



VILLAGE OF LAKE ORION DOWNTOWN DEVELOPMENT AUTHORITY
21 East Church Street, Lake Orion, MI 48362

*The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, **the heart and hub of the Orion Community**, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents, and other stakeholders.*

AGENDA

REGULAR MEETING OF THE LAKE ORION DOWNTOWN DEVELOPMENT AUTHORITY BOARD OF DIRECTORS

Tuesday, February 21, 2023

6:30 PM

Lake Orion Village Hall Council Chambers

21 East Church Street

LAKE ORION, MI 48362

(248) 693-8391 ext. 102

ADDRESSING THE DDA BOARD: Each person wishing to address the DDA Board shall be afforded an opportunity to do so. If you wish to comment, please stand or raise a hand to indicate that you wish to speak. When recognized, give your name and address and direct your comments to the Chair.

I. Call to Order 6:30 PM

II. Roll Call and Determination of Quorum

III. Approval of Minutes

1. DDA Board Regular Meeting Minutes - January 17, 2023
2. DDA Board Special Meeting Minutes - February 7, 2023 @ 9:00 AM
3. DDA Board Special Meeting Minutes - February 7, 2023 @ 6:30 PM

IV. Presentation - Lake Orion Lumberyard Project Presentation

V. Call to the Public

VI. Consent Agenda

All items on the Consent Agenda are approved by one vote.

1. Director's Report
2. Committee Minutes & Workplan and Event Updates
3. Financial Reports

VII. Approval of Agenda

By order of the President/Chair, no matters will be discussed after 10:30 p.m., unless council/board/commission votes to continue the meeting.

VIII. Financial Matters

1. Bill Approval

IX. New and Old Business

1. Property Acquisition - Lake Orion Lumberyard Project
2. DDA Preliminary 2023-2024 Budget
3. Approval of Dumpster Enclosure Construction RFQ
4. Approval of In-Ground Crosswalk Lighting RFQ
5. LOLive! Music Series Contract
6. Parking Study Update

X. Reports, Resolutions and Recommendations

A. Executive Director

B. Village Manager

XI. Call to the Public

XII. Board Comments and Training Feedback

XIII. Next Regular Meeting - March 21, 2023

XIV. Adjournment

In the spirit of compliance with the Americans with Disabilities Act, individuals with a disability should feel free to contact the Village, at least three (3) business days in advance of the meeting, if requesting accommodations. The Village of Lake Orion will provide foreign language or hearing impaired interpretation services for those individuals who contact the village to request such services at least seven (7) days prior to the meeting.

En el espíritu de la observancia de la Ley de Estadounidenses con Discapacidades, las personas con discapacidad debe sentirse libre para ponerse en contacto con el pueblo, por lo menos tres (3) días hábiles de antelación a la fecha de la reunión, si se solicitan alojamiento. El municipio de Lake Orion proporcionará idioma extranjero o personas con problemas de audición servicios de interpretación para las personas que se ponen en contacto con el pueblo de solicitar dichos servicios con no menos de siete (7) días antes de la reunión.



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DDA Board Meeting

DATE: February 21, 2023
FROM: Susan Galeczka, Village Clerk
SUBJECT: DDA Board Regular Meeting Minutes - January 17, 2023

RECOMMENDED MOTION: To approve the Downtown Development Authority Board Regular meeting minutes of Tuesday January 17, 2023, as presented.

ATTACHMENT2023-01-17DDA Regular Minutes - draft



VILLAGE OF LAKE ORION DOWNTOWN DEVELOPMENT AUTHORITY
21 East Church Street, Lake Orion, MI 48362

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MINUTES

REGULAR MEETING OF THE LAKE ORION DOWNTOWN DEVELOPMENT AUTHORITY BOARD OF DIRECTORS

Tuesday, January 17, 2023

6:30 PM

Lake Orion Village Hall Council Chambers

21 East Church Street

LAKE ORION, MI 48362

(248) 693-8391 ext. 102

I. Call to Order

The Tuesday, January 17, 2023 Regular Meeting of the Lake Orion Downtown Development Authority Board of Directors was called to order in the Lake Orion Village Hall Council Chambers located at 21 East Church Street, Lake Orion, MI 48362 by Vice Chairperson Sam Caruso at 6:30 PM.

II. Roll Call and Determination of Quorum

Attendee Name	Organization	Title	Status	Arrived
Debbie Burgess	Village of Lake Orion	Chairperson	Excused	
Sam Caruso	Village of Lake Orion	Vice Chairperson	Present	
Matt Shell	Village of Lake Orion	Treasurer	Present	
Henry Lorant	Village of Lake Orion	Secretary	Present	
Chris Barnett	Village of Lake Orion	Board Member	Excused	
Alaina Campbell	Village of Lake Orion	Board Member	Present	
Lloyd Coe	Village of Lake Orion	Board Member	Present	
Sally Medina	Village of Lake Orion	Board Member	Excused	

STAFF PRESENT:

- Molly LaLone, DDA Executive Director
- Darwin McClary, Village Manager
- Susan C. Galeczka, Village Clerk

III. Approval of Minutes

1. DDA Board Regular Meeting Minutes - December 13, 2022
2. DDA Board Special Meeting Minutes - January 10, 2023

RESOLVED: To approve the Downtown Development Authority Board Special meeting minutes of December 13, 2022 as amended as follows: Page 1, Roll Call, Jerry Narsh, change Title from "Police Chief" to "President".

BE IT FURTHER RESOLVED: To approve the Downtown Development Authority Board special meeting minutes of January 10, 2023, as presented.

IV. Presentation -

Dave Burr, Senior Partner, Richman and Associates provided a preview of the parking study on the following:

- Study area
- Special conditions
- Land Use Assessment
- Parking Utilization Study
- Park and Demand Model
- Parking Types: Public, Shared, Private
- Parking supply - 2018 vs. 2022
- Handicap spaces assessment
- 2018 vs 2022 Occupancy Results
- Projection of Future Conditions: 3 years and 5 years
- Summary - Net Occupancy Comparison

Mr. Burr reviewed their findings of the study as follows:

1. Parking supply exceeds the demands. +
2. Effective occupancy exceeds 85% within 3-5 years. -
3. Public Parking Supply Exceeds best practices benchmarks (60%) +
4. Handicap accessible parking is adequate. +
5. Signage for Public parking and directional signs are adequate. +
6. Pedestrian Enhancements such as benches are adequate. +
7. Bike Racks could be improved. -
8. Violation Rate is low. -

Mr. Burr reviewed his recommendations regarding:

- Parking enhancements
- Signage
- Parking supply increase - more spaces and more efficient use of spaces

- Parking maintenance - Parking Lot Sinking Fund
- Zoning Ordinance impact
- Special Event Plan.

Ken Van Portfliet, S. Andrews, noted that Map did not show the shared lots with Dr. Caruso, the Methodist Church and the Lumber Yard. He concurred with Board Member Campbell that the Village will be out of parking sooner than 2 years.

V. Call to the Public

Scott Gabriel, Joslyn Rd., stated that if the DDA is dissolved the money the DDA currently receives from Orion Township, Oakland County and other taxing entities will go back to these entities and not to the Village. He also noted that the Lumber Yard Property is zoned multiple; Therefore, if the DDA gets the property it will have exemplary control. If the DDA does not get the property, a developer could put a large multiple development on the property.

VI. Consent Agenda

All items on the Consent Agenda are approved by one vote.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Henry Lorant, Secretary
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

1. DDA Roster

RESOLVED: To receive and file the 2023 DDA Roster.

2. Director's Report

RESOLVED: To receive and file the January 2023 DDA Executive Director's Report.

3. Committee Minutes & Workplan and Event Updates

RESOLVED: To receive and File the Committee Meeting Minutes & Event updates.

4. Annual Audit Presentation - FY 2020-2021

RESOLVED: To receive and file the DDA's Annual Audit Report for FY 2021-2022.

5. Financial Reports

RESOLVED: To Receive and file the December 2022, the Revenue and Expenditure sheet and the December 2022 and Balance Sheet.

VII. Approval of Agenda

1. **Motion to** add Agenda to add the "Lake Orion Lumberyard Project - Phase II Environmental invoice.as item IX.3 to the Tuesday, January 17, 2023 DDA Regular Meeting Agenda

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Henry Lorant, Secretary
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

2. **Motion to** approve the Tuesday, January 17, 2023 regular meeting Agenda as amended adding Agenda Item IX.3 - The Lake Orion Lumberyard Project Phase II Environmental Invoice.

RESULT:	APPROVED AS AMENDED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Henry Lorant, Secretary
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

VIII. Financial Matters

1. Bill Approval

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Alaina Campbell, Board Member
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

RESOLVED: To approve disbursements in the amount of \$30,817.61 for December 2022.

2. Budget Adjustment - Trolley Maintenance

DDA Executive Director LaLone stated that Oxford DDA requested Lake Orion DDA create a Trolley maintenance fund. The trolley went up for auction and Oxford DDA is hoping to win the auction and become owners of the trolley. She stated that as part of the partnership, Lake Orion DDA Board voted to approve the creation of a trolley maintenance fund. The request was for \$5,000. Funds leftover from the sponsor nearly cover this expense. Therefore, the Board will revisit this in August.

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RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Lloyd Coe, Board Member
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

RESOLVED: To receive and file the budget adjustment information for the Trolley Maintenance.

3. Main Street Now Conference Attendee Request

DDA Executive Director LaLone stated that the Main Street Now Conference is a National Conference hosted by National Main Street Center for downtown stakeholders to network and learn from their peers from all over the country. This year the conference is March 26-29, 2023 in Boston MA. She is requesting the Board to authorize herself and Township Supervisor Barnett as attendees to the 2023 Main Street Now Conference and authorize total expenses not to exceed \$4,500 for registration and travel expenses.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Henry Lorant, Secretary
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

RESOLVED: To authorize Director LaLone and Township Supervisor Barnett as attendees to the 2023 Main Street Now Conference and authorize total expenses not to exceed \$4,500 for registration and travel expenses.

4. DDA Preliminary 2023-2024 Budget

DDA Executive Director LaLone reviewed the tentative Budget Workshop Schedule, noting the Tuesday, January 31st meeting needs to be rescheduled.

Tentative Budget Workshop Schedule: is as follows.

- Tuesday, Jan 31st, 6:30pm
- Tuesday, Feb 7th, 6:30pm (after Main Street evaluation day dinner)
- Monday, Feb 13th, 6:30pm - Bond request workshop, 7:30pm - Bond request VLO Council
- Thursday Feb 16th, 6:30pm
- Recommendation to VLO: Feb 21, 2023 Regular DDA Meeting
- Budget Due to VLO: Feb 24, 2023

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Regular Meeting, Tuesday, January 17, 2023

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RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Henry Lorant, Secretary
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

RESOLVED: To approve the 2023-24 tentative Budget Workshop Schedule as follows:

- Reschedule Tuesday, Jan 31st, 6:30 PM to a future date to be determined
- Tuesday, Feb 13th, 6:30pm (after Main Street Evaluation Day dinner)
- Monday, Feb 13th,
 - 6:30pm - bond request workshop,
 - 7:30pm - Bond request Village of Lake Orion Council
- Thursday Feb 16th, 6:30pm
- Tuesday, Feb 21, 2023 Regular DDA Meeting Recommendation to Village of Lake Orion Council
- Friday, Feb 24, 2023 Budget Due to Village of Lake Orion:

IX. New and Old Business

1. Staffing Approval - Administrative Coordinator

DDA Executive Director LaLone noting Diane Kochis' credentials and experience, she requested the Board authorize hiring her as the DDA's Administrative Coordinator at \$20/hour for up to 32 hours per week starting immediately.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Henry Lorant, Secretary
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

RESOLVED: To concur with the recommendation of the Board Chair and the Executive Director to hire Diane Kochis as the Administrative Coordinator for up to 32 hours per week at \$20 hourly.

2. Lake Orion Lumberyard Project Priorities

DDA Executive Director LaLone reviewed the draft Mission and Goals Statement for the Lumber Yard Project based on up the results of the Design Charrette held on October 27, 2022 and priorities workshop held on January 10, 2023.

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RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Henry Lorant, Secretary
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

RESOLVED: To approve the revised the mission and goals statement for the Lake Orion Lumberyard project based upon the results of the Design Charrette held October 27, 2022 and priorities workshop held January 10, 2023, as follows:

The **Lake Orion Lumberyard Project** will create a gateway space on the south end of the downtown that

- Honors the character of the community,
- Provides more parking for the downtown,
- Is balanced by pedestrian and event friendly amenities, and
- Improves the safety and ease of accessibility (Entrances & Exits) to the corner of Atwater and M24

It will be a legacy for future Lake Orion Stakeholders, focusing on

- Enhancing Meeks Park and the Paint Creek Trail,
- Adding some commercial and high-end residential buildings, and
- A multi-purpose event space with a flexible, open design

The Lake Orion DDA has requested support from the Village of Lake Orion Council for a \$5 million dollar bond. After purchase, the DDA will use the remaining funds to

- Address environmental issues present on the property and
- Build a foundational infrastructure on the property from which to build upon

The DDA will Invest in a multi-phase plan which clearly identifies parameters for all amenities.

The DDA will augment their funding for this project by seeking private and public partners who can help achieve the vision for the Lake Orion Lumberyard Project.

Response Comments Made in Public and Village Council Regarding Lake Orion Lumber Project.

DDA Executive Director LaLone stated that have been some statements made by the public and Village Council regarding the Lumber Yard Project. She suggested the Board authorize the DDA Attorney to draft a memorandum to the DDA Board in response to the statements made by the public and Council.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Alaina Campbell, Board Member
SECONDER:	Matt Shell, Treasurer
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

RESOLVED: To direct the DDA Attorney to create a memorandum to the DDA Board addressing statements made in public and Village Council regarding the Lumber Yard Project.

3. The Lake Orion Lumberyard Project - Phase II Env Invoice

DDA Attorney provided an overview of the results of the Phase I Environmental assessment, noting some contamination was found. He indicated that based on what was found on the property, the property will be qualified as a "Facility" by the State of Michigan. A "Facility" is under the BDA Process.

DDA Attorney stated that based on the Phase 1 Assessment, a Phase 2 Assessment will be needed. He noted some impacts will be found. Some contamination has been found in the soil that is beyond the generic level. There is not a significant impact with the ground water. This will provide the information to the DDA as to what we have on the property and where. This information may lay out hurdles to development, but the DDA can look strategically at the contamination to determine how it can lay out the development.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Lloyd Coe, Board Member
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

RESOLVED: To authorize payment of AKT Peerless invoice 69323 for Phase II environmental testing at 215 S. Broadway not to exceed \$10,769.45 from 248-730-975-006, Capital Outlay - Parking

X. Reports, Resolutions and Recommendations

A. Executive Director

1. Training Opportunities

DDA Executive Director LaLone noted that the Village of Lake Orion Development Training Strategy for January is regarding Capital Improvement Plans and a guide has been provided to Board members.

2. Annual Year End Main Street Evaluation Schedule
3. DDA Executive Director Report

DDA Executive Director LaLone reported on the following:

- Electrical Vehicle
 - Have been installed; bollards will need to be added.
 - Software needs to be activated.
 - Committee will need to be formed to review and recommend electrical charging station use fees.
- Sponsors reception will be on Thursday at 313 Pizza
- Local Art Contest is going on right now. There is a weekly judging and awards.
- Ice Fest will start February 2. Thanked sponsors. Noted 17 ice carvings will be out through this event. Trolley will be running for this event.
- Trolley went out for public auction and was purchased by Oxford. It will be going to the mechanic for repair.
- Thanked Linda Crane, member of the Design Committee, who has volunteered to work in the DDA office during the Administrative Coordinator position has been open.
- Welcome Dian Kochis as the Administrative Coordinator for the DDA.
- Main Street Annual Evaluation will be held on February 7th.
- Packet items
 - Page 49 - The Mission Statement for the DDA. Changes need to be made to the Statement.
 - Page 51 - A reference guide for economic strategies, which could be adopted by the Organization Committee.
 - Page 21 - DDA Updated Roster
 - Page 131- Main Street Evaluation Agenda
 - Page 38 - All upcoming Board meetings
 - Page 94 - All budget work shops

B. Village Manager

1. Village Manager McClary reported on the following:
 - He and DDA Executive Director LaLone are working together to get a meeting set up with the Bound Council and Financial Advisors to discuss the DDA Bonds.
 - Provided a status report on the Petitions regarding the DDA.

XI. Call to the Public

Let the record show no public comments were received.

XII. Closed Session**XIII. Board Comments and Training Feedback**

Board Members welcomed the new Village President, Jerry Narsh.

Board Member Narsh stated it is great to be part of this team of volunteers, noting he is proud of the Downtown's success.

Board Member Lorant stated that the DDA is going in the right direction.

Board Member Shell thanked DDA Executive Director LaLone, Administrative Coordinator Suzie and Diane.

Board Member Campbell referencing a statement she read, noted all to see where we were and where we are today. The Downtown is on the right track.

XIV. Upcoming Meetings

Vice Chairperson Caruso noted the upcoming meetings:

- February 7 - Main Street Evaluation
- Feb 13 - Joint Work Session with Council and Village Council Regular meeting
- February 21 Regular Meeting

XV. Adjournment

Motion to adjourn the Tuesday, January 17, 2023 Downtown Development Authority Regular Meeting.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Matt Shell, Treasurer
SECONDER:	Henry Lorant, Secretary
AYES:	Caruso, Shell, Lorant, Campbell, Coe
EXCUSED:	Debbie Burgess, Chris Barnett, Sally Medina

The January 17, 2023 regular meeting of the Downtown Development Authority Board adjourned at 8:21 PM.

Dr. Sam Caruso
Vice Chairperson

Susan C. Galezcka, CMC MiPMC
Village Clerk

Date Approved: _____



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DDA Board Meeting

DATE: February 21, 2023
FROM: Susan Galeczka, Village Clerk
SUBJECT: DDA Board Special Meeting Minutes - February 7, 2023 @ 9:00 AM

RECOMMENDED MOTION: To approve the Downtown Development Authority Board Special meeting minutes of Tuesday February 7, 2023 @ 9:00 AM, as presented.

ATTACHMENT 2023-02-07 @ 9:00 AM DDA Special Meeting Minutes - draft



VILLAGE OF LAKE ORION DOWNTOWN DEVELOPMENT AUTHORITY
21 East Church Street, Lake Orion, MI 48362

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MINUTES

SPECIAL MEETING OF THE LAKE ORION DOWNTOWN DEVELOPMENT AUTHORITY BOARD OF DIRECTORS

Tuesday, February 7, 2023

9:00 AM

Lake Orion Village Hall Council Chambers
21 East Church Street
LAKE ORION, MI 48362
(248) 693-8391 ext. 102

I. Call to Order

The Tuesday, February 7, 2023 Special Meeting of the Lake Orion Downtown Development Authority Board of Directors was called to order in the Lake Orion Village Hall Council Chambers located at 21 East Church Street, Lake Orion, MI 48362 by Vice Chairperson Sam Caruso at 9:00 AM.

II. Roll Call and Determination of Quorum

Attendee Name	Organization	Title	Status	Arrived
Debbie Burgess	Village of Lake Orion	Chairperson	Excused	
Sam Caruso	Village of Lake Orion	Vice Chairperson	Present	
Matt Shell	Village of Lake Orion	Treasurer	Excused	
Henry Lorant	Village of Lake Orion	Secretary	Present	
Chris Barnett	Village of Lake Orion	Board Member	Present	9:34 AM
Alaina Campbell	Village of Lake Orion	Board Member	Present	
Lloyd Coe	Village of Lake Orion	Board Member	Present	
Sally Medina	Village of Lake Orion	Board Member	Absent	
Jerry Narsh	Village of Lake Orion	President	Present	

Village Council Members Present: Teresa Rutt, President Pro Tem

Staff Present:

- Molly LaLone, DDA Executive Director
- Diane Kochis, Administrative Coordinator
- Suzy Sebastian, Events Coordinator

Others Present:

- Jackie Swihart, Main Street America
- Anaka Norris, Main Street Oakland County
- John Bry, Main Street Oakland County
- George Venetis, Main Street Oakland County
- Erick Phillips, Main Street Oakland County
- Tim Colbuck, Main Street Oakland County (entered at 9:29 AM)

III. Statement by Chairperson or Vice Chairperson - Purpose of Meeting

Vice Chairperson Caruso stated the purpose of the Special meeting is to conduct the Annual Year-End Main Street Evaluation.

IV. Public Comments

Let the Record Show no public comments were received.

V. Items for Consideration

1. Annual Year End Main Street Evaluation Schedule

Jackie Swihart, Program Officer for Revitalization Services, Main Street America and Tim Colbeck, Senior Planner, Oakland Council conducted the evaluation of Lake Orion DDA Main Street program for accreditation. Lake Orion has been accredited since 2006.

The Main Street Community Assessment Visit included the following objectives:

1. Determined the progress the program has made to meet or maintain the current Main Street America Assessment Criteria.
2. Introduced the new Main Street America Standards and important steps for becoming familiar and start aligning this more holistic framework.
3. Recognized strengths and celebrate the growth and accomplishments of the past year.
4. Identified needs, trends and obstacles that might challenge the district and the program's efforts.
5. Determined technical assistance and services that can continue to grow and sustain the local Main Street Program.

The Main Street Community Assessment Visit consisted of the following:

- 9:00 AM - 12:00 Noon: Introductory meeting with the Board of Directors, Committees, staff and other Main Street leaders
 - Overview of new Accreditation Standards for Main Street America
 - Main Street American overview on how the Program meets current Main

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Special Meeting, Tuesday, February 7, 2023
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Street Accreditation Criteria and expectations based on Program's self-assessment.

- Opportunity for the Main Street Board to highlight the organization's direction for the past year and its priorities for 2023.

12:00 PM to 1:30 PM recess for lunch

- 1:30 PM - 2:30 PM: Community Tour
- 2:30 PM - 4:30 PM: Stakeholder Meeting
 - Downtown business and building owners, residents, and representatives of organizations with a presence in downtown to meet the team and share their perspectives on the local economic environment and value of the Main Street program
 - Village leaders and staff to highlight the Village's vision and support to the district's revitalization and the Main Street program.

VI. Adjournment

The Main Street Evaluation meetings adjourned at 4:30 PM.

Dr. Sam Caruso
Vice Chairperson

Susan C. Galeczka, CMC MiPMC
Village Clerk

Date Approved:

DRAFT

Attachment: 2023-02-07 DDA Spec Mtg 9 AM Draft (5709 : 2023-02-07 9:00 AM DDA Board Spec Mtg Minutes - Draft)



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DDA Board Meeting

DATE: February 21, 2023
FROM: Susan Galeczka, Village Clerk
SUBJECT: DDA Board Special Meeting Minutes - February 7, 2023 @ 6:30 PM

RECOMMENDED MOTION: To approve the Downtown Development Authority Board Special meeting minutes of Tuesday February 7, 2023 @ 6:30 PM as presented.

ATTACHMENT 2023-02-07 @ 6:30 PM DDA Special Meeting Minutes - draft



VILLAGE OF LAKE ORION DOWNTOWN DEVELOPMENT AUTHORITY
45 W. Flint Street, Lake Orion, MI 48362

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MINUTES

SPECIAL MEETING OF THE LAKE ORION DOWNTOWN DEVELOPMENT AUTHORITY BOARD OF DIRECTORS

Tuesday, February 7, 2023

6:30 PM

Anita's Kitchen
45 W. Flint Street
LAKE ORION, MI 48362
(248) 693-8391 ext. 102

I. Call to Order

The Tuesday, February 7, 2023 Special Meeting of the Lake Orion Downtown Development Authority Board of Directors was called to order in the Anita's Kitchen located at 45 W. Flint Street, Lake Orion, MI 48362 by Vice Chairperson Sam Caruso at 6:43 PM.

II. Roll Call and Determination of Quorum

Attendee Name	Organization	Title	Status	Arrived
Debbie Burgess	Village of Lake Orion	Chairperson	Excused	
Sam Caruso	Village of Lake Orion	Vice Chairperson	Present	
Matt Shell	Village of Lake Orion	Treasurer	Excused	
Henry Lorant	Village of Lake Orion	Secretary	Present	
Chris Barnett	Village of Lake Orion	Board Member	Absent	6:43 PM
Alaina Campbell	Village of Lake Orion	Board Member	Present	
Lloyd Coe	Village of Lake Orion	Board Member	Present	
Sally Medina	Village of Lake Orion	Board Member	Absent	
Jerry Narsh	Village of Lake Orion	President	Excused	

STAFF PRESENT:

- Molly LaLone, DDA Executive Director

III. Statement by Chairperson or Vice-Chairperson Purpose of Meeting

Vice Chairperson Caruso stated the purpose of the meeting is to discuss fiscal year 2023-2024 budget and make financial decisions.

IV. Public Comment**V. Items for Consideration**

1. Bill Approval - E/V Charging Station Bollards

DDA Executive Director LaLone stated this request is to approve the installation of Bollards to protect the EV Charging Stations. She recommended approval of contract to DG Energy for purchase and installation of safety bollards at the EV Charging Station site in Children's Park, not to exceed \$2,240 from 248-730-975-000.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Alaina Campbell, Board Member
SECONDER:	Henry Lorant, Secretary
AYES:	Caruso, Lorant, Barnett, Campbell, Coe
ABSENT:	Sally Medina
EXCUSED:	Debbie Burgess, Matt Shell, Jerry Narsh

RESOLVED: To approve payment of contract to DG Energy for purchase and installation of safety bollards at the EV Charging Station site in Children's Park, not to exceed \$2,240 from 248-730-975-000.

2. Bill Approval - Baseline Environmental Report

DDA Executive Director LaLone stated this request is part of the Due Diligence for the Lumber Yard property. She noted the BEA is a document which will protect the DDA from being held responsible for future discoveries of contamination related to what is listed in the report. In addition, the Conceptual Costs report will help guide the Board in future decisions regarding the site plan for this property.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Chris Barnett, Board Member
SECONDER:	Alaina Campbell, Board Member
AYES:	Sam Caruso, Henry Lorant, Alaina Campbell, Lloyd Coe
ABSENT:	Chris Barnett, Sally Medina
EXCUSED:	Debbie Burgess, Matt Shell, Jerry Narsh

RESOLVED: To approve a payment of contract to AKT Peerless not to exceed \$5,000 from 248-730-975-006 DDA Capital Outlay.

Village of Lake Orion Downtown Development Authority Board of Directors Minutes

Special Meeting, Tuesday, February 7, 2023

Page 3 of 3

3. DDA Preliminary 2023-2024 Budget

The DDA Board reviewed and discussed the 2023-2024 preliminary budget.

RESULT:	ADOPTED [UNANIMOUS]
SECONDER:	Chris Barnett, Alaina Campbell
AYES:	Sam Caruso, Henry Lorant, Alaina Campbell, Lloyd Coe
ABSENT:	Chris Barnett, Sally Medina
EXCUSED:	Debbie Burgess, Matt Shell, Jerry Narsh

RESOLVED: To receive and file the 2023-2024 preliminary budget.

VI. Adjournment

Motion to adjourn the Tuesday, February 7, 2023 special meeting of the Downtown Development Authority Board.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Chris Barnett, Board Member
SECONDER:	Sam Caruso, Vice Chairperson
AYES:	Sam Caruso, Henry Lorant, Alaina Campbell, Lloyd Coe
ABSENT:	Chris Barnett, Sally Medina
EXCUSED:	Debbie Burgess, Matt Shell, Jerry Narsh

1. The Tuesday, February 7, 2023 Special meeting of the Downtown Development Authority Board adjourned at 8:00 PM.

Dr. Sam Caruso
Chairperson

Susan C. Galeczka, CMC MiPMC
Village Clerk

Date Approved: _____



The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023
FROM: Molly LaLone, DDA Executive Director
SUBJECT: Director's Report

Attached: Director's Report

Recommended Motion: To receive and file the Director's Report

SHOPPING SMALL & LOCAL

DOWNTOWN LAKE ORION



#LocalGemOC

f t @AdvantageOak

DIRECTOR'S REPORT

FEBRUARY 2023

Prepared by Molly LaLone, Executive Director

Packet Pg. 23

2022-23 PRIORITIES

As of September 13, 2022

1. DUMPSTER ENCLOSURE - ON HOLD

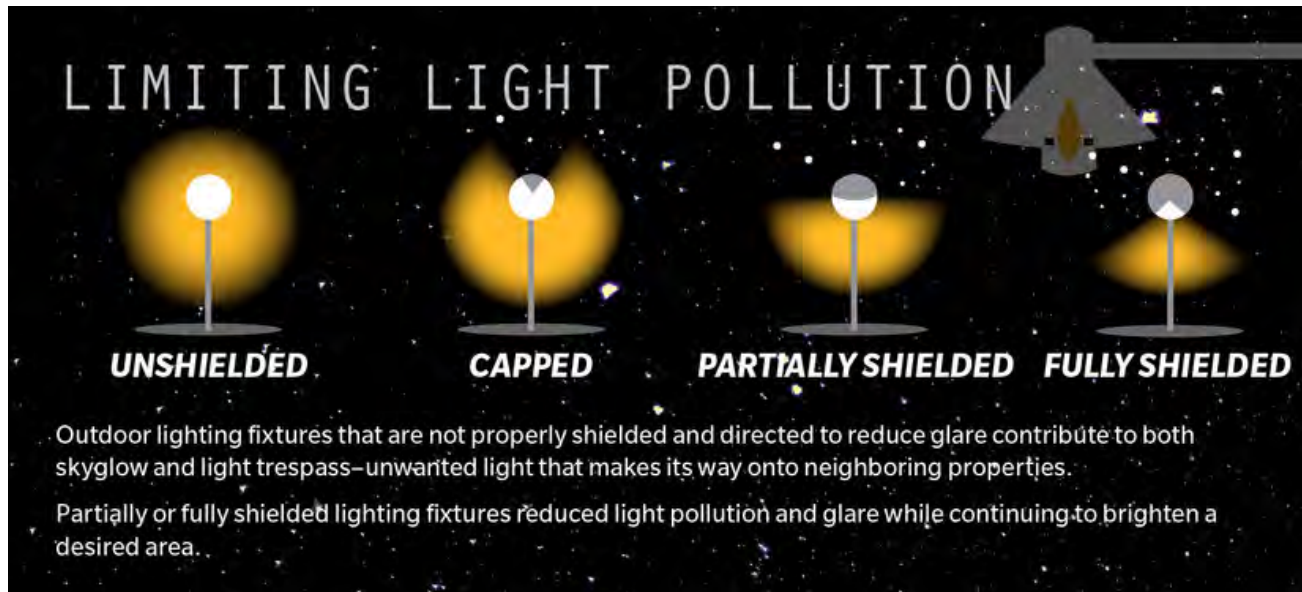
2. DOWNTOWN LIGHTING - COMPLETED NOVEMBER 2022

3. GAZEBO ELECTRICAL IMPROVEMENTS - COMPLETED JULY 2022

4. PARKING - E/V CHARGING STATIONS - IN PROCESS

5. PROPERTY AQUISITION - DUE DILIGENCE PHASE

DOWNTOWN LIGHTING - COMPLETE



PLAN OVERVIEW

Budget: \$75,000

Location: Entire Downtown Area

Challenges: Brighter lighting while achieving dark sky compliance in a lamppost which is not designed to be dark sky-compliant.

Implementation: Fiscal year 2022-2023

Action: At the October 11, 2022 regular meeting, the DDA Board hired Helm Electric to retrofit and install dark sky-compliant lighting. The only lampposts currently retrofitted with screw-in posts are on M-24 and in Meeks Park. The rest of the lampposts are direct wired and will be retrofit.

November 2022: Lamppost retrofit began mid-November and is expected to be finished before the end of November. The lights are dark sky compliant which means they are a different color and directed downwards. Although they do not appear as bright, they cast more light on the sidewalk and between lampposts than our previous lights did.

December 2022: Project complete. The only lampposts not changed are those on M-24. They are already retrofit and the bulbs can be replaced as needed from the new bulbs stocked in DPW. Design Committee completed a nighttime walk-through to be sure all the lampposts were working properly. Light Tests during the walk-through indicate that the light between lampposts is 3 times improved over what we had previously.

January 2023: The Design Committee created a Facebook Live to talk about the dark sky lighting project.

PROPERTY ACQUISITION

PLAN OVERVIEW

Budget: \$2.4M

Location: Lake Orion Lumberyard

Due Diligence ends: February 19, 2023

Goals and objectives: updated by DDA Board, Jan 17, 2023

Environmental Phase I report showed six areas of concern that warranted further investigation. DDA Board ordered the Phase II report at November DDA Regular Meeting after discussion with legal counsel in closed session.

Environment Phase II: Results reported by Legal Counsel, Jan 17th. BEA has been requested. Waiting for the final Phase II report.

October 2022: DDA Board to passed a resolution pledging to pay bond with TIF revenues. Village Council watched a presentation about issuing the bond by Bendzinski bond team and J. Aronoff, Miller Canfield.

Design Charette, October 27th, 5pm - 7pm attended by approximately 50pp for an interactive program to get public participation regarding the future of Downtown Lake Orion.

November 2022: Results of the Design Charette presented to DDA board by AKA Architects. DDA Board Requested a workshop in order to revise the project priorities to reflect feedback from Charette. Workshop to be scheduled in January 2023.

December 2023 - Grants: We can not apply for grants for this project until we own the property.

- Dominic Romano, MEDC, requests plans so he can keep us informed of upcoming funding opportunities.
- John Bry and Ron Campbell, MSOC, have met with Lake Orion residents regarding historic preservation as part of this project.

Project Priorities Workshop: Jan 10, 2023 See next page for Mission Statement created during this workshop.

February 2023: Workshop prior to regular Village Council Meeting on February 13. The DDA needs the Village council's approval in order to purchase the property.

PROPERTY ACQUISITION

MISSION STATEMENT

Budget: \$2.4M

Location: Lake Orion Lumberyard

Due Diligence ends: February 19, 2023

Goals and objectives: updated by DDA Board, Jan 17, 2023

The Lake Orion Lumberyard Project will create a gateway space on the south end of the downtown that

- honors the character of the community,
- provides more parking for the downtown,
- is balanced by pedestrian and event-friendly amenities, and
- improves the safety and ease of accessibility (Entrances & Exits) to the corner of Atwater and M24

It will be a legacy for future Lake Orion Stakeholders; focusing on

- enhancing Meeks Park and the Paint Creek Trail,
- adding some commercial and high-end residential buildings, and
- a multi-purpose event space with a flexible, open design

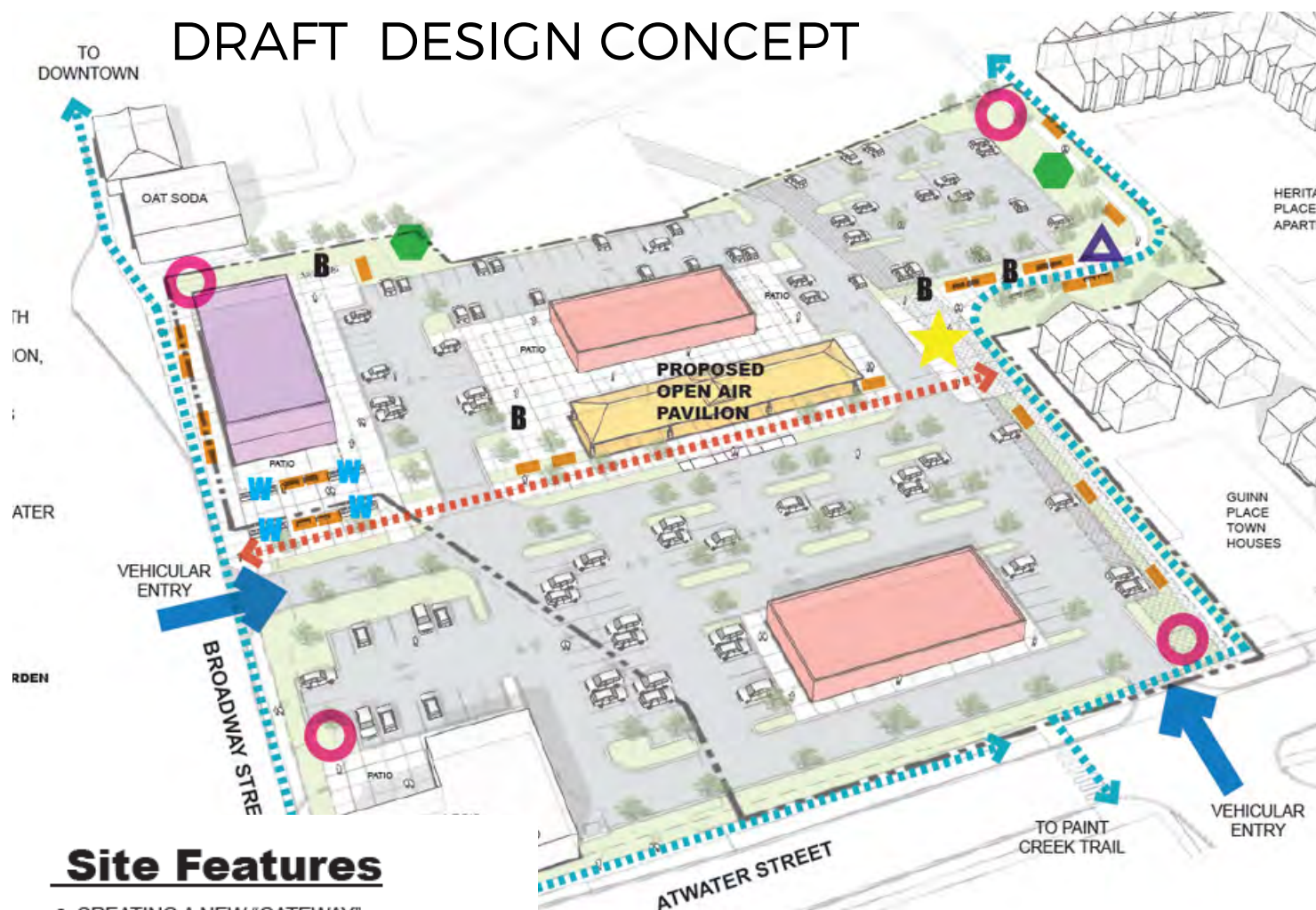
The Lake Orion DDA has requested support from the Village of Lake Orion Council for a \$5 million dollar bond. After purchase, the DDA will use the remaining funds to

- Address environmental issues present on the property and
- Build a foundational infrastructure on the property from which to build upon

The DDA will Invest in a multi-phase plan which clearly identifies parameters for all amenities.

The DDA will augment their funding for this project by seeking private and public partners who can help achieve the vision for the Lake Orion Lumberyard Project.

DRAFT DESIGN CONCEPT



Site Features

- CREATING A NEW "GATEWAY" TO DOWNTOWN LAKE ORION
- PROPOSED MULTIUSE EVENT PAVILION
- MAINTAIN EXISTING ATWATER TRAIL LOCATION|ADD LANDING PAD PLAZA AREA WITH BIKE RACKS, BIKE REPAIR KIOSK, SEATING, AND EVENT SPACE FOR STARTING/FINISH LINES
- STRENGTHEN THE CONNECTION TO THE PAINT CREEK TRAIL AND REINFORCE DOWNTOWN LAKE ORION AS A TRAIL WAY DESTINATION WITH ADDITION OF NEW TRAIL PLAZA WITH SEATING PUBLIC ART, BIKE REPAIR STATION, BIKE RACKS, LANDSCAPE.
- PROPOSED PUBLIC ART OPPORTUNITIES
- PROPOSED BUTTERFLY GARDEN OR COMMUNITY GARDEN OPPORTUNITY
- PROPOSED PLAZA WITH SEATING AND WATER FEATURE

Legend

- | | | | |
|--|-------------------------------------|--|---------------------------|
| | PROPOSED PUBLIC ART | | |
| | PROPOSED BUTTERFLY/COMMUNITY GARDEN | | |
| | PROPOSED WATER FEATURES | | |
| | PROPOSED TRAIL PLAZA EVENT SPACE | | |
| | PROPOSED SEATING AREAS | | |
| | PROPOSED BIKE REPAIR KIOSK | | |
| | PROPOSED BIKE RACKS | | |
| | EXISTING PEDESTRIAN ACCESS | | PROPOSED VEHICULAR ACCESS |
| | PROPOSED PEDESTRIAN ACCESS | | |

Organization

February 15 11:30am DDA Office

Economic Vitality

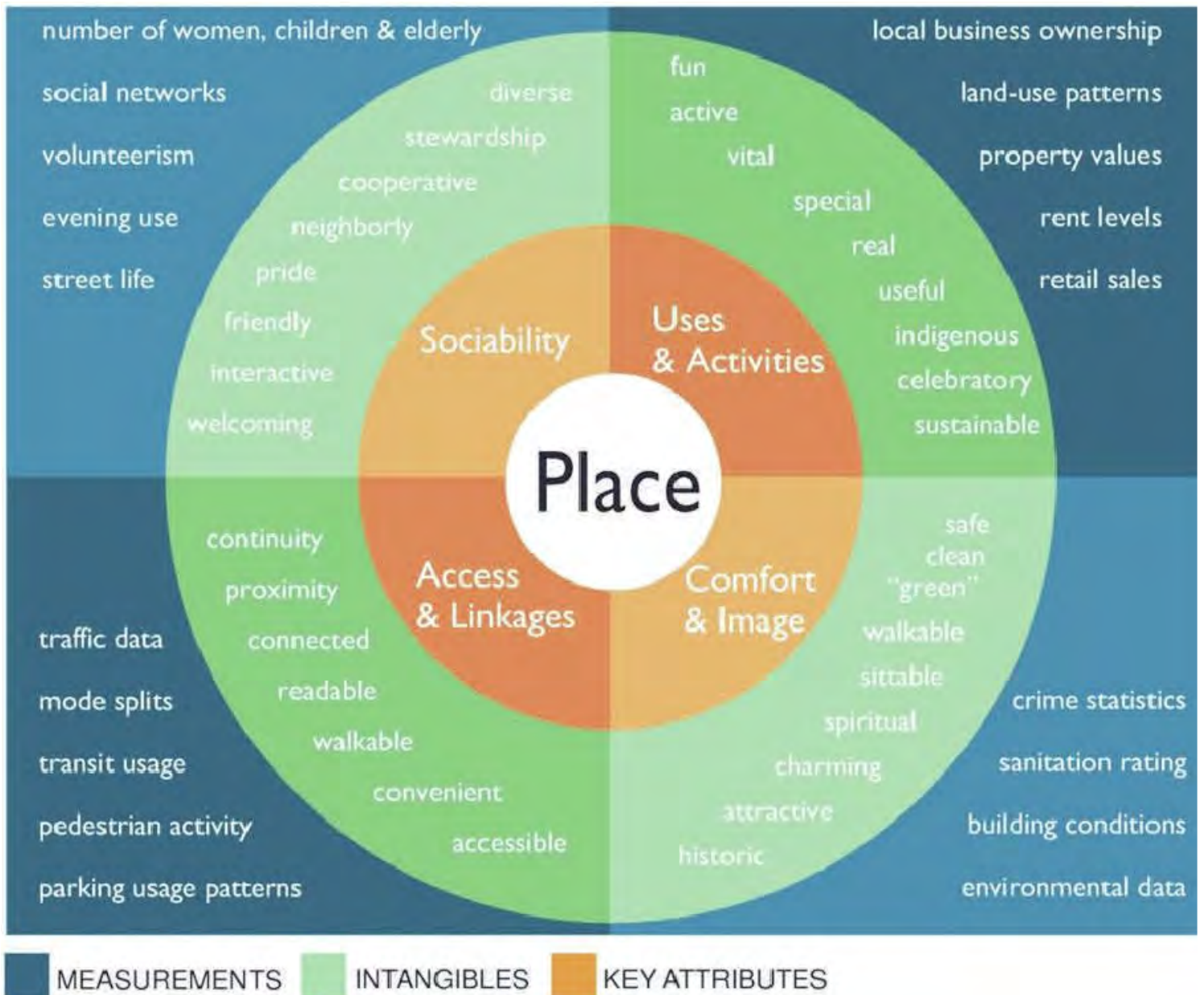
February 24 1pm EXP Realty - Lake Orion

Promotions

twice monthly virtual, Tuesdays 11am

Design

February 13, 2023 2:30pm Virtual (Google Meet)



From Public Spaces Community Places about Placemaking

Attachment: February 2023 Director Report reduced (5695 : Director's Report)

EV CHARGING STATIONS

Budget: \$15,000 each 2021-2022 and 2022-2023 fiscal years

Location: Children's Park

Implementation: 2022-2023, within 90 days of rebate acceptance pending receipt of equipment

Update April 2022: Site visit on April 28th with contractor and electrician to identify potential sites around town for chargers.

Update May 2022: \$10,000 rebate for two charging stations each with two ports to be placed in Children's Park parking lot along Anderson street near the existing power panels. Must be installed within 90 days in order to receive rebates, can be moved if deck is placed at Children's Park Parking lot.

Update June 2022: MidCour Charging Stations approved by DDA Board, Deposit made.

Update July 2022: Equipment has been ordered. McKenna (Village planners) have reviewed this project administratively.

Update Aug/Sept 2022: Equipment is arriving, tentatively scheduled for installation mid-September.

Update October 2022: Expected in beginning of November - still not here. Will be delivered to DPW Garage.

Update December 2022: installation begins!

January 2023: Software installation and finishing up equipment installation. DDA Board formed a committee for final details such as branding and how DDA will charge.



GAZEBO ELECTRICAL IMPROVEMENTS - COMPLETE

PLAN OVERVIEW

Budget: \$5,000

Location: Children's Park Gazebo

Goal: To enhance Gazebo as a performance stage and to repair all broken electrical

DPW Partnership, no RFQ

Implementation: Fiscal year 2022-2023

PARKING STUDY UPDATE - COMPLETE

Attachment: February 2023 Director Report reduced (5695 : Director's Report)

ECONOMIC VITALITY COMMITTEE VISION STATEMENT



The Economic Vitality Committee is dedicated to preserving the historic character and family-friendly atmosphere of our community, while strengthening The Village of Lake Orion's role as the Lakeside Hub of Dining, Outdoor Recreation, and Live Music in North Oakland County.



ORGANIZATION COMMITTEE

BUSINESS SUMMIT - RESCHEDULED

Purpose is to welcome new and returning legislators, provide a tour of the downtown area and to give business owners and property owners the opportunity to talk to elected officials and political candidates about issues that are important to them and other business owners.

:May 11, 2023: Partnering with Orion Area Chamber of Commerce

VISION STATEMENT - FOR REVIEW

Purpose is to update Vision to include upcoming projects and the economic development strategies the DDA is focusing on. the vision was last updated March 2011.

The inclusion of economic development strategies is a new Main Street America Accreditation requirement. The request is for 1-2 strategies and an action plan for achieving them that is written into the vision.

The Organization committee has identified three potential economic development strategies that the committee recommends the DDA Board consider for adoption. they are:

- Arts and Entertainment: For programs wanting to support an arts or entertainment-focused environment within the downtown district.
- Transportation and Pedestrian Experience: For addressing the downtown district's mobility needs for both tourists and residents alike.
- Ecotourism and Recreation Economy: For focusing on the built environment and recreational activities currently driving tourism for the local economy.

ORGANIZATION COMMITTEE

CAMPAIGN FOR MAIN STREET

118 N. Broadway, Lake Orion
MI 48362

GET THE FACTS

www.downtownlakeorion.org

LAKE ORION STANDS TO LOSE HALF MILLION ANNUALLY

THE REAL IMPACT OF "DEFUNDING" THE DDA



"Enter the Dragon" mural features scenes from Lake Orion's Lakeshore reflected in the dragon's eye

LET'S WORK TOGETHER

The Lake Orion Downtown Development Authority partners with other local organizations for the benefit of businesses, customers, and residents! Here are examples:

1. "Enter the Dragon" Mural
 - Orion Art Center
 - Detroit Institute of Art
 - property owners Jeff Schmitz and Dia Zaraga
2. "A Moment in Time" history signs and videos
 - Orion Historical Society
 - TimeShift America
3. Childrens playscape renovations
 - Friends of Village Parks
 - T-Mobile
4. #StrongerTogether Downtown Trolley Express and events
 - Oxford DDA
 - LIV
 - Yatooma Family
5. Downtown Scavenger Hunt app
 - Main Street Oakland County
 - Flagstar Bank

WILL YOUR TAXES GO DOWN? NOOOOOO!

DOES THE COMMUNITY STAND TO LOSE MONEY? YES!

If the Village of Lake Orion decides to "defund" the Lake Orion Downtown Development Authority (DDA), Taxes currently received and reinvested in the DDA District will instead be disbursed to:

- Oakland Community College
- Oakland County
- Metro Parks,
- Orion Township

THE DDA INVESTS IN THE COMMUNITY

The DDA works on behalf of businesses AND residents! Here are some of the projects:

1. New downtown streets, sidewalks, and parking spaces (\$1.6M)
2. Paint Creek Trail Trailhead (\$269k)
3. Business incubator project (now Fork N Pint) (\$355k)
4. Directional, monument, and park signs (\$194k)
5. Children's Park playground equipment (\$78k)
6. COVID-19 support to businesses (\$350k)
7. First responder boat dock (\$25k)
8. Seasonal Flowers and holiday lights (\$12k annually)
9. Social District (1st in SE Michigan) (\$10k)
10. Annual funding for police, public works and administrative services (\$234k)

WHAT ELSE COULD LAKE ORION LOSE? EXTRA FUNDING! FUTURE PROJECTS!

As a Main Street America accredited program, Lake Orion benefits from

- over \$80k annually Main Street services from county, state, and national resources
- over \$50k annually in local, county, state and national recognition
- \$100k small business grants, scholarships and programs
- \$250k development liquor licenses for downtown restaurants

Downtown Management continues

- Enhanced pedestrian safety - lighting and sidewalks
- additional parking
- downtown dumpsters
- More park and event space



JULY 2022

ON HOLD

PARKING - ONE LEVEL DECK

PLAN OVERVIEW

Budget: \$4M

Location: Children's Park Parking Lot area

Challenges: Business disruption during construction

RFP: **Design and Engineering** DDA Board Reviewed and Filed

Attachment: February 2023 Director Report reduced (5695 : Director's Report)

DUMPSTER ENCLOSURES

ON HOLD

PLAN OVERVIEW

- Budget: \$60,000 (\$30,000 each enclosure)
- Locations: Behind 120 S. Broadway and Front/Anderson Parking Lot (P3)
- 120 S. Broadway Challenges: Utilities at Front/Lapeer
- RFQ for Front Anderson location: published July 18th, proposals due August 18th, one bid received for \$74,440, bid extended to September 16th - no new bids received. Project on hold a few months until re-bid.
- Implementation: 2022-2023
- Promotion: Educational campaign aimed at business use
- Other: McKenna recommends DDA incurs charge and makes communal dumpster a perk of locating business in downtown.



Community Investment

What does the DDA provide the Lake Orion Community?

Lake Orion's Downtown Development Authority provides these things for the community:

Infrastructure

- Additional Parking Lots
- Shared Parking Lots
- Improvement of Parking Lots
- Paint Creek Trail Connection
- New Playground Equipment at Green's and Children's Parks
- Restaurant Dumpsters
- Decorative Lampposts
- Outdoor Speakers
- Bank Stabilization on Paint Creek
- Public Restrooms at Firehall
- Streetscape Improvements
- Wayfinding Projects
- Additional and Improved Street Parking
- Blight Removal
- Bike Lots

Design

- Holiday Lights
- Facade Program
- Hanging Flower Pots
- Flint Street Alleyway

Events

- Movie Night
- Sing & Stroll
- LOLive! Music Concerts
- #StrongerTogether IceFest
- #StrongerTogether events with Oxford
- Halloween Extravaganza
- Oktoberfest

Commerce Driven Promotions

- Decorative Window Painting
- Shopping Passport contests
- Downtown Dollars
- Shop Small Saturday
- #StrongerTogether Restaurant Week
- #StrongerTogether promotions with Oxford
- Social District

Transportation Alternatives

- Hometown Holiday Carriage Rides
- The Downtown Trolley Express



Business & Development Recruitment

- Development Liquor Licenses
- Business Incubator
- Tax Abatements

Regional Promotion of Lake Orion

- Orion Living Magazine Coverage of the Village
- Social Media Marketing
- Nationally Acclaimed Story Walk
- #StrongerTogether Letterboxing
- Local Lens Photo & Art Contest

Health

- Paint Creek Trail
- 120 bike parking spaces at Paint Creek Trailhead
- Green's Park with paddleboard rental
- Children's Park
- Meek's Park

Partnerships

- Village of Lake Orion
- Orion Public Library
- American Legion
- Orion Area Chamber of Commerce
- Orion Art Center
- Lion's Club
- Rotary Club



CHILDREN'S PARK PLAYGROUND - COMPLETE



Attachment: February 2023 Director Report reduced (5695 : Director's Report)

DDA BOARD MEETINGS - 6:30PM, VILLAGE COUNCIL CHAMBERS

MARCH 7, 2023 - STUDY SESSION/INFORMATIONAL MEETING RE: LAKE ORION LUMBERYARD PROJECT

MARCH 21, 2023 - REGULAR BOARD MEETING

APRIL 18, 2023 - REGULAR BOARD MEETING

MAY 16, 2023 - REGULAR BOARD MEETING

JUNE 20, 2023 - REGULAR BOARD MEETING

JULY 18, 2023 - REGULAR BOARD MEETING

Attachment: February 2023 Director Report reduced (5695 : Director's Report)



The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023
FROM: Molly LaLone, DDA Executive Director
SUBJECT: Committee Minutes & Workplan and Event Updates

Attached:

Event Updates

Meeting Minutes

Vision - draft

Transformation Strategies quick reference

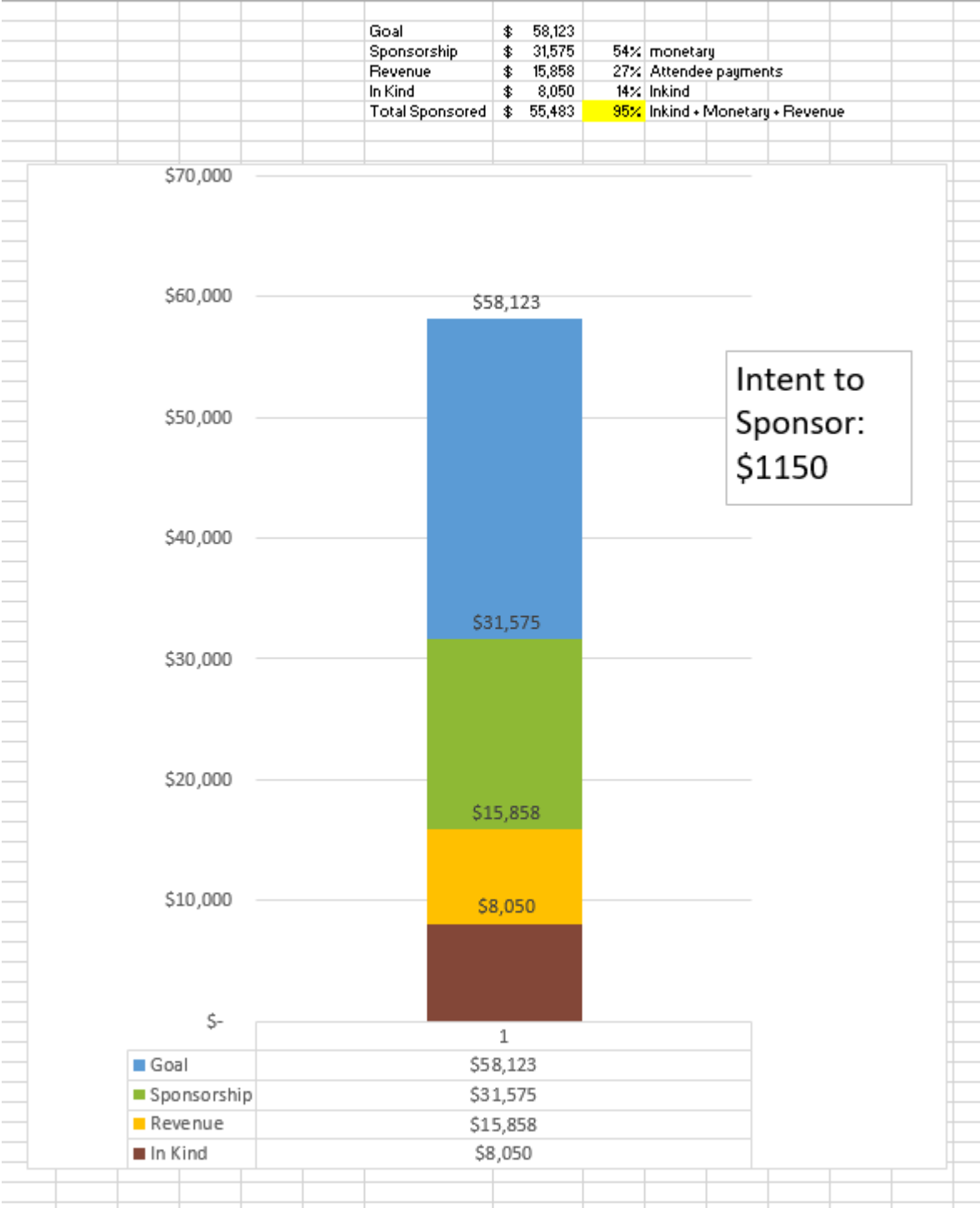
Recommended Motion:

To receive and File the Committee Meeting Minutes & Event updates

Event Updates 2023, Reported as of February 2, 2023

- Enter the Dragon Sponsor Reception
 - Received 13 sponsor intentions
 - Total promised: \$13,200
 - 3 All Event Dragon Sponsor
 - 4 #StrongerTogether Sponsors
 - 1 Grand #ST Sponsor
- January
 - Local Lens Photography & Art Contest
 - Videos & posts made each week to announce winner
 - Sponsors
 - JVD Portraits
 - Lisa Ann's Salon
 - Orion Art Center
 - The Patch Boys
- February
 - #StrongerTogether Ice Fest
 - Found sponsors for all sculptures
 - 1 Pre sculpt \$275
 - Caruso Chiro
 - BCF
 - Lucky's
 - Refresh & Renew
 - Spaces Interior Design
 - Your Food Dude
 - Broadway Emb/Design with Lights
 - 2 pre sculpts (LO & OX) \$500
 - Megan Spencer
 - Sandra Wood EXP Realty (\$550)
 - 4 pre sculpts (1 each week) \$1000
 - Michigan United CU
 - Live Sculpt \$1300
 - fLipSpot
 - Meijer
 - Cole Carbide
 - Mocerì
 - Horse & Carriage Rides 2/2 only from 4:30-8:30pm
 - Oxford has 7 sculptures sold
 - Starting week 2
 - Trolley not running currently
 - #StrongerTogether Restaurant Week 2/24-3/3

- Web page up, currently gathering & updating specials
- March
 - #StrongerTogether Downtown Passport
 - Minimum \$25 purchase
 - 8 receipts
 - \$25 LO Downtown + \$25 OX Gift card
 - Drop box outside DDA office
 - Only claim prize in LO
- April
 - #StrongerTogether Letterboxing
 - Theresa Rutt & Suzy to carve the stamps this year



Event	Profit	Fund Gap	Budgeted	Sponsor/Revenue	Total spent	Amt
LOLive!		X	\$ 18,620	\$ 3,500	\$ 17,842	\$ (14,342)
Oktoberfest		X	\$ 20,780	\$ 20,110	\$ 22,704	\$ (2,594)
Movie Night	X		\$ 1,730	\$ 1,748	\$ 1,324	\$ 424
Halloween	X		\$ 2,500	\$ 2,300	\$ 1,957	\$ 343
Witches Night	X		\$ -	\$ 250	\$ 88	\$ 162
Carriage Rides	x		\$ 8,750	\$ 6,300	\$ 5,700	\$ 600
Sing & Stroll		x	\$ 5,100	\$ 1,750	\$ 10,900	\$ (9,150)
Shop Small		x	?	\$ 200	\$ 1,295	\$ (1,095)
Ice Fest	x		\$ 8,000	\$ 9,375	\$ 8,350	\$ 1,025
Local Lens	x		\$ 100	\$ 400	\$ -	\$ 400
#ST Rest. Week	x			\$ 375	\$ -	\$ 375
Results as of Feb 2, 2023						
				\$ 46,308	\$ 70,160	\$ (23,852)

January Meeting Notes

MDA Legislative Committee

January 4, 2023

Lansing Day: volunteers needed

- 1 - sign in sheet
- 2 - escort legislators to tables
- 2 - photo opp

photo opp near door. Instruct dtn leaders to escort their legislators out and request photo opp with them.

Committee - create Key messages to share: in email and as flyer

1. Resource,
2. looking forward to working with you

Email mid-February: Ask dtn leaders to bring business cards and impact/annual reports to share. Ask them to practice elevator speech which includes statistical facts for your district. Committee provides examples.

Next meeting: January 18 at 4:15pm Meeting focus - Key Messages (MDA related) for Lansing Day flier and email.

StrongerTogether

January 5, 2022

Kelly, Kimberly, Molly, and Suzy (via phone)

Shared Events/Promotions:

Happy Hour Promotion: Jan16 – Feb 29 using stronger together social header

Starting when Trolley is running: Trolley specific promotional campaign (paid ads)

- Metrics: Increased ridership (NOTA numbers)
- Increase social media reach
- More positive posts v negative during search

IceFest: sending icefest promos to Chamber to sell some more statues in town.

Locable

31 Jan 2023

Cloud Flare: thre traffic control for all the moving part for website and microsite. Provides direction so everything connects the way it is supposed to work. Creates a sub domain for the locable microsite pages. Need it to insert a key name for the microsite pages. An additional name, then the slug.

Good example: DowntownHillsboro.org

Next Steps:

Kristin and Brian (Locable) talk short code

Diane and Molly – upload logos to CRM and set up newsletter

Suzy – Create sponsor lists (IceFest Sponsors, StrongerTogether, Dragon), add companies to the lists.

Vision Statement – Draft Feb 2023

The Lake Orion Downtown Development Authority (DDA) envisions a vibrant and thriving downtown that serves as the heart of the greater Orion community. Our downtown is a pedestrian-friendly, family-friendly, and welcoming destination that offers a comfortable, down-to-earth atmosphere. We have an ideal business mix of dining, shopping, and services that cater to the diverse needs of our community.

Our downtown is home to many family-friendly events that foster a sense of community and togetherness. We host an outdoor gazebo concert series that features local and regional musicians, a newly expanded farmers market that offers fresh, locally grown produce, and a "Stronger Together" regional tourism campaign with Oxford. Our signature special events cater to families and offer a fun and engaging experience for all.

The Lake Orion DDA is committed to fostering arts in our community through our strong partnership with the Orion Art Center. Our downtown offers many destination businesses that are a mix of local entrepreneurs, franchises, and national retailers. The direct connection between the Paint Creek Trail and the historic downtown allows for recreational activities and shopping, dining, and live entertainment at different price points.

The Lake Orion DDA is committed to promoting and marketing our downtown through various media channels, both online and offline. We understand the importance of showcasing the unique character and charm of our downtown, and we actively seek out new ways to attract visitors and businesses to the area.

Our marketing efforts include a strong online presence, with a website that highlights all the different offerings in our downtown. We also maintain a social media presence on platforms such as Facebook and Instagram, where we engage with our followers and share information about upcoming events and promotions.

In addition, we partner with local media outlets to spread the word about our downtown. We work closely with newspapers, radio stations, and other media to share news and updates about what's happening in our community.

When vacancies do occur in our downtown, we actively seek out new tenants or retailers to fill the space. Our goal is to maintain a diverse mix of businesses in our downtown, and we work closely with entrepreneurs to help them succeed in our community.

Finally, we are committed to promoting an increasingly dense group of mixed uses along M24 and in the downtown. Our efforts are focused on creating a dynamic, walkable downtown that is home to a wide range of businesses, including shops, restaurants, and other service providers. We believe that this mix of uses will help to ensure the long-term success of our downtown, and we are committed to making it a reality.

The DDA is committed to increasing economic development in our community. We plan to attract new businesses to the downtown area, increase foot traffic, and support local entrepreneurs. We will work to create a welcoming environment for businesses and investors to help them succeed in our community. Through our efforts, we will ensure that our downtown remains the heart and hub of the greater Orion community for years to come.

QUICK REFERENCE

TRANSFORMATION STRATEGY	BRIEF DESCRIPTION	PAGE
Arts and Entertainment	For programs wanting to support an arts or entertainment-focused environment within the downtown district.	14
Beautification Initiatives and Design	For improving the visual appeal of the residential and commercial historic district.	16
Business Activation and Development	For activating currently vacant sectors of the downtown or to support the growth and development of already established businesses.	18
Downtown Living	For developing a downtown environment conducive to residential living.	20
Community Serving	For developing an environment that is entrepreneur-friendly and intentionally incentivizes businesses, which serve the needs of the residents in the city and greater region.	22
Transportation and Pedestrian Experience	For addressing the downtown district's mobility needs for both tourists and residents alike.	24
Ecotourism and Recreation Economy	For focusing on the built environment and recreational activities currently driving tourism for the local economy.	26
Agricultural Focus	For an agricultural-based economy, where residents, businesses and community stakeholders are dependent on the success and growth of a particular agricultural industry in their area.	28
Environmental Sustainability	For creating an eco-friendly and sustainable approach to downtown revitalization, keeping in mind that the greenest building is one already built.	30
Public Health and Wellness	For the development and support of business and a built environment that supports public health initiatives and an improved quality of life.	32
Greenspace	For the development and activation of underutilized or under-capitalized amenities or public spaces.	34
Maintaining Authenticity	For the preservation of downtown's built environment.	36
Placemaking	For developing an inclusive environment that in return brings people together.	38
Storytelling	For refining the brand and identity of the commercial business district.	40
Tourism	For developing your downtown's central business district as a regional or statewide tourist destination.	42



The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023
FROM: Molly LaLone, DDA Executive Director
SUBJECT: Financial Reports

See attached Reports

248 Fund Balance Sheet

404 Fund Balance Sheet

Revenue and Expenditure Report

The following items will be the same on the balance sheet and the revenue and expenditure report for each fund (248 or 404)

- Beginning Fund Balance
- Net of Revenues & Expenditures
- Ending Fund Balance

Recommended Motion: Receive and file the financial reports for December 2022

PERIOD ENDING 01/31/2023

% Fiscal Year Completed: 58.90

*NOTE: Available Balance / Pct Budget Used does not reflect amounts encumbered.

GL NUMBER	DESCRIPTION	2022-23	2022-23	YTD BALANCE	ACTIVITY FOR	AVAILABLE
		ORIGINAL	AMENDED BUDGET	01/31/2023	MONTH	
		BUDGET			01/31/23	BALANCE
Fund 248 - DOWNTOWN DEVELOPMENT AUTHORITY FUND						
Dept 000 - REVENUE						
248-000-402-000	Current Real Property Taxes	890,000.00	890,000.00	658,713.21	0.00	231,286.79
248-000-412-000	Property Tax - DPPT P/Y & C/Y	0.00	0.00	750.34	0.00	(750.34)
248-000-441-000	Local Community Stabilization Share Tax	12,000.00	12,000.00	10,094.17	0.00	1,905.83
248-000-539-000	State Grants	0.00	0.00	1,000.00	0.00	(1,000.00)
248-000-582-000	Intergovernment - Police	0.00	0.00	15,927.21	0.00	(15,927.21)
248-000-664-000	Interest Earned	1,600.00	1,600.00	2,068.61	13.68	(468.61)
248-000-671-999	Appropriation from Fund Balanc	46,955.00	46,955.00	0.00	0.00	46,955.00
248-000-681-000	Reimburse - Insurance Claims	0.00	0.00	12,464.79	12,464.79	(12,464.79)
248-000-685-000	Sponsorships	52,398.00	52,398.00	21,350.00	2,050.00	31,048.00
248-000-685-100	Transportaion Sponsorship	48,000.00	53,726.00	16,050.00	0.00	37,676.00
248-000-686-000	Downtown Events	30,000.00	30,000.00	18.80	0.00	29,981.20
248-000-686-004	OktoberFest Revenue	10,000.00	15,145.00	20,361.10	0.00	(5,216.10)
248-000-687-000	Merchandise Sales	3,000.00	3,000.00	195.00	195.00	2,805.00
248-000-688-000	Gift Certificate Sales	5,000.00	5,000.00	1,675.00	100.00	3,325.00
248-000-694-000	Miscellaneous	0.00	0.00	250.00	(455.00)	(250.00)
Net - Dept 000 - REVENUE		1,098,953.00	1,109,824.00	760,918.23	14,368.47	348,905.77
Dept 260 - GENERAL ACTIVITIES						
248-260-701-000	Wages	58,323.00	58,323.00	34,002.46	6,705.60	24,320.54
248-260-704-000	Wages - Administrative Coordinator	27,974.00	26,474.00	6,521.87	600.00	19,952.13
248-260-706-000	Wages - Event Coordinator	27,974.00	26,080.00	15,123.78	2,990.70	10,956.22
248-260-707-000	Wages - Grounds Coordinator	5,000.00	5,000.00	0.00	0.00	5,000.00
248-260-711-013	OVERTIME	0.00	1,894.00	947.49	0.00	946.51
248-260-715-000	Social Security	9,112.00	9,112.00	4,271.33	776.20	4,840.67
248-260-716-000	Health Insurance- Medical	6,974.00	6,974.00	4,108.61	1,417.82	2,865.39
248-260-717-000	Life & Disability Insurance	1,243.00	1,243.00	519.33	81.60	723.67
248-260-718-000	Dental Insurance	571.00	571.00	266.02	42.85	304.98
248-260-719-000	Pension	4,969.00	4,969.00	2,388.02	0.00	2,580.98
248-260-721-000	Vision Care	130.00	130.00	55.66	8.95	74.34
248-260-801-002	Contr Services - Police Admin Fee	60,000.00	60,000.00	35,000.00	5,000.00	25,000.00
248-260-801-003	Contract Services - DPW Admin Fee	30,000.00	30,000.00	17,500.00	2,500.00	12,500.00
248-260-801-004	Contract Services - GF Admin Fee	70,000.00	70,000.00	40,833.31	5,833.33	29,166.69
248-260-801-012	Contractual Services-Parking Code Enforc	21,000.00	21,000.00	12,250.00	1,750.00	8,750.00
248-260-801-022	Cont Service-Police Crowd Control	20,000.00	20,000.00	11,666.62	1,666.66	8,333.38
248-260-801-023	Contract Services-DPW event support	10,000.00	10,000.00	5,833.31	833.33	4,166.69
248-260-801-033	Contract Services-DPW snow removal	15,000.00	15,000.00	8,750.00	1,250.00	6,250.00
248-260-805-000	Audit Fees	2,200.00	2,200.00	1,545.13	477.18	654.87
248-260-810-000	Legal Services	5,000.00	5,000.00	5,602.86	465.50	(602.86)
248-260-823-000	Website/Software	8,000.00	8,000.00	3,248.47	117.91	4,751.53
248-260-823-001	Municipal Software	6,000.00	6,000.00	728.00	104.00	5,272.00
248-260-829-000	Planner Services	5,000.00	5,000.00	0.00	0.00	5,000.00
248-260-851-000	Telephone	3,000.00	3,000.00	2,169.99	588.38	830.01
248-260-900-000	Printing and Publication	100.00	100.00	87.18	0.00	12.82
248-260-920-000	Utilities	3,500.00	3,500.00	1,947.35	698.57	1,552.65
248-260-921-000	Municipal Street Lighting	6,500.00	6,500.00	18,298.49	798.38	(11,798.49)
248-260-930-000	Repair and Maintenance	500.00	1,500.00	646.92	55.97	853.08
248-260-930-002	Building Maintenance	1,000.00	1,000.00	824.22	0.00	175.78
248-260-940-000	Equipment Rental	500.00	246.00	45.42	0.00	200.58

Attachment: dda rev & exp 31jan23 (5693 : Financial Reports)

PERIOD ENDING 01/31/2023

% Fiscal Year Completed: 58.90

*NOTE: Available Balance / Pct Budget Used does not reflect amounts encumbered.

GL NUMBER	DESCRIPTION	2022-23			ACTIVITY FOR	AVAILABLE
		ORIGINAL	2022-23	YTD BALANCE	MONTH	
		BUDGET	AMENDED BUDGET	01/31/2023	01/31/23	BALANCE
Fund 248 - DOWNTOWN DEVELOPMENT AUTHORITY FUND						
248-260-941-000	Office Rent	12,000.00	12,000.00	9,000.00	0.00	3,000.00
248-260-942-000	Office Expenses	5,000.00	5,000.00	3,396.35	641.05	1,603.65
248-260-946-000	Credit Card Fees	100.00	100.00	8.84	0.49	91.16
248-260-956-000	Dues & Miscellaneous	1,500.00	1,500.00	906.00	36.00	594.00
248-260-957-000	Education & Training	6,000.00	6,000.00	1,605.30	0.00	4,394.70
248-260-958-000	General Activities Misc	150.00	904.00	483.78	0.00	420.22
248-260-962-000	Mileage	800.00	800.00	739.85	0.00	60.15
248-260-965-404	Transfer Out - DDA Property Acq Fund	110,000.00	110,000.00	110,000.00	0.00	0.00
248-260-974-000	Capital Outlay - Equipment	1,500.00	1,500.00	1,173.53	0.00	326.47
Net - Dept 260 - GENERAL ACTIVITIES		(546,620.00)	(546,620.00)	(362,495.49)	(35,440.47)	(184,124.51)
Dept 725 - ORGANIZATION						
248-725-822-000	Newsletter	1,200.00	1,200.00	492.40	9.95	707.60
248-725-824-000	Volunteer Recognition & Dvp.	500.00	500.00	0.00	0.00	500.00
248-725-825-000	Gift Certificate Redemption	15,000.00	15,000.00	4,495.00	110.00	10,505.00
248-725-826-000	Historic Celebration/Education	750.00	750.00	0.00	0.00	750.00
248-725-827-000	Awareness Program	1,500.00	1,500.00	609.36	221.60	890.64
248-725-864-000	Grant & Scholarship Distribution	0.00	0.00	1,000.00	0.00	(1,000.00)
248-725-881-000	Merchandise to Sell	500.00	500.00	18.00	0.00	482.00
Net - Dept 725 - ORGANIZATION		(19,450.00)	(19,450.00)	(6,614.76)	(341.55)	(12,835.24)
Dept 726 - DESIGN						
248-726-745-000	Beautification Supplies	2,000.00	2,000.00	1,048.21	0.00	951.79
248-726-746-000	Hanging Baskets	3,500.00	3,500.00	0.00	0.00	3,500.00
248-726-801-000	Contractual Services	3,000.00	3,000.00	2,675.00	275.00	325.00
248-726-843-000	Facade Program	10,000.00	10,000.00	0.00	0.00	10,000.00
248-726-845-000	Public Art Program	2,475.00	2,475.00	2,250.00	0.00	225.00
248-726-883-000	Banners and Holiday Lighting	12,500.00	12,026.00	9,639.03	0.00	2,866.97
248-726-975-001	Capital Outlay - Beautification	0.00	474.00	473.42	0.00	0.58
248-726-975-002	Capital Outlay - Streets	30,000.00	30,000.00	0.00	0.00	30,000.00
Net - Dept 726 - DESIGN		(63,475.00)	(63,475.00)	(16,085.66)	(275.00)	(47,389.34)
Dept 728 - ECONOMIC DEVELOPMENT						
248-728-801-000	Contractual Services	10,000.00	10,000.00	0.00	0.00	10,000.00
248-728-860-000	Trolley Expense	38,000.00	38,000.00	16,377.16	3,653.67	21,622.84
248-728-862-000	Training Materials	900.00	900.00	408.26	0.00	491.74
248-728-886-000	Marketing Materials	0.00	1,326.00	1,325.20	0.00	0.80
248-728-886-002	Social District	3,000.00	3,000.00	2,889.18	0.00	110.82
248-728-888-000	Brand Marketing	25,000.00	23,674.00	10,722.41	300.00	12,951.59
248-728-888-001	Contractual Services Brand Marketing	27,500.00	27,500.00	17,625.00	0.00	9,875.00
Net - Dept 728 - ECONOMIC DEVELOPMENT		(104,400.00)	(104,400.00)	(49,347.21)	(3,953.67)	(55,052.79)
Dept 729 - PROMOTION						

Attachment: dda rev & exp 31jan23 (5693 : Financial Reports)

PERIOD ENDING 01/31/2023

% Fiscal Year Completed: 58.90

*NOTE: Available Balance / Pct Budget Used does not reflect amounts encumbered.

		2022-23			ACTIVITY FOR	
GL NUMBER	DESCRIPTION	ORIGINAL BUDGET	2022-23 AMENDED BUDGET	YTD BALANCE 01/31/2023	MONTH 01/31/23	AVAILABLE BALANCE
Fund 248 - DOWNTOWN DEVELOPMENT AUTHORITY FUND						
248-729-880-000	Event Promotion	1,000.00	1,381.00	1,380.36	0.00	0.64
248-729-880-001	Event Promo - Gazebo Series	18,620.00	17,996.00	17,342.36	0.00	653.64
248-729-880-004	Event Promo - Halloween Parade	2,500.00	2,119.00	1,972.35	0.00	146.65
248-729-880-005	Event Promo - Hmtwn/Holiday Vill	17,720.00	17,720.00	7,606.24	178.19	10,113.76
248-729-880-008	Event Promo-Photo Contest	100.00	100.00	0.00	0.00	100.00
248-729-880-009	Event Promo-Lake Orion Love Shop to Win	750.00	750.00	0.00	0.00	750.00
248-729-880-012	Sing & Stroll Tree Lighting	5,100.00	11,937.00	11,936.88	0.00	0.12
248-729-880-013	SD Nights- Stronger Together Winter	1,500.00	1,500.00	0.00	0.00	1,500.00
248-729-880-014	Octoberfest	20,780.00	24,191.00	22,703.72	0.00	1,487.28
248-729-880-015	Winter Activities	10,200.00	10,200.00	5,850.00	5,850.00	4,350.00
248-729-880-016	Athletic Events-other	2,580.00	2,580.00	0.00	0.00	2,580.00
248-729-880-017	Movie Night	1,730.00	1,730.00	1,324.24	0.00	405.76
248-729-880-100	Stronger Together- smr fall	3,500.00	3,500.00	62.83	0.00	3,437.17
248-729-885-000	Port-A-Johns	500.00	1,747.00	1,746.83	0.00	0.17
248-729-895-000	Event Promo-Comm. Sponsorships	750.00	750.00	43.00	43.00	707.00
Net - Dept 729 - PROMOTION		(87,330.00)	(98,201.00)	(71,968.81)	(6,071.19)	(26,232.19)
Dept 730 - CAPITAL PROJECTS						
248-730-885-100	Knox Box Grant Program	5,000.00	5,000.00	0.00	0.00	5,000.00
248-730-931-000	Repair & Maintenance-Equipment	1,500.00	1,500.00	0.00	0.00	1,500.00
248-730-965-404	Transfer Out - DDA Property Acq Fund	104,178.00	104,178.00	104,178.00	104,178.00	0.00
248-730-975-000	Capital Outlay	0.00	345.00	344.47	0.00	0.53
248-730-975-003	DDA Capital Outlay	12,000.00	11,655.00	0.00	0.00	11,655.00
248-730-975-005	DDA Capital Outlay- Wayfinding/Lighting	75,000.00	75,000.00	35,015.99	34,716.00	39,984.01
248-730-975-006	DDA Capital Outlay - Parking	15,000.00	15,000.00	145,077.50	0.00	(130,077.50)
248-730-975-009	Capital Outlay - Dumpsters	60,000.00	60,000.00	0.00	0.00	60,000.00
248-730-975-020	Capital Outlay Parks & rec	5,000.00	5,000.00	24,859.40	0.00	(19,859.40)
Net - Dept 730 - CAPITAL PROJECTS		(277,678.00)	(277,678.00)	(309,475.36)	(138,894.00)	31,797.36
Fund 248 - DOWNTOWN DEVELOPMENT AUTHORITY FUND:						
TOTAL REVENUES		1,098,953.00	1,109,824.00	760,918.23	14,368.47	348,905.77
TOTAL EXPENDITURES		1,098,953.00	1,109,824.00	815,987.29	184,975.88	293,836.71
NET OF REVENUES & EXPENDITURES		0.00	0.00	(55,069.06)	(170,607.41)	55,069.06
BEG. FUND BALANCE		638,446.44	638,446.44	638,446.44		
END FUND BALANCE		638,446.44	638,446.44	583,377.38		

Attachment: dda rev & exp 31jan23 (5693 : Financial Reports)

REVENUE AND EXPENDITURE REPORT FOR VILLAGE OF LAKE ORION
 PERIOD ENDING 01/31/2023
 % Fiscal Year Completed: 58.90

*NOTE: Available Balance / Pct Budget Used does not reflect amounts encumbered.

GL NUMBER	DESCRIPTION	2022-23 ORIGINAL BUDGET	2022-23 AMENDED BUDGET	YTD BALANCE 01/31/2023	ACTIVITY FOR MONTH 01/31/23	AVAILABLE BALANCE
Fund 404 - DDA PROPERTY ACQUISITION						
Dept 000 - REVENUE						
404-000-664-000	Interest Earnings	150.00	150.00	100.17	19.86	49.83
404-000-699-248	Interfund Transfer In - DDA	214,178.00	214,178.00	214,178.00	104,178.00	0.00
Net - Dept 000 - REVENUE		214,328.00	214,328.00	214,278.17	104,197.86	49.83
Dept 901 - CAPITAL OUTLAY						
404-901-901-000	Debt Service- Parking Deck	250,000.00	250,000.00	0.00	0.00	250,000.00
404-901-992-000	Bond Principal	100,000.00	100,000.00	100,000.00	0.00	0.00
404-901-995-000	Bond Interest	10,000.00	10,000.00	10,000.00	0.00	0.00
Net - Dept 901 - CAPITAL OUTLAY		(360,000.00)	(360,000.00)	(110,000.00)	0.00	(250,000.00)
Fund 404 - DDA PROPERTY ACQUISITION:						
TOTAL REVENUES		214,328.00	214,328.00	214,278.17	104,197.86	49.83
TOTAL EXPENDITURES		360,000.00	360,000.00	110,000.00	0.00	250,000.00
NET OF REVENUES & EXPENDITURES		(145,672.00)	(145,672.00)	104,278.17	104,197.86	(249,950.17)
BEG. FUND BALANCE		222,473.45	222,473.45	222,473.45		
END FUND BALANCE		76,801.45	76,801.45	326,751.62		
TOTAL REVENUES - ALL FUNDS		1,313,281.00	1,324,152.00	975,196.40	118,566.33	348,955.60
TOTAL EXPENDITURES - ALL FUNDS		1,458,953.00	1,469,824.00	925,987.29	184,975.88	543,836.71
NET OF REVENUES & EXPENDITURES		(145,672.00)	(145,672.00)	49,209.11	(66,409.55)	(194,881.11)
BEG. FUND BALANCE - ALL FUNDS		860,919.89	860,919.89	860,919.89		
END FUND BALANCE - ALL FUNDS		715,247.89	715,247.89	910,129.00		

Attachment: dda rev & exp 31jan23 (5693 : Financial Reports)

02/13/2023

COMPARATIVE BALANCE SHEET FOR VILLAGE OF LAKE ORION

GL Number	Description	PERIOD ENDED 01/31/2022	PERIOD ENDED 01/31/2023
Fund 248 - DOWNTOWN DEVELOPMENT AUTHORITY FUND			
*** Assets ***			
248-000-002-000	Cash Savings	408,689.36	187,307.83
248-000-010-000	Investment/LGIP County Inv	448,906.42	396,987.37
	Total Assets	857,595.78	584,295.20
*** Liabilities ***			
248-000-202-000	Accounts Payable	12,140.00	0.00
248-000-213-000	Accrued Property Tax - Est Chargebacks	400.00	400.00
248-000-247-000	Health Insurance	0.00	517.82
	Total Liabilities	12,540.00	917.82
*** Fund Balance ***			
248-000-390-000	Fund Balance - Unassigned	559,268.92	638,446.44
	Fund Balance Budgeted and Reserved		
	Current Budget Appropriation of Fund Balance		46,955
	Reserve for Operating Budget (20% Min.)		170,000
	Reserve for Future Parking Expansion		150,000
	Subtotal Reserved & Budgeted Fund Balance		366,955
	Fund Balance -Undesignated		271,491
	Total Beginning Fund Balance		638,446
	Total Fund Balance	559,268.92	638,446.44
	Beginning Fund Balance	559,268.92	638,446.44
	Net of Revenues VS Expenditures	285,786.86	(55,069.06)
	Ending Fund Balance	845,055.78	583,377.38
	Total Liabilities And Fund Balance	857,595.78	584,295.20

Attachment: December 2022 Balance Sheet (5693 : Financial Reports)

02/13/2023

COMPARATIVE BALANCE SHEET FOR VILLAGE OF LAKE ORION

GL Number	Description	PERIOD ENDED 01/31/2022	PERIOD ENDED 01/31/2023
<hr/>			
Fund 404 - DDA PROPERTY ACQUISITION			
*** Assets ***	Cash-Savings-DDA Property Acq.	222,409.85	326,751.62
404-000-002-000	Total Assets	222,409.85	326,751.62
<hr/>			
*** Liabilities ***	Total Liabilities	0.00	0.00
*** Fund Balance ***	Fund Balance - Unassigned	214,811.74	222,473.45
404-000-390-000	Total Fund Balance	214,811.74	222,473.45
	Beginning Fund Balance	214,811.74	222,473.45
	Net of Revenues VS Expenditures	7,598.11	104,278.17
	Ending Fund Balance	222,409.85	326,751.62
	Total Liabilities And Fund Balance	222,409.85	326,751.62

Attachment: December 2022 Balance Sheet (5693 : Financial Reports)



The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023
FROM: Molly LaLone, DDA Executive Director
SUBJECT: Bill Approval

Attached:

Invoice Register: These are the disbursements that took place between last month's meeting and this month's meeting.

Credit Card Report: Lists the detail for the credit charges shown in the invoice register.

Recommended Motion: (Roll Call)

To approve disbursements in the amount of \$44,843.35 for December 2022.

02/13/2023

INVOICE GL DISTRIBUTION REPORT FOR VILLAGE OF LAKE ORION
 EXP CHECK RUN DATES 01/01/2023 - 01/31/2023
 BOTH JOURNALIZED AND UNJOURNALIZED
 BOTH OPEN AND PAID

GL Number	Invoice Line Desc	Vendor	Invoice Date	Invoice	Amount
Fund 248 DOWNTOWN DEVELOPMENT AUTHORITY FUND					
Dept 000 REVENUE					
248-000-681-000	Reimburse - Insurance Claims	CARRIER & GABLE INC	01/17/24	61757	6,390.79
248-000-694-000	Miscellaneous	UNITED STATES TREASURY	01/24/23	0242803695	455.00
Total For Dept 000 REVENUE					6,845.79
Dept 260 GENERAL ACTIVITIES					
248-260-805-000	Audit Fees	ANDREWS HOOPER PAVLIC PLC	12/29/22	184992	477.18
248-260-810-000	Legal Services	DAVIS LISTMAN PLLC	12/31/22	10590	465.50
248-260-823-000	Website/Software	COMERICA BANK	12/30/22	JANUARY 5, 2023	107.96
248-260-823-001	Municipal Software	GRANICUS	01/10/23	160375	104.00
248-260-851-000	Telephone	COMCAST	12/03/22	8529101420028897	194.68
248-260-851-000	Telephone	MISWITCH COMMUNICATIONS	01/01/23	607603	86.71
248-260-851-000	Telephone	COMCAST	01/03/23	0028897JAN2023	393.70
248-260-920-000	Utilities	DTE ENERGY	12/21/22	200114056822	66.64
248-260-920-000	Utilities	DTE ENERGY	12/21/22	200313978603	16.32
248-260-920-000	Utilities	CONSUMERS ENERGY	01/09/23	203499500927	371.12
248-260-920-000	Utilities	DTE ENERGY	01/03/23	200483756916	16.32
248-260-920-000	Utilities	VILLAGE OF LAKE ORION	01/01/23	016-1650	55.23
248-260-920-000	Utilities	VILLAGE OF LAKE ORION	01/01/23	015-1180	172.94
248-260-921-000	Municipal Street Lighting	DTE ENERGY	12/21/22	200114056825	18.96
248-260-921-000	Municipal Street Lighting	DTE ENERGY	01/03/23	200303999513	547.74
248-260-921-000	Municipal Street Lighting	DTE ENERGY	01/03/23	200433903747	20.30
248-260-921-000	Municipal Street Lighting	DTE ENERGY	01/03/23	200433903746	61.13
248-260-921-000	Municipal Street Lighting	DTE ENERGY	01/03/23	200303999514	37.23
248-260-921-000	Municipal Street Lighting	DTE ENERGY	01/03/23	200303999512	113.02
248-260-930-000	Repair and Maintenance	COMERICA BANK	12/30/22	JANUARY 5, 2023	27.31
248-260-930-000	Repair and Maintenance	GREAT LAKES ACE HARDWARE	12/31/22	6069	28.66
248-260-942-000	Office Expenses	COMERICA BANK	12/30/22	JANUARY 5, 2023	442.21
248-260-942-000	Office Expenses	HOME DEPOT CREDIT SERVICES	12/21/22	4033705	189.79
248-260-942-000	Office Expenses	OFFICE DEPOT	12/06/22	279563308001	43.17
248-260-942-000	Office Expenses	OFFICE DEPOT	12/07/22	279587150001	26.09
248-260-942-000	Office Expenses	OFFICE DEPOT	12/06/22	279587151001	13.39
248-260-942-000	Office Expenses	CRYSTAL WATER COMPANY	12/31/22	209703	19.00
248-260-956-000	Dues & Miscellaneous	COMERICA BANK	12/30/22	JANUARY 5, 2023	36.00
Total For Dept 260 GENERAL ACTIVITIES					4,152.30
Dept 725 ORGANIZATION					
248-725-822-000	Newsletter	COMERICA BANK	12/30/22	JANUARY 5, 2023	9.95
248-725-825-000	Gift Certificate Redemption	ANITA'S KITCHEN	12/22/22	DECEMBER 22, 2022	110.00

Attachment: dda invoice jan 2023 (5696 : Bill Approval)

248-725-825-000	Gift Certificate Redemption	BITTER TOM'S DISTILLERY	12/20/22	DECEMBER 20, 2022	75.00
248-725-825-000	Gift Certificate Redemption	TWICE BLESSED	12/20/22	DECEMBER 20, 2022	75.00
248-725-827-000	Awareness Program	COMERICA BANK	12/30/22	JANUARY 5, 2023	221.60
Total For Dept 725 ORGANIZATION					491.55
Dept 726 DESIGN					
248-726-801-000	Contractual Services	EXCEPTIONAL CLEANING	01/01/23	V80	275.00
Total For Dept 726 DESIGN					275.00
Dept 728 ECONOMIC DEVELOPMENT					
248-728-860-000	Trolley Expense	NOTA	07/01/22	87	1,348.67
248-728-860-000	Trolley Expense	NOTA	11/17/22	93	2,526.66
248-728-860-000	Trolley Expense	NOTA	11/17/22	94	3,102.40
248-728-860-000	Trolley Expense	NOTA	11/30/22	NOVEMBER 2022	1,914.67
248-728-860-000	Trolley Expense	NOTA	12/31/22	DECEMBER 2022	1,739.00
248-728-862-000	Training Materials	THE SCHALLERT GROUP LLC	11/30/22	221207-01	408.26
248-728-888-000	Brand Marketing	20 FRONT STREET CONCEPTS, LLC	09/30/22	1721	300.00
248-728-888-000	Brand Marketing	20 FRONT STREET CONCEPTS, LLC	10/31/22	1722	300.00
248-728-888-000	Brand Marketing	20 FRONT STREET CONCEPTS, LLC	11/30/22	1723	300.00
248-728-888-000	Brand Marketing	20 FRONT STREET CONCEPTS, LLC	12/31/22	124	300.00
248-728-888-001	Contractual Services Brand Marketing	HUDSON COLLECTIVE	12/15/22	1249	2,045.00
Total For Dept 728 ECONOMIC DEVELOPMENT					14,284.66
Dept 729 PROMOTION					
248-729-880-005	Event Promo - Hmtwn/Holiday Vill	COMERICA BANK	12/30/22	JANUARY 5, 2023	178.19
248-729-880-017	Movie Night	CLEAR CUT ICE	01/03/23	1266	1,950.00
248-729-880-017	Movie Night	CLEAR CUT ICE	02/09/23	1266	1,950.00
248-729-880-017	Movie Night	CLEAR CUT ICE	02/16/23	1266	1,950.00
248-729-895-000	Event Promo-Comm. Sponsorships	COMERICA BANK	12/30/22	JANUARY 5, 2023	43.00
Total For Dept 729 PROMOTION					6,071.19
Dept 730 CAPITAL PROJECTS					
248-730-975-005	DDA Capital Outlay- Wayfinding/Lighting	HELM ELECTRIC INC	12/02/22	49253	34,716.00
Total For Dept 730 CAPITAL PROJECTS					34,716.00
Total For Fund 248 DOWNTOWN DEVELOPMENT AUTHORITY FUN					66,836.49
Fund Totals:					
Fund 248 DOWNTOWN DEVELOPMENT AUTHORITY FUND					66,836.49
Total For All Funds:					66,836.49

Attachment: dda invoice jan 2023 (5696 : Bill Approval)

CREDIT CARD DECEMBER 2022

Susan Galezcka 6838 8.71
 Molly Lalone 7632 1066.22
 Harold Rossman 6270 7.41
 Wes Sanchez 6802 525
1607.34

Account Name	Post Date	Tran Date	Reference Number	Merchant Description	GI NUMBER	DESCRIPTION	Amount
VILLAGE OF LAKE ORION-*494	12/20/2022	12/20/2022	*7000000233411111111111	AUTOMATIC PAYMENT			-2061.46
SUSAN GALEZCKA-*6838	12/1/2022	11/30/2022	*55546502335047671586292	WWW.1AND1.COM 6105601589 PA	248-260-823-000	website/software	8.71
MOLLY W LALONE-*7632	12/2/2022	11/30/2022	*72700692335900019262636	FORK N PINT LAKE ORION LAKE ORION MI	248-725-827-000	luncheon	58.51
MOLLY W LALONE-*7632	12/5/2022	12/2/2022	*05410192336091007290374	TARGET 00012518 AUBURN HILLS MI	248-729-880-005	hometown holidays: cocoa bar	3.19
MOLLY W LALONE-*7632	12/5/2022	12/4/2022	*05416012338141003743736	WAL-MART #2354 ROCHESTER MI	248-260-930-000	storage bins	27.31
MOLLY W LALONE-*7632	12/5/2022	12/3/2022	*82711162337000017256769	SUDSHARE* S18604661 BALTIMORE MD	248-729-880-005	hometown holidays: laundry	20
MOLLY W LALONE-*7632	12/8/2022	12/7/2022	*82305092341000013634683	CANVA* I03627-22282368 CAMDEN DE	248-729-895-000	sponsor reception	43
MOLLY W LALONE-*7632	12/8/2022	12/6/2022	*82711162340000015571388	SUDSHARE* S18604661 BALTIMORE MD	248-729-880-005	hometown holidays: laundry	5
MOLLY W LALONE-*7632	12/8/2022	12/7/2022	*82711162341000015050879	FLOWCODE PRO NEW YORK NY	248-260-823-000	website/software	9.95
MOLLY W LALONE-*7632	12/9/2022	12/8/2022	*52704872342700723080697	ADOBE INC. 4085366000 CA	248-260-823-000	website/software	15.89
MOLLY W LALONE-*7632	12/12/2022	12/9/2022	*72700692344900019702044	FORK N PINT LAKE ORION LAKE ORION MI	248-725-827-000	luncheon	40.87
MOLLY W LALONE-*7632	12/13/2022	12/12/2022	*55432862346209812366719	SQ *MYPIC PHOTOGRAPHY gosq.com MI	248-728-888-000	Parade photos	150
MOLLY W LALONE-*7632	12/13/2022	12/12/2022	*75217692347240001569291	Mario's Golden Nugget Oxford MI	248-725-827-000	luncheon	25.14
MOLLY W LALONE-*7632	12/15/2022	12/15/2022	*55310202349083780016470	AMZN MKTP US*GF1UH9083 AMZN.COM/BILL WA	248-260-942-000	office supplies	356.87
MOLLY W LALONE-*7632	12/20/2022	12/20/2022	*02305372354500308931890	TST* BITTER TOM'S DIST LAKE ORION MI	248-725-827-000	luncheon	36.48
MOLLY W LALONE-*7632	12/20/2022	12/19/2022	*55546502354047680208231	WWW.1AND1.COM 6105601589 PA	248-260-823-000	website/software	19
MOLLY W LALONE-*7632	12/21/2022	12/20/2022	*05436842354300318591991	KROGER #637 ORION TWP MI	248-260-942-000	office supplies	29.96
MOLLY W LALONE-*7632	12/22/2022	12/21/2022	*02305372356000827900318	CVS/PHARMACY #08129 OXFORD MI	248-260-942-000	office supplies	11.08
MOLLY W LALONE-*7632	12/22/2022	12/21/2022	*75418232355163320186939	WEB*NETWORKSOLUTIONS 888-6429675 FL	248-260-823-000	website/software	88.96
MOLLY W LALONE-*7632	12/23/2022	12/22/2022	*02305372357000808245682	USPS PO 2551900361 LAKE ORION MI	248-260-856-000	stamps	36
MOLLY W LALONE-*7632	12/23/2022	12/22/2022	*55429502356745620556375	ADOBE *ACROPRO SUBS 4085366000 CA	248-260-823-000	website/software	15.89
MOLLY W LALONE-*7632	12/23/2022	12/22/2022	*55432862356203035501399	TST* Anita's Kitchen - Lake Orion MI	248-725-827-000	awareness: luncheon	30.64
MOLLY W LALONE-*7632	12/27/2022	12/22/2022	*52707152357010188799443	THE HOME DEPOT #2743 ORION MI	248-260-930-000	repair - window blind	42.48
TOTAL							1066.22
HAROLD D ROSSMAN-*6270	12/2/2022	12/2/2022	*55432862336206502760591	APPLE.COM/BILL 866-712-7753 CA			7.41
WESLEY A SANCHEZ-*6802	12/29/2022	12/28/2022	*55432862362204498836860	IN *MICHIGAN RURAL WAT 517-6572601 MI			210
WESLEY A SANCHEZ-*6802	12/29/2022	12/28/2022	*55432862362204498836878	IN *MICHIGAN RURAL WAT 517-6572601 MI			315
TOTAL							525

1607.34

Attachment: Credit Card for December 2022 (5696 : Bill Approval)



The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023
FROM: Molly LaLone, DDA Executive Director
SUBJECT: Property Acquisition - Lake Orion Lumberyard Project

Attached:

Proposed Debt Schedule for 80% Tax Exempt Bond/20% Taxable Bond combination

Legal Counsel Memo re: DDA's ability to bond and to purchase property, protections for taxpayers

Background Information:

Purchase agreement terms: \$2.4M, \$100,000 Earnest money, \$50,000 on February 19th for commitment to buy. We are currently in the Due Diligence phase of this project.

Due Diligence ends February 19, 2023

The DDA Board seeks to purchase the Lake Orion Lumberyard in order to allow a better purpose for the property. This catalyst project will include details taken from the Design Charrette based upon the DDA Board's vision and discernment.

The DDA Board needs Village Council support in order to issue the bonds to pay for this project.

Workshops:

Design Charette: October 27, 2022

Project priorities workshop, Jan 10, 2023

Resolutions:

Bond request and TIF Funds pledge (DDA), October 27, 2022

Reports:

Phase I - completed

Phase II - completed

Baseline Environmental Assessment Report (BEA) and a conceptual cost report - to be completed

Next Steps:

Legal Counsel requesting extension on due diligence period b/c of Phase II report results

Informational Meeting/Learning Session, March 7th at 6:30pm at VLO Council Chambers

VLO Council invited to review project prior to March 7th Mtg.

ONTV Video Presentation currently being edited - will be available for website and social media posting.

Request for resolution by VLO supporting bonds - TBD

Is this a DDA Priority? (NO) or If **yes**, see below:

Previously Budgeted?			<u>Yes</u>	No	
Fiscal Year	GL #	Description	Available Balance	Action Item Cost	Remaining Balance
	248-000-671-999	Appropriation from Fund Balanc			
		Designated parking funds	250,000		
	costs				
		Earnest Money		100,000	150,000
		Phase I Environmental		2,750	147,250
		Phase II Environmental		10,769	136,481
		Phase II Environmental		14,983	121,498
		BEA & Conceptual Cost Est.		5,000	116,498
		<u>AKA Architects Design Services</u>			
		Pre-Design Phase		16,000	100,498
		2023 - 1st Quarter		12,000	88,498

Recommended Motion: Receive and File

\$4,000,000
 VILLAGE OF LAKE ORION
 COUNTY OF OAKLAND, STATE OF MICHIGAN
 DOWNTOWN DEVELOPMENT AUTHORITY BONDS, SERIES 2023
 (TAX-EXEMPT)

SCHEDULE OF DEBT SERVICE REQUIREMENTS

On a Calendar Year Basis

Year	Principal Due October 1	Interest Rate	Interest Due April 1	Interest Due October 1	Total Principal & Interest Requirements
2023	\$ 240,000	3.750%	\$ -	\$ 62,500 *	\$ 302,500
2024	160,000	3.750%	70,500	70,500	301,000
2025	170,000	3.750%	67,500	67,500	305,000
2026	175,000	3.750%	64,313	64,313	303,625
2027	180,000	3.750%	61,031	61,031	302,063
2028	190,000	3.750%	57,656	57,656	305,313
2029	195,000	3.750%	54,094	54,094	303,188
2030	205,000	3.750%	50,438	50,438	305,875
2031	210,000	3.750%	46,594	46,594	303,188
2032	220,000	3.750%	42,656	42,656	305,313
2033	225,000	3.750%	38,531	38,531	302,063
2034	235,000	3.750%	34,313	34,313	303,625
2035	245,000	3.750%	29,906	29,906	304,813
2036	250,000	3.750%	25,313	25,313	300,625
2037	260,000	3.750%	20,625	20,625	301,250
2038	270,000	3.750%	15,750	15,750	301,500
2039	280,000	3.750%	10,688	10,688	301,375
2040	290,000	3.750%	5,438	5,438	300,875
	<u>\$ 4,000,000</u>		<u>\$ 695,344</u>	<u>\$ 757,844</u>	<u>\$ 5,453,188</u>

Assumptions:

Bonds Dated:	05/01/2023
First Interest Payment:	10/01/2023
Number of Days:	150 *
Subsequent Interest Payment:	04/01/2024
Number of Days:	180
First Principal Payment:	10/01/2023
Projected Interest Rate	3.75%

17000 Kercheval Ave. Suite 230, Grosse Pointe, Michigan 48230
PHONE: (313) 961-8222

The information contained herein was derived from sources generally recognized as reliable and does not make any representations as to correctness or completeness and has in no way been altered except to the extent that some information may be summarized, and is in no way intended to be a solicitation for orders.

\$1,000,000
 VILLAGE OF LAKE ORION
 COUNTY OF OAKLAND, STATE OF MICHIGAN
 DOWNTOWN DEVELOPMENT AUTHORITY BONDS, SERIES 2023
 (TAXABLE)

SCHEDULE OF DEBT SERVICE REQUIREMENTS

On a Calendar Year Basis

Year	Principal Due October 1	Interest Rate	Interest Due April 1	Interest Due October 1	Total Principal & Interest Requirements
2023	\$ 60,000	4.500%	\$ -	\$ 18,750 *	\$ 78,750
2024	40,000	4.500%	21,150	21,150	82,300
2025	40,000	4.500%	20,250	20,250	80,500
2026	40,000	4.500%	19,350	19,350	78,700
2027	45,000	4.500%	18,450	18,450	81,900
2028	45,000	4.500%	17,438	17,438	79,875
2029	50,000	4.500%	16,425	16,425	82,850
2030	50,000	4.500%	15,300	15,300	80,600
2031	50,000	4.500%	14,175	14,175	78,350
2032	55,000	4.500%	13,050	13,050	81,100
2033	55,000	4.500%	11,813	11,813	78,625
2034	60,000	4.500%	10,575	10,575	81,150
2035	60,000	4.500%	9,225	9,225	78,450
2036	65,000	4.500%	7,875	7,875	80,750
2037	65,000	4.500%	6,413	6,413	77,825
2038	70,000	4.500%	4,950	4,950	79,900
2039	75,000	4.500%	3,375	3,375	81,750
2040	75,000	4.500%	1,688	1,688	78,375
	<u>\$ 1,000,000</u>		<u>\$ 211,500</u>	<u>\$ 230,250</u>	<u>\$ 1,441,750</u>

Assumptions:

Bonds Dated:	05/01/2023
First Interest Payment:	10/01/2023
Number of Days:	150 *
Subsequent Interest Payment:	04/01/2024
Number of Days:	180
First Principal Payment:	10/01/2023
Projected Interest Rate	4.50%

17000 Kercheval Ave. Suite 230, Grosse Pointe, Michigan 48230

PHONE: (313) 961-8222 FAX: (313) 961-8220

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\$5,000,000
 VILLAGE OF LAKE ORION
 COUNTY OF OAKLAND, STATE OF MICHIGAN
 DOWNTOWN DEVELOPMENT AUTHORITY BONDS, SERIES 2023

SCHEDULE OF DEBT SERVICE REQUIREMENTS

On a Calendar Year Basis
Combined Debt Service

Year	Principal Due April 1	Interest Rate	Interest Due April 1	Interest Due October 1	Total Principal & Interest Requirements
2023	\$ 300,000	Mixed	\$ -	\$ 81,250 *	\$ 381,250
2024	200,000	Mixed	91,650	91,650	383,300
2025	210,000	Mixed	87,750	87,750	385,500
2026	215,000	Mixed	83,663	83,663	382,325
2027	225,000	Mixed	79,481	79,481	383,963
2028	235,000	Mixed	75,094	75,094	385,188
2029	245,000	Mixed	70,519	70,519	386,038
2030	255,000	Mixed	65,738	65,738	386,475
2031	260,000	Mixed	60,769	60,769	381,538
2032	275,000	Mixed	55,706	55,706	386,413
2033	280,000	Mixed	50,344	50,344	380,688
2034	295,000	Mixed	44,888	44,888	384,775
2035	305,000	Mixed	39,131	39,131	383,263
2036	315,000	Mixed	33,188	33,188	381,375
2037	325,000	Mixed	27,038	27,038	379,075
2038	340,000	Mixed	20,700	20,700	381,400
2039	355,000	Mixed	14,063	14,063	383,125
2040	365,000	Mixed	7,125	7,125	379,250
	<u>\$ 5,000,000</u>		<u>\$ 906,844</u>	<u>\$ 988,094</u>	<u>\$ 6,894,938</u>

Assumptions:

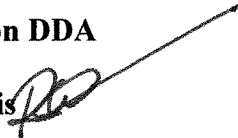
Bonds Dated: 05/01/2023
 First Interest Payment: 10/01/2023
 Number of Days: 150 *
 Subsequent Interest Payment: 04/01/2024
 Number of Days: 180
 First Principal Payment: 10/01/2023
 Projected Interest Rate: Mixed

17000 Kercheval Ave. Suite 230, Grosse Pointe, Michigan 48230
PHONE: (313) 961-8222

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ROBERT CHARLES DAVIS

TO: Village of Lake Orion DDA

FROM: Robert Charles Davis 

RE: Authority of the DDA

DATE: February 9, 2023

I. PURPOSE

The sole purpose of this memorandum is to examine certain issues related to the Lake Orion Downtown Development Authority ("Lake Orion DDA") and its authority to finance activities through the issuance of bonds. This memorandum provides legal based responses to issues being raised or asserted on various platforms in the community and among local officials and administrative officials.

II. LEGAL ANALYSIS

A. The Authority of the Lake Orion DDA.

The DDA Act, at MCL 125.4202, states that an authority shall be a "public body corporate" which possesses "all the powers" necessary to carry out the purpose of its incorporation.

"(2) An authority shall be a public body corporate which may sue and be sued in any court of this state. An authority possesses all the powers necessary to carry out the purpose of its incorporation. The enumeration of a power in this part shall not be construed as a limitation upon the general powers of an authority." (MCL 125.4202) (Emphasis Added)

The DDA Act, at MCL 125.4207, states that a DDA board may plan and propose the construction, renovation, repair, remodeling, rehabilitation, restoration, preservation, or reconstruction of a public facility, an existing building, or a multiple-family dwelling unit which may be necessary or appropriate to the execution of a "plan" which, in the opinion of the board, aids in the economic growth of the downtown district.

“(1) **The board may:**

- (a) Prepare an analysis of economic changes taking place in the downtown district.
- (b) Study and analyze the impact of metropolitan growth upon the downtown district.
- (c) **Plan and propose the construction, renovation, repair, remodeling, rehabilitation, restoration, preservation, or reconstruction of a public facility, an existing building, or a multiple-family dwelling unit which may be necessary or appropriate to the execution of a plan which, in the opinion of the board, aids in the economic growth of the downtown district.”** (MCL 125.4207) (Emphasis Added)

The DDA Act defines a “**public facility**” to include a **street, plaza, pedestrian mall**, and any improvements to a street, plaza, or pedestrian mall including street furniture and beautification, **park, parking facility, recreational facility**, right-of-way, **structure**, waterway, bridge, lake, pond, canal, utility line or pipe, **building**, and **access routes** to any of the foregoing, designed and dedicated to use by the public generally, or used by a public agency. The definition is broad and the interpretation is broad.

“(x) “**Public facility**” means a street, plaza, pedestrian mall, and any improvements to a street, plaza, or pedestrian mall including street furniture and beautification, park, parking facility, recreational facility, right-of-way, structure, waterway, bridge, lake, pond, canal, utility line or pipe, building, and access routes to any of the foregoing, designed and dedicated to use by the public generally, or used by a public agency. Public facility includes an improvement to a facility used by the public or a public facility as those terms are defined in section 1 of 1966 PA 1, MCL 125.1351, which improvement is made to comply with the barrier free design requirements of the state construction code promulgated under the Stille-DeRossett-Hale single state construction code act, 1972 PA 230, MCL 125.1501 to 125.1531. Public facility also includes the acquisition, construction, improvement, and operation of a building owned or leased by the authority to be used as a retail business incubator.” (MCL 125.4201) (Emphasis Added)

The DDA Board may implement any plan of development in the downtown district necessary to achieve the purposes of this part, in accordance with the powers of the authority as granted by this part. (See: MCL 125.4207(1)(f).)

The DDA Board may acquire by purchase or otherwise, on terms and conditions and in a manner the authority considers proper or own, convey, or otherwise dispose of, or lease as lessor or lessee, land and other property, real or personal, or rights or interests in property, which the authority determines is reasonably necessary to achieve the purposes of this part, and to grant or acquire licenses, easements, and options with respect to that property. (See: MCL 125.4207(1)(h).)

The DDA Board may improve land and construct, reconstruct, rehabilitate, restore and preserve, equip, improve, maintain, repair, and operate any building, including multiple-family dwellings, and any necessary or desirable appurtenances to that property, within the downtown district for the use, in whole or in part, of any public or private person or corporation, or a combination of them. (See: MCL 125.4207(1)(i).)

The DDA Board may collect fees, rents, and charges for the use of any building or property under its control or any part thereof, or facility therein, and pledge the fees, rents, and charges for the payment of revenue bonds issued by the authority. (See: MCL 125.4207(1)(j).)

The DDA Board may lease any building or property under its control, or any part of a building or property. (See: MCL 125.4207(1)(k).)

B. DDA Activities Can Be Financed.

The DDA Act, at MCL 125.4211, states that DDA's activities can be financed through money borrowed pursuant to Section 213 and 213a of the DDA Act.

“(1) The activities of the authority shall be financed from 1 or more of the following sources:

(a) Donations to the authority for the performance of its functions.

(b) Proceeds of a tax imposed pursuant to section 212.

(c) Money borrowed and to be repaid as authorized by sections 213 and 213a.” (MCL 125.4211) (Emphasis Added)

Section 213 of the DDA Act states that an authority may borrow money and issue its negotiable revenue bonds under the **revenue bond act**, MCL 141.101 to 141.140. The DDA Act, at MCL 125.4213, further states that revenue bonds issued by the authority shall not “except as hereinafter provided” be deemed a debt of the municipality. MCL 125.4213 then states that the municipality -- by a majority vote of the members of its governing body -- may “pledge its full faith and credit to support” the authority’s revenue bonds. The municipality is not required to pledge its full faith and credit, but it has the choice to do so. The word “may” in a state statute means permissive but not mandatory.

“The authority may borrow money and issue its negotiable revenue bonds under the revenue bond act of 1933, 1933 PA 94, MCL 141.101 to 141.140. Revenue bonds issued by the authority shall not except as hereinafter provided be deemed a debt of the municipality or the state. The municipality by majority vote of the members of its governing body may pledge its full faith and credit to support the authority’s revenue bonds.” (Exhibit 1 -- MCL 125.4213) (Emphasis Added)

The DDA Act, at MCL 125.4213a, states that an authority may with “**approval of the local governing body**” borrow money and issue its revenue bonds or notes to finance all or part of the costs of acquiring or constructing property in connection with the implementation of a development plan in the downtown district.

“(1) The authority may with approval of the local governing body borrow money and issue its revenue bonds or notes to finance all or part of the costs of acquiring or constructing property in connection with the implementation of a development plan in the downtown

district or to refund or refund in advance bonds or notes issued pursuant to this section.” (MCL 125.4213a) (Emphasis Added)

MCL 125.4213a is clear that, in order for the Lake Orion DDA to borrow money and issue revenue bonds, the “local governing body” must approve. This is a mandatory standard.¹

The DDA Act, at MCL 125.4213a, states that the “**costs**” which may be financed by the issuance of the revenue bonds or notes may include the cost of purchasing, acquiring, constructing, improving, enlarging, extending, or repairing property in connection with the implementation of a development plan in the downtown district as well as any engineering, architectural, legal, accounting, or financial expenses.

“The costs which may be financed by the issuance of revenue bonds or notes may include the cost of purchasing, acquiring, constructing, improving, enlarging, extending, or repairing property in connection with the implementation of a development plan in the downtown district; any engineering, architectural, legal, accounting, or financial expenses; the costs necessary or incidental to the borrowing of money; interest on the bonds or notes during the period of construction; a reserve for payment of principal and interest on the bonds or notes; and a reserve for operation and maintenance until sufficient revenues have developed.” (MCL 125.4213a(1).) (Emphasis Added)

The DDA Act, at MCL 125.4213a, states that the authority may “**secure the bonds**” and notes by mortgage, assignment, or pledge of the property and any money, revenues, or income received in connection therewith.

“The authority may secure the bonds and notes by mortgage, assignment, or pledge of the property and any money, revenues, or income received in connection therewith.” (MCL 125.4213a(1).) (Emphasis Added)

¹ MCL 125.4213a does not state that in order for the Lake Orion DDA to issue bonds, the electors of the Village of Lake Orion must vote on and approve of the issuance of such bonds. This is not true as suggested in some of the communications received.

MCL 125.4213a states that a pledge made by the authority shall be valid and binding from the time the pledge is made and that the money or property pledged by the authority shall immediately be subject to the lien of the pledge.

“(2) A pledge made by the authority shall be valid and binding from the time the pledge is made. The money or property pledged by the authority immediately shall be subject to the lien of the pledge without a physical delivery, filing, or further act. The lien of such a pledge shall be valid and binding as against parties having claims of any kind in tort, contract, or otherwise, against the authority, irrespective of whether the parties have notice of the lien. Neither the resolution, the trust agreement, nor any other instrument by which a pledge is created need be filed or recorded.” (MCLS 125.4213a(2).) (Emphasis Added)

MCL 125.4213a states that the municipality **“shall not be liable”** on bonds or notes of the authority and the bonds or notes **“shall not be a debt of the municipality”**. Moreover, the bonds or notes must contain on their face a statement to the effect that the municipality shall not be liable on the bonds or notes.

“(4) The municipality shall not be liable on bonds or notes of the authority issued pursuant to this section and the bonds or notes shall not be a debt of the municipality. The bonds or notes shall contain on their face a statement to that effect.” (MCLS 125.4213a(4).) (Emphasis Added)

C. Village of Lake Orion Potential Liability.

If the Village of Lake Orion issues its own bonds, then it would be liable for those bonds. Moreover, as stated above, MCL 125.4213 states that a municipality by a majority vote of the members of its governing body may pledge its full faith and credit to support an authority’s revenue bonds.

D. Conflicts Of Interest.

MCL 15.322 states that a “public servant” shall not be a party, directly or indirectly, to a contract between himself or herself and the public entity of which they are an officer or employee.

- “(1) Except as provided in sections 3 and 3a, a public servant shall not be a party, directly or indirectly, to any contract between himself or herself and the public entity of which he or she is an officer or employee.” (MCL 15.322) (Emphasis Added)**

MCL 15.321 defines a “public servant” to include all persons serving any public entity except members of the legislature and state officers who are within the provisions of section 10 of article 4 of the state constitution as implemented by legislative act. Furthermore, a “public entity” is defined as the state of Michigan and all agencies thereof, any public body corporate within the state of Michigan, including all agencies thereof, or any non-incorporated public body within the state of whatever nature, including all agencies.

“As used in this act:

- (a) “Public servant” includes all persons serving any public entity, except members of the legislature and state officers who are within the provisions of section 10 of article 4 of the state constitution as implemented by legislative act.**
- (b) “Public entity” means the state including all agencies thereof, any public body corporate within the state, including all agencies thereof, or any non-incorporated public body within the state of whatever nature, including all agencies thereof.” (MCL 15.321)**

MCL 15.322(2) states that the public servant shall not directly solicit a contract between the public entity of which they are an officer or employee and himself, any co-partnership of which they are a member, any private corporation in which they are a stockholder or any trust of which they are a beneficiary or trustee. MCL 15.322(3) further states that a public servant shall not take part in the negotiations of such a contract. MCL 15.322, however, has certain exceptions. The main exception is that the prohibitions do not apply to public servants who are paid for working an average of 25 hours per week or less for the public entity.

Even if the exception is available, there are strict disclosure requirements to take advantage of the exception. Prompt disclosure of any pecuniary interest must be made and it must be made part of the public record. If the public servant stands to benefit less than \$5,000, the interest must be disclosed in writing to the presiding officer at least seven (7) days before the meeting at which the vote will be taken on the contract issue unless the public servant is the presiding officer then the disclosure must be made to the clerk. If the public servant stands to benefit more than \$5,000, then the disclosure must be made at a public meeting and a vote must occur at a public meeting not less than 7 days thereafter. (See: MCL 15.323) The contract must be approved by a vote of not less than 2/3 of the full membership of the approving body in open session without the vote of the public servant making the disclosure.

“(b) The contract is approved by a vote of not less than 2/3 of the full membership of the approving body in open session without the vote of the public servant making the disclosure.” (MCL 15.323)
(Emphasis Added)

In addition, the official body must disclose in the official minutes: the name of each party involved in the contract, the terms of the contract and the nature of the pecuniary interest.

“(c) The official body discloses the following summary information in its official minutes:

- (i) The name of each party involved in the contract.**
- (ii) The terms of the contract, including duration, financial consideration between parties, facilities or services of the public entity included in the contract, and the nature and degree of assignment of employees of the public entity for fulfillment of the contract.**
- (iii) The nature of any pecuniary interest.” (MCL 15.323)**
(Emphasis Added)

Conflicts of interest related to a public servant are a very serious issue which must be guarded against.

E. Lake Orion Downtown Development Authority Resolution 22-001.

In the context of these discussions, it is important to look at Lake Orion Downtown Development Authority Resolution 22-001 (“Resolution”). This Resolution states that, as part of the DDA budget, the DDA shall transfer to a dedicated public facility infrastructure account, 75% of all “future tax increment revenues” captured from the DDA TIF, from all “new realized Captured Taxable Value” commencing from the adoption of this Resolution.

“BE IT FURTHER RESOLVED, that as part of the DDA budget, the DDA shall transfer to a dedicated public facility infrastructure account, 75% of all future tax increment revenues captured from the DDA TIF, from all new realized Captured Taxable Value commencing from the adoption of this Resolution and corresponding Resolution of the Village, on a monthly basis; and” (Lake Orion Downtown Development Authority Resolution 22-001) (Emphasis Added)

The Resolution further states that the current tax increment revenues from the DDA TIF capture shall remain with the DDA in its general fund for use by the DDA. The Resolution further states that the residual 25% of the future tax increment revenues captured from the DDA TIF, from all new realized Captures Taxable Value commencing from the adoption of this Resolution and corresponding DDA Resolution, shall also be retained by the DDA.

“BE IT FURTHER RESOLVED, that the current tax increment revenues from the DDA TIF capture shall remain with the DDA, in its general fund for use by the DDA, and that the residual 25% of the future tax increment revenues captured from the DDA TIF, from all new realized Captures Taxable Value commencing from the adoption of this Resolution and corresponding DDA Resolution, shall be retained by the DDA, in its general fund for the use by the DDA, and to be utilized by the DDA as provided for by law; and” (Lake Orion Downtown Development Authority Resolution 22-001) (Emphasis Added)

Most importantly, the Resolution states that it shall remain effective through the duration of the currently approved DDA Tax Increment Financing and Development Plan ending **December 2039**.

“BE IT FUTHER RESOLVED, that this Resolution shall remain effective through the duration of the currently approved DDA Tax Increment Financing and Development Plan ending December 2039 and, if the DDA Tax Increment Financing and Development Plan is extended, the term of this Resolution shall be extended to the same term; and” (Lake Orion Downtown Development Authority Resolution 22-001) (Emphasis Added)

This Resolution is clear that the statements set forth in the Resolution shall remain effective through December of 2039. A similar and corresponding resolution was passed by the Village of Lake Orion.

This is important because based on an analysis of the current Lake Orion DDA capture, the funds are sufficient in both amount and duration to service the Bond payments at issue.



**Robert Charles Davis
Village of Lake Orion
DDA Attorney**



PHASE II ENVIRONMENTAL SITE ASSESSMENT

215 S. Broadway Street, Lake Orion, Michigan

PREPARED FOR Village of Lake Orion Downtown Development Authority
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PROJECT # 9984F-3-20

DATE January 26, 2023

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Figure 2	Sample Location Map
Figure 3	Site Map with Soil Analytical Results Exceeding EGLE RCC

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Table 1.....Summary of Soil Analytical Results

Table 2.....Summary of Groundwater Analytical Results

Footnotes

APPENDICES

Appendix A.....Soil Boring Logs

Appendix B..... Analytical Laboratory Report and Chain of Custody Documentation

PHASE II ENVIRONMENTAL SITE ASSESSMENT

215 S. Broadway Street, Lake Orion, Michigan

AKT Peerless Project No. 9984F-3-20

1.0 Introduction

Village of Lake Orion Downtown Development Authority (DDA; Client) retained AKT Peerless to conduct a Phase II Environmental Site Assessment (ESA) of the property located at 215 S. Broadway Street in Lake Orion, Oakland County, Michigan (the subject property). This Phase II ESA was conducted in accordance with AKT Peerless' Proposal for a Phase II ESA (Proposal Number PF-31525), dated November 10, 2022, and is based on ASTM International Standard Practice E 1903-19, *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process* (ASTM Standard Practice E 1903).

The Phase II ESA scope of work was intended to evaluate the recognized environmental conditions (RECs) identified by AKT Peerless during its November 2022 Phase I ESA (see Section 2.4).

AKT Peerless' Phase II ESA report documents the field activities, sampling protocols, and laboratory results associated with this assessment. AKT Peerless' Phase II ESA was performed for the benefit of Village of Lake Orion DDA, who may rely on the contents and conclusions of this report.

2.0 Background

2.1 Site Description and Physical Setting

The subject property is located in the northeast ¼ of Section 11 in the Village of Lake Orion (T.4N./R.10E.), Oakland County, Michigan. The subject property is located on the east side of South Broadway Street between Atwater Street and Paint Creek.

See the following table for additional subject property details. For ease of reference in this report, AKT Peerless has designated each of the subject property parcels with a letter. These designations have no relevance to legally recorded data about the subject property.

Subject Property Identifiers

Parcel	Address	Tax Identification Number	Owner of Record	Approximate Acreage
A	215 S. Broadway Street	09-11-228-016	John Nowels	1.28
B	215 S. Broadway Street	09-11-228-004	John R. Nowels	0.26
C	215 S. Broadway Street	09-11-228-020	Lake Orion Lumber Co.	2.57

Parcel A is improved with one 1,408-square foot commercial building (Subject Building 1), currently used as the Lake Orion Lumber office, and one 1,280-square foot storage building (Subject Building 2). In

addition, Parcel C is improved with seven outbuildings. Outbuildings 1, 5, and 6 are currently used for miscellaneous equipment storage. Outbuildings 2, 3, and 4 were formerly used as office space, but are no longer used for a significant or obvious purpose. Outbuilding 7 contains a saw room as well as lumber storage. Several other lean-to structures are present on Parcel C, which are currently used for lumber storage, as well as the remains of two collapsed sheds.

Refer to Figure 1 for a topographic site location map. See Figure 2 for a site map.

2.2 Subject Property History and Land Use

The subject property has operated as a lumberyard since at least 1900, and has contained the subject buildings, associated outbuildings, and woodsheds since at least 1926. Parcels A and C of the subject property additionally operated as a coal yard from at least 1926 until at least the late 1970s, while Parcel B was occupied by a bulk gasoline storage facility from at least 1926 until approximately 1980.

2.3 Adjacent Property Land Use

The adjoining properties have included various residential and commercial developments since at least 1926. The southern adjoining property (i.e., M-24 & Atwater; 295 South Broadway Street; and 303 S. Broadway Street) operated as a gasoline station with four bulk gasoline storage tanks in addition to three gasoline underground storage tanks (USTs) in the 1930s and 1940s, and the southwestern adjoining property (261 S. Broadway Street) operated as a gasoline station in the 1930s through 1950s.

2.4 Previous Environmental Investigations

On November 9, 2022, AKT Peerless prepared a Phase I ESA of the subject property in accordance with United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiry [(AAI), 40 Code of Federal Regulations (CFR) Part 312] and ASTM International Standard Practice E 1527-21 (ASTM Standard Practice E 1527).

At the time of the assessment, Subject Building 1 was used as offices by Lake Orion Lumber. Subject Building 2 was leased out by Lake Orion Lumber to an auto parts sales business, which utilized the building for storage. Parcel B was undeveloped, heavily vegetated, and not used for a significant or obvious purpose. Parcel C contained numerous outbuildings used for storage by Lake Orion Lumber, some of which were in considerable disrepair. The uses of these outbuildings is summarized in Section 2.1 above.

The following RECs were identified in connection with the subject property:

REC 1 - Parcels A and C of the subject property have been used for lumber storage since at least 1926. Lumber storage during this time period typically involved the placement and/or processing of chemically treated wood often on unpaved surfaces. In addition to lumber, coal was formerly stored at the subject property for sale and consumptive use (i.e., Subject Building 1 historically utilized coal heating). The long-term exterior storage of lumber and other materials and the storage of coal on Parcels A and C represents an REC.

REC 2 - Parcel A contained a rail line from at least 1926 until 1980, with rail spurs extending from the rail line across Parcel A and the northwestern portion of Parcel C, terminating near Subject Building 2 and Outbuilding 1. The construction of rail lines and spurs may include the use of fill material of unknown origin as ballast to support the ties and rails. Furthermore, maintenance of rail lines

and spurs may include the use of dust control agents. The potential also exists for leaks or spills of hazardous materials or petroleum products associated with the use of rail lines and spurs. The presence of a rail line on Parcel A and rail spurs on Parcel A and the northwestern portion of Parcel C therefore represents an REC.

- REC 3** - Parcel B was historically used as a bulk gasoline station from at least 1926 until the mid-1980s, with up to five aboveground storage tanks (ASTs) present on the parcel prior to their apparent removal in the mid-1980s. The bulk gasoline station also included a pump house and automotive service garage. No information regarding the removal of the bulk gasoline station or subsequent subsurface investigations were identified during this assessment. It is also unknown as to whether the bulk gasoline station utilized USTs. According to aerial photographs, Parcel B was used for exterior storage of lumber and other materials following removal of the ASTs by 1990. The historical use of Parcel B as a bulk gasoline station and subsequent use of Parcel B for exterior materials storage therefore represents an REC.
- REC 4** - Based on a review of fire insurance maps and aerial photographs, an oil house was located on the northwestern portion of Parcel C in 1926 and up to four ASTs were present on the eastern portion of Parcel C from approximately 1976 until approximately 1999. The contents of these ASTs were not identified during this assessment, although, according to the subject property owner, at least some of these ASTs were replaced by two USTs containing diesel and kerosene. The former presence of an oil house on the northwestern portion of Parcel C and up to four bulk ASTs on the eastern portion of Parcel C represents an REC.
- REC 5** - The southern adjoining property (i.e., M-24 and Atwater; 295 South Broadway Street; and 303 S. Broadway Street) was operated as a bulk gasoline station from at least the 1930s through the 1950s. The total number of ASTs and USTs historically present on this adjoining property is unknown; however, at least four orphan USTs were discovered on the property between 1993 and 2003 and fire insurance maps depict four gasoline ASTs. Subsurface investigations on the adjoining property confirmed the presence of volatile organic compounds (VOCs) and lead in soil and groundwater at concentrations in excess of Part 201 Residential Cleanup Criteria (RCC). Contaminated soil remains present on the southern adjoining property and groundwater is expected to flow northeast toward the subject property. Therefore, the historical use of, and documented contamination at, the southern adjoining property represents an REC.
- REC 6** - A gasoline station with between two and four USTs was historically present on the southwestern adjoining property (i.e., 261 S. Broadway Street) from at least 1934 until at least 1963. No information regarding the removal of these USTs or subsequent subsurface investigations were identified during this assessment. The historical use of the southwestern adjoining property as a gasoline station therefore represents an REC.

AKT Peerless recommended further investigation to evaluate the nature, extent, magnitude, and materiality of the above-identified RECs.

In addition to the RECs identified above, the following historical recognized environmental condition (HREC) was identified in connection with the subject property:

- HREC 1** - According to Michigan Department of Licensing and Regulatory Affairs (LARA) Bureau of Fire Services (BFS) records and the subject property owner, one 20,000-gallon diesel UST (Tank 1) and one 20,000-gallon kerosene UST (Tank 2) were installed on the northeastern portion of Parcel C

of the subject property in January 1986 to replace ASTs that were removed in 1985. Tanks 1 and 2 were removed from the ground in June 2000, at which time a confirmed release (C-0516-00) was reported. Insight Environmental Services, Inc. completed a Leaking Underground Storage Tank (LUST) Closure Report in July 2000. Ten soil samples were collected from the sidewalls of the excavation and one groundwater sample was collected from the floor of the excavation. Analytical results indicated that 1,2,4-trimethylbenzene (1,2,4-TMB) was detected in one soil sample at a concentration above the Part 201 Generic Cleanup Criteria for Groundwater Surface Water Interface Protection (GSIP). In addition, 1,2,4-TMB was detected in the groundwater sample at a concentration above Part 201 Generic Cleanup Criteria for Groundwater Surface Water Interface (GSI) and Drinking Water (DW). This investigation associated with the confirmed release was administratively closed on November 1, 2000, and unrestricted residential use of the subject property was granted. A Risk-Based Corrective Action (RBCA) Pathway Analysis was completed as part of the Closure Report. The RBCA evaluated all possible exposure pathways and determined further remediation was not necessary. The “closed” status of the confirmed release investigation therefore represents an HREC.

AKT Peerless did not recommend further evaluation of this HREC.

3.0 Phase II Environmental Site Assessment Activities

The following sections summarize the subsurface investigation activities conducted by AKT Peerless.

3.1 Scope of Assessment

To further evaluate the RECs identified in Section 2.4, AKT Peerless conducted a subsurface investigation at the subject property that included: (1) the advancement of nineteen soil borings (SB-1 through SB-19); (2) the installation of eight temporary groundwater monitoring wells (SB-2-GW, SB-6-GW, SB-9-GW, SB-12-GW, SB-14-GW, SB-16-GW, SB-17-GW, and SB-18-GW); and (3) the collection of seventeen soil samples and eight groundwater samples. The following samples were submitted for laboratory analyses:

- Seventeen soil samples for VOCs, semi-volatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PNAs), polychlorinated biphenyls (PCBs), one or more of the Michigan Ten Metals (i.e., arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc), creosote acid extractables, ethylene glycol, pesticides, and/or vanadium.
- Eight groundwater samples for VOCs, SVOCs, PNAs, one or more of the Michigan Ten Metals (dissolved), creosote, ethylene glycol, and/or pesticides.

The following table summarizes each REC, the site investigation activities performed to address each REC, and the laboratory parameters used to address each REC.

Summary of Investigation Activity

REC #	Environmental Concern	Investigation Activity	Analytical Parameters
1	Historical use of Parcels A and C as a lumber yard, including lumber storage (interior and exterior), coal storage, and other exterior materials storage.	SB-4*, SB-5*, SB-7, SB-8, SB-9, SB-9-GW, SB-10, SB-11, SB-12, SB-12-GW	VOCs, PNAs, SVOCs, Michigan Ten Metals, vanadium, PCBs, creosote, and/or pesticides
2	Historical presence of a rail line and/or rail spurs on Parcels A and C.	SB-1, SB-3, SB-4*, SB-5*	VOCs, PNAs, Michigan Ten Metals, vanadium, PCBs, and/or creosote
3	Historical use of Parcel B as a bulk gasoline station with up to five bulk ASTs and subsequent use of Parcel B for exterior lumber and other materials storage.	SB-13, SB-14, SB-14-GW SB-15, SB-16, SB-16-GW	VOCs, PNAs, PCBs, ethylene glycol, cadmium, chromium, and/or lead
4	Former presence of an oil house on the northwestern portion of Parcel C and up to four bulk ASTs on the eastern portion of Parcel C.	SB-6, SB-6-GW, SB-18, SB-18-GW, SB-19	VOCs, PNAs, cadmium, chromium, lead, and/or PCBs
5	Historical use of the southern adjoining property (i.e., 295 S. Broadway Street) as a bulk gasoline station, with documented contamination in soil and groundwater.	SB-17-GW	VOCs, PNAs, lead
6	Historical use of the southwestern adjoining property (i.e., 261 S. Broadway Street) as a gasoline station with up to four USTs.	SB-2-GW	VOCs, PNAs, lead

*Note: Soil boring intended to evaluate more than one REC.

3.1.1 Soil Evaluation

On December 6 and December 7, 2022, AKT Peerless advanced nineteen soil borings at the subject property. AKT Peerless used hydraulic drive/direct-push (Geoprobe®) procedures following the guidance outlined in ASTM Standard Practice E 1903. AKT Peerless collected continuous soil samples from the soil borings to depths of up to 20 feet below ground surface (bgs), the maximum depth explored. AKT Peerless personnel inspected, field-screened, and logged the samples collected at each soil boring location.

Refer to Figure 2 for a site map with soil boring locations. Boring logs are provided in **Appendix A**.

3.1.2 Groundwater Evaluation

AKT Peerless encountered groundwater in eight of the soil borings advanced at the subject property (i.e., at soil boring locations SB-2, SB-6, SB-9, SB-12, SB-14, SB-16, SB-17, and SB-18). AKT Peerless installed a

temporary groundwater monitoring well at these soil boring locations. A one-inch polyvinyl chloride (PVC) riser with a five-foot screen was utilized for each temporary groundwater monitoring well.

Refer to Figure 2 for a site map with the temporary groundwater monitoring well locations.

3.2 Quality Assurance/Quality Control

To ensure the accuracy of data collected during on-site activities, AKT Peerless implemented proper quality assurance/quality control (QA/QC) measures. The QA/QC procedures included, but were not limited to, (1) decontamination of sampling equipment before and between sampling events, (2) calibration of field equipment, (3) documentation of field activities, and (4) sample preservation techniques.

3.2.1 Decontamination of Equipment

During sample collection, AKT Peerless adhered to proper decontamination procedures. Sampling equipment was decontaminated using the following methods to minimize potential cross-contamination of soil and groundwater samples:

- Steam-cleaning or washing and scrubbing the equipment with non-phosphate detergent
- Rinsing the equipment
- Air-drying the equipment

3.2.2 Calibration of Field Equipment

AKT Peerless utilized an organic vapor meter/photoionization detector (OVM/PID) during subsurface investigation activities at the subject property. The OVM/PID was maintained in a calibrated condition using 100 parts per million (ppm) isobutylene span gas prior to subsurface investigation activities.

3.2.3 Documentation of Activities

During AKT Peerless' subsurface investigation activities, subject property conditions (i.e., soil boring locations, weather conditions) were documented. AKT Peerless visually inspected the soil and groundwater samples and prepared a geologic log for each soil boring. The logs include soil characteristics such as (1) color, (2) composition (e.g., sand, clay, or gravel), (3) soil moisture and water table depth, and (4) signs of possible contamination (i.e., stained or discolored soil, odors). Soil types were classified in accordance with ASTM Standard Practice D-2488, *Unified Soil Classification System*. All soil and groundwater samples were delivered to Fibertec Environmental Services' analytical laboratory in Holt, Michigan under chain-of-custody documentation.

See **Appendix B** for AKT Peerless' soil boring logs. See Figure 2 for a site map with soil boring locations.

3.2.4 Sample Preservation Techniques

AKT Peerless collected soil samples according to USEPA Publication SW-846, *Test Methods for Evaluating Solid Waste*. Soil and groundwater samples were collected into laboratory-supplied containers, stored on ice or at approximately four degrees Celsius, and submitted under chain-of-custody documentation.

Soil samples collected for VOCs analyses were field preserved with methanol in accordance with USEPA Method 5035. Soil samples collected for PNAs, SVOCs, PCBs, and metals analyses were stored in unpreserved, eight-ounce wide-mouth jars.

Groundwater samples collected from the temporary monitoring wells were collected with a peristaltic pump and dedicated tubing. Groundwater samples for VOCs analyses were collected with zero headspace into 40-mL glass vials and preserved with hydrochloric acid. Groundwater samples for metals analyses were collected into high-density polyethylene (HDPE) bottles and preserved with nitric acid. Groundwater samples collected for analysis of PNAs, SVOCs, creosote, pesticides, and ethylene glycol were collected into 250-mL amber glass jars.

3.3 Laboratory Analysis and Methods

AKT Peerless submitted seventeen soil samples and eight groundwater samples for laboratory analyses. The following table summarizes the location, depth, matrix, and laboratory analyses for each sample.

Sample Collection Summary

Sample Identification	Sample Matrix	Sample/Well Screen Depth Interval (feet bgs)	Laboratory Analytical Parameter(s)
SB-1	Soil	(1'-2')	VOCs, PNAs, Michigan Ten Metals, PCBs, creosote
SB-2-GW	Groundwater	(10'-15')	VOCs, PNAs, lead
SB-3	Soil	(1.5'-2.5')	VOCs, PNAs, Michigan Ten Metals, PCBs, creosote
SB-4	Soil	(1'-2')	VOCs, PNAs, Michigan Ten Metals, PCBs, creosote, vanadium
SB-5	Soil	(1.5'-2.5')	VOCs, PNAs, Michigan Ten Metals, PCBs, creosote, vanadium
SB-6	Soil	(2'-3')	VOCs, PNAs, PCBs
SB-6-GW	Groundwater	(10'-15')	VOCs, PNAs, cadmium, chromium, lead
SB-7	Soil	(3.5'-4.5')	VOCs, SVOCs, Michigan Ten Metals, PCBs, creosote, pesticides
SB-8	Soil	(5'-6')	VOCs, SVOCs, Michigan Ten Metals, PCBs, creosote, pesticides
SB-9	Soil	(9.5'-10.5')	VOCs, SVOCs, Michigan Ten Metals, creosote, pesticides
SB-9-GW	Groundwater	(9'-14')	VOCs, SVOCs, Michigan Ten Metals, creosote, pesticides

Sample Identification	Sample Matrix	Sample/Well Screen Depth Interval (feet bgs)	Laboratory Analytical Parameter(s)
SB-10	Soil	(1'-2')	VOCs, SVOCs, Michigan Ten Meals, creosote, pesticides
SB-11	Soil	(0.5'-1.5')	VOCs, SVOCs, Michigan Ten Meals, creosote, pesticides
SB-12	Soil	(7'-8')	VOCs, SVOCs, Michigan Ten Metals, PCBs, creosote, pesticides
SB-12-GW	Groundwater	(6'-11')	VOCs, SVOCs, Michigan Ten Meals, creosote, pesticides
SB-13	Soil	(6.5'-7.5')	VOCs, PNAs, lead
SB-14	Soil	(1.5'-2.5')	VOCs, PNAs, lead
SB-14-GW	Groundwater	(9'-14')	VOCs, lead
SB-15	Soil	(2'-3')	VOCs, PNAs, lead
SB-16	Soil	(2.5'-3.5')	VOCs, PNAs, PCBs, cadmium, chromium, lead, ethylene glycol
SB-16-GW	Groundwater	(3'-8')	VOCs, PNAs, cadmium, chromium, lead, ethylene glycol
SB-17-GW	Groundwater	(9'-14')	VOCs, PNAs, lead
SB-18	Soil	(6.5'-7.5')	VOCs, PNAs, lead
SB-18-GW	Groundwater	(6'-11')	VOCs, PNAs, lead
SB-19	Soil	(0.5'-1.5')	VOCs, PNAs, lead

The laboratory analyzed the samples for: (1) VOCs in accordance with USEPA Method 8260D; (2) PNAs, SVOCs, and creosote acid extractables in accordance with USEPA Method 8270E; (3) metals in accordance with USEPA Methods 6020B, 7470A, and 7471B; (4) PCBs in accordance with USEPA Method 8082A; pesticides in accordance with USEPA Method 8081B; and ethylene glycol in accordance with USEPA Method 8015C.

4.0 Evaluation and Presentation of Results

4.1 Subsurface Conditions

The following sections summarize the physical soil and groundwater conditions at the subject property.

4.1.1 Soil and Groundwater Conditions based on Published Material

According to the United States Department of Agriculture (USDA) Soil Conservation Service's (SCS) publication, *Soil Survey of Oakland County, Michigan* (1982), the soil at the subject property is classified as the Urban land-Spinks-Oshtemo group, which is described as urban land and nearly level to rolling, well drained sandy soils; on outwash plains, beach ridges, and moraines.

According to the Michigan Department of Natural Resources (MDNR) Geological Survey Division's publication, *Quaternary Geology of Southern Michigan* (1982), the Quaternary geology at the subject property is classified as "Glacial outwash sand and gravel and postglacial alluvium," described as pale brown to pale reddish brown, fine to coarse sand alternating with layers of small gravel to heavy cobbles, mixed lithology of sedimentary, igneous, and metamorphic rocks, well to poorly-sorted, well-stratified, in places cross-bedded. Occurs as fluvial terraces along present and abandoned drainage ways, as fans and sheets flanking end moraines, and as deltas along glacial lake margins. Soil thickness ranges from three to 60 feet. Typically, glacial outwash sand and gravel are associated with moderate to high hydraulic permeability and may allow the movement of contaminants through groundwater.

AKT Peerless did not identify site-specific groundwater information in published material.

4.1.2 Soil and Groundwater Conditions based on Field Observations

During subsurface investigation activities, AKT Peerless encountered the following soil types:

- FILL from below the pavement/concrete slab or topsoil to approximately two feet bgs. This fill appeared generally as a poorly graded gravel and was found with a dark brown or black sand. In one boring location (SB-5) brick was noted.
- SAND from below the gravel to 20 feet bgs, the maximum depth explored. This sand consisted of a brown silty/fine-grained sand.
- CLAY from below the sand layer to 20 feet bgs, the maximum depth explored. This clay was only encountered in borings on Parcel B and consisted of a soft gray clay, coarse enough to be silt in some places.

AKT Peerless encountered groundwater at select soil boring locations at depths between 3.5 feet bgs and 12 feet bgs. Groundwater appeared to be consistent across the site.

With the exception of the fill material encountered, subsurface soils at the subject property are consistent with the description of "glacial outwash sand and gravel and postglacial alluvium" as described in *Quaternary Geology of Southern Michigan*.

See Figure 2 for a site map with soil boring locations. See **Appendix A** for AKT Peerless' soil boring logs.

4.2 Laboratory Analytical Results

AKT Peerless collected soil and groundwater samples for the purpose of evaluating general site environmental conditions and to support future land use planning. When appropriate, analytical results were compared to Part 201 Generic RCC provided in Michigan Administrative Rules 299.1 through 299.50.

4.2.1 Soil Analytical Results

AKT Peerless submitted seventeen soil samples laboratory analyses of VOCs, SVOCs, PNAs, PCBs, one or more of the Michigan Ten Metals, creosote, ethylene glycol, pesticides, and/or vanadium. The results of the laboratory analyses of the soil samples are summarized in the table below:

Summary of Soil Analytical Results

Parameter	Chemical Abstract Service (CAS) Number	Sample Identification with Criteria Exceedance (depth)	Part 201 Generic RCC Exceeded/Established Criteria (µg/kg)	Maximum Concentration (µg/kg)/Sample Location
Arsenic	7440-38-2	SB-1 (1'-2') SB-3 (1.5'-2.5') SB-5 (1.5'-2.5') SB-7 (3.5'-4.5') SB-8 (5'-6')	GSIP / 4,600 DWP / 4,600 DC / 7,600	9,800 / SB-1, SB-2
Chromium (total)	7440-47-3	SB-1 (1'-2') SB-3 (1.5'-2.5') SB-4 (1'-2') SB-5 (1.5'-2.5') SB-7 (3.5'-4.5') SB-8 (5'-6') SB-9 (9.5'-10.5') SB-10 (1'-2') SB-11 (0.5'-1.5') SB-12 (7'-8') SB-16 (2.5'-3.5')	GSIP / 3,300	16,000 / SB-7
Mercury	7439-97-6	SB-1 (1'-2') SB-3 (1.5'-2.5') SB-4 (1'-2')	GSIP / 50	240 / SB-1
Selenium	7782-49-2	SB-1 (1'-2')	GSIP / 400	470 / SB-1
Benzo(a)pyrene	50-32-8	SB-1 (1'-2')	DC / 2,000	2,600 / SB-1
Benzene	71-43-2	SB-15 (2'-3')	DWP / 100	780 / SB-15
n-Butylbenzene	104-51-8	SB-15 (2'-3')	DWP / 1,600	9,600 / SB-15
sec-Butylbenzene	135-98-8	SB-15 (2'-3')	DWP / 1,600	4,100 / SB-15
Ethylbenzene	100-41-4	SB-15 (2'-3')	DWP / 1,500 GSIP / 360	1,700 / SB-15
Isopropyl benzene	98-82-8	SB-15 (2'-3')	GSIP / 3,200	3,500 / SB-15
2-Methylnaphthalene	91-57-6	SB-15 (2'-3')	GSIP / 4,200	5,100 / SB-15

Parameter	Chemical Abstract Service (CAS) Number	Sample Identification with Criteria Exceedance (depth)	Part 201 Generic RCC Exceeded/Established Criteria (µg/kg)	Maximum Concentration (µg/kg)/Sample Location
Naphthalene	91-20-3	SB-15 (2'-3')	GSIP / 730	9,700 / SB-15
n-Propylbenzene	103-65-1	SB-15 (2'-3')	DWP / 1,600	20,000 / SB-15
1,2,4-Trimethylbenzene	95-63-6	SB-15 (2'-3')	DWP / 2,100 GSIP / 570	3,500 / SB-15
Xylenes	1330-20-7	SB-15 (2'-3')	GSIP / 980	4,100 / SB-15

Notes:

Sample identification: SB-# indicates soil boring location and (#-#) indicates sample depth interval in feet bgs.

µg/kg – micrograms per kilogram

GSIP – Groundwater Surface Water Interface Protection Cleanup Criteria

DWP – Drinking Water Protection Cleanup Criteria

DC –Direct Contact Cleanup Criteria

In addition to the parameters identified in the table above, barium, cadmium, copper, lead, vanadium, zinc, benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, pyrene, toluene, 1,2,3-trimethylbenzene, and 1,3,5-trimethylbenzene were detected in one or more soil samples collected from the subject property at concentrations above analytical laboratory method detection limits (MDLs), but below Part 201 Generic RCC. Ethylene glycol, PCBs, pesticides, creosote acid extractables, and other SVOCs beyond PNAs were not detected in soil samples collected from the subject property at concentrations above laboratory MDLs or Part 201 Generic RCC.

Refer to Figure 3 for a site map with soil analytical results exceeding Part 201 Generic RCC. Refer to Table 1 for a summary of soil analytical results. Refer to **Appendix B** for a complete analytical laboratory report.

4.2.2 Groundwater Analytical Results

AKT Peerless submitted eight groundwater samples for laboratory analysis of VOCs, SVOCs, PNAs, one or more of the Michigan Ten Metals, creosote, ethylene glycol, and/or pesticides. The results of the laboratory analyses of the groundwater samples are summarized in the table below:

Summary of Groundwater Analytical Results

Parameter	CAS Number	Sample Identification with Criteria Exceedance (well screen depth interval)	Part 201 Generic RCC Exceeded/Established Criteria (µg/L)	Maximum Concentration (µg/L)/Sample Location
Chromium (total)	7440-47-3	SB-16-GW (3'-8')	GSI / 11	18 / SB-16-GW
Lead (total)	7439-92-1	SB-14-GW (4'-9') SB-16-GW (3'-8') SB-17-GW (4'-9') SB-18-GW (6'-11')	DW / 4.0	46 / SB-16-GW

Notes:

Sample identification: SB-#-GW indicates temporary monitoring well location and (#-#) indicates well screen depth interval in feet bgs.

µg/L – micrograms per liter

DW – Drinking Water Cleanup Criteria

GSI – Groundwater Surface Water Interface Cleanup Criteria

AKT Peerless notes that, with the exception of the groundwater sample collected from temporary groundwater monitoring well SB-14-GW, each groundwater sample collected for metals analyses was analyzed for total metals and dissolved metals. While the groundwater sample collected from temporary monitoring well SB-14-GW was not analyzed for dissolved metals, dissolved metals were not identified at concentrations above analytical laboratory MDLs or Part 201 Generic RCC in the remaining samples, therefore indicating that the detected total metals in groundwater samples are likely due to the presence of entrained sediment within the groundwater samples and are not likely due to an environmental release.

In addition to the parameters listed in the table above, barium, cadmium, and zinc were detected in the groundwater samples at concentrations above laboratory MDLs, but below Part 201 Generic RCC. Remaining target parameters were not detected in the groundwater samples collected from the subject property at concentrations above laboratory MDLs.

Refer to Figure 4 for a site map with groundwater analytical results exceeding Part 201 Generic RCC. Refer to Table 2 for a summary of groundwater analytical results. Refer to **Appendix B** for a complete analytical laboratory report.

5.0 Summary, Conclusions, and Recommendations

The following sections summarize the investigation conducted by AKT Peerless at the subject property.

5.1 Summary of Environmental Concerns

Based on AKT Peerless' November 2022 Phase I ESA, the following RECs were identified:

- Historical use of Parcels A and C as a lumber yard, including lumber storage (interior and exterior), coal storage, and other exterior materials storage;
- Historical presence of a rail line and/or rail spurs on Parcels A and C;

- Historical use of Parcel B as a bulk gasoline station with up to five bulk ASTs and subsequent use of Parcel B for exterior lumber and other materials storage;
- Former presence of an oil house on the northwestern portion of Parcel C and up to four bulk ASTs on the eastern portion of Parcel C;
- Historical use of the southern adjoining property (i.e., 295 S. Broadway Street) as a bulk gasoline station, with documented contamination in soil and groundwater; and
- Historical use of the southwestern adjoining property (i.e., 261 S. Broadway Street) as a gasoline station with up to four USTs.

5.2 Summary of Subsurface Investigation

On December 6 and December 7, 2022, AKT Peerless conducted a subsurface investigation at the subject property to evaluate the RECs identified in AKT Peerless' November 2022 Phase I ESA. During the investigation, AKT Peerless: (1) advanced 19 soil borings (SB-1 through SB-19); (2) installed eight temporary groundwater monitoring wells (SB-2-GW, SB-6-GW, SB-9-GW, SB-12-GW, SB-14-GW, SB-16-GW, SB-17-GW, and SB-18-GW); and (3) collected 17 soil samples and eight groundwater samples for laboratory analyses.

5.3 Conclusions

AKT Peerless conducted soil and groundwater sampling in areas most likely to be impacted by contaminants based on the past use of the subject property and select adjoining properties. The results of the investigation indicate the following:

- Arsenic was detected in the soil samples collected from soil boring locations SB-1, SB-3, SB-5, SB-7, and SB-8 (Parcels A and C) at concentrations exceeding the Part 201 Generic Cleanup Criterion for DWP, GSIP, and/or DC.
- Chromium (total) was detected in the soil samples collected from soil boring locations SB-1, SB-3, SB-4, SB-5, SB-7, SB-8, SB-9, SB-10, SB-11, SB-12, and SB-16 (Parcels A, B, and C) at concentrations exceeding the Part 201 Generic Cleanup Criterion for GSIP.
- Mercury was detected in the soil samples collected from soil boring locations SB-1, SB-3, and SB-4 (Parcel A) at concentrations exceeding the Part 201 Generic Cleanup Criterion for GSIP.
- Selenium was detected in the soil sample collected from soil boring location SB-1 (Parcel A) at a concentration exceeding the Part 201 Generic Cleanup Criterion for GSIP.
- Benzo(a)pyrene was detected in the soil sample collected from soil boring location SB-1 (Parcel A) at a concentration exceeding the Part 201 Generic Cleanup Criterion for DC.
- Benzene, n-butylbenzene, sec-butylbenzene, ethylbenzene, isopropyl benzene, 2-methylnaphthalene, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and xylenes were detected in the soil sample collected from soil boring location SB-15 (Parcel B) at concentrations exceeding the Part 201 Generic Cleanup Criteria for DWP and/or GSIP.
- Chromium (total) was detected in one shallow groundwater sample collected from the temporary monitoring well installed at soil boring location SB-16 (Parcel B) at a concentration exceeding the Part 201 Generic Cleanup Criterion for GSI.
- Lead (total) was detected in four shallow groundwater samples collected from the temporary monitoring wells installed at soil boring locations SB-14, SB-16, SB-17, and SB-18. (Parcels B and C) Lead was identified at a concentration exceeding the Part 201 Generic Cleanup Criterion for DW at each of these locations.

Based on laboratory analytical results, Parcels A, B, and C of the subject property meet the definition of a “facility,” as defined in Part 201 of the NREPA.

5.4 Recommendations

AKT Peerless recommends any future owner(s)/operator(s) prepare a Baseline Environmental Assessment (BEA). Section 26(1)(c) of Part 201 provides certain liability protections to a person who becomes an owner or operator of a “facility” on, or after June 5, 1995 if they comply with both of the following, or unless other defenses apply: a BEA is conducted prior to or within 45 days after the earlier of the date of purchase, occupancy, or foreclosure, and the owner or operator discloses the results of the BEA to Michigan Department of Environment, Great Lakes, and Energy (EGLE) Remediation and Redevelopment Division (RRD) and subsequent purchaser or transferee.

In addition, because the subject property meets the definition of a “facility,” AKT Peerless recommends that the current subject property owner conduct a Section 20107(a) Compliance Analysis to assure compliance with Due Care obligations. Due Care obligations include:

- Undertaking measures to prevent exacerbation of existing contamination.
- Exercising Due Care by undertaking response activities to mitigate unacceptable exposure to hazardous substances, mitigate fire and explosion hazards due to hazardous substances, and allow for the intended use of the subject property in a manner that protects health and safety.
- Taking reasonable precautions against the reasonably foreseeable acts or omissions of a third party and the consequences that could result from those acts or omissions.
- Provide notifications to EGLE and others in regard to mitigating fire and explosion hazards, discarded or abandoned containers, contamination migrating beyond property boundaries, as applicable.
- Comply with any land use or resource use restrictions established or relied on in connection with the response activities at the facility.
- Not impede the effectiveness or integrity of any land use or resource use restrictions employed at the facility in connection with response activities.

6.0 Limitations

The information and opinions obtained in this report are for the exclusive use of Village of Lake Orion DDA. No distribution to or reliance by other parties may occur without the express written permission of AKT Peerless. AKT Peerless will not distribute this report without your written consent or as required by law or by a Court order. The information and opinions contained in the report are given in light of that assignment. The report must be reviewed and relied upon only in conjunction with the terms and conditions expressly agreed upon by the parties and as limited therein. Any third parties who have been extended the right to rely on the contents of this report by AKT Peerless (which is expressly required prior to any third-party release), expressly agrees to be bound by the original terms and conditions entered into by AKT Peerless and Village of Lake Orion DDA.

Subject to the above and the terms and conditions, AKT Peerless accepts responsibility for the competent performance of its duties in executing the assignment and preparing reports in accordance with the normal standards of the profession, but disclaims any responsibility for consequential damages. Although AKT Peerless believes that results contained herein are reliable, AKT Peerless cannot warrant or

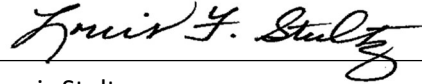
guarantee that the information provided is exhaustive or that the information provided by Village of Lake Orion DDA or third parties is complete or accurate.

7.0 Signatures of Environmental Professionals

The following individuals contributed to the completion of this report.



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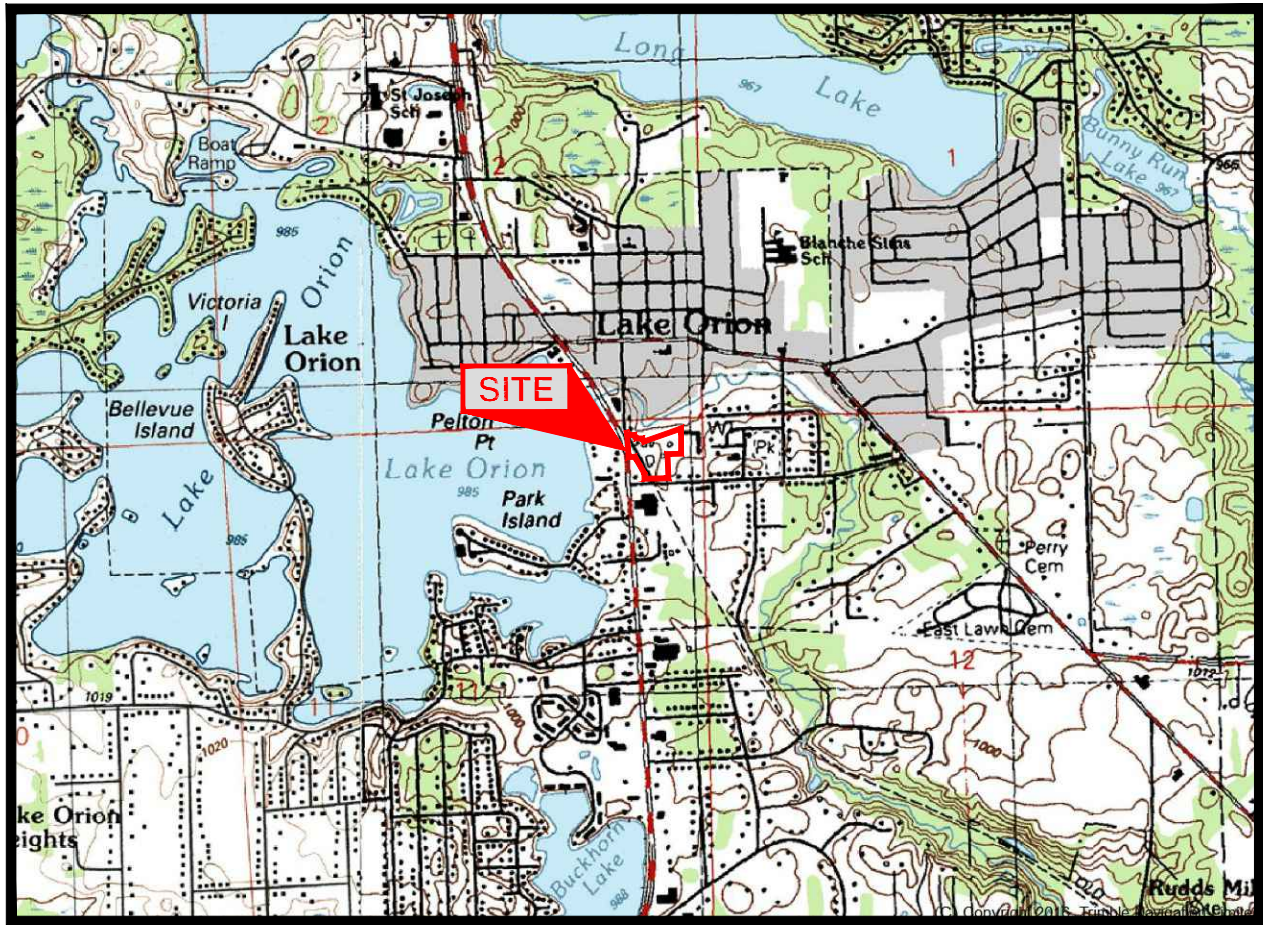
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FIGURES

LAKE ORION QUADRANGLE
MICHIGAN - OAKLAND COUNTY
7.5 MINUTE SERIES (TOPOGRAPHIC)



T.4 N.-R.10 E.

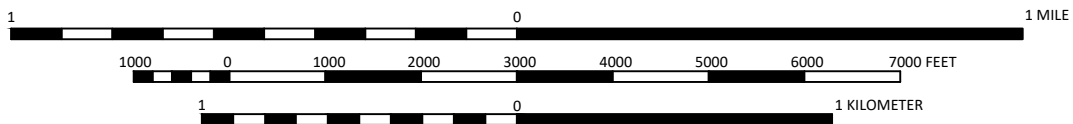
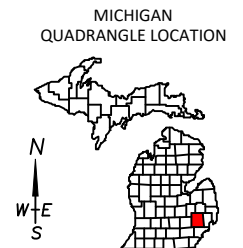


IMAGE TAKEN FROM 1996 U.S.G.S. TOPOGRAPHIC MAP

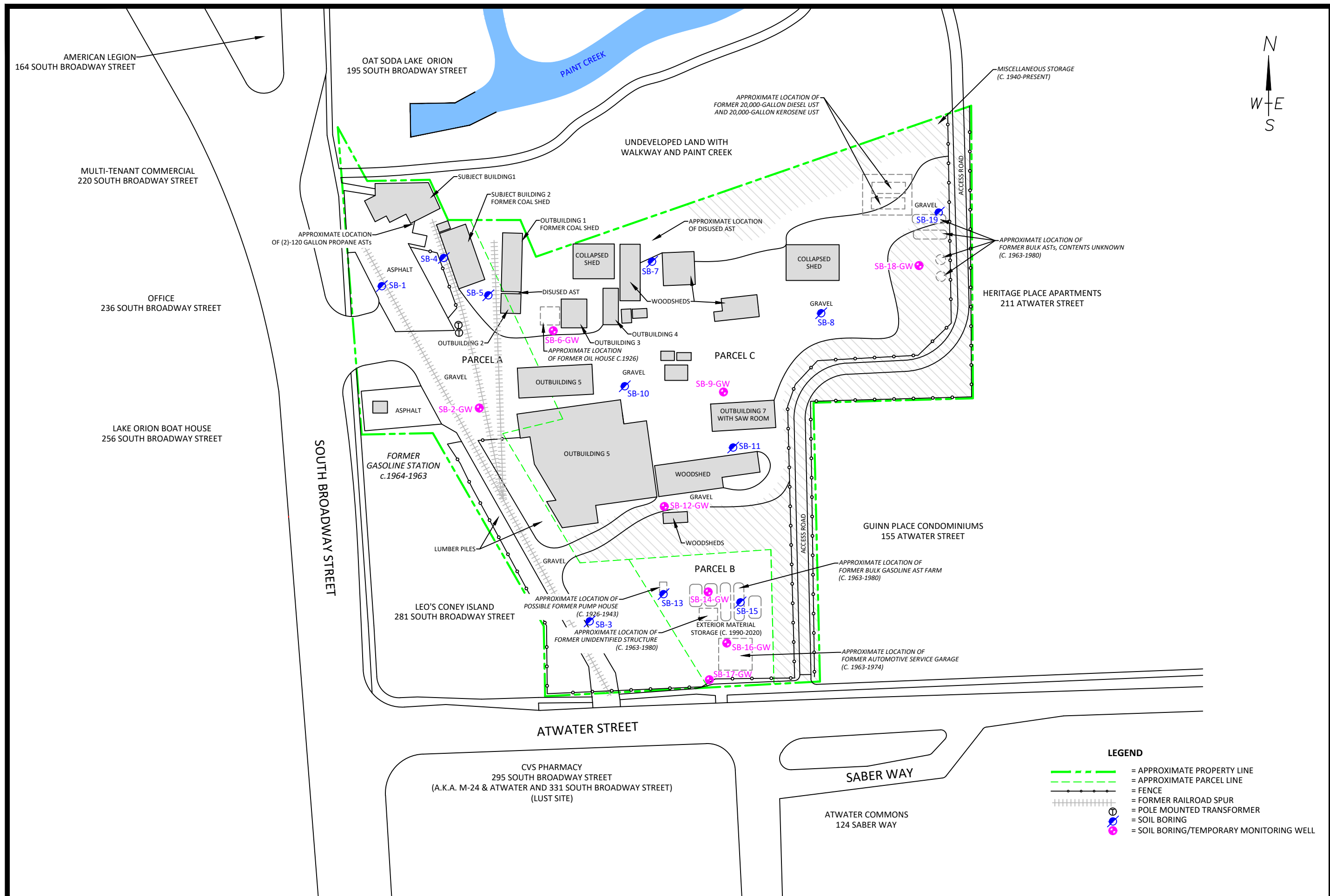


TOPOGRAPHIC LOCATION MAP

215 SOUTH BROADWAY STREET
LAKE ORION, MICHIGAN
PROJECT NUMBER: 9984F-3-20

DRAWN BY: OGO
DATE: 10/18/2022

FIGURE 1



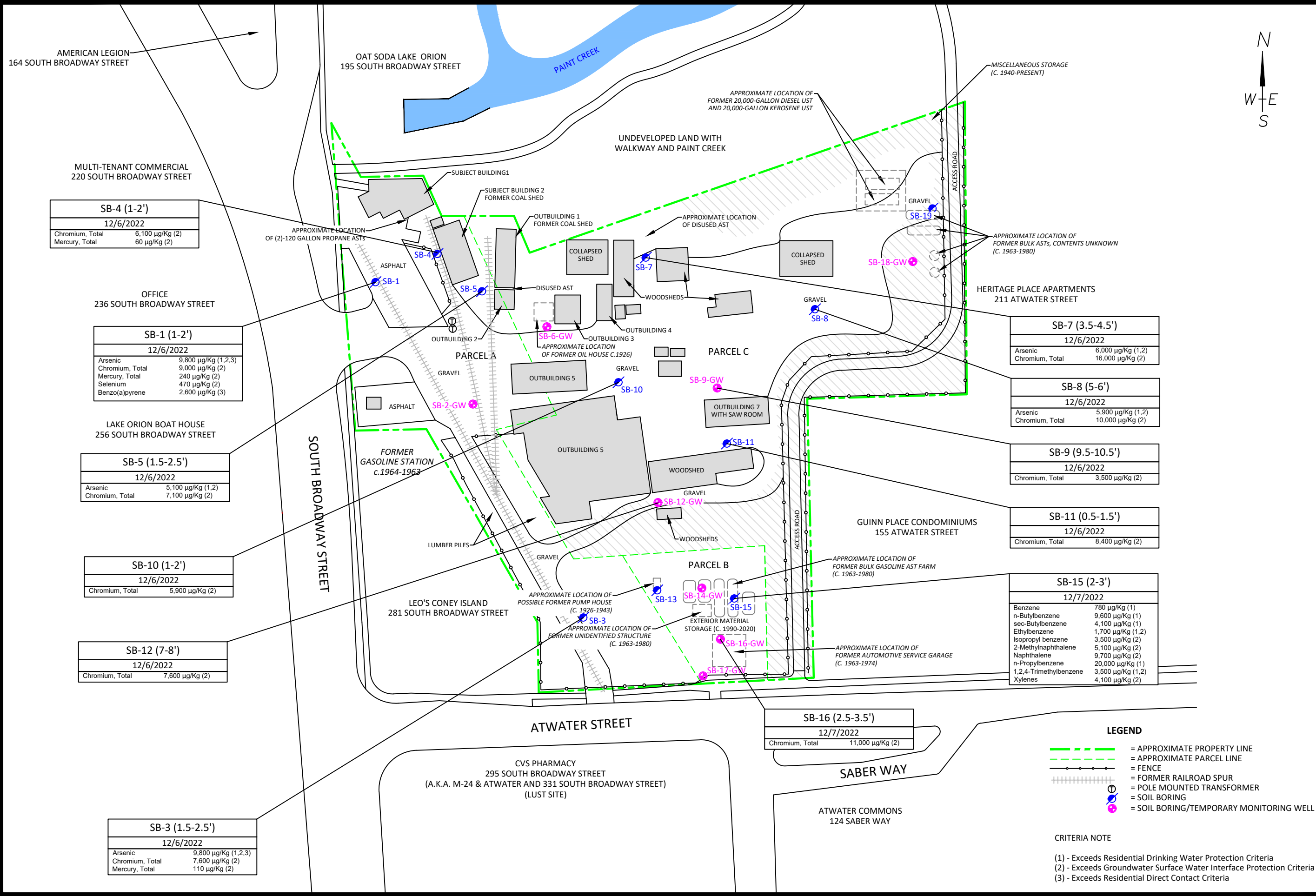
SAMPLE LOCATION MAP

2215 SOUTH BROADWAY STREET
LAKE ORION, MICHIGAN
PROJECT NUMBER: 9984F-3-20

FIGURE 2

Attachment: 9984F_Village of Lake Orion DDA_215 S Broadway, Lake Orion_PH II ESA (1) (1) (5707 : Property Acquisition - Lake Orion

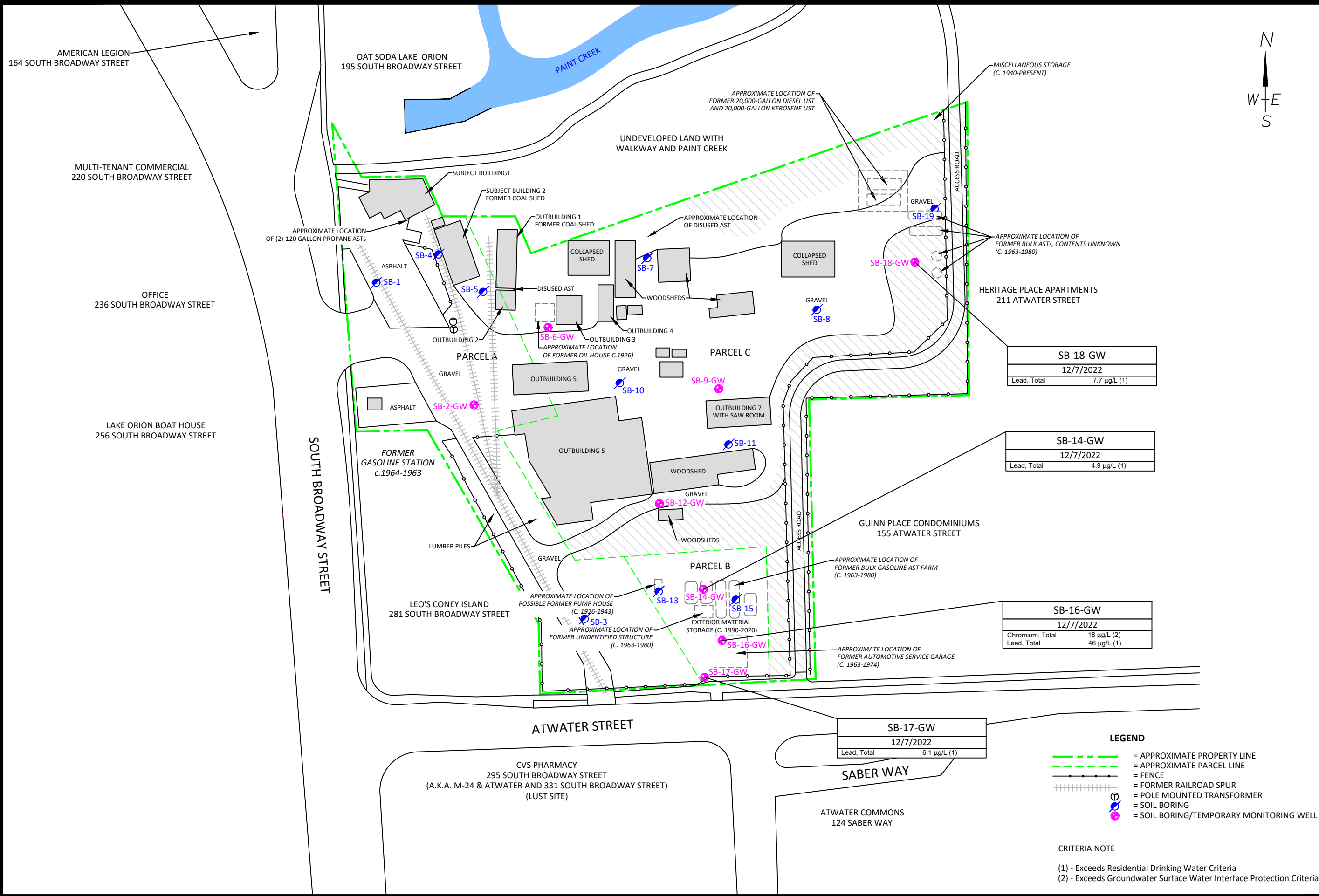
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ENVIRONMENTAL SERVICES



SITE MAP WITH SOIL ANALYTICAL RESULTS EXCEEDING EGLE RCC

215 SOUTH BROADWAY STREET
LAKE ORION, MICHIGAN
PROJECT NUMBER: 9984F-3-20





SITE MAP WITH GROUNDWATER ANALYTICAL RESULTS EXCEEDING EGLE RCC

215 SOUTH BROADWAY STREET
LAKE ORION, MICHIGAN
PROJECT NUMBER: 9984F-3-20



TABLES

Attachment: 9984F_Village of Lake Orion DDA_215 S Broadway, Lake Orion_PH II ESA (1)(1) (5707 : Property Acquisition - Lake Orion

Packet Pg. 99

Table 2: Summary of Groundwater Analytical Results
215 S. Broadway Street
Lake Orion, Michigan
AKT Peerless Project No. 9984F-3-20

Parameters	Chemical Abstract Service (CAS) Number	Residential Drinking Water (DW) Criteria	Groundwater Surface Water Interface (GSI) Criteria	Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Water Solubility	Flammability and Explosivity Screening Level	Maximum Concentration Detected	Sample Location	SB-2-GW	SB-6-GW	SB-9-GW	SB-12-GW	SB-14-GW	SB-16-GW	SB-17-GW	SB-18-GW
(Refer to detailed laboratory report for method reference data)								Collection Date	12/6/2022	12/6/2022	12/6/2022	12/6/2022	12/7/2022	12/7/2022	12/7/2022	12/7/2022
								Well Screen Depth Interval	(10'-15')	(10'-15')	(9'-14')	(6'-11')	(4'-9')	(3'-8')	(4'-9')	(6'-11')
Glycols		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Ethylene glycol	107-21-1	15,000	1.9E+5 (X)	NLV	1.0E+09	NA	BDL		NS	NS	NS	NS	NS	<10,000	NS	NS
Metals																
Arsenic, Total	7440-38-2	10 (A)	10	NLV	NA	ID	BDL		NS	NS	<5.0	<5.0	NS	NS	NS	NS
Arsenic, Dissolved	7440-38-2	10 (A)	10	NLV	NA	ID	BDL		NS	NS	<5.0	<5.0	NS	NS	NS	NS
Barium (B), Total	7440-39-3	2,000 (A)	(G)	NLV	NA	ID	110		NS	NS	<100	110	NS	NS	NS	NS
Barium (B), Dissolved	7440-39-3	2,000 (A)	(G)	NLV	NA	ID	110		NS	NS	<100	110	NS	NS	NS	NS
Cadmium (B), Total	7440-43-9	5.0 (A)	(G,X)	NLV	NA	ID	2.0		NS	<1.0	<1.0	<1.0	NS	2.0	NS	NS
Cadmium (B), Dissolved	7440-43-9	5.0 (A)	(G,X)	NLV	NA	ID	0.0		NS	<1.0	<1.0	<1.0	NS	<1.0	NS	NS
Chromium, Total	7440-47-3	100 (A)	11	NLV	NA	ID	18		NS	<10	<10	<10	NS	18	NS	NS
Chromium, Dissolved	7440-47-3	100 (A)	11	NLV	NA	ID	0		NS	<10	<10	<10	NS	<10	NS	NS
Copper (B), Total	7440-50-8	1,000 (E)	(G)	NLV	NA	ID	BDL		NS	NS	<4.0	<4.0	NS	NS	NS	NS
Copper (B), Dissolved	7440-50-8	1,000 (E)	(G)	NLV	NA	ID	BDL		NS	NS	<4.0	<4.0	NS	NS	NS	NS
Lead (B), Total	7439-92-1	4.0 (L)	(G,X)	NLV	NA	ID	46		<3.0	<3.0	<3.0	<3.0	4.9	46	6.1	7.7
Lead (B), Dissolved	7439-92-1	4.0 (L)	(G,X)	NLV	NA	ID	0		<3.0	<3.0	<3.0	<3.0	NS	<3.0	<3.0	<3.0
Mercury, Total	7439-97-6	2.0 (A)	0.0013	56 (S)	56	ID	BDL		NS	NS	<0.20	<0.20	NS	NS	NS	NS
Mercury, Dissolved	7439-97-6	2.0 (A)	0.0013	56 (S)	56	ID	BDL		NS	NS	<0.20	<0.20	NS	NS	NS	NS
Selenium (B), Total	7782-49-2	50 (A)	5.0	NLV	NA	ID	BDL		NS	NS	<5.0	<5.0	NS	NS	NS	NS
Selenium (B), Dissolved	7782-49-2	50 (A)	5.0	NLV	NA	ID	BDL		NS	NS	<5.0	<5.0	NS	NS	NS	NS
Silver (B), Total	7440-22-4	34	0.2 (M); 0.06	NLV	NA	ID	BDL		NS	NS	<0.20	<0.20	NS	NS	NS	NS
Silver (B), Dissolved	7440-22-4	34	0.2 (M); 0.06	NLV	NA	ID	BDL		NS	NS	<0.20	<0.20	NS	NS	NS	NS
Zinc (B), Total	7440-66-6	2,400	(G)	NLV	NA	ID	58		NS	NS	58	<50	NS	NS	NS	NS
Zinc (B), Dissolved	7440-66-6	2,400	(G)	NLV	NA	ID	0		NS	NS	<50	<50	NS	NS	NS	NS
Pesticides, Chlorinated																
Pesticides	Various	-	-	-	-	-	BDL		NS	NS	BDL	BDL	NS	NS	NS	NS
Semivolatile Organic Compounds (SVOCs)																
Creosote acid extractables	Various	-	-	-	-	-	BDL		NS	NS	BDL	BDL	NS	NS	NS	NS
Remaining SVOCs																
Polynuclear Aromatic Hydrocarbons (PNAs)																
PNAs	Various	-	-	-	-	-	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Volatile Organic Compounds (VOCs)																
VOCs	Various	-	-	-	-	-	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

R 299.49 FOOTNOTES FOR GENERIC CLEANUP CRITERIA TABLES

Cleanup Criteria Requirements for Response Activity (formerly the Part 201 Generic Cleanup Criteria and Screening Levels)
(as last revised by EGLE on December 21, 2020)

- (A) Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.
- (B) Background, as defined in R 299.1(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.
- (C) The criterion developed under R 299.20 to R 299.26 exceeds the chemical-specific soil saturation screening level (Csat). The person proposing or implementing response activity shall document whether additional response activity is required to control free-phase liquids or NAPL to protect against risks associated with free-phase liquids by using methods appropriate for the free-phase liquids present. Development of a site-specific Csat or methods presented in R 299.22, R 299.24(5), and R 299.26(8) may be conducted for the relevant exposure pathways.
- (D) Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).
- (E) Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). A notice of aesthetic impact may be employed as an institutional control mechanism if groundwater concentrations exceed the aesthetic drinking water criterion, but do not exceed the applicable health-based drinking water value [as provided in the table in Footnote (E) in R 299.49].
- (F) Criterion is based on adverse impacts to plant life and phytotoxicity.
- (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg CaCO₃/L, use 400 mg CaCO₃/L for the FCV calculation. The FCV formula provides values in units of ug/L. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote [See table in Footnote (G) in R 299.49].
- (H) Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/L. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protective drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.
- (I) Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001), which is adopted by reference in these rules.
- (J) Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.
- (K) Hazardous substance may be flammable or explosive, or both.
- (L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(9) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 ug/L is linked to the generic residential soil direct contact criterion of 400 mg/kg. A higher concentration in the drinking water, up to the state action level of 15 ug/L, may be allowed as a site-specific remedy and still allow for drinking water use, under Section 20120a(2) of the NREPA if soil concentrations are appropriately lower than 400 mg/kg. If a site-specific criterion is approved based on this subdivision, a notice shall be filed on the deed for all property where the groundwater concentrations will exceed 4 ug/L to provide notice of the potential for unacceptable risk if soil or groundwater concentrations increase. Acceptable concentrations of site-specific soil and drinking water concentrations are presented in the [See table in Footnote (L) in R 299.49].
- (M) Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.
- (N) The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater that is used as a source of drinking water shall not, when added together, exceed the nitrate drinking water criterion of 10,000 ug/L. Where leaching to groundwater is a relevant pathway, soil concentrations of all potential sources of nitrate-nitrogen shall not, when added together, exceed the nitrate drinking water protection criterion of 2.0E+5 ug/kg.
- (O) The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater that is used as a source of drinking water shall not, when added together, exceed the nitrate drinking water criterion of 10,000 ug/L. Where leaching to groundwater is a relevant pathway, soil concentrations of all potential sources of nitrate-nitrogen shall not, when added together, exceed the nitrate drinking water protection criterion of 2.0E+5 ug/kg.
- (P) The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater that is used as a source of drinking water shall not, when added together, exceed the nitrate drinking water criterion of 10,000 ug/L. Where leaching to groundwater is a relevant pathway, soil concentrations of all potential sources of nitrate-nitrogen shall not, when added together, exceed the nitrate drinking water protection criterion of 2.0E+5 ug/kg.
- (Q) Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.
- (R) Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001), which is adopted by reference in these rules.
- (S) Criterion defaults to the hazardous substance-specific water solubility limit.
- (T) Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards. Subpart D and subpart G of 40 C.F.R. §761 (July 1, 2001) are adopted by reference in these rules. Alternatives to compliance with the TSCA standards listed below are possible under 40 C.F.R. §761 Subpart D. New releases may be subject to the standards identified in 40 C.F.R. §761, Subpart G. Use Part 201 soil direct contact cleanup criteria in the following table if TSCA standards are not applicable. [See table in Footnote (T) in R 299.49].
- (U) Hazardous substance may exhibit the characteristic of corrosivity as defined in 40 C.F.R. §261.22 (revised as of July 1, 2001), which is adopted by reference in these rules.
- (V) Criterion is the aesthetic drinking water value as required by Section 20120(a)(5) of the NREPA. Concentrations up to 200 ug/L may be acceptable, and still allow for drinking water use, as part of a site-specific cleanup under Section 20120a(2) and 20120b of the NREPA.
- (W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L. Concentrations of trihalomethanes in soil shall be added together to determine compliance with the drinking water protection criterion of 1,600 ug/kg.
- (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the [table in Footnote (X) in R 299.49], except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the WV, and the calculated FCV. See formulas in [the table in Footnote (G) in R 299.49]. Soil protection criteria based on the HDV shall be as listed in the [table in Footnote (X) in R 299.49], except for those values with an asterisk. Soil GSI protection criteria based on the HDV shall be as listed in the [table in Footnote (X) in R 299.49], except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk shall be the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.
- (Y) Source size modifiers shown in the [See table in Footnote (Y) in R 299.49] shall be used to determine soil inhalation criteria for ambient air when the source size is not one-half acre. The modifier shall be multiplied by the generic soil inhalation criteria shown in the table of generic cleanup criteria to determine the applicable criterion. See Footnote (C) [in R 299.49].
- (Z) Mercury is typically measured as total mercury. The generic cleanup criteria, however, are based on data for different species of mercury. Specifically, data for elemental mercury, chemical abstract service (CAS number 7439976, serve as the basis for the soil volatilization to indoor air criteria, groundwater volatilization to indoor air, and soil inhalation criteria. Data for methyl mercury, CAS number 22967926, serve as the basis for the GSI criterion; and data for mercuric chloride, CAS number 7487947, serve as the basis for the drinking water, groundwater contact, soil direct contact, and the groundwater protection criteria. Comparison to criteria shall be based on species-specific analytical data only if sufficient facility characterization has been conducted to rule out the presence of other species of mercury.
- (AA) Use 10,000 ug/L where groundwater enters a structure through the use of a water well, sump or other device. Use 28,000 ug/L for all other uses.
- (BB) The state drinking water standard for asbestos (fibers greater than 10 micrometers in length) is in units of a million fibers per liter of water (MFL). Soil concentrations of asbestos are determined by polarized microscopy.
- (CC) Groundwater: The generic GSI criteria are based on the toxicity of unionized ammonia (NH₃); the criteria are 29 ug/L and 53 ug/L for cold water and warm water surface water, respectively. As a result, the GSI criterion shall be compared to the percent of the total ammonia concentration in the groundwater that will become NH₃ in the surface water. This percent NH₃ is a function of the pH and temperature of the receiving surface water and can be estimated using the [table in Footnote (CC) in R 299.49], taken from Emerson, et al., (Journal of the Fisheries Research Board of Canada, Volume 32(12):2382, 1975). The generic approach for estimating NH₃ assumes a default pH of 8 and default temperatures of 68 °F and 85 °F for cold water and warm water surface water, respectively. The resulting NH₃ is 3.8 percent and 7.1 percent for cold water and warm water, respectively. This default percentage shall be multiplied by the total ammonia-nitrogen (NH₃-N) concentration in the groundwater and the resulting NH₃ concentration compared to the applicable GSI criterion. As an alternative, the maximum pH and temperature data from the specific receiving surface water can be used to estimate, from the [table in Footnote (CC) in R 299.49], a lower percent unionized ammonia concentration for comparison to the generic GSI.
Soil: The generic soil GSI protection criteria for unionized ammonia are 580 ug/kg and 1,100 ug/kg for cold water and warm water surface water, respectively.
- (DD) Hazardous substance causes developmental effects. Residential direct contact criteria are protective of both prenatal and postnatal exposure. Nonresidential direct contact criteria are protective for a pregnant adult receptor.
- (EE) The [values listed in the table in Footnote (EE) in R 299.49] are applicable generic GSI criteria as required by Section 20120e of the NREPA.
- (FF) The chloride GSI criterion shall be 125 mg/L when the discharge is to surface waters of the state designated as public water supply sources or 50 mg/L when the discharge is to the Great Lakes or connecting waters. Chloride GSI criteria shall not apply for surface waters of the state that are not designated as a public water supply source, however, the total dissolved solids criterion is applicable.
- (GG) Risk-based criteria are not available for methane due to insufficient toxicity data. An acceptable soil gas concentration (presented for both residential and nonresidential land uses) was derived utilizing 25 percent of the lower explosive level for methane. This equates to 1.25 percent or 8.4E+6 ug/m³.
- (HH) The residential criterion for sodium is 230,000 ug/L in accordance with the Sodium Advisory Council recommendation and revised Groundwater Discharge Standards.
- (II) The residential drinking water criterion for 1,4-dioxane is not calculated using the equations of R 299.10 or the toxicological and chemical-physical data as shown in Table 4 of R 299.50. The drinking water criterion is calculated using the United States Environmental Protection Agency's (U.S. EPA) "Toxicological Review of 1,4-Dioxane" EPA/635/R-11/003F, September 2013, and the department's residential exposure algorithms to protect both children and adults from unsafe levels of the chemical.
- ID Insufficient data to develop criterion.
- NA A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
- NLL Hazardous substance is not likely to leach under most soil conditions.
- NLV Hazardous substance is not likely to volatilize under most conditions.
- ug/kg Micrograms per kilogram

ug/L Micrograms per liter

NS Not sampled

BDL Below Laboratory Method Detection Limits

BOLD Exceeds EGLE RRD screening level for total lead, above which fine/coarse lead fraction analysis is recommended to evaluate Direct Contact and Particulate Soil Inhalation exposure risks.


BOLD Exceeds highlighted criteria.

Appendix A

Soil Boring Logs


AKT PEERLESS [™] ENVIRONMENTAL SERVICES		BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20				SB-1 Drawn By: SDB Date: 12/14/2022		
DRILLING COMPANY:		AKT Peerless		WEATHER:		Cloudy 40F		
TECHNICIAN:		Bill Fox		BORING DEPTH:		8'		
DATE DRILLED:		12/06/22		DEPTH TO GW:		Not Encountered		
DRILLING METHOD:		Direct Push		SCREEN INTERVAL:		NA		
FIELD GEOLOGIST:		Sean Brick		SCREEN MATERIAL:		NA		
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		75	0		Black	ASPHALT	D	
				GP	Black	FILL, poorly graded gravel with sand	D	
				SM	Tan	SAND, with silt	M	
4								
6		75	0					
8								
10						End of Boring		
12								
14								
16								
18								
20								

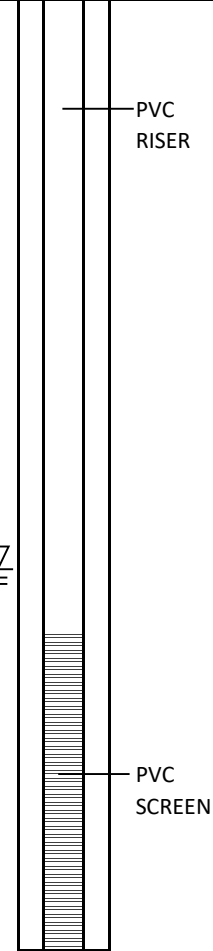
AKT PEERLESS [™] ENVIRONMENTAL SERVICES				BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-2 Drawn By: SDB Date: 12/14/2022	
DRILLING COMPANY:				AKT Peerless		WEATHER:		Cloudy 40F
TECHNICIAN:				Bill Fox		BORING DEPTH:		20'
DATE DRILLED:				12/06/22		DEPTH TO GW:		12'
DRILLING METHOD:				Direct Push		SCREEN INTERVAL:		10'-15'
FIELD GEOLOGIST:				Sean Brick		SCREEN MATERIAL:		PVC
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
						TOPSOIL	D	<p>PVC RISER</p> <p>PVC SCREEN</p>
2		75	0	SP	Black	FILL, poorly graded sand with gravel	D	
4				SW	Tan	SAND, well graded with gravel	M	
6		80	0	SW	Brown	SAND, coarse grained and well graded	M	
8								
10		75	0					
12							W	
14		50	0					
16								
18		75	0					
20						End of Boring		


					BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-3 Drawn By: SDB Date: 12/14/2022		
DRILLING COMPANY:					AKT Peerless		WEATHER:			Cloudy 40F
TECHNICIAN:					Bill Fox		BORING DEPTH:			8'
DATE DRILLED:					12/06/22		DEPTH TO GW:			Not Encountered
DRILLING METHOD:					Direct Push		SCREEN INTERVAL:			NA
FIELD GEOLOGIST:					Sean Brick		SCREEN MATERIAL:			NA
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM		
2		80	0	GP	Black	FILL, poorly graded gravel with sand	D			
				SW	Tan	SAND, well graded with gravel	M			
4										
6		90	0							
8										
10										
12										
14										
16										
18										
20										

AKT PEERLESS [™] ENVIRONMENTAL SERVICES					BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-4 Drawn By: SDB Date: 12/14/2022		
DRILLING COMPANY:					AKT Peerless		WEATHER:			Cloudy 40F
TECHNICIAN:					Bill Fox		BORING DEPTH:			8'
DATE DRILLED:					12/06/22		DEPTH TO GW:			Not Encountered
DRILLING METHOD:					Direct Push		SCREEN INTERVAL:			NA
FIELD GEOLOGIST:					Sean Brick		SCREEN MATERIAL:			NA
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM		
2		80	0	GP	Black	FILL, poorly graded gravel with sand	D			
				SW	Tan	SAND, well graded with gravel	M			
4										
6		90	0							
8										
						End of Boring				
10										
12										
14										
16										
18										
20										

AKT PEERLESS [™] ENVIRONMENTAL SERVICES					BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-5 Drawn By: SDB Date: 12/14/2022		
DRILLING COMPANY:					AKT Peerless		WEATHER:			Cloudy 40F
TECHNICIAN:					Bill Fox		BORING DEPTH:			8'
DATE DRILLED:					12/06/22		DEPTH TO GW:			Not Encountered
DRILLING METHOD:					Direct Push		SCREEN INTERVAL:			NA
FIELD GEOLOGIST:					Sean Brick		SCREEN MATERIAL:			NA
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM		
2		50	0	GP	Black	FILL, poorly graded gravel with sand	D			
				GP	Red	FILL, gravel comprised of brick	D			
				SW	Tan	SAND, well graded with gravel	M			
4										
6		75	0							
8						End of Boring				
10										
12										
14										
16										
18										
20										

		BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20				SB-6 Drawn By: SDB Date: 12/14/2022	
		DRILLING COMPANY: AKT Peerless		WEATHER: Cloudy 40F			
		TECHNICIAN: Bill Fox		BORING DEPTH: 20'			
DATE DRILLED: 12/06/22		DEPTH TO GW: 9'					
DRILLING METHOD: Direct Push		SCREEN INTERVAL: 10'-15'					
FIELD GEOLOGIST: Sean Brick		SCREEN MATERIAL: PVC					


DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		70	0	SP	Brown	FILL, sand with lenses of black gravel	M	
4				SW	Tan	SAND, well graded, fine grained	M	
6		75	0					
8								
10		90	0	SW	Tan	SAND, well graded, medium grained	W	
12								
14		75	0					
16								
18		80	0					
20						End of Boring		

		BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20				SB-7	
						Drawn By: SDB Date: 12/14/2022	
		DRILLING COMPANY: AKT Peerless		WEATHER: Cloudy 40F			
TECHNICIAN: Bill Fox		BORING DEPTH: 8'					
DATE DRILLED: 12/06/22		DEPTH TO GW: Not Encountered					
DRILLING METHOD: Direct Push		SCREEN INTERVAL: NA					
FIELD GEOLOGIST: Sean Brick		SCREEN MATERIAL: NA					

DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
						TOPSOIL	M	
2		60	0	GP	Gray	FILL , poorly graded gravel	D	
4					Black & white mix	FILL , waxy with gravel and metal	M	
6		60	0	SW	Tan	SAND , well graded, fine grained	M	
8						End of Boring		
10								
12								
14								
16								
18								
20								


AKT PEERLESS [™] ENVIRONMENTAL SERVICES					BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-8 Drawn By: SDB Date: 12/14/2022		
DRILLING COMPANY:					AKT Peerless		WEATHER:			Cloudy 40F
TECHNICIAN:					Bill Fox		BORING DEPTH:			8'
DATE DRILLED:					12/06/22		DEPTH TO GW:			Not Encountered
DRILLING METHOD:					Direct Push		SCREEN INTERVAL:			NA
FIELD GEOLOGIST:					Sean Brick		SCREEN MATERIAL:			NA
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM		
2		70	0	GP	Gray	GRAVEL, poorly sorted	D			
				SM	Tan	SAND, fine grained, well sorted	M			
4										
6		80	0							
8						End of Boring				
10										
12										
14										
16										
18										
20										

AKT PEERLESS [™] ENVIRONMENTAL SERVICES		BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20				SB-9 Drawn By: SDB Date: 12/14/2022		
DRILLING COMPANY:		AKT Peerless		WEATHER:		Cloudy 40F		
TECHNICIAN:		Bill Fox		BORING DEPTH:		20'		
DATE DRILLED:		12/06/22		DEPTH TO GW:		10'		
DRILLING METHOD:		Direct Push		SCREEN INTERVAL:		9'-14'		
FIELD GEOLOGIST:		Sean Brick		SCREEN MATERIAL:		PVC		
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
						CONCRETE		
2		90	0	SM	Tan	SAND, fine grained, well sorted	M	
4								
6		90	0	SW	Tan	SAND, coarse grained, with gravel	M	
8								
10		90	0	SW	Tan	SAND, coarse grained, with gravel	W	
12								
14		90	0					
16								
18		90	0					
20						End of Boring		

		BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20				SB-10		
						Drawn By: SDB Date: 12/14/2022		
		DRILLING COMPANY:		AKT Peerless		WEATHER:		Cloudy 40F
TECHNICIAN:		Bill Fox		BORING DEPTH:		8'		
DATE DRILLED:		12/06/22		DEPTH TO GW:		Not Encountered		
DRILLING METHOD:		Direct Push		SCREEN INTERVAL:		NA		
FIELD GEOLOGIST:		Sean Brick		SCREEN MATERIAL:		NA		
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		80	0	GP	Black	FILL, poorly sorted gravel	D	
				SP	Brown	SAND, with gravel, poorly sorted	M	
				SW	Tan	SAND, coarse grained, well sorted	M	
4								
6		80	0					
8						End of Boring		
10								
12								
14								
16								
18								
20								


AKT PEERLESS [™] ENVIRONMENTAL SERVICES		BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20				SB-11 Drawn By: SDB Date: 12/14/2022		
DRILLING COMPANY:		AKT Peerless		WEATHER:		Cloudy 40F		
TECHNICIAN:		Bill Fox		BORING DEPTH:		12'		
DATE DRILLED:		12/06/22		DEPTH TO GW:		10'		
DRILLING METHOD:		Direct Push		SCREEN INTERVAL:		NA		
FIELD GEOLOGIST:		Sean Brick		SCREEN MATERIAL:		NA		
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		90	0	GP	Black	FILL, poorly sorted gravel	D	
				ML	Brown	SILT, inorganic; almost very fine sand	M	
4				SM	Brown	SAND, silty with fines	M	
6		80	0	SP	Tan	SAND, poorly graded, with gravel	M	
8								
10		50	0	SW	Tan	SAND, coarse grained with gravel, well sorted	W	
12						End of Boring		
14								
16								
18								
20								

AKT PEERLESS [™] ENVIRONMENTAL SERVICES		BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20				SB-12 Drawn By: SDB Date: 12/14/2022		
DRILLING COMPANY:		AKT Peerless		WEATHER:		Cloudy 40F		
TECHNICIAN:		Bill Fox		BORING DEPTH:		12'		
DATE DRILLED:		12/06/22		DEPTH TO GW:		8'		
DRILLING METHOD:		Direct Push		SCREEN INTERVAL:		6'-11'		
FIELD GEOLOGIST:		Sean Brick		SCREEN MATERIAL:		PVC		
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		80	0	GP	Black	FILL, poorly sorted gravel with topsoil	D	
				SP	Brown	SAND, with gravel; poorly sorted	M	
4				SM	Red	SAND, fine grained	M	
				SM	Tan	SAND, fine grained	M	
6		90	0	GP	Tan	GRAVEL, poorly sorted with sand	M	
8				SW	Brown	SAND, coarse, well graded	W	
10		60	0					
12						End of Boring		
14								
16								
18								
20								

		BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20				SB-13	
						Drawn By: SDB Date: 12/14/2022	
		DRILLING COMPANY: TerraProbe		WEATHER: Cloudy 40F			
TECHNICIAN: Aaron Winslow		BORING DEPTH: 8'					
DATE DRILLED: 12/07/22		DEPTH TO GW: 7'					
DRILLING METHOD: Direct Push		SCREEN INTERVAL: NA					
FIELD GEOLOGIST: Sean Brick		SCREEN MATERIAL: NA					

DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		40	0		D. Brown	TOPSOIL	M	
				SM	D Brown	SILT , with sand	M	
4		60	0	SP	Tan	SAND , poorly sorted with gravel	M	
6								
8				SP	Tan	SAND , poorly sorted with gravel	W	
10						End of Boring		
12								
14								
16								
18								
20								

AKT PEERLESS [™] ENVIRONMENTAL SERVICES				BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-14 Drawn By: SDB Date: 12/14/2022	
DRILLING COMPANY: TerraProbe				WEATHER: Cloudy 40F				
TECHNICIAN: Aaron Winslow				BORING DEPTH: 8'				
DATE DRILLED: 12/07/22				DEPTH TO GW: 7'				
DRILLING METHOD: Direct Push				SCREEN INTERVAL: 4'-9'				
FIELD GEOLOGIST: Sean Brick				SCREEN MATERIAL: PVC				
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2 4 6 8 10 12 14 16 18 20		60	0			TOPSOIL	M	
				SM	D Brown	SILT, gravely	M	
				SP	Black	SAND, gravely, poorly graded	M	
				SM	Tan	SAND, fine, silty	M	
				SM	Tan	SAND, fine, silty	W	
End of Boring								

		BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20				SB-15	
						Drawn By: SDB Date: 12/14/2022	
		DRILLING COMPANY: TerraProbe		WEATHER: Cloudy 40F			
TECHNICIAN: Aaron Winslow		BORING DEPTH: 12'					
DATE DRILLED: 12/07/22		DEPTH TO GW: 8'					
DRILLING METHOD: Direct Push		SCREEN INTERVAL: NA					
FIELD GEOLOGIST: Sean Brick		SCREEN MATERIAL: NA					

DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2			0		D Brown	TOPSOIL	M	
			0	SP	Brown	SAND , with gravel, poorly sorted	M	
			48	CL	Black	CLAY , with gravel, medium plasticity, petroleum odor	M	
			69	CH	Gray	CLAY , inorganic, highly plastic, petroleum odor	M	
			0					
8			0	ML	Gray	SILT , fine grained, almost a clay	W	
12						End of Boring		
14								
16								
18								
20								

AKT PEERLESS [™] ENVIRONMENTAL SERVICES				BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-16 Drawn By: SDB Date: 12/14/2022	
DRILLING COMPANY: TerraProbe				WEATHER: Cloudy 45F				
TECHNICIAN: Aaron Winslow				BORING DEPTH: 8'				
DATE DRILLED: 12/07/22				DEPTH TO GW: 3.5'				
DRILLING METHOD: Direct Push				SCREEN INTERVAL: 3'-8'				
FIELD GEOLOGIST: Sean Brick				SCREEN MATERIAL: PVC				
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		40	0	SP	Brown	TOPSOIL SAND, fine with gravel	M	
4				CH	Brown	CLAY, highly plastic	M	
6		95	0	CH	Gray	CLAY, highly plastic	M	
8						End of Boring		
10								
12								
14								
16								
18								
20								

AKT PEERLESS [™] ENVIRONMENTAL SERVICES				BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-17 Drawn By: SDB Date: 12/14/2022	
DRILLING COMPANY: TerraProbe				WEATHER: Cloudy 50F				
TECHNICIAN: Aaron Winslow				BORING DEPTH: 8'				
DATE DRILLED: 12/07/22				DEPTH TO GW: 5'				
DRILLING METHOD: Direct Push				SCREEN INTERVAL: 4'-9'				
FIELD GEOLOGIST: Sean Brick				SCREEN MATERIAL: PVC				
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		50	0	GP	Brown	GRAVEL, poorly sorted with topsoil	M	
				SP	Brown	SAND, with gravel, poorly sorted	M	
4				SM	Tan	SAND, fine grained, well sorted	M	
6		90	0	CL	Gray	SILT, fine grained, inorganic	W	
8						End of Boring		
10								
12								
14								
16								
18								
20								

AKT PEERLESS [™] ENVIRONMENTAL SERVICES				BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-18 Drawn By: SDB Date: 12/14/2022	
DRILLING COMPANY: TerraProbe				WEATHER: Cloudy 50F				
TECHNICIAN: Aaron Winslow				BORING DEPTH: 12'				
DATE DRILLED: 12/07/22				DEPTH TO GW: 8'				
DRILLING METHOD: Direct Push				SCREEN INTERVAL: 6'-11'				
FIELD GEOLOGIST: Sean Brick				SCREEN MATERIAL: PVC				
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		50	0	SM	Brown Tan	TOPSOIL SAND, fine grained	M M	
4								
6		70	0					
8				SW	Tan	SAND, coarse grained No Recovery	W	
10		0	-					
12						End of Boring		
14								
16								
18								
20								

AKT PEERLESS [™] ENVIRONMENTAL SERVICES				BORING LOG 215 South Broadway Street Lake Orion, Michigan AKT Peerless Project No: 9984F-3-20			SB-19 Drawn By: SDB Date: 12/14/2022	
DRILLING COMPANY:			TerraProbe			WEATHER: Cloudy 50F		
TECHNICIAN:			Aaron Winslow			BORING DEPTH: 8'		
DATE DRILLED:			12/07/22			DEPTH TO GW: 7'		
DRILLING METHOD:			Direct Push			SCREEN INTERVAL: NA		
FIELD GEOLOGIST:			Sean Brick			SCREEN MATERIAL: NA		
DEPTH FEET	SAMPLE INTERVAL	% RECOVERY	PID VALUE	USCS SOIL CLASS.	COLOR	GEOLOGIC DESCRIPTION	MOISTURE	TEMPORARY WELL DIAGRAM
2		40	0		Brown	TOPSOIL	M	
				SP	Tan	SAND, with gravel, poorly graded	M	
4								
6		40	0					
8				GP	Tan	GRAVEL, with sand, poorly graded	W	
10						End of Boring		
12								
14								
16								
18								
20								

Appendix B

Analytical Laboratory Report and Chain of Custody Documentation



Tuesday, January 3, 2023

Fibertec Project Number: A12592
Project Identification: 9984f-3-20 /9984f-3-20
Submittal Date: 12/09/2022

Mr. Sean Brick
AKT Peerless Environ. Svcs, Inc. - Farm. Hills
22725 Orchard Lake Road
Farmington Hills, MI 48336

Dear Mr. Brick,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Katherine Jones at 5:45 PM, Jan 03, 2023

For Daryl P. Strandbergh
Laboratory Director

Enclosures

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-001

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-1 (1-2')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:36
Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.					
Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.					

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-001	Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: SB-1 (1-2')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Michigan 10 Elements by ICP/MS						Aliquot ID: A12592-001	Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A						Description: SB-1 (1-2')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	9800		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	28000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	130		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	9000		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	55000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	84000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	470		µg/kg	200	10	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Zinc	46000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-001	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-1 (1-2')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	240		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Polychlorinated Biphenyls (PCBs)						Aliquot ID: A12592-001	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8082A						Description: SB-1 (1-2')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:22	SO22L21C	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:22	SO22L21C	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:22	SO22L21C	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:22	SO22L21C	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:22	SO22L21C	TKT
6. Aroclor-1254	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:22	SO22L21C	TKT
7. Aroclor-1260	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:22	SO22L21C	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:22	SO22L21C	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:22	SO22L21C	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-001

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-1 (1-2')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:36
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-001A **Matrix: Soil/Solid**
Description: SB-1 (1-2')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
3. Benzene	65		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
35. Ethylbenzene	73		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-001

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-1 (1-2')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:36
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-001A **Matrix: Soil/Solid**
Description: SB-1 (1-2')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	530	B	µg/kg	330	1.0	12/15/22	VJ22L15B	12/15/22 15:46	VJ22L15B	ART
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
43. Naphthalene	570		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
49. Toluene	300		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	140		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	270		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
60. m&p-Xylene	440		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
61. o-Xylene	360		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC
‡ 62. Xylenes	790		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 16:20	VP22L14C	SNC

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-001 **Matrix: Soil/Solid**
Description: SB-1 (1-2')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
2. Benzo(a)anthracene	1900		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
3. Benzo(a)pyrene	2600		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
4. Benzo(b)fluoranthene	4700		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-001

Order: A12592
 Date: 01/03/22

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-1 (1-2')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:36
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-001
Description: SB-1 (1-2')
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
5. Benzo(ghi)perylene	2300		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
6. Benzo(k)fluoranthene	1800		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
7. 2-Chlorophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
8. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
9. Chrysene	2500		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
10. Dibenzo(a,h)anthracene	730		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
11. 2,4-Dichlorophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
12. 2,4-Dimethylphenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
13. 2,4-Dinitrophenol	U		µg/kg	1800	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
14. Fluoranthene	2900		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
15. Fluorene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
16. Indeno(1,2,3-cd)pyrene	2900		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
17. 2-Methyl-4,6-dinitrophenol	U		µg/kg	1800	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
18. 2-Methylnaphthalene	600		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
19. 2-Methylphenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
‡ 20. 3&4-Methylphenol	U		µg/kg	660	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
21. Naphthalene	420		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
22. 2-Nitrophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
23. 4-Nitrophenol	U		µg/kg	900	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
24. Pentachlorophenol	U		µg/kg	1800	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
25. Phenanthrene	990		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
26. Phenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
27. Pyrene	2800		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
28. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA
29. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 21:21	S522L19A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-002

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-2-GW	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	10:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Trace Elements by ICP/MS, Dissolved
Method: EPA 3005A (Dissolved)/EPA 6020A

Aliquot ID: A12592-002C **Matrix: Ground Water**
Description: SB-2-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	U		µg/L	3.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA

Trace Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A12592-002A **Matrix: Ground Water**
Description: SB-2-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	U		µg/L	3.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-002B **Matrix: Ground Water**
Description: SB-2-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
3. Benzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
4. Bromobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
5. Bromochloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
8. Bromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
9. 2-Butanone	U		µg/L	25	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
15. Chlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
16. Chloroethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
17. Chloroform	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
18. Chloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
22. Dibromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-002

Order: A12592
Date: 01/03/22

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-2-GW	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	10:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-002B

Matrix: Ground Water

Description: SB-2-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
35. Ethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
37. 2-Hexanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
40. Methylene Chloride	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
42. MTBE	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
43. Naphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
45. Styrene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
49. Toluene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
53. Trichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
60. m&p-Xylene	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-002

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-2-GW	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	10:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-002B

Matrix: Ground Water

Description: SB-2-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
61. o-Xylene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/15/22	VB22L15A	12/15/22 14:37	VB22L15A	BRC

Polynuclear Aromatic Hydrocarbons (PNAs)

Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-002

Matrix: Ground Water

Description: SB-2-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
2. Acenaphthylene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
3. Anthracene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
4. Benzo(a)anthracene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
5. Benzo(a)pyrene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
6. Benzo(b)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
7. Benzo(ghi)perylene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
8. Benzo(k)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
9. Chrysene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
10. Dibenzo(a,h)anthracene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
11. Fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
12. Fluorene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
14. 2-Methylnaphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
15. Naphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
16. Phenanthrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT
17. Pyrene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:03	S622L13B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-003

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-3 (1.5-2.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:30
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-003	Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: SB-3 (1.5-2.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	5		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Michigan 10 Elements by ICP/MS						Aliquot ID: A12592-003	Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A						Description: SB-3 (1.5-2.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	9800		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	17000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	120		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	7600		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	27000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	51000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	U		µg/kg	200	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Zinc	41000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-003	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-3 (1.5-2.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	110		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Polychlorinated Biphenyls (PCBs)						Aliquot ID: A12592-003	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8082A						Description: SB-3 (1.5-2.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:34	SO22L21C	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:34	SO22L21C	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:34	SO22L21C	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:34	SO22L21C	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:34	SO22L21C	TKT
6. Aroclor-1254	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:34	SO22L21C	TKT
7. Aroclor-1260	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:34	SO22L21C	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:34	SO22L21C	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:34	SO22L21C	TKT

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Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:30
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-003A **Matrix: Soil/Solid**
Description: SB-3 (1.5-2.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	110	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
7. Bromoform	U		µg/kg	110	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	55	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	55	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	55	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	55	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	55	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC

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Order: A12592
 Date: 01/03/23

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Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:30
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-003A **Matrix: Soil/Solid**
Description: SB-3 (1.5-2.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	110	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	55	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	55	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 16:47	VP22L14C	SNC

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-003 **Matrix: Soil/Solid**
Description: SB-3 (1.5-2.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
2. Benzo(a)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
3. Benzo(a)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
4. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA

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Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:30
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Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-003
Description: SB-3 (1.5-2.5)
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
5. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
6. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
7. 2-Chlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
8. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
9. Chrysene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
10. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
11. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
12. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
13. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
14. Fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
15. Fluorene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
16. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
17. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
18. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
19. 2-Methylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
‡ 20. 3&4-Methylphenol	U		µg/kg	660	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
21. Naphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
22. 2-Nitrophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
23. 4-Nitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
24. Pentachlorophenol	U		µg/kg	800	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
25. Phenanthrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
26. Phenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
27. Pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
28. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA
29. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 18:12	S522L18A	BDA

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Analytical Laboratory Report
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Laboratory Sample Number: A12592-004

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-4 (1-2)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:50
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-004		Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: SB-4 (1-2)					
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
							P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)		7		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Trace Elements by ICP/MS						Aliquot ID: A12592-004		Matrix: Soil/Solid		
Method: EPA 0200.2/EPA 6020A						Description: SB-4 (1-2)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	4000		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	22000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	110		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	6100		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	13000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	51000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	U		µg/kg	200	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Vanadium	9700		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
10. Zinc	41000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-004	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-4 (1-2)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	60		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Polychlorinated Biphenyls (PCBs)						Aliquot ID: A12592-004	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8082A						Description: SB-4 (1-2)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aroclor-1016	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:46	SO22L21C	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:46	SO22L21C	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:46	SO22L21C	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:46	SO22L21C	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:46	SO22L21C	TKT
6. Aroclor-1254	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:46	SO22L21C	TKT
7. Aroclor-1260	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:46	SO22L21C	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:46	SO22L21C	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-004

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-4 (1-2)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:50
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Polychlorinated Biphenyls (PCBs)
Method: EPA 3546/EPA 8082A

Aliquot ID: A12592-004
Description: SB-4 (1-2)
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:46	SO22L21C	TKT

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-004A
Description: SB-4 (1-2)
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-004

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-4 (1-2)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:50
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-004A **Matrix: Soil/Solid**
Description: SB-4 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	430	B	µg/kg	330	1.0	12/15/22	VJ22L15B	12/15/22 16:11	VJ22L15B	ART
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
49. Toluene	130		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	130		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
60. m&p-Xylene	200		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
61. o-Xylene	160		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC
‡ 62. Xylenes	360		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 17:13	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-004

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-4 (1-2)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:50
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-004
Description: SB-4 (1-2)
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
2. Benzo(a)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
3. Benzo(a)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
4. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
5. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
6. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
7. 2-Chlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
8. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
9. Chrysene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
10. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
11. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
12. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
13. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
14. Fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
15. Fluorene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
16. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
17. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
18. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
19. 2-Methylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
‡ 20. 3&4-Methylphenol	U		µg/kg	660	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
21. Naphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
22. 2-Nitrophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
23. 4-Nitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
24. Pentachlorophenol	U		µg/kg	800	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
25. Phenanthrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
26. Phenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
27. Pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
28. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA
29. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 17:35	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-005

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-5 (1.5-2.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	11:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-005	Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: SB-5 (1.5-2.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	9		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Trace Elements by ICP/MS					Aliquot ID: A12592-005		Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A					Description: SB-5 (1.5-2.5)					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	5100		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	39000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	160		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	7100		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	11000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	31000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	340		µg/kg	200	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Vanadium	9300		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
10. Zinc	36000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-005	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-5 (1.5-2.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Polychlorinated Biphenyls (PCBs)						Aliquot ID: A12592-005	Matrix: Soil/Solid				
Method: EPA 3546/EPA 8082A						Description: SB-5 (1.5-2.5)					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
1. Aroclor-1016	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:57	SO22L21C	TKT	
2. Aroclor-1221	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:57	SO22L21C	TKT	
3. Aroclor-1232	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:57	SO22L21C	TKT	
4. Aroclor-1242	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:57	SO22L21C	TKT	
5. Aroclor-1248	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:57	SO22L21C	TKT	
6. Aroclor-1254	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:57	SO22L21C	TKT	
7. Aroclor-1260	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:57	SO22L21C	TKT	
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:57	SO22L21C	TKT	

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-005

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-5 (1.5-2.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	11:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Polychlorinated Biphenyls (PCBs)
Method: EPA 3546/EPA 8082A

Aliquot ID: A12592-005 **Matrix: Soil/Solid**
Description: SB-5 (1.5-2.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:57	SO22L21C	TKT

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-005A **Matrix: Soil/Solid**
Description: SB-5 (1.5-2.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
16. Chloroethane	U	V+ L+ F+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-005

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-5 (1.5-2.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	11:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-005A **Matrix: Soil/Solid**
Description: SB-5 (1.5-2.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
35. Ethylbenzene	56		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	570	* B	µg/kg	330	1.0	12/15/22	VJ22L15B	12/15/22 13:45	VJ22L15B	ART
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
43. Naphthalene	650		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
49. Toluene	150		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+ F+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	230		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	310		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
60. m&p-Xylene	480		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
61. o-Xylene	380		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC
‡ 62. Xylenes	870		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 14:34	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-005

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-5 (1.5-2.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	11:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-005
Description: SB-5 (1.5-2.5)
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
2. Benzo(a)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
3. Benzo(a)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
4. Benzo(b)fluoranthene	450		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
5. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
6. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
7. 2-Chlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
8. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
9. Chrysene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
10. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
11. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
12. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
13. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
14. Fluoranthene	370		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
15. Fluorene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
16. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
17. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
18. 2-Methylnaphthalene	550		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
19. 2-Methylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
‡ 20. 3&4-Methylphenol	U		µg/kg	660	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
21. Naphthalene	370		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
22. 2-Nitrophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
23. 4-Nitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
24. Pentachlorophenol	U		µg/kg	800	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
25. Phenanthrene	430		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
26. Phenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
27. Pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
28. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA
29. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 22:29	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-006

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-6 (2-3')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	11:25
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-006	Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: SB-6 (2-3')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	7		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Polychlorinated Biphenyls (PCBs)						Aliquot ID: A12592-006	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8082A						Description: SB-6 (2-3')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:09	SO22L21C	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:09	SO22L21C	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:09	SO22L21C	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:09	SO22L21C	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:09	SO22L21C	TKT
6. Aroclor-1254	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:09	SO22L21C	TKT
7. Aroclor-1260	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:09	SO22L21C	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:09	SO22L21C	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:09	SO22L21C	TKT

Volatile Organic Compounds (VOCs) by GC/MS, 5035						Aliquot ID: A12592-006A	Matrix: Soil/Solid			
Method: EPA 5035A/EPA 8260D						Description: SB-6 (2-3')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-006

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-6 (2-3')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	11:25
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-006A **Matrix: Soil/Solid**
Description: SB-6 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
49. Toluene	66		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-006

Order: A12592
 Date: 01/03/22

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-6 (2-3')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	11:25
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-006A **Matrix: Soil/Solid**
Description: SB-6 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
52. 1,1,2-Trichloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
61. o-Xylene	65		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC
‡ 62. Xylenes	160		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 17:40	VP22L14C	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A12592-006 **Matrix: Soil/Solid**
Description: SB-6 (2-3')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
12. Fluorene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:33	SN22L15C	KDG

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-007

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-6-GW	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Trace Elements by ICP/MS, Dissolved
Method: EPA 3005A (Dissolved)/EPA 6020A

Aliquot ID: A12592-007C **Matrix: Ground Water**
Description: SB-6-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	U		µg/L	1.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
2. Chromium	U		µg/L	10	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
3. Lead	U		µg/L	3.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA

Trace Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A12592-007A **Matrix: Ground Water**
Description: SB-6-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	U		µg/L	1.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
2. Chromium	U		µg/L	10	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
3. Lead	U		µg/L	3.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-007B **Matrix: Ground Water**
Description: SB-6-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
3. Benzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
4. Bromobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
5. Bromochloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
8. Bromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
9. 2-Butanone	U		µg/L	25	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
15. Chlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
16. Chloroethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
17. Chloroform	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
18. Chloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-007

Order: A12592
 Date: 01/03/22

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-6-GW	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-007B

Matrix: Ground Water

Description: SB-6-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
22. Dibromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
35. Ethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
37. 2-Hexanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
40. Methylene Chloride	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
42. MTBE	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
43. Naphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
45. Styrene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
47. 1,1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
49. Toluene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
53. Trichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-007

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-6-GW	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-007B

Matrix: Ground Water

Description: SB-6-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
60. m&p-Xylene	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
61. o-Xylene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/15/22	VB22L15A	12/15/22 15:02	VB22L15A	BRC

Polynuclear Aromatic Hydrocarbons (PNAs)

Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-007

Matrix: Ground Water

Description: SB-6-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
2. Acenaphthylene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
3. Anthracene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
4. Benzo(a)anthracene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
5. Benzo(a)pyrene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
6. Benzo(b)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
7. Benzo(ghi)perylene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
8. Benzo(k)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
9. Chrysene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
10. Dibenzo(a,h)anthracene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
11. Fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
12. Fluorene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
14. 2-Methylnaphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
15. Naphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
16. Phenanthrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT
17. Pyrene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:31	S622L13B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-008

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-7 (3.5-4.5')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-008		Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: SB-7 (3.5-4.5')					
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
							P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)		21		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Michigan 10 Elements by ICP/MS						Aliquot ID: A12592-008		Matrix: Soil/Solid		
Method: EPA 0200.2/EPA 6020A						Description: SB-7 (3.5-4.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	6000		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	51000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	150		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	16000		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	19000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	14000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	U		µg/kg	200	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Zinc	47000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-008	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-7 (3.5-4.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Organochlorine Pesticides						Aliquot ID: A12592-008	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8081B						Description: SB-7 (3.5-4.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT
2. alpha-BHC	U		µg/kg	10	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT
3. beta-BHC	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT
4. delta-BHC	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT
5. gamma-BHC	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT
6. Chlordane	U		µg/kg	25	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT
7. 4,4'-DDD	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT
8. 4,4'-DDE	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT
9. 4,4'-DDT	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-008

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-7 (3.5-4.5')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Organochlorine Pesticides						Aliquot ID:	A12592-008	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8081B						Description:	SB-7 (3.5-4.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
10. Dieldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	
11. Endosulfan I	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	
12. Endosulfan II	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	
13. Endosulfan Sulfate	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	
14. Endrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	
15. Endrin Aldehyde	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	
16. Heptachlor	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	
17. Heptachlor Epoxide	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	
18. Methoxychlor	U		µg/kg	50	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	
19. Toxaphene	U		µg/kg	170	5.0	12/15/22	PS22L15C	12/20/22 12:48	SO22L20A	TKT	

Polychlorinated Biphenyls (PCBs)						Aliquot ID:	A12592-008	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8082A						Description:	SB-7 (3.5-4.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
1. Aroclor-1016	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:21	SO22L21C	TKT	
2. Aroclor-1221	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:21	SO22L21C	TKT	
3. Aroclor-1232	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:21	SO22L21C	TKT	
4. Aroclor-1242	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:21	SO22L21C	TKT	
5. Aroclor-1248	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:21	SO22L21C	TKT	
6. Aroclor-1254	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:21	SO22L21C	TKT	
7. Aroclor-1260	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:21	SO22L21C	TKT	
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:21	SO22L21C	TKT	
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:21	SO22L21C	TKT	

Volatile Organic Compounds (VOCs) by GC/MS, 5035						Aliquot ID:	A12592-008A	Matrix: Soil/Solid			
Method: EPA 5035A/EPA 8260D						Description:	SB-7 (3.5-4.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC	
‡ 2. Acrylonitrile	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC	
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC	
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC	
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC	
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC	

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-008

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-7 (3.5-4.5')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-008A **Matrix: Soil/Solid**
Description: SB-7 (3.5-4.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Bromoform	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	76	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	76	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	76	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	76	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	76	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-008

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-7 (3.5-4.5')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-008A **Matrix: Soil/Solid**
Description: SB-7 (3.5-4.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	76	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	76	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 18:06	VP22L14C	SNC

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-008 **Matrix: Soil/Solid**
Description: SB-7 (3.5-4.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
2. Acenaphthylene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
3. Aniline	U	V-	µg/kg	21000	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
4. Anthracene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
‡ 5. Azobenzene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
6. Benzo(a)anthracene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
7. Benzo(a)pyrene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
9. Benzo(ghi)perylene	7800		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-008

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-7 (3.5-4.5')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-008
Description: SB-7 (3.5-4.5')
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
11. Benzyl Alcohol	U		µg/kg	6200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	21000	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
‡ 18. Carbazole	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
20. 2-Chloronaphthalene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
21. 2-Chlorophenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
23. Chrysene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
25. Dibenzofuran	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
27. Diethyl Phthalate	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
29. Dimethyl Phthalate	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	42000	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
‡ 31. 2,4-Dinitrotoluene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
‡ 32. 2,6-Dinitrotoluene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
33. Fluoranthene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
34. Fluorene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
35. Hexachlorobenzene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
36. Hexachlorobutadiene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	21000	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
38. Hexachloroethane	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
‡ 40. Isophorone	U	L+	µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	42000	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
42. 2-Methylnaphthalene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
43. 2-Methylphenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
‡ 44. 3&4-Methylphenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
45. Naphthalene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
46. 2-Nitroaniline	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
47. 3-Nitroaniline	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-008

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-7 (3.5-4.5')	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:10
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-008
Description: SB-7 (3.5-4.5')

Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
48. 4-Nitroaniline	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
49. Nitrobenzene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
50. 2-Nitrophenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
51. 4-Nitrophenol	U		µg/kg	21000	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
57. Pentachlorophenol	U		µg/kg	42000	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
58. Phenanthrene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
59. Phenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
60. Pyrene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
61. Pyridine	U	L-	µg/kg	21000	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
‡ 62. 1,2,4-Trichlorobenzene	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
63. 2,4,5-Trichlorophenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA
64. 2,4,6-Trichlorophenol	U		µg/kg	4200	20	12/18/22	PS22L16G	12/19/22 01:34	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-009

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-8 (5-6)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-009		Matrix: Soil/Solid							
Method: ASTM D2216-10						Description: SB-8 (5-6)									
Parameter(s)						Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
											P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)						6		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Michigan 10 Elements by ICP/MS						Aliquot ID: A12592-009		Matrix: Soil/Solid		
Method: EPA 0200.2/EPA 6020A						Description: SB-8 (5-6)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	5900		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	17000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	65		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	10000		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	5800		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	5200		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	U		µg/kg	200	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Zinc	23000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-009	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-8 (5-6)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Organochlorine Pesticides						Aliquot ID: A12592-009	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8081B						Description: SB-8 (5-6)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
2. alpha-BHC	U		µg/kg	10	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
3. beta-BHC	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
4. delta-BHC	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
5. gamma-BHC	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
6. Chlordane	U		µg/kg	25	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
7. 4,4'-DDD	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
8. 4,4'-DDE	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
9. 4,4'-DDT	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-009

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-8 (5-6)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Organochlorine Pesticides
Method: EPA 3546/EPA 8081B

Aliquot ID: A12592-009 **Matrix: Soil/Solid**
Description: SB-8 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. Dieldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
11. Endosulfan I	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
12. Endosulfan II	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
13. Endosulfan Sulfate	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
14. Endrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
15. Endrin Aldehyde	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
16. Heptachlor	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
17. Heptachlor Epoxide	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
18. Methoxychlor	U		µg/kg	50	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT
19. Toxaphene	U		µg/kg	170	5.0	12/15/22	PS22L15C	12/20/22 13:51	SO22L20A	TKT

Polychlorinated Biphenyls (PCBs)
Method: EPA 3546/EPA 8082A

Aliquot ID: A12592-009 **Matrix: Soil/Solid**
Description: SB-8 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:11	SO22L21C	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:11	SO22L21C	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:11	SO22L21C	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:11	SO22L21C	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:11	SO22L21C	TKT
6. Aroclor-1254	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:11	SO22L21C	TKT
7. Aroclor-1260	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:11	SO22L21C	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:11	SO22L21C	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 19:11	SO22L21C	TKT

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-009A **Matrix: Soil/Solid**
Description: SB-8 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-009

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-8 (5-6)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-009A **Matrix: Soil/Solid**
Description: SB-8 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-009

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-8 (5-6)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-009A **Matrix: Soil/Solid**
Description: SB-8 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 18:33	VP22L14C	SNC

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-009 **Matrix: Soil/Solid**
Description: SB-8 (5-6)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
3. Aniline	U	V-	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-009

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-8 (5-6)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-009
Description: SB-8 (5-6)

Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
‡ 31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
‡ 32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
‡ 40. Isophorone	U	L+	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-009

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-8 (5-6)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	12:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-009
Description: SB-8 (5-6)

Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
59. Phenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
61. Pyridine	U	L-	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
‡ 62. 1,2,4-Trichlorobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
63. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA
64. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 21:53	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-010

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9 (9.5-10.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-010		Matrix: Soil/Solid							
Method: ASTM D2216-10						Description: SB-9 (9.5-10.5)									
Parameter(s)						Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
											P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)						15		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Michigan 10 Elements by ICP/MS						Aliquot ID: A12592-010		Matrix: Soil/Solid		
Method: EPA 0200.2/EPA 6020A						Description: SB-9 (9.5-10.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	1200		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	4300		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	U		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	3500		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	3500		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	1500		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	U		µg/kg	200	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Zinc	8700		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-010	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-9 (9.5-10.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Organochlorine Pesticides						Aliquot ID: A12592-010	Matrix: Soil/Solid				
Method: EPA 3546/EPA 8081B						Description: SB-9 (9.5-10.5)					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			Init.
						P. Date	P. Batch	A. Date	A. Batch		
1. Aldrin	U		µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT	
2. alpha-BHC	U		µg/kg	10	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT	
3. beta-BHC	U	V+	µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT	
4. delta-BHC	U	V+	µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT	
5. gamma-BHC	U		µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT	
6. Chlordane	U	V+	µg/kg	25	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT	
7. 4,4'-DDD	U	V+ L+	µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT	

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-010

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9 (9.5-10.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Organochlorine Pesticides
Method: EPA 3546/EPA 8081B

Aliquot ID: A12592-010
Description: SB-9 (9.5-10.5)
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
8. 4,4'-DDE	U	V+ L+	µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
9. 4,4'-DDT	U	V+	µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
10. Dieldrin	U		µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
11. Endosulfan I	U		µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
12. Endosulfan II	U		µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
13. Endosulfan Sulfate	U		µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
14. Endrin	U		µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
15. Endrin Aldehyde	U	V+	µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
16. Heptachlor	U		µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
17. Heptachlor Epoxide	U		µg/kg	20	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
18. Methoxychlor	U	V+	µg/kg	50	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT
19. Toxaphene	U		µg/kg	170	5.0	12/20/22	PS22L20D	12/20/22 18:43	SO22L20A	TKT

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-010A
Description: SB-9 (9.5-10.5)
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	140	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
7. Bromoform	U		µg/kg	140	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	68	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	68	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-010

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9 (9.5-10.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-010A **Matrix: Soil/Solid**
Description: SB-9 (9.5-10.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	68	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	68	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	68	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	140	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	68	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	68	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-010

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9 (9.5-10.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-010A **Matrix: Soil/Solid**
Description: SB-9 (9.5-10.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 18:59	VP22L14C	SNC

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-010 **Matrix: Soil/Solid**
Description: SB-9 (9.5-10.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
3. Aniline	U	V-	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-010

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9 (9.5-10.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-010
Description: SB-9 (9.5-10.5)
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
‡ 31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
‡ 32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
‡ 40. Isophorone	U	L+	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
59. Phenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-010

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9 (9.5-10.5)	Chain of Custody:	211930
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-010 **Matrix: Soil/Solid**
Description: SB-9 (9.5-10.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
61. Pyridine	U	L-	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
‡ 62. 1,2,4-Trichlorobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
63. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA
64. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 15:45	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-011

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	13:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Dissolved						Aliquot ID: A12592-011C	Matrix: Ground Water			
Method: EPA 3005A (Dissolved)/EPA 6020A						Description: SB-9-GW				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
2. Barium	U		µg/L	100	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
3. Cadmium	U		µg/L	1.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
4. Chromium	U		µg/L	10	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
5. Copper	U		µg/L	4.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
6. Lead	U		µg/L	3.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
7. Selenium	U		µg/L	5.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
8. Silver	U		µg/L	0.20	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
9. Zinc	U		µg/L	50	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA

Michigan 10 Elements by ICP/MS, Total Recoverable						Aliquot ID: A12592-011A	Matrix: Ground Water			
Method: EPA 3005A (Total Recoverable)/EPA 6020A						Description: SB-9-GW				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
2. Barium	U		µg/L	100	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
3. Cadmium	U		µg/L	1.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
4. Chromium	U		µg/L	10	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
5. Copper	U		µg/L	4.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
6. Lead	U		µg/L	3.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
7. Selenium	U		µg/L	5.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
8. Silver	U		µg/L	0.20	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
9. Zinc	58		µg/L	50	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA

Mercury by CVAAS, Total						Aliquot ID: A12592-011A	Matrix: Ground Water			
Method: EPA 7470A						Description: SB-9-GW				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	12/15/22	PM22L15A	12/15/22	M722L15B	JLH

Mercury by CVAAS, Dissolved						Aliquot ID: A12592-011C	Matrix: Ground Water			
Method: EPA 7470A						Description: SB-9-GW				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	12/15/22	PM22L15A	12/15/22	M722L15B	JLH

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-011

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	13:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides
Method: EPA 3510C/EPA 8081B

Aliquot ID: A12592-011 **Matrix: Ground Water**
Description: SB-9-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aldrin	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
2. alpha-BHC	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
3. beta-BHC	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
4. delta-BHC	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
5. gamma-BHC	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
6. Chlordane	U		µg/L	0.050	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
7. 4,4'-DDD	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
8. 4,4'-DDE	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
9. 4,4'-DDT	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
10. Dieldrin	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
11. Endosulfan I	U		µg/L	0.030	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
12. Endosulfan II	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
13. Endosulfan Sulfate	U		µg/L	0.050	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
14. Endrin	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
15. Endrin Aldehyde	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
16. Heptachlor	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
17. Heptachlor Epoxide	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
18. Methoxychlor	U		µg/L	0.50	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT
19. Toxaphene	U		µg/L	1.0	1.0	12/14/22	PS22L14F	12/20/22 10:54	SO22L20A	TKT

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-011B **Matrix: Ground Water**
Description: SB-9-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
3. Benzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
4. Bromobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
5. Bromochloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
8. Bromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
9. 2-Butanone	U		µg/L	25	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-011

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	13:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-011B

Matrix: Ground Water

Description: SB-9-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
15. Chlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
16. Chloroethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
17. Chloroform	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
18. Chloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
22. Dibromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
35. Ethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
37. 2-Hexanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
40. Methylene Chloride	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
42. MTBE	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
43. Naphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
45. Styrene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
49. Toluene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-011

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	13:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-011B

Matrix: Ground Water

Description: SB-9-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
53. Trichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
60. m&p-Xylene	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
61. o-Xylene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/15/22	VB22L15A	12/15/22 15:26	VB22L15A	BRC

Base/Neutral/Acid Semivolatiles by GC/MS

Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-011

Matrix: Ground Water

Description: SB-9-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
3. Aniline	U	L-	µg/L	4.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
4. Anthracene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-011

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	13:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-011
Description: SB-9-GW
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
23. Chrysene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
‡ 31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
‡ 32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
33. Fluoranthene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
34. Fluorene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
37. Hexachlorocyclopentadiene	U	*	µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
38. Hexachloroethane	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
‡ 40. Isophorone	U	L+	µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
41. 2-Methyl-4,6-dinitrophenol	U	L- *	µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
45. Naphthalene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
51. 4-Nitrophenol	U	*	µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-011

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-9-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	13:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-011 **Matrix: Ground Water**
Description: SB-9-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
57. Pentachlorophenol	U	L-*	µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
58. Phenanthrene	U		µg/L	2.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
59. Phenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
60. Pyrene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
61. Pyridine	U	L-	µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/14/22	PS22L13H	12/15/22 00:08	S522L14B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-012

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-10 (1-2')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:25
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-012	Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: SB-10 (1-2')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Michigan 10 Elements by ICP/MS						Aliquot ID: A12592-012	Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A						Description: SB-10 (1-2')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	2600		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	49000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	U		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	5900		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	4200		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	4300		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	U		µg/kg	200	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Zinc	19000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-012	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-10 (1-2')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Organochlorine Pesticides						Aliquot ID: A12592-012	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8081B						Description: SB-10 (1-2')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
2. alpha-BHC	U		µg/kg	10	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
3. beta-BHC	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
4. delta-BHC	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
5. gamma-BHC	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
6. Chlordane	U		µg/kg	25	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
7. 4,4'-DDD	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
8. 4,4'-DDE	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
9. 4,4'-DDT	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-012

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-10 (1-2')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:25
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Organochlorine Pesticides
Method: EPA 3546/EPA 8081B

Aliquot ID: A12592-012
Description: SB-10 (1-2')
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. Dieldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
11. Endosulfan I	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
12. Endosulfan II	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
13. Endosulfan Sulfate	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
14. Endrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
15. Endrin Aldehyde	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
16. Heptachlor	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
17. Heptachlor Epoxide	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
18. Methoxychlor	U		µg/kg	50	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT
19. Toxaphene	U		µg/kg	170	5.0	12/15/22	PS22L15C	12/20/22 12:35	SO22L20A	TKT

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-012A
Description: SB-10 (1-2')
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-012

Order: A12592
 Date: 01/03/22

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-10 (1-2')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:25
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-012A **Matrix: Soil/Solid**
Description: SB-10 (1-2')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-012

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-10 (1-2')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:25
Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.					
Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.					

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-012A **Matrix: Soil/Solid**
Description: SB-10 (1-2')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 19:26	VP22L14C	SNC

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-012 **Matrix: Soil/Solid**
Description: SB-10 (1-2')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
3. Aniline	U	V-	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-012

Order: A12592
Date: 01/03/22

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-10 (1-2')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:25
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-012
Description: SB-10 (1-2')

Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
‡ 31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
‡ 32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
‡ 40. Isophorone	U	L+	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
59. Phenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
61. Pyridine	U	L-	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
‡ 62. 1,2,4-Trichlorobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-012

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-10 (1-2')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:25
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-012 **Matrix: Soil/Solid**
Description: SB-10 (1-2')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
63. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA
64. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:22	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-013

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-11 (0.5-1.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-013		Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: SB-11 (0.5-1.5')					
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
							P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)		8		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Michigan 10 Elements by ICP/MS						Aliquot ID: A12592-013		Matrix: Soil/Solid		
Method: EPA 0200.2/EPA 6020A						Description: SB-11 (0.5-1.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	4400		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	44000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	83		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	8400		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	6100		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	8400		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	U		µg/kg	200	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Zinc	24000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-013	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-11 (0.5-1.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Organochlorine Pesticides						Aliquot ID: A12592-013	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8081B						Description: SB-11 (0.5-1.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT
2. alpha-BHC	U		µg/kg	10	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT
3. beta-BHC	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT
4. delta-BHC	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT
5. gamma-BHC	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT
6. Chlordane	U	V+	µg/kg	25	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT
7. 4,4'-DDD	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT
8. 4,4'-DDE	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT
9. 4,4'-DDT	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-013

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-11 (0.5-1.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Organochlorine Pesticides						Aliquot ID:	A12592-013	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8081B						Description:	SB-11 (0.5-1.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
10. Dieldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	
11. Endosulfan I	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	
12. Endosulfan II	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	
13. Endosulfan Sulfate	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	
14. Endrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	
15. Endrin Aldehyde	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	
16. Heptachlor	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	
17. Heptachlor Epoxide	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	
18. Methoxychlor	U		µg/kg	50	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	
19. Toxaphene	U		µg/kg	170	5.0	12/15/22	PS22L15C	12/21/22 13:23	SO22L21B	TKT	

Volatile Organic Compounds (VOCs) by GC/MS, 5035						Aliquot ID:	A12592-013A	Matrix: Soil/Solid			
Method: EPA 5035A/EPA 8260D						Description:	SB-11 (0.5-1.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
10. n-Butylbenzene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
14. Carbon Tetrachloride	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC	

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-013

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-11 (0.5-1.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-013A **Matrix: Soil/Solid**
Description: SB-11 (0.5-1.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
49. Toluene	65		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-013

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-11 (0.5-1.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-013A **Matrix: Soil/Solid**
Description: SB-11 (0.5-1.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
60. m&p-Xylene	100		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
61. o-Xylene	70		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC
‡ 62. Xylenes	170		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 19:52	VP22L14C	SNC

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-013 **Matrix: Soil/Solid**
Description: SB-11 (0.5-1.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
2. Acenaphthylene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
3. Aniline	U	V-	µg/kg	900	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
4. Anthracene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
‡ 5. Azobenzene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
7. Benzo(a)pyrene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
11. Benzyl Alcohol	U		µg/kg	3300	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	180	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	900	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
‡ 18. Carbazole	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
21. 2-Chlorophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
23. Chrysene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
25. Dibenzofuran	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-013

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-11 (0.5-1.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-013
Description: SB-11 (0.5-1.5')
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
26. 2,4-Dichlorophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
27. Diethyl Phthalate	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	1800	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
‡ 31. 2,4-Dinitrotoluene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
‡ 32. 2,6-Dinitrotoluene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
33. Fluoranthene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
34. Fluorene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
35. Hexachlorobenzene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
37. Hexachlorocyclopentadiene	U	F-	µg/kg	900	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
38. Hexachloroethane	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
‡ 40. Isophorone	U	F+ L+	µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	1800	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
43. 2-Methylphenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
‡ 44. 3&4-Methylphenol	U		µg/kg	660	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
45. Naphthalene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
46. 2-Nitroaniline	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
47. 3-Nitroaniline	U		µg/kg	830	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
48. 4-Nitroaniline	U		µg/kg	830	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
49. Nitrobenzene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
50. 2-Nitrophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
51. 4-Nitrophenol	U		µg/kg	900	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
53. N-Nitrosodi-n-propylamine	U	V-	µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U	V-	µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
57. Pentachlorophenol	U	F-	µg/kg	1800	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
58. Phenanthrene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
59. Phenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
60. Pyrene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
61. Pyridine	U	L-	µg/kg	900	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-013

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-11 (0.5-1.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-013 **Matrix: Soil/Solid**
Description: SB-11 (0.5-1.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 62. 1,2,4-Trichlorobenzene	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
63. 2,4,5-Trichlorophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA
64. 2,4,6-Trichlorophenol	U		µg/kg	330	5.0	12/18/22	PS22L16G	12/19/22 19:30	S522L19A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-014

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12 (7-8')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	14:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-014		Matrix: Soil/Solid							
Method: ASTM D2216-10						Description: SB-12 (7-8')									
Parameter(s)						Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
											P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)						9		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Michigan 10 Elements by ICP/MS						Aliquot ID: A12592-014		Matrix: Soil/Solid		
Method: EPA 0200.2/EPA 6020A						Description: SB-12 (7-8')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	2700		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Barium	9400		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Cadmium	91		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
4. Chromium	7600		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
5. Copper	6500		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
6. Lead	2700		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
7. Selenium	U		µg/kg	200	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
8. Silver	U		µg/kg	100	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
9. Zinc	17000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Mercury by CVAAS						Aliquot ID: A12592-014	Matrix: Soil/Solid			
Method: EPA 7471B						Description: SB-12 (7-8')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Mercury	U		µg/kg	50	10	12/13/22	PM22L13D	12/15/22	M722L15A	JLH

Organochlorine Pesticides						Aliquot ID: A12592-014	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8081B						Description: SB-12 (7-8')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Aldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
2. alpha-BHC	U		µg/kg	10	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
3. beta-BHC	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
4. delta-BHC	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
5. gamma-BHC	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
6. Chlordane	U		µg/kg	25	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
7. 4,4'-DDD	U	V+	µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
8. 4,4'-DDE	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
9. 4,4'-DDT	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-014

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12 (7-8')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	14:00
Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.					
Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.					

Organochlorine Pesticides
Method: EPA 3546/EPA 8081B

Aliquot ID: A12592-014 **Matrix: Soil/Solid**
Description: SB-12 (7-8')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. Dieldrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
11. Endosulfan I	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
12. Endosulfan II	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
13. Endosulfan Sulfate	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
14. Endrin	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
15. Endrin Aldehyde	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
16. Heptachlor	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
17. Heptachlor Epoxide	U		µg/kg	20	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
18. Methoxychlor	U		µg/kg	50	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT
19. Toxaphene	U		µg/kg	170	5.0	12/15/22	PS22L15C	12/20/22 13:26	SO22L20A	TKT

Polychlorinated Biphenyls (PCBs)
Method: EPA 3546/EPA 8082A

Aliquot ID: A12592-014 **Matrix: Soil/Solid**
Description: SB-12 (7-8')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:32	SO22L21C	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:32	SO22L21C	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:32	SO22L21C	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:32	SO22L21C	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:32	SO22L21C	TKT
6. Aroclor-1254	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:32	SO22L21C	TKT
7. Aroclor-1260	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:32	SO22L21C	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:32	SO22L21C	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:32	SO22L21C	TKT

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-014A **Matrix: Soil/Solid**
Description: SB-12 (7-8')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-014

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12 (7-8')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	14:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-014A **Matrix: Soil/Solid**
Description: SB-12 (7-8')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	60	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	60	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	60	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	60	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	60	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-014

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12 (7-8')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	14:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-014A **Matrix: Soil/Solid**
Description: SB-12 (7-8')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	60	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	60	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 20:19	VP22L14C	SNC

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-014 **Matrix: Soil/Solid**
Description: SB-12 (7-8')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
2. Acenaphthylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
3. Aniline	U	V-	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
4. Anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
‡ 5. Azobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
6. Benzo(a)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
7. Benzo(a)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
8. Benzo(b)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
9. Benzo(ghi)perylene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
10. Benzo(k)fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-014

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12 (7-8')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	14:00
Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.					
Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.					

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-014
Description: SB-12 (7-8')
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
11. Benzyl Alcohol	U		µg/kg	3300	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
12. Bis(2-chloroethoxy)methane	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
13. Bis(2-chloroethyl)ether	U		µg/kg	100	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
14. Bis(2-ethylhexyl)phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
15. 4-Bromophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
16. Butyl Benzyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
17. Di-n-butyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
‡ 18. Carbazole	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
19. 4-Chloro-3-methylphenol	U		µg/kg	280	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
20. 2-Chloronaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
21. 2-Chlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
22. 4-Chlorophenyl Phenylether	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
23. Chrysene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
24. Dibenzo(a,h)anthracene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
25. Dibenzofuran	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
26. 2,4-Dichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
27. Diethyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
28. 2,4-Dimethylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
29. Dimethyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
30. 2,4-Dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
‡ 31. 2,4-Dinitrotoluene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
‡ 32. 2,6-Dinitrotoluene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
33. Fluoranthene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
34. Fluorene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
35. Hexachlorobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
36. Hexachlorobutadiene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
37. Hexachlorocyclopentadiene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
38. Hexachloroethane	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
39. Indeno(1,2,3-cd)pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
‡ 40. Isophorone	U	L+	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
41. 2-Methyl-4,6-dinitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
42. 2-Methylnaphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
43. 2-Methylphenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
‡ 44. 3&4-Methylphenol	U		µg/kg	660	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
45. Naphthalene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
46. 2-Nitroaniline	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
47. 3-Nitroaniline	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-014

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12 (7-8')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	14:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3550C/EPA 8270E

Aliquot ID: A12592-014
Description: SB-12 (7-8')

Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
48. 4-Nitroaniline	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
49. Nitrobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
50. 2-Nitrophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
51. 4-Nitrophenol	U		µg/kg	830	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
52. N-Nitrosodimethylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
53. N-Nitrosodi-n-propylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
54. N-Nitrosodiphenylamine	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
55. Di-n-octyl Phthalate	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
56. 2,2'-Oxybis(1-chloropropane)	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
57. Pentachlorophenol	U		µg/kg	800	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
58. Phenanthrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
59. Phenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
60. Pyrene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
61. Pyridine	U	L-	µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
‡ 62. 1,2,4-Trichlorobenzene	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
63. 2,4,5-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA
64. 2,4,6-Trichlorophenol	U		µg/kg	330	1.0	12/16/22	PS22L16G	12/18/22 16:59	S522L18A	BDA

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-015

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	14:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Dissolved						Aliquot ID: A12592-015C		Matrix: Ground Water		
Method: EPA 3005A (Dissolved)/EPA 6020A						Description: SB-12-GW				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
2. Barium	110		µg/L	100	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
3. Cadmium	U		µg/L	1.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
4. Chromium	U		µg/L	10	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
5. Copper	U		µg/L	4.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
6. Lead	U		µg/L	3.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
7. Selenium	U		µg/L	5.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
8. Silver	U		µg/L	0.20	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
9. Zinc	U		µg/L	50	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA

Michigan 10 Elements by ICP/MS, Total Recoverable						Aliquot ID: A12592-015A		Matrix: Ground Water		
Method: EPA 3005A (Total Recoverable)/EPA 6020A						Description: SB-12-GW				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
2. Barium	110		µg/L	100	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
3. Cadmium	U		µg/L	1.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
4. Chromium	U		µg/L	10	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
5. Copper	U		µg/L	4.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
6. Lead	U		µg/L	3.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
7. Selenium	U		µg/L	5.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
8. Silver	U		µg/L	0.20	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
9. Zinc	U		µg/L	50	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA

Mercury by CVAAS, Total						Aliquot ID: A12592-015A		Matrix: Ground Water		
Method: EPA 7470A						Description: SB-12-GW				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	12/15/22	PM22L15A	12/15/22	M722L15B	JLH

Mercury by CVAAS, Dissolved						Aliquot ID: A12592-015C		Matrix: Ground Water		
Method: EPA 7470A						Description: SB-12-GW				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	12/15/22	PM22L15A	12/15/22	M722L15B	JLH

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-015

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	14:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Organochlorine Pesticides
Method: EPA 3510C/EPA 8081B

Aliquot ID: A12592-015
Description: SB-12-GW
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aldrin	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
2. alpha-BHC	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
3. beta-BHC	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
4. delta-BHC	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
5. gamma-BHC	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
6. Chlordane	U		µg/L	0.050	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
7. 4,4'-DDD	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
8. 4,4'-DDE	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
9. 4,4'-DDT	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
10. Dieldrin	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
11. Endosulfan I	U		µg/L	0.030	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
12. Endosulfan II	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
13. Endosulfan Sulfate	U		µg/L	0.050	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
14. Endrin	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
15. Endrin Aldehyde	U		µg/L	0.020	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
16. Heptachlor	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
17. Heptachlor Epoxide	U		µg/L	0.010	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
18. Methoxychlor	U		µg/L	0.50	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT
19. Toxaphene	U		µg/L	1.0	1.0	12/14/22	PS22L14F	12/20/22 11:07	SO22L20A	TKT

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-015B
Description: SB-12-GW
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
3. Benzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
4. Bromobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
5. Bromochloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
8. Bromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
9. 2-Butanone	U		µg/L	25	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-015

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	14:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-015B

Matrix: Ground Water

Description: SB-12-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
15. Chlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
16. Chloroethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
17. Chloroform	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
18. Chloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
22. Dibromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
35. Ethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
37. 2-Hexanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
40. Methylene Chloride	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
42. MTBE	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
43. Naphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
45. Styrene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
49. Toluene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-015

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	14:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-015B

Matrix: Ground Water

Description: SB-12-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
53. Trichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
60. m&p-Xylene	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
61. o-Xylene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/15/22	VB22L15A	12/15/22 15:51	VB22L15A	BRC

Base/Neutral/Acid Semivolatiles by GC/MS

Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-015

Matrix: Ground Water

Description: SB-12-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
2. Acenaphthylene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
3. Aniline	U	L-	µg/L	4.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
4. Anthracene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
‡ 5. Azobenzene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
6. Benzo(a)anthracene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
7. Benzo(a)pyrene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
8. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
9. Benzo(ghi)perylene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
10. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
11. Benzyl Alcohol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
12. Bis(2-chloroethoxy)methane	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
13. Bis(2-chloroethyl)ether	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
14. Bis(2-ethylhexyl)phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
15. 4-Bromophenyl Phenylether	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
16. Butyl Benzyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
17. Di-n-butyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
‡ 18. Carbazole	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-015

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	14:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-015
Description: SB-12-GW
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
19. 4-Chloro-3-methylphenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
20. 2-Chloronaphthalene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
21. 2-Chlorophenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
22. 4-Chlorophenyl Phenylether	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
23. Chrysene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
24. Dibenzo(a,h)anthracene	U		µg/L	2.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
25. Dibenzofuran	U		µg/L	4.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
26. 2,4-Dichlorophenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
27. Diethyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
28. 2,4-Dimethylphenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
29. Dimethyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
30. 2,4-Dinitrophenol	U		µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
‡ 31. 2,4-Dinitrotoluene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
‡ 32. 2,6-Dinitrotoluene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
33. Fluoranthene	U		µg/L	1.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
34. Fluorene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
35. Hexachlorobenzene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
36. Hexachlorobutadiene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
37. Hexachlorocyclopentadiene	U	*	µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
38. Hexachloroethane	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
39. Indeno(1,2,3-cd)pyrene	U		µg/L	2.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
‡ 40. Isophorone	U	L+	µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
41. 2-Methyl-4,6-dinitrophenol	U	L- *	µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
42. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
43. 2-Methylphenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
‡ 44. 3&4-Methylphenol	U		µg/L	10	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
45. Naphthalene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
46. 2-Nitroaniline	U		µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
47. 3-Nitroaniline	U		µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
48. 4-Nitroaniline	U		µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
49. Nitrobenzene	U		µg/L	3.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
50. 2-Nitrophenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
51. 4-Nitrophenol	U	*	µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
52. N-Nitrosodimethylamine	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
53. N-Nitrosodi-n-propylamine	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
54. N-Nitrosodiphenylamine	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-015

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-12-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/06/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	14:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Base/Neutral/Acid Semivolatiles by GC/MS
Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-015
Description: SB-12-GW

Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
55. Di-n-octyl Phthalate	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
56. 2,2'-Oxybis(1-chloropropane)	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
57. Pentachlorophenol	U	L-	µg/L	20	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
58. Phenanthrene	U		µg/L	2.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
59. Phenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
60. Pyrene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
61. Pyridine	U	L-	µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
62. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
63. 2,4,5-Trichlorophenol	U		µg/L	5.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT
64. 2,4,6-Trichlorophenol	U		µg/L	4.0	1.0	12/14/22	PS22L13H	12/15/22 00:45	S522L14B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-016

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-13 (6.5-7.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-016		Matrix: Soil/Solid							
Method: ASTM D2216-10						Description: SB-13 (6.5-7.5')									
Parameter(s)						Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
											P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)						15		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Trace Elements by ICP/MS						Aliquot ID: A12592-016	Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A						Description: SB-13 (6.5-7.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	1900		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035					Aliquot ID: A12592-016A	Matrix: Soil/Solid				
Method: EPA 5035A/EPA 8260D					Description: SB-13 (6.5-7.5')					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	140	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
7. Bromoform	U		µg/kg	140	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	69	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	69	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-016

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-13 (6.5-7.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-016A **Matrix: Soil/Solid**
Description: SB-13 (6.5-7.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	69	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	69	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	69	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	140	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	69	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	69	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-016

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-13 (6.5-7.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:00
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-016A **Matrix: Soil/Solid**
Description: SB-13 (6.5-7.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 20:46	VP22L14C	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A12592-016 **Matrix: Soil/Solid**
Description: SB-13 (6.5-7.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
12. Fluorene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:26	SN22L15C	KDG

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-017

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-14 (1.5-2.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:15
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-017		Matrix: Soil/Solid		
Method: ASTM D2216-10						Description: SB-14 (1.5-2.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Trace Elements by ICP/MS						Aliquot ID: A12592-017	Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A						Description: SB-14 (1.5-2.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	20000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035					Aliquot ID: A12592-017A	Matrix: Soil/Solid				
Method: EPA 5035A/EPA 8260D					Description: SB-14 (1.5-2.5)					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-017

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-14 (1.5-2.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:15
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-017A **Matrix: Soil/Solid**
Description: SB-14 (1.5-2.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	59	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-017

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-14 (1.5-2.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	09:15
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-017A **Matrix: Soil/Solid**
Description: SB-14 (1.5-2.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 21:12	VP22L14C	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A12592-017 **Matrix: Soil/Solid**
Description: SB-14 (1.5-2.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
12. Fluorene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 22:53	SN22L15C	KDG

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-018

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-14-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Trace Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A12592-018
Description: SB-14-GW
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	4.9		µg/L	3.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-018A
Description: SB-14-GW
Matrix: Ground Water

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
3. Benzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
4. Bromobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
5. Bromochloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
8. Bromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
9. 2-Butanone	U		µg/L	25	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
15. Chlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
16. Chloroethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
17. Chloroform	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
18. Chloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
22. Dibromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-018

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-14-GW	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-018A **Matrix: Ground Water**
Description: SB-14-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
35. Ethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
37. 2-Hexanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
40. Methylene Chloride	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
42. MTBE	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
43. Naphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
45. Styrene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
49. Toluene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
53. Trichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
60. m&p-Xylene	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
61. o-Xylene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/15/22	VB22L15A	12/15/22 16:16	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-019

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-15 (2-3)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:05
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-019		Matrix: Soil/Solid		
Method: ASTM D2216-10						Description: SB-15 (2-3)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Trace Elements by ICP/MS						Aliquot ID: A12592-019	Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A						Description: SB-15 (2-3)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	79000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035						Aliquot ID: A12592-019A		Matrix: Soil/Solid		
Method: EPA 5035A/EPA 8260D						Description: SB-15 (2-3)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	3200	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	1300	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
3. Benzene	780		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
7. Bromoform	U		µg/kg	1300	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
8. Bromomethane	U		µg/kg	1300	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	1300	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
10. n-Butylbenzene	9600		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
11. sec-Butylbenzene	4100		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
17. Chloroform	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
18. Chloromethane	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-019

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-15 (2-3)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:05
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-019A **Matrix: Soil/Solid**
Description: SB-15 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
24. 1,3-Dichlorobenzene	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
35. Ethylbenzene	1700		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
38. Isopropylbenzene	3500		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	1300	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	5100	B	µg/kg	1300	10	12/15/22	VJ22L15B	12/15/22 16:35	VJ22L15B	ART
42. MTBE	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
43. Naphthalene	9700		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
44. n-Propylbenzene	20000		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
45. Styrene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
49. Toluene	2800		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	680		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	3500		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	610		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-019

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-15 (2-3)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:05
Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.					
Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.					

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-019A **Matrix: Soil/Solid**
Description: SB-15 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
60. m&p-Xylene	3600		µg/kg	650	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
61. o-Xylene	510		µg/kg	320	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC
‡ 62. Xylenes	4100		µg/kg	970	10	12/14/22	VP22L14C	12/14/22 21:39	VP22L14C	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A12592-019 **Matrix: Soil/Solid**
Description: SB-15 (2-3)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
12. Fluorene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
14. 2-Methylnaphthalene (SIM)	1100		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
15. Naphthalene (SIM)	1600		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:19	SN22L15C	KDG

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-020

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-16 (3.5-3.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:35
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-020	Matrix: Soil/Solid			
Method: ASTM D2216-10						Description: SB-16 (3.5-3.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	11		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Trace Elements by ICP/MS						Aliquot ID: A12592-020	Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A						Description: SB-16 (3.5-3.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	98		µg/kg	50	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
2. Chromium	11000		µg/kg	500	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH
3. Lead	5100		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Ethylene Glycol by GC/FID						Aliquot ID: A12592-020	Matrix: Soil/Solid			
Method: FES S-229/EPA 8015C						Description: SB-16 (3.5-3.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ethylene Glycol	U	V-	µg/kg	10000	1.0	12/14/22	PS22L14J	12/19/22 11:40	SD22L19A	TKT

Polychlorinated Biphenyls (PCBs)						Aliquot ID: A12592-020	Matrix: Soil/Solid			
Method: EPA 3546/EPA 8082A						Description: SB-16 (3.5-3.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:44	SO22L21C	TKT
2. Aroclor-1221	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:44	SO22L21C	TKT
3. Aroclor-1232	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:44	SO22L21C	TKT
4. Aroclor-1242	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:44	SO22L21C	TKT
5. Aroclor-1248	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:44	SO22L21C	TKT
6. Aroclor-1254	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:44	SO22L21C	TKT
7. Aroclor-1260	U	V+	µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:44	SO22L21C	TKT
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:44	SO22L21C	TKT
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	12/21/22	PS22L21C	12/21/22 20:44	SO22L21C	TKT

Volatile Organic Compounds (VOCs) by GC/MS, 5035						Aliquot ID: A12592-020A	Matrix: Soil/Solid			
Method: EPA 5035A/EPA 8260D						Description: SB-16 3.5-3.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-020

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-16 (3.5-3.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:35
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-020A **Matrix: Soil/Solid**
Description: SB-16 3.5-3.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	130	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
7. Bromoform	U		µg/kg	130	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	63	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	63	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	63	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	63	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	63	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-020

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-16 (3.5-3.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:35
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-020A **Matrix: Soil/Solid**
Description: SB-16 3.5-3.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	130	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	63	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	63	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 22:06	VP22L14C	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A12592-020 **Matrix: Soil/Solid**
Description: SB-16 (3.5-3.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-020

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-16 (3.5-3.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	10:35
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A12592-020
Description: SB-16 (3.5-3.5)
Matrix: Soil/Solid

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
12. Fluorene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 21:59	SN22L15C	KDG

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-021

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-16-GW	Chain of Custody:	212717
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Trace Elements by ICP/MS, Dissolved
Method: EPA 3005A (Dissolved)/EPA 6020A

Aliquot ID: A12592-021D **Matrix: Ground Water**
Description: SB-16-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	U		µg/L	1.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
2. Chromium	U		µg/L	10	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA
3. Lead	U		µg/L	3.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA

Trace Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A12592-021A **Matrix: Ground Water**
Description: SB-16-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	2.0		µg/L	1.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
2. Chromium	18		µg/L	10	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA
3. Lead	46		µg/L	3.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA

Ethylene Glycol by GC/FID
Method: FES S-228/EPA 8015C

Aliquot ID: A12592-021B **Matrix: Ground Water**
Description: SB-16-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ethylene Glycol	U		µg/L	10000	1.0	12/14/22	PS22L14I	12/16/22 13:26	SD22L16A	TKT

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-021C **Matrix: Ground Water**
Description: SB-16-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	HV	µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
‡ 2. Acrylonitrile	U	HV	µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
3. Benzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
4. Bromobenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
5. Bromochloromethane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
6. Bromodichloromethane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
‡ 7. Bromoform (SIM)	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
8. Bromomethane	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
9. 2-Butanone	U	HV	µg/L	25	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
10. n-Butylbenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
11. sec-Butylbenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
12. tert-Butylbenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-021

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-16-GW	Chain of Custody:	212717
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-021C

Matrix: Ground Water

Description: SB-16-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
13. Carbon Disulfide	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
14. Carbon Tetrachloride	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
15. Chlorobenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
16. Chloroethane	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
17. Chloroform	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
18. Chloromethane	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
19. 2-Chlorotoluene	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
21. Dibromochloromethane	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
22. Dibromomethane	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
23. 1,2-Dichlorobenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
24. 1,3-Dichlorobenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
25. 1,4-Dichlorobenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
26. Dichlorodifluoromethane	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
27. 1,1-Dichloroethane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
28. 1,2-Dichloroethane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
29. 1,1-Dichloroethene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
30. cis-1,2-Dichloroethene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
31. trans-1,2-Dichloroethene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
32. 1,2-Dichloropropane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
33. cis-1,3-Dichloropropene	U	HV	µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
34. trans-1,3-Dichloropropene	U	HV	µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
35. Ethylbenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
36. Ethylene Dibromide	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
37. 2-Hexanone	U	HV	µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
38. Isopropylbenzene	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
39. 4-Methyl-2-pentanone	U	HV	µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
40. Methylene Chloride	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
‡ 41. 2-Methylnaphthalene	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
42. MTBE	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
43. Naphthalene	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
44. n-Propylbenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
45. Styrene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
46. 1,1,1,2-Tetrachloroethane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
47. 1,1,2,2-Tetrachloroethane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
48. Tetrachloroethene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-021

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-16-GW	Chain of Custody:	212717
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-021C

Matrix: Ground Water

Description: SB-16-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
49. Toluene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
50. 1,2,4-Trichlorobenzene	U	HV	µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
51. 1,1,1-Trichloroethane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
‡ 52. 1,1,2-Trichloroethane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
53. Trichloroethene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
54. Trichlorofluoromethane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
55. 1,2,3-Trichloropropane	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
‡ 56. 1,2,3-Trimethylbenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
57. 1,2,4-Trimethylbenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
58. 1,3,5-Trimethylbenzene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
59. Vinyl Chloride	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
60. m&p-Xylene	U	HV	µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
61. o-Xylene	U	HV	µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC
‡ 62. Xylenes	U	HV	µg/L	3.0	1.0	12/15/22	VB22L15A	12/15/22 16:40	VB22L15A	BRC

Polynuclear Aromatic Hydrocarbons (PNAs)

Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-021

Matrix: Ground Water

Description: SB-16-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
2. Acenaphthylene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
3. Anthracene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
4. Benzo(a)anthracene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
5. Benzo(a)pyrene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
6. Benzo(b)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
7. Benzo(ghi)perylene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
8. Benzo(k)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
9. Chrysene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
10. Dibenzo(a,h)anthracene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
11. Fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
12. Fluorene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
14. 2-Methylnaphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
15. Naphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
16. Phenanthrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT
17. Pyrene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 02:58	S622L13B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-022

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-17-GW	Chain of Custody:	212717
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	11:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Trace Elements by ICP/MS, Dissolved
Method: EPA 3005A (Dissolved)/EPA 6020A

Aliquot ID: A12592-022C **Matrix: Ground Water**
Description: SB-17-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	U		µg/L	3.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA

Trace Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A12592-022A **Matrix: Ground Water**
Description: SB-17-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	6.1		µg/L	3.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-022B **Matrix: Ground Water**
Description: SB-17-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
3. Benzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
4. Bromobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
5. Bromochloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
8. Bromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
9. 2-Butanone	U		µg/L	25	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
15. Chlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
16. Chloroethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
17. Chloroform	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
18. Chloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
22. Dibromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-022

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-17-GW	Chain of Custody:	212717
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	11:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-022B

Matrix: Ground Water

Description: SB-17-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
35. Ethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
37. 2-Hexanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
40. Methylene Chloride	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
42. MTBE	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
43. Naphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
45. Styrene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
49. Toluene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
53. Trichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
60. m&p-Xylene	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-022

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-17-GW	Chain of Custody:	212717
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	11:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-022B

Matrix: Ground Water

Description: SB-17-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
61. o-Xylene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/15/22	VB22L15A	12/15/22 17:05	VB22L15A	BRC

Polynuclear Aromatic Hydrocarbons (PNAs)

Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-022

Matrix: Ground Water

Description: SB-17-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
2. Acenaphthylene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
3. Anthracene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
4. Benzo(a)anthracene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
5. Benzo(a)pyrene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
6. Benzo(b)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
7. Benzo(ghi)perylene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
8. Benzo(k)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
9. Chrysene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
10. Dibenzo(a,h)anthracene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
11. Fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
12. Fluorene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
14. 2-Methylnaphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
15. Naphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
16. Phenanthrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT
17. Pyrene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:26	S622L13B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-023

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-18-GW	Chain of Custody:	212717
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	13:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Trace Elements by ICP/MS, Dissolved
Method: EPA 3005A (Dissolved)/EPA 6020A

Aliquot ID: A12592-023C **Matrix: Ground Water**
Description: SB-18-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	U		µg/L	3.0	10	12/14/22	PT22L14C	12/14/22	T422L14A	CJA

Trace Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A12592-023A **Matrix: Ground Water**
Description: SB-18-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	7.7		µg/L	3.0	10	12/14/22	PT22L14A	12/14/22	T422L14A	CJA

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-023B **Matrix: Ground Water**
Description: SB-18-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
3. Benzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
4. Bromobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
5. Bromochloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
6. Bromodichloromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
8. Bromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
9. 2-Butanone	U		µg/L	25	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
10. n-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
11. sec-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
12. tert-Butylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
13. Carbon Disulfide	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
15. Chlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
16. Chloroethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
17. Chloroform	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
18. Chloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
21. Dibromochloromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
22. Dibromomethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-023

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-18-GW	Chain of Custody:	212717
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	13:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-023B

Matrix: Ground Water

Description: SB-18-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
35. Ethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
36. Ethylene Dibromide	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
37. 2-Hexanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
38. Isopropylbenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
40. Methylene Chloride	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
42. MTBE	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
43. Naphthalene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
44. n-Propylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
45. Styrene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
48. Tetrachloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
49. Toluene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
53. Trichloroethene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
59. Vinyl Chloride	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
60. m&p-Xylene	U		µg/L	2.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-023

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-18-GW	Chain of Custody:	212717
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Ground Water	Collect Time:	13:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Method: EPA 5030C/EPA 8260D

Aliquot ID: A12592-023B

Matrix: Ground Water

Description: SB-18-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
61. o-Xylene	U		µg/L	1.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC
‡ 62. Xylenes	U		µg/L	3.0	1.0	12/15/22	VB22L15A	12/15/22 17:30	VB22L15A	BRC

Polynuclear Aromatic Hydrocarbons (PNAs)

Method: EPA 3510C/EPA 8270E

Aliquot ID: A12592-023

Matrix: Ground Water

Description: SB-18-GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
2. Acenaphthylene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
3. Anthracene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
4. Benzo(a)anthracene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
5. Benzo(a)pyrene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
6. Benzo(b)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
7. Benzo(ghi)perylene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
8. Benzo(k)fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
9. Chrysene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
10. Dibenzo(a,h)anthracene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
11. Fluoranthene (SIM)	U		µg/L	1.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
12. Fluorene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
14. 2-Methylnaphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
15. Naphthalene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
16. Phenanthrene (SIM)	U		µg/L	2.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT
17. Pyrene (SIM)	U		µg/L	5.0	1.0	12/13/22	PS22L13D	12/14/22 03:54	S622L13B	TKT

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-024

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-18 (6.5-7.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:20
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-024		Matrix: Soil/Solid		
Method: ASTM D2216-10						Description: SB-18 (6.5-7.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	7		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Trace Elements by ICP/MS						Aliquot ID: A12592-024	Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A						Description: SB-18 (6.5-7.5)				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	3000		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035					Aliquot ID: A12592-024A	Matrix: Soil/Solid				
Method: EPA 5035A/EPA 8260D					Description: SB-18 (6.5-7.5)					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
7. Bromoform	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-024

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-18 (6.5-7.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:20
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-024A **Matrix: Soil/Solid**
Description: SB-18 (6.5-7.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	58	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-024

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-18 (6.5-7.5)	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:20
Sample Comments: Soil results have been calculated and reported on a dry weight basis unless otherwise noted.					
Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.					

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-024A **Matrix: Soil/Solid**
Description: SB-18 (6.5-7.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 22:32	VP22L14C	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A12592-024 **Matrix: Soil/Solid**
Description: SB-18 (6.5-7.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
12. Fluorene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/15/22 23:46	SN22L15C	KDG

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-025

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-19 (0.5-1.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Water (Moisture) Content Dried at 105 ± 5°C						Aliquot ID: A12592-025		Matrix: Soil/Solid							
Method: ASTM D2216-10						Description: SB-19 (0.5-1.5')									
Parameter(s)						Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
											P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Percent Moisture (Water Content)						6		%	1	1.0	12/14/22	MC221214	12/15/22	MC221214	LJK

Trace Elements by ICP/MS						Aliquot ID: A12592-025	Matrix: Soil/Solid			
Method: EPA 0200.2/EPA 6020A						Description: SB-19 (0.5-1.5')				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Lead	6800		µg/kg	1000	20	12/16/22	PT22L16E	12/16/22	T422L16A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035					Aliquot ID: A12592-025A	Matrix: Soil/Solid				
Method: EPA 5035A/EPA 8260D					Description: SB-19 (0.5-1.5')					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
‡ 2. Acrylonitrile	U		µg/kg	110	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
3. Benzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
7. Bromoform	U		µg/kg	110	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
8. Bromomethane	U		µg/kg	200	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
10. n-Butylbenzene	U		µg/kg	56	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
13. Carbon Disulfide	U	V+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
14. Carbon Tetrachloride	U		µg/kg	56	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
16. Chloroethane	U	V+ L+	µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
17. Chloroform	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
18. Chloromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-025

Order: A12592
 Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-19 (0.5-1.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-025A **Matrix: Soil/Solid**
Description: SB-19 (0.5-1.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
28. 1,2-Dichloroethane	U		µg/kg	56	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
32. 1,2-Dichloropropane	U		µg/kg	56	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	56	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
40. Methylene Chloride	U		µg/kg	110	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
42. MTBE	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
43. Naphthalene	U		µg/kg	330	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
45. Styrene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	56	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
49. Toluene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	56	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC

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Analytical Laboratory Report
Laboratory Project Number: A12592
Laboratory Sample Number: A12592-025

Order: A12592
Date: 01/03/23

Client Identification:	AKT Peerless Environ. Svcs, Inc. - Farm. Hills	Sample Description:	SB-19 (0.5-1.5')	Chain of Custody:	212716
Client Project Name:	9984f-3-20	Sample No:		Collect Date:	12/07/22
Client Project No:	9984f-3-20	Sample Matrix:	Soil/Solid	Collect Time:	13:40
Sample Comments:	Soil results have been calculated and reported on a dry weight basis unless otherwise noted.				
Definitions:	Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.				

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A12592-025A **Matrix: Soil/Solid**
Description: SB-19 (0.5-1.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
60. m&p-Xylene	U		µg/kg	100	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
61. o-Xylene	U		µg/kg	50	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	12/14/22	VP22L14C	12/14/22 22:59	VP22L14C	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A12592-025 **Matrix: Soil/Solid**
Description: SB-19 (0.5-1.5')

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
12. Fluorene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	12/15/22	PS22L15D	12/16/22 00:12	SN22L15C	KDG

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

- *** : Duplicate analysis not within control limits.
B : Analyte is found in the associated method blank as well as in the sample.
F- : Recovery from the spiked aliquot exceeds the lower control limit (matrix spike or matrix spike duplicate).
F+ : Recovery from the spiked aliquot exceeds the upper control limit (matrix spike or matrix spike duplicate).
HV : Per method requirements, the hold time is reduced from 14 days to 7 days when the sample pH is >2. The hold time was exceeded.
L- : Recovery in the associated laboratory sample (LCS) exceeds the lower control limit. Results may be biased low.
L+ : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
V- : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.
V+ : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-22-14 (TX)

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Client Name: AKT Peerless				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS										Matrix Code			Deliverables									
Contact Person: Sean Brick						HOLD SAMPLE	VOCs	PNAs	M1-10 metals	PCBs	Creosote (acid extractable)	Pb	Ethylene Glycol	Pesticides	Vanadium	Cd, Cr, Pb	S Soil	A Air	O Oil	P Wipe	GW Ground Water	SW Surface Water	WW Waste Water	X Other: Specify	Level 2	Level 3	Level 4	EDD
Project Name/ Number: 9984F-3-20																												
Email distribution list: bricks@aktpeerless.com wasielewski@aktpeerless.com																												
Quote#																												
Purchase Order#				<p>Received By Lab</p> <p>DEC 09 2022</p> <p>Initials: DG</p>																								
Date	Time	Sample #	Client Sample Descriptor		Remarks:																							
12/6/22	0936		SB-1 (1-2')																									
	1010		SB-2-GW		Filter for Pb analysis																							
	1030		SB-3 (1.5-2.5)																									
	1050		SB-4 (1-2)																									
	1110		SB-5 (1.5-2.5)																									
	1125		SB-6 (2-3')																									
	1130		SB-6-GW		Filter for Cd Cr Pb analysis																							
	1210		SB-7 (3.5-4.5')		Add'l run for SVOCs																							
	1240		SB-8 (5-6)	+SVOCs																								
✓	1300		SB-9 (9.5-10.5)	+SVOCs																								
Comments:																												
Sampled/Relinquished By: Sean Brick				Date/ Time		Received By: [Signature]																						
Relinquished By: [Signature]				Date/ Time		Received By: [Signature]																						
Relinquished By: [Signature]				Date/ Time		Received By Laboratory:																						
<p>Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY</p> <p>_____ 1 bus. day _____ 2 bus. days _____ 3 bus. days _____ 4 bus. days</p> <p>X 5-7 bus. days (standard) Other (specify time/date requirement): _____</p>															<p>LAB USE ONLY</p> <p>Fibertec project number: A12592</p> <p>Temperature upon receipt at Lab: 5.2°C</p> <p>Received On Ice</p>													
Please see back for terms and conditions																												

Client Name: AKT Peerless				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS										Matrix Code			Deliverables			
Contact Person: Sean Brick						HOLD SAMPLE	VOCs	PNAs	MI-10	PCBs	Creosote acid extractables	Pb	Cd, Cr, Pb	Ethylene Glycol	Pesticides	Vanadium	S	Soil			GW	Ground Water
Project Name/ Number:																	A	Air			SW	Surface Water
Email distribution list:																	O	Oil			WW	Waste Water
Quote#																	P	Wipe			X	Other: Specify
Purchase Order#				Remarks:																		
Date	Time	Sample #	Client Sample Descriptor																			
12/6/22	1310		SB-9-GW	GW	6	X		X		X				X			Filter for MI-10. Also run for SVOCs					
	1325		SB-10 (1-2')	S	3	X		X		X				X			+ SVOCs					
	1340		SB-11 (0.5-1.5')	S	3	X		X		X				X			+ SVOCs					
	1400		SB-12 (7-8')	S	3	X		X	X	X				X			+ SVOCs					
	1405		SB-12-GW	GW	6	X		X		X				X			Filter for MI-10. Also run for SVOCs					
12/7/22	0900		SB-13 (6.5-7.5')	S	3	X	X				X											
	0915		SB-14 (1.5-2.5')	S	3	X	X				X											
	0920		SB-14-GW	GW	4	X					X						Filter for Pb					
	1005		SB-15 (2-3)	S	3	X	X				X											
	1035		SB-16 (2.5-3.5)	S	3	X	X		X			X	X									
Comments:																						
Sampled/Relinquished By: Sean Brick				Date/Time				Received By: [Signature] 12/9/22 11:00														
Relinquished By: [Signature]				Date/Time 12/9/22 17:40				Received By: [Signature]														
Relinquished By:				Date/Time				Received By Laboratory:														
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY _____ 1 bus. day _____ 2 bus. days _____ 3 bus. days _____ 4 bus. days <input checked="" type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____										LAB USE ONLY Fibertec project number: A12592 Temperature upon receipt at Lab: 5.20C <div style="border: 1px solid red; padding: 5px; display: inline-block; color: red;">Received On Ice</div>												
Please see back for terms and conditions																						

Fax: 231 775 8584

Fax: 810 220 3311

PAGE 3 of 3

Client Name: AKT Peerless				PARAMETERS										Matrix Code			Deliverables			
Contact Person: Sean Brick														S Soil			GW	Ground Water		Level 2
Project Name/ Number:														A Air			SW	Surface Water		Level 3
Email distribution list:														O Oil			WW	Waste Water		Level 4
Quote#														P Wipe			X	Other: Specify		EDD
Purchase Order#																				
Date	Time	Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	VOCs	PNAs	MI-10	Acid extractables (crevate)	PCBs	Lead	Cd, Cr, Pb	Ethylene Glycol	Pesticides	Vanadium	HOLD SAMPLE	Remarks:			
12/7/22	1045		SB-16-GW	GW	8	X	X					X	X				Filter for Cd, Cr, Pb			
↓	1140		SB-17-GW	GW	5	X	X				X						Filter for Pb			
↓	1305		SB-18-GW	GW	5	X	X				X						Filter for Pb			
↓	1320		SB-18 (6.5-7.5')	S	3	X	X				X									
↓	1340		SB-19 (0.5-1.5')	S	3	X	X				X									
Comments:																				
Sampled/Relinquished By: Sean Brick				Date/ Time				Received By: [Signature] 12/9/22 11:00												
Relinquished By: [Signature]				Date/ Time: 12/9/22 17:40				Received By: [Signature]												
Relinquished By:				Date/ Time				Received By Laboratory:												
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY														LAB USE ONLY						
1 bus. day 2 bus. days 3 bus. days 4 bus. days														Fibertec project number: A12542						
X 5-7 bus. days (standard) Other (specify time/date requirement):														Temperature upon receipt at Lab: 5.20C						
Please see back for terms and conditions																				
Packet Pg. 2																				

Village of Lake Orion Downtown Development Authority (DDA)

The DDA Bond Issue is to be funded from existing captured tax rate revenues.

There is **NO** new tax millage rate to be levied by the DDA to pay these bonds.

The bonds would be repaid based on the existing authorized captured tax rates.

DDA Proposed Bond Issue 2023

Lumber Yard Purchase and Development

Pro forma Bond Issue

Tax Exempt	3.75%	\$	4,000,000
Taxable	4.50%	\$	1,000,000

Bond Issue Date: after 2/1/23

Term: to 10/1/2039 18 years level debt service

Total Interest over term of bond:- 18 years	1,894,938
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Total Bond Principal and Interest over 18 year term	\$ 6,894,938
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<u>Average annual debt service:</u>	Tax Exempt	Taxable	Total Debt Service
Principal	222,222	55,556	277,778
Interest	80,733	24,542	105,274
Total Debt Service	302,955	80,097	383,052

Range of 18 years debt service:

Highest	2030	386,475
Lowest	2037	379,075



The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023
FROM: Molly LaLone, DDA Executive Director
SUBJECT: DDA Preliminary 2023-2024 Budget

Attached:

23-24 Budget scenario with notes

Budget Workshop:

The DDA Board met to review the budget on the following dates

February 7th

February 15th

In addition the proposed budget was published as part of the regular meeting packet in December 2022 and January 2023

Budget Due to VLO: Feb 24, 2023

Director Recommendation: Recommend this budget to Village Council for inclusion in their overall 2023-2024 budget

Recommended Motion: To recommend the attached 2023-2024 DDA budget to Village Council for inclusion in their overall 2023-2024 budget

Proposed DDA Budget	2023-2024	2018-19	2019-20	2020-21	2021-2022	2022-23	2022-23	2023-24	2024-25	2025-26	
		ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY	Amended Budget	Revised Projection	PROJECTION Scenario B	PROJECTION	PROJECTION	
GL NUMBER	DESCRIPTION							80/20 bond			
FUND 248 - DOWNTOWN DEVELOPMENT AUTHORITY											
ESTIMATED REVENUES											
Dept 000 - REVENUE											
248-000-402-000	Property Tax - Current Real	288,001	304,910	322,661	349,061	890,000	658,713	903,236	912,268	921,391	all tax capture here - not itemized
248-000-402-100	Property Tax - Twp DDA Capture	347,023	344,763	372,527	392,840		750				
248-000-405-000	Property Tax - Personal										
248-000-412-000	Property Tax - DPPT P/Y & C/Y	3,682	866	678	(3,397)						
248-000-441-000	Local Community Stabilization Share Tax	8,109	18,059	8,128	8,015	12,000	10,094	10,000	8,000	8,000	tax rev is being phased out, still receiving
248-000-445-000	Penalties & Interest on Taxes	2,489	2,063	2,113	2,022			2,000	2,000	2,000	
248-000-539-000	State Grants	268	5,000	32,418	3,688		9,000	25,000	8,500	8,500	MEDC, Oakland County (min \$8,500)
	Grants							84,028	84,500	84,500	Private foundations
248-000-582-000	Intergovernment - Police	81,338	81,030	95,649	87,764		15,927				
248-000-664-000	Interest Earned	7,276	7,068	2,482	2,297	1,600	2,055	2,500	2,000	2,000	
248-000-671-999	Appropriation from Fund Balanc					46,955	46,955				
248-000-673-000	Sale Of Fixed Assets					0	0				
248-000-681-000	Reimburse - Insurance Claims					0	0				
248-000-683-000	Reimbursements-Other		6,500			0	0				
248-000-685-000	Sponsorships	3,500	7,000	17,210	17,283	52,398	44,183	102,400	53,850	53,850	22-23: per december event report. as of 23-24 on: goal to cover expenses for departments Economic Vitality and Promotion minus Trolley, see below minus contract for grant writing, see above
248-000-685-100	Transportation sponsorship					53,726	27,860	28,000	28,000	28,000	100% sponsorship for Trolley pending signed sponsor agreement
248-000-686-000	Downtown Events					30,000	500	20,000	20,000	20,000	fundraising beyond event budget
248-000-686-002	Flower Fair Revenue	22,880	(8)	2660							
248-000-686-003	New Year Resolution Run Revenue										
248-000-686-004	OktoberFest Revenue				13,309	15,145	20,361				Oktoberfest on hold
248-000-686-005	Babes On Broadway										
248-000-687-000	Merchandise Sales		25	1255	3,563	3,000	3,000	10,000	10,000	10,000	
248-000-688-000	Gift Certificate Sales	310	1,000	21913	20,900	5,000	1,575	5,000	5,000	5,000	
248-000-694-000	Miscellaneous	4,776	1,874	40	3,786		705				
248-000-696-000	PROCEEDS FROM THE SALE OF BONDS/NOTES		500,000								
Totals for dept 000 - REVENUE		769,652	1,280,150	879,734	901,131	1,109,824	841,678	1,192,164	1,134,118	1,143,241	
TOTAL ESTIMATED REVENUES		769,652	1,280,150	879,734	901,131	1,109,824	841,678	1,192,164	1,134,118	1,143,241	

Proposed DDA Budget	2023-2024	2018-19	2019-20	2020-21	2021-2022	2022-23	2022-23	2023-24	2024-25	2025-26	
		ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY	Amended Budget	Revised Projection	PROJECTION Scenario B	PROJECTION	PROJECTION	
GL NUMBER	DESCRIPTION							80/20 bond			
APPROPRIATIONS											
Dept 260 - GENERAL ACTIVITIES											
248-260-701-000	Wages	52,541	54,449	55,386	55,602	58,323	58,323	60,248	62,236	64,290	
248-260-701-019	COVID 19 PAYROLL			543							
248-260-704-000	Wages - Administrative Coordinator	25,597	12,664	14,719	24,068	26,474	23,842	33,280	34,378	35,513	
248-260-706-000	Wages - Event Coordinator	3,750	13,707	14,117	22,633	26,080	27,998	33,280	34,378	35,513	
248-260-707-000	Wages - Grounds Coordinator	2,043	2,038	1,782	1,255	5,000	5,000	0	0	0	
	OVERTIME	5,606				1,894	947				
248-260-715-000	Social Security	6,315	5,886	6,579	7,929	9,112	9,112	9,688	10,008	10,400	
248-260-716-000	Health Insurance- Medical	5,694	5,865	5,500	6,828	6,974	6,974	7,200	7,400	7,650	
248-260-717-000	Life & Disability Insurance	1,049	911	1,070	971	1,243	1,243	1,200	1,250	1,250	
248-260-718-000	Dental Insurance	528	472	463	489	571	571	700	725	800	
248-260-719-000	Pension	3,696	3,782	3,561	636	4,969	4,969	5,120	5,630	6,200	
248-260-721-000	Vision Care	108	96	108	107	130	130	130	145	160	
248-260-722-000	Worker's Comp. Insurance										
248-260-801-000	Contractual Services - general	66,738		1,599							
248-260-801-002	Contr Services-Police Dtn Law Enforcement	81,338	81,030	85,429	60,000	60,000	60,000	60,000	60,000	60,000	
248-260-801-003	Contract Services-DPW maintenance	31,200	31,200	31,200	26,196	30,000	30,000	30,000	30,000	30,000	
248-260-801-004	Contractual Services - administrative		1,739	66,738	68,004	70,000	70,000	70,000	70,000	70,000	
248-260-801-005	Contractual Services - Township				2,700						
248-260-801-012	Contr Services-Police Dtn parking & Code enforcement				20,004	21,000	21,000	21,000	21,000	21,000	
248-260-801-022	Contr Services-Police Crowd Control				9,996	20,000	20,000	20,000	20,000	20,000	
248-260-801-023	Contract Services-DPW event support				5,004	10,000	10,000	10,000	10,000	10,000	
248-260-801-033	Contract Services-DPW snow removal				12,000	15,000	15,000	15,000	15,000	15,000	
248-260-805-000	Audit Fees	1,942	2,200	1,839	1,560	2,200	1,068	2,000	2,000	2,000	
248-260-810-000	Legal Services	446	3,152	4,364	6,868	5,000	10,000	5,000	5,000	5,000	
248-260-823-000	Website/Software	620	2,645	5,862	4,968	8,000	8,000	6,000	6,000	6,000	
248-260-823-001	Municipal Software	4,536	3,599	1,249	4,035	6,000	6,000	5,000	5,000	5,000	
248-260-829-000	Planner Services	5,465	14,074			5,000	5,000	5,000	5,000	5,000	
248-260-851-000	Telephone	2,360	3,362	2,535	3,452	3,000	3,000	3,000	3,000	3,000	
248-260-900-000	Printing and Publication	44	82	76	90	100	100	100	100	100	
248-260-920-000	Utilities	2,422	3,734	3,004	3,084	3,500	3,500	3,500	3,500	3,500	
248-260-921-000	Municipal Street Lighting	6,596	20,039	7,645	6,782	6,500	17,500	6,500	6,500	6,500	
248-260-930-000	Repair and Maintenance	115	270	438	1,092	1,500	1,500	0	0	0	
248-260-930-002	Building Maintenance				47	1,000	1,000	0	0	0	
248-260-940-000	Equipment Rental					246	500	0	0	0	
248-260-941-000	Office Rent	11,640	12,000	12,000	12,000	12,000	12,000	12,000	15,000	15,000	
248-260-942-000	Office Expenses	2,700	3,468	3,550	5,689	5,000	5,000	4,000	4,000	4,000	
248-260-942-019	Covid Office Expenses			179							
248-260-946-000	Credit Card Fees	341	477	168	65	100	100	100	100	100	
248-260-956-000	Dues & Miscellaneous	879	3,096	1,257	947	1,500	1,500	1,500	1,500	1,500	chamber, mda, msa, etc
248-260-957-000	Education & Training	6,853	4,811	2,359	4,379	6,000	6,000	4,500	4,500	4,500	
248-260-958-000	General Activities Misc	81	1,017	1,186	168	904	904	0	0	0	
248-260-961-000	Tax Tribunal Refunds										
248-260-962-000	Mileage	186	266	7	794	800	800	500	500	500	
248-260-965-101	Transfer Out - General Fund		66,738		120,000						
248-260-965-401	Transfer to Capital Imp Fund	27,125									

Proposed DDA Budget	2023-2024	2018-19	2019-20	2020-21	2021-2022	2022-23	2022-23	2023-24	2024-25	2025-26	
		ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY	Amended Budget	Revised Projection	PROJECTION Scenario B	PROJECTION	PROJECTION	
GL NUMBER	DESCRIPTION							80/20 bond			
248-260-965-404	Transfer Out - DDA Property Acq Fund			14,250		110,000	310,000	102,500			P-lot and road improvement debt service, proposed to pay out at end of 22-23 year so bond service only pmt starting 23-24
248-260-974-000	Capital Outlay - Equipment	1,923	32	260	1,587	1,500	1,500	1,500	1,500	1,500	
Totals for dept 260 - GENERAL ACTIVITIES		362,477	358,901	351,022	502,029	546,620	760,081	539,546	445,350	450,975	
Dept 725 - ORGANIZATION											
248-725-822-000	Newsletter	500	509	984	1,125	1,200	1,200	1,800	1,800	1,800	
248-725-824-000	Volunteer Recognition & Dvp.	1,243	1,129	41	373	500	500	0	1,200	1,200	
248-725-825-000	Gift Certificate Redemption	985	2,900	15,270	29,601	15,000	8,000	5,000	15,526	14,000	to cover outstanding gift certificates
248-725-826-000	Historic Celebration/Education					750	750	500	5,000	4,982	historic signs project
248-725-827-000	Awareness Program	1,454	942	400	1,209	1,500	1,500	1,200	1,500	1,500	chamber luncheons, other luncheons
248-725-864-000	Grant & Scholarship Distribution			32,011	1,188	0	1,000	0		0	
248-725-881-000	Merchandise to Sell	292	1,140	46	137	500	500	500	10,000	6,000	
Totals for dept 725 - ORGANIZATION		4,474	6,620	48,752	33,633	19,450	13,450	9,000	35,026	29,482	

Proposed DDA Budget	2023-2024	2018-19	2019-20	2020-21	2021-2022	2022-23	2022-23	2023-24	2024-25	2025-26	
		ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY	Amended Budget	Revised Projection	PROJECTION Scenario B	PROJECTION	PROJECTION	
GL NUMBER	DESCRIPTION							80/20 bond			
Dept 726 - DESIGN											
248-726-745-000	Beautification Supplies	5,559	1,484	1,796	1,302	2,000	2,000	2,000	2,000	2,000	Intersection flowers
248-726-746-000	Hanging Baskets	4,944		4,652		3,500	3,500	3,500	3,500	3,500	new hanging baskets (15)
248-726-801-000	Contractual Services	925	1,625	3,555	2,285	3,000	3,000	3,000	3,000	3,000	Cleaning service - firehall and DDA office
248-726-843-000	Facade Program		20,150			10,000	10,000	10,000	27,000	27,000	façade grant or interior grant, added per dda board
248-726-845-000	Public Art Program				780	2,475	2,475	0	5,000	5,000	Window Art - Spring, fall, winter
248-726-883-000	Banners and Holiday Lighting	6,128	30,685	3,881	9,962	12,026	9,639	6,000	10,000	10,000	lights purchase and lights install
248-726-975-001	Capital Outlay - Beautification	20	8,247	4,557	253	474	473				
248-726-975-002	Capital Outlay - Streets	339				30,000		0	0	0	ice rink rental - if sponsored
Totals for dept 726 - DESIGN		17,915	62,191	18,441	14,582	63,475	31,087	24,500	50,500	50,500	
Dept 728 - ECONOMIC DEVELOPMENT											
248-728-801-000	Contractual Services					10,000	10,000	34,500	34,500	34,500	Grant writing Services
248-728-802-000	Trolley Expense					38,000	22,534	28,000	28,000	28,000	3 days year round plus \$2,000 for lolive! July and August and as needed
248-728-861-000	Survey Expense					0	0	0	0	0	
248-728-862-000	Training Materials	326	817			900	900	0	0	0	Power Hour - trainers/workshops
248-728-864-000	Grant & Scholarship Distribution	367	14,544	10							
248-728-886-000	Marketing Materials	2,102	4,113	1,575		1,326	0	0	0	0	Oakland County Magazine
248-728-886-001	Blight Reduction					0	0	0	0	0	
248-728-886-002	Social District			175	1,731	3,000	3,000	1,000	1,000	1,000	Educational signs and festival warming hub
248-728-888-000	Brand Marketing	12,048	21,795	31,564	16,090	23,674	25,000	20,000	25,000	25,000	Issue media plus orion living mag, graphics, newspaper, and boosts
248-728-888-001	Contractual Services Brand Marketing	8,750	21,000	18,320	17,748	27,500	27,500	29,700	30,000	30,000	Hudson Marketing -
Totals for dept 728 - ECONOMIC DEVELOPMENT		23,593	62,269	51,644	35,569	104,400	88,934	113,200	118,500	118,500	

Proposed DDA Budget	2023-2024	2018-19	2019-20	2020-21	2021-2022	2022-23	2022-23	2023-24	2024-25	2025-26	
		ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY	Amended Budget	Revised Projection	PROJECTION Scenario B	PROJECTION	PROJECTION	
GL NUMBER	DESCRIPTION							80/20 bond			
Dept 729 - PROMOTION											
248-729-880-000	Event Promotion	117	1,038	17,898	2,655	1,381	1,380	1,000	1,000	1,000	storywalk
248-729-880-001	Event Promo - Gazebo Series	7,368	7,726	7,152	13,389	17,996	17,342	10,000	10,000	10,000	reduced to cover other costs
248-729-880-004	Event Promo - Halloween Parade	966	1,003	2,373	2,848	2,119	1,972	2,500	2,500	2,500	
248-729-880-005	Event Promo - Hmtwn/Holiday Vill	4,626	6,620	1,019	11,204	17,720	17,720	9,000	9,000	9,000	Horse & Carriage
248-729-880-006	Event Promo - New Years Res. Run	123						0	0	0	
248-729-880-007	Event Promo - Flower Fair	11,076	1,084					0	0	0	
248-729-880-008	Event Promo-Photo Contest					100	100	0	0	0	
248-729-880-009	Event Promo-Lake Orion Love Shop to Win					750	750	0	0	0	
248-729-880-010	Babes On Broadway	385	372								
248-729-880-011	Restaurant week							0	0	0	
248-729-880-012	Sing & Stroll Tree Lighting		28	999	1,470	11,937	11,937	10,000	10,000	10,000	production sound and lighting
**248-729-880-013	Stronger together Winter			2400	3,629	1,500	1,500	1,000	1,000	1,000	stronger together events - Winter (besides icefest)
**248-729-880-014	Octoberfest				11,350	24,191	22,704				ON HOLD: more varieties of Octoberfest beers plus VIP dinner Friday, beer tent 8pm - 11pm Fri and 4pm-11pm Sat
**248-729-880-015	Winter Activities				10,219	10,200	10,200	10,200	10,200	10,200	IceFest
248-729-880-016	Athletic Events - other					2,580	2,580	0	0	0	
248-729-880-017	Movie Night					1,730	1,324	1,700	1,700	1,700	
248-729-880-100	Stronger Together -smr and fall					3,500	500	3,500	3,500	3,500	Stronger together events: scarecrow, witches, ladies
248-729-880-019	Covid Event Promotion										
248-729-885-000	Port-A-Johns	517	180		310	1,747	1,747	1,800	1,800	1,800	including sponsored and seasonal
248-729-895-000	Event Promo-Comm. Sponsorships	500	250	250	500	750	750	1,000	1,000	1,000	Sponsor Reception
Totals for dept 729 - PROMOTION		25,678	18,301	32,091	57,574	98,201	92,506	51,700	51,700	51,700	

Proposed DDA Budget	2023-2024	2018-19	2019-20	2020-21	2021-2022	2022-23	2022-23	2023-24	2024-25	2025-26	
		ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY	Amended Budget	Revised Projection	PROJECTION Scenario B	PROJECTION	PROJECTION	
GL NUMBER	DESCRIPTION							80/20 bond			
Dept 730 - CAPITAL PROJECTS											
248-730-253-885	Knox Box Grant Program										
248-730-885-100	Knox Box Grant Program			2,680		5,000	5,000	4,000	4,000	4,000	
248-730-931-000	Repair & Maintenance-Equipment	3,656	2,235	999		1,500	1,500				
248-730-965-101	Transfer Out - General Fund		29,000	29,000	19,333						formerly, Towards Bank Stabilization Grant Matching funds (total needed \$200,000)
248-730-965-404	Transfer Out - DDA Prop Acq Fund		35,000			104,178		381,250	383,300	385,500	Bond Debt Service - prop acquisition
248-730-965-592	Transfers To Water/Sewer Fund	127,200	124,800			0	0				
248-730-975-000	Capital Outlay	15,522				345	345	0			2021-2022 proposed boat dock upgrade
248-730-975-003	DDA Capital Outlay	475	4,419	5,271	2,324	11,655	11,655	5,000	5,000	5,000	Shared Parking Leases
248-730-975-005	DDA Capital Outlay - Wayfinding/Lighting	198,897	1,050			75,000	35,000	0	0	0	DTE Lighting Project
248-730-975-006	DDA Capital Outlay - Parking	100,927	544,374	32,903	1,056	15,000	250,000		0	0	Property acquisition (not showing future expenditures for property in 23-24 through 25-26 it will balance out on rev side with bond income)
248-730-975-009	Capital Outlay - Dumpsters				155	60,000	30,000	30,000			2 enclosures
**248-730-975-010	Capital Outlay - Sidewalks					0	0	10,000	10,000	10,000	
248-730-975-011	Capital Outlay - Trail Extensi	8,324				0	0	0	0	0	current: for sharrow and bike lot maintenance
248-730-975-015	Capital Outlay - Outdoor Sound					0	0				23-24 outdoor speakers project
248-730-975-020	Capital Outlay Parks & rec					5,000					Gazebo electrical repairs
248-730-992-000	Bond Principal			120,000							
248-730-995-000	Bond Interest			14,900							
Unassigned GL#	Dedicated infrastructure revenue							23,969	30,743	37,585	for Village use within district (TIF Rev-\$871,278.75)
Totals for dept 730 - CAPITAL PROJECTS		455,001	740,878	205,753	22,868	277,678	333,500	454,219	433,043	442,085	
TOTAL APPROPRIATIONS		889,138	1,249,160	707,703	666,255	1,109,824	1,319,558	1,192,164	1,134,119	1,143,241	
NET OF REVENUES/APPROPRIATIONS - FUND 248		(119,486)	30,990	172,031	234,876	0	(477,880)	(0)	(0)	(0)	22-23 and 23-24 pay off of VLO Debt Service plus Due diligence costs
BEGINNING FUND BALANCE		473,735	354,248	387,237	559,269	638,446	638,446	638,446	638,446	638,445	
FUND BALANCE ADJUSTMENTS			1,998								
ENDING FUND BALANCE		354,249	387,236	559,269	638,446	638,446	160,566	638,446	638,445	638,445	

Proposed DDA Budget	2023-2024	2018-19	2019-20	2020-21	2021-2022	2022-23	2022-23	2023-24	2024-25	2025-26	
		ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY	Amended Budget	Revised Projection	PROJECTION Scenario B	PROJECTION	PROJECTION	
GL NUMBER	DESCRIPTION							80/20 bond			
Fund 404 - DDA PROPERTY ACQUISITION & IMPROVEMENTS											
ESTIMATED REVENUES											
Dept 000 - REVENUE											
404-000-664-000	Interest Earnings	90	138	138	162	150	150	150	150	150	
404-000-699-248	Interfund Transfer In - DDA		35,000	14,250	120,000	214,178	310,000	483,750	383,300	385,500	debt service plus bond pmt (260 - transfer out, 730-interfund transfer)
Totals for dept 000 - REVENUE		90	35,138	14,388	120,162	214,328	310,150	483,900	383,450	385,650	
TOTAL ESTIMATED REVENUES		90	35,138	14,388	120,162	214,328	310,150	483,900	383,450	385,650	
APPROPRIATIONS											
Dept 901 - CAPITAL OUTLAY											
248-901-971-000	Capitlay Outlay - Building	69250									
404-901-900-000	Debt Service - Parking Deck							381,250	383,300	385,500	upcoming Estimated Bond Debt Service for Property acquisition 80% tax exempt, 20% taxable
404-901-992-000	Bond Principal				100,000	100,000	300,000	100,000			Debt Service - Road improvements
404-901-995-000	Bond Interest				12,500	10,000	10,000	2,500			Interest - Road Improvements
Totals for dept 901 - CAPITAL OUTLAY		69,250			112,500	110,000	310,000	483,750	383,300	385,500	
TOTAL APPROPRIATIONS		69,250			112,500	110,000	310,000	483,750	383,300	385,500	
NET OF REVENUES/APPROPRIATIONS - FUND 404		(69,160)	35,138	14,388	7,662	104,328	150	150	150	150	
BEGINNING FUND BALANCE											
BEGINNING FUND BALANCE		234,446	165,286	200,424	214,812	222,474	326,802	326,952	326,952	327,102	
ENDING FUND BALANCE		165,286	200,424	214,812	222,474	326,802	326,952	327,102	327,102	327,252	
ALL FUNDS - 248 AND 404											
ESTIMATED REVENUES - ALL FUNDS											
ESTIMATED REVENUES - ALL FUNDS		769,742	1,315,288	894,122	1,021,293	1,324,152	1,151,828	1,676,064	1,517,568	1,528,891	
APPROPRIATIONS - ALL FUNDS											
APPROPRIATIONS - ALL FUNDS		958,388	1,249,160	707,703	778,755	1,219,824	1,629,558	1,675,914	1,517,419	1,528,741	
NET OF REVENUES/APPROPRIATIONS - ALL FUNDS		(188,646)	66,128	186,419	242,538	104,328	(477,730)	150	150	150	
BEGINNING FUND BALANCE - ALL FUNDS											
BEGINNING FUND BALANCE - ALL FUNDS		708,181	519,534	587,661	774,081	860,920	965,248	965,398	965,397	965,547	
FUND BALANCE ADJUSTMENTS - ALL FUNDS											
FUND BALANCE ADJUSTMENTS - ALL FUNDS		0	1,998	0		0	0	0	0	0	
ENDING FUND BALANCE - ALL FUNDS		519,535	587,660	774,081	860,920	965,248	487,518	965,547	965,547	965,697	

Debt Service Report

Local Unit Name: Village of Lake Orion
Local Unit Code: 633070
Current Fiscal Year: 6/30/2019
Interest Rate: 2.50%
Debt Name: DDA
Issuance Date: 7/1/2019
Issuance Amount: \$500,000
Debt Instrument (or Loan):
Repayment Source: Captured Property Taxes

Funds Transferred
 19-Aug

Years Ending	Principal	Interest	Total	Due Date
2019				
2020	\$	\$ 12,500	\$ 12,500	10/1/2020
2021	100,000	12,500	112,500	10/1/2021
2022	100,000	10,000	110,000	10/1/2022
2023	100,000	7,500	107,500	10/1/2023
2024	100,000	5,000	105,000	10/1/2024
2025	100,000	2,500	102,500	10/1/2025
Totals	\$ 500,000	\$ 50,000	\$ 550,000	

248-260-965-404 Transfer Out - DDA Property Acq Fund
 404-000-699-248 Interfund Transfer In - DDA
 404-901-992-000 Bond Principal
 404-901-995-000 Bond Interest

Attachment: Debt Service report - 2020 parking (5697 : DDA Preliminary 2023-2024 Budget)

\$4,000,000
 VILLAGE OF LAKE ORION
 COUNTY OF OAKLAND, STATE OF MICHIGAN
 DOWNTOWN DEVELOPMENT AUTHORITY BONDS, SERIES 2023
 (TAX-EXEMPT)

SCHEDULE OF DEBT SERVICE REQUIREMENTS

On a Calendar Year Basis

Year	Principal Due October 1	Interest Rate	Interest Due April 1	Interest Due October 1	Total Principal & Interest Requirements
2023	\$ 240,000	3.750%	\$ -	\$ 62,500 *	\$ 302,500
2024	160,000	3.750%	70,500	70,500	301,000
2025	170,000	3.750%	67,500	67,500	305,000
2026	175,000	3.750%	64,313	64,313	303,625
2027	180,000	3.750%	61,031	61,031	302,063
2028	190,000	3.750%	57,656	57,656	305,313
2029	195,000	3.750%	54,094	54,094	303,188
2030	205,000	3.750%	50,438	50,438	305,875
2031	210,000	3.750%	46,594	46,594	303,188
2032	220,000	3.750%	42,656	42,656	305,313
2033	225,000	3.750%	38,531	38,531	302,063
2034	235,000	3.750%	34,313	34,313	303,625
2035	245,000	3.750%	29,906	29,906	304,813
2036	250,000	3.750%	25,313	25,313	300,625
2037	260,000	3.750%	20,625	20,625	301,250
2038	270,000	3.750%	15,750	15,750	301,500
2039	280,000	3.750%	10,688	10,688	301,375
2040	290,000	3.750%	5,438	5,438	300,875
	<u>\$ 4,000,000</u>		<u>\$ 695,344</u>	<u>\$ 757,844</u>	<u>\$ 5,453,188</u>

Assumptions:

Bonds Dated:	05/01/2023
First Interest Payment:	10/01/2023
Number of Days:	150 *
Subsequent Interest Payment:	04/01/2024
Number of Days:	180
First Principal Payment:	10/01/2023
Projected Interest Rate	3.75%

17000 Kercheval Ave. Suite 230, Grosse Pointe, Michigan 48230
PHONE: (313) 961-8222

The information contained herein was derived from sources generally recognized as reliable and does not make any representations as to correctness or completeness and has in no way been altered except to the extent that some information may be summarized, and is in no way intended to be a solicitation for orders.

\$1,000,000
 VILLAGE OF LAKE ORION
 COUNTY OF OAKLAND, STATE OF MICHIGAN
 DOWNTOWN DEVELOPMENT AUTHORITY BONDS, SERIES 2023
 (TAXABLE)

SCHEDULE OF DEBT SERVICE REQUIREMENTS

On a Calendar Year Basis

Year	Principal Due October 1	Interest Rate	Interest Due April 1	Interest Due October 1	Total Principal & Interest Requirements
2023	\$ 60,000	4.500%	\$ -	\$ 18,750 *	\$ 78,750
2024	40,000	4.500%	21,150	21,150	82,300
2025	40,000	4.500%	20,250	20,250	80,500
2026	40,000	4.500%	19,350	19,350	78,700
2027	45,000	4.500%	18,450	18,450	81,900
2028	45,000	4.500%	17,438	17,438	79,875
2029	50,000	4.500%	16,425	16,425	82,850
2030	50,000	4.500%	15,300	15,300	80,600
2031	50,000	4.500%	14,175	14,175	78,350
2032	55,000	4.500%	13,050	13,050	81,100
2033	55,000	4.500%	11,813	11,813	78,625
2034	60,000	4.500%	10,575	10,575	81,150
2035	60,000	4.500%	9,225	9,225	78,450
2036	65,000	4.500%	7,875	7,875	80,750
2037	65,000	4.500%	6,413	6,413	77,825
2038	70,000	4.500%	4,950	4,950	79,900
2039	75,000	4.500%	3,375	3,375	81,750
2040	75,000	4.500%	1,688	1,688	78,375
	<u>\$ 1,000,000</u>		<u>\$ 211,500</u>	<u>\$ 230,250</u>	<u>\$ 1,441,750</u>

Assumptions:

Bonds Dated:	05/01/2023
First Interest Payment:	10/01/2023
Number of Days:	150 *
Subsequent Interest Payment:	04/01/2024
Number of Days:	180
First Principal Payment:	10/01/2023
Projected Interest Rate	4.50%

17000 Kercheval Ave. Suite 230, Grosse Pointe, Michigan 48230

PHONE: (313) 961-8222 FAX: (313) 961-8220

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\$5,000,000
VILLAGE OF LAKE ORION
COUNTY OF OAKLAND, STATE OF MICHIGAN
DOWNTOWN DEVELOPMENT AUTHORITY BONDS, SERIES 2023

SCHEDULE OF DEBT SERVICE REQUIREMENTS

On a Calendar Year Basis
Combined Debt Service

Year	Principal Due April 1	Interest Rate	Interest Due April 1	Interest Due October 1	Total Principal & Interest Requirements
2023	\$ 300,000	Mixed	\$ -	\$ 81,250 *	\$ 381,250
2024	200,000	Mixed	91,650	91,650	383,300
2025	210,000	Mixed	87,750	87,750	385,500
2026	215,000	Mixed	83,663	83,663	382,325
2027	225,000	Mixed	79,481	79,481	383,963
2028	235,000	Mixed	75,094	75,094	385,188
2029	245,000	Mixed	70,519	70,519	386,038
2030	255,000	Mixed	65,738	65,738	386,475
2031	260,000	Mixed	60,769	60,769	381,538
2032	275,000	Mixed	55,706	55,706	386,413
2033	280,000	Mixed	50,344	50,344	380,688
2034	295,000	Mixed	44,888	44,888	384,775
2035	305,000	Mixed	39,131	39,131	383,263
2036	315,000	Mixed	33,188	33,188	381,375
2037	325,000	Mixed	27,038	27,038	379,075
2038	340,000	Mixed	20,700	20,700	381,400
2039	355,000	Mixed	14,063	14,063	383,125
2040	365,000	Mixed	7,125	7,125	379,250
	<u>\$ 5,000,000</u>		<u>\$ 906,844</u>	<u>\$ 988,094</u>	<u>\$ 6,894,938</u>

Assumptions:

Bonds Dated:	05/01/2023
First Interest Payment:	10/01/2023
Number of Days:	150 *
Subsequent Interest Payment:	04/01/2024
Number of Days:	180
First Principal Payment:	10/01/2023
Projected Interest Rate	Mixed

17000 Kercheval Ave. Suite 230, Grosse Pointe, Michigan 48230
PHONE: (313) 961-8222

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The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023
FROM: Molly LaLone, DDA Executive Director
SUBJECT: Approval of Dumpster Enclosure Construction RFQ

Attached: Dumpster Enclosure Construction RFQ

Purpose: To approve the publication of a request for quotes for construction of a dumpster enclosure.

Background Information:

The request is for construction of a dumpster enclosure to be built in the NW corner of the parking lot located at Front/Anderson. This is one of two enclosures planned.

This will be the second time the request is posted. The last time was in July 2022 and we only received one bid, which was high.

2022-2023 Priorities:

1. **Dumpster Enclosures**
2. Downtown Lighting
3. Gazebo Electrical Improvements
4. EV Charging Stations
5. (Long Term) One Level Parking Deck

Financial Impact:

Fiscal Year	GL #	Description	Available Balance	Action Item Cost	Remaining Balance
22-23	248-730-975-009	Capital Outlay - Dumpsters	60,000		60,000
		Estimated cost		30,000	

Important Dates:

DDA Board Approval to publish	February 21, 2023
RFQ Available	February 24, 2023
Questions due	March 10, 2023
Receive proposals	March 23, 2023 at 4:00pm
Proposals opened	March 24, 2023 at Noon
Review Period	March 27 – April 14, 2023
Selection	April 18, 2023

Director Recommendation: Approve this request for public posting and recommend the review team be present when proposals are opened on March 24th and during the review period for 1-2 meetings.

Recommended Motion: To approve publication of the Dumpster Enclosure Construction RFQ and;

to appoint the following board members (3) to the Review team:

1. Matt Shell - Treasurer
2. _____
3. _____



118 N. Broadway, Lake Orion, MI 48362
 Phone: 248-693-9742 Fax: 248-693-9749
www.downtownlakeorion.org

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February 21, 2023

Quotes for **DOWNTOWN LAKE ORION ENCLOSURE CONSTRUCTION SERVICES** are being accepted.

Quotes must be **DELIVERED TO**

**VILLAGE OF LAKE ORION
 21 E. CHURCH STREET
 LAKE ORION, MI 48362
 Attn: Molly LaLone
 Re: Enclosure Construction Services**

ON OR BEFORE 4:00 PM, MARCH 23, 2023

SUBMIT ORIGINAL AND TWO (2) COPIES. Quotes received after **4:00 PM** of the date they are due will not be accepted or will be marked late, and retained unopened. Please mark sealed envelopes: "Enclosure Construction Services" on the lower left-hand corner. In addition, if the quote is to be express mailed, "Proposal Documents Enclosed DO NOT OPEN" must be conspicuously marked on the package. Quotes will be opened March 24, 2023 at Noon. You may additionally send an email copy as follows:

To: office@downtownlakeorion.org
 CC: director@downtownlakeorion.org

Addenda, clarifications and changes to the documents must be obtained on line by registering (free registration available) for the MITN system as follows: 1) go to www.mitn.info, 2) review the vendor registration options that are available to vendors, and then 3) select vendor registration at the bottom of the page to register and then, 4) sign up to register.

Quote tabulations will be posted on MITN.

The Village of Lake Orion reserves the right to accept or reject any and all Quotes and to waive any and all irregularities or split award by items, unless otherwise stipulated, and to accept the quote which will serve its interest.

Additional information regarding this quote or any questions can be answered by contacting me via e-mail at director@downtownlakeorion.org, subject: **ENCLOSURE CONSTRUCTION SERVICES**

Sincerely,

Molly LaLone
 Executive Director
 Lake Orion Downtown Development Authority

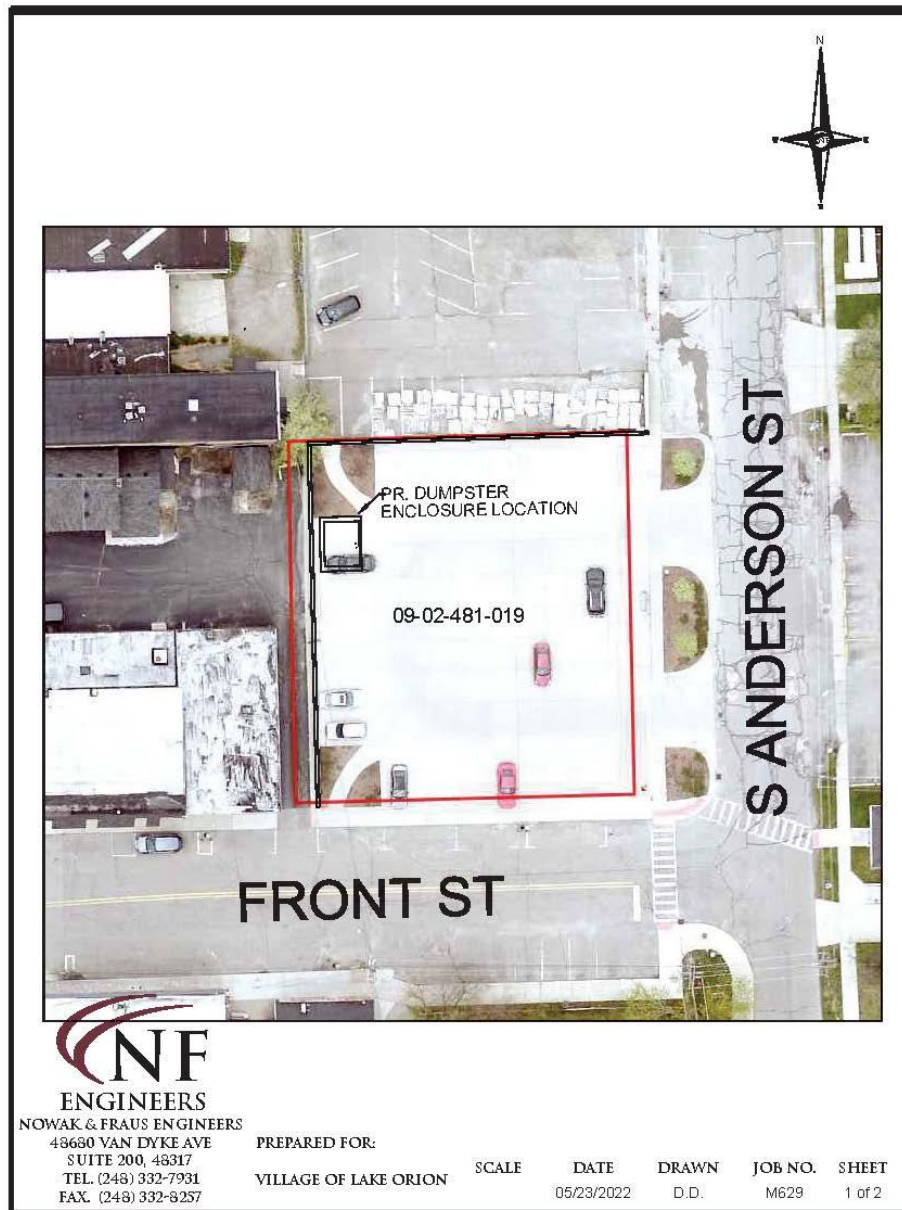
Attachment: Dumpster Enclosure RFQ.02.21.2023 (5712 : Approval of Dumpster Enclosure Construction RFQ)

REQUEST FOR QUOTES ENCLOSURE CONSTRUCTION SERVICES

OVERVIEW

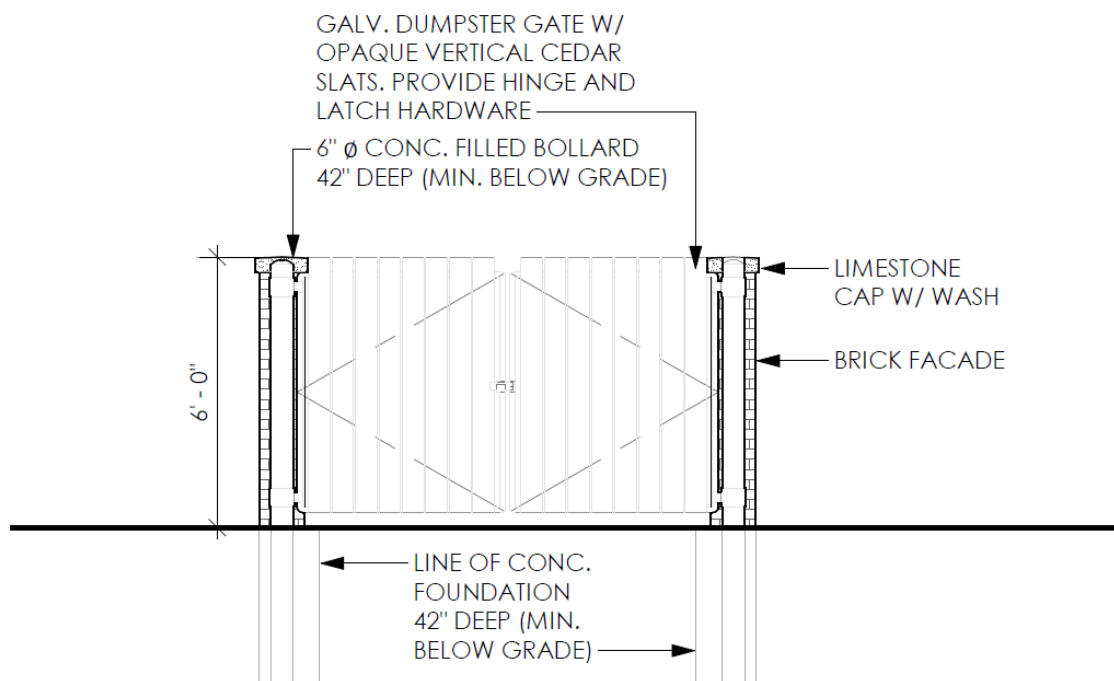
The Village of Lake Orion Downtown Development Authority (DDA) serves the Village of Lake Orion (population of approximately 3,141). Lake Orion is located in northern Oakland County in southeastern Michigan. The DDA is seeking quotes from experienced and professionally building contractors for the construction of a dumpster enclosure. The enclosure will to be constructed in a public parking lot located at 29 Front St. Lake Orion, MI 48326 (09-02-481-019) (Figure A). The construction shall follow an approved design (Figure B), with a side access point (Figure C). An example of the desired construction can be found behind the building located at 120 S. Broadway St. for reference.

Figure A.



Attachment: Dumpster Enclosure RFQ.02.21.2023 (5712 : Approval of Dumpster Enclosure Construction RFQ)

Figure B.



Dumpster Front Elevation

1/4" = 1'-0"

Figure C.



(Note: the DDA would like to use cedar wood for the enclosure doors (as seen at 120 S. Broadway)

SCOPE OF ENCLOSURE CONSTRUCTION SERVICES

As provider of enclosure construction services described below:

1. The selected contractor may subcontract work, but will be responsible for any and all work performed. Subcontractors must be approved in advance by the DDA.
2. The description of the work to be performed, pursuant to this Request for Quotes, should be interpreted as providing only a general outline of the work elements to be performed. It is not intended to be a complete description of materials and methods to be used in performing the work.
3. The contractor shall acquire all necessary permits from the Village of Lake Orion and Orion Township, where applicable.
4. The selected contractor will be awarded a contract based on a presentation given to the interview committee, who will give their recommendation to the DDA Board for approval.
5. There is no pre-bid walkthrough scheduled.
6. The selected contractor shall be responsible for the removal of asphalt, the placement of a thickened edge concrete slab, protective bollards, enclosure fencing, lockable gate and the proper disposal of debris, cleaning of areas affected by the construction project, and replacement of any damaged surfaces.
7. The project shall include all of the necessary labor, material and equipment for the proper construction of the dumpster enclosure.
8. This Request for Quotes identifies the requirements that are considered to be the minimum by the DDA and Village of Lake Orion. Specific details within this Request for Quotes notwithstanding, it will be the obligation of the selected contractor to adhere to accepted industry standard methods and practices for the completion of this project; to include but not be limited to: the 2021 International Building Code and the 2015 Michigan Building Code. Furthermore, the completed work shall be consistent in terms of appearance and quality of materials and workmanship with the existing enclosure of the same design, located behind 120 S. Broadway St.
9. The general work to be performed in constructing the fenced dumpster enclosure will be the following:
 - a. Sawcut the existing asphalt and carefully remove, to not damage the adjacent asphalt.
 - b. Grading and placement of a thickened edge, 6" concrete slab.
 - c. Installation of two protective bollard with plastic covers.
 - d. Installation of metal and cedarwood gate at main access point to enclosure.
 - e. Provide all traffic control and site protection.
 - f. Removal and proper disposal of project debris and site restoration.
 - g. The enclosure shall have an access point for foot traffic to enter the enclosure with refuse (as shown in Figure C.)
10. The contractor shall be responsible for operating the site in a manner so as to minimize the risks associated with its being a nuisance during times when construction activities have been suspended and the site is not occupied by the contractor, its employees, nor subcontractors.
11. Time of Work and Completion: the contractor shall commence work within twenty-one (21) days, following receipt from the DDA of a Notice to Proceed and shall complete all work activities within forty-five (45) days after. The contractor shall not discontinue work for more than five (5) consecutive calendar days, without the prior written approval of the DDA Executive Director. The work to be completed will be scheduled between 7:00am and 9:00pm, unless the contractor obtains written permission from the DDA Executive Director.
12. The contractor shall not work, store, nor operate equipment outside designated work areas without the permission of the DDA Director.

Attachment: Dumpster Enclosure RFQ.02.21.2023 (5712 : Approval of Dumpster Enclosure Construction RFQ)

13. The contractor's operations shall not interfere with business operations and/or emergency vehicles.
14. The contractor shall protect all abutting property from injury or loss and shall defend and save the DDA and Village of Lake Orion harmless from all such damages, injuries and loss occurring because of his/her work.
15. The contractor shall furnish and maintain all passageways, barricades, guard fences, light and danger signals, and shall provide watchmen and other facilities as required by local conditions, all at no additional cost to the DDA.
16. The contractor shall assume full responsibility for loss or damage to the work during the entire construction period, resulting from actions and from all other causes whatsoever not directly due to the acts or neglect of the DDA/Village of Lake Orion, including fire, vandalism and malicious mischief and shall complete the work in accordance with this Request for Quotes within the time allotted therein.
17. The contractor shall notify the DDA immediately of any irregularities or changes in the scope of the work.

TERMS AND CONDITIONS

1. This Request for Quotes is not an offer of contract. Receipt of a proposal neither commits the DDA to award a contract to any firm, even if all requirements stated in this proposal are met, nor limits the DDA's right to negotiate in its best interest. The DDA reserves the right to contract with a contractor for reasons other than lowest price.
2. There will not be a public opening of the bid packages.
3. Expenses incurred in the preparation of proposals in response to this Request for Quotes are the contractor's responsibility.
4. No work performed by the selected contractor that is out of the scope as defined by the contractor's proposal will be reimbursed, unless specifically authorized by the DDA in writing.
5. Contractor, subcontractors and their employees shall be considered independent contractors and shall not be deemed employees of the Village for any reason.
6. It is expected that the selected contractor will warrant its work for a period of one year following completion of all work elements.
7. All proposals are subject to the Michigan Freedom of Information Act. Once proposals are opened, the information contained therein becomes freely accessible by the public.
8. Throughout the project, the selected contractor and all subcontractors must maintain a comprehensive general liability policy in a minimum amount of \$1 million combined single limit, naming the Village of Lake Orion as an additional insured. Throughout the duration of the project, the selected contractor must maintain workers' compensation insurance, in accordance with Michigan law, proof of insurance for the general liability insurance and workers' compensation.
9. Information that the proposer wishes to have treated as proprietary and confidential trade information should be identified and labeled "Confidential" or "Proprietary" on each page at the time of disclosure. This information should include a written request to except it from disclosure, including a written statement of the reasons why the information should be accepted. The OWNER will protect such material from disclosure. If, however, such materials are required by law to be disclosed, the OWNER will notify the respondent.

STATEMENT OF QUALIFICATIONS

Qualified consultants must have a substantial background in **ENCLOSURE CONSTRUCTION SERVICES** and be able to provide a dedicated contractor who, at a minimum, possess the following qualifications:

1. Business name
 - a. Areas of specialty.
 - b. Years in business.
2. Offices
 - a. Mailing address.
 - b. Billing address (if different from 2a).
 - c. Name and address of parent firm (if applicable).
3. Personnel
 - a. Principal contact (name, phone number, email) of the firm.
 - b. Other key personnel names who will be used for DDA business.
 - c. Total number of all staff who will be dedicated to project.
4. Does firm have adequate staff to handle another municipal/DDA client or will staff need to be hired?
5. Experience - provide a short narrative (no more than two (2) pages) detailing experience in municipal law including areas of expertise. Be sure to include any information on items identified as specialty services in Appendix A as well.
6. List specific reasons (no more than two (2) pages) why your firm should be considered by the DDA of Lake Orion for Design-Build Services Enclosure.
7. The content of the submitted bid shall outline the responsiveness, availability, quality of work and the commitment to perform work in a timely manner.
8. Provide three (3) or more DDA or municipal references from prior or current clients, including contact name, title, municipality name, telephone number, and E-mail address.
9. Provide evidence of a comprehensive liability and workers compensation insurance policy for all staff assigned to work for the DDA.
10. Provide all state-required licensing information for the firm.
11. Note any exceptions or deviations to the required scope of services outlined in Scope of Legal Service.
12. Has the firm been in bankruptcy, reorganization or receivership in the last five (5) years?
13. Has the firm been terminated by any municipal client in the last five (5) years? If so, please explain.
14. Pricing – note the DDA prefers lump-sum quotes for projects of this nature.

EVALUATION CRITERIA

The Village of Lake Orion DDA reserves the right to interview any number of qualifying firm as part of the evaluation process. The decision as to which firm to contact (if any) shall be analyzed (based upon the "best overall value" to the DDA) and documented including Board member or staff recommendations. Meetings with short-listed proposers will provide additional information and criteria upon which the DDA will base its selection decision. The DDA reserves the right to select, and subsequently recommend for award the proposed firm(s)' services which best meets its required needs, quality levels and budget constraints. Award shall be made by the DDA Board of Directors.

The bid specifications were approved by the DDA Board of Directors on **February 21, 2023**. This request will be publicly advertised on the DDA web site, and on MITN for the following time period: **February 24 – March 23, 2023 at 4:00 p.m.** Late responses will not be accepted. Responses not meeting terms may be rejected. If at least three responses are not received the DDA Executive Director may require a re-bid.

Preliminary Schedule *The following are estimated dates and are not binding*

DDA Board Approval to publish	February 21, 2023
RFQ Available	February 24, 2023
Questions due	March 10, 2023
Receive proposals	March 23, 2023 at 4:00pm
Proposals opened	March 24, 2023 at Noon
Review Period	March 27 – April 14, 2023
Selection	April 18, 2023

NON-DISCRIMINATION CLAUSE

In the performance of any contract or purchase order resulting wherefrom, the contractor agrees to obey and abide by all the laws of the State of Michigan relating to the employment of labor and public work, and all ordinances and requirements of the village regulating or applying to public improvements. Furthermore, the contractor agrees not to discriminate against any employee or applicant for employment, to be employed in the performance of this contract or purchase order, with respect to his or her hire, tenure, terms, conditions or privileges or employment because of religion, race, color, national origin, ancestry, age, sex, gender identity, sexual orientation, height, weight, marital status, or physical or mental disability, except when said disability prevents such individual from performing the essential job functions, and the disability cannot be reasonably accommodated. The contractor further agrees that every subcontract entered into for the performance of this contract or purchase order will contain a provision requiring nondiscrimination in employment, as herein specified, binding upon each subcontractor. Breach of this covenant may be regarded as a material breach of the contract or purchase order.

ETHICS POLICY

Gratuities: It shall be unethical for any person to offer, give, or agree to give any village employee or former village employee, or for any village employee or former village employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefore.

Kickbacks: It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

ADA COMPLIANCE

The Village of Lake Orion will provide necessary, reasonable auxiliary aids and services, and provide assistance in filling out forms, to individuals with disabilities when doing business with the Village of Lake Orion. Individuals with disabilities requiring such auxiliary aids or services should contact the Village of Lake Orion by writing or calling:

Susan Galeczka

(248) 693-8391 x 102

galeczkas@lakeorion.org

21 E. Church St., Lake Orion, MI 48362

Sealed Bid Form – **CONSTRUCTION SERVICES ENCLOSURE*****Requested by Lake Orion Downtown Development Authority*****Bid Opening: March 24, 2023 at Noon**

The undersigned hereby declares that he/she has carefully examined the instructions and specifications as listed in the Bid Packet. The undersigned declares the prices set forth in this bid do cover all the requirements listed in the bid packet **"Enclosure Construction Services."**

It is understood and agreed that all bid prices shall remain in effect for at least ninety (90) days from the date of the bid opening to allow for the award of the bid, and that the prices bid will remain firm through invoice.

The Lake Orion Downtown Development Authority reserves the right to split or abstract any or all bid proposals and award multiple contracts from the same quotation, based on price, availability and service, when in its judgment it best serves the Village of Lake Orion and the Lake Orion Downtown Development Authority.

-Attach bid sheet

BIDDERS

Name of Bidder: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Authorized Signature: _____ Date: _____

References (Public accounts)

Entity's Name & Address, Contact Information & Phone Number

1) _____

2) _____

3) _____

Attachment: Dumpster Enclosure RFQ.02.21.2023 (5712 : Approval of Dumpster Enclosure Construction RFQ)



The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023

FROM: Molly LaLone, DDA Executive Director

SUBJECT: Approval of In-Ground Crosswalk Lighting RFQ

Attached: In-Ground Crosswalk Lighting RFQ

Purpose: To approve the publication of a request for quotes for purchase and installation of in-ground crosswalk safety lighting for the Broadway/Flint Intersection.

Background Information:

The purpose of this project is to increase pedestrian safety and ease of accessibility to and from the Downtown area in the Village of Lake Orion. Specifically, Four Crosswalks - four at the intersection of Flint and Broadway. In road crosswalk lighting will alert drivers more effectively, further increasing pedestrian safety.

The original priority project was for improvement of Downtown lighting for pedestrian safety. The original project, retrofit of the downtown lampposts did not use all the budget set for the project. The Design Committee submits this project to continue using lighting for pedestrian safety improvements.

2022-2023 Priorities:

1. Dumpster Enclosures
2. **Downtown Lighting**
3. Gazebo Electrical Improvements
4. EV Charging Stations
5. (Long Term) One Level Parking Deck

Financial Impact:

GL #	Description	Available Balance	Action Item Cost	Remaining Balance
248-730-975-005	DDA Capital Outlay - Wayfinding/Lighting	75,000		
	Downtown Lighting Retrofit		35,016	39,984

Important Dates:

DDA Board Approval to publish	February 21, 2023
RFQ Available	February 24, 2023
Questions due	March 10, 2023
Receive proposals	March 23, 2023 at 4:00pm
Proposals opened	March 24, 2023 at Noon
Review Period	March 27 – April 14, 2023
Selection	April 18, 2023

Director Recommendation: Approve this request for public posting and recommend the review team be present when proposals are opened on March 24th and during the review period for 1-2 meetings.

Recommended Motion: To approve publication of the Dumpster Enclosure Construction RFQ and;

to appoint the following board members (3) to the Review team:

1. Matt Shell - Treasurer
2. _____
3. _____



118 N. Broadway, Lake Orion, MI 48362
 Phone: 248-693-9742 Fax: 248-693-9749
www.downtownlakeorion.org

*The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, **the heart and hub of the Orion Community**, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents, and other stakeholders.*

February 21, 2023

Proposals for **IN-GROUND CROSSWALK LIGHTING** are being accepted.

Proposals must be **DELIVERED TO**

**VILLAGE OF LAKE ORION
 21 E. CHURCH STREET
 LAKE ORION, MI 48362
 Attn: Molly LaLone**

Re: In-Ground Crosswalk Lighting

OR EMAILED

ON, OR BEFORE, 4:00 PM, March 23, 2023

SUBMIT ORIGINAL AND TWO (2) COPIES. Quotes received after **4:00 PM** of the date they are due will not be accepted or will be marked late, and retained unopened. Please mark sealed envelopes: "Crosswalk Lighting" on the lower left-hand corner. In addition, if the quote is to be express mailed, "Proposal Documents Enclosed DO NOT OPEN" must be conspicuously marked on the package. Quotes will be opened March 24, 2023 at Noon. You may additionally send an email copy as follows:

To: office@downtownlakeorion.org

CC: director@downtownlakeorion.org

Addenda, clarifications and changes to the documents must be obtained on line by registering (free registration available) for the MITN system as follows: 1) go to www.mitn.info, 2) review the vendor registration options that are available to vendors, and then 3) select vendor registration at the bottom of the page to register and then, 4) sign up to register.

Proposal tabulations will be posted on MITN.

The Village of Lake Orion reserves the right to accept or reject any and all Quotes and to waive any and all irregularities or split award by items, unless otherwise stipulated, and to accept the quote which will serve its interest.

Additional information regarding this quote or any questions can be answered by contacting the Molly LaLone of the Village of Lake Orion Downtown Development Authority, preferably by e-mail, director@downtownlakeorion.org, subject: **IN-GROUND CROSSWALK LIGHTING**

Sincerely,

Molly LaLone
 Executive Director
 Lake Orion Downtown Development Authority

Attachment: RFQ pedestrian crosswalk lights.02.21.23 (5713 : Approval of In-Ground Crosswalk Lighting RFQ)

REQUEST FOR QUOTES IN-GROUND CROSSWALK LIGHTING

PURPOSE

The purpose of this project is to increase pedestrian safety and ease of accessibility to and from the Downtown area in the Village of Lake Orion. Specifically, Four Crosswalks – four at the intersection of Flint and Broadway. In road crosswalk lighting will alert drivers more effectively, further increasing pedestrian safety. Each Crosswalk is approximately 36' from sidewalk to sidewalk.

SCOPE OF SERVICE

Current pedestrian crossing condition:

The Flint & Broadway intersection is described as 2 lanes measuring approx. 36 feet across curb to curb. Current crosswalks are made of brick pavers and identified with concrete stripes; crosswalk signals and Curb extensions to designate street parking. The poles at the intersection are either utility poles or decorative lampposts. Utility Poles are 11" in diameter. Decorative lampposts are 5"-7" in diameter. The Decorative lampposts have an electrical outlet at the top which is 110 volts and intended for holiday light use. See Map, attached.

DELIVERABLES

- Control Mechanism, please provide two quotes:
 - Crosswalk lighting controlled by a sensor.
 - Crosswalk lighting controlled by manual pushbutton.
- Power Source: please provide quotes on the following options:
 - Solar Power with battery pack. The battery pack need to hold a charge for a minimum of 12 hours.
 - Traditional electric connection.
- Crosswalk lighting should be integrated with existing pedestrian safety measures and traffic signals as needed.
- Show how product featured fulfills minimum pedestrian safety requirements and ADA requirements. References to other standards showing that the products meet requirements are acceptable.
- Provide an intersection map with new fixtures and locations.

Attachment: RFQ pedestrian crosswalk lights.02.21.23 (5713 : Approval of In-Ground Crosswalk Lighting RFQ)

DELIVERABLES, continued

- Provide a Project Execution Plan including a spreadsheet describing work schedule dates, tasks, task assignments, and internal and external contacts.
- Provide a Safety Plan explaining how will work be performed safely.
- Provide a Quality Plan including a full description of the warranties, contact information for all warranty work, the expected lifespan of each product and the maintenance plan.
- Provide a Reporting Plan for regular communication to DDA throughout the process.
- Provide an Issue Resolution Log.
- Provide product specifications and photos.
- Provide photos or video of previously installed similar projects.
- Provide a list of references with contact information for each.
- Provide a full explanation of what must be accomplished in order to execute the project (i.e.: Utilities accessed, moved or rewired. Design impact study on all current structures, utility personnel and involvement needed, permits, etc.

BUDGET

\$35,000

TIMELINE FOR COMPLETION

Project must be planned and purchased no later than June 30, 2023

REQUEST FOR QUALIFICATIONS

1. Business Name
 - a. Areas of specialty.
 - b. Years in business.
2. Business Address
 - a. Address for Business.
 - b. Mailing address (if different from above).

3. Personnel
 - a. Principal contact (name, phone number, email) of the firm.
 - b. Other key personnel names who will be used for DDA business.
 - c. Total number of staff that will be dedicated to the project
 - d. Does firm have adequate staff to handle another municipal/DDA client or will staff need to be hired?
4. Experience - provide a short narrative (no more than two (2) pages) detailing previous experience providing this service. To include, but not necessarily be limited to: previous municipalities (if applicable), events, etc. List specific reasons why your firm should be considered by the DDA of Lake Orion for this project.
5. The content of the submitted bid shall outline the responsiveness, availability, quality of work and the commitment to perform work in a timely manner.
6. If possible, provide up to three (3) or more DDA or municipal references from prior or current clients, including contact name, title, municipality name, telephone number, and E-mail address.
7. Provide evidence of a comprehensive liability and workers compensation insurance policy for all staff assigned to work for the DDA.
8. Provide all state-required licensing information for the firm.
9. Note any exceptions or deviations to the required scope of services outlined in Scope of Service section.
10. Has the business been in bankruptcy, reorganization or receivership in the last five (5) years.
11. Has the firm been terminated by any municipal client in the last five (5) years? If so, please explain.
12. Pricing - note the DDA currently prefers an itemized quote of services and charges.

OTHER CONTRACTOR REQUIREMENTS

1. The selected contractor may subcontract work but will be responsible for any and all work performed. Subcontractors must be approved in advance by the DDA.
2. The description of the work to be performed, pursuant to this Request for Quotes, should be interpreted as providing only a general outline of the work elements to be performed. It is not intended to be a complete description of materials and methods to be used in performing the work.
3. The contractor shall acquire all necessary permits from the Village of Lake Orion and Orion Township, where applicable.
4. There is no pre-bid walkthrough scheduled. Contractors are encouraged to visit the site for themselves prior to bidding.
5. The project shall include all of the necessary labor, material and equipment for the project completion.
6. This Request for Quote identifies the requirements that are considered to be the minimum by the DDA and Village of Lake Orion. Specific details within this Request for Quotes notwithstanding, it will be the obligation of the selected contractor to adhere to accepted industry standard methods and practices for the completion of this project. Furthermore, the completed work shall be consistent in terms of appearance and quality of materials and workmanship with the existing enclosure of the same design, located at the corner of Broadway and Front Street.
7. The contractor shall be responsible for operating the site in a manner so as to minimize the risks associated with its being a nuisance during times when construction activities have been suspended and the site is not occupied by the contractor, its employees, nor subcontractors.
8. Time of Work and Completion: the contractor shall commence work within twenty-one (21) days, following receipt from the DDA of a Notice to Proceed and shall complete all work activities within forty-five (45) days after. The contractor shall not discontinue work for more than five (5) consecutive calendar days, without the prior written approval of the DDA Executive Director. The work to be completed will be scheduled between 7:00am and 9:00pm, unless the contractor obtains written permission from the DDA Executive Director.
9. The contractor shall not work, store, nor operate equipment outside designated work areas without the permission of the DDA Director.
10. The contractor's operations shall not interfere with business operations and/or emergency vehicles.

11. The contractor shall protect all abutting property from injury or loss and shall defend and save the DDA and Village of Lake Orion harmless from all such damages, injuries and loss occurring because of his/her work.
12. The contractor shall furnish and maintain all passageways, barricades, guard fences, light and danger signals, and shall provide watchmen and other facilities as required by local conditions, all at no additional cost to the DDA.
13. The contractor shall assume full responsibility for loss or damage to the work during the entire construction period, resulting from actions and from all other causes whatsoever not directly due to the acts or neglect of the DDA/Village of Lake Orion, including fire, vandalism and malicious mischief and shall complete the work in accordance with this Request for Quotes within the time allotted therein.
14. The contractor shall notify the DDA immediately of any irregularities or changes in the scope of the work.

TERMS AND CONDITIONS

1. This Request for Quotes is not an offer of contract. Receipt of a proposal neither commits the DDA to award a contract to any firm, even if all requirements stated in this proposal are met, nor limits the DDA's right to negotiate in its best interest. The DDA reserves the right to contract with a contractor for reasons other than lowest price.
2. There will not be a public opening of the bid packages.
3. Expenses incurred in the preparation of proposals in response to this Request for Quotes are the contractor's responsibility.
4. No work performed by the selected contractor that is out of the scope as defined by the contractor's proposal will be reimbursed, unless specifically authorized by the DDA in writing.
5. Contractor, subcontractors and their employees shall be considered independent contractors and shall not be deemed employees of the Village for any reason.
6. It is expected that the selected contractor will warrant its work for a period of one year following completion of all work elements.

7. All proposals are subject to the Michigan Freedom of Information Act. Once proposals are opened, the information contained therein becomes freely accessible by the public.
8. Throughout the project, the selected contractor and all subcontractors must maintain a comprehensive general liability policy in a minimum amount of \$1 million combined single limit, naming the Village of Lake Orion as an additional insured. Throughout the duration of the project, the selected contractor must maintain workers' compensation insurance, in accordance with Michigan law, proof of insurance for the general liability insurance and workers' compensation.
9. Information that the proposer wishes to have treated as proprietary and confidential trade information should be identified and labeled "Confidential" or "Proprietary" on each page at the time of disclosure. This information should include a written request to except it from disclosure, including a written statement of the reasons why the information should be accepted. The OWNER will protect such material from disclosure. If, however, such materials are required by law to be disclosed, the OWNER will notify the respondent.

EVALUATION CRITERIA

The DDA will only review complete proposals received by the specified deadline and per the listed requirements. Finalists shall be scored and ranked based on criteria which includes, but is not limited to:

1. Technical approach to the project.
2. Professional qualifications, expertise, quality and depth of key personnel with similar projects.
3. Previous experience and successful record with similar projects.
4. A competitive and reasonable fee, estimated costs, and the flexibility to adjust the proposed work program, in order to meet budget restraints, if required.

The Village of Lake Orion DDA reserves the right to interview any number of qualifying performing artists/businesses as part of the evaluation process. The decision as to which firm to contact (if any) shall be analyzed (based upon the "best overall value" to the DDA) and documented including Board member or staff recommendations. Meetings with short-listed proposers will provide additional information and criteria upon which the DDA will base its selection decision. The DDA reserves the right to select, and subsequently recommend for award the proposed firm(s)' services which best meets its required needs, quality levels and budget constraints. Award shall be made by the DDA Board of Directors.

The bid specifications were approved by the DDA Board of Directors on **February 21, 2023**. This request will be publicly advertised on the DDA web site, and on MITN for the following time period: **February 24 – March 23, 2023 at 4:00 pm**. Late responses will not be accepted. Responses not meeting terms may be rejected. If at least three responses are not received the DDA Executive Director may require a re-bid.

PRELIMINARY SCHEDULE (*The following are estimated dates and are not binding*)

DDA Board Approval to publish	February 21, 2023
RFQ Available	February 24, 2023
Questions due	March 10, 2023
Receive proposals	March 23, 2023 at 4:00 pm
Proposals opened	March 24, 2023 at Noon
Review Period	March 27 – April 14, 2023
Selection	April 18, 2023

NON-DISCRIMINATION CLAUSE

In the performance of any contract or purchase order resulting where from, the contractor agrees to obey and abide by all the laws of the State of Michigan relating to the employment of labor and public work, and all ordinances and requirements of the village regulating or applying to public improvements. Furthermore, the contractor agrees not to discriminate against any employee or applicant for employment, to be employed in the performance of this contract or purchase order, with respect to his or her hire, tenure, terms, conditions or privileges or employment because of religion, race, color, national origin, ancestry, age, sex, gender identity, sexual orientation, height, weight, marital status, or physical or mental disability, except when said disability prevents such individual from performing the essential job functions, and the disability cannot be reasonably accommodated. The contractor further agrees that every subcontract entered into for the performance of this contract or purchase order will contain a provision requiring nondiscrimination in employment, as herein specified, binding upon each subcontractor. Breach of this covenant may be regarded as a material breach of the contract or purchase order.

ETHICS POLICY

Gratuities: It shall be unethical for any person to offer, give, or agree to give any village employee or former village employee, or for any village employee or former village employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefore.

Kickbacks: It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

ADA COMPLIANCE

The Village of Lake Orion will provide necessary, reasonable auxiliary aids and services, and provide assistance in filling out forms, to individuals with disabilities when doing business with the Village of Lake Orion. Individuals with disabilities requiring such auxiliary aids or services should contact the Village of Lake Orion by writing or calling:

Susan Galeczka
(248) 693-8391 x 102
galeczkas@lakeorion.org
21 E. Church St.
Lake Orion, MI 48362

Sealed Bid Form – IN-GROUND CROSSWALK LIGHTING

Requested by Lake Orion Downtown Development Authority**Bid Opening: March 24, 2023 at Noon**

The undersigned hereby declares that he/she has carefully examined the instructions and specifications as listed in the Bid Packet. The undersigned declares the prices set forth in this bid do cover all the requirements listed in the bid packet "Decorative Streetlighting Retrofit".

It is understood and agreed that all bid prices shall remain in effect for at least ninety (90) days from the date of the bid opening to allow for the award of the bid, and that the prices bid will remain firm through invoice.

The Lake Orion Downtown Development Authority reserves the right to split or abstract any or all bid proposals and award multiple contracts from the same quotation, based on price, availability and service, when in its judgment it best serves the Village of Lake Orion and the Lake Orion Downtown Development Authority.

-Attach Bid Sheet

BIDDERS

Name of Bidder: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Authorized Signature: _____ Date: _____

Entity's Name and Address, Contact Information, and Phone Number

1) _____

2) _____

3) _____

Attachment: RFQ pedestrian crosswalk lights.02.21.23 (5713 : Approval of In-Ground Crosswalk Lighting RFQ)



The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023
FROM: Molly LaLone, DDA Executive Director
SUBJECT: LOLive! Music Series Contract

Attachments:

LOLive Contract with 20 Front Street (drafted and reviewed by DDA legal counsel)

Purpose: Approval of contract with 20 Front Street for entertainment services for the LOLive! concert series held weekly on Wednesdays. 20 Front Street will hire the entertainers, and handle sound and lighting for all the concerts.

Weekly Wednesday Concert Dates: July 5, 12, 19, 26 and August 2, 9, 16, and 30 (8 concerts)

The scope of work will include:

- Booking and Management of local and national touring acts to include signed contracts, signed and notarized hold harmless and release statements for public television broadcast, payment, lodging (as needed), and transportation (as needed)
- Sound System Rental (as needed)
- Coordination of outdoor speaker system and additional lighting
- Additional Marketing Promotion for concerts via email and social media

Per Village of Lake Orion Charter, we have the option of not going to bid if we feel there is a special circumstance warranting the use of a specific vendor. Also, per the DDA Purchasing Policy, Competitive bidding need not be conducted if there is a sole source for the service and the DDA Director is able to provide in writing reasonable justification to the DDA Board of Directors that circumstances exist that preclude obtaining a competitive bid.

20 Front Street is one of Lake Orion's anchor businesses and the only business in the downtown

area whose expertise is handling musical talent. For this reason, the DDA did not go to bid for this service.

It must be agreed upon by the DDA Board in a separate motion or resolution.

Is this a DDA Priority? *(Bold and Underline)*

(NO) or If yes, see below:

1. Dumpster Enclosures
2. Downtown Lighting
3. Gazebo Electrical Improvements
4. EV Charging Stations
5. Property Acquisition

Previously Budgeted for 2023-24?	<u>Yes</u>	No
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The cost for the event will be as follows:

Fiscal Year	GL #	Description	Available Balance	Action Item Cost	Remaining Balance
23-24	248-729-880-001	Event Promo - Gazebo	10,000		
		Music Series Concerts:			
		5-Jul		1250	8,750
		12-Jul		1250	7,500
		19-Jul		1250	6,250
		26-Jul		1250	5,000
		2-Aug		1250	3,750
		9-Aug		1250	2,500
		16-Aug		1250	1,250
		30-Aug		1250	0

Recommended Motion: By motion, we adopt the attached two resolutions to hire 20 Front Street to manage the 2023 LOLive! Concert Series.

Resolution DDA23-001:

Whereas, 20 Front Street, a local entertainment business, has partnered with the DDA for concerts in the park in the past and has offered to provide entertainment services for outdoor concerts and music in the Downtown area; and

Whereas the Downtown Development Authority has had a positive ongoing working relationship with 20 Front Street; and

Whereas 20 Front Street offers expertise in this area; therefore

The DDA will waive the formal bidding process as required by the Village of Lake Orion Charter and contract with 20 Front Street for the 2023 LOLive! Music Series Season.

And

Resolution DDA23-002:

Whereas, the DDA is proposing to have a 2023 LOLive! Music Series season, and

Whereas, 20 Front Street has submitted a proposal for such concerts; and

Whereas the scope of work includes:

- Booking and Management of Music Acts to include signed contracts, signed and notarized hold harmless and release statements for public television broadcast, payment, lodging (as needed), and transportation (as needed)
- Sound System Rental (as needed)
- Coordination of outdoor speaker system and additional lighting
- Additional Marketing Promotion for concerts via email and social media

Now, Therefore Be It Resolved, that the DDA board approves a contract with 20 Front Street in an amount not to exceed \$10,000 for the 2023 LOLive! music series and authorizes the DDA Executive Director to sign the contract subject to review by the DDA Attorney.

20 Front Street Proposal for 2023 Summer Concert Series

20 Front Street Concepts LLC would like to propose the following Proposal for the 2023 Summer Concert Series to be held at Children's Park in the Village of Lake Orion contracted with the Lake Orion Downtown Development Authority. 20 Front Street Concepts LLC agrees to book, market, and manage 8 Wednesday evening concerts for the 2023 season.

The Wednesday LO Live Summer Concert Series will take place in Children's Park at the gazebo on the following concert dates: July 5, 12, 19, 26 and August 2, 9, 16, and 30 totaling 8 concerts.

The budget per concert will be:

Artist fee: \$500 – \$1,000 per event
Sound System Rental: \$150 per event

Sound Engineer: \$100 per event

Booking and Marketing: \$250 per event by 20 Front Street

Total: \$1250 per event average
\$10,000 total for the 8 concerts for the summer LO Live Season

20 Front Street Concepts LLC will bill the DDA in two invoices in June for the four July concerts and in July for the four August concerts.

The DDA retains all sponsorship revenue and will assist the night of the shows with capacities, announcements and giveaways.

20 Front Street will have a banner at the gazebo and one from the upper sidewalk fence with a donation link to support 20 Front Street and advertise future events, concerts and shows.

20 Front Street may also have a table of merchandise or concert information and opportunities to invite attendees to learn more about our venue.

Checks will be written to 20 Front Street Concepts LLC. The address for 20 Front Street is 20 E. Front Street, Lake Orion MI 48363

20 Front Street's EIN # is: 81-2686064

To contact Staff, email Lisa Sokol at lsokol414@gmail.com or Allan Goetz at allan@20frontstreet.com

20 Front Street Signature

Date

Downtown Lake Orion Signature

Date



The mission of the Lake Orion DDA is to enhance the economic potential and preserve the historical character of the Lake Orion DDA District, *the heart and hub of the Orion Community*, through promotional activities and an organizational structure that focuses on community involvement with local businesses, residents and other stakeholders.

DDA Board Meeting

DATE: February 21, 2023
FROM: Molly LaLone, DDA Executive Director
SUBJECT: Parking Study Update

Attached: Parking Study Overview

Background Information: It is a best practice to update parking studies every 4-6 years. The purpose of a parking study is to

- Quantify and qualify existing parking resources
- Engage the public and stakeholders, and
- Provide recommendations for parking and parking management

Lake Orion's last study was completed in 2018. This study was completed 2022.

Parking Study Final Report Highlights

- For the entire 21 block study, there are a total of 1,469 parking spaces. Of these, publicly available parking comprises slightly less than one-half of the total supply, which is less than the best practice benchmark of 50% to facilitate a park once and walk to multiple destinations (Table 1, pg. 7).
 - o For the core block study, 60% of parking is publicly provided. However, this is a decrease from the 2018 study which recorded 63% of parking as publicly provided.
 - o In the core block study, private parking increased from 36.8% to 40.1% since the 2018 study.
- Using the calculated parking demand during current weekend peak hours within the core area, there is a net deficit of parking spaces in areas 18 and 21, totaling a deficit of 84 parking spaces (Map 17, pg. 48).

- Future weekend evening demand (3 years) with projected growth indicates that block 18 will be 9 spaces short and block 21 is projected to be short by 79 spaces (Map 20, pg. 55).
- Future weekend evening demand (5 years) with projected growth indicates that block 18 will be 11 spaces short and block 21 is projected to be short by 79 spaces (Map 21, pg. 56).
- The report projects the public supply of parking will continue to decline over the next 3 to 5 years (Table 18, pg. 57).
- Summary of Findings show that typical weekend parking occupancy is approximately 82% and beginning to approach the level (85 to 90 percent) where most patrons consider parking insufficient (page 64).
- Recommendations include (pages 65 - 67):
 - o Stronger on-street parking enforcement.
 - o Give parking lots a designated name for ease of use.
 - o Within 3 to 5 years, either increase the physical parking supply or work with private business to use existing lots during their non-business hours.
 - o Develop a parking sinking fund for parking lot repair and acquisition with a target of approximately \$21,000 yearly.
 - o Base parking space needs on restaurant square footage, versus occupancy.
 - o Adjust zoning requirements for residential units.
 - o Develop Special Event parking plans.
 - o Increase bicycle parking.

2022-2023 Priorities:

1. Dumpster Enclosures
2. Downtown Lighting
3. Gazebo Electrical Improvements
4. EV Charging Stations
5. **(Long Term) One Level Parking Deck**

Financial Impact:

GL #	Description	Available Balance	Action Item Cost
248-730-975-006	DDA Capital Outlay - Parking	250000	
10,635	10,635	10,635	10,635

Director Recommendation: Paid parking is not recommended in this report, but increase enforcement and increased inventory are emphasized. Also, this report recommends we start a Parking Sinking Fund for improvements and maintenance. Their suggestion at this time is \$21,000 annually for this fund. I recommend sharing this report with Village Staff and LOPD for discussion about these recommendations.

Recommended Motion: To direct the Executive Director to share the report findings with Village Staff and LOPD and;

To Receive and File

Lake Orion, Michigan

Downtown Parking Study Update

Final Report

February, 2023



Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)

presented to:

submitted by:



RICH & ASSOCIATES
PARKING CONSULTANTS
Southfield, Michigan



RICH & ASSOCIATES
PARKING CONSULTANTS

February 7, 2023

Ms. Molly Wing LaLone
Executive Director
Lake Orion DDA
118 N. Broadway
Lake Orion, MI. 48362

Dear Molly:

We are pleased to submit our Final Report for the Downtown Parking Study Update for the Village of Lake Orion. As requested, this report has analyzed the parking situation in the Central Business District both now and into the future. We must commend the DDA and other Village officials for many of the positive initiatives we found already in place, particularly regarding signage and on-street parking management. These are following best practices and provide a very positive parking situation for the visitors coming to downtown and the staff who work there.

However, we see that continued growth within downtown could put pressure on existing parking resources. As such, we have detailed several recommendations designed to proactively address these future conditions so that the parking can continue to positively support the existing and new potential businesses that would seek to be a part of such a successful business environment. We hope that the quantification and qualification of parking needs from this analysis will help the Village in planning for its needs going forward.

We would like to thank the DDA for this opportunity to complete this analysis and for your help and insight in bringing this project to a successful conclusion. Once again, it has been our pleasure to work with you and the Village. We wish you and the Village of Lake Orion continued success.

Sincerely,
Rich & Associates, Inc.

David W. Burr
Project Manager

The nation's foremost parking consultants, planning & designing great places to park since 1963!

ARCHITECTS • ENGINEERS • PLANNERS ☎ b. 248.353.5080 f. 248.353.3830 💻 richassoc.com

26877 Northwestern Hwy. | Suite 208 | Southfield, MI 48033



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Downtown Parking Study Update

Final Report

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Executive Summary



1. Executive Summary

In 2022, the Village of Lake Orion Downtown Development Authority (DDA) issued a Requests for Proposals (RFP) for a Downtown Parking Study Update. Rich & Associates completed the previous 2018 analysis and was again selected to complete the updated analysis. As a result of this effort, Rich has compiled data that has allowed the firm to quantify and qualify the existing and potential future needs within the eight-block downtown core. Additionally, the firm has evaluated various other elements pertaining to the downtown parking conditions and developed a series of recommendations, designed to address identified deficiencies. While much of the focus has been on the core blocks, the firm has also evaluated the additional parking supply on 13 additional blocks adjacent to the core downtown so as to understand the availability to provide added parking support, primarily during extraordinary events hosted by the DDA.

Lake Orion has a very vibrant downtown with a building occupancy rate of about 89 percent. Within this occupancy is a mixture of shops, restaurants, entertainment offerings and multi-family residential properties. The bordering residential neighborhoods provide further opportunities for downtown activity from residents who can walk or bicycle downtown. Rich's analysis shows that activity from the restaurants and entertainment results in a distinct evening peak on most weeknights and weekend evenings.

In both studies completed by Rich & Associates, the analyses involved an inventory of the total public and private parking supply as well as a building inventory, assessing the type of use for each building (retail, office, restaurant, entertainment etc.). Rich also completed two days of a parking utilization study (Thursday and Saturday) between the hours of 10:00 am and 10:00 pm. This survey was intended not only to demonstrate how the parking is being used in various lots and on-street spaces, but also to serve as a benchmark to the parking demand model. This model is developed to quantify and qualify the parking needs by block and compare these needs against the available parking supply.

Comparing the parking supply as quantified during this assessment showed a core area capacity of 641± spaces which is 78± spaces more than the 563± spaces within these same blocks during the 2018 analysis. A significant portion of the added parking is the tenant parking lot behind the new building developed at 120 S. Broadway. Given these changes, the proportion of parking that can be defined as "public" exceeds the best practice minimum of 50 percent. In the core blocks the public supply comprises 60 percent of total supply which is down slightly from the 2018 value of 63 percent.

A review of the handicap accessible supply within the public parking component shows that in total the Village is meeting the required number of spaces with one extra space in each of two lots while two other lots are both deficient by one handicap accessible space. However, the two lots with deficient parking have on-street accessible parking which may be considered *"along a more accessible path"*. These on-street spaces are part of the 10 on-street handicap accessible spaces within the core blocks. At this time there is no requirement to provide on-street accessible parking so these 10 spaces mean that the Village has a 10-space surplus in handicap accessible parking. No changes are recommended in the number of handicap accessible spaces.



The observations of parking within the downtown core shows that the total parking supply peaked at 60 percent occupied on the Thursday survey date between 6:00 pm and 8:00 pm and just under 65 percent occupancy between about 6:00 pm and 10:00 pm on the Saturday observation date. Rich has therefore correlated the parking demand model to these parking occupancy levels.

An additional aspect of the utilization study was recording license plate data in the two-hour on-street spaces within the downtown. A similar analysis was completed as part of the 2018 study. This updated analysis showed violation rates (vehicles staying beyond the two-hour limit) of about 14 percent of vehicles between the hours of 10:00 am and 6:00 pm. These violation rates are similar to the rates observed during the 2018 analysis and therefore show no appreciable improvement in discouraging violators.

The parking demand model developed showed a weekday calculated parking need of $297 \pm$ spaces during the daytime hours (1:00 pm). This correlated very well with the observed occupancy at this same time. Comparing the calculated parking demand to the available parking supply showed a gross surplus of $345 \pm$ spaces. One block (block 21) in the center of the downtown core has a calculated $39 \pm$ space deficit while all other blocks have calculated surpluses. However, because these figures simply compare total parking demand against total parking supply, in Rich's opinion they are slightly misleading. That is because they assume that surplus private capacity is available to others which is often not the case. Therefore, Rich performs a calculation which discards surplus private capacity which leads to the determination of an "effective occupancy rate". This assessment shows that the 46 percent gross occupancy rate at 1:00 pm would actually be an effective occupancy rate of 65 percent.

Factoring the parking demand versus supply as it would be expected to exist on a weekday evening (6:00 pm – 8:00 pm) shows that the deficit on block 21 would increase to $59 \pm$ spaces while block 18 just north of block 21 would have a $12 \pm$ space deficit. The overall "gross" occupancy would increase to 59 percent while the effective occupancy would increase to 77 percent.

The utilization study which was also conducted on a Saturday showed a higher (as would be expected) utilization for the evening hours compared to weekday evening results. The demand model (again correlated to observed conditions) showed a gross occupancy rate of 63 percent and an effective occupancy rate of 82 percent. Once a municipal occupancy rate approaches 85 to 90 percent occupancy, patrons perceive issues with the parking because they may not find parking at their first-choice parking location and may be forced to search for another convenient space.

Rich has also projected the parking needs for the future. Although the DDA has indicated that redevelopment is planned for the former Lake Orion Lumber Company property, specific details have not yet been provided (square footage, uses etc.) this property is also just outside the defined study area boundaries. Therefore, Rich has calculated the future parking assuming that 50 percent of the current 17,750 sq. ft. of vacant space will be re-occupied within three years and 85 percent of this space re-occupied within five years. Given these conditions the effective occupancy rate for a Saturday evening is projected at 84 percent within three years and 85 percent within five years. These occupancy

values could be even higher should any existing public or shared parking lots be lost to new development or removed from public availability.

Apart from the parking demand assessment, Rich has also evaluated some other critical elements which affect the utilization of parking. As noted, enforcement of the two-hour limit is a key element that creates issues when not performed because the short-term spaces are not turning over as they should. Rich also evaluated the existing signage for parking within the downtown. In this regard, the Village and DDA have done a very good job noting the availability and locations of public parking and directing drivers to the public lots. The Village has a map on their website which shows these public parking locations as well as locations of short-term parking. Rich generally recommends that such spaces be provided at the ends of blocks which is where they are properly located and shown on the map. Further, Rich generally recommends that the number of such spaces is not excessive due to the inability to adequately enforce a short time limit and the Village is already following this recommendation. Additionally, the Village and DDA have encouraged the use of bicycles both with the number and dispersion of bike racks around downtown and the placement of bicycle repair stations at Children's Park and the entrance to Meek's Park from S. Broadway.

While the Village and DDA are already doing many positive things to enhance the use of downtown parking, Rich has developed some recommendations for continued improvements particularly considering the potential added pressure that may be placed on existing parking assets with continued development within the downtown.

Recommendation Summary

Classification	Recommendation	Time Frame
Parking Enforcement	The Village needs to consider increasing the level of parking enforcement. The continued violation rate of 14 percent of vehicles exceeding the two-hour limit is nearly three times the best practice rate that the maximum be no more than five percent of vehicles	6 Months
	The parking fines for overtime parking in the Village are currently \$15.00 if paid within 10 days. After this time, they rise to \$25.00. The Village should increase the fine rate or at least allow continued multiple violations (staying multiple hours) to have the fine amount increase for the same occurrence. The Village should temper this policy by providing a "courtesy ticket" for the initial violation within a calendar year.	6 - 12 Months
Signage	The Village should consider placing signs at the public parking lots with a designated name. This may help orient infrequent visitors to finding their lot if they park and then walk to multiple destinations.	12 Months



Classification	Recommendation	Time Frame
Parking Supply Increases	The Village will likely need to either increase the physical parking supply through the creation of additional lots or at least the utilization of existing spaces through more formal and informal use of surplus private capacity. Rather than make the lots "public" the DDA should facilitate agreements between private businesses with surplus capacity to allow employees from other businesses who must use public parking to use at least some of their surplus capacity, thus freeing up public spaces.	6 Months
	Work with additional private businesses to use their existing lots during their non business hours (particularly weekend evenings). This could be churches, funeral home or other businesses. On days that the business needs the parking, they could place signs restricting parking for their use only	6 Months
	In order to encourage such agreements, the Village could agree to subsidize snow removal costs using a formula that escalates the ratio depending on the number of days that the lot is used for supplemental parking.	6 Months
	In two lots, the Village is deficient in providing the required number of handicap accessible spaces. However, handicap accessible parking is provided in nearby on-street spaces that may be considered " <i>along a more accessible path</i> ". <i>The 10 on-street spaces, in Rich's opinion, help the City to satisfy the handicap accessible requirement. No additional handicap accessible parking spaces are recommended at this time.</i>	Immediate
Parking Maintenance	The Village should set up a parking sinking fund. This would accrue a balance that would be available for parking lot repair and acquisition. Rich would recommend annual amounts of \$25.00 per on-street space be allocated and \$100 per off-street space. This would be intended to help off-set the eventual cost of asphalt replacement of public lots. Based on the capacity of off-street spaces in the core blocks, this would provide approximately \$21,000 per year.	Immediate
Zoning Ordinance	The current zoning ordinance for restaurants quantifies the parking requirements based on the maximum capacity of the establishment. Most zoning ordinances, in Rich's experience, base the parking requirements on the gross floor area.	6 Months
	The zoning ordinance also requires two spaces per dwelling unit. The Village should consider adjusting its requirements such as one space for an efficiency unit, 1.5 for each one-bedroom apartment, two spaces for each two-bedroom unit and three spaces for each three-bedroom unit.	6 Months
Special Events	The Village should develop a Special Event Parking Plan. This would quantify and qualify supplemental parking that could be used during especially large events and provide for any supplemental signage to direct patrons to these and designated public lots.	6 - 12 Months



2. Analysis

Introduction

Rich & Associates were selected by the DDA for the Village of Lake Orion to perform a comprehensive downtown Parking Study. The firm had previously completed a similar analysis for the Village in 2018. The intent of this update was to inventory and update public and private parking supply and work with the Village to assess opportunities and barriers to the successful implementation of a downtown parking plan. It is expected that the analysis and recommendations to be completed as part of this assessment will allow the Village to continue to provide the necessary parking resources which are contributing to the downtowns success and help this process going forward.

2.1 Parking Study Area

2.1.1. Total Study Area

The study area for this analysis consisted of a total of 21 blocks. The blocks have been numbered to be consistent with the 2018 analysis. At that time, the block numbers were not consecutive eliminating block numbers 4, 5, 6, 14, 15 and 24. In this analysis, Rich included a block number 4.

2.1.2 Core Blocks

Additionally, for this analysis, Rich has separated the study area into a “core” area and non-core area. The core encompasses the blocks and area south of Shadbolt Street, west of Anderson Street. The core blocks are where data showing the land-use square footage was provided by the Village and therefore where the parking demand has been calculated for comparison to the available parking supply.

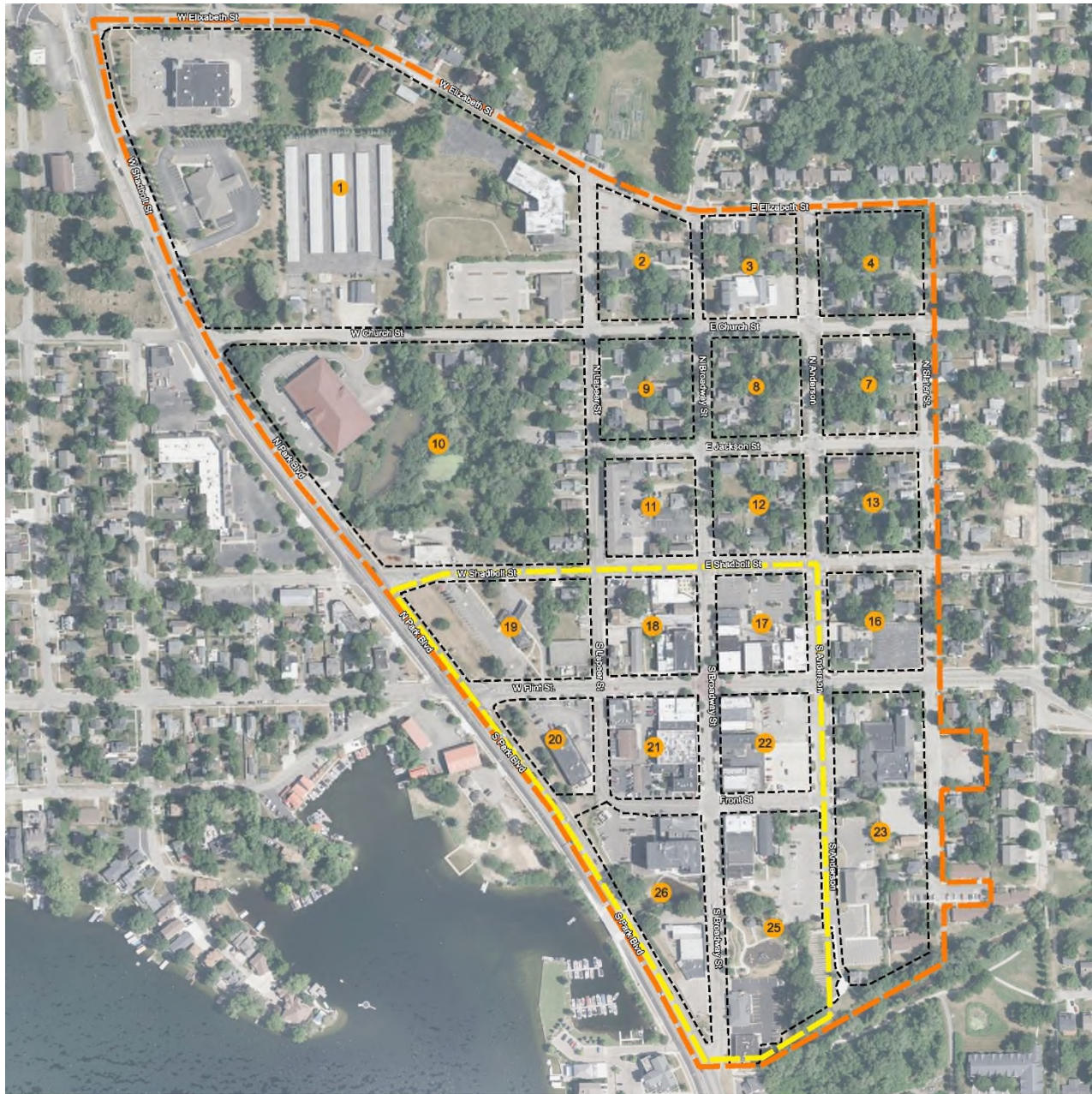
2.1.3 Non-Core Blocks

The non-core area therefore includes blocks north of Shadbolt to Elizabeth Street and east of Anderson south of Shadbolt. As such, the non-core study area includes some residential blocks as well as the block containing Village Hall. Most of these non-core blocks are providing publicly available on-street parking with limited parking demand.

Map 1 on the following page shows the downtown study with the blocks numbered and defines the core and non-core areas included in the analysis.









Map 1 – Downtown Study Area



Village of Lake Orion
Parking Recommendations
Study Area Map

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- Legend**
-  Study Area
 -  Core Area
 -  Lake Orion Study Blocks
 -  Block #
 -  A Block Face
 -  B Block Face



2.2 Parking Supply

The downtown parking supply consists of a combination of on-street and off-street parking. This is further defined as whether it is privately controlled or publicly provided. When defining whether parking is public or private, Rich follows the following definition:

Public Parking: - Parking that is available to anyone regardless of their ultimate destination. Although public parking can be time limited, it is available to anyone.

Private Parking: - Parking that is generally available only to staff, customers/visitors or tenants of a particular entity. In the case of parking provided for customers, the business owner generally expects the customer to move their vehicle at the conclusion of their business to make way for the next customer. For example, they generally do not want that customer to park in their lot while shopping or visiting their business and then going to visit a restaurant.

2.2.1 Downtown Parking Supply

Table 1 below summarizes the parking supply for the downtown study area. It shows for the entire 21 block study area that there are a total of 1,469 spaces. This shows that overall, the publicly available parking comprises slightly less than one-half the total supply. This is less than the best practice benchmark that a municipality control 50 percent of the supply in order to facilitate a park once and walk to multiple destinations. However, for the core blocks which make up the majority of the entities developing significant parking demand, the percentage of publicly provided parking at 60 percent is above the best practice benchmark.

Table 1 – Summary Parking Supply (Current Conditions)

	CORE BLOCKS			NON-CORE BLOCKS			TOTAL		
	Regular	Barrier-Free	TOTAL	Regular	Barrier-Free	TOTAL	Regular	Barrier-Free	TOTAL
PUBLIC									
On-Street	164	10	174	199	1	200	363	11	374
Off-Street	199	11	210	129	6	135	328	17	345
Total	363	21	384	328	7	335	691	28	719
Percentage	59.9%			40.5%			48.9%		
PRIVATE									
On-Street	0	0	0	0	0	0	0	0	0
Off-Street	246	11	257	461	32	493	707	43	750
Total	246	11	257	461	32	493	707	43	750
Percentage	40.1%			59.5%			51.1%		
TOTAL									
On-Street	164	10	174	199	1	200	363	11	374
Off-Street	445	22	467	590	38	628	1035	60	1095
Total	609	32	641	789	0	828	1,398	0	1,469
Percentage	100.0%			100.0%			100.0%		



2.2.2 – Core Area Supply

The eight core blocks have a total parking supply of 641± spaces. This capacity is separated into 257± privately controlled spaces and 384± publicly provided spaces. In the 2018 analysis, the total supply for the core blocks was 563± spaces (-78). This supply consisted of 207± privately controlled spaces (-50) and 356± publicly provided parking stalls (-28).

A significant portion of the 78± space difference was the addition of the new 41± spaces in the private lot added behind the 120 Broadway development. **Table 2** below summarizes by type and by block the 2022 core area parking supply and compares the total by block to the values provided in the 2018 Parking Study Report.

Table 2 – Core Area Parking Supply Comparison (2018 vs. 2022)

VILLAGE OF LAKE ORION - SUPPLY DETAIL																			
BLK #	Private			Public															
	OFF-STREET			OFF-STREET					On-Street										
	(V)HC	Pvt (Off-Street)	Total	Off-Street (Free)	15M	23 HOUR	Loading Zone	(P) HC	On-Street	On-Street 2 Hr Limit	15M	23 HOUR	Loading Zone	(P) HC	Total				
17	0	7	7	47	0	0	0	4	0	29	2	0	0	2	84	91	11	80	
18	0	12	12	0	0	17	0	0	8	16	1	0	0	1	43	55	7	48	
19	3	55	58	0	0	0	0	0	12	7	0	0	0	0	19	77	1	76	
20	2	28	30	0	0	0	0	0	4	0	0	0	0	0	4	34	(1)	35	
21	4	53	57	0	0	0	0	0	6	7	1	0	0	2	16	73	1	72	
22	0	0	0	70	0	0	0	3	0	24	0	0	1	2	100	100	2	98	
25	0	30	30	0	0	65	0	4	0	24	2	0	0	2	97	127	9	118	
26	2	61	63	0	0	0	0	0	0	18	0	0	2	1	21	84	48	36	
TOTAL	11	246	257	117	0	82	0	11	30	125	6	0	3	10	384	641	78	563	

Table 3 - Parking Supply Comparison (2022 vs. 2018, Public vs. Private)

	2022			2018		
	CORE BLOCKS			CORE BLOCKS		
	Barrier- Regular	Free	TOTAL	Barrier- Regular	Free	TOTAL
PUBLIC						
On-Street	164	10	174	156	NA	156
Off-Street	199	11	210	200	NA	200
Total	363	21	384	356	0	356
Percentage	59.9%			63.2%		
PRIVATE						
On-Street	0	0	0	0	NA	0
Off-Street	246	11	257	207	NA	207
Total	246	11	257	207	0	207
Percentage	40.1%			36.8%		
TOTAL						
On-Street	164	10	174	156	NA	156
Off-Street	445	22	467	407	NA	407
Total	609	32	641	563	0	563
Percentage	100.0%			100.0%		

Table 3 above demonstrates the difference in the 2018 and 2022 inventory for the core blocks between public and private on and off-street parking. In both instances the proportion of publicly provided parking at about 60 percent significantly exceeds the best practice benchmark that a municipality control a minimum of 50 percent of the parking supply. The higher proportion of publicly provided parking facilitates a patron's ability to park once and walk to multiple destinations as opposed to having to move their vehicle between destinations as would be required with a high proportion of privately provided spaces.

Table 4 on the following page provides the detailed parking supply for the core blocks of the study area. **Map 2** on **page 13** shows the public and private parking supply for the entire study area with the core blocks delineated. Detailed and summary parking supply data for the non-core blocks is shown in the Appendix of this report.



Downtown Parking Study Update

Final Report

Table 4 – Detailed Parking Supply (Core Blocks)

d Parking Supply (Core Blocks)					Private			Public													Block Total
					OFF-STREET			OFF-STREET						On-Street							
					(V)HC	Pvt (Off- Street)	Total	Off- Street (Free)	15M	23 HOUR	Loading Zone	(P) HC	On- Street	On- Street 2 Hr Limit	15M	23 HOUR	Loading Zone	(P) HC	Total		
BLK #	S / L	Lot / Face Ltr	(P)ublic / Pri(V)ATE	Description																	
17	L	A	P	PUBLIC LOT			0	14				2								16	
17	L	B	P	PUBLIC LOT			0	33				2								35	
17	L	C	V	PRIVATE LOT			7													0	
17	S	B	P	ANDERSON STREET			0						16					1		17	
17	S	C	P	FLINT STREET			0						6	1				1		8	
17	S	D	P	BROADWAY STREET			0						7	1						8	
17				TOTAL	0	7	7	47	0	0	0	4	0	29	2	0	0	2	84	91	
18	L	A	P	PUBLIC LOT			0			17										17	
18	L	B	V	PRIVATE LOT		12	12													0	
18	S	A	P	SHADBOLT ST			0						8							8	
18	S	B	P	BROADWAY STREET			0					5		1				1		7	
18	S	C	P	FLINT STREET			0						8							8	
18	S	D	P	LAPEER ROAD			0					3								3	
18				TOTAL	0	12	12	0	0	17	0	0	8	16	1	0	0	1	43	55	
19	L	A	V	PNC BANK	2	45	47													0	
19	L	B	V	TREESIDE PSYCH CLINIC	1	2	3													0	
19	L	C	V	AT & T		8	8													0	
19	S	A	P	SHADBOLT ST			0					12	7							19	
19	S	B	P	LAPEER ROAD																0	
19				TOTAL	3	55	58	0	0	0	0	0	12	7	0	0	0	0	19	77	
20	L	A	V	AUTO ZONE	2	28	30													0	
20	S	B	P	LAPEER ROAD			0						4							4	
20				TOTAL	2	28	30	0	0	0	0	0	4	0	0	0	0	0	4	34	
21	L	A	V	ANITA'S KITCHEN	1	11	12													0	
21	L	B	V	VERWOOD APTS	1	22	23													0	
21	L	C	V	VERWOOD APTS		13	13													0	
21	L	D	V	CARUSO CHIROPRACTIC	1	6	7													0	
21	L	E	V	SAGEBRUSH CANTINA	1	1	2														
21	S	A	P	FLINT STREET			0						4		1			1		6	
21	S	B	P	BROADWAY STREET			0							7				1		8	
21	S	D	P	LAPEER ROAD			0						2							2	
21				TOTAL	4	53	57	0	0	0	0	0	6	7	1	0	0	2	16	73	
22	L	A	P	PUBLIC LOT			0	32				1								33	
22	L	B	P	PUBLIC LOT			0	38				2								40	
22	S	A	P	FLINT STREET			0							5						5	
22	S	B	P	ANDERSON STREET			0						7							7	
22	S	C	P	FRONT STREET			0						5				1	1		7	
22	S	D	P	BROADWAY STREET			0						7					1		8	
22				TOTAL	0	0	0	70	0	0	0	3	0	24	0	0	1	2	100	100	
25	L	A	P	PUBLIC LOT			0			65		4								69	
25	L	B	V	VALETINO'S RESTAURANT		30	30													0	
25	S	A	P	FRONT STREET			0						9					1		10	
25	S	D	P	BROADWAY STREET			0						15	2				1		18	
25				TOTAL	0	30	30	0	0	65	0	4	0	24	2	0	0	2	97	127	
26	L	A	P	BEHIND MAIN ST BIKES	1	40	41													0	
26	L	B	V	PRIVATE LOT		11	11													0	
26	L	C	V	AMERICAN LEGION	1	10	11													0	
26	S	A	P	FRONT STREET			0						3				2			5	
26	S	B	P	BROADWAY STREET			0						15					1		16	
26				TOTAL	2	61	63	0	0	0	0	0	0	18	0	0	2	1	21	84	
TOTAL				Grand Total	11	246	257	117	0	82	0	11	30	125	6	0	3	10	384	641	

2.3 Handicap Accessible Parking

Another critical aspect that was requested as part of the analysis was to assess compliance with ADA and Michigan Barrier Free regulations. Rich analyzed the number of barrier free spaces provided in the various publicly provided lots within the downtown core blocks. This included a total of seven lots.

As **Table 5** below demonstrates, the number of barrier free spaces to be provided is a function of the total capacity of the parking lot or facility. The seven lots investigated ranged from as small as 16 spaces, while the largest lot had a capacity of 69 spaces. These values mean that the required capacity ranged between one and three spaces per lot.

Table 5 - Barrier Free Parking Requirements

Minimum Number of Accessible Parking Spaces <small>ADA Standards for Accessible Design 4.1.2 (5)</small>			
Total Number of Parking spaces Provided (per lot)	Total Minimum Number of Accessible Parking Spaces (60" & 96" aisles)	Van Accessible Parking Spaces with min. 96" wide access aisle	Accessible Parking Spaces with min. 60" wide access aisle
Column A			
1 to 25	1	1	0
26 to 50	2	1	1
51 to 75	3	1	2
76 to 100	4	1	3
101 to 150	5	1	4
151 to 200	6	1	5
201 to 300	7	1	6
301 to 400	8	1	7
401 to 500	9	2	7
501 to 1000	2% of total parking provided in each lot	1/8 of Column A*	7/8 of Column A**
1001 and over	20 plus 1 for each 100 over 1000	1/8 of Column A*	7/8 of Column A**
* one out of every 8 accessible spaces ** 7 out of every 8 accessible parking spaces			

Table 6 on the following page shows the various public parking lots and compares the required number of barrier free spaces with the capacity of the lot and provided number of barrier free spaces. As the table demonstrates for these six lots, two are meeting the requirements, two lots exceed the number of spaces to be provided by one space each and two lots are each one space deficient in the number of spaces required versus provided.



Table 6 - Comparison of Required vs. Provided Barrier Free Parking (Public Lots)

Block	Lot Letter	Description	Required Number of Barrier Free Spaces	Off-Street (Free)	23 Hour	Provided Hcp Accessible	Total Spaces in Lot	Above (+ / Below - Requirement)
17	A	Public Lot	1	14		2	16	1
17	B	Public Lot	2	33		2	35	0
18	A	Public Lot	1		17	0	17	-1
22	A	Public Lot	2	32		1	33	-1
22	B	Public Lot	2	38		2	40	0
25	A	Public Lot	3		65	4	69	1
		TOTAL	11	117	82	11	210	0

Table 7 - On-Street Barrier Free Parking Spaces Provided

Overall, the Village is providing the total number of barrier free spaces as required by the lot capacities. However, the Village is also providing 10 designated handicap accessible parking spaces in on-street spots around downtown. At this time, there is no requirement to provide a specified number of barrier free spaces on-street. Therefore, in Rich's opinion, with the addition of these spaces, the Village is meeting the requirement for the number of accessible spaces since the ADA allows spaces to be included if they are "along a more accessible path". We believe that the on-street spaces would

BLK #	Block Face	Public On-Street	Description	Barrier Free Spaces
17	B	P	ANDERSON STREET	1
17	C	P	FLINT STREET	1
17			TOTAL	2
18	B	P	BROADWAY STREET	1
18			TOTAL	1
21	A	P	FLINT STREET	1
21	B	P	BROADWAY STREET	1
21			TOTAL	2
22	C	P	FRONT STREET	1
22	D	P	BROADWAY STREET	1
22			TOTAL	2
25	A	P	FRONT STREET	1
25	D	P	BROADWAY STREET	1
25			TOTAL	2
26	B	P	BROADWAY STREET	1
26			TOTAL	1
Grand Total Barrier Free Spaces Provided On-Street (Core Blocks)				10

provide a greater level of convenience to many destinations than the spaces provided in an off-street lot so long as the size of the spaces meets ADA standards and the proper amenities (curb cuts, ramps etc.) are provided from these spaces. **Map 2** on the following page shows the total downtown parking supply.

Map 2 - Parking Supply Map



Village of Lake Orion
Parking Recommendations
Parking Supply Map

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SOUTHFIELD, MI 48033
(248) 353-0100 • WWW.RICHASTOC.COM



Legend

- Study Area
- Core Area
- Lake Orion Study Blocks
- Block #
- Block Face

Off Street Parking	On Street Parking
Public	15M
Shared	2HR
Private	Loading Zone
Barrier Free	Unmarked



2.4 Parking Utilization Analysis

A key component of the update analysis is the parking utilization study. This is designed to view how the parking is actually being used by time of day and assesses both on and off-street, public and private parking. This demonstrates the occupancy of these spaces and provides a point of comparison for the parking demand model. A close correlation between the values as determined by the model to what is actually seen to be occurring lends confidence in the model and its predictive components. The model can also demonstrate where vehicles may be non-compliant with the stated time limits in certain on-street spaces. Frequently, a percentage of vehicles will be found to exceed the stated time limits which, in Lake Orion for most on-street spaces, is signed as two hours.

2.4.1 Parking Utilization Study Methodology

The methodology employed in conducting the utilization analysis involves Rich & Associates staff driving a defined route through the downtown. The route is intended to capture a majority of the parking spaces, primarily within the core blocks although lots and on-street spaces outside the core were also included. Not all spaces are included as some may be missed in order to complete an efficient route within the defined time periods. Rich conducted these counts every two hours between 10:00 am and 10:00 pm on Thursday September 15, 2022 and again on Saturday September 24, 2022.

2.4.2 Downtown Parking Occupancy - Thursday

On the Thursday survey date, Rich & Associates analyzed 1,285 of the 1,444 (89%) total spaces within the defined downtown study area. At peak time (6:00 pm – 8:00 pm), only slightly more than one-third of the total parking supply was occupied

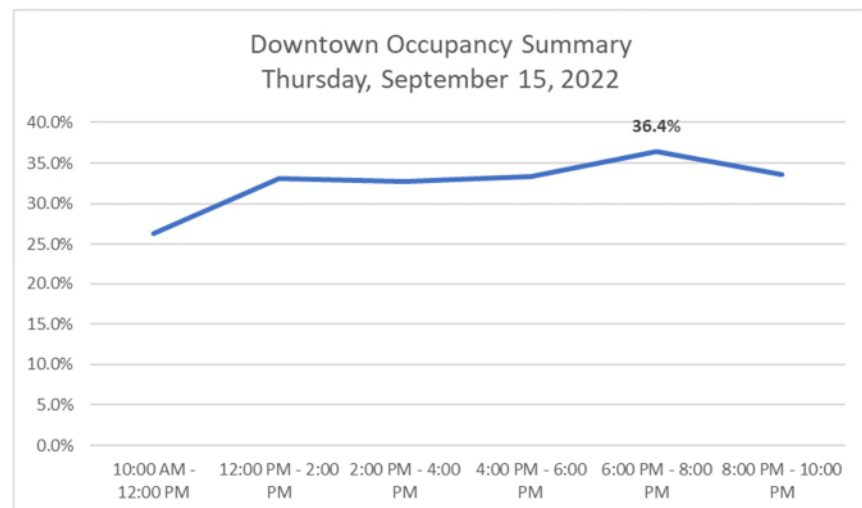
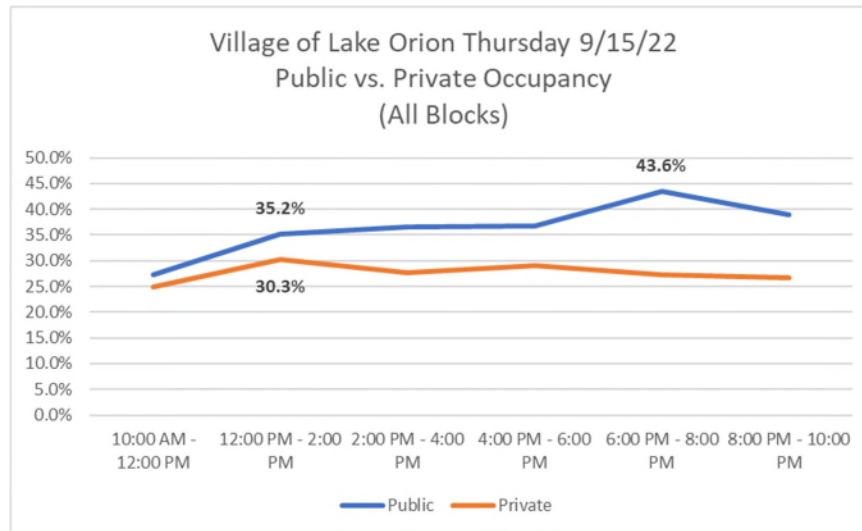


Figure 1 - Thursday Downtown Occupancy

2.4.2.1 - Thursday Public vs. Private Occupancy



While the overall occupancy analysis showed that the parking occupancy for all blocks peaked at just 36 percent, the publicly provided spaces were 44 percent occupied at this time. In contrast, the privately controlled parking occupancy was relatively flat throughout much of the day peaking at just 30 percent during the 12:00 pm to 2:00 pm observations.

Figure 2 - Thursday Public vs. Private Occupancy

2.4.2.2 – Thursday On-Street vs. Off-Street Parking Occupancy

For most patrons, on-street parking is the most convenient and often the most used. Considering all on-street parking within the defined study, the on-street parking was found to be just under 50 percent occupied. The off-street (public and private) was just 33 percent occupied at its peak.

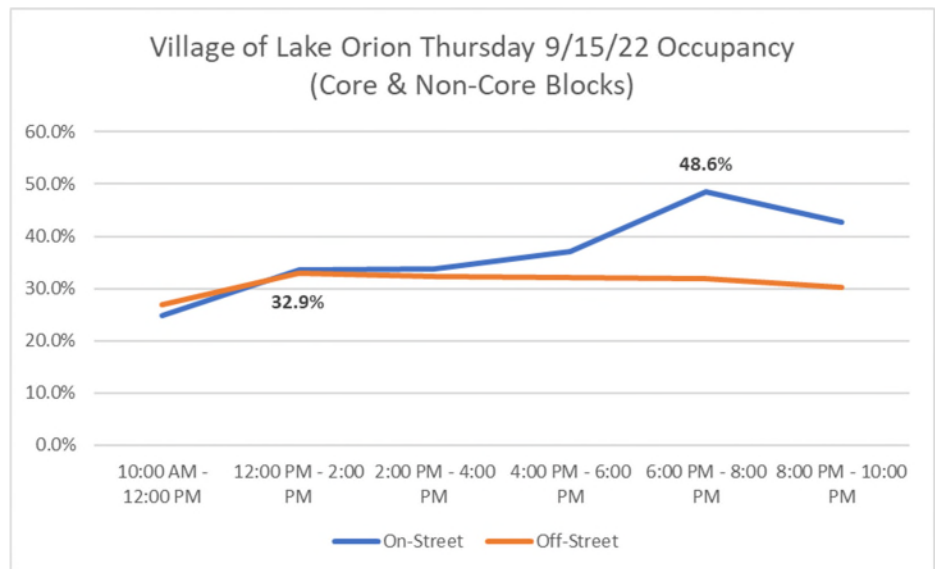


Figure 3 - Thursday On-Street vs. Off-Street Occupancy



2.4.3 – Thursday Core Area Parking Occupancy

The occupancy analysis to this point has reviewed the occupancy considering all blocks within the study area although a significant portion of these blocks have little parking demand associated with them. For this reason, it is important to focus on the core blocks where the parking demand is concentrated and compare this parking demand against the available parking supply.

The overall occupancy of both public and private, on and off-street parking for the eight blocks defined as “core blocks” shows that the occupancy is significantly higher with about 60 percent of the available spaces occupied at peak time. The utilization of spaces shows a steady increase between the 10:00 am to 12:00 noon observations through the 6:00 pm to 8:00 pm review.

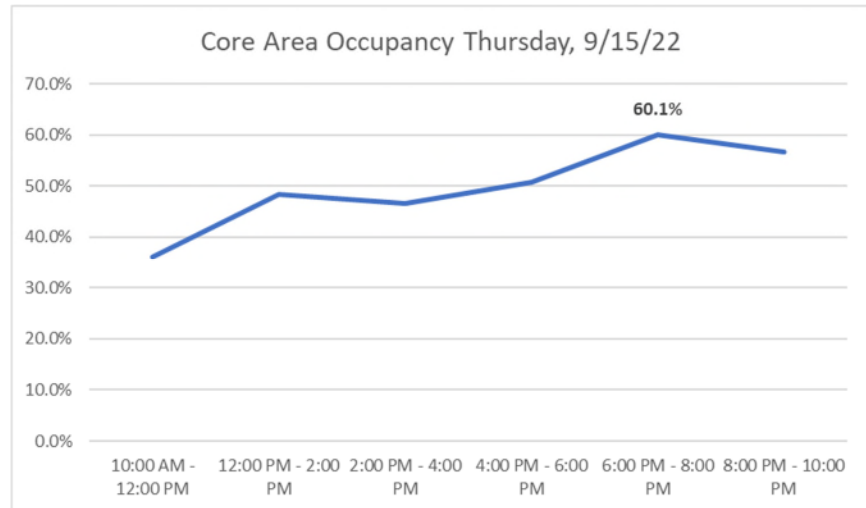


Figure 4 - Core Area Parking Occupancy

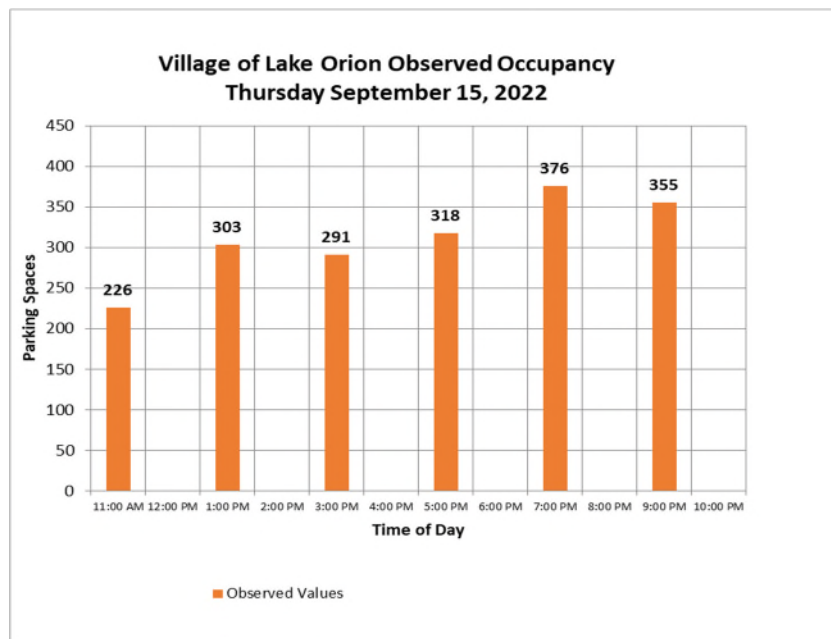


Figure 5- Observed Occupancy - Thursday September 15, 2022



2.4.3.1 Thursday Core Area Public vs. Private Parking Occupancy

The publicly provided spaces provide the greatest flexibility since patrons using these spaces can visit multiple destinations without having to move their vehicle. Within the core study area, the public spaces peaked at slightly less than two-thirds of the spaces occupied at peak time (6:00 pm to 8:00 pm). Typically, at levels exceeding 85 percent to 90 percent, patrons will find it more difficult to park near their destination. Therefore, in Rich's opinion, at the levels experienced for the Thursday observations, it would appear that patrons should find little difficulty parking near their intended destination.

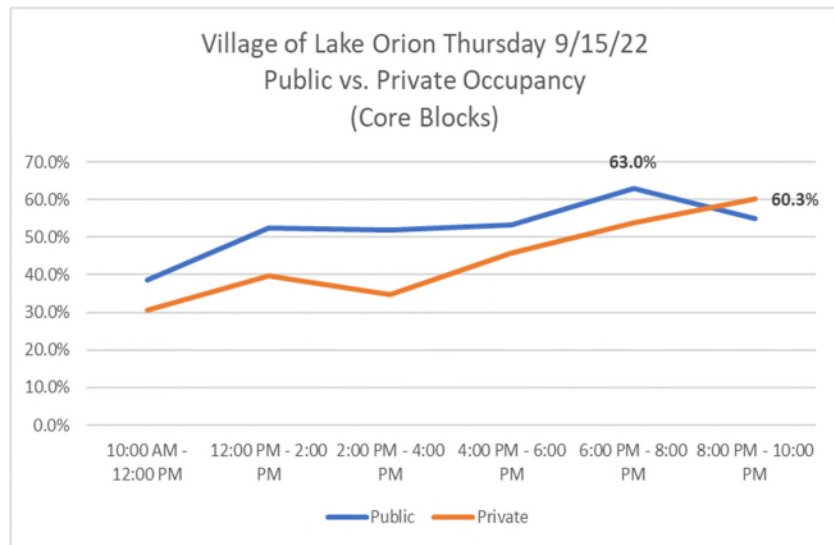


Figure 6 - Thursday Public vs. Private Parking Occupancy

2.4.3.2 – Thursday Core Area On-Street vs. Off-Street Parking Occupancy

Considering the on-street versus off-street spaces, the analysis shows that on-street parking peaks at more than three-quarters (77 percent) of the available spaces within the core study area occupied at peak time (6:00 pm – 8:00 pm). This peak follows an initial peak during the 12:00 pm – 2:00 pm period when 57 percent of on-street spaces are occupied. Following this lunch time peak, the on-street utilization declines slightly before rising to the overall peak. Given the times that these peaks are occurring, these patterns suggest the impact that downtown restaurants are having on downtown parking needs.

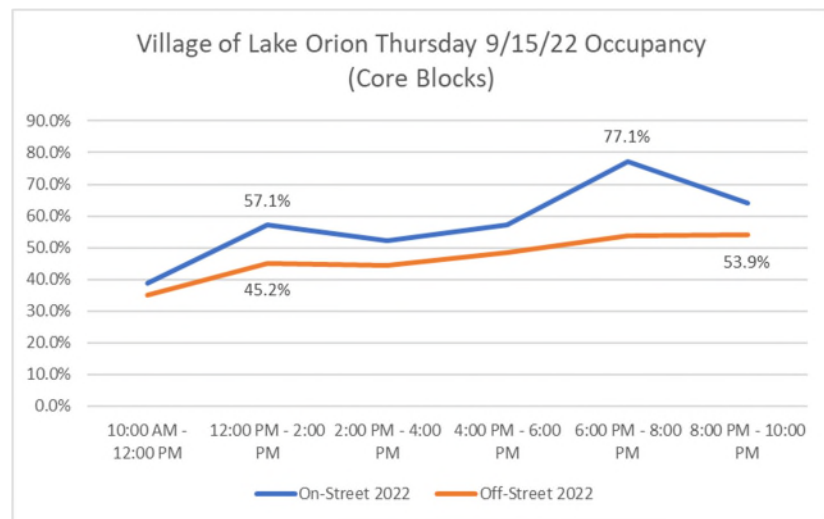


Figure 7 - Core Area On-Street vs. Off-Street Parking Occupancy

The six maps (**Map 3** through **Map 8**) on the following six pages demonstrate the occupancy for each off-street parking lot and on-street block face for the six observation periods on Thursday September 15th.

Map 3 - Parking Occupancy 10:00 am – 12:00 PM



Village of Lake Orion
Parking Recommendations



Legend

Block #

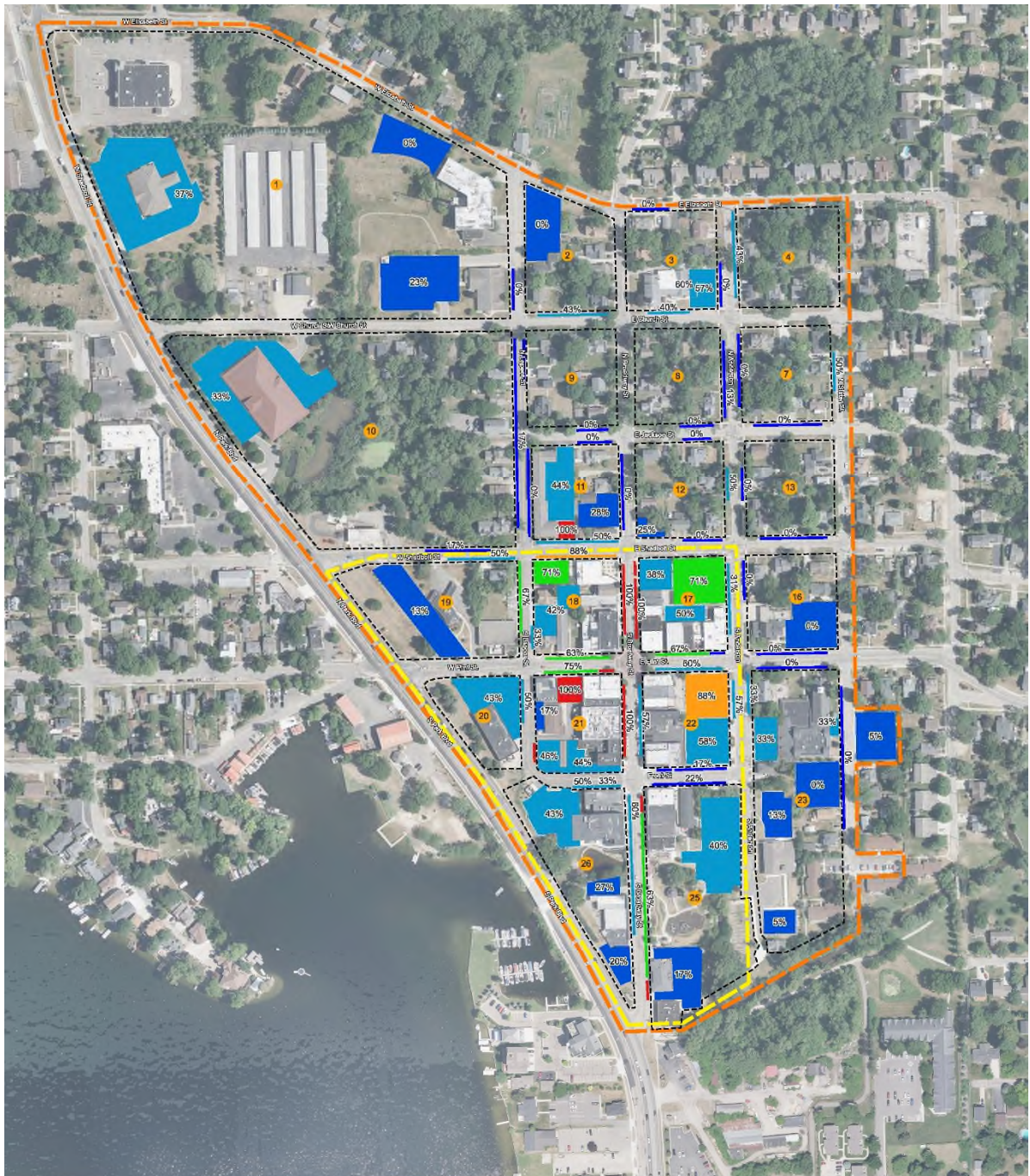
Block Face

0% - 30%
31% - 60%
61% - 80%
81% - 90%
91% - 100%

Turnover/Occupancy
Thursday, September 15
10:00 am - 12:00 pm



Map 4 - Parking Occupancy 12:00 pm – 2:00 PM

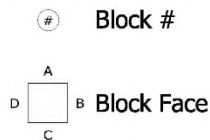


Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)

Village of Lake Orion
Parking Recommendations



Legend



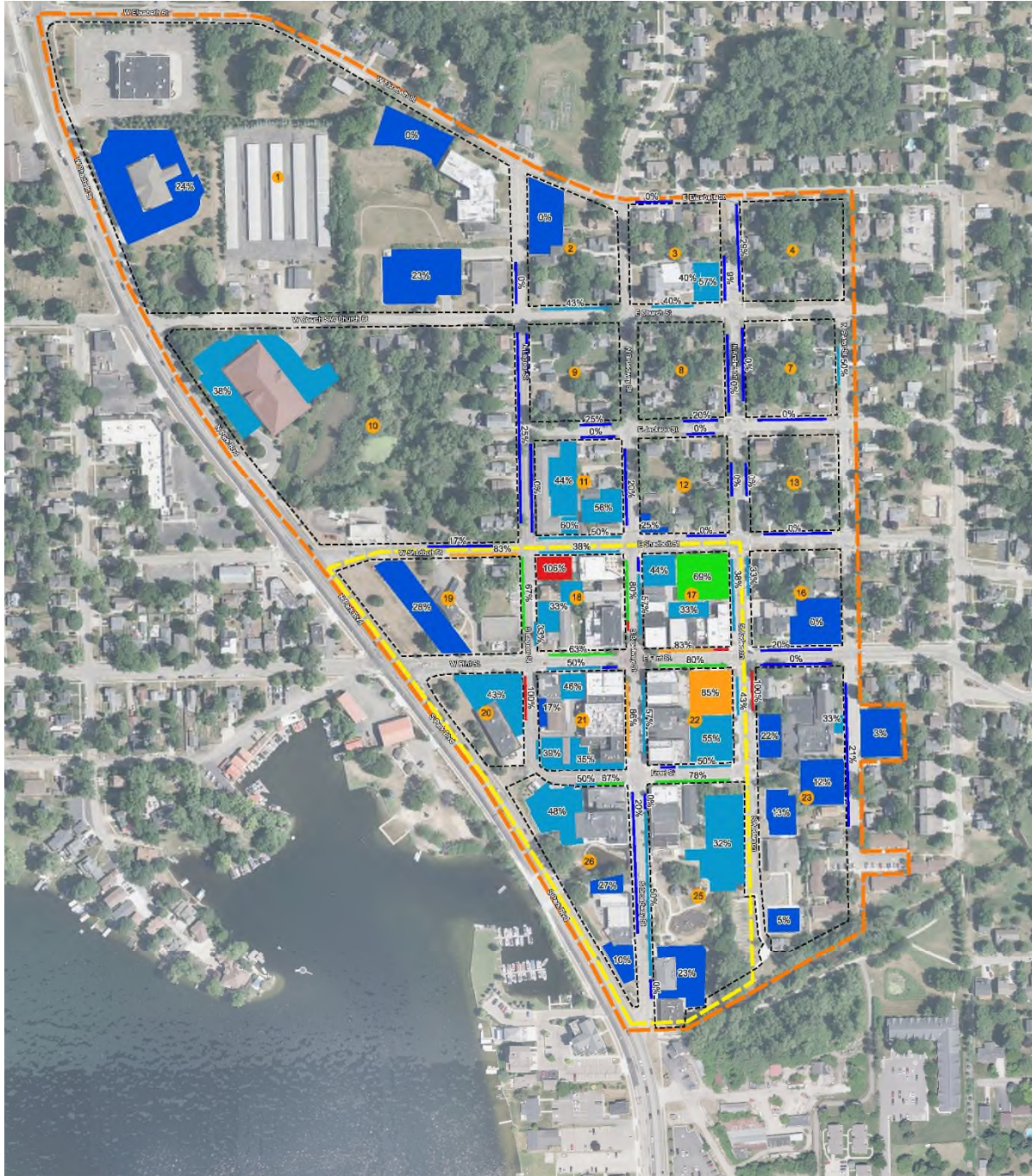
- 0% - 30%
- 31% - 60%
- 61% - 80%
- 81% - 90%
- 91% - 100%

Turnover/Occupancy
Thursday, September 15

12:00 pm - 2:00 pm



Map 5 - Parking Occupancy 2:00 PM – 4:00 PM



Village of Lake Orion
Parking Recommendations



Legend

- # Block #
- A B Block Face
- D C

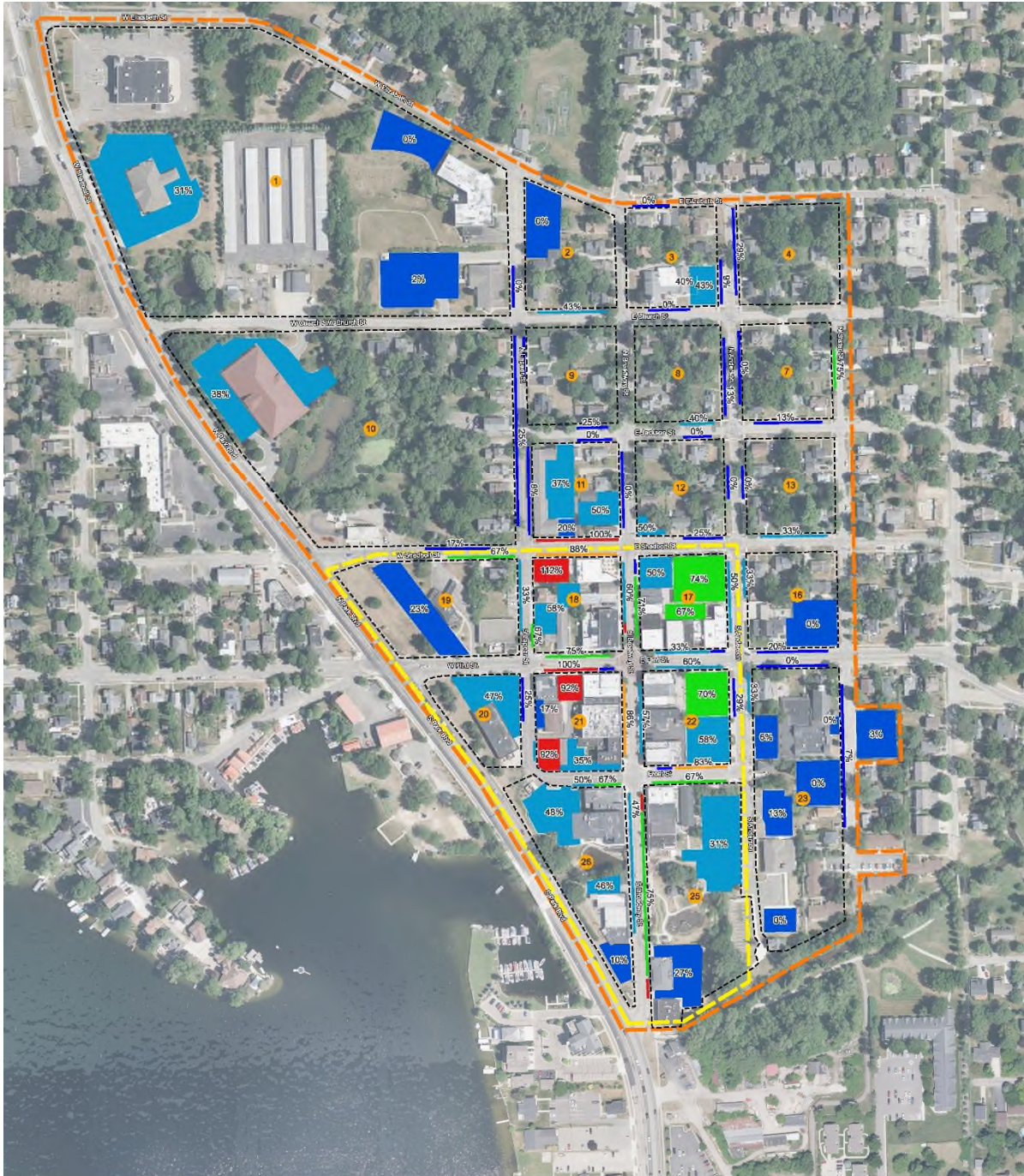
- 0% - 30%
- 31% - 60%
- 61% - 80%
- 81% - 90%
- 91% - 100%

Turnover/Occupancy
Thursday, September 15

2:00 pm - 4:00 pm



Map 6 - Parking Occupancy 4:00 PM – 6:00 PM



Village of Lake Orion
Parking Recommendations



Legend



Block #



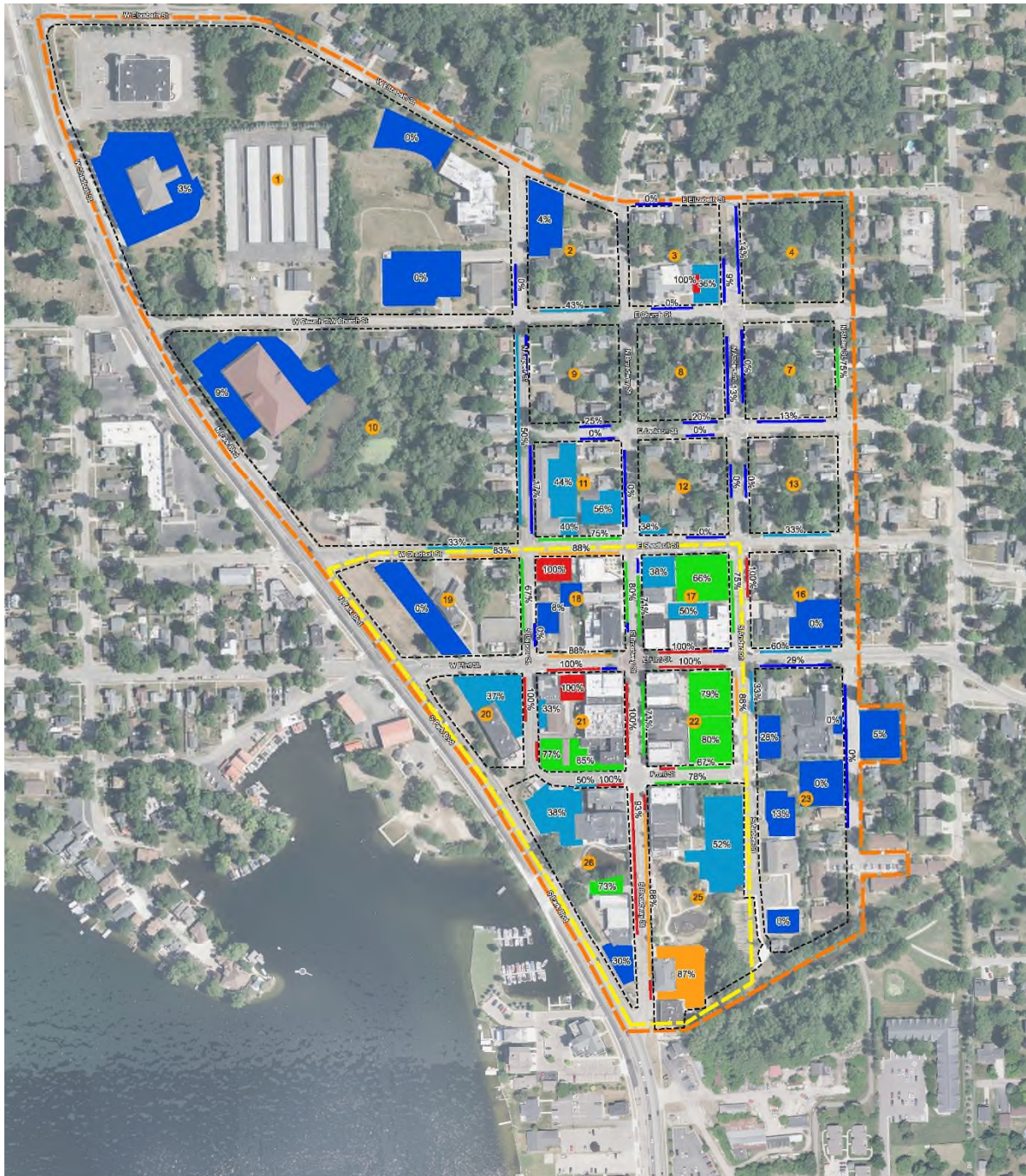
Block Face

- 0% - 30%
- 31% - 60%
- 61% - 80%
- 81% - 90%
- 91% - 100%

Turnover/Occupancy
Thursday, September 15

4:00 pm - 6:00 pm

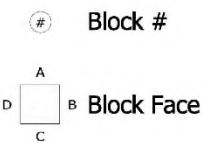
Map 7 - Parking Occupancy 6:00 PM – 8:00 PM



Village of Lake Orion
Parking Recommendations



Legend

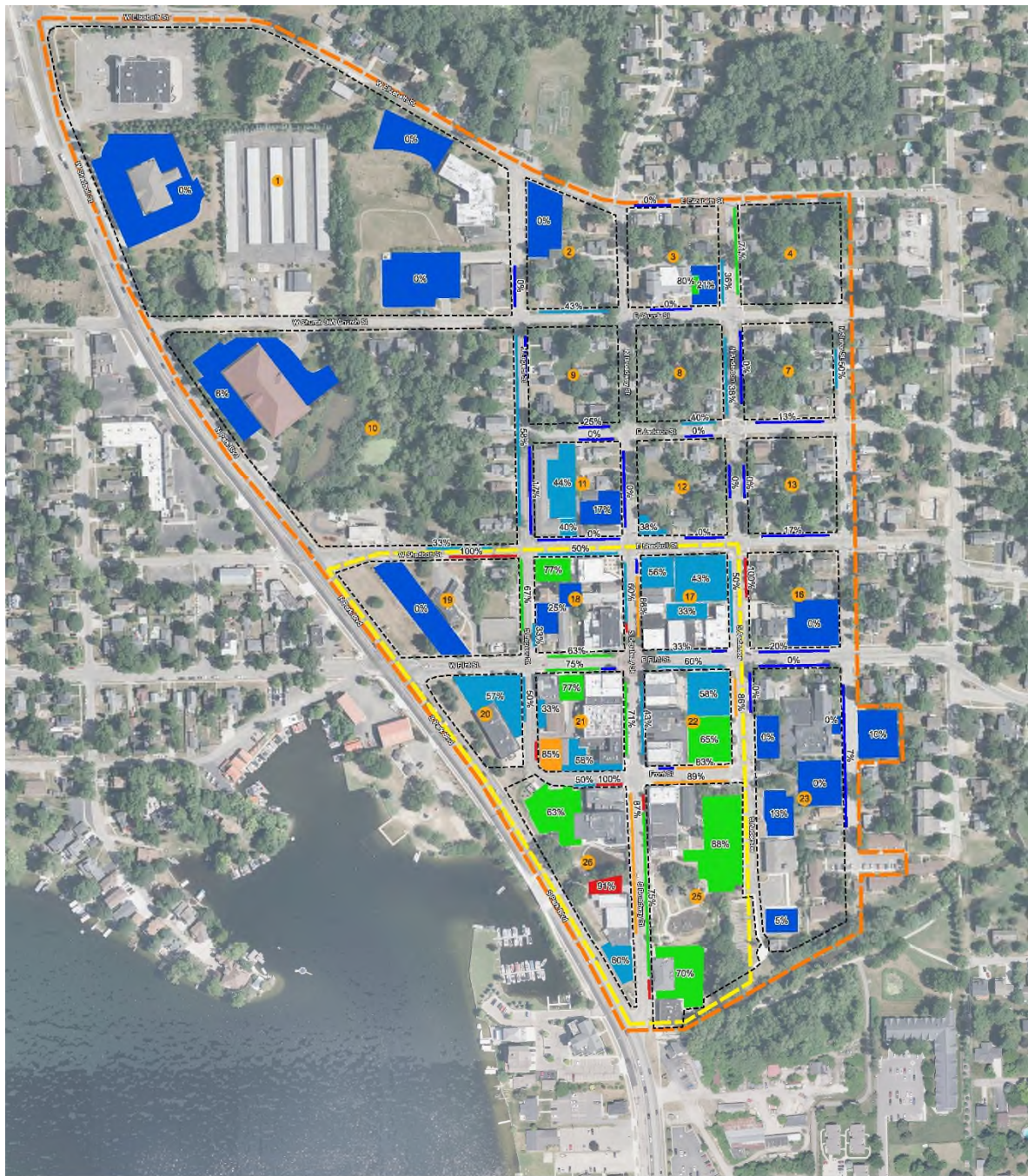


- 0% - 30%
- 31% - 60%
- 61% - 80%
- 81% - 90%
- 91% - 100%

Turnover/Occupancy
Thursday, September 15

6:00 pm - 8:00 pm

Map 8 - Parking Occupancy 8:00 PM – 10:00 PM



Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)

Village of Lake Orion Parking Recommendations



Legend

Block #

A
D  B Block Face
C

■ 0% - 30%
 ■ 31% - 60%
 ■ 61% - 80%
 ■ 81% - 90%
 ■ 91% - 100%

Turnover/Occupancy
Thursday, September 15

8:00 pm - 10:00 pm

2.4.4 – Saturday Parking Occupancy

As part of this parking analysis, the Village wished to understand its parking needs on Saturdays as well under the belief that the increased shopping and restaurant traffic would impact the amount of parking required. Therefore, the utilization study was conducted on Saturday September 24, 2022 again between the hours of 10:00 am and 10:00 pm.

The Saturday analysis included the same blocks and number of spaces evaluated as was performed for the Thursday counts. The comparison of Thursday versus the Saturday results shows that at the time the Thursday results reached their maximum occupancy for the day (6:00 pm to 8:00 pm) when 36 percent of the total parking supply was occupied, the Saturday results at this same time were only slightly greater at 38 percent. Unlike the Thursday results however, the Saturday occupancy continued to increase reaching its daily peak at 40 percent of total parking occupied during the 8:00 pm to 10:00 pm period.

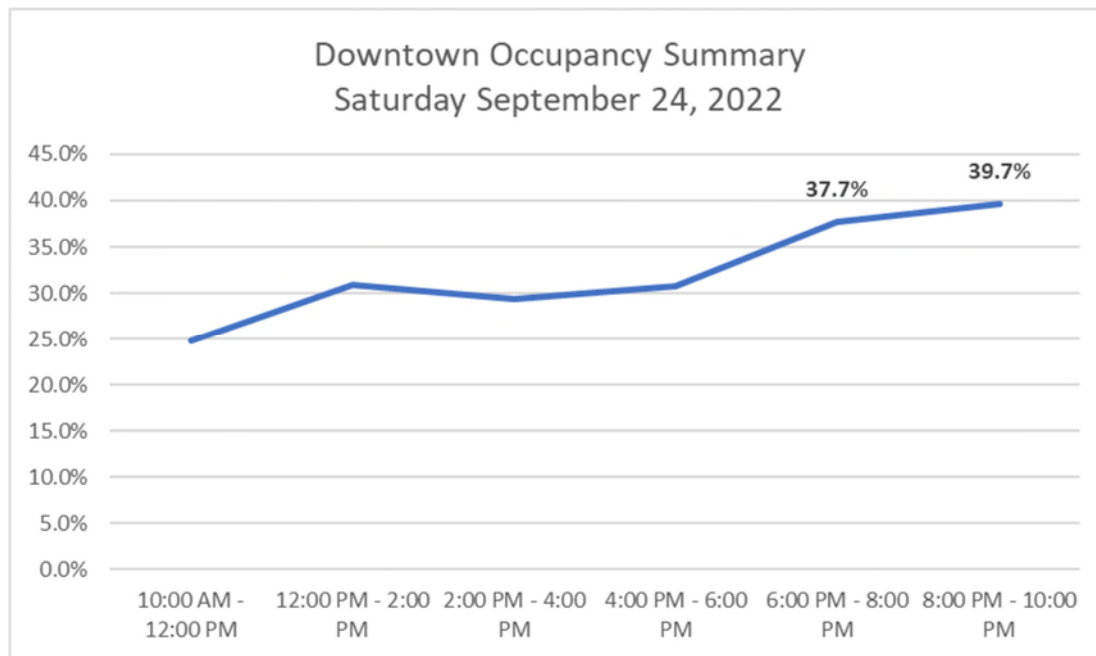


Figure 8 - Saturday Downtown Parking Occupancy

2.4.4.1 – Saturday Public vs. Private Occupancy

The analysis of the public versus private occupancy for the Saturday observations shows similar patterns for the utilization of the private supply compared to the Thursday review. The private utilization remained relatively steady throughout the day while the peak occupancy was slightly less than the highest value observed on Thursday. The utilization of the publicly provided spaces shows steady use until about 6:00 pm at about 35 percent utilization. After this time, the public parking supply increases to its peak at 48 percent during the 8:00 pm to 10:00 pm observations.

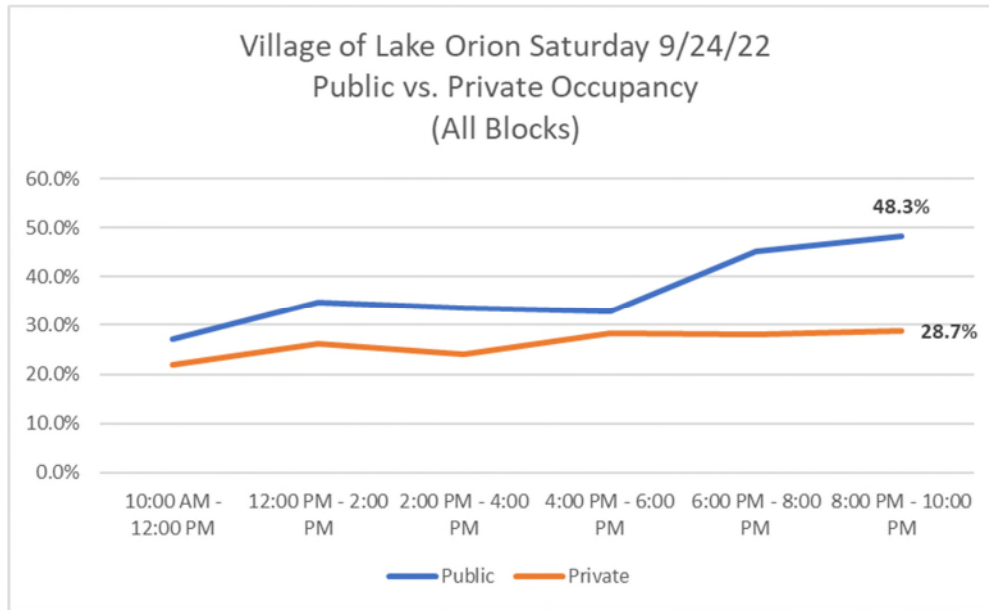


Figure 9 - Saturday All Blocks Public vs. Private Occupancy

2.4.4.2 – Saturday On-Street vs. Off-Street Parking Occupancy

The Saturday occupancy study showed that the on-street supply for the entire study area peaked at 50 percent utilization during the 8:00 pm to 10:00 pm period. Off-street utilization was slightly more than one-third occupancy at 36 percent.

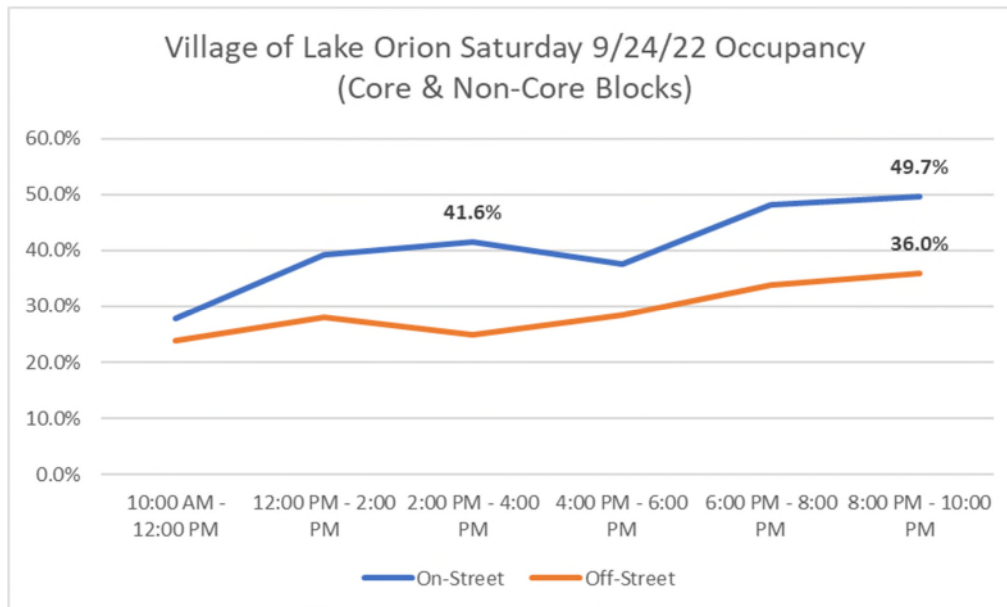


Figure 10 - Saturday All Blocks On-Street vs. Off-Street Parking Occupancy

2.4.5 – Saturday Core Area Parking Occupancy

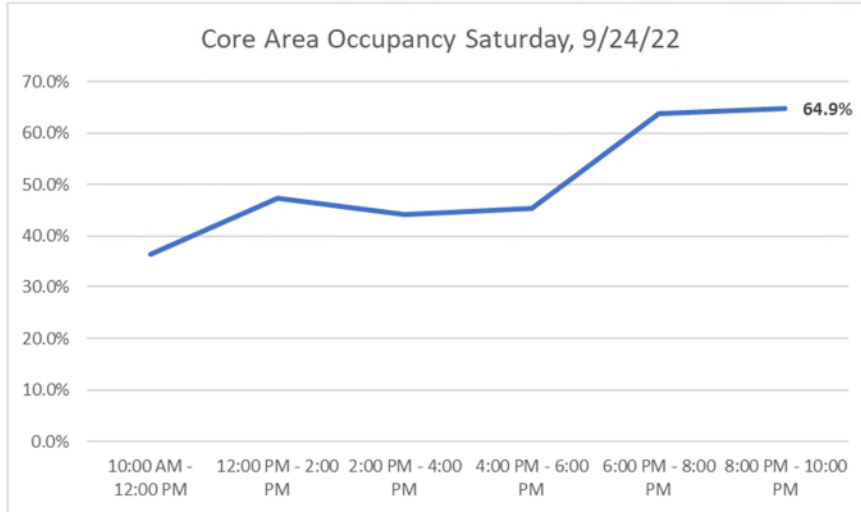


Figure 11 - Saturday Core Area Parking Occupancy

Within the eight blocks which comprise the core study area, overall occupancy peaks at 65 percent during the evening hours (6:00 pm – 10:00 pm). Parking use during the 10:00 am – 6:00 pm hours remain relatively steady with a slight increase during the lunchtime hours. This suggests higher use of restaurants during this period with a more significant increase during the evening hours, also likely the result of restaurant patrons.

2.4.5.1 Saturday Core Area Public vs. Private Parking Occupancy

The utilization of the publicly provided spaces shows that more than two-thirds (68 percent) of the available spaces are occupied at peak time which occurs during the evening hours.

The use of private spaces shows a difference compared to the Thursday results which reflected a relatively steady use throughout the day. On the Saturday, the utilization of the private spaces reflects a significant increase during the evening hours.

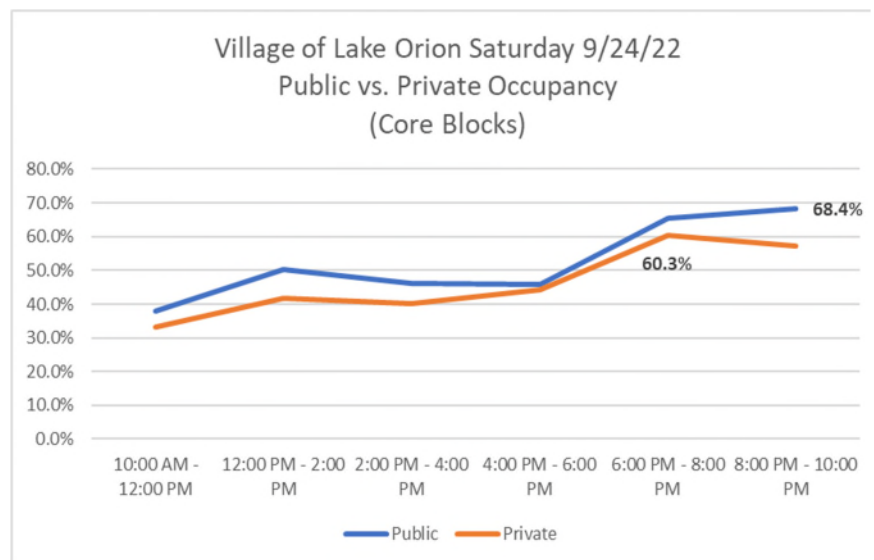


Figure 12 - Saturday Core Area Public vs. Private Parking Occupancy



2.4.5.2 – Saturday Core Area On-Street vs. Off-Street Parking Occupancy

As noted previously, on-street parking provides the most convenient spaces to many patrons. This often means that the proportion of on-street spaces occupied is not only higher than the use of off-street parking at peak time but will often be higher at many if not all parts of the day. For this reason, it is important to both ensure the availability of these spaces for customers and visitors (to be discussed) but also that patrons who need or wish to stay for longer periods can be directed to appropriate off-street locations.

Figure 13 below shows how three-fourths of the available on-street spaces are occupied at peak time. It also shows that while the off-street spaces are used at a lower proportion, they are also exhibiting higher utilization, particularly during the evening hours.

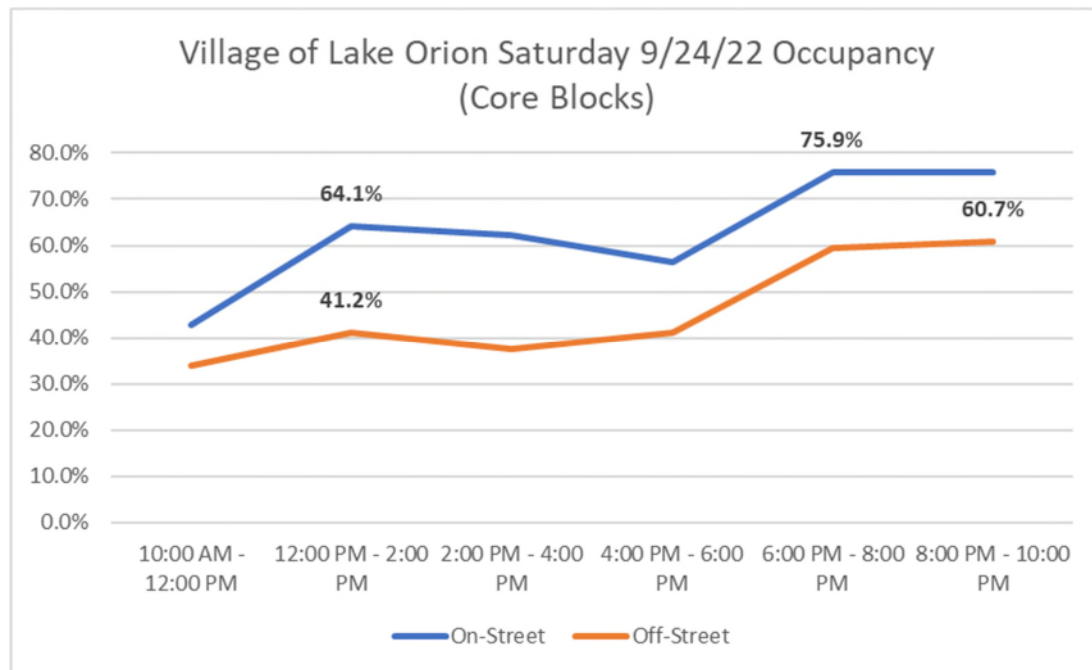
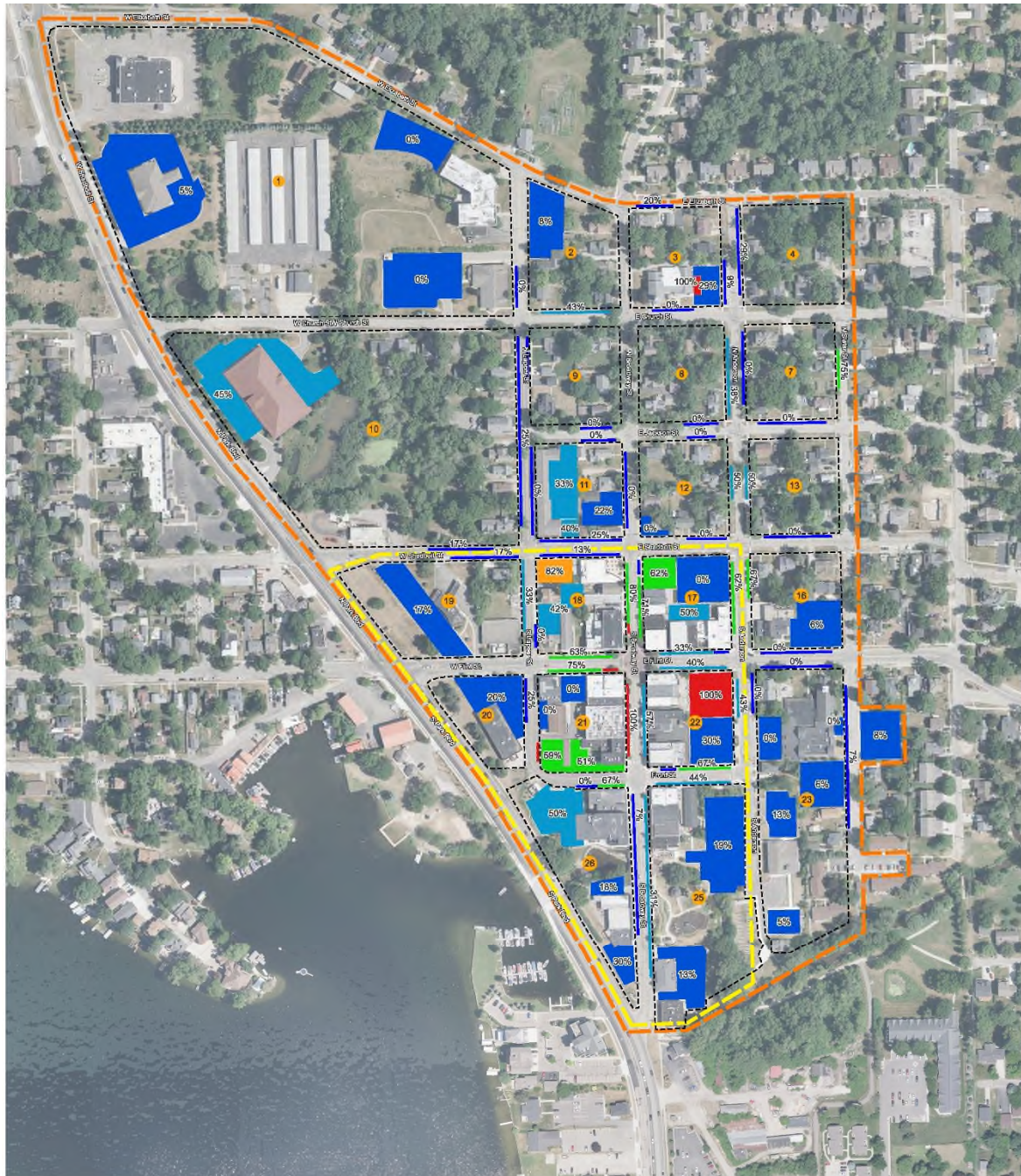


Figure 13 - Saturday Core Area On-Street vs. Off-Street Parking Occupancy

Maps 9 through 14 show the utilization of the on-street and off-street parking during the six observation periods for the Saturday survey date.

Map 9 – Saturday Parking Occupancy 10:00 am – 12:00 pm



Village of Lake Orion
Parking Recommendations



Legend

⊙ Block #

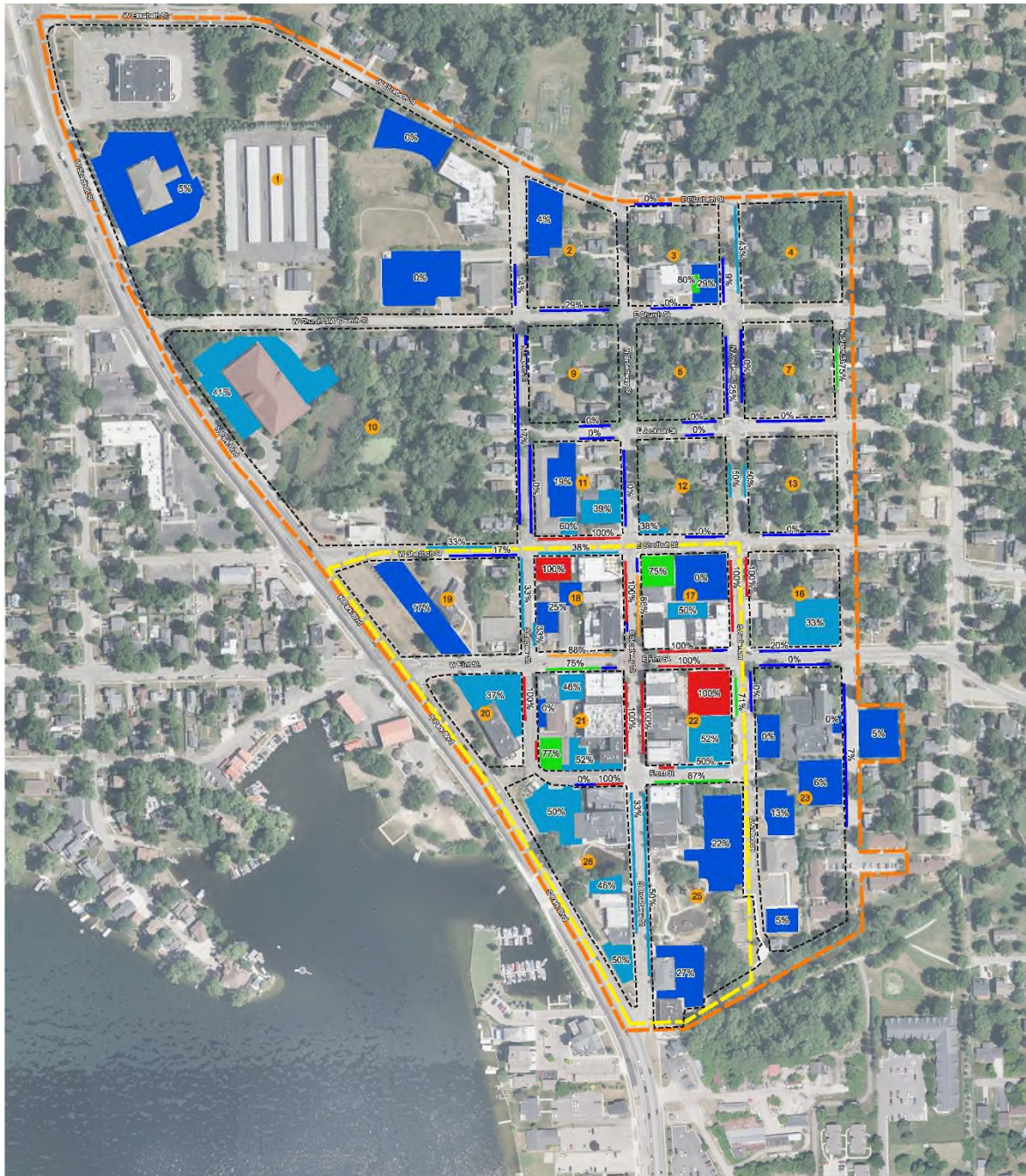
A
D B Block Face
C

0% - 30%
31% - 60%
61% - 80%
81% - 90%
91% - 100%

Turnover/Occupancy
Saturday, September 24

10:00 am - 12:00 pm

Map 10 – Saturday Parking Occupancy 12:00 pm – 2:00 pm



Village of Lake Orion
Parking Recommendations



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SOUTHFIELD, MI 48033
(248) 353-5286 • WWW.RICHASSOC.COM



Legend

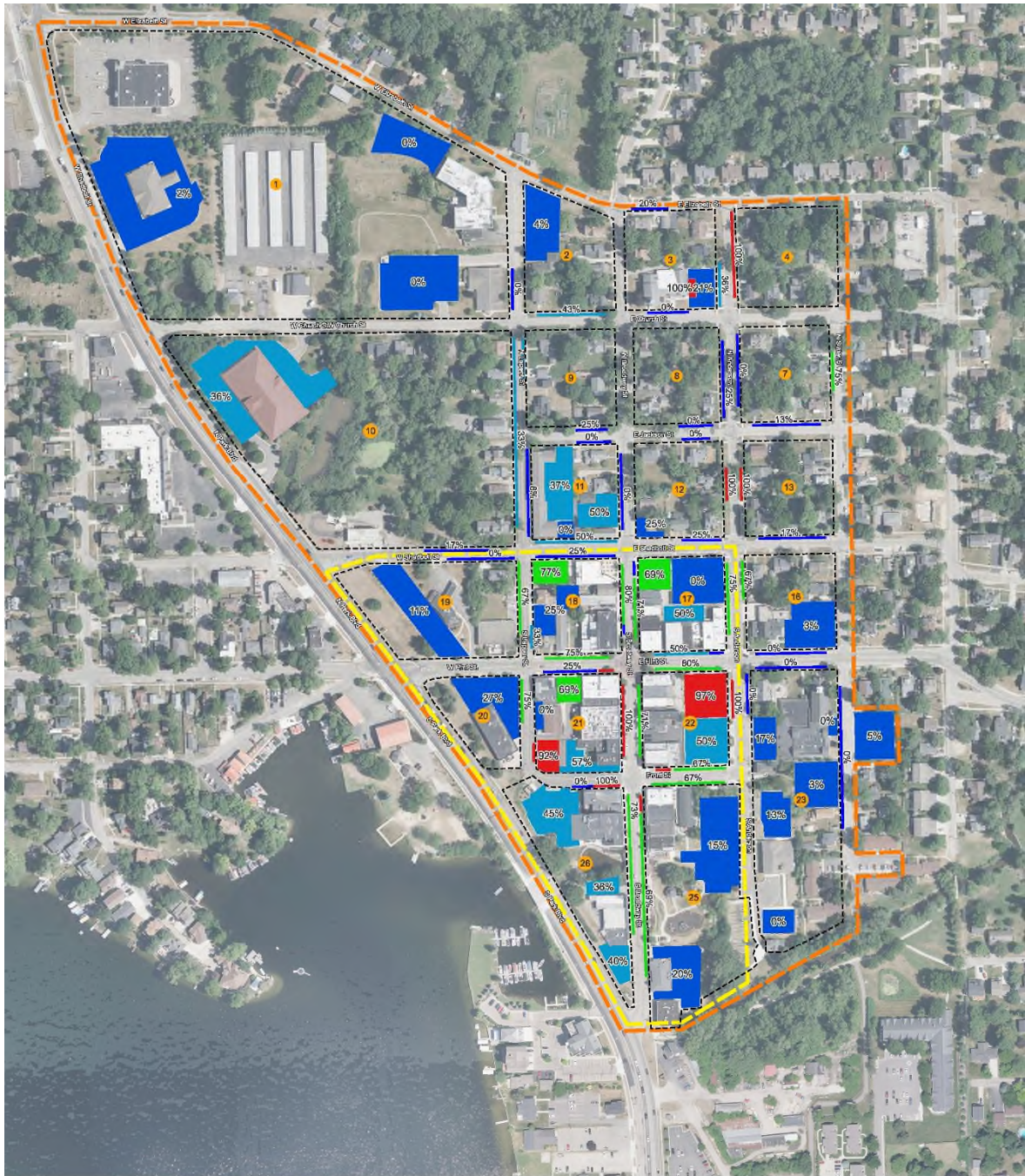
⊙ Block #
A B Block Face
D C

0% - 30%
31% - 60%
61% - 80%
81% - 90%
91% - 100%

Turnover/Occupancy
Saturday, September 24

12:00 pm - 2:00 pm

Map 11 – Saturday Parking Occupancy 2:00 pm – 4:00 pm



Village of Lake Orion
Parking Recommendations



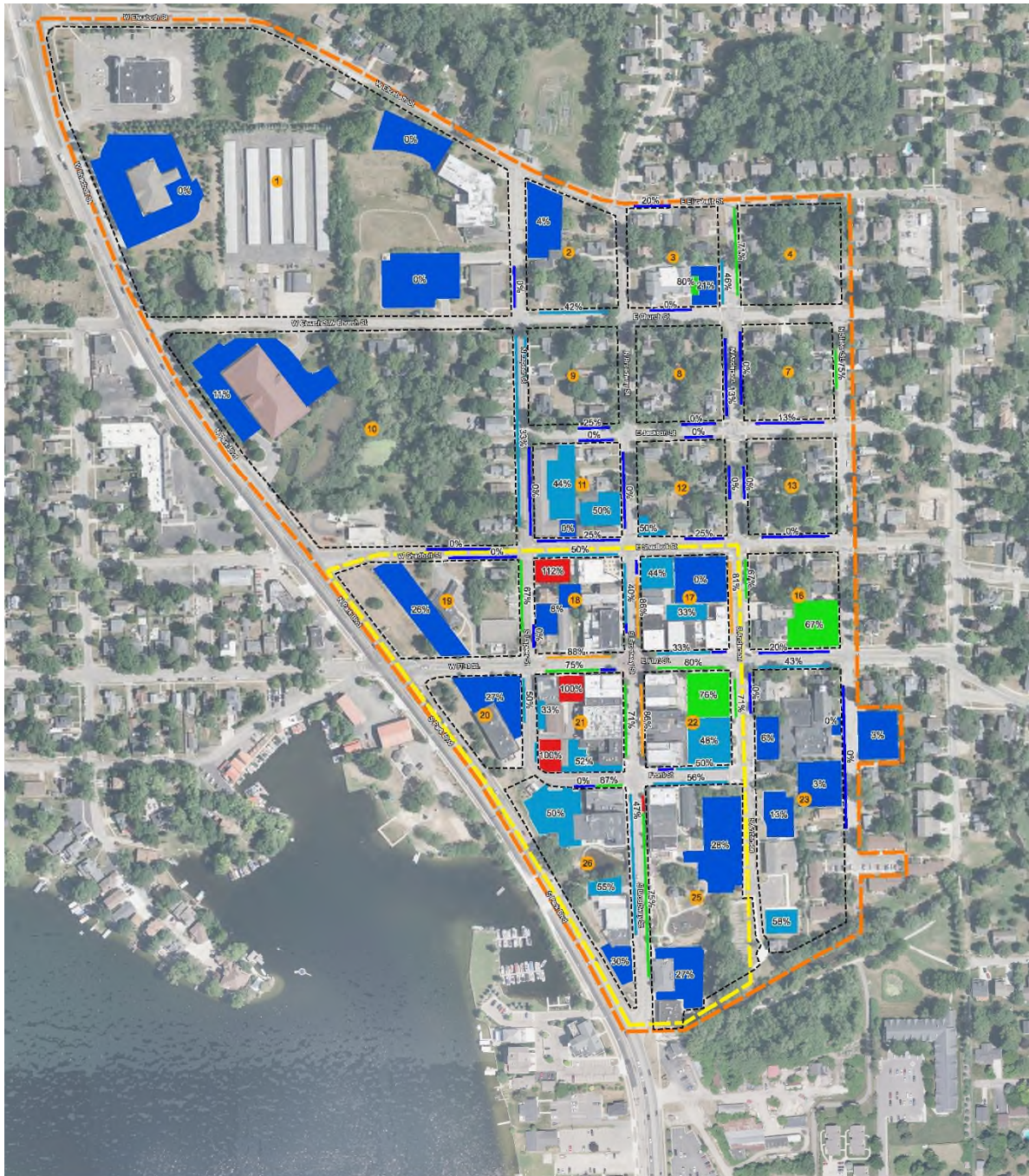
Legend

- ⊙ Block #
- A Block Face
- B
- C

- 0% - 30%
- 31% - 60%
- 61% - 80%
- 81% - 90%
- 91% - 100%

Turnover/Occupancy
Saturday, September 24
2:00 pm - 4:00 pm

Map 12 – Saturday Parking Occupancy 4:00 pm – 6:00 pm




Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)

Village of Lake Orion Parking Recommendations



Legend

Block #

A
D  B **Block Face**
C

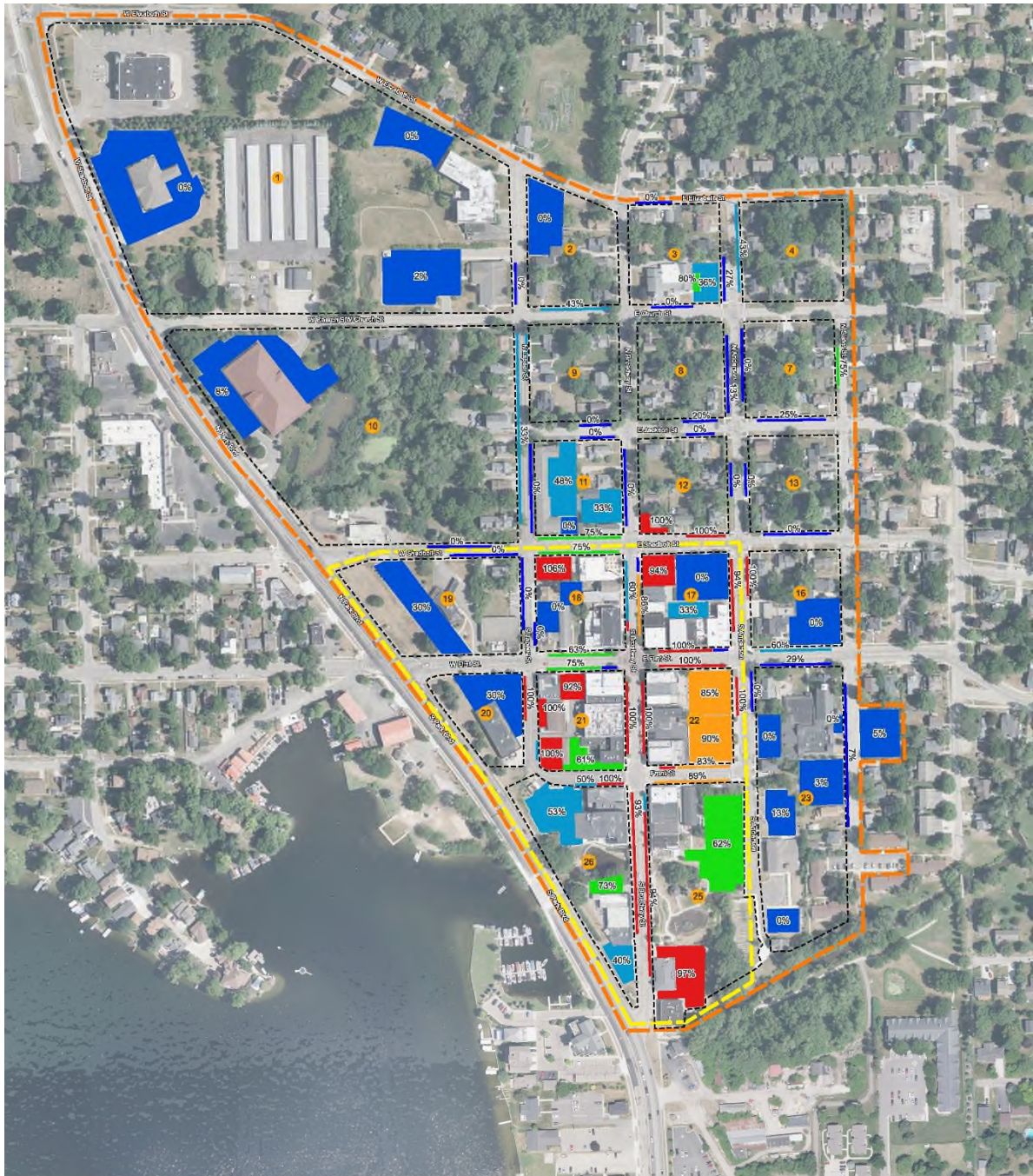
- 0% - 30%
- 31% - 60%
- 61% - 80%
- 81% - 90%
- 91% - 100%

Turnover/Occupancy
Saturday, September 24

4:00 pm - 6:00 pm



Map 13 - Saturday Parking Occupancy 6:00 PM – 8:00 PM



Village of Lake Orion
Parking Recommendations

RICH & ASSOCIATES
PARKING CONSULTANTS
ARCHITECTS - ENGINEERS - PLANNERS
20677 NORTHWESTERN HWY., SUITE 403B
SOUTHFIELD, MI 48033
(248) 355-9180 • WWW.RICHASSOC.COM



Legend

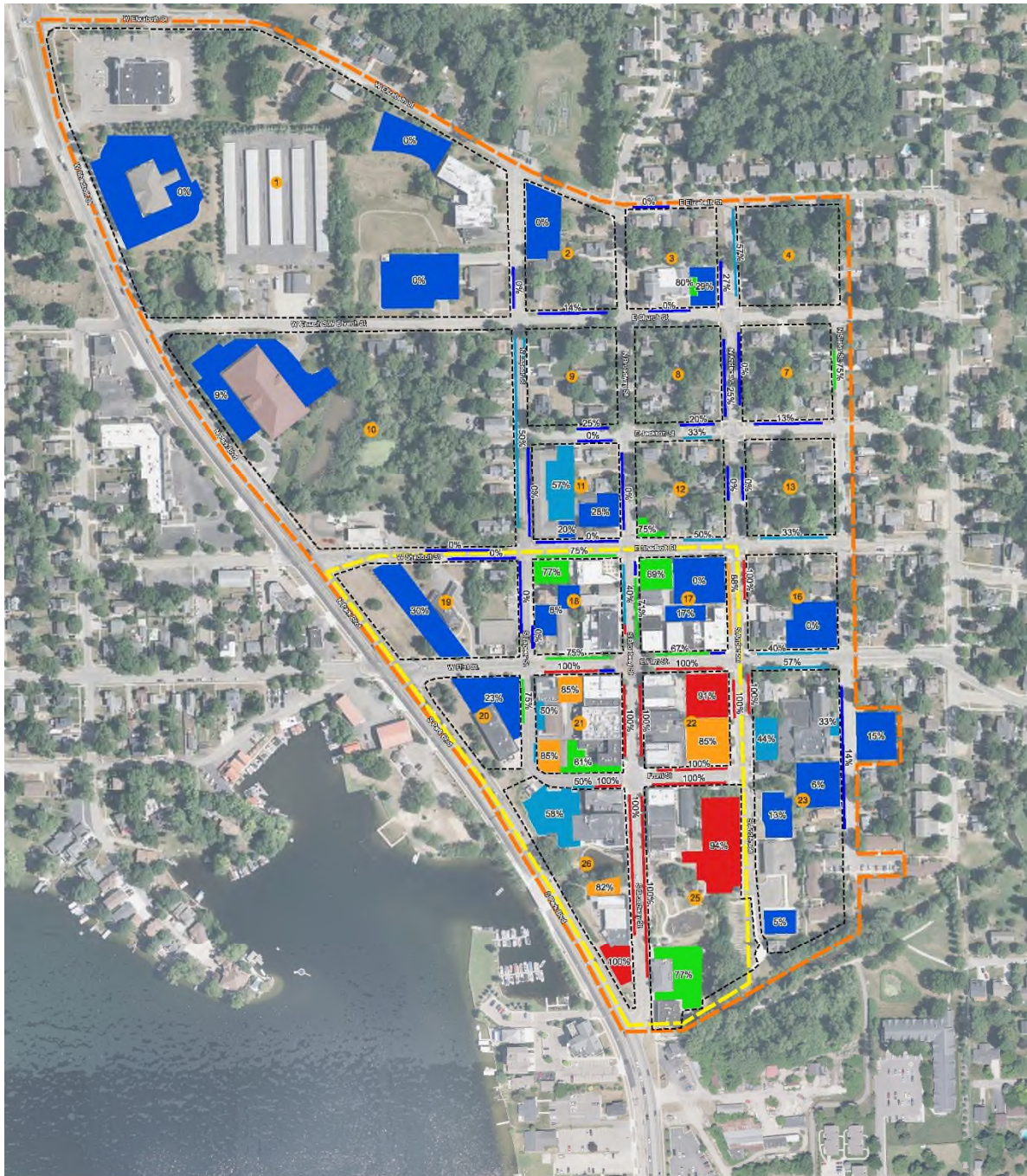
Block #
A B Block Face
D C

0% - 30%
31% - 60%
61% - 80%
81% - 90%
91% - 100%

Turnover/Occupancy
Saturday, September 24

6:00 pm - 8:00 pm

Map 14 - Saturday Parking Occupancy 8:00 PM – 10:00 PM



Village of Lake Orion
Parking Recommendations

RICH & ASSOCIATES
PARKING CONSULTANTS
ARCHITECTS • ENGINEERS • PLANNERS
26877 NORTHWESTERN HWY., SUITE #208
SOUTHFIELD, MI 48033
(248) 353-0030 • WWW.RICHASSOC.COM



Legend

⊙ Block #
A B Block Face
D C

0% - 30%
31% - 60%
61% - 80%
81% - 90%
91% - 100%

Turnover/Occupancy
Saturday, September 24
8:00 pm - 10:00 pm



2.4.6 – 2018 Parking Utilization vs. 2022 Parking Utilization

Occupancy results conducted on Thursday June 7th 2018 are generally slightly higher than the results observed for Thursday September 15th, 2022. The exception is a brief period between 2:00 pm and 4:00 pm when the proportion of spaces occupied in 2022 slightly exceeds the 2018 values. At peak time (6:00 pm – 8:00 pm), the proportion of spaces occupied is two-percent higher in 2018.

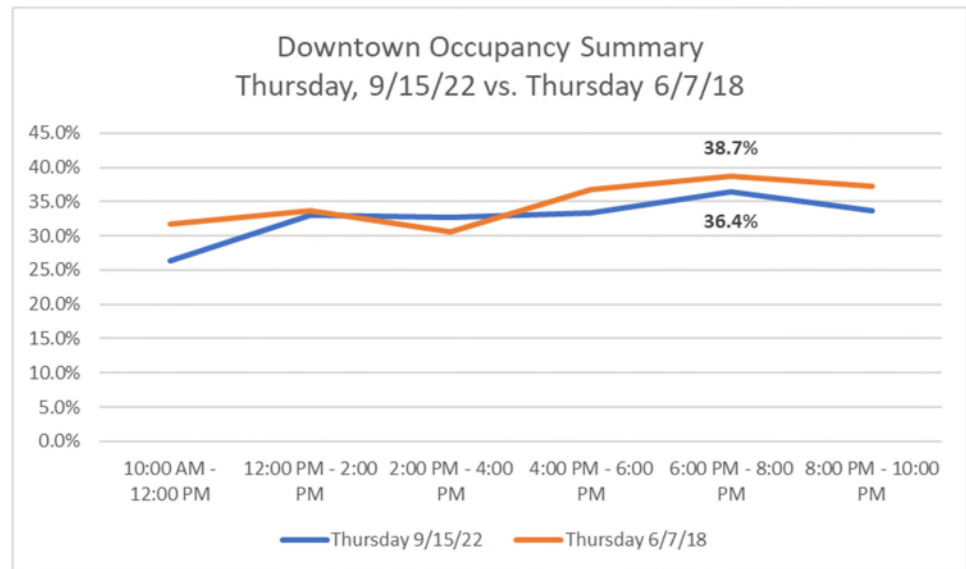


Figure 14 - Comparison 2018 Occupancy Results vs 2022 Occupancy Results (All Blocks)

The number of spaces included in the occupancy analysis as part of the 2022 analysis was 200± spaces greater than the number included in the 2018 occupancy review. Given this condition, when the number of occupied spaces in 2018 and 2022 is compared, **Figure 15** shows that at peak time, the 2022 demand was about 50 spaces higher.

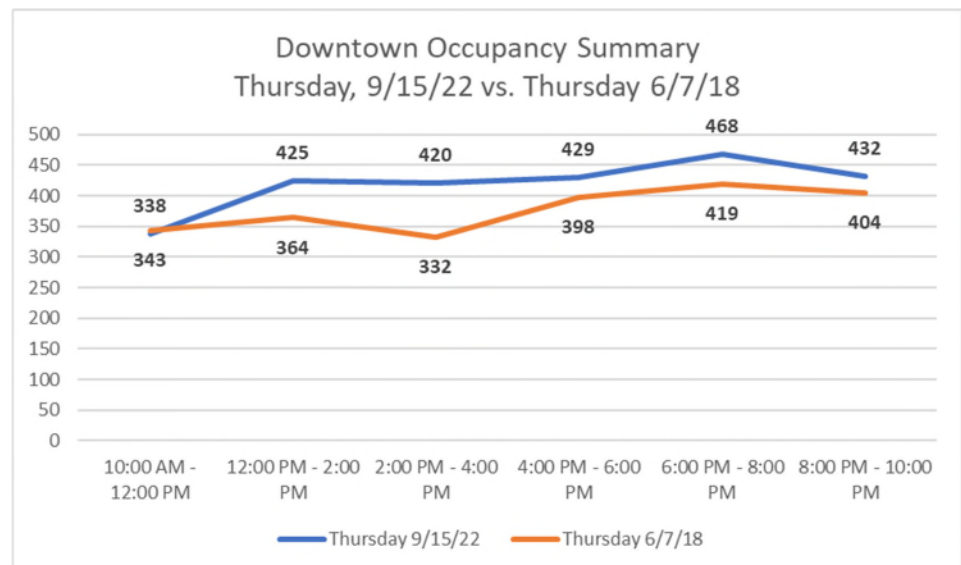


Figure 15 - Comparison 2018 Number of Spaces Occupied versus 2022 Number of Spaces Occupied

2.4.6.1 – Comparison of Core Area Parking Occupancy (2018 vs. 2022)

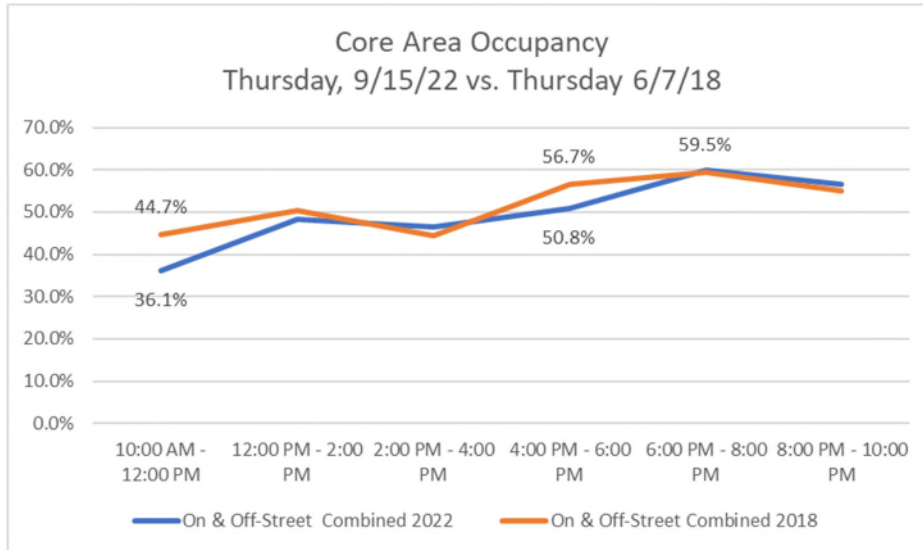


Figure 16 -Core Area Parking Occupancy 2018 vs. 2022

Comparing the core area results from 2018 to the 2022 results show similar results on a percentage basis with no significant changes in parking utilization. The parking supply evaluated (in the core blocks) in 2022 was 78 spaces greater than in 2018. Given this condition, the patterns between the two observations were not significantly different.

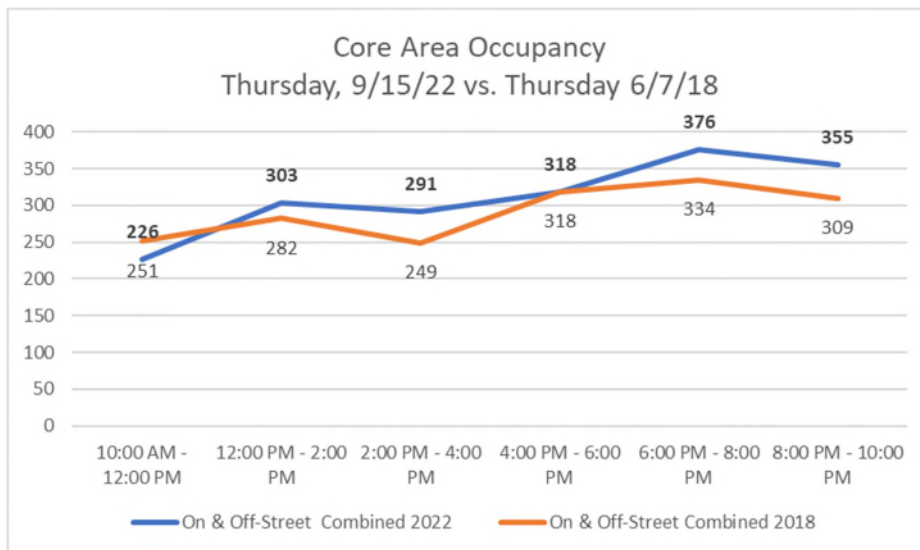


Figure 17 - Core Area Occupancy (Number of Spaces Occupied) 2018 vs. 2022



2.5 – Parking Violations Assessment

Most on-street spaces, particularly within the core blocks are time limited to two-hours. This follows the best practice that these spaces should not be monopolized by employees or business owners but should be for the use of downtown customers and visitors. As such, the Village has provision in its zoning ordinance that employees or business owners are prohibited from using on-street parking, with the exception of very brief periods to load or unload goods needed for their business.

§ 71.29 PROHIBITION.

(A) (1) No person employed by or operating a business or profession in a parking zone established under this subchapter shall park a privately-owned or company-owned motor vehicle on any public street, for the purpose of using such parking space while the owner or operator performs his or her duties at his or her regular place of employment in the downtown area. The provisions of this section shall be effective between 9:00 a.m. and 6:00 p.m., Monday through Saturday of each week.

(2) Notwithstanding the above, a business operator or professional shall be allowed one increment not to exceed 30 minutes of time each day between the hours of 9:00 a.m. to 6:00 p.m. Monday through Saturday to load or unload goods connected with the operation of the business or profession.

(B) It shall be unlawful for a residential dweller living in a parking zone to park a privately-owned or company-owned motor vehicle on any public street during the hours of 9:00 a.m. to 6:00 p.m. Monday through Saturday.

(Ord. 7.08, passed 3-25-96; Am. Ord. 7.09, passed 6-23-97) Penalty, see § [71.99](#)



The analysis conducted where counts were conducted every two hours, means that vehicles observed in the same parking stall more than one time has likely violated the two-hour limit for on-street parking. Rich's analysis reports the number of vehicles observed multiple times. However, because the counts were conducted between 10:00 am and 10:00 pm, any vehicles observed after 6:00 pm given the current regulations, are not in violation. Rich therefore evaluated the number of on-street parking stalls occupied between the 10:00 am and 6:00 pm periods. **Table 8** below shows the results for the Thursday and Saturday observation periods.

The table demonstrates that the rate of vehicles violating the two-hour time limit is about 14 percent. This rate is nearly 3 times the best practice that vehicles overstaying an on-street time limit should not exceed five percent.

Table 8 – Core Blocks 2-hour Violations (10:00 AM – 6:00 PM)

	Total Cars Observed	Cars Observed in Same Parking Space			
		1 Time	2 Times	3 Times	4 Times
Thursday Results			Cars in Violation		
	283	244	27	8	4
Total Cars in Violation			39		
Percentage Cars in Violation			13.8%		
Saturday Results			Cars in Violation		
	305	261	31	6	7
Total Cars in Violation			44		
Percentage Cars in Violation			14.4%		



2.6 Parking Demand

The parking utilization data provides a valuable representation regarding the amount of parking used at various points during a typical day. While this data does show parking lots or on-street spaces which are more frequently used, this could be from patrons on adjoining blocks. The composite results from the actually observed needs however, provide a basis to which a parking demand model can be benchmarked to assess its accuracy. Rich uses the methodology where the amount of square footage or residential units on each block can have its parking needs quantified by use of the parking generation rate by type of land use. These land uses such as retail, office, restaurant, residential, etc. each typically demonstrate different times of the day that they experience their period of peak need. The parking demand model used by Rich calculates the parking generation rate for needs as they vary throughout the day. Using this method for example, as new restaurants open in the downtown, Rich can calculate the expected impact on downtown parking needs. Further, understanding the parking needs for a “typical” weekday or weekend day, an assessment of parking that may be available during the various events hosted by the DDA in downtown Lake Orion can be determined.

As noted, Rich uses the observed parking needs to provide a comparison to the values as derived from the parking demand model. In the case of Lake Orion, the observations were conducted every two hours. Rich therefore *extrapolates* the in-between values by calculating the midpoint between two observations. This is demonstrated by **Figure 18** below.

As Figure 18 shows, there is a small peak between 12:00 pm and 1:00 pm. This is followed by a slight decrease after which the parking utilization increases to the overall peak for the day which coincides with the 6:00 to 7:00 pm time period. Rich therefore ran the parking demand model showing both the daytime peak demand and the overall for the day evening parking demand.

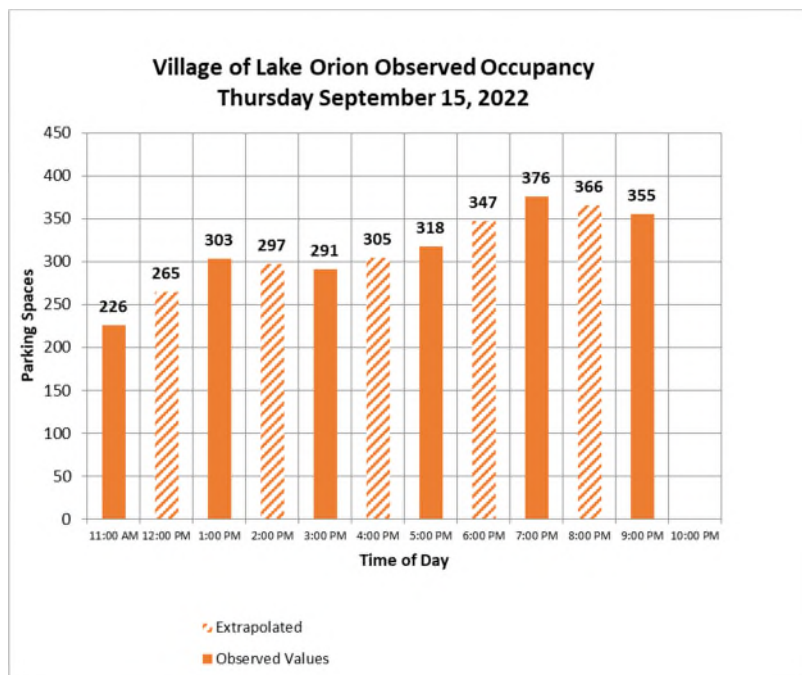


Figure 18 - Observed Thursday Parking Occupancy + Extrapolated Values



2.6.1 – Current Land Use

The demand model used by Rich begins with the various land uses. The square footage for each building came from data provided during the 2018 analysis. Using the field inventory for downtown businesses within the core blocks similar to the 2018 analysis, Rich determined the updated type of use within each building. This is demonstrated by **Table 9** below.

Table 9 - Current Building Square Footage Allocation by Block and Land Use

2022 Values												Block Total			
Block	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Occupied SF	Residential Units	Vacant	TOTAL SF
17	5,178	0	6,445	3,528	0	3,444	6	0	0	0	3,694	18,595	6	3,694	22,289
18	0	0	8,642	0	4,371	6,778	9	0	6,700	0	3,350	26,491	9	3,350	29,841
19	3,392	943	0	0	0	0	1	0	0	0	0	4,335	1	0	4,335
20	0	0	8,029	0	0	0	0	0	0	0	0	8,029	0	0	8,029
21	2,800	2,856	1,840	0	0	23,034	25	0	0	1,840	0	32,370	25	0	32,370
22	0	0	12,008	780	0	0	14	0	0	0	3,400	12,788	14	3,400	16,188
25	0	0	11,408	3,456	1,625	8,955	0	92	0	0	1,625	25,444	0	1,625	27,069
26	0	0	7,000	0	0	0	24	0	3,151	0	5,679	10,151	24	5,679	15,830
TOTAL	11,370	3,799	55,372	7,764	5,996	42,211	79	92	9,851	1,840	17,748	138,203	79	17,748	155,951

The square footage reflects a reduction of about 7,000 sq. ft. from 2018 values. Some of this reduction may be due to different classifications for land use of certain buildings as determined from the current field data collection. For example, in 2018, 38,000 sq. ft. were classified as “mixed use”. Much of this may have been redefined as retail or residential. In the case of residential, the values are not based on square footage but dwelling units. **Table 10** below shows the 2018 values and the different sf.

Table 10 – 2018 Square Footage and Difference to 2022

2018 Values												Block Total			
Block	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Occupied SF	Residential Units	Vacant	TOTAL SF
17	6,338		5,815	7,392	1,890	5,348	4					26,783	4	0	26,783
18			8,642	3,350	4,371	6,778	17		6,700			29,841	17	0	29,841
19	3,392	943					1					4,335	1	0	4,335
20			8,029									8,029	0	0	8,029
21	2,800	2,856	1,840		12,124	7,910	25			1,840	5,300	29,370	25	5,300	34,670
22			9,466	780	2,542		4				8,605	12,788	4	8,605	21,393
25			2,965	3,456	11,616	10,754		92				28,791	0	0	28,791
26					5,679				3,151			8,830	0	0	8,830
TOTAL	12,530	3,799	36,757	14,978	38,222	30,790	51	92	9,851	1,840	13,905	148,767	51	13,905	162,672
															91.5%

Comparison 2022 vs 2018												Block Total			
Block	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Occupied SF	Residential Units	Vacant	TOTAL SF
17	(1,160)	0	630	(3,864)	(1,890)	(1,904)	2	0	0	0	3,694	(8,188)	2	3,694	(4,494)
18	0	0	0	(3,350)	0	0	(8)	0	0	0	3,350	(3,350)	(8)	3,350	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	(12,124)	15,124	0	0	0	0	(5,300)	3,000	0	(5,300)	(2,300)
22	0	0	2,542	0	(2,542)	0	10	0	0	0	(5,205)	0	10	(5,205)	(5,205)
25	0	0	8,443	0	(9,991)	(1,799)	0	0	0	0	1,625	(3,347)	0	1,625	(1,722)
26	0	0	7,000	0	(5,679)	0	24	0	0	0	5,679	1,321	24	5,679	7,000
TOTAL	(1,160)	0	18,615	(7,214)	(32,226)	11,421	28	0	0	0	3,843	(10,564)	28	3,843	(6,721)



The various land uses in a downtown have different times of the day that they typically experience their period of greatest parking need. Depending on the makeup of the various uses will determine when the peak needs typically occur. A downtown with a significant restaurant or entertainment component of uses will often see peaks which occur coincident with lunch and dinner times. Lower restaurant square footage will often mean that peak demand will often rise to a late morning peak and remain steady until 4:00 to 5:00 pm after which there is significant decline in parking utilization. **Figure 19** demonstrates the parking needs as determined by Rich's parking demand model for the land uses as noted in **Table 9** above. The graph shows that restaurant use would likely have a significant impact on downtown parking needs with the two significant peaks.

Adding the parking demand from the various land uses together as quantified by the parking demand model, reflecting a shared-use analysis results in a graph shown by **Figure 20** on the following page. The graph clearly demonstrates the influence that restaurant parking needs have on overall parking needs for the downtown. The graph shows that during the evening hours (after about 6:00 pm), that the parking utilization is likely coming primarily from restaurant patrons, Entertainment (all others component), some retail and downtown residents.

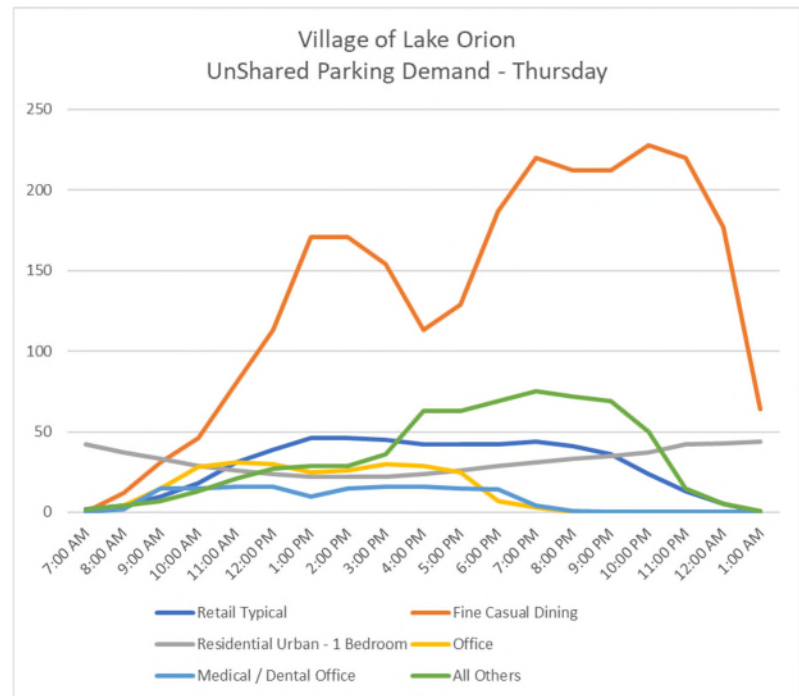


Figure 19 - Current Unshared Parking Demand (Weekday Calculation)

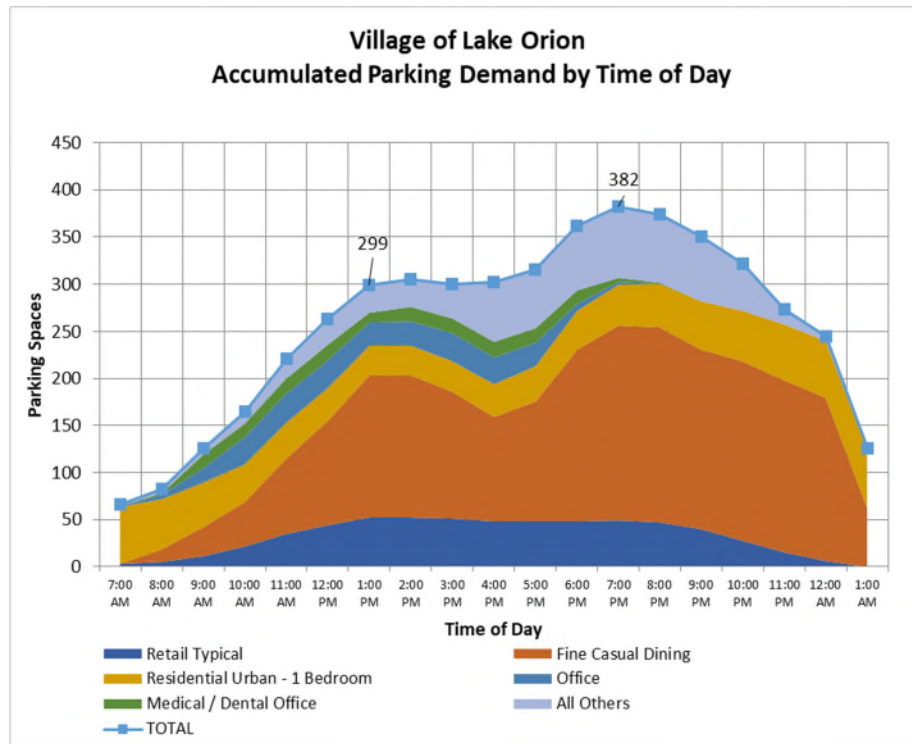


Figure 20 - Calculated Parking Demand by Time of Day

The total parking demand as quantified by the parking demand model is then compared to the observed parking within the core blocks as was demonstrated by **Figure 18**. This comparison is demonstrated by **Figure 21**.

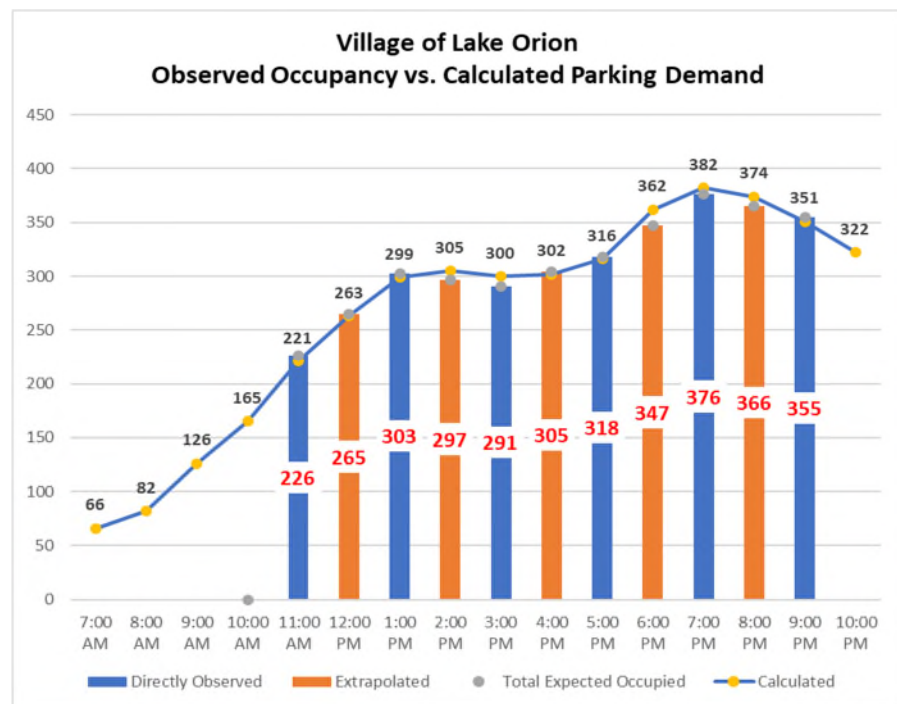


Figure 21 - Comparison between Observed and Calculated Parking Demand

The correlation between the values calculated by the parking demand model and the values observed within the core blocks lends confidence in the calculated values. Rich then takes the parking generation rates for the various land uses at the 1:00 pm daytime peak and then for the 7:00 pm evening **peak** and applies them to the square footage for each land use as was shown by **Table 9**.

2.6.2 Thursday (Weekday) Parking Demand - Current

Tables 11 and **12** on the following page show the calculated parking demand taking the parking generation rates as determined by the model at the daytime and evening peak periods and applying them to the individual land use square footage values. As **Table 11** shows, the calculated parking demand from the shared use model of 299± spaces very closely match the observed core area demand of 297± spaces at this same time. When the parking demand is compared to the parking supply on each block, block 21 shows a deficit of 39± spaces. All other blocks have surpluses.

Another point to note is the gross versus net surplus. Gross surplus simply compares total parking demand against total parking supply. However, this is not an accurate comparison because it assumes that surplus private spaces are available to staff or patrons from other blocks. The net surplus calculation corrects for this by applying the demand first to private supply. Any extra spaces are then eliminated from the calculation because they are not available to others. If there is a deficit using just the private spaces, then the public spaces are added in. This provides a more realistic assessment of what patrons are likely to encounter.

Using the values as calculated for the evening hours shows the calculated parking demand of 380± and that in addition to block 21 having a deficit of 59± spaces, block 18 would also have a small 12± space deficit. This information is shown by **Maps 15** and **16** on **pages 44 and 45**.



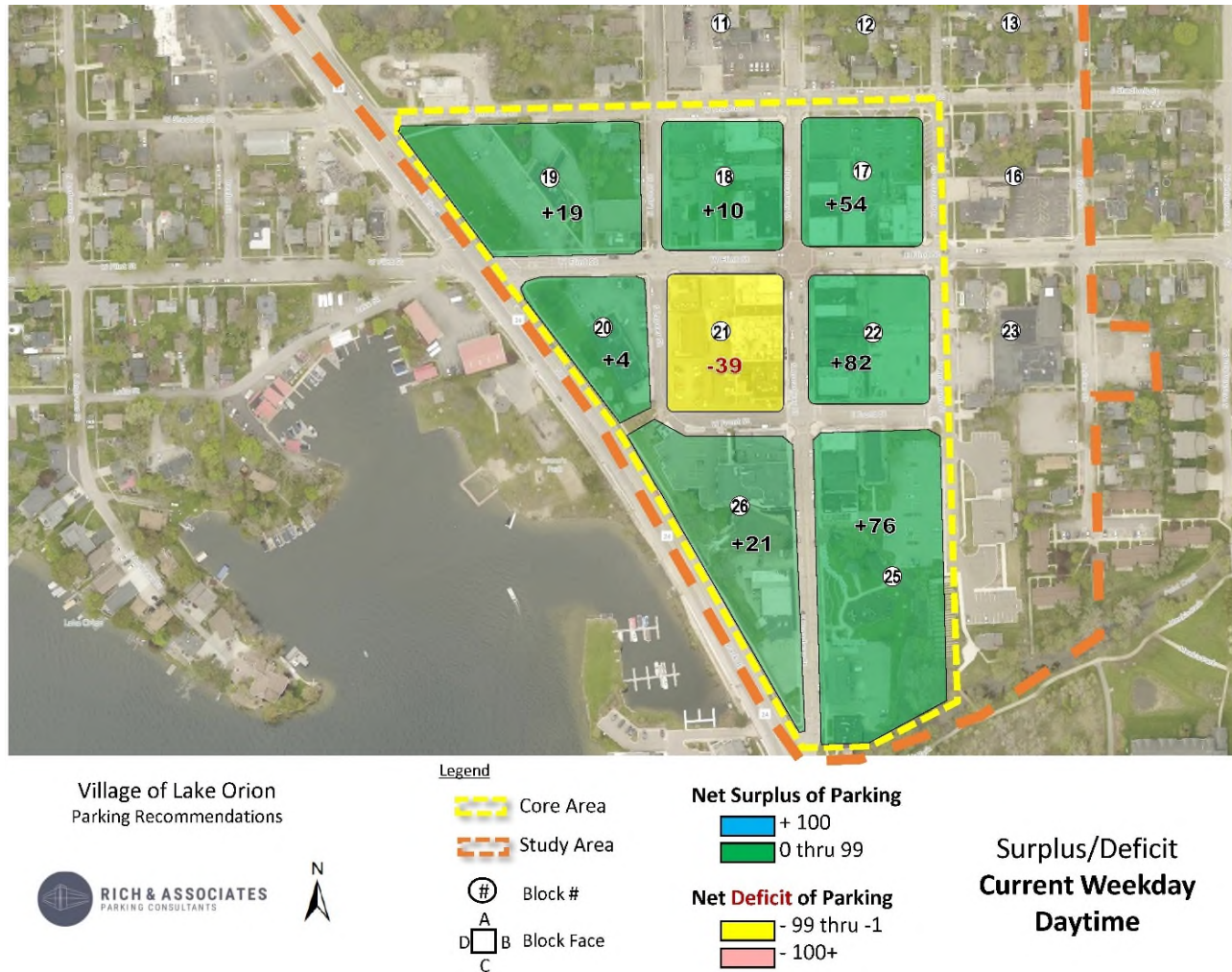
Table 11 - Calculated Parking Demand Weekday (Thursday) Daytime – Current Conditions

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	NET SURPLUS
Block	2.20	2.63	0.89	1.55	2.17	3.58	0.41	0.00	0.00	2.17	0.00	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	11	0	6	5	0	12	2	0	0	0	0	35	2	0	37	7	84	91	54	54
18	0	0	8	0	9	24	4	0	0	0	0	41	4	0	45	12	43	55	10	10
19	7	2	0	0	0	0	0	0	0	0	0	10	0	0	10	58	19	77	67	19
20	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	30	4	34	27	4
21	6	8	2	0	0	82	10	0	0	4	0	102	10	0	112	57	16	73	(39)	(39)
22	0	0	11	1	0	0	6	0	0	0	0	12	6	0	18	0	100	100	82	82
25	0	0	10	5	4	32	0	0	0	0	0	51	0	0	51	30	97	127	76	76
26	0	0	6	0	0	0	10	0	0	0	0	6	10	0	16	63	21	84	68	21
TOTAL	25	10	49	12	13	151	32	0	0	4	0	264	32	0	297	257	384	641	345	227

Table 12 - Calculated Parking Demand Weekday (Thursday) Evening – Current Conditions

2022 Values	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	NET SURPLUS
Block	0.26	1.05	0.84	1.42	2.17	4.90	0.56	0.36	1.83	0.00	0.00	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	1	0	5	5	0	17	3	0	0	0	0	29	3	0	32	7	84	91	59	59
18	0	0	7	0	9	33	5	0	12	0	0	62	5	0	67	12	43	55	(12)	(12)
19	1	1	0	0	0	0	1	0	0	0	0	2	1	0	2	58	19	77	75	19
20	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	30	4	34	27	4
21	1	3	2	0	0	113	14	0	0	0	0	118	14	0	132	57	16	73	(59)	(59)
22	0	0	10	1	0	0	8	0	0	0	0	11	8	0	19	0	100	100	81	81
25	0	0	10	5	4	44	0	33	0	0	0	95	0	0	95	30	97	127	32	32
26	0	0	6	0	0	0	13	0	6	0	0	12	13	0	25	63	21	84	59	21
TOTAL	3	4	47	11	13	207	44	33	18	0	0	335	44	0	380	257	384	641	262	145

Map 15 - Daytime Current Surplus / Deficit



Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)

Map 16 - Evening Current Surplus / Deficit



Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)

2.6.3 Saturday (Weekend Day) Parking Demand

The occupancy analysis was conducted on both a Thursday and Saturday with the Saturday occupancy percentage (65 percent) being slightly higher at peak time than the Thursday results (60 percent). Using the number of spaces occupied shows that at approximately the 7:00 pm period, the 376± spaces that were observed as being occupied on the Thursday survey date increased to 400± spaces observed occupied at this same time on the Saturday survey date. The occupancy comparison between Thursday and Saturday is demonstrated by **Figure 22**.

The higher occupancy on the Saturday would likely not include some of the demand from office uses and likely reduced retail need, during the evening hours, compared to the Thursday evening results. This would then mean that restaurant (or other needs such as entertainment) may have to increase to reflect the 400-space parking demand. Rich therefore adjusted the parking demand using *assumed* values for the likely higher restaurant and entertainment parking need and eliminating the demand from office uses. This revised parking demand (calculated as 401± spaces) is shown by **Table 13** on the following page. Under these conditions, Block 21 would see its deficit increase from the 59± spaces calculated for the Thursday assessment to 79± spaces on a Saturday. The reduced office, medical office and retail demand results in the deficit on block 18 decreasing slightly from 12± spaces to just 5± spaces. The **net surplus** is also reduced from 145± spaces within the core blocks to 117± spaces for these same blocks. It should be noted however that additional public supply exists to the east in a 34-space publicly available gravel lot off of Slater Street just outside our defined core blocks. There is an existing walkway from this public lot, on block 23, which can provide convenient short-cut pedestrian access to core area businesses.

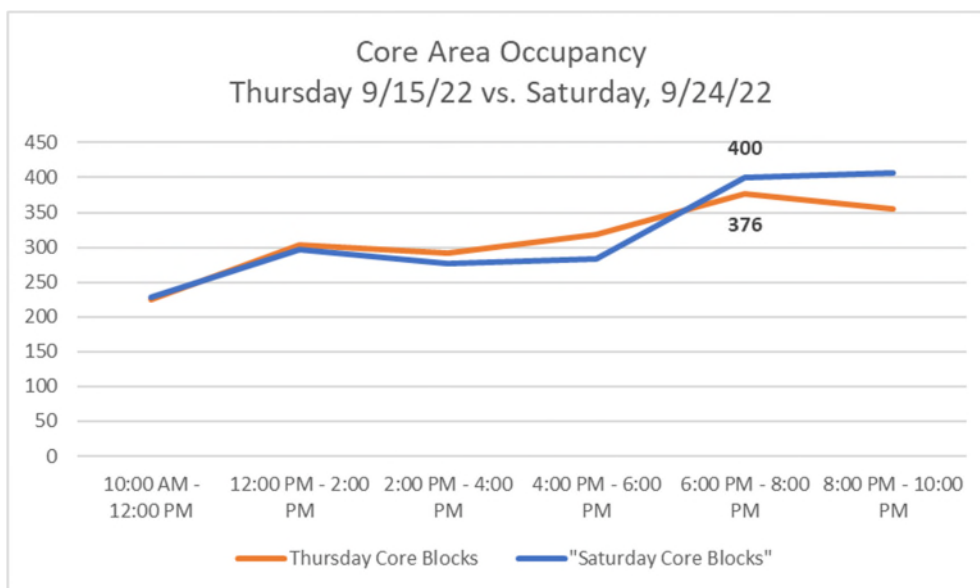


Figure 22 - Thursday vs. Saturday Observed Occupancy Comparison



Table 13 - Calculated Parking Demand Weekend (Saturday) Evening – Current Conditions

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	NET SURPLUS
Block	0.00	0.00	0.60	1.00	2.00	5.75	0.75	0.50	0.00	0.00	0.00	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	0	0	4	4	0	20	5	0	0	0	0	27	5	0	32	7	84	91	59	59
18	0	0	5	0	9	39	7	0	0	0	0	53	7	0	60	12	43	55	(5)	(5)
19	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	58	19	77	76	19
20	0	0	5	0	0	0	0	0	0	0	0	5	0	0	5	30	4	34	29	4
21	0	0	1	0	0	132	19	0	0	0	0	134	19	0	152	57	16	73	(79)	(79)
22	0	0	7	1	0	0	11	0	0	0	0	8	11	0	18	0	100	100	82	82
25	0	0	7	3	3	51	0	46	0	0	0	111	0	0	111	30	97	127	16	16
26	0	0	4	0	0	0	18	0	0	0	0	4	18	0	22	63	21	84	62	21
TOTAL	0	0	33	8	12	243	59	46	0	0	0	342	59	0	401	257	384	641	240	117

Map 17 - Current (Saturday) Surplus / Deficit





2.6.4 – Future (Weekday) Evening Demand – 3 Years / 5 Years

Within downtown Lake Orion there is currently about 17,750 square feet of vacant space. Additionally, there are plans to redevelop the Lake Orion Lumber Company property (which is just outside the defined study area). In projecting future needs, Rich typically applies data from any known developments as well as factoring for the re-occupancy of existing vacant space over time. While Rich does not have specific plans for the lumber company property as they are still being developed, we are projecting for future growth by assuming that 50 percent of the vacant square footage within the core blocks of the study area will be re-occupied within three years and 85 percent of this space occupied within five years. Because it is unknown exactly what the vacant space will be used for, Rich applies a calculated average (from the existing uses) parking generation factor to the vacant square footage in order to quantify the potential parking need. Any currently vacant space that would have a known specific use could have the appropriate parking generation factor applied to the detailed square footage. However, at this point, that data is not available. The calculated weekday evening demand from these forecasts are demonstrated by **Tables 14 and 15** on the next page and shown on **maps 18 and 19** on **pages 51 and 52**.

These forecasts show that the addition of the 50 percent of vacant space only adds about 20 spaces to the calculated weekday evening demand within the three-year time frame. Carrying the projections out five years and 85 percent of the vacant space occupied only adds another 15 spaces to the same weekday peak hour demand.

The analysis of the likely higher parking demand reflecting a weekend (Saturday) is discussed in section 2.6.5 beginning on page 53.



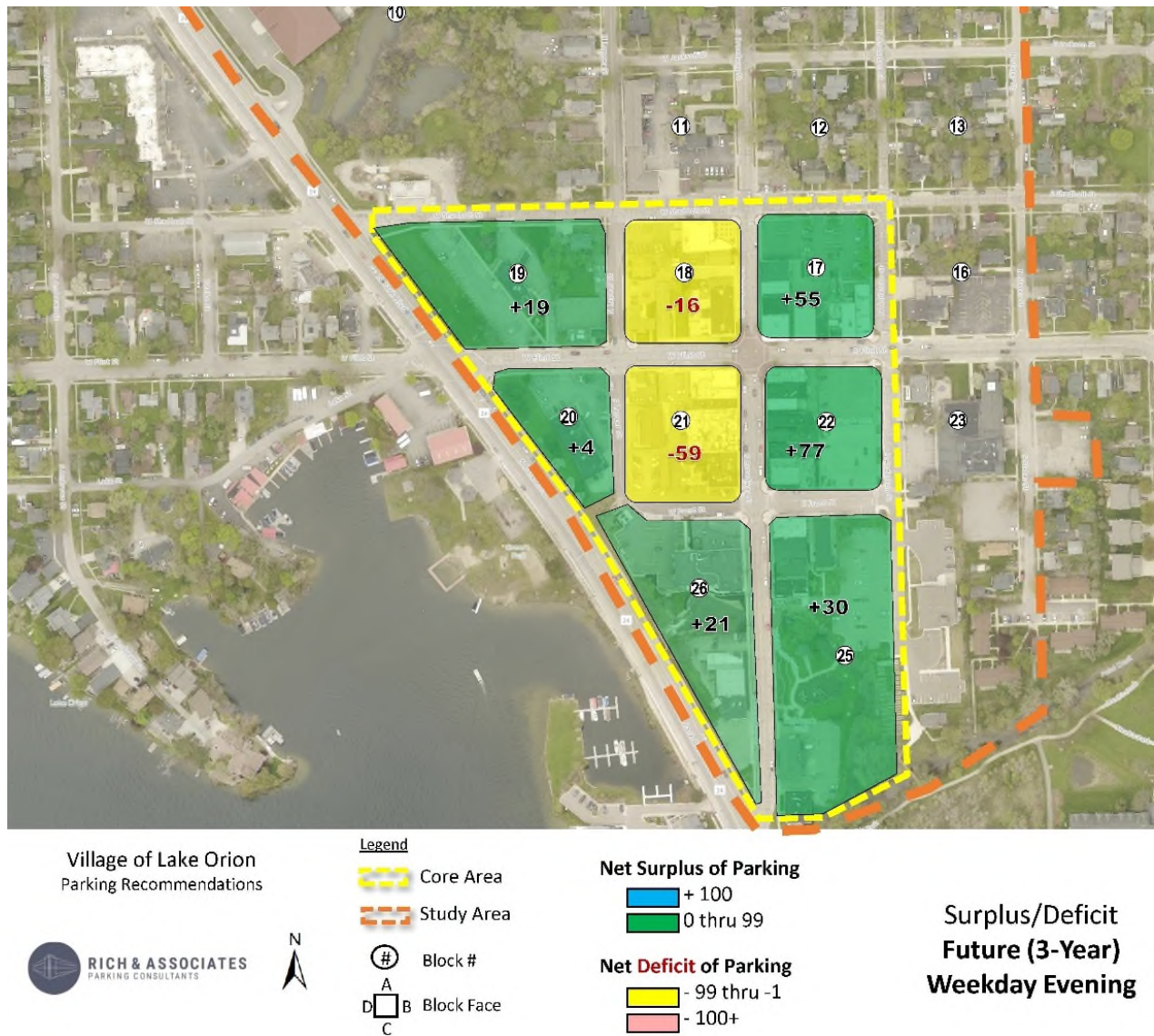
Table 14 - Calculated Parking Demand Weekday (Thursday) Evening – Future (3-Years) Conditions- 50% of Vacant Space Reoccupied

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	NET SURPLUS
Block	0.26	1.05	0.84	1.42	2.17	4.90	0.56	0.36	1.83	0.00	2.40	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	1	0	5	5	0	17	3	0	0	0	4	29	3	4	36	7	84	91	55	55
18	0	0	7	0	9	33	5	0	12	0	4	62	5	4	71	12	43	55	(16)	(16)
19	1	1	0	0	0	0	1	0	0	0	0	2	1	0	2	58	19	77	75	19
20	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	30	4	34	27	4
21	1	3	2	0	0	113	14	0	0	0	0	118	14	0	132	57	16	73	(59)	(59)
22	0	0	10	1	0	0	8	0	0	0	4	11	8	4	23	0	100	100	77	77
25	0	0	10	5	4	44	0	33	0	0	2	95	0	2	97	30	97	127	30	30
26	0	0	6	0	0	0	13	0	6	0	7	12	13	7	32	63	21	84	52	21
TOTAL	3	4	47	11	13	207	44	33	18	0	21	335	44	21	401	257	384	641	241	131

Table 15 - Calculated Parking Demand Weekday (Thursday) Evening – Future (5-Years) Conditions- 85% of Vacant Space Reoccupied

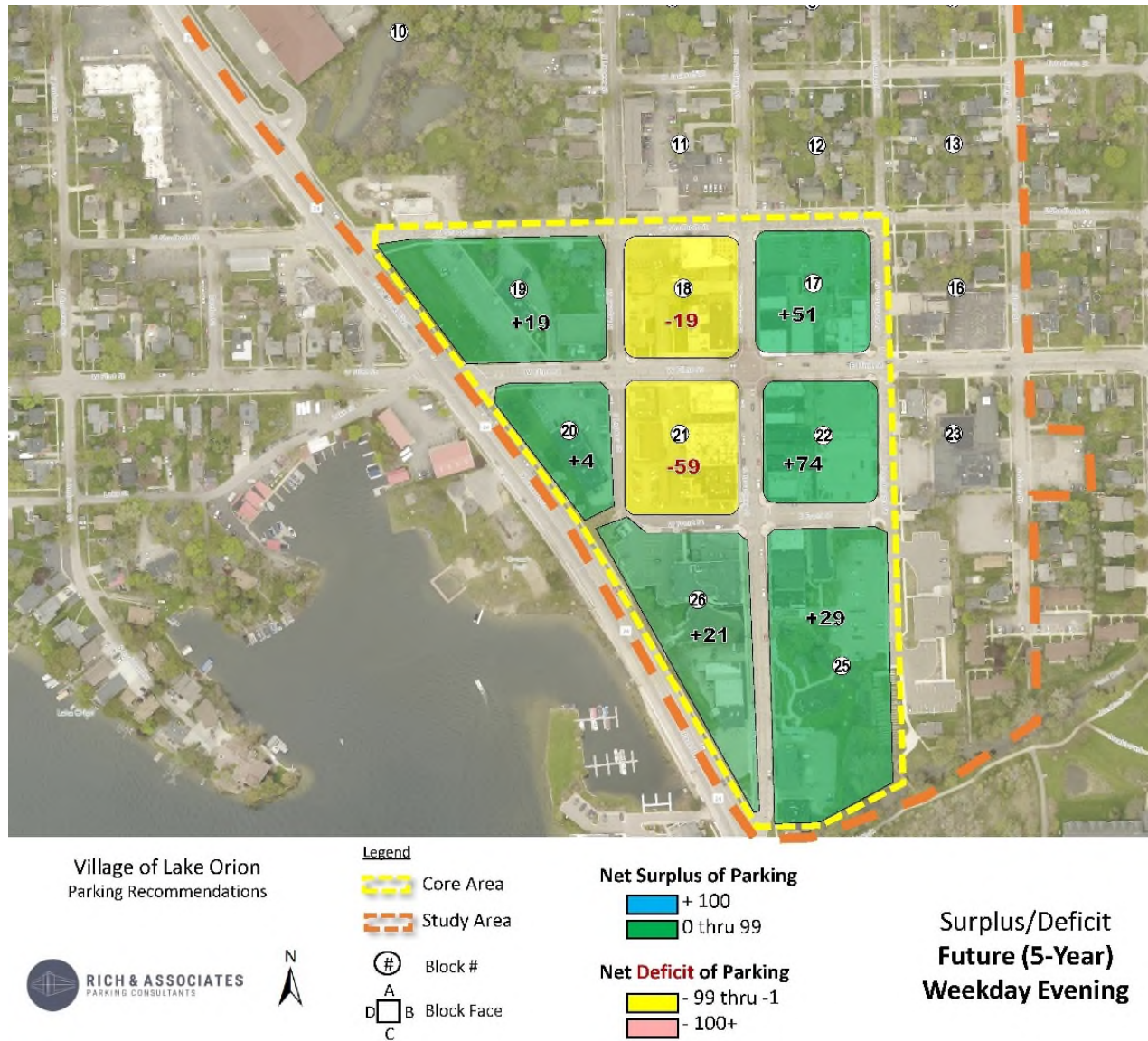
	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	NET SURPLUS
Block	0.26	1.05	0.84	1.42	2.17	4.90	0.56	0.36	1.83	0.00	2.40	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	1	0	5	5	0	17	3	0	0	0	8	29	3	8	40	7	84	91	51	51
18	0	0	7	0	9	33	5	0	12	0	7	62	5	7	74	12	43	55	(19)	(19)
19	1	1	0	0	0	0	1	0	0	0	0	2	1	0	2	58	19	77	75	19
20	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	30	4	34	27	4
21	1	3	2	0	0	113	14	0	0	0	0	118	14	0	132	57	16	73	(59)	(59)
22	0	0	10	1	0	0	8	0	0	0	7	11	8	7	26	0	100	100	74	74
25	0	0	10	5	4	44	0	33	0	0	3	95	0	3	98	30	97	127	29	29
26	0	0	6	0	0	0	13	0	6	0	12	12	13	12	37	63	21	84	47	21
TOTAL	3	4	47	11	13	207	44	33	18	0	36	335	44	36	416	257	384	641	225	120

Map 18 - Future 3 years surplus / Deficit – Weekday Evening



Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)

Map 19 Future 5 Years Surplus / Deficit – Weekday Evening



Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)



2.6.5 – Future (Weekend) Evening Demand – 3 Years

As was demonstrated with the analysis of existing conditions comparing the weekday evening needs versus weekend evening needs, the calculated parking requirements were about 20± spaces greater. As such, it is likely that the future weekend evening requirements would also be greater compared to weekday evenings. Therefore, this analysis is intended to provide an order of magnitude as to what the expected higher peak needs would be on a weekend evening assuming the anticipated re-occupancy of the existing vacant space after three and five years.

As **Table 16** on the following page demonstrates the calculated demand after factoring for the projected growth from the re-occupancy of about 50 percent of the existing vacant space would increase the need by 20± spaces to 422± spaces compared to the calculated weekday evening demand after this same period. Again, just two blocks are in deficit. Block 18 is 9 spaces short and block 21 is projected to be short by 79 spaces. Overall, the core area would have a “net” surplus of just 102 spaces which is equivalent to 84 percent occupancy.

As noted previously, once the occupancy rate exceeds about 85 percent, perceptions of insufficient parking become more prevalent because patrons may not always find parking at their first choice and may be forced to hunt for a nearby available space. It should also be noted however, that the calculated occupancy only considers the spaces within the core. As was noted with the current conditions, additional public supply exists just outside these core blocks to the east with an additional shared lot to the north on Shadbolt Street. Being adjacent to the core area, this parking could be used by staff freeing up some of the closer spaces for customers and visitors and slightly lowering the effective occupancy rate. The public lot to the east on Slater had only 2 of 34 spaces occupied on the Saturday survey date while the shared lot (Block 11) on Shadbolt had just 6 of 18 spaces occupied on Saturday evening.

2.6.6 – Future (Weekend) Evening Demand – 5 Years

Similarly, Rich projected the parking needs for a weekend evening five years into the future (shown by **Table 17** on the following page) and assuming that 85 percent of the existing vacant space would be re-occupied. This increased the parking demand by an additional 15± spaces (437± spaces needed at the peak hour) over the 3-year projections. This level of parking demand compared to the factored supply reduces the “net” surplus to just 94 spaces and results in the calculated core area occupancy reaching 85 percent. Again, this high level of parking occupancy may be offset by using available public spaces just outside the core area boundaries. This may require additional marketing to inform patrons of the availability of these spaces and the still relatively convenient pedestrian access to core area businesses. One thing that the Village could do to encourage the use of these spaces is to ensure that both the lots and any pathways to and from these lots are well lit since these calculated needs would be in the evening hours.

The maps showing the surpluses and deficits by block for these two conditions are on pages 55 and 56.



Table 16 - Calculated Parking Demand Weekend (Saturday) Evening – Future (3-Years) Conditions- 50% of Vacant Space Reoccupied

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	NET SURPLUS
Block	0.00	0.00	0.60	1.00	2.00	5.75	0.75	0.50	0.00	0.00	2.40	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	0	0	0	4	4	0	20	5	0	0	0	27	5	4	36	7	84	91	55	55
18	0	0	0	5	0	9	39	7	0	0	0	4	53	7	64	12	43	55	(9)	(9)
19	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	58	19	77	76	19
20	0	0	0	5	0	0	0	0	0	0	0	5	0	0	5	30	4	34	29	4
21	0	0	0	1	0	0	132	19	0	0	0	134	19	0	152	57	16	73	(79)	(79)
22	0	0	0	7	1	0	0	11	0	0	0	4	8	11	23	0	100	100	77	77
25	0	0	0	7	3	3	51	0	46	0	0	2	111	0	113	30	97	127	14	14
26	0	0	0	4	0	0	0	18	0	0	0	7	4	18	29	63	21	84	55	21
TOTAL	0	0	0	33	8	12	243	59	46	0	0	342	59	21	422	257	384	641	218	102

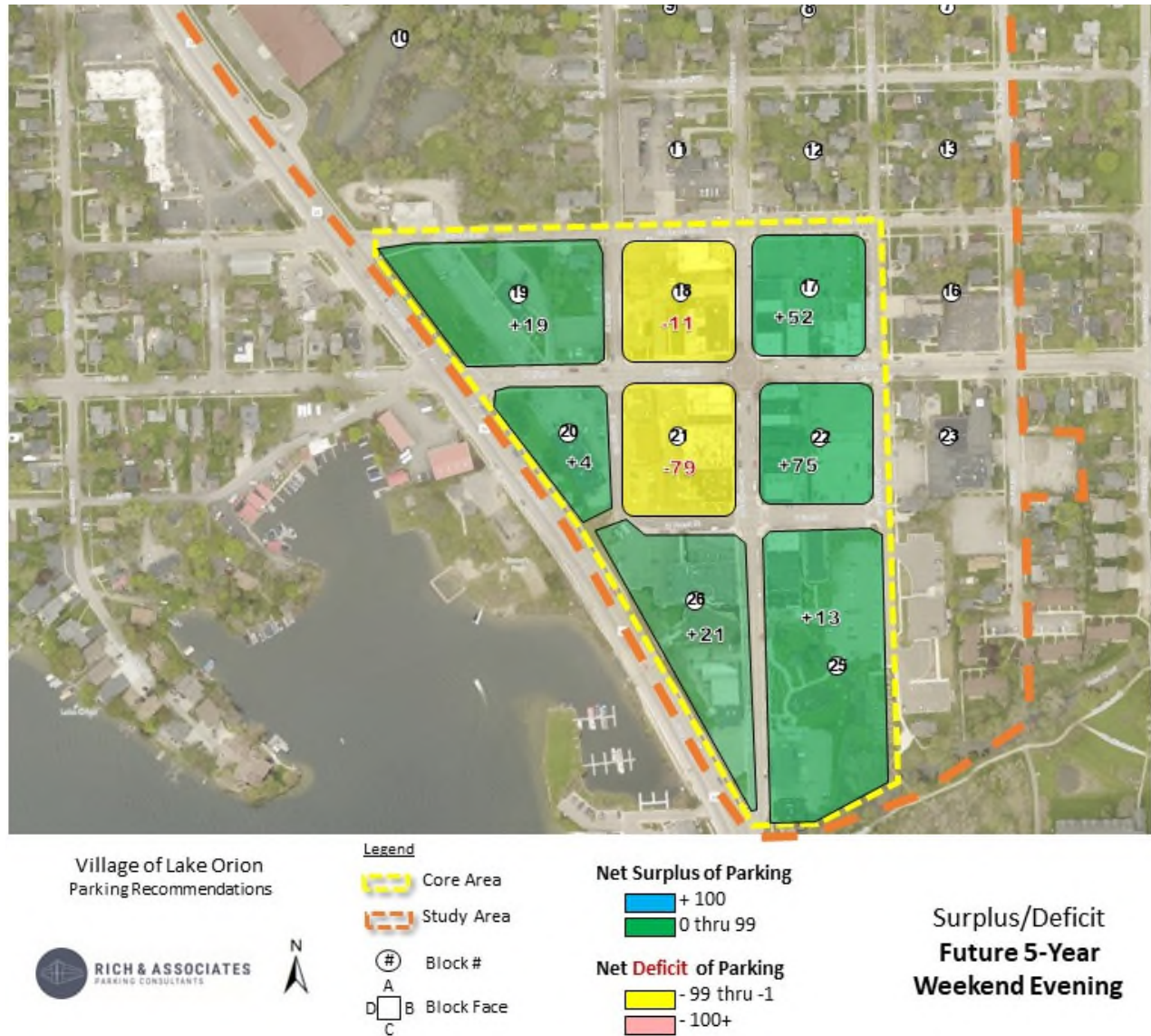
Table 17 - Calculated Parking Demand Weekend (Saturday) Evening – Future (5-Years) Conditions- 85% of Vacant Space Reoccupied

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	NET SURPLUS
Block	0.00	0.00	0.60	1.00	2.00	5.75	0.75	0.50	0.00	0.00	2.40	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	0	0	0	4	4	0	20	5	0	0	0	27	5	8	39	7	84	91	52	52
18	0	0	0	5	0	9	39	7	0	0	0	4	53	7	66	12	43	55	(11)	(11)
19	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	58	19	77	76	19
20	0	0	0	5	0	0	0	0	0	0	0	5	0	0	5	30	4	34	29	4
21	0	0	0	1	0	0	132	19	0	0	0	134	19	0	152	57	16	73	(79)	(79)
22	0	0	0	7	1	0	0	11	0	0	0	4	8	11	25	0	100	100	75	75
25	0	0	0	7	3	3	51	0	46	0	0	2	111	0	114	30	97	127	13	13
26	0	0	0	4	0	0	0	18	0	0	0	12	4	18	34	63	21	84	50	21
TOTAL	0	0	0	33	8	12	243	59	46	0	0	342	59	36	437	257	384	641	205	94

Map 20 Future 3 Years Surplus / Deficit – Weekend Evening



Map 21 Future 5 Years Surplus / Deficit – Weekend Evening



Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)



2.6.7 – Reduced Public Supply Impacts

The previous analysis has demonstrated the possible parking conditions in the future with re-occupancy of existing vacant space over the next three to five years. This shows, particularly during higher use weekend evenings, that downtown Lake Orion could be reaching an effective occupancy of 85 percent within its core blocks. These values all assume that the existing parking supply remains.

Preliminary plans shared with Rich & Associates related to the possibility that one or more existing public lots could become development sites which would not only reduce the available public supply within the downtown, but could also likely increase parking demand competing for the remaining public supply. Even if not development sites, there are several lots which are shared, meaning that they are available during the evening hours for public use. Should the ownership of these properties change and the agreements be voided, this supply could also be lost. For this reason, Rich prepared **Table 18** below to demonstrate the calculated effective occupancy within the core blocks with even relatively small losses in the amount of publicly available parking. For example, Table 18 shows that the effective occupancy for a current weekend evening is 82 percent. The loss of 30-spaces would mean the effective occupancy within the core blocks would be 86 percent. Assuming that 50 percent of the existing vacant space is re-occupied within the next 3-years combined with this loss of spaces would mean an effective occupancy of 88 percent. Again, it must be noted that this could be mitigated to some extent by using public supply just outside the defined core blocks. This would simply require ensuring that patrons are aware of these spaces and that patrons are assured that these spaces and their path to/from these lots is safe. Otherwise, the higher occupancy would most likely lead to increased frustration by customers, visitors and business owners who may see their business impacted.

Table 18 – Projected Effective Occupancy with loss of Public Supply

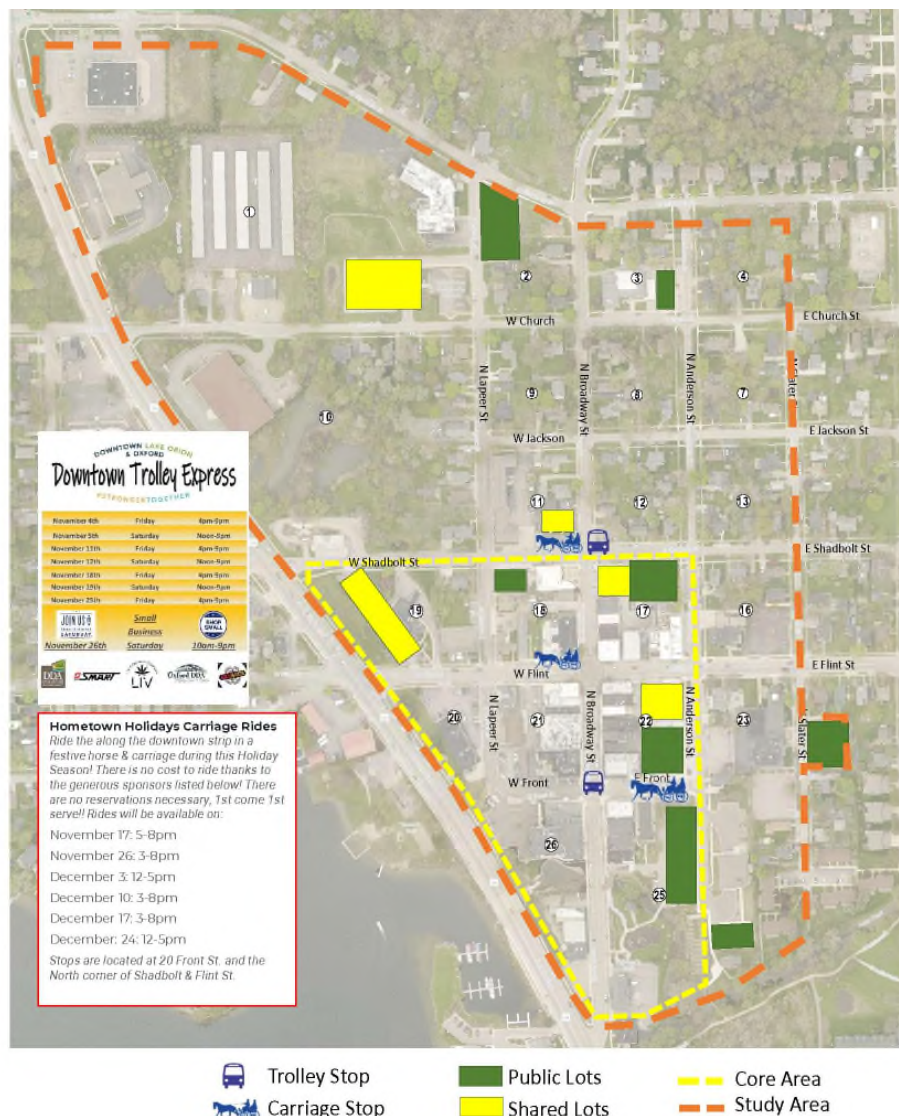
		Net Parking (Extrapolated Occupancy)					
		Current	3 Yrs	5 Yrs	Current	3 Yrs	5 Yrs
		WD Evening	WD Evening	WD Evening	WE Evening	WE Evening	WE Evening
			50 % Vac Re-Occup	85 % Vac Re-Occup		50 % Vac Re-Occup	85 % Vac Re-Occup
Current Supply		77%	80%	81%	82%	84%	85%
Number of Public Parking Spaces Lost	- 10 Spaces	79%	81%	83%	83%	85%	87%
	- 20 Spaces	80%	82%	84%	84%	87%	88%
	- 30 Spaces	81%	83%	85%	86%	88%	90%
	- 40 Spaces	83%	85%	87%	87%	90%	91%
	- 50 Spaces	84%	86%	88%	89%	91%	93%

Downtown Trolley Express

Map 22 below demonstrates the two Downtown Trolley Express stops in Lake Orion. These are centrally located at Broadway and Shadbolt and Broadway and Front Streets. While these two stops are each within one block of public or shared lots, one concern is that patrons leaving to go to Oxford may be parking in a core area lot that could be used by another downtown patron. While the placement of these stops also means that patrons riding the shuttle from Oxford are dropped off within the center of downtown convenient to shops and restaurants, it may be worth considering locating a shuttle stop near one of the parking lots outside the downtown core.



Map 21 – Trolley Stops



Summary Findings

The Village of Lake Orion has a thriving downtown business community. This is evidenced (by Rich's calculations) of a commercial building occupancy rate of 89 percent. The commercial district is comprised of a number of shops, restaurants, service establishments and residential units. This contributes to gross parking occupancies at peak time of about 60 percent and effective parking occupancies in excess of 80 percent. Gross occupancy simply compares total demand to total parking supply. The effective occupancy considers the implications of the privately controlled parking in the calculations.

Because of the high occupancy rate and perceived pressures on the available parking supply, the Village had plans to build a parking structure. Partially because of the estimated \$5 million plus cost to develop this facility, the Village has elected to postpone, at least temporarily, the development of the garage and seek other methods to address the parking situation.

How well the parking system serving a municipality is perceived to function is related to various elements. Patrons consider these factors and make decisions whether the parking will meet their needs without extensive inconvenience, costs or difficulty. Similarly, a positive perception of the parking elements may mean more frequent use of the downtown businesses by the patrons and an overall positive opinion regarding downtown to friends and family.

Signage - In many communities studied by Rich & Associates, a common issue is a lack of signs indicating which lots are public or directing drivers to the publicly available lots. Other common issues include the proportion of public to private parking being insufficient forcing patrons to drive from one destination to the next. There have been conditions where the public parking is not dispersed through the downtown but less conveniently located in peripheral public lots. ***These negative conditions do not exist in Lake Orion.*** The Village

has done a very good job indicating public lots which are provided in various locations and providing directional signs both for drivers and pedestrians with the street level kiosk indicating key destinations downtown. Additionally, the proportion of public to private parking within the core blocks exceeds Rich's best practice benchmark of a minimum of 50 percent.





On-Street Parking Marked Stalls - On-street parking is often the most convenient to many destinations. As long as traffic speed and volume does not create issues with accessing or egressing on-street parking, it will often be the most heavily used. As such, in order to maximize the capacity of the available curb length, Rich typically recommends that on-street stalls be marked. A stall length that allows ease of access should be a minimum of 22 feet and a maximum of 23 feet.

On-Street Time Limits - Other factors regarding the use of on-street parking include the best practice that these spaces should generally be limited to two-hours in order to encourage turnover. Short-term spaces (15-minutes) can be provided but should be limited and generally placed at the end of a block face. They should not be signed for any specific business but for anyone needing convenient short-term parking. Again, both of these are things the Village is already doing.



Rich will often recommend pedestrian amenities such as seating within the downtown. Again, this is something which the Village is already providing.

In other cases, Rich will also often recommend supplementing public parking through shared-use arrangements. The Village has also done this. Some lots appear to have essentially all-day access where others are available, and signed, for nights and / or weekends (when they are most needed) to supplement public parking needs.



Many communities also recognize the benefits, both from a health and economic standpoint of facilitating the use of bicycles and providing for them. During the warmer months which often lead to increased activity with restaurants, providing bicycle racks for patrons can supplement the parking space needs by encouraging nearby patrons to choose the alternative transportation mode. Again, the Village and DDA have done a good job of providing bike racks around downtown and even facilitating minor repairs.





Handicap Accessible Parking – The number of handicap accessible spaces that must be provided is a function of the size of the parking area and is based on individual parking lots. Although two public lots are apparently in violation, both these blocks have handicap accessible parking on a nearby street that may be considered “*along a more accessible path*”.

Block	Lot Letter	Description	Required Number of Barrier Free Spaces	Off-Street (Free)	23 Hour	Provided Hcp Accessible	Total Spaces in Lot	Above (+ / Below - Requirement)
17	A	Public Lot	1	14		2	16	1
17	B	Public Lot	2	33		2	35	0
18	A	Public Lot	1		17	0	17	-1
22	A	Public Lot	2	32		1	33	-1
22	B	Public Lot	2	38		2	40	0
25	A	Public Lot	3		65	4	69	1
		TOTAL	11	117	82	11	210	0

Other elements that Rich typically would recommend would be communicating information regarding the availability of parking via websites and/or other means. Providing information on where public lots are located, hours of operation and other conditions relative to the parking situation can greatly add to the positive perceptions of the downtown. Again, the Village is already meeting this recommendation.



While the Village and DDA are already doing many things which are positive for facilitating the use of the available parking, the level of effective parking utilization currently being realized and which is likely to increase in the future with re-occupancy of existing vacant space simply means that the work is not done. While the bulk of the economic activity and need for parking is concentrated within the core blocks, additional lots are provided outside the core. In most cases, this additional parking is most likely to be needed and used during the significant events hosted by the Village. During routine levels of activity, patrons looking for convenient parking will likely not seek these less convenient spaces and requiring downtown staff to use them is likely not practical because of the inability for business owners to enforce such a mandate. Although some of these lots may be used by core area businesses during typical weekday and weekends, in Rich's opinion, such use would likely be limited.

1. The violation rate (14%) of vehicles staying beyond the two-hour on-street limit is similar to the 2018 analysis and thus shows no improvement.
2. There is some inconsistency in parking signs.
3. Individual public lots would benefit with some form of identification (naming).
4. The effective parking occupancy on "typical" weekend evenings is about 82 percent. This is beginning to approach the level (85 to 90 percent) where most patrons consider the parking insufficient because their first-choice parking location may be full, forcing them to look for an alternative. The potential re-occupancy of currently vacant space could increase this effective occupancy as high as 85 percent within the next five years.
5. Not all public lots consist of an asphalt parking surface. Others have the asphalt parking surface in need of repair.
6. The zoning ordinance specifies that the number of parking spaces required for restaurants is a function of the maximum occupancy rather than the size of the restaurant with one space required for every three persons. The maximum occupancy is due to fire regulations that in Rich's opinion, could vary the maximum occupancy due to furnishings and pathways to exits as well as the location and access to exits. This may mean that the reconfiguration of the interior space could change the maximum occupancy and thus the number of parking spaces that would need to be provided.
7. The zoning ordinance currently requires two spaces per dwelling unit and does not consider the size of the dwelling unit (multi-bedrooms).
8. The Village and DDA hosts numerous special events throughout the year. These significantly increase the amount of traffic and parking required in the Village. Additionally, these events may occupy existing lots for event related activities which reduces the available supply.
9. The Village is encouraging the use of bicycles via the placement of numerous bike racks around downtown and the provision of the tire pump stations both in Children's Park and the entrance from Broadway to Meek's Park.





Recommendations

Recommendations

Parking Enforcement

1. The Village needs to consider increasing the level of parking enforcement. The continued violation rate of 14 percent of vehicles exceeding the two-hour limit is nearly three times the best practice rate that the maximum be no more than five percent of vehicles.
2. The Village needs to change either the fine rate or the method upon which the fine is determined. In Lake Orion the fine is as follows:

Expired meter tickets are \$15 if paid within 72 hours of receiving the ticket. After 72 hours and up to 10 days after the date of issue the fine is \$25. After 10 days a default judgment will be entered and additional fees assessed.

The Village of Oxford, has a similarly low rate for the initial violation, but vehicles which continue to remain in the same space beyond the two-hour limit can have additional fines levied for the same occurrence.

Oxford

Sec. 66-152. - Violations and fines.

The following shall be considered parking violations in the village, and the penalties shall be as listed for violation citations presented and paid at the parking violations bureau.

(6) Parking longer than posted time limits:

- a) First ticket issued per incident - \$15.00
- b) Each additional hour or part thereof - \$15.00

3. The Village should allow issuance of a "courtesy ticket" for first time offenders that carries no fine.

Parking Signage

4. The Village should sign the municipally owned public parking lots with a designated name. It has already named the lots on the webpage. This may help orient infrequent visitors to finding their lot if they park and then walk to multiple destinations.
5. The Village does a very good job with signage. However, signage should be of a consistent color, shape, font and text in order to be easily recognizable and understood by patrons. Rich noted most two-hour signs are green text on a white background. Several signs were noted with red text. All signs should be consistent as it may create confusion what a red text two-hour sign means compared to a green text sign.



Parking Lots	
P1 N. Lapeer	S1 Lake Orion Review
P2 E. Shadbolt	S2 E. Flint
P3 S. Anderson	S3 PNC Bank
P4 Children's Park	S4 LO Schools Admin Bldg
P5 Art Center	C Curbside Delivery
P6 Village/Police	15 15 Min "Quick Trip" Parking
P7 Elizabeth Street	
P8 Green's Park	
P9 Slater Street	



Parking Supply Increases

6. At this time the amount of parking appears adequate. At peak time on a weekend evening, the effective parking occupancy is 82 percent. This is getting close to the level at which patrons perceive parking as inadequate and increase the complaints for insufficient parking.
7. Within 3 to 5 years assuming the re-occupancy of existing vacant space, the effective occupancy may be in excess of 85 percent.
 - a. This means that the Village will likely need to either increase the physical parking supply through the creation of additional lots or at least the utilization of existing spaces through more formal and informal use of surplus private capacity.
 - b. This may mean working with additional private businesses to use their existing lots during their non business hours (particularly weekend evenings). This could be churches, funeral home or other businesses. On days that the business needs the parking, they would place signs restricting parking for their use only.
8. The Village is apparently meeting the required number of handicap accessible spaces within the public designated lots within the core if the handicap accessible spaces located on street are considered. No additional handicap accessible parking is recommended.
9. In order to encourage agreements allowing for use of surplus private spaces, the Village could agree to subsidize snow removal or other maintenance costs using a formula that adjust the payment amount depending on the number of days that the lot is available for supplemental parking.

Parking Maintenance

10. The Village should set up a parking sinking fund. This would accrue a balance that would be available for parking lot repair and acquisition. Rich would recommend annual amounts of \$25.00 per on-street space be allocated and \$100 per off-street space. This would be intended to help offset the eventual cost of asphalt replacement of public lots. Based on the capacity of off-street spaces in the core blocks, this would provide approximately \$21,000 per year.

Zoning Ordinance

11. The parking requirement for restaurants is a function of the maximum occupancy. In both the Village of Lake Orion and the Village of Oxford, the requirement is one space per 3 persons at maximum occupancy. Rich recommends that the parking requirement be based on the square footage of the restaurant consistent with some other communities.

Rochester, Michigan.

Classification	Spaces	Unit
<i>Restaurants without alcoholic beverages</i>	<i>1</i>	<i>150 sq. ft. GFA</i>
<i>Restaurants with defined bar area for serving alcoholic beverages</i>	<i>1</i>	<i>145 sq. ft. GFA</i>
<i>Restaurants with alcoholic beverages served only at dining tables, but without a defined bar area for serving or displaying alcohol</i>	<i>1</i>	<i>145 sq. ft. GFA</i>



Ferndale, Michigan

Classification	Spaces	Unit
Restaurants, carryout (with limited seating for eating on premises)	6	<i>Per service or counter station plus 1 per each employee</i>
Restaurants, with drive-through facilities	1	<i>Per 2 employees plus 1 per 2 seats, plus 1 space per 30 sq. ft. of building floor area within the waiting area....</i>
<i>Restaurants, standard</i>	1	<i>100 sq. ft of floor area</i>

12. The zoning ordinance also requires two spaces per dwelling unit. The Village should consider adjusting its requirements such as one space for an efficiency unit, 1.5 for each one-bedroom apartment, two spaces for each two-bedroom unit and three spaces for each three-bedroom unit.

Special Events

13. The Village should develop a Special Event Parking Plan. Over time, the Village should collect statistics on numbers of visitors and use of parking. This can then be used in planning for future events. This would quantify and qualify supplemental parking that could be used during especially large events and provide for any supplemental signage to direct patrons to these and designated public lots.
14. During the special events held downtown, the Village should consider placing sandwich board type signs directing patrons to available parking. Pre-event planning and marketing should indicate the availability of parking outside the downtown core with the likely walking time (in many cases less than 5 to 10 minutes).

Bicycle Parking

15. Although numerous bicycle racks are provided at Children's Park and several other locations. Most racks are of the "rack" type. In most cases, these only permit securing a bike wheel rather than the entire frame. Many more serious riders prefer racks which allow two points of contact with the frame and securing of the bicycle to the rack. The Village has a few of these types of racks shaped as bicycles. Additional racks either of the bicycles or simply U-shaped racks which are similarly permanently installed should be provided.



Appendix



Downtown Parking Study Update

Final Report

Parking Supply – Non-Core Blocks

VILLAGE OF LAKE ORION - NON-CORE BLOCKS SUPPLY DETAIL																			
BLK #	S / L	Lot / Face Ltr	(P)ublic / Pri(V)ATE	Description	Private			Public											
					OFF-STREET			OFF-STREET						On-Street					
					(V)HC Street	Pvt (Off- Street)	Total	Off- Street (Free)	15M	23 HOUR	Loading Zone	(P) HC	On- Street	On- Street 2 Hr Limit	15M	23 HOUR	Loading Zone	(P) HC	Total
1	L	A	V	Walgreens	5	97	102												0
1	L	B	V	Legacy Lot (Vac)	2	33	35												0
1	L	B1	V	Legacy Lot - Lapeer St	3	7	10												0
1	L	C	V	Lk Orion Comm Schls	3	49	52												0
1	L	D	V	U-Store	1	11	12												0
1	L	E	V	Mich United Cred Union	3	62	65												0
1				TOTAL	17	259	276	0	0	0	0	0	0	0	0	0	0	0	276
2	L	A	P	ELIZABETH STREET - PUBLIC				26											26
2	S	C	P	CHURCH STREET			0						7						7
2				TOTAL	0	0	0	26	0	0	0	0	7	0	0	0	0	0	33
3	L	A	P	VILLAGE HALL LOT			0	12				2							14
3	L	A1	V	POLICE CARS		5	5												0
3	L	A2	P	VILLAGE HALL			0			2									2
3	S	A	P	ELIZABETH ST			0						5						5
3	S	B	P	ANDERSON STREET			0						11						11
3	S	C	P	VILLAGE HALL			0								5				5
3				TOTAL	0	5	5	12	0	2	0	2	16	0	5	0	0	0	37
4	S	A	P	ELIZABETH ST			0						5						5
4	S	C	P	CHURCH STREET			0						10						10
4	S	D	P	ANDERSON STREET			0						7						7
4				TOTAL	0	0	0	0	0	0	0	0	22	0	0	0	0	0	22
7	S	A	P	CHURCH STREET			0						5						5
7	S	B	P	SLATER STREET			0						4						4
7	S	C	P	JACKSON STREET			0						8						8
7	S	D	P	ANDERSON STREET			0						8						8
7				TOTAL	0	0	0	0	0	0	0	0	25	0	0	0	0	0	25
8	S	B	P	ANDERSON STREET			0						8						8
8	S	C	P	JACKSON STREET			0						5						5
8				TOTAL	0	0	0	0	0	0	0	0	13	0	0	0	0	0	13
9	S	C	P	JACKSON STREET			0						4						4
9	S	D	P	LAPEER ROAD			0						4						4
9				TOTAL	0	0	0	0	0	0	0	0	8	0	0	0	0	0	8
10	L	A	V	TIRE WAREHOUSE	2	62	64												0
10	S	A	P	CHURCH STREET			0						6						6
10	S	B	P	JACKSON STREET			0						12						12
10	S	C	P	SHADBOLT ST			0								6				6
10				TOTAL	2	62	64	0	0	0	0	0	18	6	0	0	0	0	24

Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)



Downtown Parking Study Update

Final Report

Parking Supply – Non-Core Blocks Continued ...

VILLAGE OF LAKE ORION - NON-CORE BLOCKS SUPPLY DETAIL

BLK #	S / L	Lot / Face Ltr	(P)ublic / Pri(V)ATE	Description	Private			Public											Total	Block Total
					OFF-STREET			OFF-STREET					On-Street							
					(V)HC	Pvt (Off- Street)	Total	Off- Street (Free)	15M	23 HOUR	Loading Zone	(P) HC	On- Street	Street 2 Hr Limit	15M	23 HOUR	Loading Zone	(P) HC		
11	L	A	V	APARTMENTS	1	26	27												0	
11	L	B	V	THE EVENT PLACE	1	17	18												0	
11	L	C	V	CAPOCORE PROF ADVISORS LOT		5	5												0	
11	S	A	P	JACKSON STREET			0						4						4	
11	S	B	P	BROADWAY STREET			0						5						5	
11	S	C	P	SHADBOLT ST			0						4						4	
11	S	D	P	LAPEER ROAD			0						12						12	
11				TOTAL	2	48	50	0	0	0	0	0	25	0	0	0	0	0	25	75
12	L	A	V	LITTLE CAESARS	1	7	8												0	
12	S	A	P	JACKSON STREET			0						3						3	
12	S	B	P	ANDERSON STREET			0						2						2	
12	S	C	P	SHADBOLT ST			0						4						4	
12				TOTAL	1	7	8	0	0	0	0	0	5	4	0	0	0	0	9	17
13	S	A	P	JACKSON STREET									3							
13	S	B	P	SLATER STREET			0						2						2	
13	S	C	P	SHADBOLT ST			0						6						6	
13	S	D	P	ANDERSON STREET			0						2						2	
13				TOTAL	0	0	0	0	0	0	0	0	13	0	0	0	0	0	13	13
16	L	A	V	SPARKS GRIFFIN FUNERAL HOME	2	31	33												0	
16	S	C	P	FLINT STREET			0							5					5	
16	S	D	P	ANDERSON STREET			0						3						3	
16				TOTAL	2	31	33	0	0	0	0	0	3	5	0	0	0	0	8	41
23	L	A	V	LAKE ORION METHODIST CHURCH	3	15	18												0	
23	L	B	V	LAKE ORION METHODIST CHURCH	3		3												0	
23	L	C	P	PUBLIC LOT			0	34											34	
23	L	D	P	PUBLIC LOT - ART CENTER			0	15				4							19	
23	L	E	V	FIRE STATION?		16	16												0	
23	L	F	P	PUBLIC LOT			0	40											40	
23	S	A	P	FLINT STREET			0							7				1	8	
23	S	D	P	ANDERSON STREET			0							3					3	
23	S	B	P	SLATER STREET			0							14					14	
23	L	G	V	APARTMENTS	2	18	20												0	
23				TOTAL	8	49	57	89	0	0	0	4	0	24	0	0	0	1	118	175
				Grand Total	32	461	493	127	0	2	0	6	155	39	5	0	0	1	335	828

Attachment: LakeOrionParkingUpdateFinalReport2023 reduced (5670 : Parking Study Update)



Downtown Lake Orion Parking Study Update

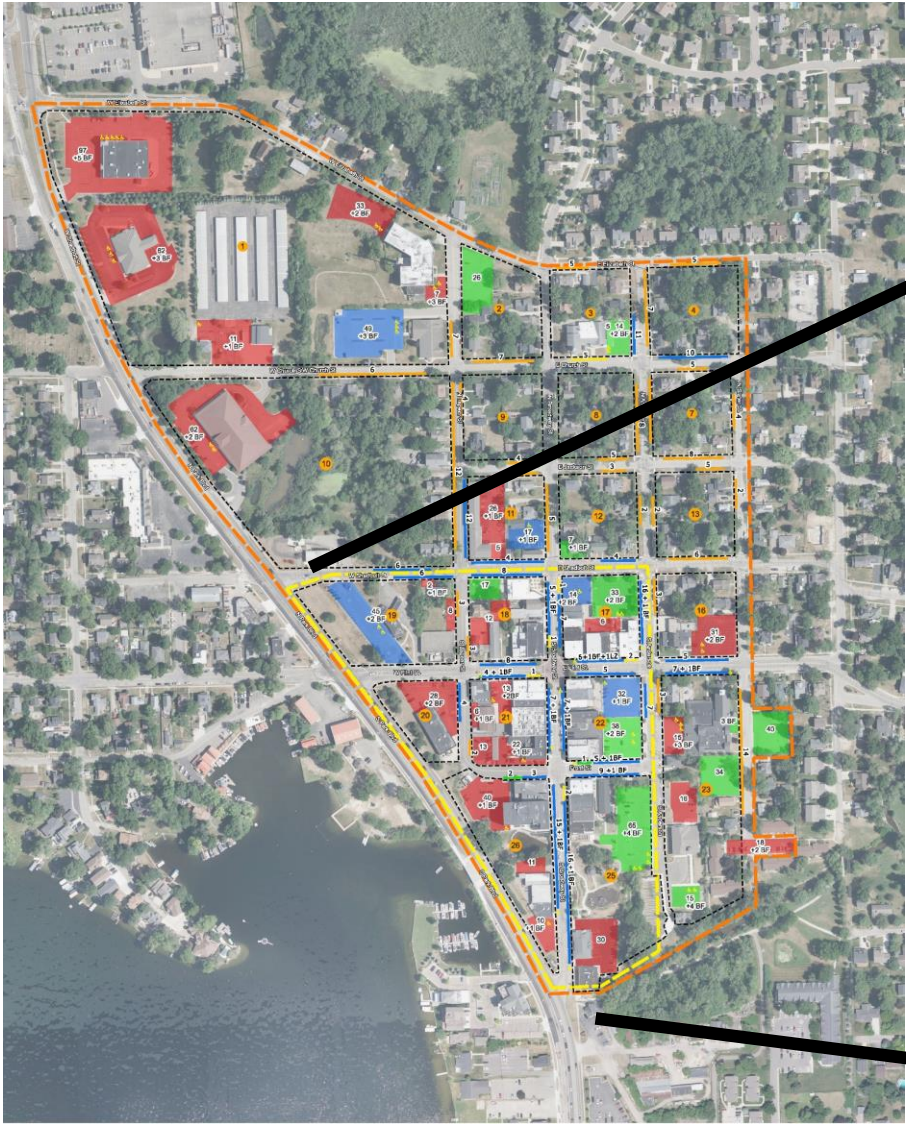
Report Review





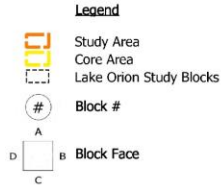
Agenda

- Parking Study Area
 - Parking Supply
 - Current
 - Handicap Accessible
 - Comparison to 2018
 - Land Use Assessment
 - Current
- Parking Utilization Review
 - Thursday – September 15, 2022
 - Saturday – September 24, 2022
 - 2018 vs. 2022 Comparison (Thursday)
- Parking Demand Model (Current / Future Conditions)
- Parking Priorities & Recommendations



Village of Lake Orion
Parking Recommendations
Parking Supply Map

RICH & ASSOCIATES
PARKING CONSULTANTS
ARCHITECTS • ENGINEERS • PLANNERS
24677 NORTHWESTERN AVE., SUITE 1000
BENTONVILLE, AR 72716
(419) 353-5885 • WWW.RICHASSOC.COM








9.6.b

Attachment: Downtown Lake Orion Parking Study Update Revised (5670 : Parking Study



Legend

-  Study Area
 Core Area
 Lake Orion Study Blocks
 Block #
 Block Face

- | Off Street Parking | On Street Parking |
|--|--|
|  Public |  15M |
|  Shared |  2HR |
|  Private |  Loading Zone |
|  Barrier Free |  Unmarked |

Downtown Parking Supply

9.6.b

- Mixture of Public Off-Street Lots & Public On-Street Spaces
 - On-Street Spaces Generally Limited to 2-hours
 - Some Handicap Accessible On-Street & 15 Minute Spaces
 - Lots Signed indicating Public Parking
 - Directional Signs to Public Parking Provided
 - Most Lots in “Good” Repair (some exceptions)
- Private Lots restricted to customers, visitors or tenants
- Not all are signed





2022 Parking Supply Summary

		CORE BLOCKS			NON-CORE BLOCKS			TOTAL		
		Regular	Barrier-Free	TOTAL	Regular	Barrier-Free	TOTAL	Regular	Barrier-Free	TOTAL
PUBLIC										
	On-Street	164	10	174	199	1	200	363	11	374
	Off-Street	199	11	210	129	6	135	328	17	345
	Total	363	21	384	328	7	335	691	28	719
	Percentage	59.9%			40.5%			48.9%		
PRIVATE										
	On-Street	0	0	0	0	0	0	0	0	0
	Off-Street	246	11	257	461	32	493	707	43	750
	Total	246	11	257	461	32	493	707	43	750
	Percentage	40.1%			59.5%			51.1%		
TOTAL										
	On-Street	164	10	174	199	1	200	363	11	374
	Off-Street	445	22	467	590	38	628	1035	60	1095
	Total	609	32	641	789	0	828	1,398	0	1,469
	Percentage	100.0%			100.0%			100.0%		

2022 vs. 2018 Parking Supply Comparison



		2022			2018		
		CORE BLOCKS			CORE BLOCKS		
		Regular	Barrier-Free	TOTAL	Regular	Barrier-Free	TOTAL
PUBLIC							
	On-Street	164	10	174	156	NA	156
	Off-Street	199	11	210	200	NA	200
	Total	363	21	384	356	0	356
	Percentage	59.9%			63.2%		
PRIVATE							
	On-Street	0	0	0	0	NA	0
	Off-Street	246	11	257	207	NA	207
	Total	246	11	257	207	0	207
	Percentage	40.1%			36.8%		
TOTAL							
	On-Street	164	10	174	156	NA	156
	Off-Street	445	22	467	407	NA	407
	Total	609	32	641	563	0	563
	Percentage	100.0%			100.0%		



Parking Supply Changes

BLK #	Private			Public															
	OFF-STREET			OFF-STREET					On-Street										
	(V)HC	Pvt (Off-Street)	Total	Off-Street (Free)	15M	23 HOUR	Loading Zone	(P) HC	On-Street	On-Street 2 Hour Limit	15M	23 HOUR	Loading Zone	(P) HC	Total	Block Total	Difference 2022 vs. 2018	20 Blo Tot	
17	0	7	7	47	0	0	0	4	8	20	3	0	0	2	84	91	11		
18	0	12	12	0	0	17	0	0	3	21	1	0	0	1	43	55	7		
19	3	55	58	0	0	0	0	0	12	7	0	0	0	0	19	77	1		
20	2	28	30	0	0	0	0	0	4	0	0	0	0	0	4	34	(1)		
21	4	53	57	0	0	0	0	0	6	7	1	0	0	2	16	73	1		
22	0	0	0	70	0	0	0	3	0	24	0	0	1	2	100	100	2		
25	0	30	30	0	0	65	0	4	0	24	2	0	0	2	97	127	9	1	
26	2	61	63	0	0	0	0	0	0	18	0	0	2	1	21	84	48		
TOTAL	11	246	257	117	0	82	0	11	33	121	7	0	3	10	384	641	78	5	

- Significant Parking Supply Changes
 - Block 17 - +8 Spaces Anderson Street @ Shadbolt
 - Block 17 -+ 2 Handicap Accessible Spaces NW Corner Public Lot
 - Block 18 - +5 Public Lot NW corner of Block (random spaces observed parked)
 - Block 26 + 41 Spaces in Tenant Parking behind 120 S. Broadway

Attachment: Downtown Lake Orion Parking Study Update Revised (5670 : Parking Study





Minimum Number of Accessible Parking Spaces

ADA Standards for Accessible Design 4.1.2 (5)

Total Number of Parking spaces Provided (per lot)	Total Minimum Number of Accessible Parking Spaces (60" & 96" aisles)	Van Accessible Parking Spaces with min. 96" wide access aisle	Accessible Parking Spaces with min. 60" wide access aisle
Column A			
1 to 25	1	1	0
26 to 50	2	1	1
51 to 75	3	1	2
76 to 100	4	1	3
101 to 150	5	1	4
151 to 200	6	1	5
201 to 300	7	1	6
301 to 400	8	1	7
401 to 500	9	2	7
501 to 1000	2% of total parking provided in each lot	1/8 of Column A*	7/8 of Column A**
1001 and over	20 plus 1 for each 100 over 1000	1/8 of Column A*	7/8 of Column A**

* one out of every 8 accessible spaces

** 7 out of every 8 accessible parking spaces

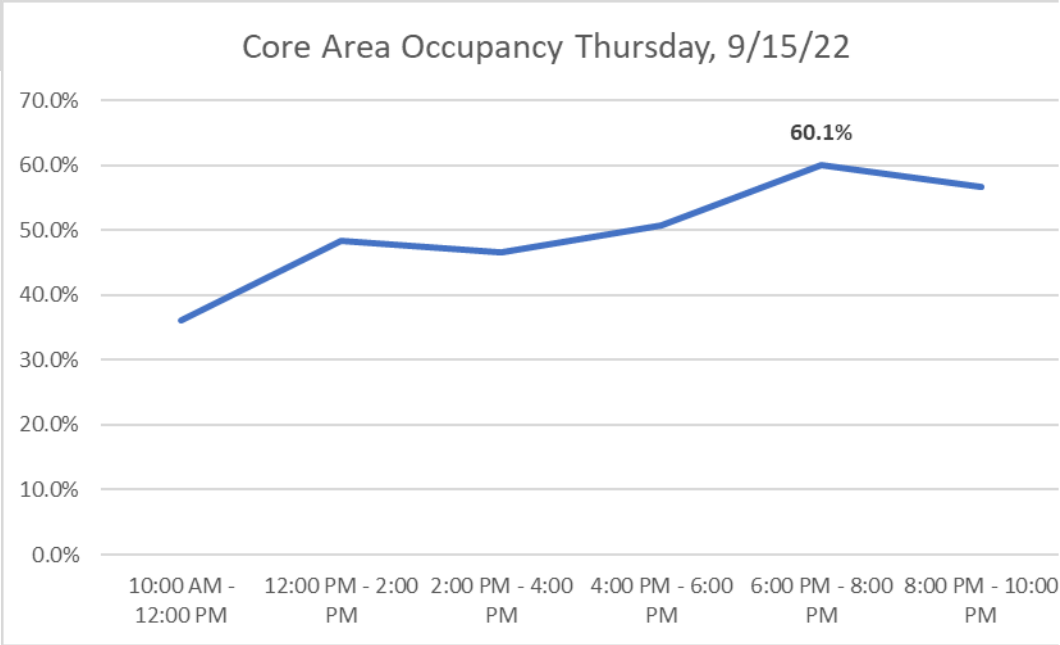
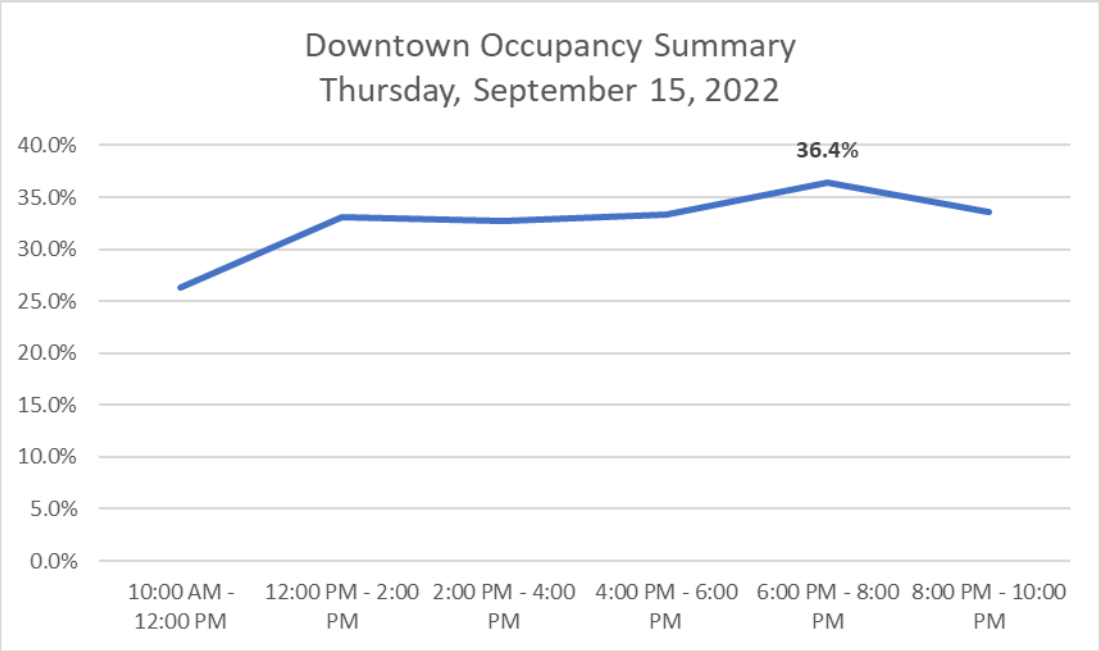
Block	Lot Letter	Description	Required Number of Barrier Free Spaces	Off-Street (Free)	23 Hour	Provided Hcp Accessible	Total Spaces in Lot	Above (+ / Below -) Requirement
17	A	Public Lot	1	14		2	16	1
17	B	Public Lot	2	33		2	35	0
18	A	Public Lot	1		17	0	17	-1
22	A	Public Lot	2	32		1	33	-1
22	B	Public Lot	2	38		2	40	0
25	A	Public Lot	3		65	4	69	1
		TOTAL	11	117	82	11	210	0

BLK #	Block Face	Public On-Street	Description	Barrier Free Spaces
17	B	P	ANDERSON STREET	1
17	C	P	FLINT STREET	1
17			TOTAL	2
18	B	P	BROADWAY STREET	1
18			TOTAL	1
21	A	P	FLINT STREET	1
21	B	P	BROADWAY STREET	1
21			TOTAL	2
22	C	P	FRONT STREET	1
22	D	P	BROADWAY STREET	1
22			TOTAL	2
25	A	P	FRONT STREET	1
25	D	P	BROADWAY STREET	1
25			TOTAL	2
26	B	P	BROADWAY STREET	1
26			TOTAL	1
Grand Total Barrier Free Spaces Provided On-Street (Core Blocks)				10



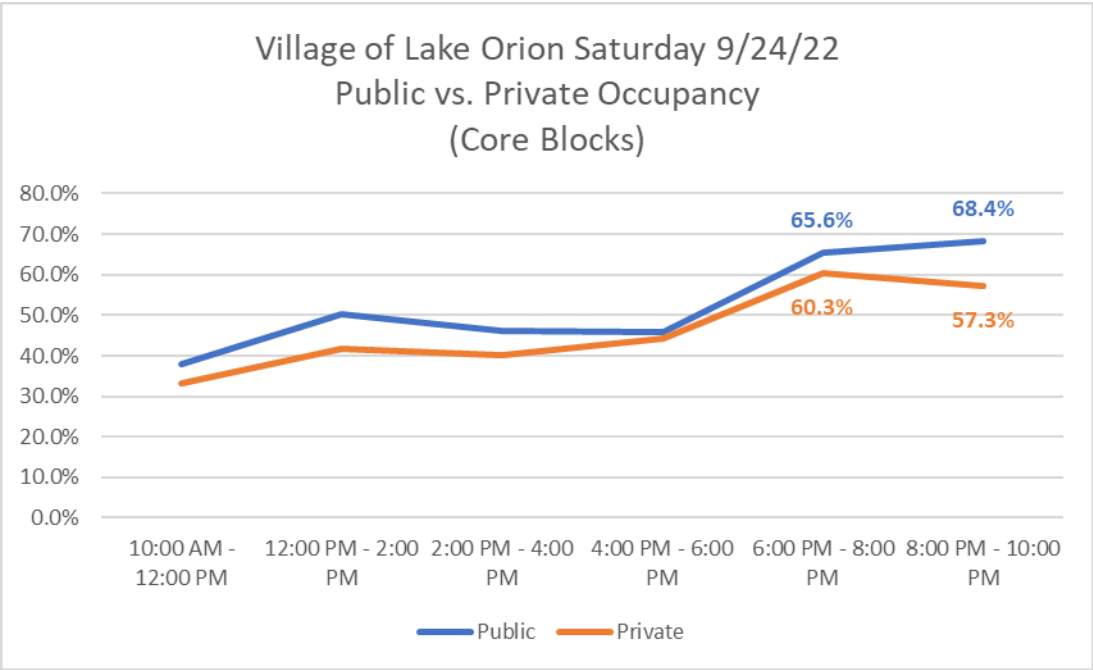
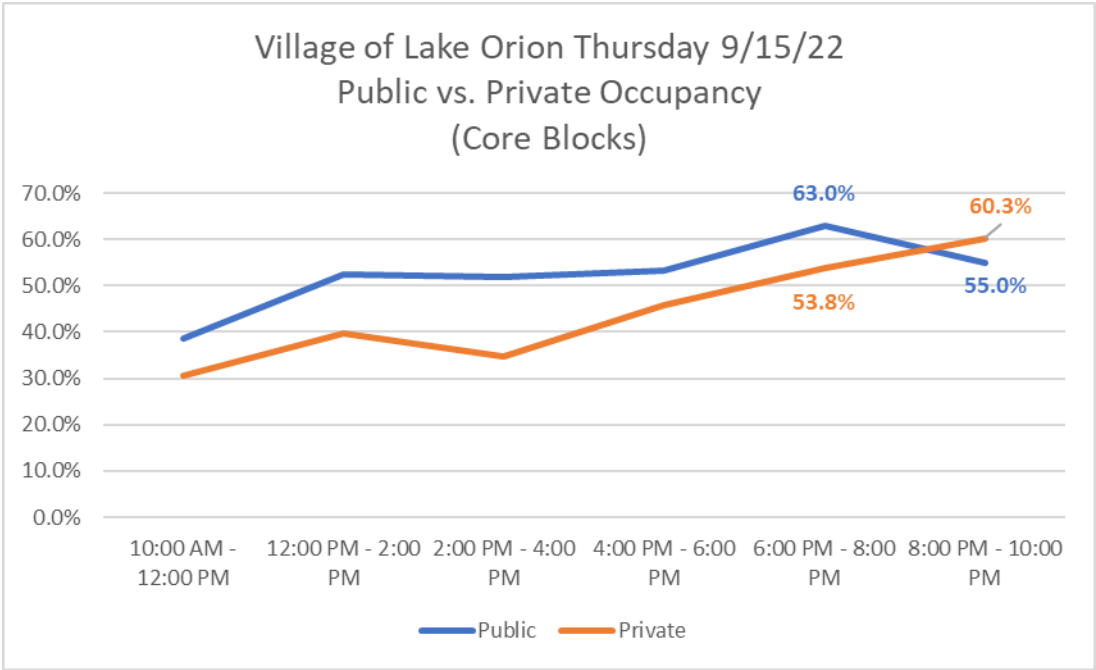
Parking Utilization Study Results





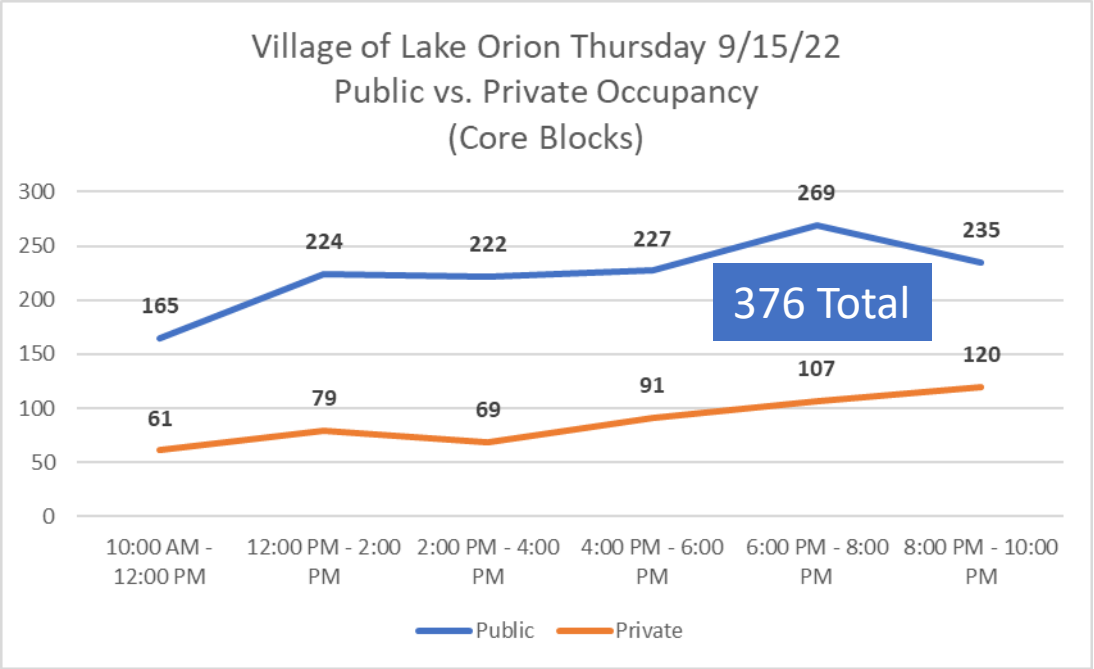
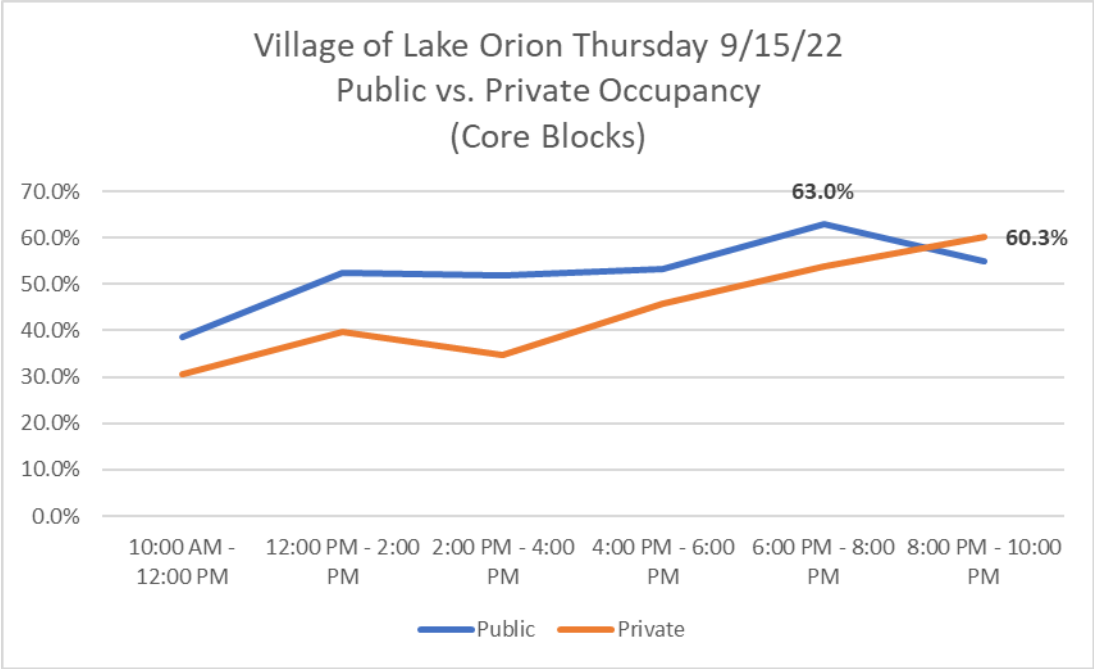


2022 Public vs. Private Parking Thursday vs. Saturday Percentage Occupancy



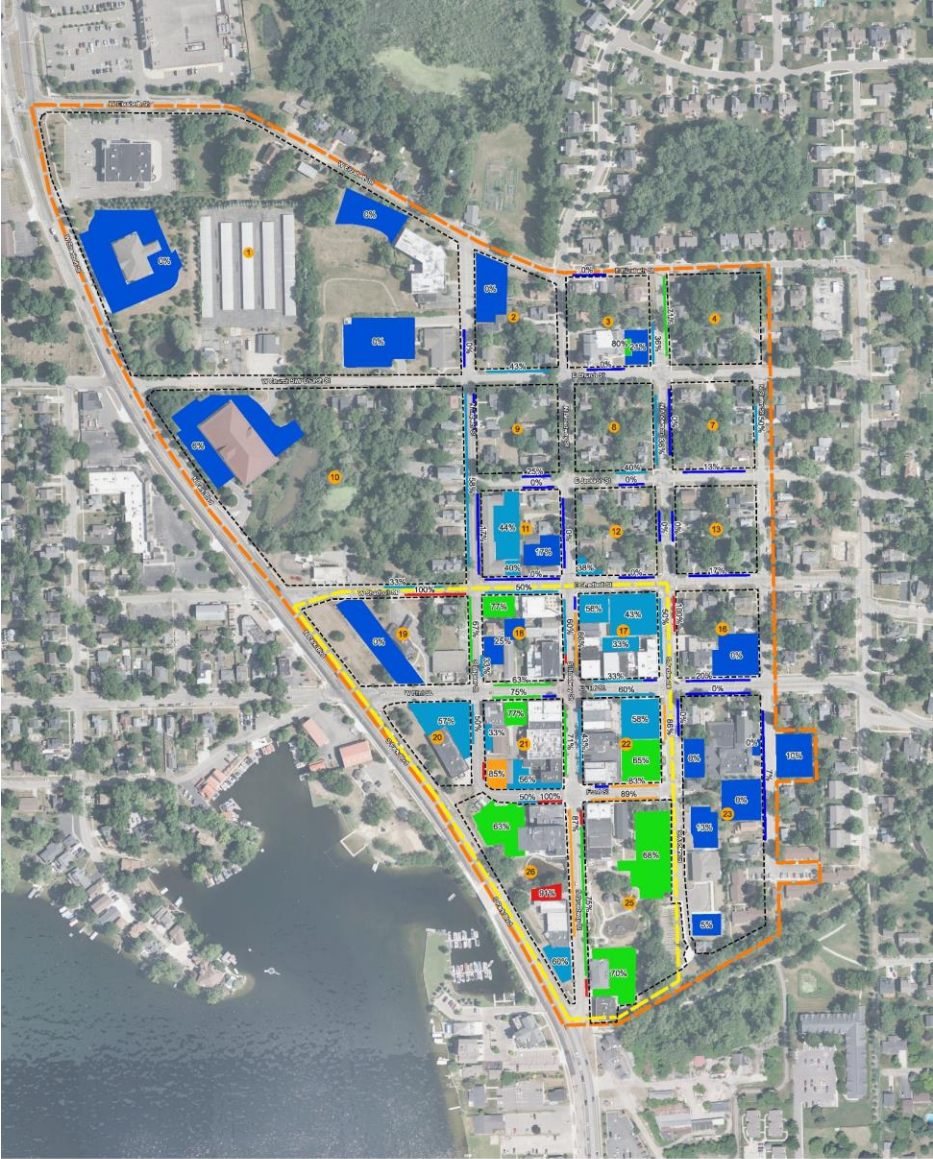


2022 Public vs. Private Parking (Thursday) Percentage Occupancy vs. Number Occupied



Attachment: Downtown Lake Orion Parking Study Update Revised (5670 : Parking Study

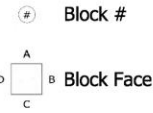




Village of Lake Orion
Parking Recommendations



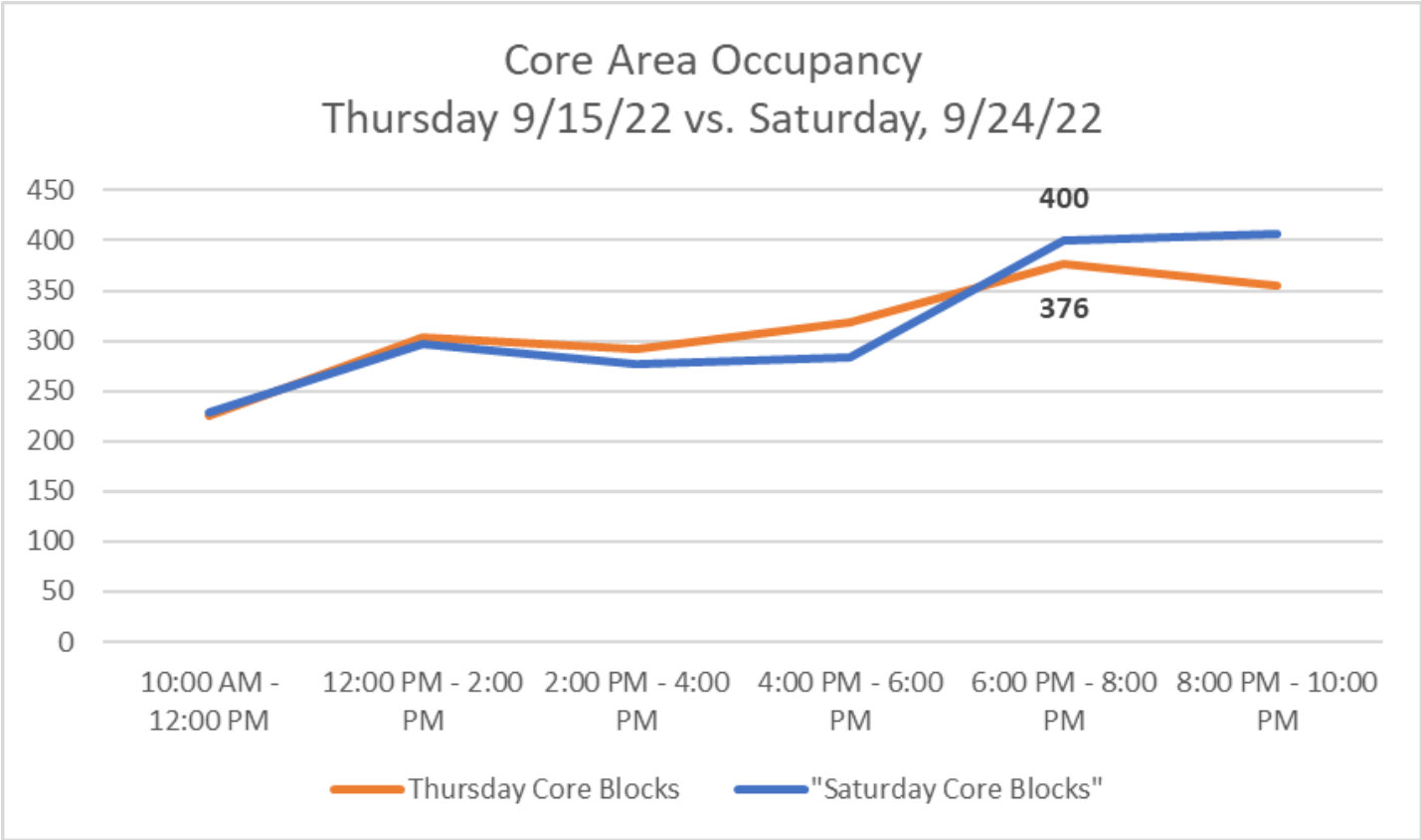
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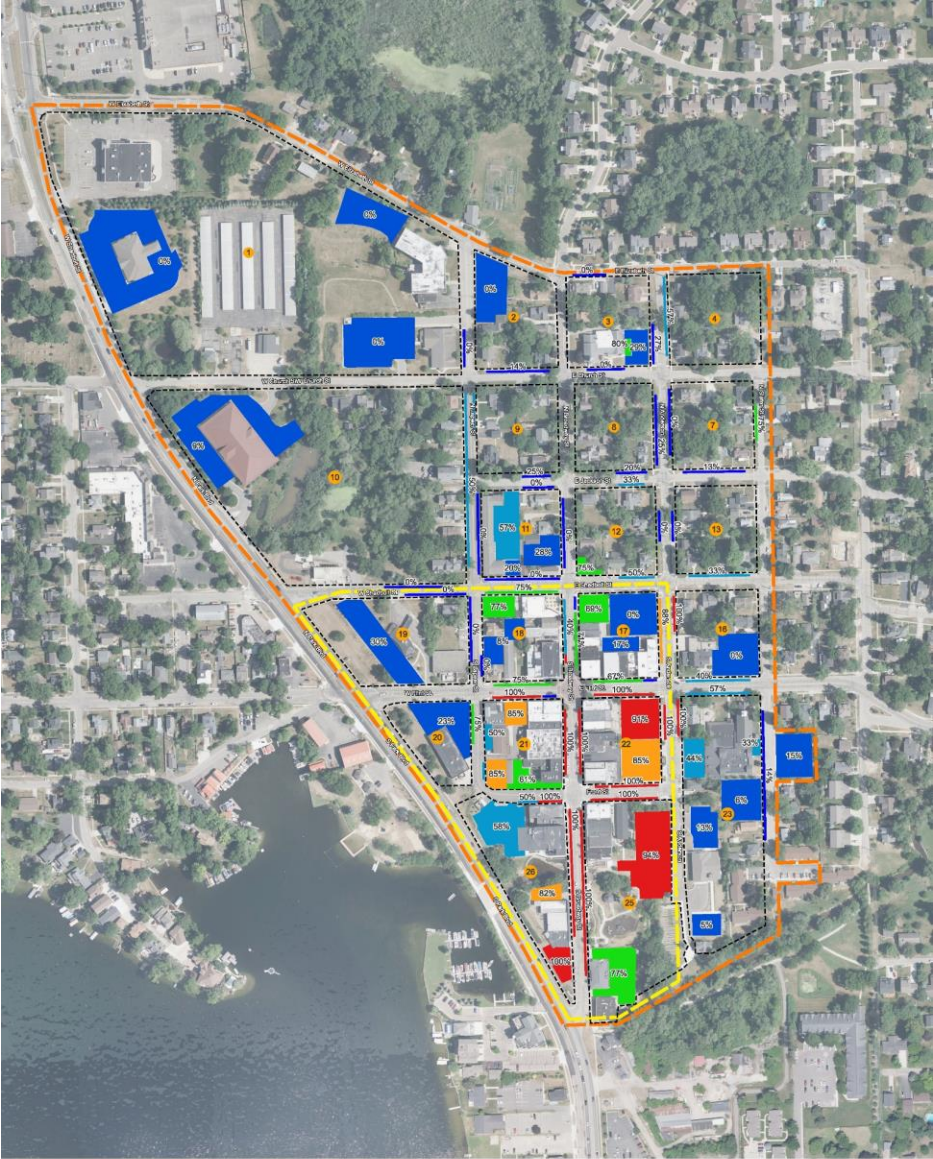


- 0% - 30%
- 31% - 60%
- 61% - 80%
- 81% - 90%
- 91% - 100%

Turnover/Occupancy
Thursday, September 15
8:00 pm - 10:00 pm



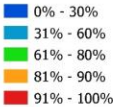
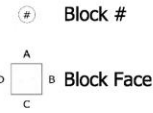




Village of Lake Orion
Parking Recommendations



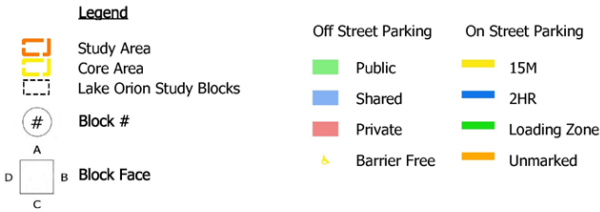
Legend



Turnover/Occupancy
Saturday, September 24
8:00 pm - 10:00 pm

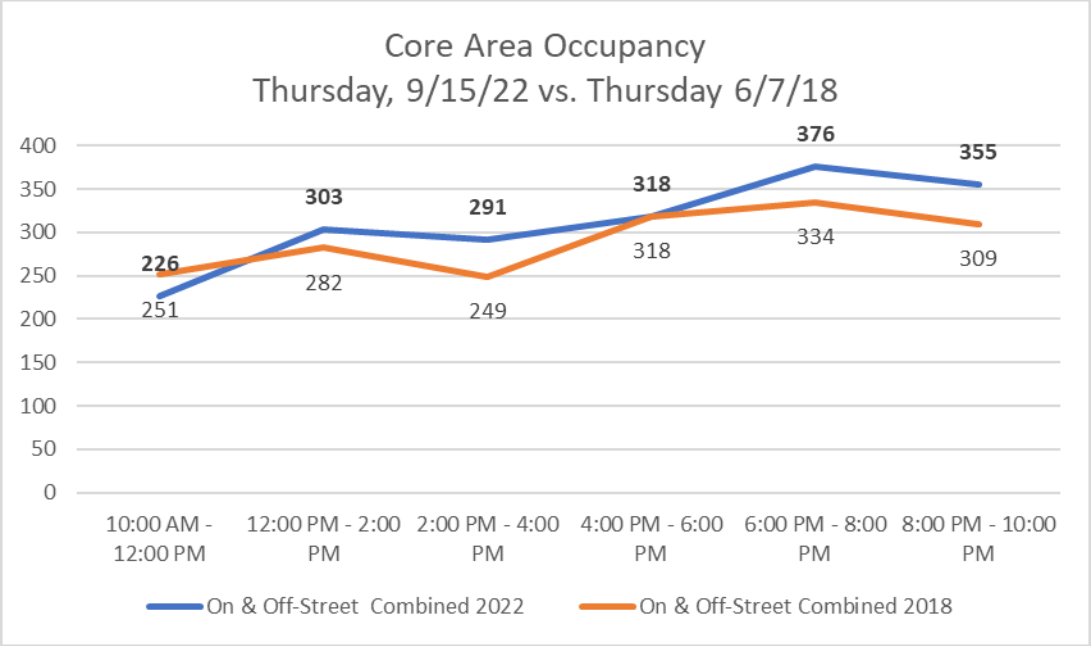
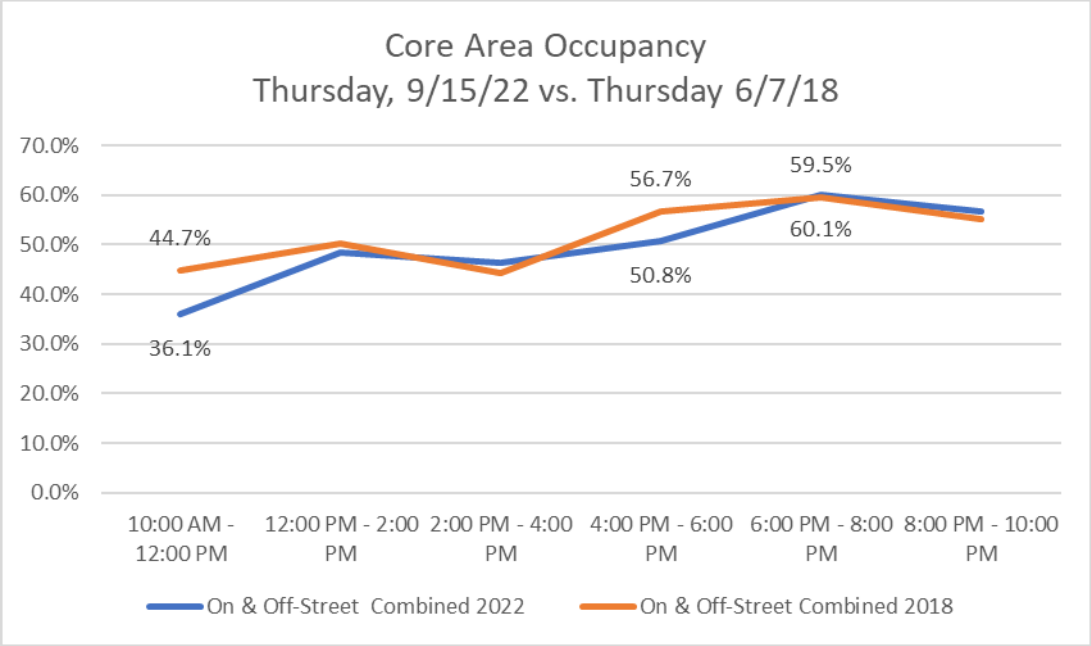


9.6.b





2018 vs. 2022 Occupancy Results Comparison



2018 Observed Supply 561
2022 Observed Supply 626





§ 71.29 PROHIBITION.

(A) (1) No person employed by or operating a business or profession in a parking zone established under this subchapter shall park a privately-owned or company-owned motor vehicle on any public street, for the purpose of using such parking space while the owner or operator performs his or her duties at his or her regular place of employment in the downtown area. The provisions of this section shall be effective between 9:00 a.m. and 6:00 p.m., Monday through Saturday of each week.

(2) Notwithstanding the above, a business operator or professional shall be allowed one increment not to exceed 30 minutes of time each day between the hours of 9:00 a.m. to 6:00 p.m. Monday through Saturday to load or unload goods connected with the operation of the business or profession.

(B) It shall be unlawful for a residential dweller living in a parking zone to park a privately-owned or company-owned motor vehicle on any public street during the hours of 9:00 a.m. to 6:00 p.m. Monday through Saturday.

(Ord. 7.08, passed 3-25-96; Am. Ord. 7.09, passed 6-23-97) Penalty, see § [71.99](#)

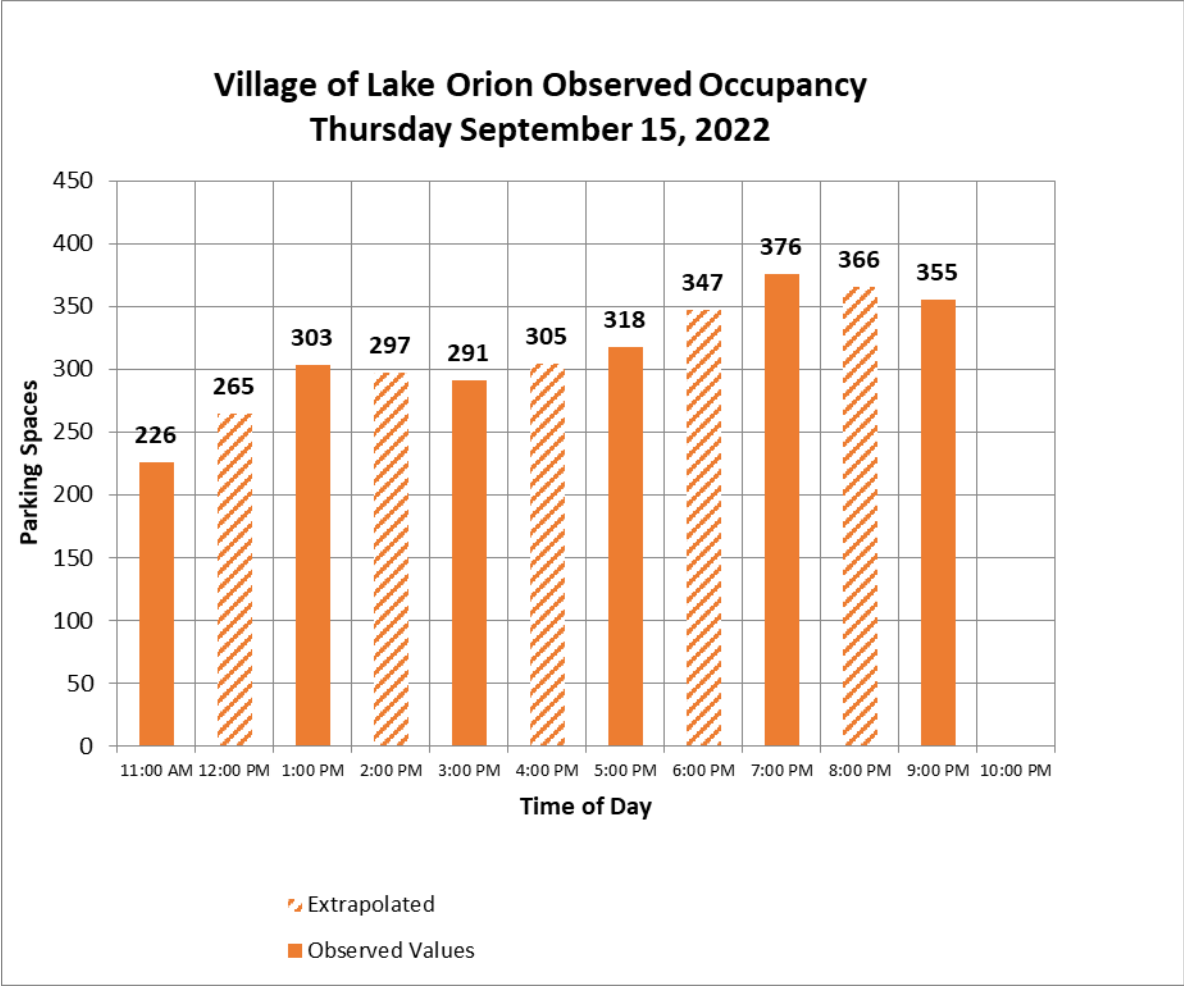
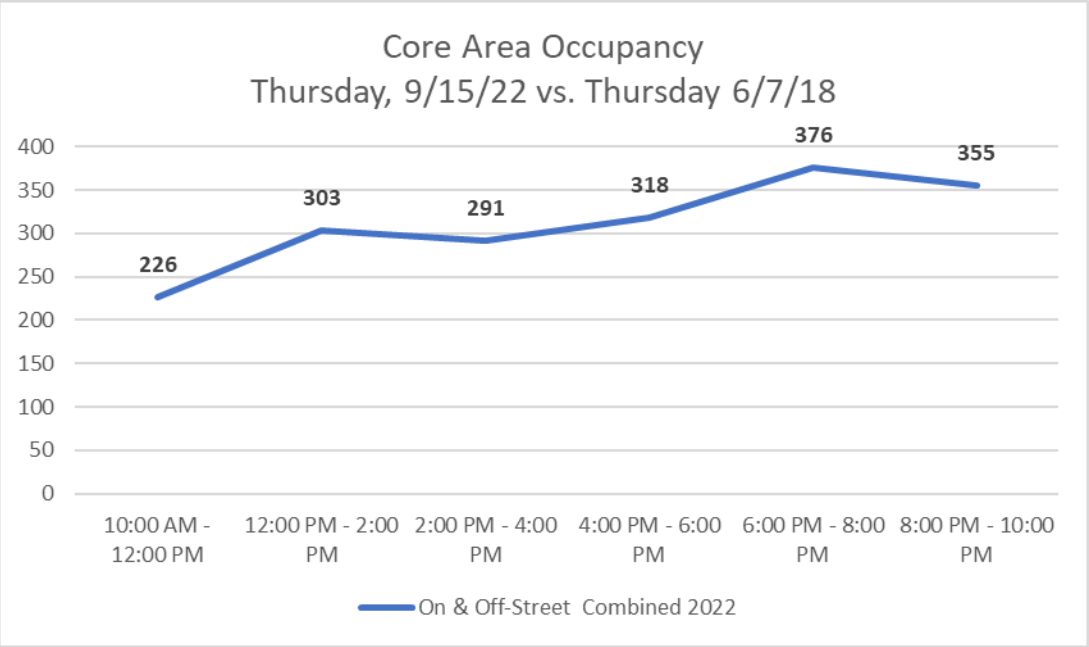
	Total Cars Observed	Cars Observed in Same Parking Space			
		1 Time	2 Times	3 Times	4 Times
Thursday Results		Cars in Violation			
	283	244	27	8	4
Total Cars in Violation		39			
Percentage Cars in Violation		13.8%			
Saturday Results		Cars in Violation			
	305	261	31	6	7
Total Cars in Violation		44			
Percentage Cars in Violation		14.4%			

Violation Rate in 2018

41 of 427 > 2 hrs (10%)
11 of 427 4 – 6 hrs (3%)
7 of 427 > 6 hrs (1.6%)

14.6% Violation Rate







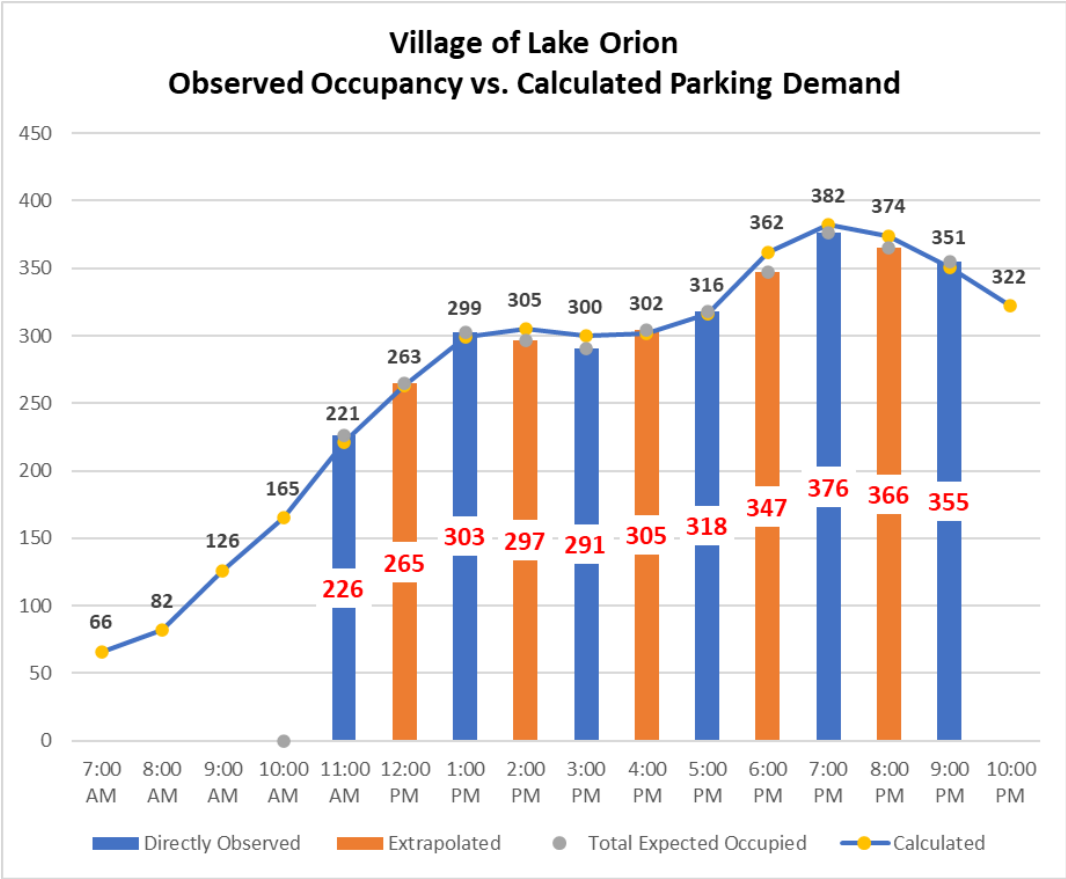
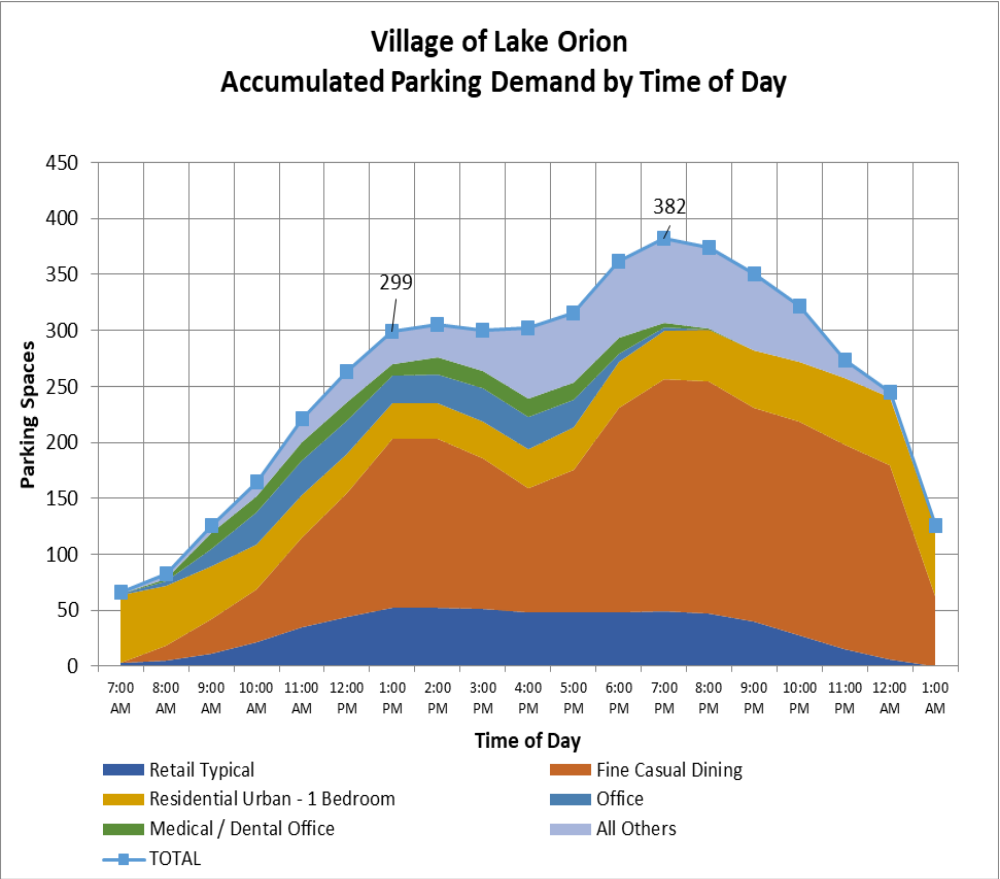
Current Land Use Allocation

2022 Values												Block Total			
Block	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Occupied SF	Residential Units	Vacant	TOTAL SF
17	5,178	0	6,445	3,528	0	3,444	6	0	0	0	3,694	18,595	6	3,694	22,289
18	0	0	8,642	0	4,371	6,778	9	0	6,700	0	3,350	26,491	9	3,350	29,841
19	3,392	943	0	0	0	0	1	0	0	0	0	4,335	1	0	4,335
20	0	0	8,029	0	0	0	0	0	0	0	0	8,029	0	0	8,029
21	2,800	2,856	1,840	0	0	23,034	25	0	0	1,840	0	32,370	25	0	32,370
22	0	0	12,008	780	0	0	14	0	0	0	3,400	12,788	14	3,400	16,188
25	0	0	11,408	3,456	1,625	8,955	0	92	0	0	1,625	25,444	0	1,625	27,069
26	0	0	7,000	0	0	0	24	0	3,151	0	5,679	10,151	24	5,679	15,830
TOTAL	11,370	3,799	55,372	7,764	5,996	42,211	79	92	9,851	1,840	17,748	138,203	79	17,748	155,951





Observed Occupancy vs. Parking Demand Model



Weekday Daytime – Current Conditions

Block	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	SU
	2.20	2.63	0.89	1.55	2.17	3.58	0.41	0.00	0.00	2.17	0.00	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	11	0	6	5	0	12	2	0	0	0	0	35	2	0	37	7	84	91	54	
18	0	0	8	0	9	24	4	0	0	0	0	41	4	0	45	12	43	55	10	
19	7	2	0	0	0	0	0	0	0	0	0	10	0	0	10	58	19	77	67	
20	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	30	4	34	27	
21	6	8	2	0	0	82	10	0	0	4	0	102	10	0	112	57	16	73	(39)	
22	0	0	11	1	0	0	6	0	0	0	0	12	6	0	18	0	100	100	82	
25	0	0	10	5	4	32	0	0	0	0	0	51	0	0	51	30	97	127	76	
26	0	0	6	0	0	0	10	0	0	0	0	6	10	0	16	63	21	84	68	
TOTAL	25	10	49	12	13	151	32	0	0	4	0	264	32	0	297	257	384	641	345	



Village of Lake Orion
Parking Recommendations



Legend

- Core Area
- Study Area
- Block #
- Block Face

Net Surplus of Parking

- + 100
- 0 thru 99

Net Deficit of Parking

- 99 thru -1
- 100+

Surplus/Deficit
Current Weekday
Daytime

Gross Occupancy 46%
Effective Occupancy 65%



Weekday Evening – Current Conditions

2022 Values	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	SU
Block	0.26	1.05	0.84	1.42	2.17	4.90	0.56	0.36	1.83	0.00	0.00	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	1	0	5	5	0	17	3	0	0	0	0	29	3	0	32	7	84	91	59	
18	0	0	7	0	9	33	5	0	12	0	0	62	5	0	67	12	43	55	(12)	
19	1	1	0	0	0	0	1	0	0	0	0	2	1	0	2	58	19	77	75	
20	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	30	4	34	27	
21	1	3	2	0	0	113	14	0	0	0	0	118	14	0	132	57	16	73	(59)	
22	0	0	10	1	0	0	8	0	0	0	0	11	8	0	19	0	100	100	81	
25	0	0	10	5	4	44	0	33	0	0	0	95	0	0	95	30	97	127	32	
26	0	0	6	0	0	0	13	0	6	0	0	12	13	0	25	63	21	84	59	
TOTAL	3	4	47	11	13	207	44	33	18	0	0	335	44	0	380	257	384	641	262	



Village of Lake Orion
Parking Recommendations



- Legend**
- Core Area
 - Study Area
 - Block #
 - Block Face

- Net Surplus of Parking**
- + 100
 - 0 thru 99
- Net Deficit of Parking**
- 99 thru -1
 - 100+

Surplus/Deficit
Current Weekday
Evening

Gross Occupancy 59%
Effective Occupancy 77%



Weekday Evening – Future (3-Yrs) Conditions

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	SU
Block	0.26	1.05	0.84	1.42	2.17	4.90	0.56	0.36	1.83	0.00	2.40	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	1	0	5	5	0	17	3	0	0	0	4	29	3	4	36	7	84	91	55	
18	0	0	7	0	9	33	5	0	12	0	4	62	5	4	71	12	43	55	(16)	
19	1	1	0	0	0	0	1	0	0	0	0	2	1	0	2	58	19	77	75	
20	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	30	4	34	27	
21	1	3	2	0	0	113	14	0	0	0	0	118	14	0	132	57	16	73	(59)	
22	0	0	10	1	0	0	8	0	0	0	4	11	8	4	23	0	100	100	77	
25	0	0	10	5	4	44	0	33	0	0	2	95	0	2	97	30	97	127	30	
26	0	0	6	0	0	0	13	0	6	0	7	12	13	7	32	63	21	84	52	
TOTAL	3	4	47	11	13	207	44	33	18	0	21	335	44	21	401	257	384	641	241	

Assuming 50% of 17,750 sf Vacant Space Reoccupied



Village of Lake Orion
Parking Recommendations

Legend

- Core Area
- Study Area
- Block #
- Block Face

Net Surplus of Parking

- + 100
- 0 thru 99

Net Deficit of Parking

- 99 thru -1
- 100+

**Surplus/Deficit
Future (3-Year)
Weekday Evening**

Gross Occupancy 62%
Effective Occupancy 80%

Weekday Evening – Future (5-Yrs) Conditions

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	SU
Block	0.26	1.05	0.84	1.42	2.17	4.90	0.56	0.36	1.83	0.00	2.40	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	1	0	5	5	0	17	3	0	0	0	8	29	3	8	40	7	84	91	51	
18	0	0	7	0	9	33	5	0	12	0	7	62	5	7	74	12	43	55	(19)	
19	1	1	0	0	0	0	1	0	0	0	0	2	1	0	2	58	19	77	75	
20	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	30	4	34	27	
21	1	3	2	0	0	113	14	0	0	0	0	118	14	0	132	57	16	73	(59)	
22	0	0	10	1	0	0	8	0	0	0	7	11	8	7	26	0	100	100	74	
25	0	0	10	5	4	44	0	33	0	0	3	95	0	3	98	30	97	127	29	
26	0	0	6	0	0	0	13	0	6	0	12	12	13	12	37	63	21	84	47	
TOTAL	3	4	47	11	13	207	44	33	18	0	36	335	44	36	416	257	384	641	225	

Assuming 85% of 17,750 sf Vacant Space Reoccupied



Village of Lake Orion
Parking Recommendations

Legend

- Core Area
- Study Area
- Block #
- Block Face

Net Surplus of Parking

- + 100
- 0 thru 99

Net Deficit of Parking

- 99 thru -1
- 100+

**Surplus/Deficit
Future (5-Year)
Weekday Evening**

Gross Occupancy 65%
Effective Occupancy 81%

Weekend Evening – Current Conditions

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	SU
Block	0.00	0.00	0.60	1.00	2.00	5.75	0.75	0.50	0.00	0.00	0.00	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	0	0	4	4	0	20	5	0	0	0	0	27	5	0	32	7	84	91	59	
18	0	0	5	0	9	39	7	0	0	0	0	53	7	0	60	12	43	55	(5)	
19	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	58	19	77	76	
20	0	0	5	0	0	0	0	0	0	0	0	5	0	0	5	30	4	34	29	
21	0	0	1	0	0	132	19	0	0	0	0	134	19	0	152	57	16	73	(79)	
22	0	0	7	1	0	0	11	0	0	0	0	8	11	0	18	0	100	100	82	
25	0	0	7	3	3	51	0	46	0	0	0	111	0	0	111	30	97	127	16	
26	0	0	4	0	0	0	18	0	0	0	0	4	18	0	22	63	21	84	62	
TOTAL	0	0	33	8	12	243	59	46	0	0	0	342	59	0	401	257	384	641	240	



Gross Occupancy 64%
Effective Occupancy 82%

Village of Lake Orion
Parking Recommendations

RICH & ASSOCIATES
PARKING CONSULTANTS
10000 RICHMOND AVE., SUITE 100
BIRMINGHAM, AL 35243
(205) 988-1000 • WWW.RICHASSOCIATES.COM

Legend

Core Area

Study Area

Block #

Block Face

Net Surplus of Parking

+ 100

0 thru 99

Net Deficit of Parking

- 99 thru -1

- 100+

**Surplus/Deficit
Current Weekend
Evening**

Weekend Evening – Future (3-Yrs) Conditions

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	SU
Block	0.00	0.00	0.60	1.00	2.00	5.75	0.75	0.50	0.00	0.00	2.40	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	0	0	4	4	0	20	5	0	0	0	4	27	5	4	36	7	84	91	55	
18	0	0	5	0	9	39	7	0	0	0	4	53	7	4	64	12	43	55	(9)	
19	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	58	19	77	76	
20	0	0	5	0	0	0	0	0	0	0	0	5	0	0	5	30	4	34	29	
21	0	0	1	0	0	132	19	0	0	0	0	134	19	0	152	57	16	73	(79)	
22	0	0	7	1	0	0	11	0	0	0	4	8	11	4	23	0	100	100	77	
25	0	0	7	3	3	51	0	46	0	0	2	111	0	2	113	30	97	127	14	
26	0	0	4	0	0	0	18	0	0	0	7	4	18	7	29	63	21	84	55	
TOTAL	0	0	33	8	12	243	59	46	0	0	21	342	59	21	422	257	384	641	218	

Assuming 50% of 17,750 sf Vacant Space Reoccupied



Village of Lake Orion
Parking Recommendations

Legend

- Core Area
- Study Area
- Block #
- Block Face

Net Surplus of Parking

- + 100
- 0 thru 99

Net Deficit of Parking

- 99 thru -1
- 100+

Surplus/Deficit Future (3-yrs) Weekend Evening

Rich & Associates
PARKING CONSULTANTS
10000 RICH RD, SUITE 100
LAKELAND, MI 48306
(248) 850-1000

RIC & ASSOCIATES
PARKING CONSULTANTS

Gross Occupancy 66%
Effective Occupancy 84%

Weekend Evening – Future (5-Yrs) Conditions

	OFFICE	MED OFFICE	RETAIL	SERVICE	MIXED USE	RESTAURANT	Residential Units	MUSIC VENUE	COMMUNITY	WARE-HOUSE	VACANT	Block Total				Parking Supply			GROSS SURPLUS	SU
Block	0.00	0.00	0.60	1.00	2.00	5.75	0.75	0.50	0.00	0.00	2.40	SF Demand	Residential Units	Vacant	TOTAL DEMAND	Private Supply	Public Supply	TOTAL SUPPLY		
17	0	0	4	4	0	20	5	0	0	0	8	27	5	8	39	7	84	91	52	
18	0	0	5	0	9	39	7	0	0	0	7	53	7	7	66	12	43	55	(11)	
19	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	58	19	77	76	
20	0	0	5	0	0	0	0	0	0	0	0	5	0	0	5	30	4	34	29	
21	0	0	1	0	0	132	19	0	0	0	0	134	19	0	152	57	16	73	(79)	
22	0	0	7	1	0	0	11	0	0	0	7	8	11	7	25	0	100	100	75	
25	0	0	7	3	3	51	0	46	0	0	3	111	0	3	114	30	97	127	13	
26	0	0	4	0	0	0	18	0	0	0	12	4	18	12	34	63	21	84	50	
TOTAL	0	0	33	8	12	243	59	46	0	0	36	342	59	36	437	257	384	641	205	

Assuming 85% of 17,750 sf Vacant Space Reoccupied



Village of Lake Orion
Parking Recommendations

Legend

- Core Area
- Study Area
- Block #
- Block Face

Net Surplus of Parking

- + 100
- 0 thru 99

Net Deficit of Parking

- 99 thru -1
- 100+

Surplus/Deficit Future (5-yrs) Weekend Evening

Gross Occupancy 68%
Effective Occupancy 85%

Summary – Net Occupancy Comparison

		Net Parking (Extrapolated Occupancy)					
		Current	3 Yrs	5 Yrs	Current	3 Yrs	5 Yrs
		WD Evening	WD Evening	WD Evening	WE Evening	WE Evening	WE Evening
			<i>50 % Vac Re- Occup</i>	<i>85 % Vac Re- Occup</i>		<i>50 % Vac Re- Occup</i>	<i>85 % Vac Re- Occup</i>
Current Supply		77%	80%	81%	82%	84%	85%
Number of Public Parking Spaces Lost	- 10 Spaces	79%	81%	83%	83%	85%	87%
	- 20 Spaces	80%	82%	84%	84%	87%	88%
	- 30 Spaces	81%	83%	85%	86%	88%	90%
	- 40 Spaces	83%	85%	87%	87%	90%	91%
	- 50 Spaces	84%	86%	88%	89%	91%	93%



Findings

9.6.b

1. Parking Supply exceeds Demand Current Conditions +
2. Effective Occupancy exceeds 85% within ~3 to 5 years -
3. Public Parking Supply exceeds best practice benchmarks (60%) +
4. Handicap Accessible Parking Adequate +
5. Signage for Public Parking & Directional Adequate +
 - a. Some inconsistency in signage (red vs. green 2 hour) -
6. Pedestrian Enhancements (Benches) +
7. Some Public Lots need repair -
8. Bike Racks could be improved -
9. Enforcement needs improvement (14% violation rate) -



Preliminary Recommendations

Classification	Recommendation	Time Frame
Parking Enforcement	The Village needs to consider increasing the level of parking enforcement. The continued violation rate of 14 percent of vehicles exceeding the two-hour limit is nearly three times the best practice rate that the maximum be no more than five percent of vehicles	6 Months
	The parking fines for overtime parking in the Village are currently \$15.00 if paid within 10 days. After this time, they rise to \$25.00. The Village should increase the fine rate or at least allow continued multiple violations (staying multiple hours) to have the fine amount increase for the same occurrence. The Village should temper this policy by providing a "courtesy ticket" for the initial violation within a calendar year.	6 - 12 Months
Signage	The Village should consider placing signs at the public parking lots with a designated name. This may help orient infrequent visitors to finding their lot if they park and then walk to multiple destinations.	12 Months





Preliminary Recommendations

Classification	Recommendation	Time Frame
Parking Supply Increases	The Village will likely need to either increase the physical parking supply through the creation of additional lots or at least the utilization of existing spaces through more formal and informal use of surplus private capacity. Rather than make the lots "public" the DDA should facilitate agreements between private businesses with surplus capacity to allow employees from other businesses who must use public parking to use at least some of their surplus capacity, thus freeing up public spaces.	6 Months
	Work with additional private businesses to use their existing lots during their non business hours (particularly weekend evenings). This could be churches, funeral home or other businesses. On days that the business needs the parking, they could place signs restricting parking for their use only	6 Months
	In order to encourage such agreements, the Village could agree to subsidize snow removal costs using a formula that escalates the ratio depending on the number of days that the lot is used for supplemental parking.	6 Months
	In two lots, the Village is deficient in providing the required number of handicap accessible spaces. However, handicap accessible parking is provided in nearby on-street spaces that may be considered " <i>along a more accessible path</i> ". <i>The 10 on-street spaces, in Rich's opinion, help the City to satisfy the handicap accessible requirement. No additional handicap accessible parking spaces are recommended at this time.</i>	Immediate





Preliminary Recommendations

Classification	Recommendation	Time Frame
Parking Maintenance	The Village should set up a parking sinking fund. This would accrue a balance that would be available for parking lot repair and acquisition. Rich would recommend annual amounts of \$25.00 per on-street space be allocated and \$100 per off-street space. This would be intended to help off-set the eventual cost of asphalt replacement of public lots. Based on the capacity of off-street spaces in the core blocks, this would provide approximately \$21,000 per year.	Immediate
Zoning Ordinance	The current zoning ordinance for restaurants quantifies the parking requirements based on the maximum capacity of the establishment. Most zoning ordinances, in Rich's experience, base the parking requirements on the gross floor area.	6 Months
	The zoning ordinance also requires two spaces per dwelling unit. The Village should consider adjusting its requirements such as one space for an efficiency unit, 1.5 for each one-bedroom apartment, two spaces for each two-bedroom unit and three spaces for each three-bedroom unit.	6 Months
Special Events	The Village should develop a Special Event Parking Plan. This would quantify and qualify supplemental parking that could be used during especially large events and provide for any supplemental signage to direct patrons to these and designated public lots.	6 - 12 Months





Village of Lake Orion

Customer / Visitor Survey Results



How do you generally arrive to Downtown Lake Orion?

Answer Choices	Responses	
Drive and park my own car	87.36%	76
Ride with someone who then parks	2.30%	2
Dropped off / taxi / Uber / Lyft	0.00%	0
Walk	9.20%	8
Bicycle	1.15%	1
Motorcycle	0.00%	0
Other (please specify)		12
	Answered	87
	Skipped	6

If you drive, where do you typically park?

Answer Choices	Responses	
Public parking lot	44.44%	40
On-street Downtown	48.89%	44
Private parking owned by an individual business	6.67%	6
	Answered	90
	Skipped	3





How many businesses do you generally visit each trip?

Answer Choices	Responses	
1 (single purpose)	34.78%	32
2	44.57%	41
3	18.48%	17
4	2.17%	2
5 or more	0.00%	0
	Answered	92
	Skipped	1
Average Number of Businesses		1.9

How many times in a typical week do you visit Downtown Lake Orion?

Answer Choices	Responses	
About once per week	19.35%	18
1 to 2 times per week	29.03%	27
3 to 4 times per week	18.28%	17
5 or more times per week	11.83%	11
about once a month	12.90%	12
less than once a month	1.08%	1
I tend not to come downtown because:	7.53%	7
	Answered	93
	Skipped	0
Average Number of Visits / Week		2.2



When you visit Downtown, which activities do you participate in (select all that apply)

Answer Choices	Responses
Special Events	65.22%
Restaurant / Dining	95.65%
Retail Shopping	60.87%
Community Center Event	23.91%
Other (please specify)	18.48%
Answered	
Skipped	

During your visits, how long do you generally stay in Downtown Lake Orion?

Hours	45	90
Choose Time		
Less than one hour	1.09%	1
1 hour - 1 1/2 hours	10.87%	10
1 1/2 - 2 hours	33.70%	31
2 - 3 hours	32.61%	30
3 - 4 hours	13.04%	12
4 - 5 hours	3.26%	3
Total		87
Average Stay (hrs:min)		2:39
5 - 6 hours	2.17%	2
6 - 7 hours	1.09%	1
7 - 8 hours	0.00%	0
More than 8 hours	2.17%	2
Total		92
Average Stay with Stays > 5 Hrs		2:55



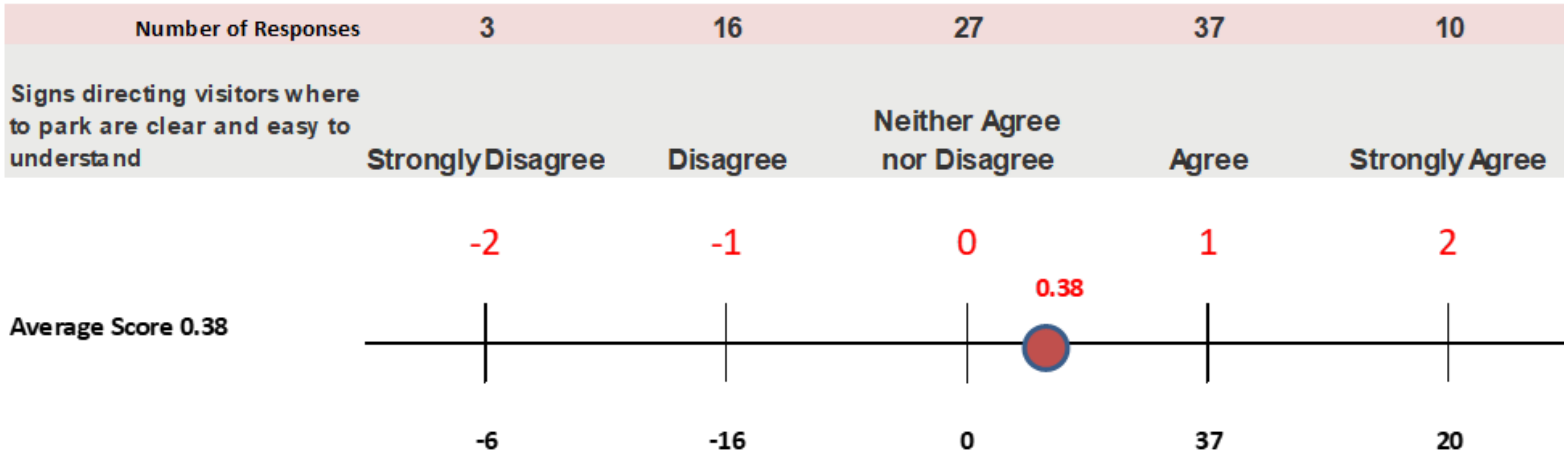
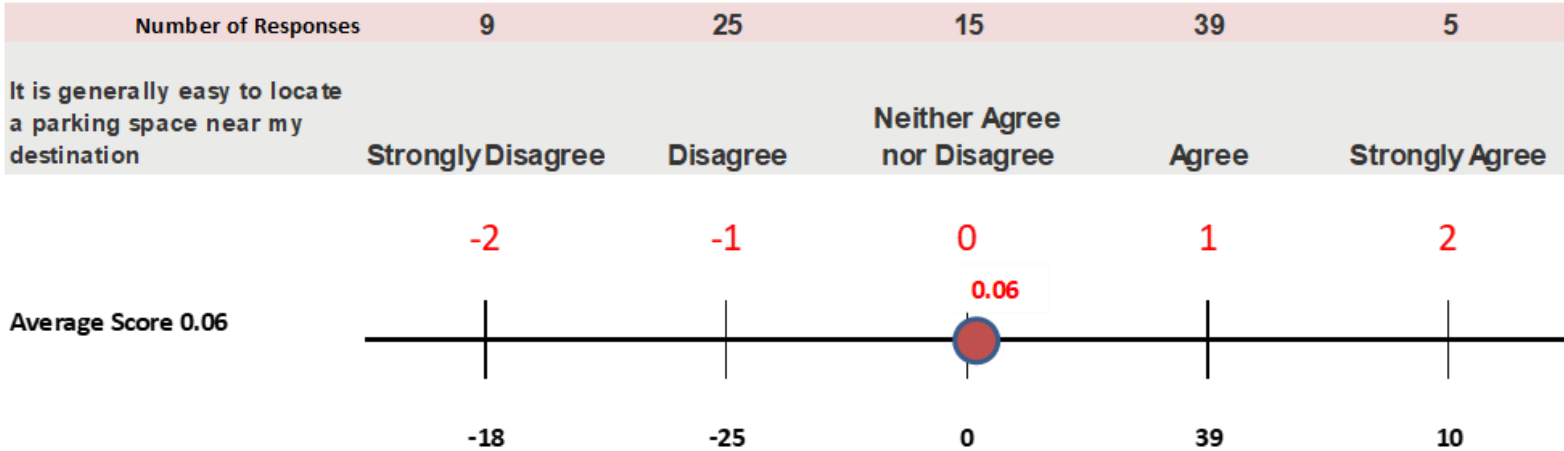


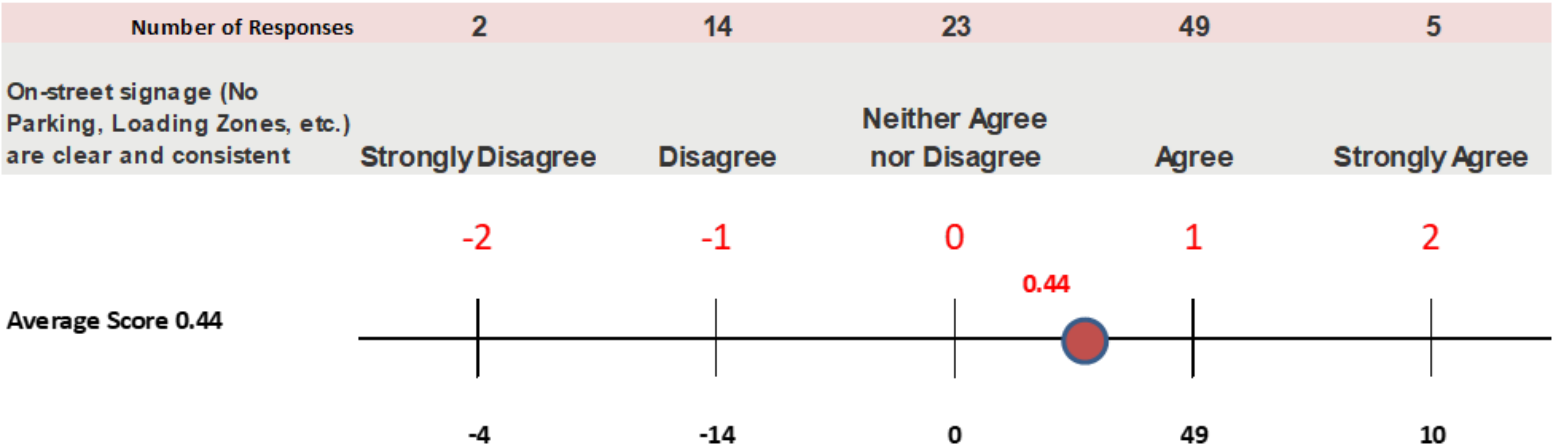
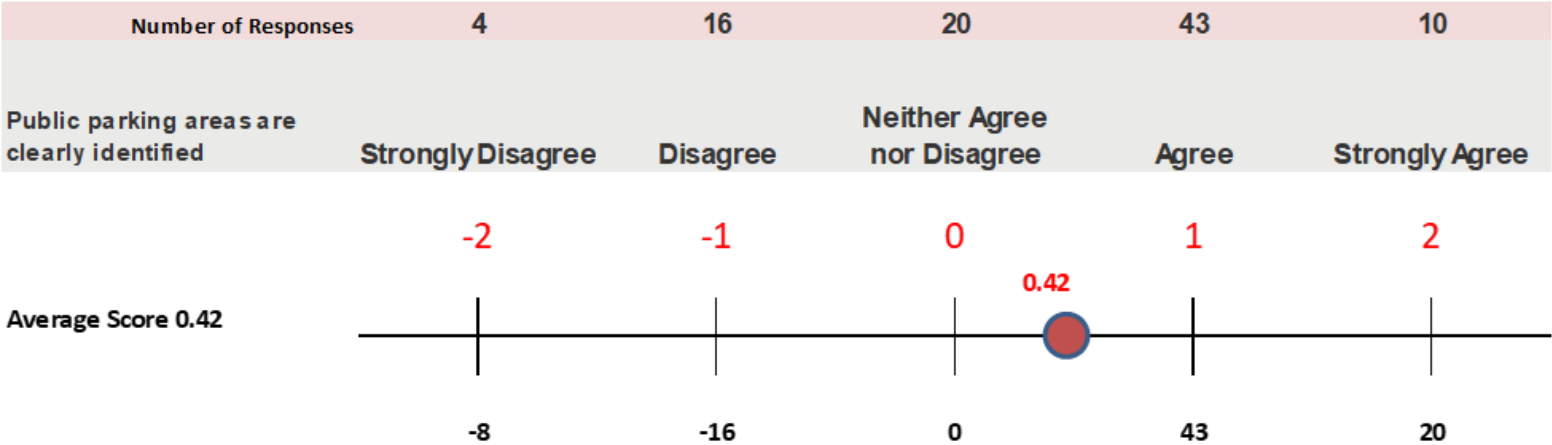
How far are you willing to walk from your parking space to your primary destination?

Answer Choices	Responses	
less than 1/2 block	7.69%	7
1/2 to 1 block	19.78%	18
1 to 1 - 1/2 blocks	17.58%	16
1 - 1/2 to 2 blocks	15.38%	14
2 to 2 - 1/2 blocks	8.79%	8
2 - 1/2 to 3 blocks	15.38%	14
more than 3 blocks	15.38%	14
Other (please specify)		5
	Answered	91
	Skipped	2
Average Distance (Blocks)		2.0

Do you feel that there is enough public parking available for Downtown Lake Orion customers & visitors?

Answer Choices	Responses	
Yes - The number of parking spaces seems to be okay.	38.89%	35
No - There are not enough spaces.	61.11%	55
Other (please specify)		16
	Answered	90
	Skipped	3





Thank You – Questions ?