



Corporate Headquarters

February 8, 2021

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Doug La Fave
Assistant City Manager
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RE: Gypsy Moth—City of East Grand Rapids, Michigan

Dear Mr. La Fave:

Over the last several years, West Michigan has experienced an outbreak of gypsy moth. Gypsy moth, an invasive insect, first swept through Michigan several decades ago. In the initial sweep, high gypsy moth populations caused severe defoliation of trees and in some cases tree death. In the recent past, populations have remained relatively low due to predator and disease pressures on gypsy moth caterpillars.

While many factors go into insect population dynamics, the population increase appears to be a result of relatively dry spring weather in 2016 and 2017. This dry weather may have reduced the effectiveness of natural disease pressure in gypsy moth caterpillar populations. Generally, gypsy moth populations may remain high for 1 to 3 years, before natural diseases cause the population to crash to reduced levels. In 2019 and 2020, the wet, cool springs appear to have led to increased disease pressure and a natural crash in gypsy moth populations. However, hot, dry summers have likely limited how quickly disease in the gypsy moth population has spread.

Integrated Pest Management (IPM) is a broad approach to manage pests below a certain threshold, rather than pre-emptive or on-going treatment regardless of pest population, impacts, or damage. In discussions with East Grand Rapids, we have continued to use an IPM approach to the management of gypsy moth, rooted primarily on expected impacts to tree health.

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To monitor gypsy moth populations, visual surveys were performed in areas with known or reported concentrations of gypsy moth activity in the summer of 2017, 2018, 2019, and 2020. Visual surveys are intended to observe gypsy moth feeding pressure on trees. While healthy trees can withstand even complete defoliation in a given year, trees may not tolerate multiple years of subsequent defoliation. Severe defoliation was noted in a pocket of infestation on Coronado SE in 2017 and 2018. Defoliation appeared to subside in both 2019 and 2020. A concentration of severe defoliation of trees is the first trigger to consider recommendations to treat gypsy moth with pesticide.

Within those areas that received severe defoliation, winter egg mass surveys were performed in winter 2019, 2020, and 2021. A survey of new, healthy egg masses can help predict the expected gypsy moth population in the subsequent summer.

The 2019 egg mass survey indicated gypsy moth pressure was expected to remain high and treatment was recommended to protect tree health; particularly due to two consecutive years of significant tree defoliation. Subsequently, an aerial application of *Bacillus thuringiensis kurstaki* (BtK) was performed on May 28, 2019. Follow-up visual observation of gypsy moth populations indicated the BtK application had a moderate effect on caterpillars. As summer progressed, visual observations indicated a high presence of natural disease pressure on the gypsy moth population, leading to significant caterpillar mortality. By late summer, few emerging adults were visible compared to previous years.

The winter 2021 egg mass survey indicated that gypsy moth pressure within areas of concern are expected to be somewhat elevated and noticeable, but are not likely to significantly impact tree health (e.g. substantial defoliation). Since tree health is the trigger for treatment and tree health is unlikely to be impacted, **I do not recommend further treatment in 2021.**

I will continue to coordinate with City staff to review reports of gypsy moth activities and monitor and assess known population centers for at least one more year. If you have any questions or would like further information, please contact me by phone at 248-221-0439 or via email at lee.mueller@davey.com.



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Limited Warranty

Davey Resource Group, Inc. (“DRG”) provides this limited warranty (“Limited Warranty”) in connection with the provision of services by DRG (collectively the “Services”) under the agreement between the parties, including any bids, orders, contracts, or understandings between the parties (collectively the “Agreement”).

Notwithstanding anything to the contrary in the Agreement, this Limited Warranty will apply to all Services rendered by DRG and supersedes all other warranties in the Agreement and all other terms and conditions in the Agreement that conflict with the provisions of this Limited Warranty. Any terms or conditions contained in any other agreement, instrument, or document between the parties, or any document or communication from you, that in any way modifies the provisions in this Limited Warranty, will not modify this Limited Warranty nor be binding on the parties unless such terms and conditions are approved in a writing signed by both parties that specifically references this Limited Warranty.

Subject to the terms and conditions set forth in this Limited Warranty, for a period of ninety (90) days from the date Services are performed (the “Warranty Period”), DRG warrants to Customer that the Services will be performed in a timely, professional and workmanlike manner by qualified personnel.

To the extent the Services involve the evaluation or documentation (“Observational Data”) of trees, tree inventories, natural areas, wetlands and other water features, animal or plant species, or other subjects (collectively, “Subjects”), the Observational Data will pertain only to the specific point in time it is collected (the “Time of Collection”). DRG will not be responsible nor in any way liable for (a) any conditions not discoverable using the agreed upon means and methods used to perform the Services, (b) updating any Observational Data, (c) any changes in the Subjects after the Time of Collection (including, but not limited to, decay or damage by the elements, persons or implements; insect infestation; deterioration; or acts of God or nature [collectively, “Changes”]), (d) performing services that are in addition to or different from the originally agreed upon Services in response to Changes, or (e) any actions or inactions of you or any third party in connection with or in response to the Observational Data. If a visual inspection is utilized, visual inspection does not include aerial or subterranean inspection, testing, or analysis unless stated in the scope of work. DRG will not be liable for the discovery or identification of non-visually observable, latent, dormant, or hidden conditions or hazards, and does not guarantee that Subjects will be healthy or safe under all circumstances or for a specified period of time, or that remedial treatments will remedy a defect or condition.

To the extent you request DRG’s guidance on your permitting and license requirements, DRG’s guidance represents its recommendations based on its understanding of and experience in the industry and does not guarantee your compliance with any particular federal, state or local law, code or regulation.

DRG may review information provided by or on behalf of you, including, without limitation, paper and digital GIS databases, maps, and other information publicly available or other third-party records or conducted interviews (collectively, “Source Information”). DRG assumes the genuineness of all Source Information. DRG disclaims any liability for errors, omissions, or inaccuracies resulting from or contained in any Source Information.

If it is determined that DRG has breached this Limited Warranty, DRG will, in its reasonable discretion, either: (i) re-perform the defective part of the Services or (ii) credit or refund the fees paid for the defective part of the Services. **This remedy will be your sole and exclusive remedy and DRG’s entire liability for any breach of this Limited Warranty.** You will be deemed to have accepted all of the Services if written notice of an alleged breach of this Limited Warranty is not delivered to DRG prior to the expiration of the Warranty Period.

To the greatest extent permitted by law, except for this Limited Warranty, DRG makes no warranty whatsoever, including, without limitation, any warranty of merchantability or fitness for a particular purpose, whether express or implied, by law, course of dealing, course of performance, usage of trade or otherwise.