heavy machinery, and tractor repair.
3. Any other use that, in the opinion of the Zoning Administrator, would result in an adverse or disrupting effect on other properties or on the residential character of the neighborhood by way of noise, odor, vibration, dust, electronic interference, traffic, safety, or other attribute or emission.

Amendment 10.

STAFF NOTES: Proposal to return to a narrower right-of-way requirement for smaller developments and land division lot additions where residential streets are required. Also to specify that Commercial and industrial (?) zone private streets need to comply with KCRC standards.

Section 22.60 Private Street Requirements and Design**C. SPECIFIC DESIGN REQUIREMENTS- RESIDENTIAL PRIVATE STREETS**

TABLE 22.60 C: STREET REQUIREMENTS		
Requirement	Residential Minor Private Street	Major Private Street
Maximum Lots Served	4 lots	No limit as long as compliant with current Fire Code
Minimum Easement Width	50 ft.	66 ft.
Minimum Surface Width	16 ft. plus 2 ft. wide gravel shoulders on each side	26 ft. plus 2 ft. of valley gutter on each side
Minimum Vertical Clearance	14 ft.	14 ft.
Minimum Horizontal Clearance	15 ft. from edge of surface material on both sides	8 ft. from edge of surface material on both sides
Intersections	See Section 21.40 Access Management	
Minimum Cul-De-Sac Radius	48 ft. 11 in. unless a wider radius is required by the Kent County Road Commission Requirements and Specifications for Plat Development or Fire Department	
Paved Surface	Private streets shall be paved with asphalt in accordance with the Kent County Road Commission Requirements and Specifications for Plat Development	
Other	For cross section, cul-de-sac, horizontal curve centerline radius, sub-surface and surface material and minimum thickness, intersections, and grade see the current edition of the Kent County Road Commission Requirements and Specifications for Plat Development	

D. SPECIFIC DESIGN REQUIREMENTS- COMMERCIAL PRIVATE STREETS

Commercial private streets shall comply with all Kent County Road Commission design requirements for commercial streets.

Amendment 11.

STAFF NOTES: Add clarification that a ground sign could be placed at each entry point for multifamily buildings.

Section 24.80, Table 24.80. Permanent Signs- Residential Zoning Districts

TABLE 24.80: PERMANENT SIGNS- RESIDENTIAL ZONING DISTRICTS		
Type	Requirements	
Freestanding Sign: Ground Sign for Non-Residential Uses or Bed and Breakfasts	Zoning District	All residential districts
	Maximum Number	1 per lot
	Maximum Size	16 s.f. for bed and breakfasts 32 s.f. for all other uses
	Maximum Height	6 ft.
	Minimum Setbacks	10 feet from any front lot line 20 feet from all other property lines
	Illumination	External- for bed and breakfasts Internal and external (permitted) and ECM (special land use)- all other non-residential uses

TABLE 24.80: PERMANENT SIGNS- RESIDENTIAL ZONING DISTRICTS

Freestanding Sign: Ground Sign for Residential Development Entry Point and Multiple-Family Buildings	Zoning District	All residential districts
	Maximum Number	1 per entry
	Maximum Size	48 s.f.
	Maximum Height	6
	Minimum Setbacks	10 ft. from all property lines
	Illumination	External
Wall Sign: for Non-Residential Uses, Bed and Breakfasts, or Home Occupations	Zoning District	All residential districts
	Maximum Number	1 per building
	Maximum Size	8 s.f. for bed and breakfasts and home occupations 32 s.f. for all other non-residential uses
	Illumination	External

Amendment 12.

STAFF NOTES: Refining language that addresses abutting nonconforming lots being treated as one parcel under the Zoning Ordinance, to be further modified and clarified by the Township's legal counsel.

Section 33.40 B. Abutting Nonconforming Lots Under Single Ownership. To be edited by Township Attorney.

B. ABUTTING NONCONFORMING LOTS UNDER SINGLE OWNERSHIP

1. If two (2) or more adjoining lots of record or combination of lots and portions of lots of record, in lawful existence at the time of the passage of this Ordinance, or an amendment thereto, with continuous frontage and under single ownership do not meet the requirements established for lot width, dimension, or lot area, the lands involved shall be considered to be an undivided single lot for the purposes of this Ordinance, and no portion of such lot shall be used or divided in a manner which diminishes compliance with lot width, dimension, and area requirements established by this Ordinance.

2. Where two (2) or more lawful nonconforming adjacent lots are in the same or similar ownership and each contain less than minimum required area, dimension, or width of the zoning district in which it is located, the lots shall be considered a single lot for zoning purposes. These lots may not be used individually, but shall be deemed automatically combined to create a lot that conforms as closely as possible to the zoning district regulations.

Amendment 13

STAFF NOTES: Creating an allowance for higher fences in industrial areas, as long as they are set back from property lines.

Section 17.40 Fences and Walls**F. HEIGHT Fence height requirements are subject to the maximum heights in Table 17.40.F.**

Table 17.40 F: Maximum Fence and Wall Height

Location on Site	Zoning District	
	All Residential Districts and NC District	OS and GC Districts and Industrial Districts
Front Yard (ft.)	3	6
Secondary Front Yard on Corner Lot at or Behind Building Setback (ft.)	6	6
Side and Rear Yard (ft.)	6	8
Each 5 feet from property line	-	Industrial only; +1 foot, must be chain link or other clear view material. 12-foot maximum height.

From: [Karin Sekelsky](#)
To: [Dan Wells](#); [Kim Triplett](#); [Bob Terpstra](#); [Michael Brew](#); [Dakota Swan](#); [Laurie Lemke](#), MiCPT, CPFA; [Kathy Vanderstel - Hotmail](#); vanderstel@gainestownship.com; [Tim Haagsma](#); cliff@bloomsbuggett.com
Subject: Power generation and air pollution concerns re Microsoft Data Center proposal
Date: Wednesday, July 29, 2026 1:26:10 PM

Date: July 29, 2026
From: Karin Sekelsky
To: The Gaines Township Board of Trustees and Planning Commission
Subject: Demand for Strict Ordinances on Proposed Data Center and On-Site Power Generation

Please read and add the below to the next available planning/board meeting minutes for public comment. Thank You!

Trustees and Commissioners,

We are writing on behalf of the residents living within the immediate footprint of the proposed data center facility. While we recognize the pressures of technological expansion, our priority must be protecting our community's public health, safety, and environment.

A growing body of independent scientific research reveals that data centers—specifically their reliance on industrial gas-powered turbines and diesel backup generators—pose severe, localized health risks. A 2026 review published in *Frontiers in Climate* outlines how the massive energy footprint of these facilities introduces [significant health risks associated with localized air pollution (<https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2026.1648912/full>)]. Most alarming is the direct threat to families, schools, and outdoor spaces located within a 1-mile radius of these sites, where concentrated emissions accumulate during routine system testing, grid stress events, and power outages.

Further validating these fears, a landmark 2026 air quality study commissioned by The Piedmont Environmental Council mapped the immediate plume effects of data centers bypassing local power grids. Their research confirmed that the localized air pollution from these facilities creates up to \$99 million annually in health-related damages and causes severe, unmonitored public health burdens on nearby residential zones (Piedmont Environmental Council, 2026). Additionally, data compiled by the Environmental Health Project reveals that emissions from these gas-powered configurations cause sharp spikes in volatile organic compounds and fine particulates. Projections show that by 2030, this pollution could trigger 600,000 acute asthma symptom cases nationwide and account for over one-third of total U.S. asthma deaths annually (Environmental Health Project, 2026).

Furthermore, an analysis by the North Carolina League of Conservation Voters, drawing on research from Virginia Commonwealth University and the University of Washington, highlights that running data center generators for less than an hour weekly creates a health burden comparable to operating five large gas-fired power stations. Research from UC Riverside and Caltech adds that diesel exhaust from these sites could cause 14,000 localized asthma incidents annually. Additionally, unpermitted methane turbines can release significant amounts of toxic pollutants, including nitrogen oxides and formaldehyde.

We urge the Board to enact strict municipal controls, including a mandatory 1-mile protective

buffer between any data center industrial zone and residential properties, parks, or schools. Furthermore, the township must require the installation of continuous ambient air monitoring stations at the developer's expense, alongside a hard cap on allowable operational testing hours.

We expect our elected officials to prioritize human lives over industrial convenience.

Sincerely,
Karin Sekelsky

References

Environmental Health Project. (2026). The dangers of data centers.

environmentalhealthproject.org

Frontiers in Climate. (2026). The energy footprint of hyperscale facilities and localized air pollution risks. Frontiers in Climate, 8, Article 1648912. frontiersin.org

North Carolina League of Conservation Voters. (2026, June 1). Backup generators for data centers threaten community health. <https://nclcv.org/cib06012026-backup-generators-for-data-centers/>

The Piedmont Environmental Council. (2026). New study finds on-site power at Virginia data center could result in \$53 million - \$99 million in annual health damages. pecva.org

PUBLIC NOTICE

Date: July 23, 2026
Permit No.: MI0060445
Designated Site Name: Related Digital WWTP

The Department of Environment, Great Lakes, and Energy (Department), Water Resources Division (WRD), proposes to issue a permit to RD Michigan Property Owner I LLC for the Related Digital Wastewater Treatment Plant to be located on the north side of US-12 between Willow Road and Case Road, Saline Township, Washtenaw County, Michigan 48176. The applicant will collect domestic wastewater from a data center. The applicant will discharge treated sanitary wastewater to the Saline River.

This draft permit authorizes an increased loading of pollutants to the Saline River which will lower the water quality with respect to certain parameters. The permitted discharge shall not cause an exceedance of water quality standards in the receiving water. In accordance with R 323.1098 of the Part 4 Rules, Water Quality Standards, promulgated under Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, the applicant submitted an Antidegradation Demonstration. The WRD proposes that the applicant's Antidegradation Demonstration, based on information required by Subrule (4) of R 323.1098, shows that lowering of water quality is necessary to support the identified important social and economic development in the area. In no event may this decision allow water quality to be lowered below the minimum level required to fully support the designated uses. This is solely for purposes of satisfying state water quality regulations and is not intended to supplant local requirements, including land use or zoning laws. It is not, and should not be, construed as a finding by the WRD that the proposed development meets local requirements or ordinances. In addition to the proposed permit, the WRD is proposing to accept the Antidegradation Demonstration as adequate.

Copies of the permit application, Public Notice, Antidegradation Demonstration, Basis for Decision Memo, draft permit, and other relevant documents associated with this proposed permitting action may be obtained via the Internet at <https://mienviro.michigan.gov/ncore/> (select 'Public Notice Search,' enter the permit number into the search field, and then click 'Search'), or at the WRD's Jackson District Office located at 301 East Louis Glick Highway, Jackson, MI 49201-1535, telephone: 517-780-7690.

Persons wishing to submit comments on the draft permit should do so through MiEnviro Portal.

Go to <https://mienviro.michigan.gov/ncore/>, select 'Public Notice Search,' search for this public notice by entering the permit number into the search field, click 'Search,' click 'View,' click 'Add Comment,' enter information into the fields, and then click 'Submit.' Comments or objections to the draft permit and proposed decision concerning the Antidegradation Demonstration received by **August 24, 2026**, will be considered in the final decision to issue the permit, as will comments made at a public hearing should one be requested and held by the Department on the draft permit.

Any person may request the Department to hold a public hearing on the draft permit. The request should include specific reasons for the request, indicating which portions of the draft permit constitute the need for a hearing. If submitted comments indicate significant public interest in the draft permit or if useful information may be produced, the Department may, at its discretion, hold a public hearing on the draft permit. If a public hearing is scheduled, public notice of the hearing will be provided at least 30 days in advance. Inquiries should be directed to Tom Braum, Permits Section, WRD, Department of Environment, Great Lakes, and Energy, P.O. Box 30458, Lansing, Michigan 48909-7958; telephone: 517-331-7377; or e-mail: BraumT2@Michigan.gov.

Subject: DO NOT IGNORE US: Demand for a Data Center Moratorium and Ordinance Updates

Dear Gaines Charter Township Board,

I am writing to you today as a frustrated resident, a Registered Nurse, and a member of this community to tell you that we are sick and tired of being ignored. For seven months, we have been coming to you with serious, valid fears about the massive Microsoft data center planned for Patterson Avenue. You either push us aside or straight up tell us you won't help. That is completely unacceptable. You work for us, not Microsoft.

As a nurse, I know firsthand that environmental destruction and massive industrial plants cause real public health crises. We are demanding that this board immediately pass a **temporary moratorium** on all data center applications and take the time to actually update our zoning ordinances to protect our neighborhoods.

I am attaching a public notice from EGLE for a data center project over in Washtenaw County (Permit No. MI0060445). Look at what is happening there. EGLE openly admits that the data center's wastewater plant will actively *lower the water quality* of the local river, but they are pushing it through anyway.

We know the Patterson Avenue site will put a dangerous strain on our local infrastructure, our water, and our clean energy grid. We cannot trust state agencies to save us. Right there in the attached notice, EGLE explicitly states that their permits **do not override local land use or zoning laws**.

The legal power to protect Gaines Township rests entirely with you. You have the authority to pause this, update the ordinances, and stop this reckless industrial encroachment from destroying our community.

Stop telling us you won't do it. Listen to the hundreds of residents who have been pleading with you for seven months. Protect our health, protect our township, and pass a moratorium immediately.

Sincerely,

STEPHANIE L. PRATT, BSN, RN, CNOR

4642 76TH ST SE CALEDONIA, MI 49316

616-890-1584