



AGENDA OF THE IMPROVEMENT AND SERVICES COMMITTEE

WEDNESDAY, NOVEMBER 29, 2023, 5:00 PM
Immediately following Parks Committee.

In person at City Hall, Room 207
Virtual attendance also available via Zoom.

A. Zoom Meeting Information.

I. Join Zoom Meeting Online:

<https://us02web.zoom.us/j/82206544400?pwd=NDdIbm5zNUhBWVU5ckIzMjZ2QT09>

Or call in by phone: +1 312 626 6799

Meeting ID: 822 0654 4400

Passcode: 635662

If you wish to speak at this public meeting or leave a comment, please fill out the online [Comment Form](#) prior to the meeting. More detailed [Zoom Instructions](#) can be found online.

B. Roll Call.

C. Approval of the Agenda.

D. Approval of Minutes.

E. Presentation

- I.** Presentation of the Clean Energy Green Bay Plan by the City's consultant, Slipstream.

F. Regular Business.

- I.** Consideration with possible action on request by Department of Public Works to make changes to Chapter 32 (Solid Waste) ordinance.
- 2.** Consideration with possible action on request by Department of Public Works to enter into a Professional Services Agreement with Robert E. Lee & Associates, Inc. in the amount of

\$47,900 for landfill monitoring and consulting services.

3. Consideration with possible action on request by Department of Public Works to enter into a Professional Services Agreement with NES Ecological Services in the amount of \$26,800 for native planting maintenance services.
4. Consideration with possible action on request by Department of Public Works for exemption from City of Green Bay Ordinance for overnight street parking by YMCA employee Mark Geo.
5. Consideration with possible action on request by Department of Public Works to enter into State/Municipal Financial Agreements (SMFA) with the Wisconsin Department of Transportation (WisDOT) for the following projects:
 - a. Project 1450-23-00/70 – Ray Nitschke Memorial Bridge
 - b. Project 9210-24-00/70 – STH 54 Intersections
6. Consideration with possible action on request by Department of Public Works for the 2024 proposed vegetation maintenance at the City's stormwater ponds and facilities.
7. Consideration with possible action on request by Department of Public Works to adopt the Clean Energy Green Bay plan as recommended by the Sustainability Commission.
8. Consideration with possible action on request by Department of Public Works to award contract to MJT Trucking for hauling stockpiled street sweepings to the landfill.
9. Consideration with possible action on request by Department of Public Works to award the professional engineering services contract for stormwater restoration projects at Baird Creek Burgundy Court and Twin Pines Court to Ruekert & Mielke, Inc. (R/M).
10. Consideration with possible action on request by Department of Public Works to adopt the Proposed 2024 Storm Water Utility Rates.
11. Consideration with possible action on request by Department of Public Works to purchase yearly structure cast iron castings from Neenah Foundry in the amount of \$51,240 for the Sewer Section.
12. Consideration with possible action on request by Department of Public Works to authorize the purchase of equipment to complete upgrades to the stormwater lift station located at Main Street and N. Irwin Avenue.
13. Consideration with possible action on request by Department of Public Works for the extension of lease with Brown County for West Side Yard Waste Center property.
14. Consideration with possible action on request by Green Viper LLC to dedicate to the City the pavement and underground utilities for the Woods Subdivision once all required documents are received from the Developer.
15. Consideration with possible action on request by Green Viper LLC to dedicate to the City the stormwater facility located in Outlot 1 of the Woods at Baird Creek Subdivision.

16. Consideration with possible action on transfer of retired Department of Public Works dump truck with plows to Chad Roffers Trucking, Inc. in exchange for five months of rental usage of a loader for the winter of 2023/24.
17. Report the award of contract SEWERS 3-23 SANITARY SEWER – EAST RIVER CROSSING AT GROVE STREET to PTS Contractors, Inc. in the amount of \$1,186,000.
18. Consideration with possible action on request by Department of Public Works to award the PARKS 12-23 FINGER ROAD CONCESSION UTILITIES contract at a staff level and report the award at the next Improvement & Services Committee meeting.
19. Consideration with possible action to approve and accept staff recommendation of the quote for appraisal services for the acquisition of rights-of-way required for Country Club Road from West Mason Street Frontage Road to Indian Hill Drive.
20. Consideration with possible action to approve and accept the additional rights-of-way required for Ricky Drive at Vine Street.

<u>Part of Tax Parcel #</u>	<u>Interest Required</u>	<u>Owner's Name</u>	<u>Amount</u>
21-1361-3	Fee	Rankin GB Holdings, LLC	\$10.00

21. Report of actions taken by the Department of Public Works.

A. Granting of Licenses

I. Sidewalk Builder

a. Absolute Concrete LLC

G. Informational.

1. Director's Report on recent activities of the Public Works Department.
2. The next Improvement & Services Committee meeting is scheduled for December 13, 2023.

H. Public Hearings.

I. Adjournment.

- 1) THIS MEETING IS RECORDED: THE VIDEO OF THIS MEETING AND MINUTES ARE AVAILABLE ONLINE AT www.greenbaywi.gov
- 2) ACCESSIBILITY: Any person wishing to attend who requires special accommodation because of a disability, should contact the City Safety Manager at 920-448-3125 at least 48 hours before the scheduled meeting time so that arrangements can be made.
- 3) QUORUM: Please take notice that a majority or quorum of the Common Council will attend this Improvement and Services Committee meeting and will constitute a meeting of the Common Council for purposes of discussion and information gathering relative to this agenda.
- 4) REPRESENTATION: The party requesting the communication, or their representative, should be present at this meeting.

Clean Energy Green Bay

I&S Committee Presentation

November 29, 2023



Agenda

Introduction

Objectives

Baseline data and community engagement

Interim targets and estimated reductions

Overview of recommendations

Questions

Planning Process



An inventory of communitywide carbon emissions



Community engagement via public survey process and an Open House

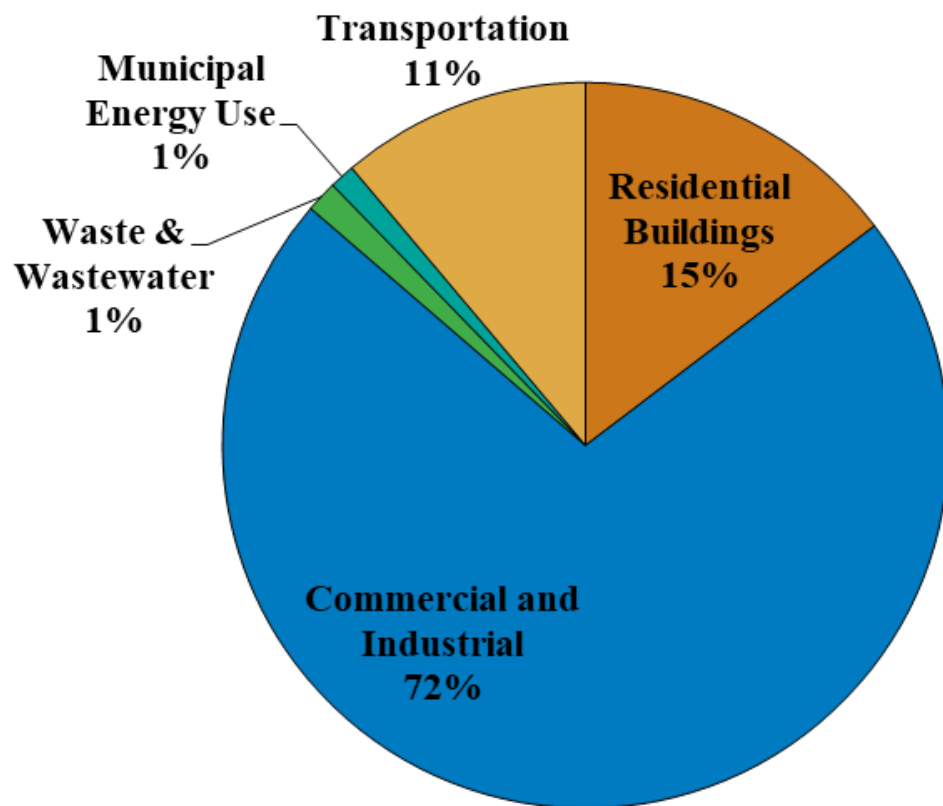


Identification of recommended actions across six focus areas



Development of interim targets for 2030

Baseline CO₂ Profile: 2018 Data



2.8M metric tons of CO₂ emissions

25.8 metric tons per person

6,846 kWh per WPS residential account

1,231 commercial buildings

394 industrial facilities

45,789 housing units

Community Engagement

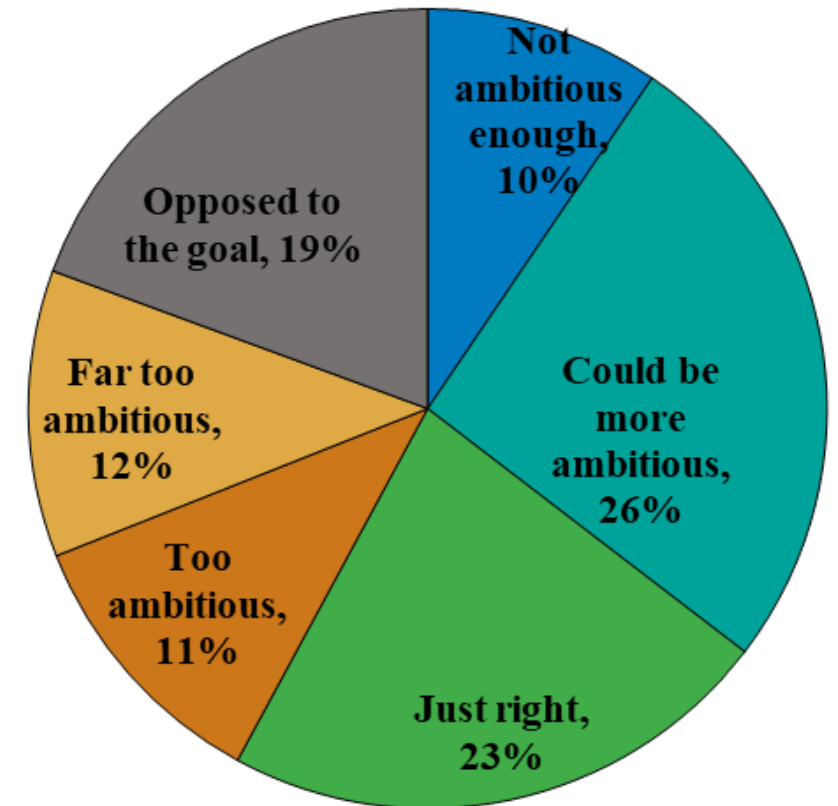
650 Residential responses to the online survey

24 Business responses to online survey

50 Attendees at Open House

70 Comments on draft recommendations

Materials translated into Spanish and Hmong;
interpreters available at Open House



**What do you think of the City of
Green Bay's goals?**

Interim Targets

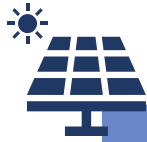


Buildings

Municipal: Reduce energy use by 20% and electrify 10% of fossil-fuel energy use by 2030.

Communitywide: Reduce communitywide energy use by 10% by 2030.

Communitywide: Transition 8% of current fossil-fuel energy use to electricity by 2030.



Clean Electricity

Municipal: Transition 65% of electricity to carbon-free sources by 2030.

Communitywide: Transition 60% of communitywide electricity to carbon-free sources by 2030.

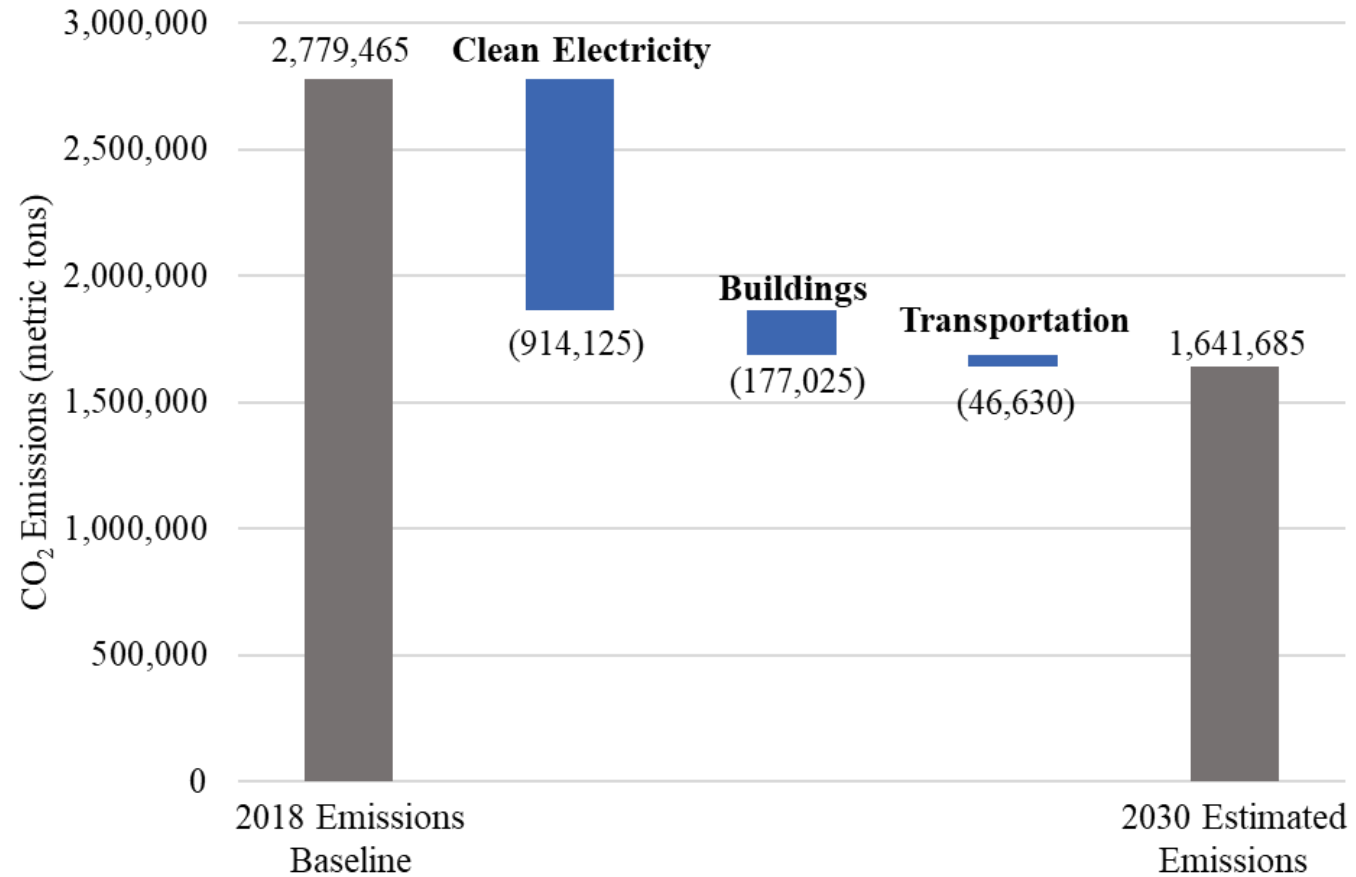


Transportation

Municipal: Reduce total fleet emissions by 15% by 2030.

Communitywide: Reduce total private transportation emissions by 15% by 2030.

Estimated CO₂ Reductions by 2030





Reduce municipal energy use 20%; electrify 10% of fossil-fuel energy use.

- Prioritize energy efficiency upgrades in municipal facilities.
- Introduce heat pump installations in city buildings.
- Develop operational and purchasing guidelines for municipal buildings.
- Create high-performance building standards.

BUILDINGS



Reduce community energy use 10%; electrify 8% of fossil-fuel energy use.

- Encourage sustainable construction through City funding programs.
- Develop a benchmarking program for commercial buildings.
- Explore policies to reduce residents' energy bills through energy efficiency.

BUILDINGS





Transition 65% of municipal electricity to clean energy.

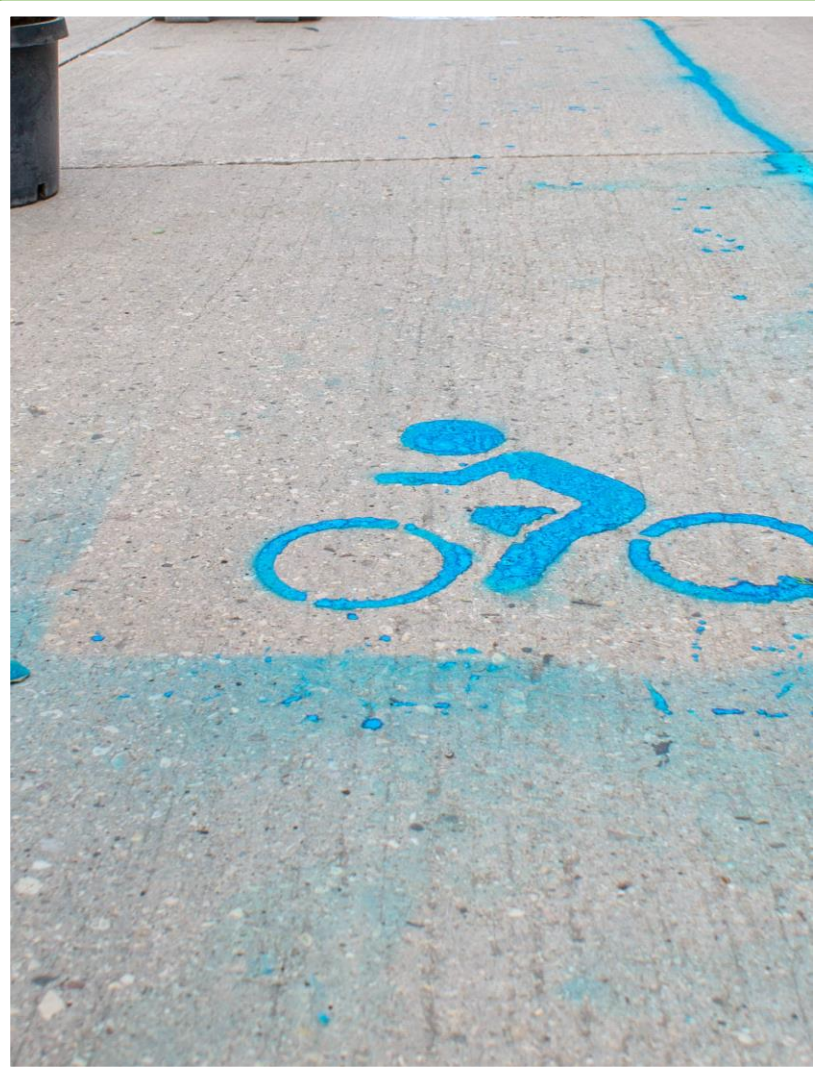
- Install PV on facilities to reach 6% renewable.
- Identify off-site renewable energy solutions.

Transition 60% of communitywide electricity to clean energy.

- Create open dialogue with WPS on clean energy transition goals.
- Facilitate a solar group buy for the community.
- Streamline solar adoption.

CLEAN ELECTRICITY



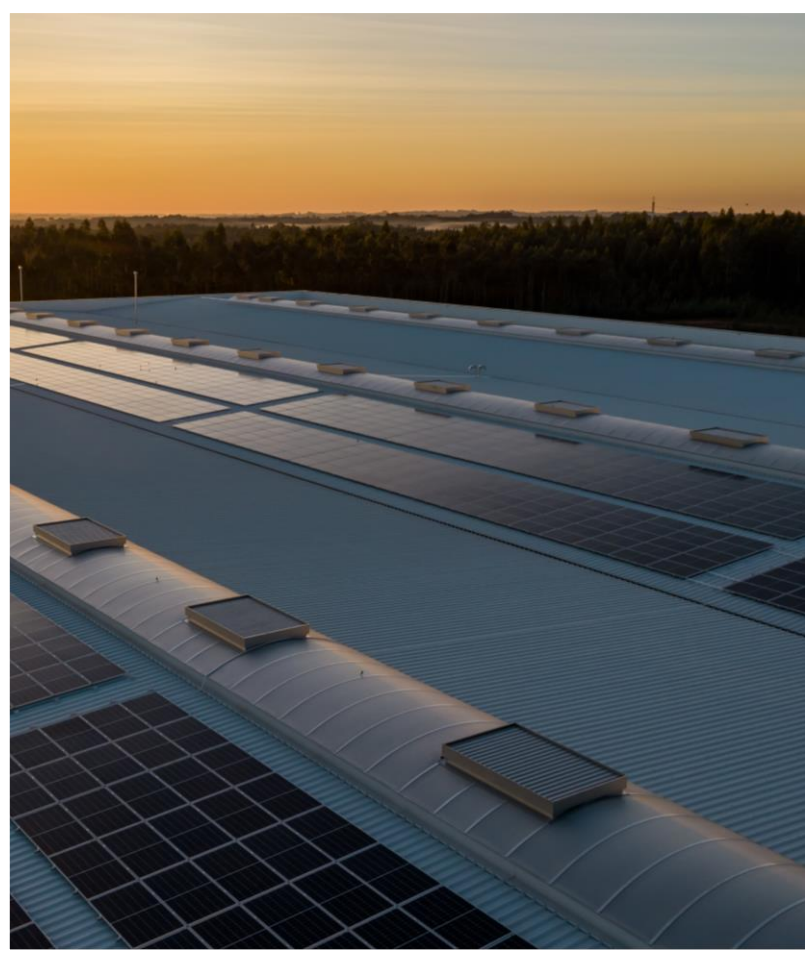


Municipal: Reduce total municipal fleet emissions by 15%.

- Pilot low-carbon vehicles in municipal fleets.
- Enact total cost of ownership purchasing policy.

Communitywide: Reduce total private transportation emissions by 15%.

- Engage private sector to develop public EV charging.
- Support holistic transportation solutions.



EDUCATION

All Targets

- Hire an energy education employee.
- Develop an education hub with energy resources.
- Conduct outreach and marketing to residents and businesses.
- Create an initiative to highlight local energy actions.
- Partner with local organizations to grow the clean energy workforce.





ADVOCACY

All Targets

- Continue to advocate with other local governments for improved state policies.



Communitywide: be carbon-neutral by 2050.

- Promote increased urban tree canopy.

URBAN TREE CANOPY



Implementation



**Leverage an
internal City
team**



**Collaborate
with
Sustainability
Commission**



**Develop a
prioritization
process**



**Consider how
to track
progress
towards goal**



**Continue to
engage the
community**

Funding



Leverage fuel and maintenance cost savings generated to fund capital expenses.



**Utilize and publicize
Focus on Energy
existing incentives.**



**Apply for and create
awareness of federal tax
credits.**



**Identify and apply for
other state and federal
grant and financing
opportunities.**

Questions



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Slipstream

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Report to the
**Improvement and Service Committee
of the City of Green Bay**

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.1

Consideration with possible action on request by Department of Public Works to make changes to Chapter 32 (Solid Waste) ordinance.

BACKGROUND

In response to recent discussion regarding tipper cart setout time, DPW reviewed all content of City ordinance Chapter 32 (Solid Waste). As a result of that review, DPW recommends five edits summarized below, and shown on a mark-up version of ordinance text.

Page 4: **32-2(a)** – add text to clarify that trash CAN be set outside of trash carts, BUT only during periods (i.e. – overflow weeks noted elsewhere in the ordinance) as allowed. Current text in this section says to NEVER do this.

1. Page 10: **32-2(g)(5)(c)** – add text to clarify that trash carts set out for collection must be 4 feet from ANY obstruction. Current text only says to maintain 4 feet of clearance only from other tipper carts.
2. Page 11: **32-2(g)(5)(d)** – add text to clarify that recycle carts set out for collection must be 4 feet from ANY obstruction. Current text only says to maintain 4 feet of clearance only from other tipper carts.
3. Page 11: **32-2(g)(5)(f)** – change setout time limit to “6:00 AM on day of collection” on a year-round basis

RECOMMENDATION

To approve Chapter 32 changes as drafted by Legal Department (attached) and refer to Legal Department to put in proper format for Council reading and adoption.

FISCAL IMPACT

ATTACHMENTS

- I. Draft G.O. 21-23 Amending 32-1 and 32-2 Relating to Solid Waste

GENERAL ORDINANCE NO. 21-23

**AN ORDINANCE
AMENDING CODE SECTION 32-1 AND 32-2,
GREEN BAY MUNICIPAL CODE,
RELATING TO SOLID WASTE**

THE COMMON COUNCIL OF THE CITY OF GREEN BAY DOES ORDAIN AS FOLLOWS:

SECTION 1. Section 32-1, Green Bay Municipal Code, is hereby amended to read:

Sec. 32-1. Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

City means the City of Green Bay.

Collecting and transporting service means a municipal or privately-operated agency, business, or service for collecting or transporting solid waste for disposal purposes.

Condominium means a residential property which is subject to the provisions of Wis. Stats. Ch. 703, and governed by a declaration or bylaw that requires all units to be owner-occupied.

Department means the Department of Public Works.

Manufactured and mobile home park, as defined in Wis. Stats. § 66.0435, means any plot of ground upon which two or more units occupied for dwelling or sleeping purposes are located, regardless of whether a charge is made for the accommodation.

Nonresidential properties means commercial, retail, industrial, institutional, manufacturing, and governmental facilities and properties.

Sanitary landfill means a method of disposing of solid waste on land without creating nuisances or hazards to public health or safety, but utilizing the principles of engineering to confine the solid waste to the smallest practical volume, and by covering it with a layer of earth at the conclusion of each day's operation or at such more frequent intervals as may be necessary.

Solid waste consists of garbage, refuse, and other discarded, salvageable, and recyclable material, including waste material resulting from domestic use, public service activities, commercial, manufacturing, and industrial operations. Solid waste consists of the following categories:

- (1) *Bulky waste*. Discarded articles of such size that do not fit in the collection cart including, but not limited to, appliances, large furniture items, bicycles, exercise equipment, play equipment, and other household items.
- (2) *Commercial waste*. Waste resulting from the operation of business enterprises including, but not limited to, offices, stores, restaurants, and similar businesses.
- (3) *Construction and/or demolition waste*. Waste resulting from building construction or demolition, alteration, or repair, including excavated material, remodeling, and other waste such as windows, doors, drywall, framing and roofing material, flooring,

cabinets and counter tops, concrete, stone, asphalt, sod, earth, dirt, and brick, except as indicated in subsection (11) of this definition.

- (4) *Garbage*. Waste resulting from the handling, cooking, processing, preparation, serving, storage, and consumption of food, including animal, fish, fowl, fruits, vegetables, or other matter which is subject to decomposition, decay, putrefaction, and the generation of offensive and noxious gases or odors.
- (5) *Hazardous and/or toxic wastes*. Waste material or substances which during normal storage or handling may be a potential cause of harm, sickness, or death, such as explosives, petroleum products, medical or pharmaceutical materials, corrosive chemicals, poisonous or pathogenic substances, pesticide chemicals, radioactive materials, toxic materials, and all other similar harmful substances whether in solid, liquid, or gaseous form.
- (6) *Industrial waste*. Waste resulting from industrial processes and operations.
- (7) *Manufacturing waste*. Waste resulting from manufacturing processes and operations.
- (8) *Nauseous and/or offensive wastes*. Those wastes that are unwholesome or have an unpleasant smell or are otherwise nauseous and/or offensive, such as manure, filth, slops, carcasses, carrion, meat, fish, entrails, hides and hide scrapings, paint, kerosene, oily or greasy substances, and objects that may cause injury to any person or animal or damage to vehicles such as barbed wire, briar thorns, or similar materials.
- (9) *Recyclable waste*. That portion of miscellaneous combustible and noncombustible waste material resulting from residential and commercial activities that can be recovered through processes to regain that material for human use including, but not limited to, the following:
 - a. *Co-mingled containers*. Glass bottles and jars which contain a food or beverage product, aluminum beverage cans, plastic containers made of polyethylene terephthalate (PET) or high density polyethylene (HDPE), ~~and~~ steel and bi-metal cans which contained a food or beverage product, **and other plastics as allowed by regional recycling facilities.**
 - b. *Major appliances*. Residential or commercial air conditioners, clothes dryers, clothes washers, dishwashers, freezers, microwave ovens, ovens, refrigerators, stoves, furnaces, boilers, dehumidifiers, or water heaters.
 - c. *Paper*. That portion of paper which remains in substantially original condition at the time of disposal so that material is suitable for commercial-grade recycling. The term "paper" does include the paper commonly used in the production of newsprint, magazines, books, and other physical media for written materials, cardboards, and other container boards. Paper is not suitable for recycling purposes when in a state which makes separation unreasonable or unduly expensive because the paper has been put to another use, such as wrappings for items that soiled the paper, thus rendering it unfit for commercial recycling.
 - d. *Waste tire*. A tire that is no longer suitable for its original purpose because of wear, damage or defect.

- e. *Yard waste.* Leaves, grass clippings, garden debris, and brush, including clean woody vegetative material no greater than six inches in diameter. The term "yard waste" does not include stumps, roots, or shrubs with intact root balls.
- (10) *Refuse.* Miscellaneous combustible and noncombustible, nonrecyclable waste material resulting from residential and commercial activities including, but not limited to, cans, bottles, plastic, paper, ashes, glass, lawn and garden waste, metal, rubber, street waste, wood, cloth, litter, leaves, shrubbery, brush, and cardboard.
- (11) *Residential waste.* Garbage, refuse, ashes, and other waste generated from typical residential activity. This type of waste includes, but is not limited to, metal, paper, cardboard, plastic, cans, bottles, wood, rags, rubber, glass, cloth, litter, leaves, shrubbery, tree trimming, branches, trunks and stumps, grass clippings, brush, and small quantities of construction and/or demolition waste, which are either recycled or disposed of.
- (12) *Sewage plant refuse.* Debris collected on the primary screens of the sewage treatment plant consisting of sticks, rags, etc.

Solid waste disposal operation means the site, facility, operating practices, and maintenance thereof for the utilization, processing, or final disposal of solid waste including, but not limited to, sanitary landfill, incineration, composting, reduction, shredding, compression, salvage, and resource recovery.

(Code 1984, § 9.01; Ord. No. 47-03; Ord. No. 13-11; Ord. No. 25-13)

SECTION 2. Section 32-2, Green Bay Municipal Code, is hereby amended to read:

Sec. 32-2. Solid waste collection regulations.

- (a) Residential and commercial waste shall be collected by the Department from all properties, provided such waste is properly handled, prepared, contained, stored, and located in conformance with this chapter and rules and regulations established and publicized by the Director of Public Works. Residential waste collection shall be provided once per week at no charge for a maximum of one 96-gallon container per property or dwelling unit, whichever is greater. The garbage cart must be one which was purchased from the City. All refuse must fit inside the garbage cart with the lid fully closed. Residential waste placed outside the garbage cart will not be collected, **except during periods as defined by the City.**
- (b) Recyclable waste to include co-mingled containers and paper shall be collected by the Department for all residential properties, up to and including six dwelling units, provided such waste is properly separated, handled, prepared, contained, stored, and located in conformance with this chapter and rules and regulations established and publicized by the Director of Public Works. Recycling is mandatory, and residents will be required to comply with recycling regulations. Curbside recycling waste collection shall be provided once every two weeks to each household. There is no limit on the number of recycling carts collected at each residence. The recycling cart must be one which was purchased from the City. Recycling waste shall be placed out for collection separate from other residential waste on

the regular collection day. All recycling waste must fit inside the recycling cart with the lid fully closed. Recycling waste placed outside the recycling cart will not be collected.

(c) Special assessment for extra solid waste pick-up.

- (1) In those instances where the periodic solid waste pick-up is not followed by residents or property owners, the Director of Public Works, or their designee, is hereby authorized, when scheduling time permits, to dispatch City crews to remove the following:
 - a. Solid waste;
 - b. Tires;
 - c. Batteries;
 - d. Waste oil;
 - e. Yard waste;
 - f. Electronic waste;
 - g. Construction, remodeling, and demolition waste;
 - h. Bulky waste; or
 - i. Other items that are placed out for collection that would not normally be collected.

Any items removed are subject to removal charges noted below and any cost of disposal.

- (2) The costs of such removal shall be the hourly rate (including fringe benefits) per employee dispatched, plus truck charges and administration fees, for the time spent collecting such solid waste from the time of dispatch to the time the truck returns to the municipal garage. There shall be a three-tenths-hour minimum charge for such dispatch. Should City crews be dispatched at a time to collect such solid waste items which requires the City to incur overtime, the appropriate hourly rate will be charged (whether time and one-half or double-time).
- (3) Should the property owner fail to pay such charge as invoiced within 30 days of the date of the invoice, the same shall become a lien upon the property as provided in Wis. Stats. § 66.0627 and subsection (h) of this section, on behalf of the City of Green Bay and carrying such interest as has been determined by the Common Council.
- (4) The City will schedule two bulky waste collection periods annually during which residents will not be charged. During these periods, the City will collect up to two cubic yards of bulky waste per residence placed outside of a trash cart. At all other times, the above rules shall apply.
- (5) The City will schedule four overflow residential waste collection periods annually during which residents will not be charged. During these periods, the City will collect up to four 32-gallon bags of waste per residence placed outside of a trash cart. At all other times, the above rules shall apply.

- (6) Bulky waste may be disposed of by residents using the bulky waste drop-off locations provided by the City at no cost to the residents. The drop-off locations are for bulky waste only. Disposal of overflow volumes of residential waste at the drop-off locations is prohibited.
- (d) Separation of recyclable waste.
- (1) The following recyclable materials from single-family and two- to six-unit residences, multifamily dwellings and nonresidential facilities and properties shall be separated from other solid waste:
- a. Lead acid batteries.
 - b. Major appliances.
 - c. Waste oil.
 - d. Yard waste.
 - e. Aluminum containers.
 - f. Bi-metal containers.
 - g. Corrugated paper or other container board.
 - h. Foam polystyrene packaging.
 - i. Glass containers.
 - j. Magazines.
 - k. Newspapers.
 - l. Office paper.
 - m. Rigid plastic containers made of PETE and HDPE.
 - n. Rigid plastic containers made of PVC, LDPE, PP, PS and other resins, or multiple resins.
 - o. Steel containers.
 - p. Tires.
 - q. Electronic waste or E-waste.
- (2) Separation requirements exempted. The separation requirements of subsection (d)(1) of this section do not apply to the following:
- a. Occupants of single-family and two- to six-unit residences, multiple-family dwellings and nonresidential facilities and properties that send their solid waste to a processing facility licensed by the Wisconsin Department of Natural Resources that recovers the materials specified in subsection (d)(1) of this section from solid waste in as pure a form as is technically feasible.
 - b. Solid waste which is burned as a supplemental fuel at a facility if less than 30 percent of the heat input to the facility is derived from solid waste burned as supplemental fuel.

- c. A recyclable waste item specified in subsection (d)(1)a through o of this section for which a variance has been granted by the Department of Natural Resources under Wis. Stats. § 287.11(2m) or Wis. Admin. Code § NR 544.14.
- (e) Recyclable waste from buildings containing seven or more dwelling units.
 - (1) Recyclable waste shall not be collected by the City from buildings containing seven or more dwelling units. Owners of these buildings shall be responsible to provide collection and disposal of recyclable waste which is banned under Wis. Stats. Ch. 287. Items included in Wis. Stats. Ch. 287 are aluminum containers, corrugated paper or other container board, foam polystyrene packaging, glass containers, magazines or other material printed on similar paper, newspapers or other material printed on newsprint, office paper, rigid plastic containers, steel containers, and bi-metal steel/aluminum containers for carbonated and malt beverages. All owners or designated agents of rented and leased residential properties are required to do all the following:
 - a. Notify tenants in writing at the time of renting or leasing the dwelling and at least semi-annually thereafter about the established recycling program.
 - b. Provide adequate, separate containers to tenants for the separation of recyclable waste included in the ban.
 - c. Provide for the collection and recycling of recyclable materials separated from solid waste by the tenants and the delivery of the materials to a recycling facility.
 - d. Notify tenants of reasons to reduce and recycle solid waste, which materials are collected, how to prepare the materials in order to meet processing requirements, collection methods or sites, locations and hours of operation and a contact person, including a name, address and telephone number.

All owners of these buildings are required to comply with state statutes which ban the items listed above from landfilling and incineration.
 - (2) The requirements specified in subsection (e)(1) of this section do not apply to the owners or designated agents of multifamily dwellings if the solid waste generated within the dwellings is treated at a processing facility licensed by the Department of Natural Resources that recovers for recycling the materials specified in subsection (d)(1)e through o of this section from solid waste in as pure a form as is technically feasible.
- (f) Recyclable waste from nonresidential facilities.
 - (1) Recyclable waste shall not be collected by the City from nonresidential facilities and properties. Owners of these buildings shall be responsible to provide collection and disposal of recyclable waste which is banned under Wis. Stats. Ch. 287.
 - (2) Recycling laws apply to both residential properties and nonresidential facilities and properties. All nonresidential facilities or properties are required to separate the materials subject to Wis. Stats. Ch. 287.
 - (3) Owners or designated agents of nonresidential facilities and properties shall do all of the following to the materials specified in subsection (d)(1)e through o of this section:

- a. Notify in writing, at least semi-annually, all users, tenants and occupants of the properties about the established recycling program.
 - b. Provide adequate, separate containers for the collection of recyclable materials.
 - c. Provide for the collection of the materials separated from the solid waste by the users, tenants and occupants and the delivery of the materials to a recycling facility.
 - d. Notify users, tenants and occupants of reasons to reduce and recycle, which materials are collected, how to prepare materials in order to meet the processing requirements, collection methods or sites, locations and hours of operation, and a contact person or company, including a name, address, and telephone number.
- (4) The requirements specified in subsection (f)(2) of this section do not apply to the owners or designated agents of nonresidential facilities and properties if the solid waste generated within the facility or property is treated at a processing facility licensed by the Department of Natural Resources that recovers for recycling the materials specified in subsections (d)(1)e through o of this section from solid waste in as pure a form as is technically feasible.
- (g) The Director of Public Works is hereby authorized to control the collection, removal, and hauling of solid waste in the City in conformity with the following administrative regulations:
 - (1) Solid waste not collected by the City.
 - a. Industrial waste.
 - b. Manufacturing waste.
 - c. Hazardous and/or toxic waste.
 - d. Nauseous and/or offensive waste.
 - e. Sewage plant refuse.
 - f. Batteries.
 - g. Tires.
 - h. Waste oil.
 - i. Medical and infectious waste.
 - (2) Preparation.
 - a. Residential and commercial waste including miscellaneous refuse may be mixed and placed in a common container. Yard waste and recyclables are prohibited from being mixed with other waste.
 - b. Residential or commercial refuse and garbage shall be wrapped, packaged, and/or bundled and drained of any liquid.
 - c. Recyclable material such as glass, plastic bottles, tin, paper, cardboard and aluminum cans shall be co-mingled and placed in one container.

- d. To the greatest extent practicable, the recyclable materials separated from solid waste shall be clean and kept free of contaminants such as food, product residue, oil or grease, or other nonrecyclable materials.
- e. Branches, limbs, and cuttings from trees shall be cut in three-foot to eight-foot lengths and must be at least one-half inch in diameter when set out for collection. No brush will be picked up by the City when generated from vacant property or new building construction or from any contracted job. If said brush is not disposed of properly by the owner or contractor, the City will dispose of it and charge the property owner the actual cost.
- f. Bulky waste will be picked up by a special collection crew. All amounts collected will be charged a fee except as designated in subsection (e)(4) of this section. Said fee is to be a charge per cubic yard and will be established by resolution annually by the Common Council. Items placed out due to periodic change of tenancy (move-outs) from residences shall be charged for said service and proper disposal.
- g. Hot cinders, ashes, or any smoldering embers shall not be placed in any collection container; however, cold ashes shall not be placed in cardboard or paper containers, but shall only be placed in sealed/tied plastic bags of a type and composition suitable for handling and disposal.

(3) Tipper cart—Garbage and refuse.

- a. The cost of all garbage tipper carts provided by the City shall be at a charge established by resolution. One tipper cart shall be provided to each property with a maximum capacity of 96 gallons. All tipper carts must be purchased from the City.
- b. All tipper carts for the storage of solid waste shall be maintained in such a manner as to prevent the creation of a nuisance to public health and safety.
- c. Any tipper cart deemed defective or otherwise inadequate by the Director of Public Works shall be replaced within one week's time following notification by the City.
- d. Any defective tipper cart not replaced subsequent to the notification shall result in the issuance of a citation.

(4) Tipper cart—Recycling.

- a. The cost of all recycling tipper carts provided by the City shall be at a charge established by resolution. A minimum of one tipper cart is required at each residential unit as long as there are no more than six such units in a building. All tipper carts must be purchased from the City.
- b. All tipper carts for the storage of recyclable waste shall be maintained in such a manner as to prevent the creation of a nuisance to public health and safety.
- c. Any tipper cart deemed defective or otherwise inadequate by the Director of Public Works shall be replaced within one week's time following notification by the City.

- d. Any defective tipper cart not replaced subsequent to the notification shall result in the issuance of a citation.
- (5) Storage and collection.
- a. The owner and/or occupant of any premises shall be responsible for proper and sanitary storage, separation and preparation of all solid waste accumulated at that premises until collected by the collecting and transporting service.
 - b. Manufactured and mobile home park and condominium waste. On the scheduled day of collection, manufactured and mobile home park and condominium waste shall be properly prepared and placed at the curblane of the adjacent public street. No collection will be made on private property or in alleys, unless provided for by the Common Council and meeting the following conditions:
 - 1. The property owner and lessee, if applicable, shall provide the City with an indemnification and hold harmless agreement protecting the City from any and all liability for coming upon such private property, in a form to be approved by the City Attorney's Office.
 - 2. The property owner shall also maintain a policy of liability insurance, the terms and limits of which shall be determined by the City Insurance Department, in which the City of Green Bay shall be named as an additional insured, protecting it from any and all liability for coming upon said property.
 - 3. City collection vehicles are able to enter and leave the private property while proceeding in a forward motion, the private driveways or streets are of an adequate width to safely accommodate City collection vehicles and the solid waste is placed out for collection in an open area readily accessible for collection.
 - 4. If waste stored on private property is not disposed of properly, the City will see that proper disposal is made and charge the property owner the actual cost of said disposal.
 - c. Residential waste. Waste materials shall be stored in a manner which protects them from wind, rain, and other inclement weather conditions. Residential waste shall be placed in a garbage cart and placed at the curb a minimum of four feet from ~~regular recycling waste~~ **obstructions such as other tipper carts, trees, signposts, traffic signals and power poles** for collection. Pick-ups shall not be made on residential private property or in the alley adjoining residential property, except for manufactured and mobile home parks and condominiums as defined above.
 - d. Recyclable waste. Recyclable materials shall be stored in a manner which protects them from wind, rain, and other inclement weather conditions. Recyclable wastes shall be placed in a recycling cart and placed at the curb a minimum of four feet from ~~regular solid waste~~ **obstructions such as other tipper carts, trees, signposts, traffic signals and power poles** for collection. Recyclable waste collection shall be made on the same day as regular solid waste collection. Pick-ups shall not be made on residential private property, or in the alley adjoining

residential property except for manufactured and mobile home parks and condominiums as defined above.

- e. Manufactured and mobile home park and condominium waste. Waste from manufactured and mobile home parks and condominiums shall be considered residential waste and shall be stored and collected under the provisions of subsection (g)(5)b of this section.
- f. Any solid waste, when placed out for collection, shall be out by 6:00 a.m. ~~from June 1 through August 31 and shall be out by 7:00 a.m. from September 1 through May 31~~ on the scheduled day of collection, but shall not be placed out more than 12 hours before collection day and shall be removed not more than 12 hours after collection day. Solid waste for collection shall be placed along the curblane immediately adjacent to the property which has generated the solid waste. Failure to comply may result in the issuance of a citation.
- g. Items too large or otherwise unsuitable for storage containers shall be stored in a nuisance-free manner consistent with regulations established by the Director of Public Works.
- h. All solid waste placed out for collection becomes City property upon being collected.
- i. Garbage, recycling, or refuse containers shall be stored during the time period between collection days in the following locations:
 - 1. Tipper carts shall not be stored within 15 feet of the public right-of-way.
 - 2. Tipper carts shall not be stored on any street side or alongside of a building unless the cart is completely screened from view of an observer located at the public right-of-way.
 - 3. Tipper carts shall be stored in the backyard, garage, or any other convenient discreet location.
 - 4. All tipper carts must be stored with the lids completely closed.
 - 5. Carts shall not be stored near a furnace, grill or any other heat source.
- j. There shall be no variance from this section without the prior approval of the Director of Public Works therefor.
- k. Any garbage, recycling, yard waste, or refuse container stored in violation of this chapter, irrespective of the provisions of subsection (g)(5)i of this section, shall be subject to the following:
 - 1. The Director of Public Works shall have the authority to order that any exterior storage of garbage, recyclables, or refuse be enclosed in a structure if, in their determination, the storage of such garbage, recyclables, or refuse is unsanitary or creates or tends to create a nuisance to public health or safety.
 - 2. In determining whether an exterior storage structure shall be required under this section, the Director of Public Works shall take into account the location

of the waste storage, its proximity to residential areas, the likelihood of human exposure or contact with the waste storage areas, and the type of waste being stored. These considerations are to be deemed illustrative and not exclusive.

3. All structures ordered under this section shall be at least three-sided and constructed of opaque materials sufficient to ensure the waste is concealed from view from the exterior of the three sides. The walls of the structure shall be of a height equal to one foot taller than the garbage or refuse receptacle, but in no event in excess of six feet in height, and shall be maintained in a neat and orderly manner.
4. Any person aggrieved by such an order by the Director of Public Works to enclose said waste containers shall have the opportunity to bring such order before the Improvement and Service Committee for its review within 30 days of the issuance of the order.

(h) All charges by the City of Green Bay for early set-out as defined in subsection (g)(5)f of this section and bulk pick-ups must be paid within 30 days after the billing date or said charge will become a lien on the property according to Wis. Stats. § 66.0627 and will be added to that year's taxes with interest.

(Code 1984, § 9.02; Ord. No. 47-03; Ord. No. 43-04; Ord. No. 59-04; Ord. No. 13-11; Ord. No. 8-13; Ord. No. 25-13)

SECTION 3. All ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 4. Effective date. This ordinance shall take effect on and after its passage and publication.

Dated at Green Bay, Wisconsin, this _____ day of _____, 2023.

APPROVED:

Eric Genrich, Mayor

ATTEST:

Celestine Jeffreys, Clerk

10/24/2023

law



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.2

Consideration with possible action on request by Department of Public Works to enter into a Professional Services Agreement with Robert E. Lee & Associates, Inc. in the amount of \$47,900 for landfill monitoring and consulting services.

BACKGROUND

The City owns four closed landfills in which WDNR requires continued monitoring. The services included in this agreement will provide the sampling, testing, and documentation required. Robert E. Lee has provided landfill monitoring and consulting services at these landfills for several years.

RECOMMENDATION

Enter into an agreement with Robert E. Lee & Associates, Inc. for landfill monitoring and consulting services.

FISCAL IMPACT

Fiscal Impact: The 2024 budget, approved by City Council on 11/9/2023, includes monies for these services.

ATTACHMENTS

1. PRI1072023B_Green Bay Landfills Extra Services
2. PRI1072023A_Green Bay Plan Mod Monitoring Summary HR Landfill
3. PRI1072023C_GB LFs Danz Military and Humboldt monitoring services
4. PRI1072023D_HR Landfill Green Bay 2024 Monitoring Services

November 7, 2023

Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects
CITY OF GREEN BAY
Room 300, City Hall
100 North Jefferson Street
Green Bay, WI 54301-5026

RE: Proposal for Additional Consulting Services for the City of Green Bay Landfills (Danz Avenue, Military Avenue, Humboldt Road, and H&R Paper & Refuse Landfill in the City of Green Bay, WI

Dear Ms. Hobbs:

Robert E. Lee & Associates, Inc. (REL) is pleased to provide this proposal to the City of Green Bay (the City) for additional consulting services for the four closed City landfills (Danz Avenue Landfill, Military Avenue Landfill, Humboldt Road Landfill, and H&R Paper & Refuse Landfill) (the Landfills). Additional details are provided as follows:

SCOPE OF WORK

The scope of work may include, but is not limited to:

- Future monitoring well repair needs
- Possible well abandonment completion and/or oversight
- WDNR liaison for landfill inspections
- Additional site visits outside regularly required sampling events, as requested by the City
- Additional research of landfill sites, as requested by the City

PROJECT FEES

REL proposes to perform consulting services on a Time and Expense basis per the attached labor and equipment rate sheets for a cost of up to \$5,000. Please feel free to contact us with any questions at (920) 662-9641.

Sincerely,

ROBERT E. LEE & ASSOCIATES, INC.



Cody M. Applekamp, P.G.
Geologist

BDM/CMA/NJM

ENC.



Bruce D. Meissner, P.G.
Environmental Compliance Manager

AGREEMENT FOR ENGINEERING SERVICES

DATE: November 7, 2023

CLIENTS: Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects
CITY OF GREEN BAY
Room 300, City Hall
100 North Jefferson Street
Green Bay, WI 54301-5026

Robert E. Lee & Associates, Inc., is hereby authorized to proceed with the scope of services subject to the Standard Terms and Conditions, both of which are attached:

Proposal for Additional Consulting Services for the City of Green Bay Landfills (Danz Avenue Landfill, Military Avenue Landfill, Humboldt Road Landfill, and H&R Paper & Refuse Landfill), City of Green Bay, WI

Time and Expense contract \$ 5,000

Compensation for the services described in the attached proposal will be on the basis of a Time and Expense contract per the attached rate sheets. Please note that we issue monthly progress billings for the work performed during that month. Payment is expected within 30 days after the invoice date.

If acceptable, please sign in the space provided and return one complete copy for our files. If there are any questions, please call our office.

Sincerely,

ROBERT E. LEE & ASSOCIATES, INC.



Bruce D. Meissner, P.G.
Environmental Compliance Manager

BDM/CMA/NJM

ACCEPTED FOR CITY OF GREEN BAY



Cody M. Applekamp, P.G.
Geologist

Signature

Date

Print Name

ROBERT E. LEE & ASSOCIATES, INC.

STANDARD TERMS AND CONDITIONS

I. SCOPE

Robert E. Lee & Associates, Inc. agrees to perform the engineering, surveying, and/or environmental services described in the proposal or agreement in which these standard terms and conditions are referenced and to which they are attached. Unless modified in writing by the parties thereto, duties of Robert E. Lee & Associates, Inc. shall not be construed to exceed those services specifically set forth in the proposal or agreement to which these standard terms and conditions are attached.

II. COMPENSATION

Client agrees to pay for the services provided in accordance with the compensation provisions described in the proposal or agreement to which these standard terms and conditions are attached. Payment to Robert E. Lee & Associates, Inc. will be made within 30 days after the date of billing. For all amounts unpaid after 30 days from the invoice date, the client agrees to pay Robert E. Lee & Associates, Inc. a finance charge of 1-1/2% per month.

For time and expense compensation, charges will consist of salary-related costs and nonsalary costs. Salary-related charges include, but are not limited to, the following:

1. Salaries paid employees for time spent working directly on the subject project.
2. Costs of employee fringe benefits attributable to the employee's time spent working directly on the subject project.
3. General and administrative overhead charges distributed on the basis of employee time spent working directly on the subject project.

Nonsalary costs cover items directly related to the project, other than those covered by salary-related costs. Such nonsalary costs shall be computed on the basis of actual purchase price for items and services obtained from commercial sources and outside consultants. Cost of items and services provided directly by Robert E. Lee & Associates, Inc. shall be in accordance with rate schedules based on normal charges of commercial sources. Nonsalary items and services include, but are not limited to, the following:

1. Services directly applicable to the project such as special legal and accounting expenses, computer rental and programming costs, special consultants, borings, environmental analyses, commercial printing and binding, and similar services that are not applicable to general overhead.
2. Identifiable reproduction services applicable to the project such as printing of drawings, photostating, multilithing, printing, and similar services.

3. Identifiable communication services such as long-distance telephone, telegraph, cable, express services, and postage other than for general correspondence.
4. Living and traveling expenses of employees when away from home office on business connected with the project.
5. Subcontracted services.

III. RESPONSIBILITY

Robert E. Lee & Associates, Inc. is employed to render a professional service only, and any payments made by the client are compensation solely for such services rendered and recommendations made in carrying out the work. Robert E. Lee & Associates, Inc. shall follow the practice of the civil engineering, surveying, and/or environmental services professions to make findings, opinions, factual presentations, and professional advice and recommendations.

In performing construction management services, Robert E. Lee & Associates, Inc. review of work prepared or performed by other individuals or firms employed by the client shall not relieve those individuals or firms of complete responsibility for the adequacy of their work.

It is understood that any resident engineering or construction observation provided by Robert E. Lee & Associates, Inc. is for the purpose of determining compliance with the technical provisions of the project specifications and does not constitute any form of guarantee or insurance with respect to the performance of a contractor. Robert E. Lee & Associates, Inc. does not assume responsibility for methods or appliances used by a contractor, for safety of construction work, or for compliance by contractors with laws and regulations.

It is understood and agreed by both parties that Engineer, in performing professional services for Owner with respect to hazardous substances, will make recommendations to Owner with respect thereto, but does not have the authority or responsibility to decide where disposal or treatment takes place, nor to designate how or by whom the hazardous substances are to be transported for disposal or treatment.

IV. INSURANCE AND LIMITS OF LIABILITY

Robert E. Lee & Associates, Inc. shall maintain during the life of the Agreement, the following minimum public liability and property damage insurance to cover claims for injuries, including accidental death, as well as from claims for property damages which may arise from the performance of work under the Agreement. The client agrees to limit the liability of Robert E. Lee & Associates, Inc. to the extent of Robert E. Lee & Associates, Inc. insurance or as otherwise stated below:

1. Comprehensive general liability insurance, including personal injury liability, blanket contractual liability, and broad form property damage liability. The combined single limit of liability for bodily injury and property damage shall be \$1,000,000.

2. Automobile bodily injury and property damage liability insurance covering owned, non-owned, rented, and hired cars. The combined single limit of liability for bodily injury and property damage shall be \$600,000.
3. Statutory workers compensation and employers' liability insurance as required by the state having jurisdiction.
4. Professional liability insurance covering damages resulting from errors and omissions of Robert E. Lee & Associates, Inc. The limit of liability shall be \$50,000.

V. SUSPENSION OF WORK

The client may suspend, in writing, all or a portion of the work under the Agreement in the event unforeseen circumstances beyond the control of the client make normal progress in the performance of the work impossible. Robert E. Lee & Associates, Inc. may request that the work be suspended by notifying the client, in writing, of circumstances which are interfering with normal progress of the work. The time for completion of the work shall be extended by the number of days the work is suspended. In the event that the period of suspension exceeds 90 days, the terms of the Agreement are subject to renegotiation and both parties are granted the option to terminate work on the suspended portion of the project.

VI. TERMINATION OF WORK

Either party may terminate work in the event the other party fails to perform in accordance with the provisions of the Agreement. Termination of the Agreement is accomplished by 15 days prior written notice from the party initiating termination to the other. Notice of termination shall be delivered by certified mail with receipt for delivery returned to the sender.

In the event of termination, Robert E. Lee & Associates, Inc. shall perform such additional work as is necessary for the orderly filing of documents and closing of the project. The additional time for filing and closing shall not exceed 10 percent of the total time expended on the terminated portion of the project prior to the effective date of termination.

Robert E. Lee & Associates, Inc. shall be compensated for the terminated portion of the work on the basis of work actually performed prior to the effective date of termination plus the work required for filing and closing. Charges for the latter work are subject to the 10 percent limitation described in this Article.

VII. ASSIGNMENT

These terms and conditions and the Agreement to which they are attached are binding on the heirs, successors, and assigns of the parties hereto. The Agreement is not to be assigned by either the client or Robert E. Lee & Associates, Inc. without the prior written consent of the other.

VIII. INTEGRATION

These terms and conditions and the Agreement to which they are attached represent the entire understanding of the client and Robert E. Lee & Associates, Inc. as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. The Agreement may not be modified or altered except in writing signed by both parties.

IX. JURISDICTION

This Agreement shall be administered and interpreted under the laws of the state of Wisconsin. Jurisdiction of litigation arising from the Agreement shall be in the state of Wisconsin. If any part of the Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall be in full force and effect.

X. DISPUTE RESOLUTION

In an effort to resolve any conflicts that arise during the design or construction of the project following the completion of the project, the Client and the Engineer agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbinding mediation unless the parties mutually agree otherwise.

The Client shall make no claim for professional negligence, either directly or in a third party claim, against the Engineer unless the Client has first provided the Engineer with a written certification executed by an independent engineer currently practicing in the same discipline as the Engineer and licensed in the state of Wisconsin. This certification shall: a) specify each and every act or omission that the certifier contends is a violation of the standard of care expected of an Engineer performing professional services under similar circumstances; and b) state in complete detail the basis for the certifier's opinion that each such act or omission constitutes such a violation. This certificate shall be provided to the Engineer not less than thirty (30) calendar days prior to the presentation of any claim or the institution of any mediation or judicial proceeding.

In the event of any litigation arising from or related to the services provided under this Agreement, the prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, attorneys' fees and other related expenses.

All legal actions by either party against the other arising out of or in any way connected with the services to be performed hereunder shall be barred and under no circumstances shall any such claim be initiated by either party after two (2) years have passed from the date of completion of construction phase services, unless the Engineer's services shall be terminated earlier, in which case the date of termination of this Agreement shall be used.

June 2006

2023 Labor Rates
Robert E. Lee & Associates, Inc.

Staff Type	Rate	Staff Type	Rate
CAD TECHNICIAN I	\$ 80	GEOLOGIST II	\$ 110
CAD TECHNICIAN II	\$ 96	GEOLOGIST III	\$ 122
CAD TECHNICIAN INTERN	\$ 51	GEOLOGIST IV	\$ 149
CIVIL ENGINEERING MANAGER	\$ 183	GIS SPECIALIST I	\$ 94
CLERICAL I	\$ 58	GIS SPECIALIST II	\$ 106
CLERICAL II	\$ 68	GIS TECHNICIAN	\$ 75
CLERICAL MANAGER	\$ 99	LAND USE PLANNER I	\$ 97
COMMUNITY PLANNER	\$ 114	LAND USE PLANNER II	\$ 131
CONSTRUCTION MANAGER	\$ 183	NATURAL RESOURCES SCIENTIST I	\$ 74
DESIGN MANAGER	\$ 164	NATURAL RESOURCES SCIENTIST II	\$ 90
DESIGNER I	\$ 122	NATURAL RESOURCES SCIENTIST III	\$ 107
DESIGNER II	\$ 130	NATURAL RESOURCES SCIENTIST IV	\$ 135
ENGINEER I	\$ 108	NATURAL RESOURCES TECHNICIAN I	\$ 45
ENGINEER II	\$ 122	NATURAL RESOURCES TECHNICIAN II	\$ 50
ENGINEER III	\$ 148	NATURAL RESOURCES TECHNICIAN III	\$ 72
ENGINEER IV	\$ 166	NES DIVISION MANAGER	\$ 135
ENGINEERING ASSISTANT	\$ 67	PROJECT COORDINATOR	\$ 89
ENGINEERING DIRECTOR	\$ 192	SENIOR CONSULTANT	\$ 172
ENGINEERING TECHNICIAN I	\$ 87	SENIOR GIS SPECIALIST	\$ 138
ENGINEERING TECHNICIAN II	\$ 103	SENIOR TRANSPORTATION CONSULTANT	\$ 137
ENGINEERING TECHNICIAN III	\$ 130	SOLID WASTE MANAGER	\$ 183
ENVIRONMENTAL COMPLIANCE MANAGER	\$ 160	SURVEY INTERN	\$ 60
ENVIRONMENTAL SCIENTIST I	\$ 98	SURVEY MANAGER	\$ 140
ENVIRONMENTAL SCIENTIST II	\$ 113	SURVEYOR TECHNICIAN I	\$ 78
ENVIRONMENTAL SCIENTIST III	\$ 125	SURVEYOR TECHNICIAN II	\$ 90
ENVIRONMENTAL SERVICES MANAGER	\$ 183	SURVEYOR TECHNICIAN III	\$ 104
ENVIRONMENTAL TECHNICIAN ASSISTANT I	\$ 53	SURVEYOR PROFESSIONAL I	\$ 98
ENVIRONMENTAL TECHNICIAN ASSISTANT II	\$ 72	SURVEYOR PROFESSIONAL II	\$ 106
ENVIRONMENTAL TECHNICIAN I	\$ 76	SURVEYOR PROFESSIONAL III	\$ 113
ENVIRONMENTAL TECHNICIAN II	\$ 87	SURVEY FIELD LEAD	\$ 111
ENVIRONMENTAL TECHNICIAN III	\$ 106	TECHNICAL SERVICES DIRECTOR	\$ 178
EROSION CONTROL/RESTORATION CREW LEADER	\$ 96	TRANSPORTATION MANAGER	\$ 183
EROSION CONTROL/RESTORATION TECHNICIAN I	\$ 53	WATER & WASTEWATER FACILITIES OPERATOR	\$ 101
EROSION CONTROL/RESTORATION TECHNICIAN II	\$ 82	WATER & WASTEWATER MANAGER	\$ 183
EROSION CONTROL/RESTORATION TECHNICIAN III	\$ 90	WATER & WASTEWATER OPERATOR TRAINER	\$ 113
GEOLOGIST I	\$ 95	WWTP FACILITIES OPERATOR ASSISTANT	\$ 57

2023 Sampling Equipment Rates

Robert E. Lee & Associates, Inc. - Environmental Compliance

Groundwater Sampling Equipment	
Item	Rate/Unit
Bailer, Disposable 3-foot	\$9.00/Each
Bailer, Disposable 7-foot	\$13.00/Each
Bailer, Mini	\$5.00/Each
Bladder Pump Controller	\$250/Day
Drum, Steel 55-gallon	\$76.00/Each
Filter, Inline 0.45 µm	\$15.00/Each
Filter, Sand 50 lbs	\$11.00/Each
Flushmount Cover	\$95.00/Each
Groundwater Pump	\$10.00/Hour
Low Flow (YSI Flow Control Tubing Pump)	\$300/Day
Meter, pH (pen type)	\$5.00/Day
Meter, YSI Half (Cond, pH, temp)	\$50.00/Day
Meter, YSI Full (half + another sensor)	\$100.00/Day
Peristaltic Pump	\$80.00/Day
Pro Top Well Cover (New)	\$175.00/Each
PVC Riser, 1-inch x 5 feet	\$19.00/Each
PVC Riser, 2-inch x 5 feet	\$23.00/Each
PVC Male Points, 1-inch	\$8.50/Each
PVC Male Points, 2-inch	\$15.00/Each
PVC Well Screen, 1-inch x 5 feet	\$30.00/Each
PVC Well Screen, 2-inch x 5 feet	\$45.00/Each
1 Liter Bottles	\$3.00/Each
Tubing, 3/8-inch	\$2.00/Foot
Water Level Probe	\$50.00/Day
Water, NanoPure	\$1.00/Gallon
Well Plug, J-Plug, 2-inch	\$15/Each
Well, 1-inch x 10 feet, Temp.	\$65/Each
Well, 1-inch x 15 feet, Temp.	\$95/Each

Vapor Sampling Equipment	
Item	Rate/Unit
Sub-Slab Installation Kit (PID, Hammer Drill, Shop Vac, Vacuum Pump, Vapor Pin, NylaFlow, and Silicone Tubing)	\$140.00/Hole
Sub-Slab Sample Collection Kit (PID, Vacuum Pump, NylaFlow and Silicone Tubing)	\$45.00/Sample
Stainless Steel Flushmount Cover	\$34.00/Each
Helium Canister & Regulator	\$35.00/Hole
Helium Meter	\$120.00/Hole

Asbestos Sampling Equipment	
Item	Rate/Unit
Asbestos Sampling Kit	\$50.00/Day

Miscellaneous Sampling Equipment	
Item	Rate/Unit
Env. Comp. Drill	\$10.00/Day
GIS GPS (GPSARRW)	\$25.00/Hour
	\$125.00/Day
Milwaukee Stand Light	\$50.00/Day
Environmental Safety Supplies	\$25.00/Day
Environmental Safety Supplies	\$75.00/Day
GIS Tablet	\$20.00/Hour
	\$100.00/Day

Wastewater Sampling Equipment	
Item	Rate/Unit
Flow Controller FLOWMTDY02	\$25.00/Day
WW Sampler SAMPDY02	\$25.00/Day

Soil Sampling Equipment	
Item	Rate/Unit
Asphalt Patch	\$10.00/Each
Bentonite/Benseal	\$14.00/Bag
Concrete Patch	\$5.00/Each
Concrete Regular	\$8.00/Bag
Generator (Air Compressor)	\$10.00/Hour
Geoprobe	\$60.00/Hour
	\$450.00/Day
Padlocks	\$15.00/Each
Portland Cement	\$10.00/Bag
Sediment Core Catchers	\$15.00/Each
Sediment Sleeves, Plastic, 2"x48"	\$25.00/Each
Sediment Sleeves, Stainless Steel, 2"x48"	\$50.00/Day
Sediment/Sludge Sampling Kit	\$150.00/Day

Meters/Electronic Equipment	
Item	Rate/Unit
Camera, Digital	\$10.00/Use
Data Logger, Heron	\$5.00/Day
	40.00/Week
	\$150.00/Month
Gas Meter	\$130/Day
Laser Level	\$13.50/Hour
Mesa Tablet	\$100/Day
Micro-manometer	\$150/Day
PID/FID Meter	\$100.00/Day

Spill Response Equipment	
Item	Rate/Unit
Absorbent Socks, New Pig Small	\$8.00/Each
Boom, Oil only (3-inch x 4-foot)	\$10.00/Each
Boom, Oil only (5-inch x 10-foot)	\$55.00/Each
Boom, Oil only (8-inch x 10-foot)	\$80.00/Each
Oil Dry	\$12.00/Bag
Pillow, Oil only	18.00/Each
Absorbent Pads	\$2.00/Each
Roll, Oil only	\$1.00/Foot

Vehicles	
Item	Rate/Unit
ATV	\$16.50/Hour
Boat	\$60.00/Day
Mileage	\$0.655/Employee Auto \$0.790/Company Auto
Snowmobile	\$100.00/Day
Tractor	\$20.00/Hour
Trailer	\$25.00/Day
Unmanned Aerial Vehicle (UAV)	\$100.00/Hour

Note: Supplies items such as Hubs/Lath/Pipe/Bailers/etc. will vary throughout the year based on the cost REL pays.

November 7, 2023

Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects
CITY OF GREEN BAY
City Hall, Room 300
100 North Jefferson Street
Green Bay, WI 54301-5026

RE: Proposal for the Closed H&R Paper & Refuse Service Landfill, License #850, Historical Plan of Operation Approvals & Conditions Summary with a Revised Landfill Monitoring Plan and Submittal to the WI Dept. of Natural Resources for, City of Green Bay, WI

Dear Ms. Hobbs:

Robert E. Lee & Associates, Inc. (REL) is pleased to provide this proposal to the City of Green Bay (the City) for preparation of a Historical Plan of Operation Approvals & Conditions Summary with a Revised Landfill Monitoring Plan and submittal to the Wisconsin Department of Natural Resources (WDNR), for the closed H&R Paper & Refuse Service Landfill (the Landfill). Additional details are provided as follows:

SCOPE OF WORK

The scope of work includes two Tasks:

Task 1: REL will review closure plans and previous plan modification approvals provided by the WDNR available since the Landfill closure. Conditions of the approvals will be reviewed and recorded. When conditions are confirmed to be met or superseded, they will be tracked with a spreadsheet. This spreadsheet will be completed to identify conditions that are active, met, or superseded by a more recent condition. REL will provide this spreadsheet with a written summary of active conditions at the Landfill.

Task 2: Once the active conditions are determined, REL will review historical data and current site devices and conditions to justify modifying the current, February 3, 2022, Conditional Plan of Operation Approval Modification for Development. Following the research of the Landfill information, a "Revised Monitoring Plan" will be written using *Reducing or Terminating Groundwater Monitoring at Solid Waste Landfills* (PUB-WA-1013 2019) and past plan modification reports as guidance. Items to potentially address in the proposed plan modification include, but are not limited to:

- Formally removing GW-17 from the monitoring plan, which was abandoned in 2023.
- Possible abandonment of B-17 and B-17A due to their location in standing water.
- Possible various gas probe abandonment.

Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects

CITY OF GREEN BAY

RE: Proposal for the Closed H&R Paper & Refuse Service Landfill, License #850, Historical Plan of Operation Approvals & Conditions Summary with a Revised Landfill Monitoring Plan and Submittal to the WDNR

- Identify the Iris Court monitoring device and abandon it if not needed.
- Possible reduction of select groundwater laboratory sampling parameters.

REL will discuss with the City if other items need to be addressed with the plan modification after the completion of Task 1.

Task 1 and Task 2 are expected to be completed by the end of 2024. Once Task 2 is submitted to the WDNR, they have 90 days to review and approve the request.

Project Fees

REL proposes to perform consulting services for a cost of \$6,000. A cost breakdown is presented below:

Tasks	Fee
1. Review closure plans and previous plan modifications provided by the WDNR. Provide a summary of past and current conditions of historical closure and monitoring approvals.	\$2,500
2. Complete a Revised Monitoring Plan to address multiple items and conditions in the current, February 3, 2022, Conditional Plan of Operation Approval Modification for Development. Note: this does not include the \$1,650 WDNR review fee. The City will pay this fee directly to the WDNR.	\$3,500
Total	\$6,000

Please feel free to contact us with any questions at (920) 662-9641.

Sincerely,

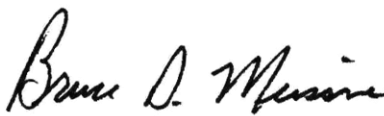
ROBERT E. LEE & ASSOCIATES, INC.



Cody M. Applekamp, P.G.
Geologist

CMA/BDM/NJM

ENC.



Bruce D. Meissner, P.G.
Environmental Compliance Manager

AGREEMENT FOR ENGINEERING SERVICES

DATE: November 7, 2023

CLIENTS: Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects
CITY OF GREEN BAY
City Hall, Room 300
100 North Jefferson Street
Green Bay, WI 54301-5026

Robert E. Lee & Associates, Inc., is hereby authorized to proceed with the scope of services subject to the Standard Terms and Conditions, both of which are attached:

Proposal for the Closed H&R Paper & Refuse Service Landfill, License #850, Historical Plan of Operation Approvals & Conditions Summary with a Revised Landfill Monitoring Plan and Submittal to the WI Dept. of Natural Resources for, City of Green Bay, WI.

Lump Sum contract \$ 6,000

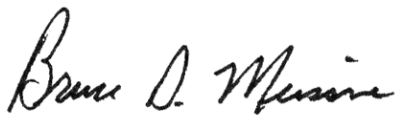
Note: this does not include the \$1,650 WDNR review fee. The City will pay this fee directly to the WDNR.

Compensation for the services described in the attached proposal will be on the basis of a lump sum contract. Please note that we issue monthly progress billings for the work performed during that month. Payment is expected within 30 days after the invoice date.

If acceptable, please sign in the space provided and return one complete copy for our files. If there are any questions, please call our office.

Sincerely,

ROBERT E. LEE & ASSOCIATES, INC.



Bruce D. Meissner, P.G.
Environmental Compliance Manager

BDM/CMA/NJM



Cody M. Applekamp, P.G.
Geologist

ACCEPTED FOR CITY OF GREEN BAY

Signature

Date

Print Name

ROBERT E. LEE & ASSOCIATES, INC.

STANDARD TERMS AND CONDITIONS

I. SCOPE

Robert E. Lee & Associates, Inc. agrees to perform the engineering, surveying, and/or environmental services described in the proposal or agreement in which these standard terms and conditions are referenced and to which they are attached. Unless modified in writing by the parties thereto, duties of Robert E. Lee & Associates, Inc. shall not be construed to exceed those services specifically set forth in the proposal or agreement to which these standard terms and conditions are attached.

II. COMPENSATION

Client agrees to pay for the services provided in accordance with the compensation provisions described in the proposal or agreement to which these standard terms and conditions are attached. Payment to Robert E. Lee & Associates, Inc. will be made within 30 days after the date of billing. For all amounts unpaid after 30 days from the invoice date, the client agrees to pay Robert E. Lee & Associates, Inc. a finance charge of 1-1/2% per month.

For time and expense compensation, charges will consist of salary-related costs and nonsalary costs. Salary-related charges include, but are not limited to, the following:

1. Salaries paid employees for time spent working directly on the subject project.
2. Costs of employee fringe benefits attributable to the employee's time spent working directly on the subject project.
3. General and administrative overhead charges distributed on the basis of employee time spent working directly on the subject project.

Nonsalary costs cover items directly related to the project, other than those covered by salary-related costs. Such nonsalary costs shall be computed on the basis of actual purchase price for items and services obtained from commercial sources and outside consultants. Cost of items and services provided directly by Robert E. Lee & Associates, Inc. shall be in accordance with rate schedules based on normal charges of commercial sources. Nonsalary items and services include, but are not limited to, the following:

1. Services directly applicable to the project such as special legal and accounting expenses, computer rental and programming costs, special consultants, borings, environmental analyses, commercial printing and binding, and similar services that are not applicable to general overhead.
2. Identifiable reproduction services applicable to the project such as printing of drawings, photostating, multilithing, printing, and similar services.

3. Identifiable communication services such as long-distance telephone, telegraph, cable, express services, and postage other than for general correspondence.
4. Living and traveling expenses of employees when away from home office on business connected with the project.
5. Subcontracted services.

III. RESPONSIBILITY

Robert E. Lee & Associates, Inc. is employed to render a professional service only, and any payments made by the client are compensation solely for such services rendered and recommendations made in carrying out the work. Robert E. Lee & Associates, Inc. shall follow the practice of the civil engineering, surveying, and/or environmental services professions to make findings, opinions, factual presentations, and professional advice and recommendations.

In performing construction management services, Robert E. Lee & Associates, Inc. review of work prepared or performed by other individuals or firms employed by the client shall not relieve those individuals or firms of complete responsibility for the adequacy of their work.

It is understood that any resident engineering or construction observation provided by Robert E. Lee & Associates, Inc. is for the purpose of determining compliance with the technical provisions of the project specifications and does not constitute any form of guarantee or insurance with respect to the performance of a contractor. Robert E. Lee & Associates, Inc. does not assume responsibility for methods or appliances used by a contractor, for safety of construction work, or for compliance by contractors with laws and regulations.

It is understood and agreed by both parties that Engineer, in performing professional services for Owner with respect to hazardous substances, will make recommendations to Owner with respect thereto, but does not have the authority or responsibility to decide where disposal or treatment takes place, nor to designate how or by whom the hazardous substances are to be transported for disposal or treatment.

IV. INSURANCE AND LIMITS OF LIABILITY

Robert E. Lee & Associates, Inc. shall maintain during the life of the Agreement, the following minimum public liability and property damage insurance to cover claims for injuries, including accidental death, as well as from claims for property damages which may arise from the performance of work under the Agreement. The client agrees to limit the liability of Robert E. Lee & Associates, Inc. to the extent of Robert E. Lee & Associates, Inc. insurance or as otherwise stated below:

1. Comprehensive general liability insurance, including personal injury liability, blanket contractual liability, and broad form property damage liability. The combined single limit of liability for bodily injury and property damage shall be \$1,000,000.

2. Automobile bodily injury and property damage liability insurance covering owned, non-owned, rented, and hired cars. The combined single limit of liability for bodily injury and property damage shall be \$600,000.
3. Statutory workers compensation and employers' liability insurance as required by the state having jurisdiction.
4. Professional liability insurance covering damages resulting from errors and omissions of Robert E. Lee & Associates, Inc. The limit of liability shall be \$50,000.

V. SUSPENSION OF WORK

The client may suspend, in writing, all or a portion of the work under the Agreement in the event unforeseen circumstances beyond the control of the client make normal progress in the performance of the work impossible. Robert E. Lee & Associates, Inc. may request that the work be suspended by notifying the client, in writing, of circumstances which are interfering with normal progress of the work. The time for completion of the work shall be extended by the number of days the work is suspended. In the event that the period of suspension exceeds 90 days, the terms of the Agreement are subject to renegotiation and both parties are granted the option to terminate work on the suspended portion of the project.

VI. TERMINATION OF WORK

Either party may terminate work in the event the other party fails to perform in accordance with the provisions of the Agreement. Termination of the Agreement is accomplished by 15 days prior written notice from the party initiating termination to the other. Notice of termination shall be delivered by certified mail with receipt for delivery returned to the sender.

In the event of termination, Robert E. Lee & Associates, Inc. shall perform such additional work as is necessary for the orderly filing of documents and closing of the project. The additional time for filing and closing shall not exceed 10 percent of the total time expended on the terminated portion of the project prior to the effective date of termination.

Robert E. Lee & Associates, Inc. shall be compensated for the terminated portion of the work on the basis of work actually performed prior to the effective date of termination plus the work required for filing and closing. Charges for the latter work are subject to the 10 percent limitation described in this Article.

VII. ASSIGNMENT

These terms and conditions and the Agreement to which they are attached are binding on the heirs, successors, and assigns of the parties hereto. The Agreement is not to be assigned by either the client or Robert E. Lee & Associates, Inc. without the prior written consent of the other.

VIII. INTEGRATION

These terms and conditions and the Agreement to which they are attached represent the entire understanding of the client and Robert E. Lee & Associates, Inc. as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. The Agreement may not be modified or altered except in writing signed by both parties.

IX. JURISDICTION

This Agreement shall be administered and interpreted under the laws of the state of Wisconsin. Jurisdiction of litigation arising from the Agreement shall be in the state of Wisconsin. If any part of the Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall be in full force and effect.

X. DISPUTE RESOLUTION

In an effort to resolve any conflicts that arise during the design or construction of the project following the completion of the project, the Client and the Engineer agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbinding mediation unless the parties mutually agree otherwise.

The Client shall make no claim for professional negligence, either directly or in a third party claim, against the Engineer unless the Client has first provided the Engineer with a written certification executed by an independent engineer currently practicing in the same discipline as the Engineer and licensed in the state of Wisconsin. This certification shall: a) specify each and every act or omission that the certifier contends is a violation of the standard of care expected of an Engineer performing professional services under similar circumstances; and b) state in complete detail the basis for the certifier's opinion that each such act or omission constitutes such a violation. This certificate shall be provided to the Engineer not less than thirty (30) calendar days prior to the presentation of any claim or the institution of any mediation or judicial proceeding.

In the event of any litigation arising from or related to the services provided under this Agreement, the prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, attorneys' fees and other related expenses.

All legal actions by either party against the other arising out of or in any way connected with the services to be performed hereunder shall be barred and under no circumstances shall any such claim be initiated by either party after two (2) years have passed from the date of completion of construction phase services, unless the Engineer's services shall be terminated earlier, in which case the date of termination of this Agreement shall be used.

June 2006

November 7, 2023

Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects
CITY OF GREEN BAY
City Hall, Room 300
100 North Jefferson Street
Green Bay, WI 54301-5026

RE: Proposal for 2024 Monitoring & Reporting Services for three closed City of Green Bay Landfills:
Danz Avenue Landfill (WDNR License #170), Humboldt Road Landfill (WDNR License #1129),
and Military Avenue Landfill (WDNR License #169).

Dear Ms. Hobbs:

Robert E. Lee & Associates, Inc. (REL) is pleased to provide this proposal to the City of Green Bay (the City) to complete the 2024 groundwater and gas monitoring and reporting services at the three closed City of Green Bay Landfills: Danz Avenue Landfill (WDNR License #170), Humboldt Road Landfill (WDNR License #1129), and Military Avenue Landfill (WDNR License #169) (the Landfills).

Additional details are provided as follows:

SCOPE OF WORK

The scope of work includes typical tasks completed at the Landfill site related to required monitoring, data reporting, and inspections.

- Complete semi-annual groundwater and gas monitoring events in March and September 2024, at each of the three Landfills according to the most recent requirements of their respective 2020 Conditional Closure Plan Approval Modification for Environmental Monitoring Program, approved by the Wisconsin Department of Natural Resources (WDNR).
- Annual monitoring point and landfill cap inspection.
- Report required results to the WDNR Groundwater and Environmental Monitoring System (GEMS) following each quarterly monitoring event, as required by NR 507.26.

Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects

CITY OF GREEN BAY

RE: Proposal for 2024 Monitoring & Reporting Services for three closed City of Green Bay Landfills:
Danz Avenue Landfill (WDNR License #170), Humboldt Road Landfill (WDNR License #1129),
and Military Avenue Landfill (WDNR License #169).

PROJECT FEES

REL proposes to perform consulting services for a cost of \$12,600. A cost breakdown is presented below:

Tasks	Fee
1. Complete semi-annual groundwater and gas monitoring events in March and September 2024 at the Military Avenue Closed Landfill . This fee includes REL fees, lab costs, along with costs to upload the data collected to the WDNR's Groundwater and Environmental Monitoring System (GEMS) following each quarterly monitoring event. This also includes the annual monitoring point and landfill cap inspection.	\$1,900 x 2 events = \$3,800 per year
2. Complete semi-annual groundwater and gas monitoring events in March and September 2024 at the Humboldt Road Closed Landfill . This fee includes REL fees, lab costs, along with costs to upload the data collected to the WDNR's Groundwater and Environmental Monitoring System (GEMS) following each quarterly monitoring event. This also includes the annual monitoring point and landfill cap inspection.	\$2,350 x 2 events = \$4,700 per year
3. Complete semi-annual groundwater and gas monitoring events in March and September 2024 at the Danz Avenue Closed Landfill . This fee includes REL fees, lab costs, along with costs to upload the data collected to the WDNR's Groundwater and Environmental Monitoring System (GEMS) following each quarterly monitoring event. This also includes the annual monitoring point and landfill cap inspection.	\$2,050 x 2 events = \$4,100 per year
Total for 2024 Landfill Monitoring for three City of Green Bay Closed Landfills; Danz Avenue Landfill, Humboldt Road Landfill, and Military Avenue Landfill	\$12,600

Please feel free to contact us with any questions at (920) 662-9641.

Sincerely,

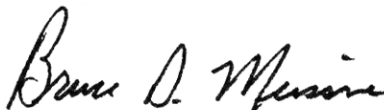
ROBERT E. LEE & ASSOCIATES, INC.



Cody M. Applekamp, P.G.
Geologist

BDM/CMA/NJM

ENC.



Bruce D. Meissner, P.G.
Environmental Compliance Manager

AGREEMENT FOR ENGINEERING SERVICES

DATE: November 7, 2023

CLIENTS: Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects
CITY OF GREEN BAY
City Hall, Room 300
100 North Jefferson Street
Green Bay, WI 54301-5026

Robert E. Lee & Associates, Inc., is hereby authorized to proceed with the scope of services subject to the Standard Terms and Conditions, both of which are attached:

Proposal for 2024 Monitoring & Reporting Services for the three closed City of Green Bay Landfills, Danz Avenue Landfill (WDNR License #170), Humboldt Road Landfill (WDNR License #1129), and Military Avenue Landfill (WDNR License #169).

Lump Sum contract \$ 12,600

Compensation for the services described in the attached proposal will be on the basis of a lump sum contract. Please note that we issue monthly progress billings for the work performed during that month. Payment is expected within 30 days after the invoice date.

If acceptable, please sign in the space provided and return one complete copy for our files. If there are any questions, please call our office.

Sincerely,

ROBERT E. LEE & ASSOCIATES, INC.



Bruce D. Meissner, P.G.
Environmental Compliance Manager

BDM/CMA/NJM



Cody M. Applekamp, P.G.
Geologist

ACCEPTED FOR CITY OF GREEN BAY

Signature

Date

Print Name

ROBERT E. LEE & ASSOCIATES, INC.

STANDARD TERMS AND CONDITIONS

I. SCOPE

Robert E. Lee & Associates, Inc. agrees to perform the engineering, surveying, and/or environmental services described in the proposal or agreement in which these standard terms and conditions are referenced and to which they are attached. Unless modified in writing by the parties thereto, duties of Robert E. Lee & Associates, Inc. shall not be construed to exceed those services specifically set forth in the proposal or agreement to which these standard terms and conditions are attached.

II. COMPENSATION

Client agrees to pay for the services provided in accordance with the compensation provisions described in the proposal or agreement to which these standard terms and conditions are attached. Payment to Robert E. Lee & Associates, Inc. will be made within 30 days after the date of billing. For all amounts unpaid after 30 days from the invoice date, the client agrees to pay Robert E. Lee & Associates, Inc. a finance charge of 1-1/2% per month.

For time and expense compensation, charges will consist of salary-related costs and nonsalary costs. Salary-related charges include, but are not limited to, the following:

1. Salaries paid employees for time spent working directly on the subject project.
2. Costs of employee fringe benefits attributable to the employee's time spent working directly on the subject project.
3. General and administrative overhead charges distributed on the basis of employee time spent working directly on the subject project.

Nonsalary costs cover items directly related to the project, other than those covered by salary-related costs. Such nonsalary costs shall be computed on the basis of actual purchase price for items and services obtained from commercial sources and outside consultants. Cost of items and services provided directly by Robert E. Lee & Associates, Inc. shall be in accordance with rate schedules based on normal charges of commercial sources. Nonsalary items and services include, but are not limited to, the following:

1. Services directly applicable to the project such as special legal and accounting expenses, computer rental and programming costs, special consultants, borings, environmental analyses, commercial printing and binding, and similar services that are not applicable to general overhead.
2. Identifiable reproduction services applicable to the project such as printing of drawings, photostating, multilithing, printing, and similar services.

3. Identifiable communication services such as long-distance telephone, telegraph, cable, express services, and postage other than for general correspondence.
4. Living and traveling expenses of employees when away from home office on business connected with the project.
5. Subcontracted services.

III. RESPONSIBILITY

Robert E. Lee & Associates, Inc. is employed to render a professional service only, and any payments made by the client are compensation solely for such services rendered and recommendations made in carrying out the work. Robert E. Lee & Associates, Inc. shall follow the practice of the civil engineering, surveying, and/or environmental services professions to make findings, opinions, factual presentations, and professional advice and recommendations.

In performing construction management services, Robert E. Lee & Associates, Inc. review of work prepared or performed by other individuals or firms employed by the client shall not relieve those individuals or firms of complete responsibility for the adequacy of their work.

It is understood that any resident engineering or construction observation provided by Robert E. Lee & Associates, Inc. is for the purpose of determining compliance with the technical provisions of the project specifications and does not constitute any form of guarantee or insurance with respect to the performance of a contractor. Robert E. Lee & Associates, Inc. does not assume responsibility for methods or appliances used by a contractor, for safety of construction work, or for compliance by contractors with laws and regulations.

It is understood and agreed by both parties that Engineer, in performing professional services for Owner with respect to hazardous substances, will make recommendations to Owner with respect thereto, but does not have the authority or responsibility to decide where disposal or treatment takes place, nor to designate how or by whom the hazardous substances are to be transported for disposal or treatment.

IV. INSURANCE AND LIMITS OF LIABILITY

Robert E. Lee & Associates, Inc. shall maintain during the life of the Agreement, the following minimum public liability and property damage insurance to cover claims for injuries, including accidental death, as well as from claims for property damages which may arise from the performance of work under the Agreement. The client agrees to limit the liability of Robert E. Lee & Associates, Inc. to the extent of Robert E. Lee & Associates, Inc. insurance or as otherwise stated below:

1. Comprehensive general liability insurance, including personal injury liability, blanket contractual liability, and broad form property damage liability. The combined single limit of liability for bodily injury and property damage shall be \$1,000,000.

2. Automobile bodily injury and property damage liability insurance covering owned, non-owned, rented, and hired cars. The combined single limit of liability for bodily injury and property damage shall be \$600,000.
3. Statutory workers compensation and employers' liability insurance as required by the state having jurisdiction.
4. Professional liability insurance covering damages resulting from errors and omissions of Robert E. Lee & Associates, Inc. The limit of liability shall be \$50,000.

V. SUSPENSION OF WORK

The client may suspend, in writing, all or a portion of the work under the Agreement in the event unforeseen circumstances beyond the control of the client make normal progress in the performance of the work impossible. Robert E. Lee & Associates, Inc. may request that the work be suspended by notifying the client, in writing, of circumstances which are interfering with normal progress of the work. The time for completion of the work shall be extended by the number of days the work is suspended. In the event that the period of suspension exceeds 90 days, the terms of the Agreement are subject to renegotiation and both parties are granted the option to terminate work on the suspended portion of the project.

VI. TERMINATION OF WORK

Either party may terminate work in the event the other party fails to perform in accordance with the provisions of the Agreement. Termination of the Agreement is accomplished by 15 days prior written notice from the party initiating termination to the other. Notice of termination shall be delivered by certified mail with receipt for delivery returned to the sender.

In the event of termination, Robert E. Lee & Associates, Inc. shall perform such additional work as is necessary for the orderly filing of documents and closing of the project. The additional time for filing and closing shall not exceed 10 percent of the total time expended on the terminated portion of the project prior to the effective date of termination.

Robert E. Lee & Associates, Inc. shall be compensated for the terminated portion of the work on the basis of work actually performed prior to the effective date of termination plus the work required for filing and closing. Charges for the latter work are subject to the 10 percent limitation described in this Article.

VII. ASSIGNMENT

These terms and conditions and the Agreement to which they are attached are binding on the heirs, successors, and assigns of the parties hereto. The Agreement is not to be assigned by either the client or Robert E. Lee & Associates, Inc. without the prior written consent of the other.

VIII. INTEGRATION

These terms and conditions and the Agreement to which they are attached represent the entire understanding of the client and Robert E. Lee & Associates, Inc. as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. The Agreement may not be modified or altered except in writing signed by both parties.

IX. JURISDICTION

This Agreement shall be administered and interpreted under the laws of the state of Wisconsin. Jurisdiction of litigation arising from the Agreement shall be in the state of Wisconsin. If any part of the Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall be in full force and effect.

X. DISPUTE RESOLUTION

In an effort to resolve any conflicts that arise during the design or construction of the project following the completion of the project, the Client and the Engineer agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbinding mediation unless the parties mutually agree otherwise.

The Client shall make no claim for professional negligence, either directly or in a third party claim, against the Engineer unless the Client has first provided the Engineer with a written certification executed by an independent engineer currently practicing in the same discipline as the Engineer and licensed in the state of Wisconsin. This certification shall: a) specify each and every act or omission that the certifier contends is a violation of the standard of care expected of an Engineer performing professional services under similar circumstances; and b) state in complete detail the basis for the certifier's opinion that each such act or omission constitutes such a violation. This certificate shall be provided to the Engineer not less than thirty (30) calendar days prior to the presentation of any claim or the institution of any mediation or judicial proceeding.

In the event of any litigation arising from or related to the services provided under this Agreement, the prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, attorneys' fees and other related expenses.

All legal actions by either party against the other arising out of or in any way connected with the services to be performed hereunder shall be barred and under no circumstances shall any such claim be initiated by either party after two (2) years have passed from the date of completion of construction phase services, unless the Engineer's services shall be terminated earlier, in which case the date of termination of this Agreement shall be used.

June 2006

November 7, 2023

Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects
CITY OF GREEN BAY
City Hall, Room 300
100 North Jefferson Street
Green Bay, WI 54301-5026

RE: Proposal for 2024 Monitoring & Reporting Services for the closed City of Green Bay, H&R Paper & Refuse Service Landfill, WDNR License No. 850

Dear Ms. Hobbs:

Robert E. Lee & Associates, Inc. (REL) is pleased to provide this proposal to the City of Green Bay (the City) to complete the 2024 groundwater, gas, and leachate monitoring and reporting services at the closed H&R Paper & Refuse Service Landfill (the Landfill).

Additional details are provided as follows:

SCOPE OF WORK

The scope of work includes typical tasks completed at the Landfill site related to required monitoring, data reporting, and inspections.

- Complete monthly, quarterly, and semi-annual groundwater, gas, and leachate monitoring events in 2024, according to the most recent requirements of the February 3, 2022, Conditional Plan of Operation Approval Modification for Development, approved by the Wisconsin Department of Natural Resources (WDNR). This includes monitoring required by the WDNR of the new structures described in the 2022 Approval once construction is complete and criteria for sampling is met.
- Complete monthly supplemental gas sampling and meter readings on gas wells, gas probes, and other devices in the vicinity of the northwest corner of the Landfill during February, March, May, June, August, September, November, December of 2024 when the required sampling above is not taking place. This will replicate previous monitoring completed by Foth prior to 2024.
- Annual monitoring point and landfill cap inspection.
- Report required results to the WDNR Groundwater and Environmental Monitoring System (GEMS) following each quarterly monitoring event, as required by NR 507.26.
- Complete an Annual Report summarizing the long-term care and maintenance activities performed at the Landfill during 2023 (the 2024 annual report cost will be in the 2025 proposal). This is anticipated to be completed by February 2024.

Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects

CITY OF GREEN BAY

RE: Proposal for 2024 Monitoring & Reporting Services for the closed City of Green Bay, H&R Paper
& Refuse Service Landfill, WDNR License No. 850

PROJECT FEES

REL proposes to perform consulting services for a cost of \$24,300. A cost breakdown is presented below:

Tasks	Fee
1. Complete semi-annual groundwater, gas, and leachate monitoring events in April 2024 and October 2024, according to the most recent requirements of the February 3, 2022, Conditional Plan of Operation Approval Modification for Development. This fee includes REL fees, lab costs, along with costs to upload the data collected to the WDNR's Groundwater and Environmental Monitoring System (GEMS) following each quarterly monitoring event. This also includes the annual monitoring point and landfill cap inspection, and the monthly supplemental sampling described in Task 3. The April and October events have different costs due to different sampling requirements for each event.	April = \$6,600 October = \$5,400
2. Complete quarterly <u>gas only</u> monitoring events in January 2024 and July 2024, according to the most recent requirements of the February 3, 2022, Conditional Plan of Operation Approval Modification for Development. This includes the monthly supplemental sampling described in Task 3. This fee includes REL fees and costs to upload the data collected to the WDNR's GEMS following each quarterly monitoring event.	\$1,400 x 2 events = \$2,800 per year
3. Complete monthly supplemental gas sampling and meter readings on gas wells, gas probes, and other devices in the vicinity of the northwest corner of the Landfill during the 8 months not included in Task 1 and 2. This task will include recording leachate volume pumped from Sump 5 monthly, as required by the February 3, 2022, Conditional Plan of Operation Approval Modification for Development, and uploading the data to GEMS quarterly. Completed in February, March, May, June, August, September, November, December of 2024.	\$1,000 x 8 events = \$8,000 per year
4. Complete the 2023 Annual Report summarizing the long-term care and maintenance activities performed at the Landfill during 2023 and submit to the WDNR.	\$1,500
Total for 2024 Closed H&R Landfill Monitoring	\$24,300

Please feel free to contact us with any questions at (920) 662-9641.

Sincerely,

ROBERT E. LEE & ASSOCIATES, INC.



Cody M. Applekamp, P.G.
Geologist

BDM/CMA/NJM

ENC.



Bruce D. Meissner, P.G.
Environmental Compliance Manager

AGREEMENT FOR ENGINEERING SERVICES

DATE: November 7, 2023

CLIENTS: Ms. Trista Hobbs, Green Bay Assistant City Engineer - Special Projects
CITY OF GREEN BAY
City Hall, Room 300
100 North Jefferson Street
Green Bay, WI 54301-5026

Robert E. Lee & Associates, Inc., is hereby authorized to proceed with the scope of services subject to the Standard Terms and Conditions, both of which are attached:

*Proposal for 2024 Monitoring & Reporting Services for the closed City of Green Bay,
H&R Paper & Refuse Service Landfill, WDNR License No. 850*

Lump Sum contract \$ 24,300

Compensation for the services described in the attached proposal will be on the basis of a lump sum contract. Please note that we issue monthly progress billings for the work performed during that month. Payment is expected within 30 days after the invoice date.

If acceptable, please sign in the space provided and return one complete copy for our files. If there are any questions, please call our office.

Sincerely,

ROBERT E. LEE & ASSOCIATES, INC.



Bruce D. Meissner, P.G.
Environmental Compliance Manager

BDM/CMA/NJM

ACCEPTED FOR CITY OF GREEN BAY



Cody M. Applekamp, P.G.
Geologist

Signature

Date

Print Name

ROBERT E. LEE & ASSOCIATES, INC.

STANDARD TERMS AND CONDITIONS

I. SCOPE

Robert E. Lee & Associates, Inc. agrees to perform the engineering, surveying, and/or environmental services described in the proposal or agreement in which these standard terms and conditions are referenced and to which they are attached. Unless modified in writing by the parties thereto, duties of Robert E. Lee & Associates, Inc. shall not be construed to exceed those services specifically set forth in the proposal or agreement to which these standard terms and conditions are attached.

II. COMPENSATION

Client agrees to pay for the services provided in accordance with the compensation provisions described in the proposal or agreement to which these standard terms and conditions are attached. Payment to Robert E. Lee & Associates, Inc. will be made within 30 days after the date of billing. For all amounts unpaid after 30 days from the invoice date, the client agrees to pay Robert E. Lee & Associates, Inc. a finance charge of 1-1/2% per month.

For time and expense compensation, charges will consist of salary-related costs and nonsalary costs. Salary-related charges include, but are not limited to, the following:

1. Salaries paid employees for time spent working directly on the subject project.
2. Costs of employee fringe benefits attributable to the employee's time spent working directly on the subject project.
3. General and administrative overhead charges distributed on the basis of employee time spent working directly on the subject project.

Nonsalary costs cover items directly related to the project, other than those covered by salary-related costs. Such nonsalary costs shall be computed on the basis of actual purchase price for items and services obtained from commercial sources and outside consultants. Cost of items and services provided directly by Robert E. Lee & Associates, Inc. shall be in accordance with rate schedules based on normal charges of commercial sources. Nonsalary items and services include, but are not limited to, the following:

1. Services directly applicable to the project such as special legal and accounting expenses, computer rental and programming costs, special consultants, borings, environmental analyses, commercial printing and binding, and similar services that are not applicable to general overhead.
2. Identifiable reproduction services applicable to the project such as printing of drawings, photostating, multilithing, printing, and similar services.

3. Identifiable communication services such as long-distance telephone, telegraph, cable, express services, and postage other than for general correspondence.
4. Living and traveling expenses of employees when away from home office on business connected with the project.
5. Subcontracted services.

III. RESPONSIBILITY

Robert E. Lee & Associates, Inc. is employed to render a professional service only, and any payments made by the client are compensation solely for such services rendered and recommendations made in carrying out the work. Robert E. Lee & Associates, Inc. shall follow the practice of the civil engineering, surveying, and/or environmental services professions to make findings, opinions, factual presentations, and professional advice and recommendations.

In performing construction management services, Robert E. Lee & Associates, Inc. review of work prepared or performed by other individuals or firms employed by the client shall not relieve those individuals or firms of complete responsibility for the adequacy of their work.

It is understood that any resident engineering or construction observation provided by Robert E. Lee & Associates, Inc. is for the purpose of determining compliance with the technical provisions of the project specifications and does not constitute any form of guarantee or insurance with respect to the performance of a contractor. Robert E. Lee & Associates, Inc. does not assume responsibility for methods or appliances used by a contractor, for safety of construction work, or for compliance by contractors with laws and regulations.

It is understood and agreed by both parties that Engineer, in performing professional services for Owner with respect to hazardous substances, will make recommendations to Owner with respect thereto, but does not have the authority or responsibility to decide where disposal or treatment takes place, nor to designate how or by whom the hazardous substances are to be transported for disposal or treatment.

IV. INSURANCE AND LIMITS OF LIABILITY

Robert E. Lee & Associates, Inc. shall maintain during the life of the Agreement, the following minimum public liability and property damage insurance to cover claims for injuries, including accidental death, as well as from claims for property damages which may arise from the performance of work under the Agreement. The client agrees to limit the liability of Robert E. Lee & Associates, Inc. to the extent of Robert E. Lee & Associates, Inc. insurance or as otherwise stated below:

1. Comprehensive general liability insurance, including personal injury liability, blanket contractual liability, and broad form property damage liability. The combined single limit of liability for bodily injury and property damage shall be \$1,000,000.

2. Automobile bodily injury and property damage liability insurance covering owned, non-owned, rented, and hired cars. The combined single limit of liability for bodily injury and property damage shall be \$600,000.
3. Statutory workers compensation and employers' liability insurance as required by the state having jurisdiction.
4. Professional liability insurance covering damages resulting from errors and omissions of Robert E. Lee & Associates, Inc. The limit of liability shall be \$50,000.

V. SUSPENSION OF WORK

The client may suspend, in writing, all or a portion of the work under the Agreement in the event unforeseen circumstances beyond the control of the client make normal progress in the performance of the work impossible. Robert E. Lee & Associates, Inc. may request that the work be suspended by notifying the client, in writing, of circumstances which are interfering with normal progress of the work. The time for completion of the work shall be extended by the number of days the work is suspended. In the event that the period of suspension exceeds 90 days, the terms of the Agreement are subject to renegotiation and both parties are granted the option to terminate work on the suspended portion of the project.

VI. TERMINATION OF WORK

Either party may terminate work in the event the other party fails to perform in accordance with the provisions of the Agreement. Termination of the Agreement is accomplished by 15 days prior written notice from the party initiating termination to the other. Notice of termination shall be delivered by certified mail with receipt for delivery returned to the sender.

In the event of termination, Robert E. Lee & Associates, Inc. shall perform such additional work as is necessary for the orderly filing of documents and closing of the project. The additional time for filing and closing shall not exceed 10 percent of the total time expended on the terminated portion of the project prior to the effective date of termination.

Robert E. Lee & Associates, Inc. shall be compensated for the terminated portion of the work on the basis of work actually performed prior to the effective date of termination plus the work required for filing and closing. Charges for the latter work are subject to the 10 percent limitation described in this Article.

VII. ASSIGNMENT

These terms and conditions and the Agreement to which they are attached are binding on the heirs, successors, and assigns of the parties hereto. The Agreement is not to be assigned by either the client or Robert E. Lee & Associates, Inc. without the prior written consent of the other.

VIII. INTEGRATION

These terms and conditions and the Agreement to which they are attached represent the entire understanding of the client and Robert E. Lee & Associates, Inc. as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. The Agreement may not be modified or altered except in writing signed by both parties.

IX. JURISDICTION

This Agreement shall be administered and interpreted under the laws of the state of Wisconsin. Jurisdiction of litigation arising from the Agreement shall be in the state of Wisconsin. If any part of the Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall be in full force and effect.

X. DISPUTE RESOLUTION

In an effort to resolve any conflicts that arise during the design or construction of the project following the completion of the project, the Client and the Engineer agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbinding mediation unless the parties mutually agree otherwise.

The Client shall make no claim for professional negligence, either directly or in a third party claim, against the Engineer unless the Client has first provided the Engineer with a written certification executed by an independent engineer currently practicing in the same discipline as the Engineer and licensed in the state of Wisconsin. This certification shall: a) specify each and every act or omission that the certifier contends is a violation of the standard of care expected of an Engineer performing professional services under similar circumstances; and b) state in complete detail the basis for the certifier's opinion that each such act or omission constitutes such a violation. This certificate shall be provided to the Engineer not less than thirty (30) calendar days prior to the presentation of any claim or the institution of any mediation or judicial proceeding.

In the event of any litigation arising from or related to the services provided under this Agreement, the prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, attorneys' fees and other related expenses.

All legal actions by either party against the other arising out of or in any way connected with the services to be performed hereunder shall be barred and under no circumstances shall any such claim be initiated by either party after two (2) years have passed from the date of completion of construction phase services, unless the Engineer's services shall be terminated earlier, in which case the date of termination of this Agreement shall be used.

June 2006



Report to the
**Improvement and Service Committee
of the City of Green Bay**

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.3

Consideration with possible action on request by Department of Public Works to enter into a Professional Services Agreement with NES Ecological Services in the amount of \$26,800 for native planting maintenance services.

BACKGROUND

Continued vegetative maintenance is necessary at Danz & Military landfills to establish native plantings and protect the landfill cap.

RECOMMENDATION

Enter into an agreement with NES Ecological Services for native planting services.

FISCAL IMPACT

The 2024 budget, approved by City Council on 11/9/2023, includes monies for these services.

ATTACHMENTS

- I. NES_Military & Danz Maintenance Proposal

October 13, 2023

Ms. Trista Hobbs
CITY OF GREEN BAY
100 North Jefferson Street, Room 300
Green Bay, WI 54301
Trista.Hobbs@greenbaywi.gov

RE: Danz & Military Landfills
Native Planting Maintenance Proposal

Dear Ms. Hobbs:

NES Ecological Services, A Division of Robert E. Lee & Associates, Inc. is pleased to submit this proposal to assist with continued management of the native vegetation installed at the Danz and Military Landfills.

SCOPE OF SERVICES

Maintenance Activities

Herbicide Applications

NES has accounted for a variety of possible treatment methods and herbicides that could be used for the two sites. NES staff utilize their combined experiences in order to cost effectively, and successfully, treat invasive species such as Canada thistle (*Cirsium arvense*), Phragmites (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), sweet clover (*Melilotus sp.*), birdsfoot trefoil (*Lotus corniculatus*), crown vetch (*Coronilla varia*), and many others. The goal is to achieve less than 20% cover by invasive, non-native species for each site. NES plans to utilize, according to the amount and location of the undesirable species, hand treatment methods such as hand wicking or cut stem applications for small populations, and backpack sprayers with wands and diaphragm pumps. If certain annual or biennial species are present in small quantities, such as Sweet Clover, Bull thistle, or others, and have not yet gone to seed, they may simply be pulled or cut by hand as well. This will destroy the plant and prevent reproduction while reducing chemical use. The NES team will have a UTV with them along with tanks to be utilized for actively spraying and also as a backup water supply. Areas or species requiring a scale larger than hand work will be treated with a spray wand from an UTV mounted sprayer and/or a boom from the same unit. NES staff will have on hand a variety of herbicides with different modes of action and active ingredients to utilize at the appropriate times. Herbicides such as Garlon are highly effective on woody and cut stump treatments, along with species such as purple loosestrife that is not emerging out of the water. For areas such as “No-Mow” zones or areas planted solely with native grasses and sedges that require occasional broad-leaf weed control, 2,4-D (Mec Amine-D) will be utilized. Glyphosate based herbicides such as Roundup® or equivalent will be used,

both in upland and emergent (Roundup Custom® – aquatic approved) situations. Glyphosate is a highly effective broad-based herbicide that is cost effective as well. Clethodim (Intensity One®) is a grass selective herbicide that can only be utilized if standing water or saturated soils are absent but can be very effective in controlling reed canary grass and other undesirable cool season grasses found within prairies. In some cases, mixing two chemicals will be more effective. NES staff will determine the best approach by assessing the species present. Spray additives such as adjuvants and oils will be utilized for situations where it will enhance the effect of the herbicide and the herbicide's ability to uptake into the plant. For most applications, a surfactant such as Activator 90 or Methylated Seed Oil (MSO) is added to the herbicide solution because the wetting agent and activator helps break down the waxy leaf cuticle in plants such as crown vetch and increases herbicide uptake. A marking dye such as Aquamark Blue SS is also added to ensure appropriate coverage and to reduce overspray.

In general applications will not occur if:

- Winds >15 mph – drift onto adjacent properties and non-targeted vegetation shall be avoided
- Vegetation is wet
- Rain is expected within 2-4 hours of treatment (label required dry time)
- Temperature inversions are possible
- Freezing temperatures are forecast either early or late in the growing season

Conditions including wearing the appropriate Personal Protective Equipment (PPE) listed on the chemical labels will be observed. Following the above guidelines will also help prevent ecological damage, minimize potential health issues and loss of productive time due to ineffective applications.

Although most herbicide work will be reactive, concentrating efforts on the fringes or buffers of the native plant communities could be proactive in nature and prevent possible invasions into well-established and relatively weed free communities. NES ecologists will be sure to assess and address these areas first to prevent undesirable plant infestations. Taking a more aggressive approach in these buffer areas should reduce the overall time and money spent on the facility. Our ecologists are also very aware of the damage herbicides pose to the environment, especially if used at a rate higher than recommended on the label or needed for good control. Using their experience in controlling similar species, our staff will utilize the least amount of chemical possible to achieve control. These actions will benefit both the environment and overall costs since less chemical would be utilized for the project. The NES team is highly skilled at plant identification which will help ensure that desirable plants will not be negatively impacted during the herbicide work. NES applicators are certified and licensed in the appropriate categories, such as Forestry, Right-of-Way & Natural Areas and Aquatic & Mosquito.

Prior to conducting the herbicide application, posting and notification requirements will be followed. Herbicide Application Records (DATCP form) will be submitted within 30 days of each treatment to the City.

The information below is a discussion of various treatment methods NES has utilized successfully on various invasive plants. The species discussed are not meant to be all inclusive of those found throughout the two landfills managed by the City; but rather, the material covers many of the species routinely being treated.

Mesic Prairie

Areas planted with mesic prairie species mixture will need routine maintenance. An abundance of annual and perennial weeds invade newly planted sites no matter how much preparation work is completed prior

to seeding. A combination of mowing and spot herbicide treatment will be critical in the first 3-4 years of establishment. Once the warm season grasses have become dense enough to provide a suitable litter layer, the community can be managed with prescribed burns. Fire will assist with controlling many undesirable species; however, pressure from invasive species will still warrant occasional mowing, hand removal or spot herbicide applications for optimum control.

Below are activities to consider for maintaining the upland seeding. Species listed below are those most problematic and commonly found invasive plants within native communities.

Biennial & Annual Broadleaf Weeds

Sweet clovers (*Melilotus spp.*), wild carrot (*Daucus carota*) and burdock (*Arctium minus*), along with other less aggressive yet undesirable annual and biennial species can be controlled, and populations reduced through repetitive cutting. For this reason, we suggest conducting one or two mowings during the growing season or when needed. Mowing or hand cutting or pulling is typically conducted when the plants are mature and in the beginning stages of flowering to ensure the best control. However, mowing must be done in a timely manner and not too often as the plants will begin growing lower to the ground and be more difficult to control through mowing efforts. In the event that individuals are found with mature seed heads, those plants are manually pulled or cut with machetes/loppers prior to setting seed, bagged, and removed from the site. Noxious/invasive weeds are properly disposed of in a landfill. In rare cases, herbicide may be applied through spot applications, but there is an increased risk of damaging native species within the planting, which can be avoided through the mechanical removal process.

Perennial Broadleaf Weeds

Canada and bull thistles (*Cirsium arvense* and *C. vulgare*), red, white and alsike clovers (*Trifolium pratense*, *T. repens*, and *T. hybridum*), crown vetch (*Coronilla varia*), teasel (*Dipsacus spp.*) and bird's-foot trefoil (*Lotus corniculatus*) along with other aggressive perennial weeds can be controlled to some degree through mowing and burning activities prior to seed set, but full control may require herbicide applications. The steps we recommend following include:

- 1) A herbicide solution, including the chemical (Roundup Custom®, Habitat®, Transline®, etc.), a surfactant or MSO and marking dye, is applied through one of the below methods:
 - a) Broadcast spray solution containing a combination of 1% glyphosate or imazapyr and 2/3 to 1 1/3 pint/acre of Transline on the target plants. Backpack sprayers are typically used. If plant densities are relatively low, this method or combination would not be used because there is an increased chance of impacting the surrounding, native vegetation through drift since glyphosate and imazapyr are non-selective herbicides. To reduce impacts with this solution, a spray bottle or hand wicking could be substituted.
 - b) Broadcast spray solution containing 2/3 to 1 1/3 pint/acre of Transline on the target plants. The chemical is more selective and targets broadleaf plants so grasses won't be impacted; however, caution must be used around native forbs. The choice of application will depend on the population size of the targeted species.

Ideally these species will be identified and sprayed either very early or late in the growing season prior to or after native plant growth. If species are located during the growing season, they would either be sprayed or cut to prevent seeding. Mature seed heads will be removed and properly disposed of to prevent further spread. Follow-up treatments will likely be required.

Perennial Grasses

Reed canary grass, fescues (*Festuca spp.*), smooth brome and cheat grass (*Bromus inermis* and *B. tectorum*), Kentucky bluegrass (*Poa pratensis*), and quack grass (*Elytrigia repens*) along with other aggressive perennial grasses can be controlled to some degree, like the perennial broadleaf weeds, through mowing and prescribed burning activities prior to seed set, but full control may require herbicide applications. Although these grasses can be located and identified early in the growing season, they may be more easily identified during the flowering stage; therefore, additional steps may be necessary to prevent their spread. The steps we recommend following include:

Single Plants or Small Clusters

- 1) Seed heads, if present, will be cut and placed in thick, plastic bags and removed to a licensed landfill facility for proper disposal.
- 2) A herbicide solution, including the chemical (Roundup Custom®, Habitat® or Intensity® One, etc.), a surfactant or MSO and marking dye, will be applied through one of the below methods:
 - a) Apply solution containing 25-30% glyphosate or imazapyr or 5% clethodim to the plant using the “Glove of Death” technique. The technique involves spraying the solution onto a cotton glove that is worn by the applicator over chemically resistant gloves; the applicator then takes hold of the plant near the base and runs the cotton glove up the plant stem.
 - b) Broadcast spray solution containing 1-2% glyphosate or clethodim on the target plants. Rates may need to be adjusted if the plants are mature. Backpack sprayers are typically used. If plant densities are relatively low, this method is not generally used because there is an increased chance of impacting the surrounding, native vegetation through drift since glyphosate and imazapyr are non-selective herbicides. The exception would be with the use of clethodim as this chemical is grass selective; however, caution would still need to be taken when spraying around native grass species.

Large Clusters or Populations

- 1) Grass will be cut prior to seed development and allowed to re-grow if time doesn’t allow for a herbicide application.
- 2) Conduct a broadcast spray as discussed above.

Follow-up treatments will likely be required. NES may also recommend over-seeding with native grasses in the fall, if the remaining vegetation present is sparse.

NES ecologists will visit the site a minimum of three times throughout the growing season (late May/early June, late July/early August and September) to address noxious weeds. However, some species may require earlier (April) and later (October) treatments to avoid impacting native species.

Mow Vegetation to 6”-8” Height

Mowing of native restoration areas is a good tool at times to manage vegetation. It can help aesthetically, making the community look nicer in spring. It can open sunlight to the ground more quickly to get vegetation growing, similar to a benefit burning provides. This activity may occur if enough fuel is not present to effectively carry a fire through a community. Mowing can set back invasive vegetation by

stressing it and preventing flowering and above-ground reproduction. It is also significantly more cost effective than herbiciding, especially worth considering when one is attempting to control species that can be more difficult to manage with herbicides, such as sweet clover (a biennial), and even red clover (*Trifolium pratense*). Certain leguminous problem species such as red clover and Birdsfoot trefoil, are well controlled through a timely mowing (early spring, late fall), to allow the mowed legume to re-sprout, and then follow with an herbicide application to the green leaves when the vast majority of native species are dormant. We suggest conducting mowing when needed, which is typically when the plants are mature and in the beginning stages of flowering to ensure the best control. However, mowing must be done in a timely manner and not too often as the plants will begin growing lower to the ground and be more difficult to control through mowing efforts. In the event that individuals are found with mature seed heads, those plants will be manually cut with machetes or loppers prior to setting seed, bagged, and removed from the site. Noxious/invasive weeds are properly disposed of in a landfill. NES proposes using this method in areas that are appropriate.

NES will utilize an ATV or a small to mid-size tractor with a mowing implement attached to the back. The mowing decks will be set to achieve a 6-8" mowing height. The crew leader conducting the mowing will also have a hand weed-whacker along to cut areas inaccessible with the mower, such as around structures. Mowing operations will be conducted in spring, mid-summer prior to flowering/seeding of invasive species, and late fall, especially if targeting for a fall herbicide application. However, this task may be conducted any time throughout the growing season if assessments warrant the need.

Spot Mowing

The use of spot mowing provides the same benefits as the mowing activity discussed above; however, in some cases, only small patches of weeds interspersed with native vegetation need to be cut to prevent seed development, shading or provide aesthetic value to an established, native plant community. Larger equipment may not be very effective in maintaining these areas; therefore, NES would plan on using weed-whackers and/or machetes, to cut those populations. Timing of this activity is very important especially when the prevention of seed development is the goal. Site reviews will be vital to ensure this activity is carried out in a timely fashion.

SCHEDULE

A schedule for recommended activities is outlined below.

Native Habitat Maintenance Activities Schedule.

Task	Year 2024											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Herbicide Application												
Mow Vegetation to 6"-8" Height or Spot Mow Weed Populations												

COST

Costs to complete the maintenance activities will be billed on a time and expense basis estimated to be \$28,500 based on the below cost breakdown for each landfill.

Danz

Task		Cost
Professional Services	Project Management & Herbicide Records	\$ 800
Herbicide (3 applications)	Application, Supplies, Equipment & Travel	\$10,200
Mowing (2 site visits)	Mowing, Equipment & Travel	\$ 2,500
TOTAL COST		\$13,500

Military

Task		Cost
Professional Services	Project Management & Herbicide Records	\$ 800
Herbicide (3 applications)	Application, Supplies, Equipment & Travel	\$10,000
Mowing (2 site visits)	Mowing, Equipment & Travel	\$ 2,500
TOTAL COST		\$13,300

If you have any questions or there are other items you wish to include, please contact me. Otherwise, if the proposal is acceptable, please sign and return a copy. We look forward to working with you again. Thank you.

Sincerely,

NES ECOLOGICAL SERVICES

ROBERT E. LEE & ASSOCIATES, INC.



James Havel
Division Manager
Senior Ecologist
jhavel@releeinc.com



Jared Schmidt, P.E.
Principal
jschmidt@releeinc.com

JRH/jrh

ENC.

PROFESSIONAL SERVICES AGREEMENT

OCTOBER 13, 2023

THIS AGREEMENT is made and entered into this 13th day of October 2023, by and between the City of Green Bay hereinafter referred to as the "Client", and NES Ecological Services, A Division of Robert E. Lee & Associates, Inc., 1250 Centennial Centre Boulevard, Hobart, Wisconsin 54155, hereinafter referred to as "NES".

SCOPE OF SERVICES

The Project Scope outlined in the attached project proposal shall serve as the Scope of Services for this contract.

COMPENSATION

Compensation for the project will be billed on a time and expense basis estimated to be \$26,800.00, which includes all labor, travel costs, materials, and equipment necessary to complete the project.

TERMS

A. Consulting fees and work items will be billed monthly as incurred. Payments are due within 30 days of invoice date. Amounts unpaid at due date are subject to a service charge of 1.5% per month until paid.

B. NES shall exercise due care in performing professional services, but NES makes no warranty, express or implied, with respect to any services performed by NES. NES shall not be liable for any claim, damage, cost or expense (including attorney's fees) or any other liability or loss or damage to the Client not directly and solely caused by acts, errors, or omissions by NES. In no event shall NES' liability for incidental or consequential loss to the Client in connection with performance of this Agreement exceed the aggregate of all fees paid to NES by Client for these services.

C. NES reserves the right to suspend or terminate this contract, should any invoice not be paid in full within 30 days of the date of the invoice. Should collection litigation be necessary, client acknowledges NES will include attorney's fees and all related costs as a part of the legal action.

D. The Client shall indemnify and hold harmless NES, NES' officers, directors, partners, employees and agents from and against any and all costs, losses and damages caused solely by the negligent acts or omissions of the Client, Client's officers, directors, partners, employees and agents in the performance and furnishing of the Client's services under this Agreement.

NES shall indemnify and hold harmless the Client, the Client's officers, directors, partners, employees and agents from and against any and all costs, losses and damages caused solely by the negligent acts or omissions of NES, NES' officers, directors, partners, employees and agents with respect to this Agreement or the associated Project.

NES' total liability to the Client and any party claiming by, through or under the Client for any cost, loss or damages caused in part by the negligence of NES and in part by the negligence of the Client or any other negligent entity or individual shall not exceed the percentage share that NES' negligence bears to the total negligence of NES, the Client, and all other negligent entities and individuals.

E. By acceptance of this Agreement, it is agreed that NES has permission to go on site and can perform any reasonable and necessary investigation in the course of completing the services described in

this agreement. Client is solely responsible for site security and for obtaining permission from any affected third-party property owners for use of their lands.

F. The work performed by NES is the confidential property of the client and will not be released to any other party without the Client's permission.

G. All regulatory determinations are subject to review and concurrence by the Wisconsin Department of Natural Resources and/or the U.S. Corps of Engineers, or other agency as appropriate.

H. This Agreement shall be administered and interpreted under the laws of the state of Wisconsin. Jurisdiction of litigation arising from the Agreement shall be in the state of Wisconsin. If any part of the Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall be in full force and effect.

I. Upon execution of the Agreement, the services described herein shall begin as soon as possible and site investigation (if required) will be completed as weather and scheduling permit.

J. This Agreement must be executed by the Client within 30 days of the day and year first above written.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first written above and hereby authorize NES to initiate work on the project.

ROBERT E. LEE & ASSOCIATES, INC.

CITY OF GREEN BAY

By: 

JARED SCHMIDT
PRINCIPAL

AUTHORIZED REPRESENTATIVE

Date: _____

NES ECOLOGICAL SERVICES

By: 

JAMES HAVEL
DIVISION MANAGER

DATE: OCTOBER 13, 2023



Report to the
**Improvement and Service Committee
of the City of Green Bay**

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.4

Consideration with possible action on request by Department of Public Works for exemption from City of Green Bay Ordinance for overnight street parking by YMCA employee Mark Geo.

BACKGROUND

Mr. Geo comes in at 4:30 AM several days per week to help open up the downtown YMCA site on Jefferson Street. He has asked for permission to park on Jefferson Street near the doors of the YMCA so he does not receive citations for violating the on-street NO PARKING 3 AM to 5 AM ordinance. The adopted policy allows exceptions only for single-family and two-family residential properties. Business property exceptions are not allowed. Parking Division cannot grant permissions outside of the ordinance or established policy. This request must be considered above the level of Parking Division staff.

RECOMMENDATION

Approve this request on a non-precedent-setting basis for the remainder of 2023 and all of 2024, with similar exemptions beyond 2024 to be considered on an annual basis as requested by Mr. Geo or YMCA staff.

FISCAL IMPACT

ATTACHMENTS

1. 2023-11-13 Dist 7 to I and S
2. 2015 overnight parking enforcement policy

From: noreply@civicplus.com
To: [Celestine Jeffreys](#); [Eric Genrich](#); [Amaad Rivera](#)
Subject: Online Form Submittal: Alders' Petitions and Communications
Date: Friday, November 10, 2023 11:03:32 PM

Alders' Petitions and Communications

Name	Randy Scannell
Committee Name	Improvement and Services Committee
Text of Communication	Request with possible action for exemption to overnight street parking by YMCA employee Mark Geo.

Email not displaying correctly? [View it in your browser.](#)

Night Parking Policy Enforced 3:00 to 5:00 a.m. Daily

Adopted by Common Council: December 6, 2005

Updated: February 21, 2008

Updated: February 1, 2010

Updated and re-adopted by Council: August 18, 2015

The intent of this document is to outline a policy for fair and reasonable application and enforcement of City Ordinance 29.203 (12), pertaining to the City's night parking prohibition. Following is a copy of the text contained in that ordinance, and the Parking Division's policy on enforcement of same.

Ordinance text related to overnight on-street parking:

29.203 (12) NIGHT PARKING (Amended by City of Green Bay General Ordinance 56-04)

(a) Prohibition. Except as otherwise provided in this section, no vehicle shall be parked on any City street between the hours of 3:00 A.M. and 5:00 A.M.

(b) Exception. A person may park a motor vehicle on a City street between the hours of 3:00 A.M. and 5:00 A.M. only under the following circumstances:

1. Parking Division approval is received prior to 2:00 A.M. or as soon as possible after the circumstance justifying the parking arises.

2. Approval will only be granted in certain exceptional instances; namely disabled vehicles, lot/driveway construction, houseguests, or other emergency situations for periods of up to two calendar weeks.

3. Prior Parking Division approval is required for each day the vehicle will be parked on the street between 3:00 A.M. and 5:00 A.M., unless blanket authorization is granted by the Parking Division Manager.

Definitions:

Vehicle – A vehicle that is designed and built to move under its own power, and is licensed for legal use on public roadways. If a boat, recreational, utility or other trailer is granted night parking permission, it must remain connected to an operational motorized vehicle.

Guest – A person invited to stay overnight at the residence in question, either related or unrelated to the occupant of the property in front of which a vehicle is parked overnight

Single-day occurrence – Night parking permission granted for a one (1) night due to a disabled vehicle, personal/family emergency, construction (etc.) requiring a vehicle to be parked on-street overnight

Multi-day occurrence – Night parking permission granted for more than one (1) night, but not more than two (2) weeks due to a disabled vehicle, personal/family emergency, construction

(etc.) requiring the same vehicle(s) to be parked on-street overnight. If a permitted vehicle is off the street for one (1) or more nights during the approved occurrence, then the request shall be considered as multiple occurrences.

Permission-granting policy:

This policy applies **ONLY** to night parking occurrences in front of single-family and duplex residences contrary to the City ordinance that prohibits on-street parking between the hours of 3:00 and 5:00 a.m. year-round. It **DOES NOT APPLY** to multi-family apartment buildings, because City zoning code requires those developments to provide adequate off-street parking for both residents and guests.

Occurrences apply to the address in question, not to individual vehicles. However, vehicle information is recorded and tracked along with address information for night parking permission.

Permission for night parking will not be granted due to insufficient off-street parking for vehicles, RV's, boats, trailers, (etc.) associated with the residence. This is not the intention of City Ordinance 29.203 (12) noted above. Adequate off-street residential parking is required by City zoning code. City Ordinance 29.203 (12) is intended to cover extraordinary short-term situations.

Permission will only be granted for vehicles parking directly in front of the residence requesting permission. Approval will not be given for vehicles (related to one residence) to park in front of another residence.

If a residence has an RV, boat, recreational trailer, utility trailer or other trailer with a legal off-street storage location, permission will be granted for night parking of these vehicles only to allow for loading/unloading and cleaning purposes preceding and following their use. However, the number of annual occurrences will remain limited under the following enforcement policy.

Permission for night parking will be granted by the Parking Division if an occupant of the residence in question contacts the Parking Division by one of the following methods:

- Call the Parking Division Office (448-3431) between the hours of 8:00 a.m. and 4:30 p.m. Monday through Friday
- Call the night parking automated hotline (448-3438) before 2:00 a.m. on the day of the occurrence. Permission may be granted after 2:00 a.m. only for extenuating, verifiable circumstances beyond the control of the requestor.
- Permission for automated hotline night parking requests shall be considered "granted" unless the requestor receives contact from the Parking Division following the request. If the Parking Division declines approval of the request after the fact, the residence in question will be issued its one (1) warning as described in the enforcement policy below.

When requesting permission for night parking, residents are required to provide the following information:

1. Home address
2. Address where the vehicle will be parked (City of Green Bay address only)
3. Reason for leaving vehicle on street

4. Pertinent vehicle information (including license plate number, state of issue, vehicle make and vehicle color)

Blanket authorization may be granted by the Parking Division Manager or other authorized Parking Division office staff member for occurrences that will last for more than one (1) day

Enforcement policy:

Night parking permission may be granted to any single address/residence for NO MORE THAN one (1) occurrence during any two (2) week period

Night parking permission may be granted to any single address/residence for NO MORE THAN six (6) occurrences per calendar year

Only pre-designated vehicle(s) may be parked on-street during an approved night parking occurrence. If a vehicle not previously-approved is found on the street between the hours of 3:00 and 5:00 a.m., that vehicle will receive a citation.

Approved vehicles shall only parking directly in front of the residence requesting permission. Vehicles (related to one residence) found parking in front of another residence will be subject to citations.

Broken down vehicles shall only be given overnight on-street parking permission for a maximum of 2 nights. After that time, they must be removed from the street.

Parking Division will maintain a database of all night parking requests. Requests found to be incomplete, fraudulent or excessive will be denied.

Residences found in violation of this policy shall be issued one (1) warning per calendar year. After that, vehicles at that residence found in violation of City Ordinance 29.203 (12) shall be issued a citation.

Night parking citations issued to vehicles "on complaint" and found in violation of City Ordinance 29.203 (12) shall not be voided

Night parking citations issued incorrectly or erroneously due to misinformation by the property owner or complainant shall not be voided

Night parking citations issued incorrectly or erroneously due to City error shall be voided. Basic oversights such as incorrect vehicle color and/or type (due to night lighting levels) shall not be considered basis for voiding a night parking citation if the block and license plate number are correctly stated on the citation.



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.5

Consideration with possible action on request by Department of Public Works to enter into State/Municipal Financial Agreements (SMFA) with the Wisconsin Department of Transportation (WisDOT) for the following projects:

- a. Project 1450-23-00/70 – Ray Nitschke Memorial Bridge
- b. Project 9210-24-00/70 – STH 54 Intersections

BACKGROUND

Project 1450-23-00_70 Ray Nitschke Memorial Bridge

The State of Wisconsin The Wisconsin Department of Transportation (WisDOT) budget for the 2023-2025 biennium provided \$1.2 million in funding to the City of Green Bay to complete repairs to the Ray Nitschke Memorial Bridge. This funding was placed in the WisDOT Local Bridge Program Fund by the Legislature. In order to access the funding to complete the repairs, the City of Green Bay and WisDOT must execute a State/Municipal Funding Agreement (SMFA). Under the conditions of this SMFA, the City of Green Bay will incur expenses related to the hydraulic upgrade/replacement of equipment eligible for funding under this program. Once work is completed, the City will submit invoices to WisDOT, and WisDOT will reimburse the City using the Local Bridge Funds set aside for this purpose.

Project 9210-24-00/70 – STH 54 Intersections

WisDOT is proposing a Highway Safety Improvement Project (HSIP) on STH 54 at the intersections of CTH FF, Green Ridge Road, Lacount Road, Country Club Road, CTH EB, and Hinkle Street. The project will be a miscellaneous improvement project and will consist of installing offset left turn lanes at all six 4-legged intersections. An offset right turn lane would be installed at the CTH FF intersection. The proposed improvement will address the left turning crashes occurring along the corridor and improve intersection sight distance at CTH FF.

The tentative schedule for this work would be 2027.

HSIP projects are typically funded 90% federal, 10% sponsor. WisDOT is the sponsor for this specific project but because STH 54 is a connecting highway, the City of Green Bay would be responsible for 25% of the 10% state match of the design costs. If in agreement to move forward with the project, a State/Municipal Financial Agreement (SMFA) would be sent to the city for signature; this is needed to authorize the project and begin scoping and design. The SMFA will be revised throughout the scoping and design phases of the project. There may be additional cost share for construction items identified as the project goes through the scoping and design phases or items the city may want to include with the project. In addition, there may be items that are not eligible for WisDOT participation, i.e., municipal-owned facilities.

This will be the first phase of a multiple-phase project along the corridor. The second phase will be Signals and ITS Standalone Program (SISP) improvement to upgrade signals along the corridor. The third phase will

involve collaboration between the Oneida Nation, WisDOT, Brown County, and the City regarding pedestrian and bicycle accommodations along the corridor. Those phases will be discussed and presented at a later date.

RECOMMENDATION

Staff recommends entering into SMFAs for both projects and authorizing the Director to execute both agreements.

FISCAL IMPACT

There will be no fiscal impact to the City for the Ray Nitschke Memorial Bridge project, as it is a reimbursement program. For the STH 54 Intersection project, it is estimated that the City's participation in the project will be \$3,622.50. These funds will come from the Pavement Construction account.

ATTACHMENTS

1. I450-23-00_70 C GREEN BAY, MAIN ST, RAY NITSCHKE BRIDGE, B0503 I I
2. 92102400_70 HOBART - GREEN BAY, HILLCREST DR - HINKLE ST ORG I I 022023



**STATE/MUNICIPAL FINANCIAL
AGREEMENT FOR A STATE- LET
HIGHWAY PROJECT**

Date: **November 20, 2023**

I.D.: 1450-23-00/70

Road Name: USH 141

Title: C Green Bay, Main Street

Limits: Ray Nitschke Bridge B-05-0311

County: Brown

Roadway Length: N/A

The signatory **City of Green Bay**, hereinafter called the Municipality, through its undersigned duly authorized officers or officials, hereby requests the State of Wisconsin Department of Transportation, hereinafter called the State, to initiate and affect the highway or street improvement hereinafter described.

The authority for the Municipality to enter into this agreement with the State is provided by Section 86.25(1), (2), and (3) of the Statutes.

NEEDS AND ESTIMATE SUMMARY:

Existing Facility - Describe and give reason for request: Existing structure B-05-0311 is a lift bridge structure built in 1998. Lift bridge mechanisms are failing and the bridge gets stuck often during busy traffic conditions.

Proposed Improvement - Nature of work: The work involves the rehabilitation of the bridges span drive hydraulic circuits. The rehabilitation will be completed in phases and includes removal of existing pump assemblies for rehabilitation; re-installation of rehabilitated pump assemblies; replacement of hydraulic motors; replacement and installation of valves, components, and hoses; cleaning and flushing of existing manifolds, piping, and reservoirs; installation of fluid conditioning systems; and replacement of hydraulic system fluid. Also included is replacement of pinion shaft coupling seals and gaskets and inspection and cleaning of internal roller bearings. In conjunction with the mechanical hydraulic rehabilitation is electrical work including incorporation of new hydraulic sensors, power and controls for the new fluid conditioning system, and 3-phase current recordings.

Describe non-participating work included in the project and other work necessary to finish the project completely which will be undertaken independently by the municipality: None.

PROJECT IS CURRENTLY SCHEDULED FOR 2024 CONSTRUCTION

TABLE 1: SUMMARY OF COSTS

Phase	Total Est. Cost	Federal/State Funds	%	Municipal Funds	%
Preliminary Engineering: 1450-23-00 Design	\$ -	\$ -	0%	\$ -	100%
¹ Construction: 1450-23-70 Bridge	\$ 1,200,000	\$ 1,200,000	MAX	\$ -	BAL
State Review	\$ -	\$ -	0%	\$ -	100%
Total Cost Distribution	\$ 1,200,000	\$ 1,200,000		\$ -	

1. Estimate for 1450-23-70 includes 0% delivery/oversight

This request shall constitute agreement between the Municipality and the State; is subject to the terms and conditions that follow (pages 3 – 4); is made by the undersigned under proper authority to make such request for the designated Municipality, upon signature by the State and delivery to the Municipality. The initiation and accomplishment of the improvement will be subject to the applicable federal and state regulations. No term or provision of neither the State/Municipal Financial Agreement nor any of its attachments may be changed, waived or terminated orally but only by an instrument in writing executed by both parties to the State/Municipal Financial Agreement.

Signed for and in behalf of the City of Green Bay (please sign in blue ink)	
Name (print)	Title
Signature	Date
Signed for and in behalf of the State (please sign in blue ink)	
Name Scott Nelson	Title WisDOT Northeast Region Planning Manager
Signature	Date

TERMS AND CONDITIONS:

1. The Municipality shall pay to the State all costs incurred by the State in connection with the improvement which exceeds federal/state financing commitments or are ineligible for federal/state financing. Local participation shall be limited to the items and percentages set forth in the Summary of Costs table, which shows Municipal funding participation. In order to guarantee the Municipality's foregoing agreements to pay the State, the Municipality, through its above duly authorized officers or officials, agrees and authorizes the State to set off and withhold the required reimbursement amount as determined by the State from General Transportation Aids or any moneys otherwise due and payable by the State to the Municipality.
2. Funding of each project phase is subject to inclusion in an approved program and per the State's Facility Development Manual (FDM) standards. Federal aid and/or state transportation fund financing will be limited to participation in the costs of the following items as specified in the Summary of Costs:
 - (a) Design engineering and state review services.
 - (b) Real Estate necessitated for the improvement.
 - (c) Compensable utility adjustment and railroad force work necessitated for the project.
 - (d) The grading, base, pavement, curb and gutter, and structure costs to State standards, excluding the cost of parking areas.
 - (e) Storm sewer mains, culverts, laterals, manholes, inlets, catch basins, and connections for surface water drainage of the improvement; including replacement and/or adjustments of existing storm sewer manhole covers and inlet grates as needed.
 - (f) Construction engineering incidental to inspection and supervision of actual construction work, except for inspection, staking, and testing of sanitary sewer and water main.
 - (g) Signing and pavement marking necessitated for the safe and efficient flow of traffic, including detour routes.
 - (h) Replacement of existing sidewalks necessitated by construction and construction of new sidewalk at the time of construction. Sidewalk is considered to be new if it's constructed in a location where it has not existed before.
 - (i) Replacement of existing driveways, in kind, necessitated by the project.
 - (j) New installations or alteration resulting from roadway construction of standard State street lighting and traffic signals or devices. Alteration may include salvaging and replacement of existing components.
3. Work necessary to complete the improvement to be financed entirely by the Municipality or other utility or facility owner includes the following items:
 - (a) New installations of or alteration of sanitary sewers and connections, water, gas, electric, telephone, telegraph, fire or police alarm facilities, parking meters, and similar utilities.
 - (b) New installation or alteration of signs not necessary for the safe and efficient flow of traffic.
 - (c) Roadway and bridge width in excess of standards.
 - (d) Construction inspection, staking, and material testing and acceptance for construction of sanitary sewer and water main.
 - (e) Provide complete plans, specifications, and estimates for sanitary sewer and water main work. The Municipality assumes full responsibility for the design, installation, inspection, testing, and operation of the sanitary sewer and water system. This relieves the State and all of its employees from the liability for all suits, actions, or claims resulting from the sanitary sewer and water system construction.
 - (f) Parking lane costs.

- (g) Coordinate, clean up, and fund any hazardous materials encountered during construction. All hazardous material cleanup work shall be performed in accordance to state and federal regulations.
 - (h) Damages to abutting property due to change in street or sidewalk widths, grades, or drainage.
 - (i) Conditioning, if required, and maintenance of detour routes.
 - (j) Repair of damages to roads or streets caused by reason of their use in hauling materials incidental to the improvement.
- 4. As the work progresses, the Municipality will be billed for work completed which is not chargeable to federal/state funds. Upon completion of the project, a final audit will be made to determine the final division of costs.
 - 5. If the Municipality should withdraw the project, it shall reimburse the State for any costs incurred by the State in behalf of the project.
 - 6. The work will be administered by the State and may include items not eligible for federal/state participation.
 - 7. The Municipality shall assume general responsibility for all public information and public relations for the project and to make a fitting announcement to the press and such outlets as would generally alert the affected property owners and the community of the nature, extent, and timing of the project and arrangements for handling traffic within and around the projects.
 - 8. Basis for local participation:
 - (a) Design Engineering (1450-23-00): The Municipality is responsible for 100% of the design engineering costs for improvements.
 - (b) Construction (1450-23-70): The City of Green Bay has received an earmark for the Ray Nitschke Bridge Structure B-05-0311 in the 2023-2025 biennial Wisconsin State Budget. The City of Green Bay will be reimbursed for up to \$1.2 million dollars through this earmark. The City will submit invoices to WisDOT and WisDOT will directly pay the contractor on the City's behalf for the invoiced amount within 10 business days. All invoices must contain the Project ID along with the Items and Quantities to be paid. Send all invoices by email to: DOTExpenditureAccounting@dot.wi.gov.

In addition to making payments directly to the contractor, WisDOT can reimburse the City for additional eligible project costs as determined by WisDOT as long as the total amount between the City reimbursement and WisDOT paying the City contractor does not exceed \$1.2 million dollars.

Comments and Clarification: This agreement is an active agreement that may need to be amended as the project is designed. It is understood that these amendments may be needed as some issues have not been fully evaluated or resolved. As items are identified during the design phase that require cost participation or are ineligible for Federal/State funding, this agreement will be amended to reflect those costs. The purpose of this agreement is to specify the local and state involvement in funding the project. A signed agreement is required before the State will prepare or participate in the preparation of detailed designs, acquire right-of-way, or participate in construction of a project that merits local involvement.



**STATE/MUNICIPAL FINANCIAL
AGREEMENT FOR A STATE- LET
HIGHWAY PROJECT**

Date: November 2, 2023
 I.D.: 9210-24-00/70
 Road Name: STH 54
 Title: Hobart – Green Bay
 Limits: Hillcrest Dr – Hinkle St
 County: Brown
 Roadway Length: 2 miles

The signatory **City of Green Bay**, hereinafter called the Municipality, through its undersigned duly authorized officers or officials, hereby requests the State of Wisconsin Department of Transportation, hereinafter called the State, to initiate and affect the highway or street improvement hereinafter described.

The authority for the Municipality to enter into this agreement with the State is provided by Section 86.25(1), (2), and (3) of the Statutes.

NEEDS AND ESTIMATE SUMMARY:

Existing Facility - Describe and give reason for request: The existing facility is a connecting highway. Country Club Road, Packerland Drive and Hinkle Street are signalized intersections with negative offset left turn lanes. CTH FF, Green Ridge Drive and Lacount Road are TWSC intersections with negative offset left turn lanes. There is also a sweeping curve east of CTH FF that can cause southbound intersection sight concerns when a vehicle is in the westbound right turn lane.

Proposed Improvement - Nature of work: The proposed project would install positive offset turn lanes at all six 4-legged intersections on STH 54 between CTH FF and Hinkle Street. The intersection of STH 54 and CTH FF would also install an offset right turn lane. These options would address the left turning crashes occurring along the corridor and improve intersection sight distance at CTH FF.

Describe non-participating work included in the project and other work necessary to finish the project completely which will be undertaken independently by the municipality: A nominal amount is included to cover items in paragraph 4 (to be adjusted in the final plan).

TABLE 1: SUMMARY OF COSTS

Phase	Total Est. Cost	Federal/State Funds	%	Municipal Funds	%
Preliminary Engineering					
Federal		\$113,022.00	78%		
State/Local (10% Match)		\$28,255.50	19.5%	\$3,622.50	2.5%
<i>Subtotal 9210-24-00:</i>	\$144,900	\$141,277.50		\$3,622.50	
Real Estate Acquisition	\$0	\$0	100%	\$0	0%
¹Construction:					
Roadway Cat 0010 Priority 1 (Federal)		\$1,187,521	CAP	\$0	0%
Roadway Cat 0010 Priority 1 (State)		\$131,947	10%	\$0	0%
Roadway Cat 0010 Priority 2 (Federal)		\$0	80%	\$0	0%
Roadway Cat 0010 Priority 2 (State)		\$0	20%	\$0	0%
<i>Subtotal 9210-24-70:</i>	\$1,319,468	\$1,319,468		\$0	
Non-participating	TBD	\$0	0%	TBD	100%
Total Est. Cost Distribution	\$1,464,368	\$1,460,745.50		\$3,622.50	

1. Costs shown are estimates only and will be updated throughout planning, scope, and design. Construction cost estimate includes delivery.

This request shall constitute agreement between the Municipality and the State; is subject to the terms and conditions that follow (pages [2] – [4]); is made by the undersigned under proper authority to make such request for the designated Municipality, upon signature by the State, and delivery to the Municipality. The initiation and accomplishment of the improvement will be subject to the applicable federal and state regulations. No term or provision of neither the State/Municipal Financial Agreement nor any of its attachments may be changed, waived or terminated orally but only by an instrument in writing executed by both parties to the State/Municipal Financial Agreement.

Signed for and on behalf of the City of Green Bay (please sign in blue ink)	
Name (print)	Title
Signature	Date
Signed for and on behalf of the State (please sign in blue ink)	
Name Scott Nelson, P.E.	Title Northeast Region SPO Manager
Signature	Date

TERMS AND CONDITIONS:

1. The Municipality shall pay to the State all costs incurred by the State in connection with the improvement which exceeds federal/state financing commitments or are ineligible for federal/state financing. Local participation shall be limited to the items and percentages set forth in the Summary of Costs table, which shows Municipal funding participation. In order to guarantee the Municipality's foregoing agreements to pay the State, the Municipality, through its above duly authorized officers or officials, agrees and authorizes the State to set off and withhold the required reimbursement amount as determined by the State from General Transportation Aids or any moneys otherwise due and payable by the State to the Municipality.
2. Funding of each project phase is subject to inclusion in an approved program and per the State's Facility Development Manual (FDM) standards. Federal aid and/or state transportation fund financing will be limited to participation in the costs of the following items as specified in the Summary of Costs:
 - (a) Design engineering and state review services.
 - (b) Real Estate necessitated for the improvement.
 - (c) Compensable utility adjustment and railroad force work necessitated for the project.
 - (d) The grading, base, pavement, curb and gutter, and structure costs to State standards, excluding the cost of parking areas.
 - (e) Storm sewer mains, culverts, laterals, manholes, inlets, catch basins, and connections for surface water drainage of the improvement; including replacement and/or adjustments of existing storm sewer manhole covers, and inlet grates as needed.
 - (f) Construction engineering incidental to inspection and supervision of actual construction work, except for inspection, staking, and testing of sanitary sewer and water main.
 - (g) Signing and pavement marking necessitated for the safe and efficient flow of traffic, including detour routes.
 - (h) Replacement of existing sidewalks necessitated by construction and construction of new sidewalk at the time of construction. Sidewalk is considered to be new if it's constructed in a location where it has not existed before.

- (i) Replacement of existing driveways, in kind, necessitated by the project.
 - (j) New installations or alteration resulting from roadway construction of standard State street lighting and traffic signals or devices. Alteration may include salvaging and replacement of existing components.
3. Work necessary to complete the improvement to be financed entirely by the Municipality or other utility or facility owner includes the following items:
- (a) New installations of or alteration of sanitary sewers and connections, water, gas, electric, telephone, telegraph, fire or police alarm facilities, parking meters, and similar utilities.
 - (b) New installation or alteration of signs not necessary for the safe and efficient flow of traffic.
 - (c) Roadway and bridge width in excess of standards.
 - (d) Construction inspection, staking, and material testing and acceptance for construction of sanitary sewer and water main.
 - (e) Provide complete plans, specifications, and estimates for sanitary sewer and water main work. The Municipality assumes full responsibility for the design, installation, inspection, testing, and operation of the sanitary sewer and water system. This relieves the State and all of its employees from the liability for all suits, actions, or claims resulting from the sanitary sewer and water system construction.
 - (f) Parking lane costs.
 - (g) Coordinate, clean up, and fund any hazardous materials encountered during construction. All hazardous material cleanup work shall be performed in accordance to state and federal regulations.
 - (h) Damages to abutting property due to change in street or sidewalk widths, grades, or drainage.
 - (i) Conditioning, if required, and maintenance of detour routes.
 - (j) Repair of damages to roads or streets caused by reason of their use in hauling materials incidental to the improvement.
4. As the work progresses, the Municipality will be billed for work completed which is not chargeable to federal/state funds. Upon completion of the project, a final audit will be made to determine the final division of costs.
5. If the Municipality should withdraw the project, it shall reimburse the State for any costs incurred by the State on behalf of the project.
6. The work will be administered by the State and may include items not eligible for federal/state participation.
7. The Municipality shall assume general responsibility for all public information and public relations for the project and to make a fitting announcement to the press and such outlets as would generally alert the affected property owners and the community of the nature, extent, and timing of the project and arrangements for handling traffic within and around the projects.
8. Basis for local participation:
- (a) Design Engineering (9210-24-00):
 - a. Approved HSIP projects are typically funded with 90% federal funds and a 10% match from state or local sources. However, to maximize the use of federal-aid funds within approved HSIP projects, the 25% cost share required for the design engineering component of state-sponsored connecting highway projects is only applied toward the required match. The Municipality shall be responsible for 25% of the 10% state match of the preliminary engineering (design) costs per WisDOT Cost Share policy for connecting highways. The amount shown in the table above will be further defined as this project continues through planning, scoping and design process.

(b) Construction Engineering (9210-24-70):

- a. Non-participating construction costs and cost share will be further defined as this project continues through the planning, scoping and design process. Any additional work per the request of the Municipality will be funded by the Municipality.

Comments and Clarification: This agreement is an active agreement that may need to be amended as the project is designed. It is understood that these amendments may be needed as some issues have not been fully evaluated or resolved. The purpose of this agreement is to specify the local and state involvement in funding the project. A signed agreement is required before the State will prepare or participate in the preparation of detailed designs, acquire right-of-way, or participate in construction of a project that merits local involvement.



Report to the
**Improvement and Service Committee
of the City of Green Bay**

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.6

Consideration with possible action on request by Department of Public Works for the 2024 proposed vegetation maintenance at the City's stormwater ponds and facilities.

BACKGROUND

The City contracts annually with NES Ecological Services and McMahon Associates, Inc. for terrestrial and aquatic vegetation installation, monitoring, and maintenance services at select City-owned stormwater facilities. The proposals for 2024 include continued maintenance at sixteen (16) stormwater facilities including but not limited to conducting inspections, seeding, invasive and nuisance vegetation removal and herbicide treatments, and prescribed burns as needed.

RECOMMENDATION

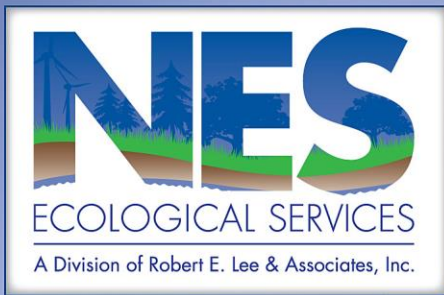
Staff recommends approval of the request.

FISCAL IMPACT

\$69,150 (\$12,400 McMahon, \$56,750 NES)

ATTACHMENTS

1. Maintenance Proposal_2024
2. 2023 Annual Insp. Report and 2024 Prop



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Maintenance Proposal

Royal Woods, Barina Creek, Berger Street,
Huron-Sitka, McAuliffe Park, Juza-Shorewood,
Eaton Heights, Mossy Oak & Voyager Drive Facilities

Prepared for

City of Green Bay

100 N. Jefferson
Green Bay, WI 54301
Project #10575088

Authored By:

James Havel

September 14, 2023

www.NESWI.com

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INTRODUCTION – NARRATIVE SUMMARY

NES Ecological Services, A Division of Robert E. Lee & Associates, Inc., is pleased to submit this proposal to assist with the installation, monitoring and maintenance of native vegetation & aquatic habitats at nine (Royal Woods, Huron-Sitka, Berger, Barina Creek, McAuliffe Park, Juza-Shorewood, Eaton Heights, Mossy Oak and Voyager Drive) of the city's stormwater management facilities. The proposal prioritizes the recommended activities to be conducted at each facility as outlined in the Detention Basin Assessment Report – 2023.

NES ecologists will be responsible for providing the following services:

- Inspections, both terrestrial & aquatic, to Assess Condition of Stormwater Facilities
- Meetings, Consultations, Correspondence, and/or reports if necessary
- Apply Herbicide to control Terrestrial & Emergent Invasive and Aggressive Plant Species (secure permits if necessary)
- Submit Proper Herbicide Treatment Documentation to WDNR and the City of Green Bay
- Woody Vegetation Removal
- Mowing Activities for Vegetation Management
- Conduct Prescribed Burns
- Coordinate w/city & city's Fire Department
- Notify Adjacent Landowners of Prescribed Burn
- Obtain Proper Permits and Pay Necessary Fees for Burning and Other Items as Necessary
- Ensure Proper Signage is in place during Burning & Arrange Traffic Control
- Prepare a Press Release, if necessary, to be distributed by City of Green Bay
- Attend Meetings as necessary for Burning Activities
- Site Preparation, including Herbicide Application & Discing Ground Work
- Provide & Install Side Slope Mix on Repair Areas
- Provide & Install Shoreline Mix on Repair Areas
- Install Non-Native Grass Seed, if Adaptive Management dictates the need
- Provide & Install Emergent Plant Plugs in Repair Areas
- Furnish, Install, and Maintain Herbivore Protection Fencing
- Furnish & Install Erosion Control Materials
- Periodically Inspect all city Stormwater Facilities

PROJECT TEAM

The primary contact person to coordinate the project for NES will be James Havel, Senior Ecologist and Project Manager, while Nick Kintopf, Restoration Ecologist, will be the lead field ecologist for the project. The City of Green Bay will be a key part of the project team. It is the intent of NES to work as an extension of the city and with city staff to ensure the stormwater facilities are managed appropriately. NES staff will also work with the city's muskrat trapper.

NES's ecological staff have extensive experience in monitoring native landscapes; site preparation; installing seeds, live plants, biologists, herbivore fencing, and erosion control measures; and maintenance through mowing, prescribed burns and herbicide applications. Our team will strive to conduct the proposed work in an efficient manner to reduce project costs while achieving the desired goals.

As mentioned above, James Havel will be the project leader. Mr. Havel will be the prime contact person for the city. Mr. Kintopf will be in charge of conducting the annual facility inspection visits and

assessment reports. Mr. Kintopf or Dustin Sablich (Restoration Ecologist) will be responsible for leading aspects of the annual field operations. He will be the manager of, and a participant in, the field work. Mr. Kintopf and Mr. Sablich along with Ian Mueller (Restoration Ecologist) will also participate in the prescribed burns, maintenance, installation and site preparation work. NES/REL also has several full-time and seasonal staff that have worked with our ecologists and are available when needed.

PROJECT RECOMMENDATIONS

Task 1. Provide Facility Inspection and Consultation

Prior to conducting any maintenance activities, NES will assess the overall condition of the communities at each stormwater facility. Nick Kintopf will be the primary person from NES performing this task; however, Dustin Sablich and Ian Mueller will also participate since they will be responsible for leading field activities. These facility site inspections will be used to determine preliminary maintenance activities. We will not prepare a report after this assessment, but we will conduct future maintenance activities accordingly based upon this visit. If there are any major issues, NES will notify the City of Green Bay.

In addition to the early season inspection, NES ecologists will periodically review all the stormwater facilities. To more accurately track conditions of a facility and activities conducted by our ecologists, a Stormwater Facility Inspection Form will be completed each time NES performs maintenance activities or a site is reviewed. The following information will be recorded:

- 1) Native and invasive species found on-site so their presence and relative level of occurrence can be tracked over time along with the success of previous maintenance activities, if conducted. The information will be used to determine future maintenance activities and performance schedules.
- 2) Plant and/or structural damage from muskrats and/or geese
- 3) Algae growth
- 4) Site conditions by taking photos from the same vantage point each visit.

These forms will be provided to the city as a means of tracking progress throughout the year.

At the end of each month in which a pond is visited, NES will provide a summary report of the pond and vegetation conditions. At a minimum the report will include:

- 1) Maintenance activities that were conducted – both vegetation (herbicide application, mowing, etc.) and non-vegetation (debris removal, erosion repair, etc.) related.
- 2) Professional opinion regarding the current condition of the pond and associated vegetation communities.
- 3) Recommendations for future maintenance activities.
- 4) Issues or potential issues such as herbivore damage (muskrats or geese), erosion within or around the basin, algae levels, lack of vegetation establishment, illicit discharges, and structural problems.
- 5) Site photos

Herbicide Application Records, which will include the species targeted, will also be included with these reports if applications occurred during that month.

If there are issues we believe should be addressed prior to sending the monthly report, NES will notify the City of Green Bay immediately.

NES will also provide an annual report by August/early September of each year that:

- 1) Summarizes activities performed in the current year
- 2) Provides recommended maintenance activities for the following growing season
- 3) Reviews the overall condition of the stormwater management facility

All reports will be provided in a format acceptable to the City of Green Bay so they can be posted on the city's website for residents.

Task 2. Provide Miscellaneous Consultations and Meetings

This task will be performed by one of our ecologists, when the need for special consultations and meetings arise. Prior to conducting this task, NES will coordinate with city personnel, and any other parties needing to attend, to determine a mutually convenient date to meet/consult. NES will only perform this task with special authorization and request by the city.

NES ecologists have worked with clients from all sector types. These include private landowners, residential clients, municipal officials, commercial property managers, business owners, government officials, and many others. We have experienced many situations with individuals that require significant communication, partnership, and education as to the reasons for utilizing functional native landscapes. Often the native landscapes are utilized in conjunction with traditional lawns and hardscapes, both for functionality and traditional landscape values. Our ecologists are very qualified and comfortable in these situations. If and when these meetings occur, NES will come prepared to each with appropriate background information from past visits, field efforts, and up-to-date information for the situation at hand. NES will also provide a written memo to the city documenting discussions and any recommendations made during the meeting/consultation. The ecologist involved will provide this information within one week.

Due to the spontaneous nature of this item, a specific schedule does not apply. NES will be responsive and meet the required time frames for this task when it arises.

Task 3. Apply Herbicide

As outlined in the Detention Basin Assessment Report – 2023, invasive species within the wetland and upland plant communities at the stormwater facilities will be treated with herbicide through various methods. NES has accounted for all likely treatment methods and herbicides that could be used for this project.

Task 4. Cut & Treat Woody Vegetation

As outlined in the Detention Basin Assessment Report – 2023, woody species around the stormwater facilities will be cut and treated with herbicide through various methods. Since remaining populations are small, management of the cut material will be done by NES staff. The woody debris will either be chipped and spread on-site or removed to city's east side compost yard. Our cost estimate includes conducting the chipping and/or removal.

Most of the work for this task has been completed; therefore, little to no additional effort is required. Unwanted seedlings will be addressed in Tasks 3, 6 & 8 once the initial large, established material is removed.

Task 5. Mow Vegetation to 6"-8" Height & Spot Mowing

As outlined in the Detention Basin Assessment Report – 2023, mowing activities will be conducted to control undesirable vegetation and to assist with renewal of the native plantings where prescribed burns cannot be utilized.

Task 6. Conduct Controlled Prairie Burn

As outlined in the Detention Basin Assessment Report – 2023, prescribed burns will be conducted where possible to help control undesirable cool season species and woody vegetation. We believe this activity can be safely conducted at all the stormwater facilities. It is ideal to leave some patches or sections of the native community unburned so wildlife has existing habitat and insects overwintering in the vegetation survive; however, we also understand there are increased costs with conducting this activity more than every 3-5 years; therefore, if prescribed burns are implemented at the facilities, the entire site will be burned.

Task 7. Perform Prairie Burn Administration

NES will coordinate with city staff, obtain all necessary permits, attend any meetings specifically requested for the burning operations, and provide written notification to the city and locally affected residents for all of the burn sites.

Task 8. Site Preparation Herbicide and Discing

If necessary, site preparation activities will occur within identified disturbed areas located around the stormwater facilities. These activities will ensure the invasive species found within these areas are controlled and the site restored to a community dominated by native vegetation.

Task 9. Furnish and Install Side Slope Prairie & Wetland Seed

Native seed mixes will be installed per the recommendations outlined in the Detention Basin Assessment Report – 2023. This task will focus primarily on addressing the prairie and wet meadow areas lacking vegetation around the Mossy Oak, Eaton Heights and Barina Creek stormwater facilities due to impacts from high water levels and the removal of invasive species. As management activities continue, additional seeding may be required due to the removal of woody vegetation, *Phragmites*, cattails or other invasive species within and around other ponds.

Task 10. Furnish and Install Emergent Plant Plugs

This task will focus on addressing areas with little or no emergent vegetation present. No planting is proposed for 2024; however, as management activities occur, additional planting may be required due to the removal of woody vegetation, *Phragmites*, cattails or other invasive species within the ponds, especially at Barina Creek and Eaton Heights.

Task 11. Furnish, Install & Remove Herbivore Protection Fencing

To protect newly installed plants, a fencing system will be erected around the planted vegetation and maintained for a minimum of one growing season, where necessary. To ensure recovering plants are protected for an additional year, fencing will remain at Eaton Heights through the 2024 growing season and be removed in the fall.

Task 12. Furnish and Install Class I, Urban, Type A Erosion Control Blanket

NES crews are highly experienced in the variety of erosion control products that are on the market. The crews have installed a wide range of products, from silt fence, to sediment stops, erosion control blankets, check dams, and many others. They are familiar with the manufacturers recommended installation methods for these products. NES has consulted and installed erosion control products in restoration situations, stormwater basin situations, and for utility operations.

The NES team has installed Class I, Urban, Type A blanket in a variety of applications, from small restoration areas to large acreage stormwater basins. The team will have reviewed, and have on hand, the detailed product specification sheets when installing the products. Attention to detail related to proper trenching methods, overlap related to water flow, and secure stapling will be of the utmost importance. The product used will be WintersStraw Bio or an approved equal listed on the WI DOT PAL list.

Although seeding is proposed, the need for erosion blanket is unlikely do the relatively level nature of the sites to be seeded. Erosion is not anticipated; however, if issues arise, materials will be installed in a timely fashion to correct problems.

RESPONSE TIME

Any problems that may arise will be addressed by NES within five days or less. We will work with the City of Green Bay to achieve desired results while providing quality work in a timely manner.

CITY OF GREEN BAY TASKS

As time allows, city staff may participate in specific tasks discussed above like the removal of woody vegetation. The city's ability to chip and remove cut material in 2015-2017 allowed our staff to focus on removal and treatment efforts. We also acknowledge that the city will be contracting a trapper to conduct the muskrat trapping activities. NES will communicate often with the city to determine how these activities are being completed. NES will work with the city to determine staff availability to reduce overall project costs.

COST ESTIMATE

An itemized cost breakdown (Tables 1-9) for anticipated maintenance services on the nine stormwater facilities is located below. To help with budget decisions, an annual cost estimate for each anticipated task is provided for each facility. Annual assessments will help determine remaining priorities. Table 10 contains a total estimated cost for all nine facilities.

Barina Creek

Prioritized tasks for 2024 are as follows:

- 1) Facility Inspection and Reporting (Task #1)
- 2) Phragmites & Narrow-leaved Cattail Control (Tasks #3 & #5)
- 3) Selective Herbicide Application & Mowing (Tasks #3 & #5)
- 4) Prescribed Burn – southern half of facility (Tasks #6 & #7)
- 5) Overseed Wet Meadow in Previous Phragmites Control Areas – South Side of Facility (Task #9), if necessary

Table 1. Barina Creek Cost Estimate for 2024.

Task	Estimated Cost
#1 - Facility Inspection & Report Preparation	\$875
#2 - Miscellaneous Meetings/Consultations	\$250
#3 - Herbicide Applications	\$2,900
#5 - Mowing Activities	\$2,800
#6 – Prescribed Burn	\$3,400
#7 – Prescribed Burn Administration	\$750
#9 – Furnish & Install Wetland Seed (if necessary)	\$1,900
Total Cost	\$12,875

Berger

Prioritized tasks for 2024 are as follows:

- 1) Facility Inspection and Reporting (Task #1)
- 2) Japanese Knotweed Control (Tasks #3 & #5)
- 3) Selective Herbicide Application & Mowing (Tasks #3 & #5)

Table 2. Berger Cost Estimate for 2024.

Task	Estimated Cost
#1 - Facility Inspection & Report Preparation	\$875
#2 - Miscellaneous Meetings/Consultations	\$250
#3 - Herbicide Applications	\$1,100
#5 - Mowing Activities	\$900
Total Cost	\$3,125

Eaton Heights

Prioritized tasks for 2024 are as follows:

- 1) Facility Inspection and Reporting (Task #1)
- 2) Emergent Wetland - Phragmites & Narrow-leaved Cattail Control (Tasks #3 & #5)
- 3) Selective Herbicide Application & Mowing (Tasks #3 & #5)
- 4) Repair & Remove Herbivore Fencing (Task #11)
- 5) Overseed Wet Meadow areas in Previously Drowned Out Areas – (Task #9), if necessary

Table 3. Eaton Heights Cost Estimate for 2024.

Task	Estimated Cost
#1 - Facility Inspection & Report Preparation	\$875
#2 - Miscellaneous Meetings/Consultations	\$250
#3 - Herbicide Applications	\$2,100
#5 - Mowing Activities	\$1,750
#9 – Furnish & Install Wetland Seed (if necessary)	\$1,000
#11 – Repair & Remove Herbivore Protection Fencing	\$2,300
Total Cost	\$8,275

Huron-Sitka

Prioritized tasks for 2024 are as follows:

- 1) Facility Inspection and Reporting (Task #1)
- 2) Selective Herbicide Application & Mowing (Tasks #3 & #5)
- 3) *Phragmites* Control Herbicide Application & Mowing (Tasks #3 & #5)
- 4) Prescribed Burn (Tasks #6 & #7)

Table 4. Huron-Sitka Cost Estimate for 2024.

Task	Estimated Cost
#1 - Facility Inspection & Report Preparation	\$875
#2 - Miscellaneous Meetings/Consultations	\$250
#3 - Herbicide Applications	\$1,700
#5 - Mowing Activities	\$1,500
#6 – Prescribed Burn	\$2,000
#7 – Prescribed Burn Administration	\$750
Total Cost	\$7,075

Juza-Shorewood

Prioritized tasks for 2024 are as follows:

- 1) Facility Inspection and Reporting (Task #1)
- 2) Emergent Wetland - *Phragmites* & Narrow-leaved Cattail Control (Tasks #3 & #5)
- 3) Selective Herbicide Application & Mowing (Tasks #3 & #5)

Table 5. Juza-Shorewood Cost Estimate for 2024.

Task	Estimated Cost
#1 - Facility Inspection & Report Preparation	\$875
#2 - Miscellaneous Meetings/Consultations	\$250
#3 - Herbicide Applications	\$1,200
#5 - Mowing Activities	\$900
Total Cost	\$3,225

McAuliffe Park

Prioritized tasks for 2024 are as follows:

- 1) Facility Inspection and Reporting (Task #1)
- 2) Selective Herbicide Application & Mowing (Tasks #3 & #5)
- 3) Prescribed Burn (Tasks #6 & #7)

Table 6. McAuliffe Park Cost Estimate for 2024.

Task	Estimated Cost
<i>#1 - Facility Inspection & Report Preparation</i>	\$875
<i>#2 - Miscellaneous Meetings/Consultations</i>	\$250
<i>#3 - Herbicide Applications</i>	\$1,100
<i>#5 - Mowing Activities</i>	\$1,000
<i>#6 – Prescribed Burn</i>	\$2,400
<i>#7 – Prescribed Burn Administration</i>	\$750
Total Cost	\$6,375

Mossy Oak

Prioritized tasks for 2024 are as follows:

- 1) Facility Inspection and Reporting (Task #1)
- 2) Selective Herbicide Application & Mowing (Tasks #3 & #5)
- 3) Prescribed Burn (Tasks #6 & #7)
- 4) Overseed Prairie areas in Eroded Repair Areas – (Task #9), if necessary

Table 7. Mossy Oak Cost Estimate for 2024.

Task	Estimated Cost
<i>#1 - Facility Inspection & Report Preparation</i>	\$875
<i>#2 - Miscellaneous Meetings/Consultations</i>	\$250
<i>#3 - Herbicide Applications</i>	\$3,000
<i>#5 - Mowing Activities</i>	\$1,800
<i>#6 – Prescribed Burn</i>	\$3,700
<i>#7 – Prescribed Burn Administration</i>	\$750
<i>#9 – Furnish & Install Wetland Seed (if necessary)</i>	\$1,000
Total Cost	\$11,375

Royal Woods

Prioritized tasks for 2024 are as follows:

- 1) Facility Inspection and Reporting (Task #1)
- 2) Japanese Hedge Parsley & *Phragmites* Control (Tasks #3 & #5)
- 3) Selective Herbicide Applications & Mowing (Tasks #3 & #5)

Table 8. Royal Woods Cost Estimate for 2024.

Task	Estimated Cost
#1 - Facility Inspection & Report Preparation	\$875
#2 - Miscellaneous Meetings/Consultations	\$250
#3 - Herbicide Applications	\$900
#5 - Mowing Activities	\$900
Total Cost	\$2,925

Voyager Drive

Prioritized tasks for 2024 are as follows:

- 1) Facility Inspection and Reporting (Task #1)
- 2) Selective Herbicide Application (Tasks #3)

Table 9. Voyager Drive Cost Estimate for 2024.

Task	Estimated Cost
#1 - Facility Inspection & Report Preparation	\$475
#2 - Miscellaneous Meetings/Consultations	\$250
#3 - Herbicide Applications	\$775
Total Cost	\$1,500

Table 10. Total Estimated Maintenance Costs – 2024.

Pond	2024
Barina Creek	\$12,875
Berger	\$3,125
Eaton Heights	\$8,275
Huron-Sitka	\$7,075
Juza-Shorewood	\$3,225
McAuliffe Park	\$6,375
Mossy Oak	\$11,375
Royal Woods	\$2,925
Voyager Drive	\$1,500
Grand Total*	\$56,750

* Costs to conduct these tasks will be billed on a time and expense basis; however, NES will work with the City of Green Bay to eliminate tasks were applicable and reduce costs where able to ensure desired work is conducted within the constraints of the budget. Services not covered within this proposal will be negotiated with the city.

If you have any questions or there are other items you wish to include, please contact me. If the proposal is acceptable, please amend our existing contract with the City of Green Bay to conduct Year 10 – 2024 maintenance activities described above and in the Detention Basin Assessment Report – 2023 completed by NES for the city. We look forward to our continued working relationship.

Sincerely,

NES ECOLOGICAL SERVICES



James Havel
Division Manager
Senior Ecologist
jhavel@releeinc.com

ROBERT E. LEE & ASSOCIATES, INC.



Jared Schmidt, P.E., V.P.
Civil/Municipal Engineering Manager
jschmidt@releeinc.com



October 12, 2023

Ms. Kelly O'Malley
City of Green Bay – Engineering
100 N. Jefferson Street, Room 300
Green Bay, WI 54301

Re: City of Green Bay
2023 Annual Inspection, Assessment Report and Proposal
Baird Creek Preserves Ponds, Larscheid Pond, Mills Street Pond,
Basten Street Wetlands, Excalibur Pond, and Superior Pond
McM. No. G0018-09-23-00183.00

Dear Ms. O'Malley:

The purpose of this report is to provide the results of an Annual Assessment of the vegetation (terrestrial and aquatic) at seven City of Green Bay stormwater facilities and provide a Proposal for 2024 services. These facilities are listed below.

- Baird Creek Preserve Northwest Pond Facility
- Baird Creek Preserve Northeast Pond Facility
- Larscheid Pond Facility
- Mills Street Pond Facility
- Basten Street Wetlands Facility
- Excalibur Pond Facility
- Superior Pond

McMahon Associates, Inc. (McMahon) walked over the upland and safety shelf of each stormwater facility to assess the current conditions following treatment protocols this year. Each of the seven stormwater facilities are discussed in detail below. Photographs of the seven facilities are attached. The proposed 2024 services are detailed in the '5-Year Stormwater Facility Adaptive Native Vegetation Proposal & Budget (Revised Annually)'.

BAIRD CREEK PRESERVE NORTHWEST POND FACILITY

■ PRAIRIE

The prairie is in the seventh year of growth. The prairie is high quality providing a variety of color from spring to fall. The primary species include smooth penstemon, purple coneflower, stiff goldenrod, Canada goldenrod, bergamot, lavender hyssop, sky blue aster, New England aster and Indian grass. Basic long-term maintenance should be performed to maintain the high quality. The following activities have occurred this year so far.

- ▶ Spot herbicided and spot mowed the prairie, especially thistles and cut-leaf teasel.

■ PROPOSAL

- ▶ Prairie - Spot herbicide and spot mow invasive species in the prairie to continue to improve the moderate to high quality prairie.
- ▶ Safety Shelf and Shoreline - We do not recommend additional activities in the safety shelf or shoreline until the pond leak is identified and repaired. The proper hydrology is required to restore aquatic vegetation. The water level is approximately 20-inches below the normal pool elevation design.

BAIRD CREEK PRESERVE NORTHEAST POND FACILITY

■ PRAIRIE

The prairie is in the seventh year of growth. The prairie is outstanding and high quality providing rich color from spring to fall. The primary species are purple coneflower, butterfly milkweed, oxeye sunflower, blue lobelia, stiff goldenrod, New England aster, Indian grass, smooth penstemon, smooth blue aster, little bluestem grass and bergamot. Basic long-term maintenance should be performed to maintain the high quality. The following activities have occurred this year so far.

- ▶ Spot herbicided and hand pulled invasive species in the prairie to continue to maintain the high quality prairie.

■ SAFETY SHELF AND SHORELINE

- ▶ The aquatic plants are developing slowly due to lower light conditions generated by the forest located to the south and are more developed than last year. There is not any shoreline erosion due to the small size of the pond, wind protection from the woods and shoreline plants. Aquatic plant species include softstem bulrush, burreed, arrowhead and sedges. The following activities occurred this year.
 - ◆ Herbicided phragmites.

■ PROPOSAL

- ▶ Prairie - Spot herbicide, hand pull, and/or spot mow invasive species in the prairie.
- ▶ Safety Shelf and Shoreline - Spot herbicide cattails, phragmites and woody vegetation to maintain the area.

We do not recommend additional aquatic planting in the future since the plants have reached near equilibrium with the environmental conditions.

LARSCHEID POND FACILITY

The prairie is outstanding in quality and diversity providing a rich variety of color from spring to fall. Primary species include purple coneflower, butterfly milkweed, stiff goldenrod, sweet black eyed susan, New England aster, bergamot, smooth blue aster, smooth penstemon, iron weed, and Indian grass. Basic long-term maintenance should be performed to maintain the high quality. The following activities occurred this year so far:

- **PRAIRIE**
 - ▶ Spot herbicided and hand pulled invasive species in the mesic prairie.
- **SAFETY SHELF AND SHORELINE**
 - ▶ The aquatic plants are in excellent condition on the safety shelf with many different native species. Active emergent aquatic plants include burreed, arrowhead, yellow lily and white lily. Cattails and phragmites were absent from the pond due to effective eradication six years ago and did not require treatment this year.
- **PROPOSAL**
 - ▶ Prairie - Spot herbicide, hand pull, and mow invasive species to continue to maintain the high-quality prairie.
 - ▶ Safety Shelf and Shoreline - There are no invasive species in the safety shelf and shoreline. We recommend general observation to detect potential invasive species.

MILL STREET POND FACILITY

The prairie grasses are doing outstanding at the site with grass standing 5 to 8 feet tall in the fall. This will substantially deter geese. Primary species are big blue stem grass and Indian grass. Some wildflowers include great blue lobelia, cardinal flower, marsh milkweed and bergamot. Invasive broadleaf weeds such as hairy vetch, sweet flowers, queen annes lace and leafy spurge exist at very low amounts.

The following activities occurred this year so far:

- **PRAIRIE**
 - ▶ Spot herbicide invasive species.
- **SAFETY SHELF AND SHORELINE**
 - ▶ The emergent aquatic plants are nearly absent from the safety shelf due expansion of the carp population and individual size. Aquatic plants, besides water lily, will not survive with the current carp population.
 - ◆ Herbicide Phragmites
- **PROPOSAL**
 - ▶ Prairie - Spot herbicide, hand pull and/or mow invasive species.
- **WETLANDS AND SHORELINE**
 - ▶ Cattails and phragmites should be herbicided to maintain the area.

Additional aquatic plants are not recommended in the future due to the high carp population size and large individuals.

BASTEN STREET WETLANDS FACILITY

■ PRAIRIE

The existing prairie is high quality providing a variety of color from spring to fall. The 0.49 acre prairie restoration area has high density of plants and is high quality. The primary species include purple coneflower, stiff goldenrod, smooth penstemon, Indian grass, New England aster, smooth blue aster, blue lobelia, grass leaved goldenrod, path rush, sweet black eyed susan, butterfly milkweed, switch grass and boneset. The 0.25 acre wet prairie area is in the sixth year growth and has good amount of prairie plants flowering especially blue lobelia. The following activities have occurred this year so far.

- ▶ Spot herbicided and hand pulled invasive species.

■ WETLANDS AND SHORELINE

- ▶ The wetland plants have greatly expanded naturally. The native emergent plant species include softstem bulrush, burreed and river bulrush. The entire shallow marsh is nearly covered with vegetation.
 - ◆ Herbicide cattails and phragmites (will occur in October).

■ PROPOSAL

- ▶ Prairie - The invasive species should be spot herbicided, spot mowed, and hand pulled in the prairie to maintain the high-quality prairie.
- ▶ Wetlands and Shoreline - Spot herbicide cattails, phragmites and woody vegetation to maintain the area.

Additional aquatic plants are not recommended in the future since most of the suitable area is occupied by plants and expanding naturally.

EXCALIBUR POND FACILITY

■ PRAIRIE

The prairie around the pond is of high quality providing a variety of color from spring to fall. The primary species in the upland areas include new England aster, bergamot, little bluestem grass, stiff goldenrod, switchgrass, and brown eyed susan. The species along the wet prairie near the pond include woolgrass, blue vervain, bluejoint grass, water horehound, boneset and various sedges. The amount of invasive species in the prairie including crown vetch (couple patches), clovers, bull thistle, Canada thistle and leafy spurge has been further reduced this year by treatments.

The following activities occurred this year:

- ▶ Spot herbicided and hand pulled invasive species.

■ SAFETY SHELF AND POND

The safety shelf contains approximately 80% coverage of native water lilies that provide beneficial functional values. The lilies continued to expand this year due to successful eradication of phragmites in the deeper parts of the safety shelf in the past. Also, small amounts of native burreed and arrowhead exist in the safety shelf.

The sediment is hard in many places of the safety shelf which makes it difficult for some aquatic species to be planted and survive. The safety shelf varies from 3 to 10 feet wide. We recommend leaving the safety shelf 'as-is' since the lilies are expanding naturally in areas formally occupied by non-native cattail and phragmites. There does not appear to be shoreline erosion from waves, due to the small isolated nature of the pond and shoreline plants/lilies.

The pond contains several native submergent aquatic plants including sago pondweed and muskgrass (type of macro algal). The submergent plants and macro algal are beneficial to improving water quality.

The following activities occurred this year:

- ▶ Herbicide phragmites.

■ PROPOSAL

- ▶ Prairie - Spot herbicide and hand pull invasive species to maintain the high-quality prairie.
- ▶ Safety Shelf - Herbicide the phragmites to eradicate them from the site.

SUPERIOR POND

■ PRAIRIE

A diverse prairie mix was seeded in the spring of 2022. The results are good, but the prairie is in the development phase. The invasive species are low. There are high amounts of purple prairie clover and butterfly milkweed in the prairie with some coneflowers.

The following activities occurred this year.

- ▶ Spot herbicided invasive species.

■ SAFETY SHELF AND SHORELINE

- ▶ The safety shelf is covered with high quality native emergent aquatic plants including river bulrush, softstem bulrush and burreed.

The following activities occurred this year.

- ◆ Spot herbicided willow brush and cottonwood saplings.
- ◆ Will herbicide phragmites and cattails in October.

■ PROPOSAL

- ▶ Prairie - Spot herbicide invasive species in the prairie.
- ▶ Safety Shelf and Shoreline - Herbicide cattails, phragmites and willow brush to maintain high quality aquatic plants in the safety shelf and shoreline.

If you have any questions, please let me know.

Respectfully,

McMahon Associates, Inc.

A handwritten signature in black ink, appearing to read 'Stuart A. Boerst', with a long horizontal flourish extending to the right.

Stuart A. Boerst, P.S.S., P.H.
Associate / Senior Ecologist

SAB:car

Enclosure: Photographs

5-Year Stormwater Facility Adaptive Native Vegetation Proposal & Budget (Revised Annually)

City of Green Bay | Brown County, Wisconsin

October 12, 2023

McM. No. G0018-09-23-00183



BAIRD CREEK PRESERVE NORTHWEST POND (0.99 Acre Prairie)

PRAIRIE/WETLAND MAINTENANCE ACTIVITY	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Project Management / Site Meetings	\$200	\$200	\$200	\$200	\$200
Spot Herbicide Hand Pull and Mow Exotic / Invasive Species In Prairie (Spring-Fall)	\$600	\$500	\$500	\$500	\$500
Prescribed Prairie Burn	\$1,300	--	--	--	--
Annual Inspection and Assessment Report and Proposal	\$200	\$200	\$200	\$200	\$200
Total	\$2,300	\$900	\$900	\$900	\$900

BAIRD CREEK PRESERVE NORTHEAST POND (1.3 Acre Prairie)

PRAIRIE/WETLAND MAINTENANCE ACTIVITY	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Project Management / Site Meetings	\$200	\$200	\$200	\$200	\$200
Spot Herbicide Hand Pull and Mow Exotic / Invasive Species In Prairie (Spring-Fall)	\$600	\$500	\$500	\$500	\$500
Herbicide Cattails, Phragmites, Purple Loosestrife, Woody Vegetation in Wetlands	\$200	\$200	\$200	\$200	\$200
Prescribed Prairie Burn	\$1,300	--	--	--	--
Annual Inspection and Assessment Report and Proposal	\$200	\$200	\$200	\$200	\$200
Total	\$2,500	\$1,100	\$1,100	\$1,100	\$1,100

LARSCHEID POND (0.99 Acre Prairie)

PRAIRIE/WETLAND MAINTENANCE ACTIVITY	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Project Management / Site Meetings	\$200	\$200	\$200	\$200	\$200
Spot Herbicide Hand Pull and Mow Exotic / Invasive Species In Prairie (Spring-Fall)	\$500	\$500	\$500	\$500	\$500
Prescribed Prairie Burn	\$1,300	--	--	--	--
Annual Inspection and Assessment Report and Proposal	\$200	\$200	\$200	\$200	\$200
Total	\$2,200	\$900	\$900	\$900	\$900

MILLS STREET POND (3.77 Acre Prairie)

PRAIRIE/WETLAND MAINTENANCE ACTIVITY	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Project Management / Site Meetings	\$200	\$200	\$200	\$200	\$200
Prescribed Prairie Burn	--	\$1,600	--	--	--
Spot Herbicide Hand Pull and Mow Exotic / Invasive Species In Prairie (Spring-Fall)	\$700	\$700	\$700	\$700	\$700
Herbicide Cattails, Phragmites, Purple Loosestrife, Woody Vegetation in Wetlands	\$300	\$300	\$300	\$300	\$300
Annual Inspection and Assessment Report and Proposal	\$200	\$200	\$200	\$200	\$200
Total	\$1,400	\$3,000	\$1,400	\$1,400	\$1,400

BASTEN STREET WETLANDS FACILITY (1.65 Acre Prairie)

PRAIRIE/WETLAND MAINTENANCE ACTIVITY	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Project Management / Site Meetings	\$200	\$200	\$200	\$200	\$200
Spot Herbicide Hand Pull and Mow Exotic / Invasive Species In Prairie (Spring-Fall)	\$500	\$500	\$500	\$500	\$500
Herbicide Cattails, Phragmites, Purple Loosestrife, Woody Vegetation in Wetlands	\$400	\$300	\$300	\$300	\$300
Prescribed Prairie Burn	--	\$1,500	--	--	--
Annual Inspection and Assessment Report and Proposal	\$200	\$200	\$200	\$200	\$200
Total	\$1,300	\$2,700	\$1,200	\$1,200	\$1,200

EXCALIBUR POND FACILITY (0.31 Acre Prairie)

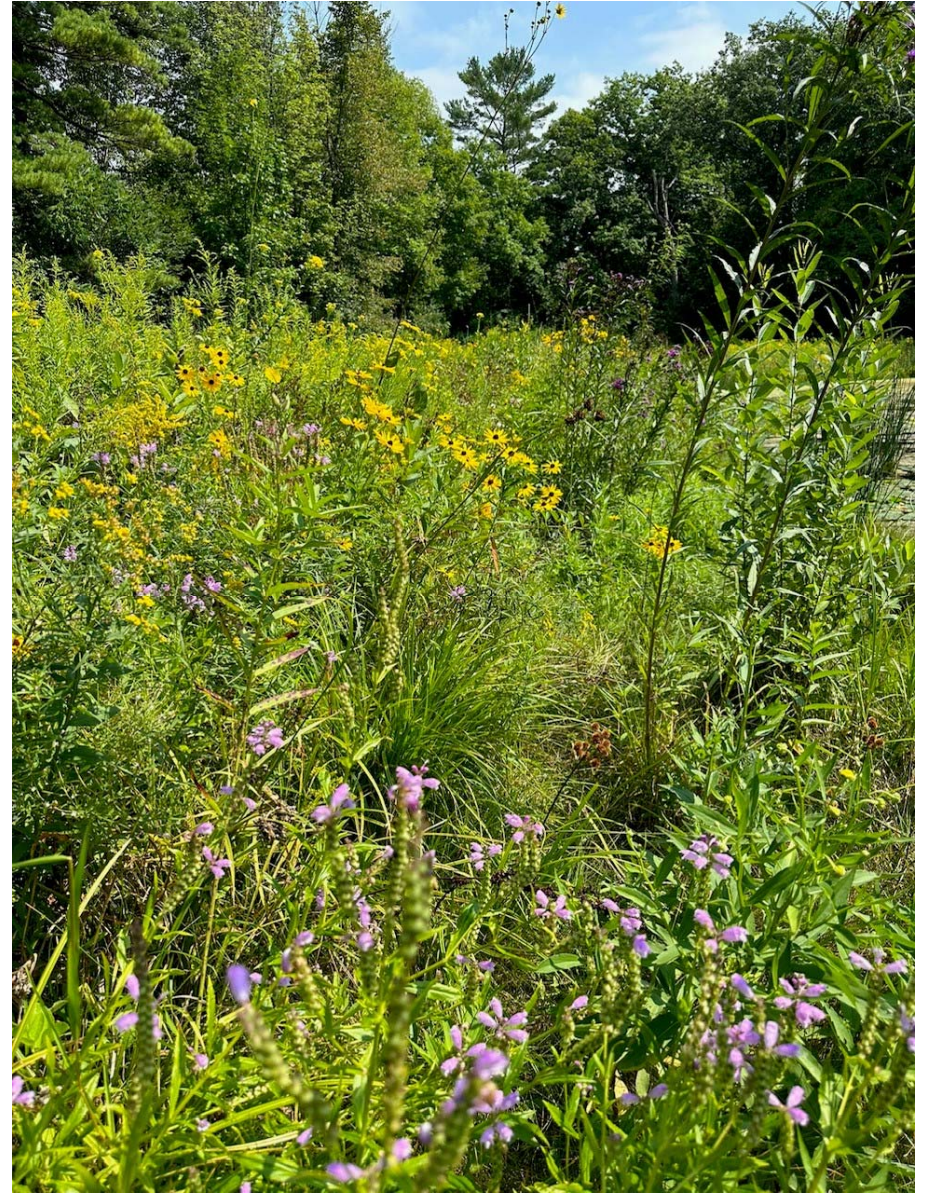
PRAIRIE/WETLAND MAINTENANCE ACTIVITY	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Project Management / Site Meetings	\$200	\$200	\$200	\$200	\$200
Spot Herbicide Hand Pull and Mow Exotic / Invasive Species In Prairie (Spring-Fall)	\$400	\$400	\$400	\$400	\$400
Herbicide Cattails, Phragmites, Purple Loosestrife, Woody Vegetation in Wetlands	\$200	\$200	\$200	\$200	\$200
Annual Inspection and Assessment Report and Proposal	\$200	\$200	\$200	\$200	\$200
Total	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000

SUPERIOR POND (1.49 Acre Prairie)

PRAIRIE/WETLAND MAINTENANCE ACTIVITY	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Project Management / Site Meetings	\$200	\$200	\$200	\$200	\$200
Spot Herbicide Hand Pull and Mow Exotic / Invasive Species In Prairie (Spring-Fall)	\$800	\$600	\$600	\$600	\$600
Herbicide Cattails, Phragmites, Purple Loosestrife, Woody Vegetation in Wetlands	\$500	\$500	\$500	\$500	\$500
Annual Inspection and Assessment Report and Proposal	\$200	\$200	\$200	\$200	\$200
Total	\$1,700	\$1,500	\$1,500	\$1,500	\$1,500



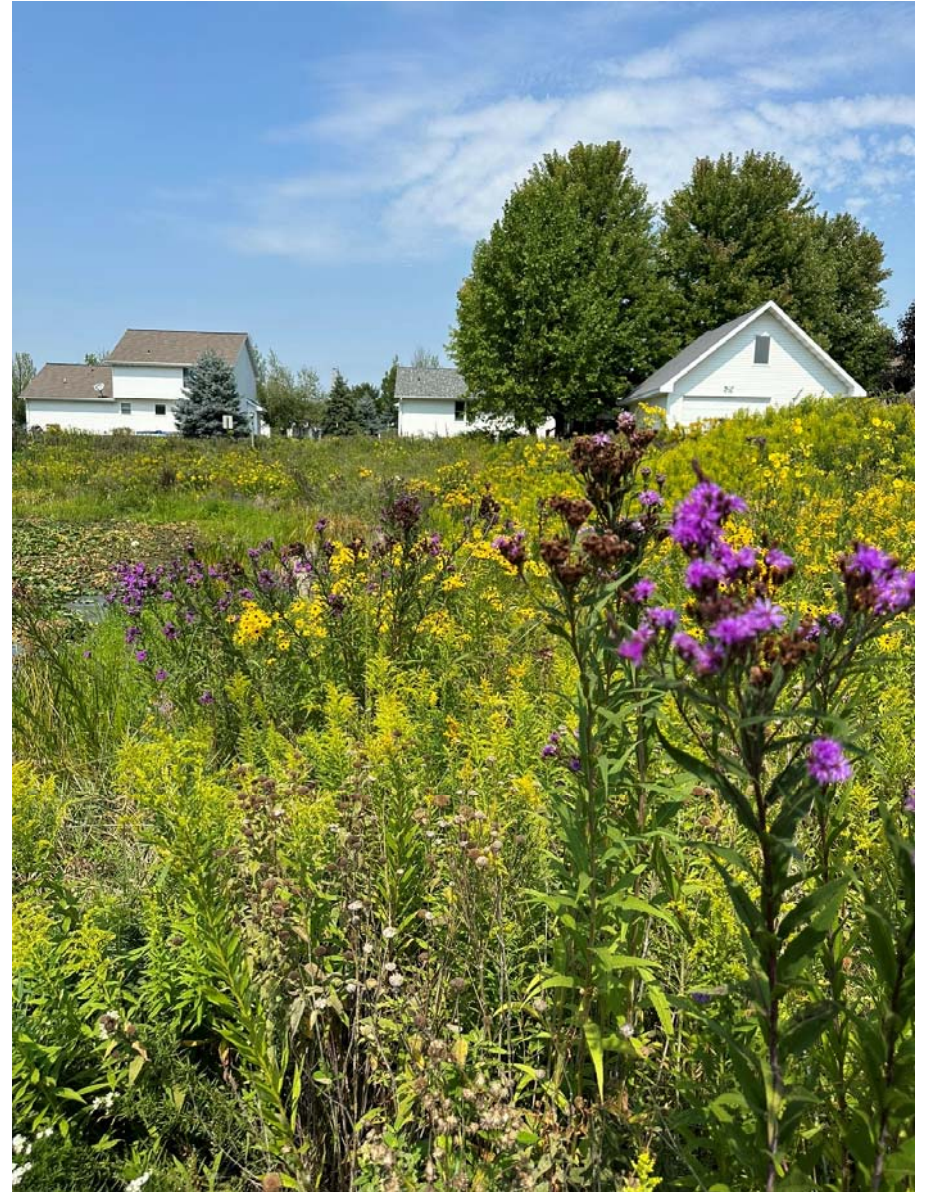
1. Viewing East at the High-Quality Baird Creek Preserve Northwest Pond Prairie



2. Viewing East at the High-Quality Baird Creek Preserve Northeast Pond Prairie



3. Viewing East at the Emergent & Floating Leaf Aquatic Plants at the Baird Creek Preserve Northeast Pond



4. Viewing North at the High-Quality Larscheid Pond Prairie



5. Viewing South at the High-Quality Aquatic Plants in the Larscheid Pond. Plants Include Water Lilies, Bur-Reed, Bulrushes, and Arrowhead.



6. Viewing West at the High-Quality Excalibur Pond Prairie



7. Viewing West at the High-Quality Aquatic Plants in the Excalibur Pond. Notice the Abundance of Water Lilies.



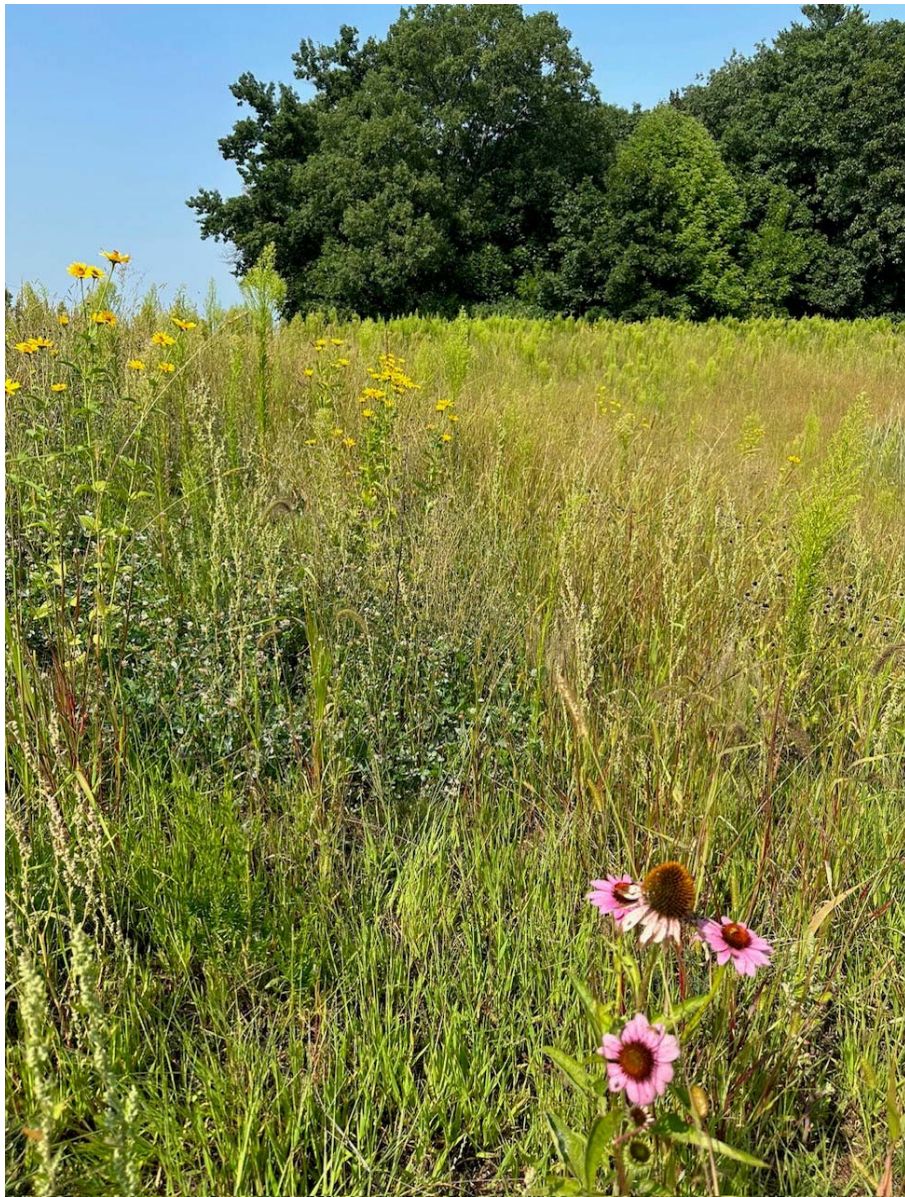
8. Viewing East at the High-Quality Prairie at Basten Street Wetlands Facility



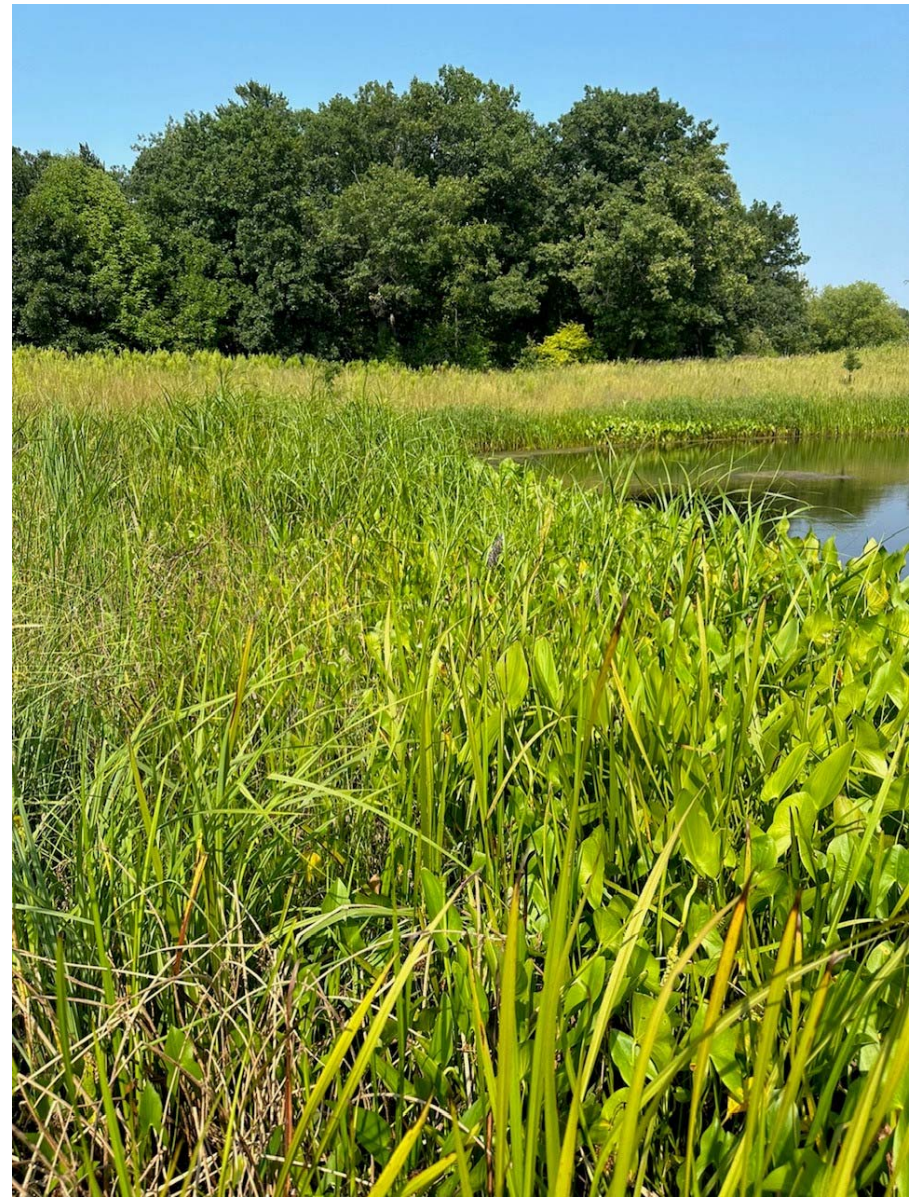
9. Viewing North at the High-Quality Emergent Aquatic Plants at the Basten Street Wetlands Facility



10. Viewing East at the Tall Grass Prairie at the Mills Street Pond, which greatly reduces geese



11. Viewing North at the Prairie at the Superior Street Pond



12. Viewing North at the High-Quality Aquatic Plants in the Safety Shelf of Superior Pond. Aquatic Plants Include River Bulrush, Bur-reed, Bulrushes, and Arrowhead



Report to the Improvement and Service Committee of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.7

Consideration with possible action on request by Department of Public Works to adopt the Clean Energy Green Bay plan as recommended by the Sustainability Commission.

BACKGROUND

In 2021, the City of Green Bay set a goal to reach 100% clean energy and carbon neutrality for the Green Bay community by 2050. This goal reaffirmed the City's commitment to addressing the negative impacts of climate change. In 2022, the City was awarded a grant from the Public Service Commission of Wisconsin's Office of Energy Innovation to develop an actionable energy plan in collaboration with Green Bay Metro Transit and Green Bay Water Utility. Community members and businesses were engaged through online surveys, a table-top event at ADRC, and an open house at GB Water to gather feedback on the planning process. The Sustainability Commission's Clean Energy work group has been involved in the planning process, and provided significant contributions to the plan. On November 15, 2023 the Sustainability Commission voted unanimously to recommend the plan to the Improvement & Services Committee for adoption.

RECOMMENDATION

The Sustainability Commission recommends the plan for adoption by the Improvement & Services Committee.

FISCAL IMPACT

Clean energy projects and policy recommendations in this plan will be evaluated on a case-by-case basis by city staff, the Sustainability Commission, and other city committees for implementation. No appropriation is currently required.

ATTACHMENTS

1. Clean Energy Green Bay Executive Summary
2. Clean Energy Green Bay_Full Plan NOV2023

EXECUTIVE SUMMARY

In 2021, the Green Bay City Council approved a resolution setting the goals of using 100% renewable energy and achieving carbon neutrality throughout the community by 2050. In support of those goals, the City has implemented several initiatives to start making progress towards its goals, including solar installations at city facilities, efficiency upgrades across its buildings and facilities, and a municipal greenhouse gas inventory.

As the city worked towards its goals, City staff and the Sustainability Commission highlighted the importance of creating a community energy plan to serve as an overarching and impactful roadmap. In 2022, the City partnered with Green Bay Metro Transit and Green Bay Water Utility and was awarded a planning grant through the Office of Energy Innovation (OEI) at the Wisconsin Public Service Commission (PSC).

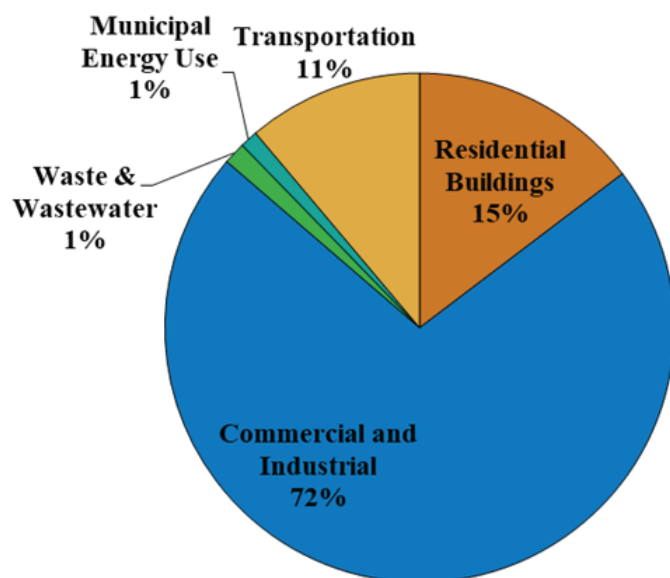
Over the past year, the three partners have worked with Slipstream, a nonprofit organization, to develop an energy plan to guide near-term actions. The effort undertook several tasks, including:

- Creating an inventory of communitywide carbon emissions
- Engaging the community through a public survey process and an Open House
- Developing interim targets for 2030 to guide near-term action and quantify potential impact
- Identifying recommended actions across six focus areas – buildings, clean energy, transportation, education, advocacy, and urban tree canopy
- Establishing strategies to guide implementation and highlighting relevant funding opportunities

The project partners worked together to ensure that the plan reflected the feedback of the community and was cost-effective and feasible for near-term implementation. The roadmap should be viewed as a living document that is updated and reviewed across time.

Creating a greenhouse gas profile is a vital first step in a planning process. The profile allows for identification of savings opportunities and serves as a baseline to use when tracking future progress. Figure 1 details the CO₂ emissions baseline for the City of Green Bay. Over 85% of emissions come from industrial, residential, and commercial buildings and facilities.

Figure 1. City of Green Bay CO₂ emissions baseline (2018 data)



2,779,465 metric tons of CO₂ emissions

25.8 metric tons per person

6,846 kilowatt-hours per WPS residential customer

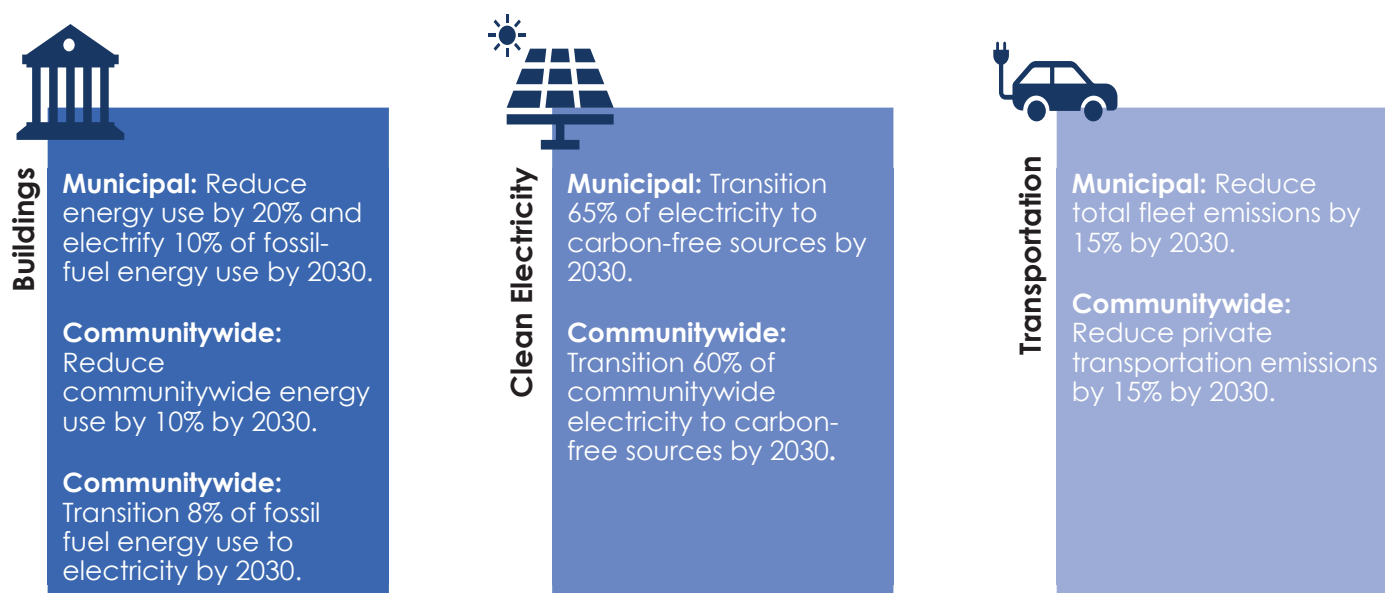
1,231 commercial buildings

394 industrial facilities

45,789 housing units

To reach carbon neutrality by 2050, community CO₂ emissions must be reduced by 4% annually. This plan focuses on the next 5 to 10 years and actions the Green Bay community can take to begin to reduce its carbon footprint. The plan sets interim targets for emissions reductions by 2030 for buildings, clean electricity, and transportation. Figure 2 details the interim targets.

Figure 2. Green Bay interim targets for 2030



Each of these interim targets are vital for reaching the carbon neutrality goal:

- **Building energy efficiency and electrification:** Reducing energy use from buildings and facilities lowers CO₂ emissions directly and generates cost savings for residents and business owners. Energy efficiency has a ceiling to total reductions it can achieve, so electrification of equipment must be paired with efficiency to fully decarbonize operations and buildings. Natural gas will continue to emit CO₂ into the future. However, trends show that the carbon emissions intensity of electricity, or the amount of carbon released for unit of electricity generated, will continue to decrease in the future. Therefore, high-efficiency electric building equipment will lead to significant emissions reductions over time.
- **Achieve 60% clean electricity by 2030.** Clean electricity emits zero CO₂ emissions. WPS is a key partner in this effort and has committed to a transition to clean electricity. In fact, the parent company of WPS, WEC Energy Group, has committed to an 80% reduction in CO₂ emissions by 2030 compared to 2005. Under this goal, the utility estimates its generation will be 39% renewable and 24% nuclear energy by 2030.¹ The renewable energy recommendations focus on how to partner with WPS to collaborate on the City and utility goals.
- **Reduce vehicle emissions through transition to low-carbon vehicles.** Reducing transportation emissions is vital for reaching carbon neutrality. Gasoline and diesel will continue to release the same amount of CO₂ per gallon in the future while EVs charged with clean electricity have the potential to have zero tailpipe emissions.

To meet the interim targets and progress towards the city's 2050 goals, this plan identifies recommended actions across six focus areas - buildings, renewable energy, transportation, education, urban tree canopy, and advocacy. The recommendations work together to reduce CO₂ emissions while bringing cost savings, public

¹ 2022 Corporate Responsibility. WEC Energy Group. <https://www.wecenergygroup.com/csr/cr2022/wec-corporate-responsibility-report-2022.pdf#pagemode=bookmarks>

health benefits, and air quality improvements to the City of Green Bay. Figure 3 provides an overview of all recommendations across the focus areas.

Figure 3. Clean Energy Green Bay recommended actions



Implementing the recommended actions directly supports achieving the interim targets. Across the focus areas, there are two types of recommendations: city operations that focus on city buildings, fleet, or processes and communitywide recommendations that impacts energy use by residents and businesses.

The building, transportation, and clean energy recommendations directly support emissions reductions to hit their corresponding targets. The recommendations address both city operations and communitywide emissions.

The education recommendations support all interim targets. The recommendations ensure that community members and organizations understand the benefits of climate action, steps to take to reduce CO₂ emissions, and funding opportunities. This is especially important as the Inflation Reduction Act released several direct funding opportunities for residents and businesses that will be available years through 2032. The educational efforts also serve as an opportunity for the city to share case studies and lessons learned from its efforts to implement strategies in its own operations.

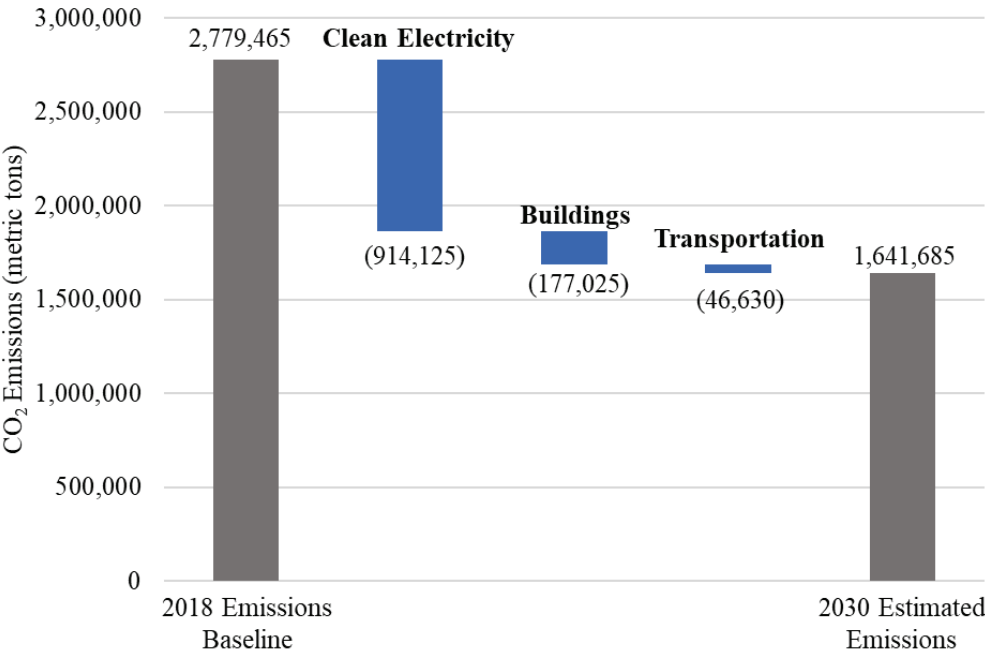
The advocacy recommendations support all interim targets and focus on ways that the City of Green Bay can engage with other municipalities across the state to encourage state agencies to pass more climate-friendly policies. This can help enable local action, and hopefully encourage state action.

The tree canopy recommendation provides benefits as trees absorb carbon and additional shade can lower cooling needs and save energy.

Together, these recommendations work to meet the interim targets set for 2030 and lay the groundwork for future reductions. Figure 4 illustrates the estimated impact of meeting the targets. As 60% of current CO₂ emissions come from electricity, transitioning to clean energy has the largest relative impact of all the recommendations.

The buildings recommendations include both the energy efficiency reductions and electrification impacts across all building types. Starting electrification now will ensure that it occurs naturally as equipment is replaced at end-of-life and will lay the groundwork for full electrification of buildings by 2050. As transportation is a smaller component of total CO₂ emissions, the relative impact is smaller. Together, the plan results in a 40% reduction by 2030 compared to 2018 emissions.

Figure 4. Estimated CO₂ reductions from interim targets and recommended actions



The implementation of this comprehensive plan will be a multi-year and multi-faceted effort. Recommended strategies to aid in implementation are below:

1. **Leverage an internal City team to discuss sustainability.** This project identified several staff with responsibilities and interests related to sustainability or these recommended actions. The City should institute an internal staff committee or recurring meetings where a larger group of staff can discuss current and future actions for renewable energy installations, fleet upgrades, or building upgrades.
2. **Collaborate with the Sustainability Commission.** The Sustainability Commission can be an excellent partner and provide additional support in implementing recommendations.
3. **Develop a multiyear prioritization process.** Internal staff and the Sustainability Commission should use these recommendations to prioritize actions each year or couple of years. The prioritization process will help balance the need for action with staff capacity constraints and funding available.
4. **Consider how to track progress towards goal.** To understand impact and progress towards its goals, the City needs to consider how often to update the communitywide baseline.
5. **Continue to engage the community.** This plan was developed based on feedback from City residents. It's important that the City continues to engage the community to inform and receive feedback on potential actions and share lessons learned and successes.

The costs for implementation of solar upgrades, building efficiency upgrades, and fleet purchases is significant. However, there are several sources of funding that the City can consider, including:

1. **Leverage fuel and maintenance cost savings generated by use of EVs and building energy efficiency to fund capital expenses.** As identified in the report, the energy efficiency, solar installations, and fleet upgrades will save the City money in annual operating cost. The City could quantify avoided energy and maintenance costs from EVs, solar and efficient buildings and apply those avoided costs to fund recommended actions in future budgeting cycles.
2. **Utilize and publicize Focus on Energy existing incentives.** WPS participates in Focus on Energy statewide incentives for renewable energy installations and energy efficiency upgrades and installations. The City should leverage those rebates for municipal upgrades and publicize the availability to residents and businesses.
3. **Apply for and educate the community on federal tax credits.** The Inflation Reduction Act includes a provision, direct pay, that makes non-taxable entities eligible for the tax credits and also rebates and tax credits for individuals and businesses. The City should apply for credits and highlight opportunities for the community in their educational efforts.
4. **Identify and apply for other state and federal grant and financing opportunities.** Other grants and opportunities through the state government or federal government could also potentially provide funding for these projects. These grant opportunities include the Wisconsin Energy Innovation Grant and federal grants, such as the Energy Efficiency and Conservation Block Grant and Clean Heavy Duty Vehicle program.



CLEAN ENERGY GREEN BAY



LETTER FROM MAYOR GENRICH

Dear Residents of Green Bay,

In 2019, I committed to leading the City of Green Bay toward a carbon-free energy future. In 2021, our Common Council followed suit, setting a goal for the City of reaching 100% clean energy and carbon neutrality for the community by 2050. This document lays out an achievable strategy to make real the commitments we've made.

Over the last five years, the City has taken steps toward that goal, creating the position of Resiliency Coordinator to facilitate the implementation of climate and sustainability initiatives, installing solar PV arrays on city facilities, benchmarking the energy use of all our existing city facilities, and completing additional energy audits and efficiency upgrades at city facilities.

However, we recognize that there is still significant work to be done to accelerate action towards our goal, while positively impacting the local economy and enhancing our city's fiscal health. To guide these efforts and set a roadmap for progress towards our goals, our City staff, Sustainability Commission, and Common Council identified the need for a citywide energy plan. Over the past year and a half, our staff, along with our consultants at Slipstream, have worked to develop a roadmap that is represented in this report: "Clean Energy Green Bay."

The document reflects the comments and suggestions received through community surveys and meetings and establishes a set of feasible actions to enhance clean energy production and energy efficiency efforts in the City of Green Bay. The plan includes recommendations for the municipal government to lead the way and help ensure businesses and residents feel supported in taking similar actions.

Work of this kind will provide many benefits, decreasing energy costs for the City as an organization, highlighting energy affordability opportunities for residents, funding new economic development opportunities, improving air quality in our community, and facilitating the creation of locally-generated clean energy.

This roadmap was made possible by the work of our Sustainability Commission, our joint project team coordinated by Slipstream and led by Melissa Schmitz and involving many city staff across departments, as well as the Green Bay Water Utility and Green Bay Metro Transit staff. Thanks also to the Wisconsin Public Service Commission and the Sisters of Saint Francis for providing the investment necessary to develop this plan, and to Wisconsin Public Service for providing data related to energy usage and for the commitments they've made to foster a clean energy future. Final and critical thanks goes to the members of our Green Bay Common Council for enabling the creation of the document you see here.

This plan will serve as a guiding light for our actions in the years ahead, which we can revise together as we work to achieve our carbon neutrality and clean energy goals. I look forward to working with partners across the City to implement this plan and bring the benefits of clean energy, fiscal responsibility, and community resiliency to the people of Green Bay.

Sincerely,

Mayor Genrich

ACKNOWLEDGEMENTS

The project team thanks the numerous partners on this plan for their contributions and the larger Green Bay community for their feedback through community surveys and the Open House. The core team for this plan included the City of Green Bay, Green Bay Water Utility, Green Bay Transit, Green Bay Sustainability Commission, and Slipstream. We thank this team for their time and efforts on this plan. Team members are listed below:

City of Green Bay:

Melissa Schmitz, Project Lead, Public Works
Lt. Tom Buchman, Police Department
Shelby Edlebeck, Information Technology Services
Trista Hobbs, Public Works
Stephanie Hummel, Community & Economic Development
Erica Kirchen, Administrative Services
Gary McDermid, Police Department
Will Peters, Community & Economic Development
Carri Prigge, Green Bay Metro Fire
Brennan Rhode, Public Works
Wendy Townsend, Community & Economic Development
Nathan Wachtendonk, Public Works

Green Bay Metro Transit

Patty Kiewiz, Transit Director
Kenny Hofer, Maintenance Manager
Sherry Schuh, Accountant

Green Bay Water Utility

Nancy Quirk, General Manager
Brian Powell, Operations Manager

Slipstream

Maddie Koolbeck, Senior Researcher, Slipstream lead
Kevin Frost, Energy Engineer
Jeannette LeZaks, Director of Research
Drew Morrison, Energy Engineer
Chris Sala, Energy Engineer
Dan Streit, Senior Researcher
Mila Turner, Climate & Equity Researcher

City of Green Bay Sustainability Commission (2022-2023)

Seth Hoffmeister, Chair, Clean Energy Work Group
Ned Dorff, Vice Chair, Clean Energy Work Group
Mark Steuer, Alder District 10
John Arendt, Commission Member, Clean Energy Work Group (term expired 9/2023)
Jenny Brinker, Commission Member
Amy Kox, Commission Member
Christa Kananen, Commission Member
Kaurie Mihm, Commission Member (staff)
Julia Noordyk, Commission Member
Mark Walter, Commission Member

We also acknowledge the contributions of instructors and students from University of Wisconsin, Green Bay and Northeast Wisconsin Technical College. Contributors include:

Data collection and analysis: John Arendt, Haven Lanser

Building audits team: Jenny Brinker, Sarah Buxton, Luke Biese, Ashton Przybelski, Joe Sargeant

Solar assessments team: John Hippensteel, Jason Boldt, Justin Jadin, Jack Zirbel

We thank our funding partners, including the Office of Energy Innovation for its grant through the Energy Innovation program, the Sisters of St. Francis of the Holy Cross, and direct contributions from the City, Water Utility, and Transit.

We thank the utility provider, Wisconsin Public Service, for the utility data used to support the community energy baseline analysis and greenhouse gas emissions inventory. We also thank NEW Water for contributing greenhouse gas emissions data for wastewater.

Acknowledgment: “This material is based upon work supported by the by the Public Service Commission of Wisconsin, Office of Energy Innovation and the Department of Energy, Office of Energy Efficiency and Renewable Energy (EERE), under the State Energy Program Award Number DE-EE0000163.”

Disclaimer: “This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.”

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EXECUTIVE SUMMARY

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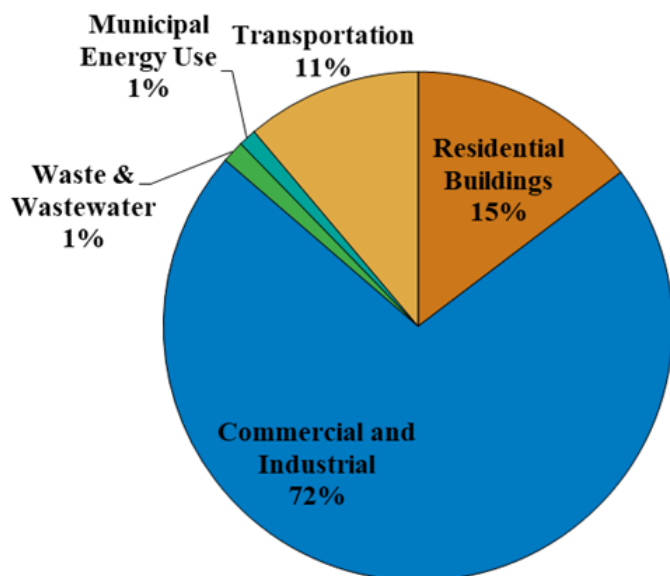
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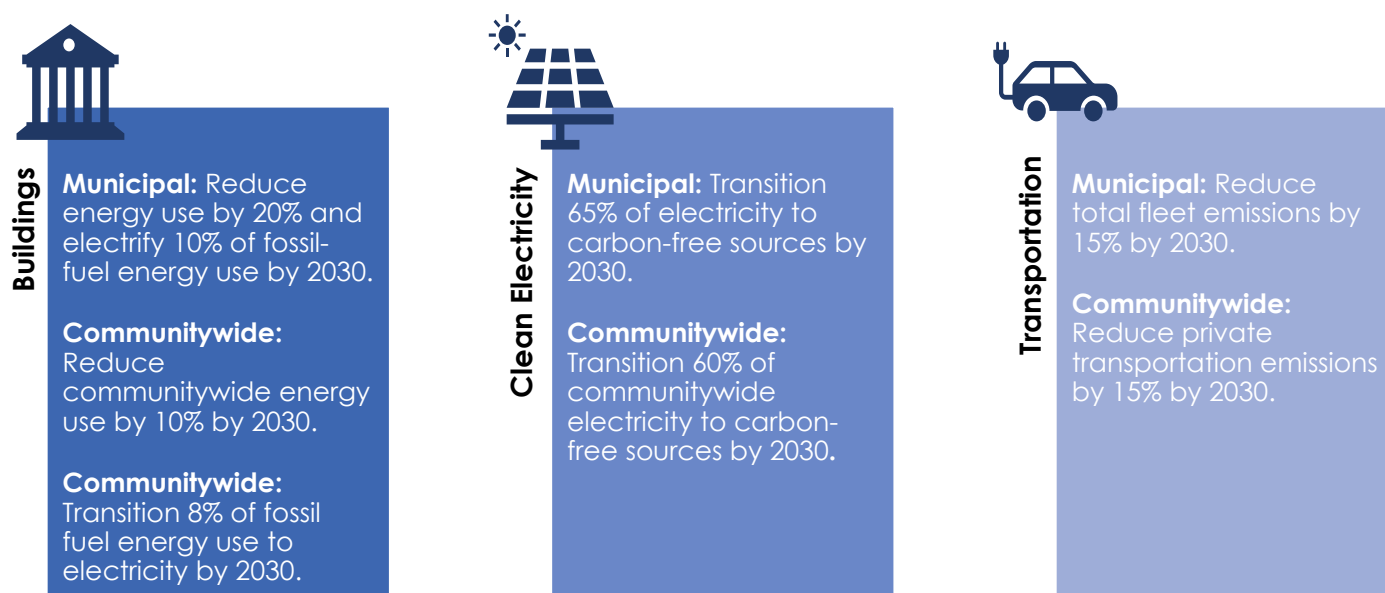
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45,789 housing units

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Figure 2. Green Bay interim targets for 2030



Each of these interim targets are vital for reaching the carbon neutrality goal:

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health benefits, and air quality improvements to the City of Green Bay. Figure 3 provides an overview of all recommendations across the focus areas.

Figure 3. Clean Energy Green Bay recommended actions



City and Commercial/Industrial Buildings

Prioritize energy efficiency upgrades in municipal facilities to showcase commitment to energy reductions.

Introduce heat pump installations in city buildings and document lessons learned and savings.

Develop guidelines for operations of municipal buildings and for purchasing decisions.

Create high-performance building standards for new municipal buildings and promote use by private businesses.

Explore ways to encourage sustainable construction through existing City funding programs, such as tax-increment financing.

Develop an energy benchmarking program for commercial buildings.

Explore policies to reduce residents' energy bills through energy efficiency.



Transportation

Pilot low-carbon vehicles in municipal fleet to inform gradual transition to EVs.

Enact total cost of ownership and fleet right-sizing vehicle purchasing policies.

Engage the private sector to develop public EV charging.

Support holistic transportation solutions.



Resident and Business Education

Hire an energy education employee.

Develop an education hub with energy resources.

Conduct outreach and marketing to inform residents and businesses.

Create an initiative to highlight energy actions by local businesses and residents.

Partner with local organizations to grow the clean energy workforce.



Clean Electricity

Install solar PV on City-owned buildings and facilities to reach 6% renewable.

Work with WPS to identify off-site renewable energy solutions for municipal operations.

Create open dialogue with WPS on clean energy transition goals.

Facilitate a solar group buy to lower barriers and costs for solar.

Streamline adoption of solar on homes and businesses.



Advocacy

Continue to advocate with other local governments for improved state policies.



Urban Tree Canopy

Promote increased urban tree canopy.

Implementing the recommended actions directly supports achieving the interim targets. Across the focus areas, there are two types of recommendations: city operations that focus on city buildings, fleet, or processes and communitywide recommendations that impacts energy use by residents and businesses.

The building, transportation, and clean energy recommendations directly support emissions reductions to hit their corresponding targets. The recommendations address both city operations and communitywide emissions.

The education recommendations support all interim targets. The recommendations ensure that community members and organizations understand the benefits of climate action, steps to take to reduce CO₂ emissions, and funding opportunities. This is especially important as the Inflation Reduction Act released several direct funding opportunities for residents and businesses that will be available years through 2032. The educational efforts also serve as an opportunity for the city to share case studies and lessons learned from its efforts to implement strategies in its own operations.

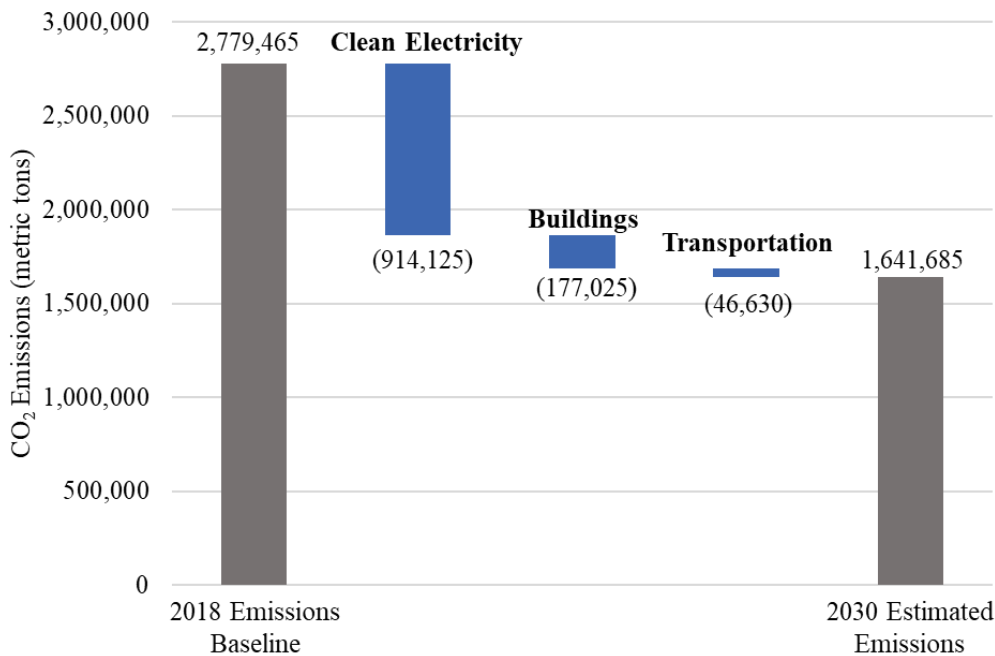
The advocacy recommendations support all interim targets and focus on ways that the City of Green Bay can engage with other municipalities across the state to encourage state agencies to pass more climate-friendly policies. This can help enable local action, and hopefully encourage state action.

The tree canopy recommendation provides benefits as trees absorb carbon and additional shade can lower cooling needs and save energy.

Together, these recommendations work to meet the interim targets set for 2030 and lay the groundwork for future reductions. Figure 4 illustrates the estimated impact of meeting the targets. As 60% of current CO₂ emissions come from electricity, transitioning to clean energy has the largest relative impact of all the recommendations.

The buildings recommendations include both the energy efficiency reductions and electrification impacts across all building types. Starting electrification now will ensure that it occurs naturally as equipment is replaced at end-of-life and will lay the groundwork for full electrification of buildings by 2050. As transportation is a smaller component of total CO₂ emissions, the relative impact is smaller. Together, the plan results in a 40% reduction by 2030 compared to 2018 emissions.

Figure 4. Estimated CO₂ reductions from interim targets and recommended actions



The implementation of this comprehensive plan will be a multi-year and multi-faceted effort. Recommended strategies to aid in implementation are below:

1. **Leverage an internal City team to discuss sustainability.** This project identified several staff with responsibilities and interests related to sustainability or these recommended actions. The City should institute an internal staff committee or recurring meetings where a larger group of staff can discuss current and future actions for renewable energy installations, fleet upgrades, or building upgrades.
2. **Collaborate with the Sustainability Commission.** The Sustainability Commission can be an excellent partner and provide additional support in implementing recommendations.
3. **Develop a multiyear prioritization process.** Internal staff and the Sustainability Commission should use these recommendations to prioritize actions each year or couple of years. The prioritization process will help balance the need for action with staff capacity constraints and funding available.
4. **Consider how to track progress towards goal.** To understand impact and progress towards its goals, the City needs to consider how often to update the communitywide baseline.
5. **Continue to engage the community.** This plan was developed based on feedback from City residents. It's important that the City continues to engage the community to inform and receive feedback on potential actions and share lessons learned and successes.

The costs for implementation of solar upgrades, building efficiency upgrades, and fleet purchases is significant. However, there are several sources of funding that the City can consider, including:

1. **Leverage fuel and maintenance cost savings generated by use of EVs and building energy efficiency to fund capital expenses.** As identified in the report, the energy efficiency, solar installations, and fleet upgrades will save the City money in annual operating cost. The City could quantify avoided energy and maintenance costs from EVs, solar and efficient buildings and apply those avoided costs to fund recommended actions in future budgeting cycles.
2. **Utilize and publicize Focus on Energy existing incentives.** WPS participates in Focus on Energy statewide incentives for renewable energy installations and energy efficiency upgrades and installations. The City should leverage those rebates for municipal upgrades and publicize the availability to residents and businesses.
3. **Apply for and educate the community on federal tax credits.** The Inflation Reduction Act includes a provision, direct pay, that makes non-taxable entities eligible for the tax credits and also rebates and tax credits for individuals and businesses. The City should apply for credits and highlight opportunities for the community in their educational efforts.
4. **Identify and apply for other state and federal grant and financing opportunities.** Other grants and opportunities through the state government or federal government could also potentially provide funding for these projects. These grant opportunities include the Wisconsin Energy Innovation Grant and federal grants, such as the Energy Efficiency and Conservation Block Grant and Clean Heavy Duty Vehicle program.

GLOSSARY OF TERMS

Benchmarking: Policy that requires building energy use to be measured and published; compares energy use to itself over time, the energy use of similar buildings, or an energy standard

Building energy codes: Regulatory instruments that specify minimum energy efficient standards for new residential and commercial buildings; set by state government and cities cannot adopt anything stricter in WI

Direct pay: A provision in the Inflation Reduction Act that makes non-taxable entities eligible for tax credits for clean energy items (including renewable energy and alternative vehicles)

Energy walkthrough: Assesses how a building currently uses energy and identifies opportunities to reduce the building's energy consumption.

Electric vehicle (EV): Vehicles; cars, trucks, and buses powered by a battery and electricity.

Energy use intensity (EUI): Total energy use of a building divided by the total square feet of the building. Normalizes energy use across buildings of different sizes.

Focus on Energy: Wisconsin's statewide program to increase energy efficiency and renewable energy use among residents, businesses, and local governments.

Heat pump: Single heat pump replaces both furnace and an air conditioner; fueled only by electricity and very efficient piece of equipment

Heat pump water heater: Uses electricity to move heat from one place to another instead of generating heat directly; two to three times more energy efficient than conventional electric resistance water heaters

Internal combustion engine (ICE): Conventional gasoline or diesel vehicles

Inflation Reduction Act (IRA): Federal law passed in 2022 that directs significant funding to clean energy and climate solutions. A portion of funding is directed at local governments through rebates or grant programs.

Memorandum of understanding: Agreement between two or more parties. Not legally binding but expresses joint or common set of goals or actions.

Net metering: Billing mechanism that credits solar energy owners for electricity added to grid

Non-taxable entity: An entity that is not required to pay income taxes. Includes nonprofits, local and state governments.

PACE Financing: PACE stands for "Property Assessed Clean Energy"; PACE uses the advantages of the property tax special assessment mechanism to allow banks and other private lenders to offer lower interest rates and longer repayment terms for qualifying types of improvements

Solar PV: Photovoltaic (PV) solar energy; converts energy from the sun to electricity

Renewable energy: Energy that is generated from a naturally replenishing resource that does not release carbon, such as solar energy, wind energy, or geothermal.

Tax increment financing (TIF): Captures the increase in property taxes, resulting from new development, and diverts that revenue to subsidize that development.

Third-party partnerships: Private developer owns and operates renewable system; third-party pays for upfront cost of system and operation/maintenance; city pays pre-agreed upon price per kWh for renewable energy

Total cost of ownership (TCO): Total cost of owning equipment, including upfront cost, any energy or maintenance costs, and resale forecast

Weather-normalized site EUI: The energy use a building would have consumed during 30-year average weather conditions. It can be helpful to use this weather normalized value to understand changes in energy when accounting for changes in weather. Energy use is divided by square feet.

Weatherization: Whole-home approach to saving energy. A skilled professional comes in and identifies ways to save energy

Wisconsin Local Government Climate Coalition (WLGCC): Coalition of local governments in Wisconsin committed to accelerating local climate change solutions.

Wisconsin Public Service: Energy utility for the City of Green Bay; delivers natural gas and electricity

INTRODUCTION

Over the past five years, the City of Green Bay has made several commitments to address climate change through local investment in clean energy. In 2018, a Sustainability Commission formed and set a goal of becoming a 100% clean energy communitywide by 2050. Mayor Genrich pledged his support to the goal in 2019, and in 2021, the Green Bay City Council approved a resolution with the goals of 100% clean energy and carbon neutrality communitywide by 2050.

Green Bay Energy Goal:

100% clean energy and carbon neutrality for the Green Bay community by 2050.

In support of those goals, the City has implemented several initiatives to start making progress towards its goals. These include solar installations at city facilities, efficiency upgrades at its buildings and facilities, building benchmarking, and a municipal greenhouse gas inventory.

As the City worked towards its goals, City staff and the Sustainability Commission highlighted the importance of creating a community energy plan to serve as an overarching and impactful roadmap for future energy strategies. The plan would help guide more meaningful reductions and prepare the City to access additional implementation funding. The City, with Green Bay Metro Transit and Green Bay Water Utility, was awarded a planning grant through the Office of Energy Innovation (OEI) at the Wisconsin Public Service Commission (PSC) in 2022 to complete this work.

Over the past year, the three partners have worked with Slipstream, a nonprofit organization, to develop an energy plan to guide the next several years. The effort included an inventory of communitywide carbon emissions, in-depth analysis of solar, fleet, and building upgrade opportunities for the three partners, and identification of policies, programs, and educational actions to drive reductions at the community-level.

Robust community engagement informed the development of recommendations for near-term and medium-term actions. Community engagement included surveys of Green Bay residents and businesses, collaboration with community-based organizations, community forums, and online feedback forms.

The project partners worked together to ensure that the plan reflected the feedback of the community and was cost-effective and feasible for near-term implementation. Figure 7 highlights the three principles guiding the development of the plan.

Figure 5. Guiding principles for Clean Energy Green Bay

-  **Cost-effective and affordable**
Evaluated for cost-effectiveness to ensure the plan balances costs with carbon reductions.
-  **Feasible and proven**
Grounded in readily available technologies or programs other cities have used to reduce CO₂.
-  **Benefits provided to the community**
Focused on prioritizing cost savings and other benefits for local residents and businesses.

The remainder of the plan provides an overview of baseline data, the community engagement process, and recommended actions to begin to achieve CO₂ reductions. The roadmap should be viewed as a living document that is updated and reviewed across time.

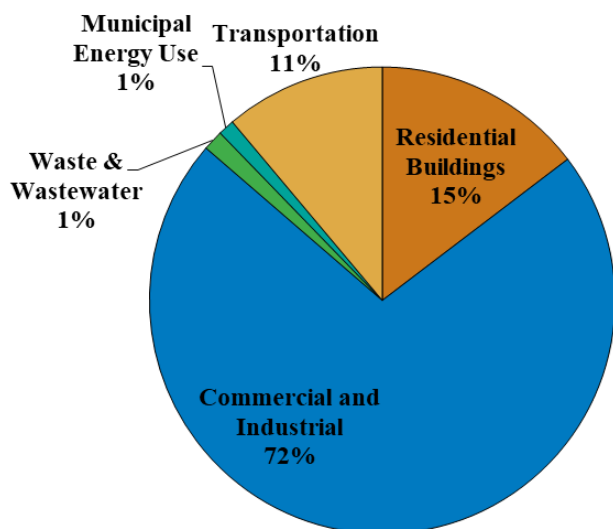
Baseline Data

To evaluate the City’s progress towards its goal of carbon neutrality, it is necessary to understand current carbon dioxide (CO₂) emissions. In 2020, the Sustainability Commission’s Clean Energy Work Group with assistance from University of Wisconsin-Green Bay students completed a greenhouse gas inventory for City operations. During this planning process, the team built on the previous analysis to develop a CO₂ baseline for the entire city for baseline year 2018.

Figure 6 details the CO₂ emissions baseline for the City of Green Bay. The chart includes communitywide data on energy use, transportation, waste, and wastewater emissions. The data was collected from WPS, NEW Water, the City, and secondary sources as needed. A full methodology is in Appendix C: Baseline Data Method.

Buildings across the city contribute 86% of the CO₂ emissions. The electricity grid serving Green Bay has a high emissions intensity, defined as the amount of CO₂ emissions released per unit of energy generated. This emissions intensity is impacted by type of power plants on the grid, such as coal versus natural gas versus renewable energy. The carbon intensity for the grid serving the City of Green Bay was the highest in the nation as of 2018.² Also, due to the number of factories in the City, Green Bay’s industrial energy use is almost twice as high as average industrial energy use for cities of similar sizes.³ It is important to note that WPS has already made strides to reduce carbon intensity of its grid since 2018 and has made commitments for further reductions.

Figure 6. City of Green Bay carbon emissions baseline (2018 data)



2,779,465 metric tons of CO₂ emissions

25.8 metric tons per person

6,846 kilowatt-hours per WPS residential customer

1,231 commercial buildings

394 industrial facilities

45,789 housing units

Municipal energy use comprises a small portion of citywide emissions. However, the City can lead by example by setting goals for municipal operations and taking energy actions. The total municipal CO₂ emissions is roughly 31,500 metric tons. Table 1 summarizes the CO₂ sources for the City, Water Utility, and Metro Transit.

Table 1. Municipal operations CO₂ emission sources (2018 data)

Source	CO ₂ Emissions (MT)
Water Distribution Electricity	9,475
Municipal Fleet	8,508
Municipal Building Electricity	6,348
Streetlights Electricity	4,685
Natural Gas + Propane Use	2,484
Total	31,500

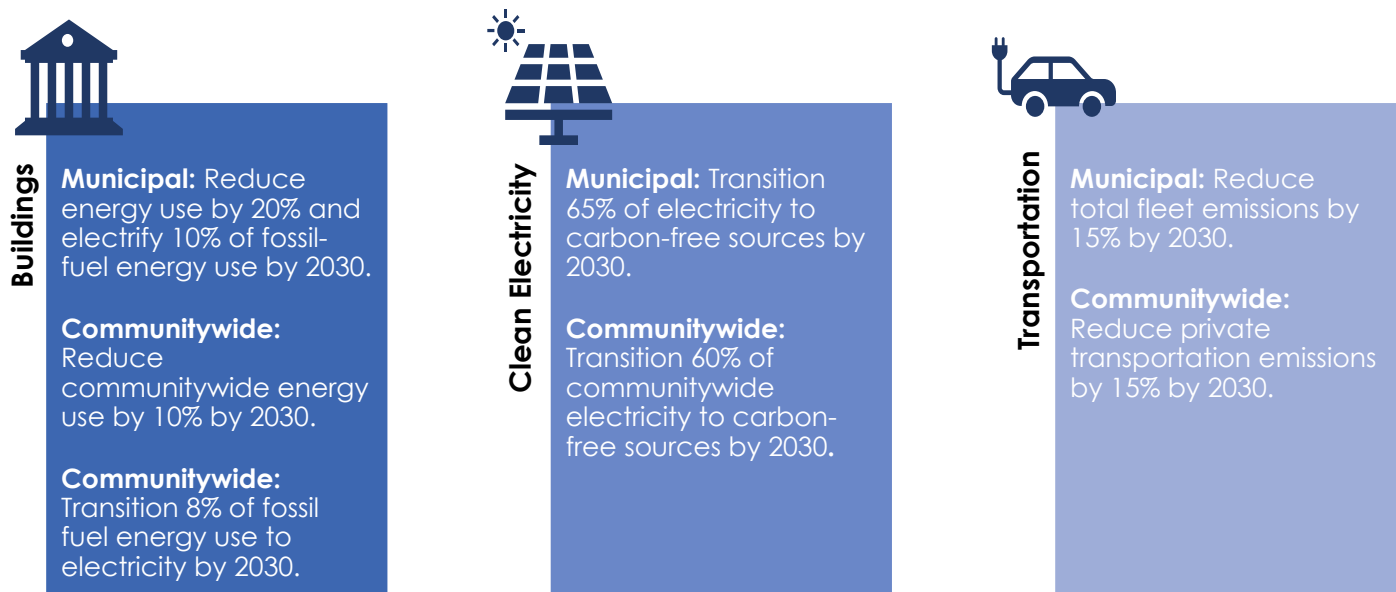
² Environmental Protection Agency, eGrid, <https://www.epa.gov/egrid>.

³ National Renewable Energy Lab, SLOPE tool, <https://maps.nrel.gov/slope/>

Overview of Targets and Recommendations

To reach carbon neutrality by 2050, community CO₂ emissions must be reduced by 4% annually. This plan focuses on the next 5 to 10 years and actions the Green Bay community can take to begin to reduce its carbon footprint. The plan sets interim targets for emissions reductions by 2030 for buildings, clean electricity, and transportation. Figure 7 details the interim targets.

Figure 7. Green Bay interim targets for 2030



Each of these interim targets are vital for reaching the carbon neutrality goal:

- **Building energy efficiency and electrification:** Reducing energy use from buildings and facilities lowers CO₂ emissions directly and generates cost savings for residents and business owners. Energy efficiency has a ceiling to total reductions it can achieve, so electrification of equipment must be paired with efficiency to fully decarbonize operations and buildings. While natural gas will continue to emit CO₂ into the future, trends show that the carbon emissions intensity of electricity generation will continue to decrease in the future. Therefore, high-efficiency electric building equipment will lead to significant emissions reductions over time. The education and building section both focus on how to drive energy reductions and electrification in municipal, commercial, industrial, and residential buildings.
- **Achieve 60% clean electricity by 2030.** Clean electricity emits zero CO₂ emissions. WPS is a key partner in this effort and has committed to a transition to clean electricity. In fact, the parent company of WPS, WEC Energy Group, has committed to an 80% reduction in CO₂ emissions by 2030 compared to 2005. Under this goal, the utility estimates its generation will be 39% renewable and 24% nuclear energy by 2030.⁴ The renewable energy recommendations focus on how to partner with WPS to collaborate on the City and utility goals.
- **Reduce vehicle emissions through transition to low-carbon vehicles.** Reducing transportation emissions is vital for reaching carbon neutrality. Gasoline and diesel will continue to release the same amount of CO₂ per gallon in the future while EVs charged with clean electricity have the potential to have zero tailpipe emissions. The transportation and education sections focus on electric vehicle options

⁴ 2022 Corporate Responsibility. WEC Energy Group. <https://www.wecenergygroup.com/csr/cr2022/wec-corporate-responsibility-report-2022.pdf#pagemode=bookmarks>

and holistic transportation solutions, such as improving walking and biking trails and encouraging more use of public transportation.

To meet the interim targets, this plan recommends actions across six focus areas - buildings, clean electricity, transportation, education, urban tree canopy, and advocacy. The recommendations work together to reduce CO₂ emissions and create cost savings, public health benefits, and air quality improvements for the City of Green Bay. Figure 8 provides an overview of all recommendations across the focus areas.

Figure 8. Clean Energy Green Bay recommended actions



City and Commercial/Industrial Buildings

Prioritize energy efficiency upgrades in municipal facilities to showcase commitment to energy reductions.

Introduce heat pump installations in city buildings and document lessons learned and savings.

Develop guidelines for operations of municipal buildings and for purchasing decisions.

Create high-performance building standards for new municipal buildings and promote use by private businesses.

Explore ways to encourage sustainable construction through existing City funding programs, such as tax-increment financing.

Develop an energy benchmarking program for commercial buildings.

Explore policies to reduce residents' energy bills through energy efficiency.



Clean Electricity

Install solar PV on City-owned buildings and facilities to reach 6% renewable electricity.

Work with WPS to identify off-site renewable energy solutions for municipal operations.

Create open dialogue with WPS on clean energy transition goals.

Facilitate a solar group buy to lower barriers and costs for solar.

Streamline adoption of solar on homes and businesses.



Transportation

Pilot low-carbon vehicles in municipal fleet to inform gradual transition to EVs.

Enact total cost of ownership and fleet right-sizing vehicle purchasing policies.

Engage the private sector to develop public EV charging.

Support holistic transportation solutions.



Resident and Business Education

Hire an energy education employee.

Develop an education hub with energy resources.

Conduct outreach and marketing to inform residents and businesses.

Create an initiative to highlight energy actions by local businesses and residents.

Partner with local organizations to grow the clean energy workforce.



Advocacy

Continue to advocate with other local governments for improved state policies.



Urban Tree Canopy

Promote increased urban tree canopy.

Implementing the recommended actions directly supports achieving the interim targets. Across the focus areas, there are two types of recommendations: city operations that focus on city buildings, fleet, or processes and communitywide recommendations that impacts energy use by residents and businesses.

The building, transportation, and clean energy recommendations directly support emissions reductions to hit their corresponding targets. The recommendations address both city operations and communitywide emissions.

The education recommendations support all interim targets. The recommendations ensure that community members and organizations understand the benefits of climate action, steps to take to reduce CO₂ emissions, and funding opportunities. This is especially important as the Inflation Reduction Act released several direct funding opportunities for residents and businesses that will be available years through 2032. The educational efforts also serve as an opportunity for the city to share case studies and lessons learned from its efforts to implement strategies in its own operations.

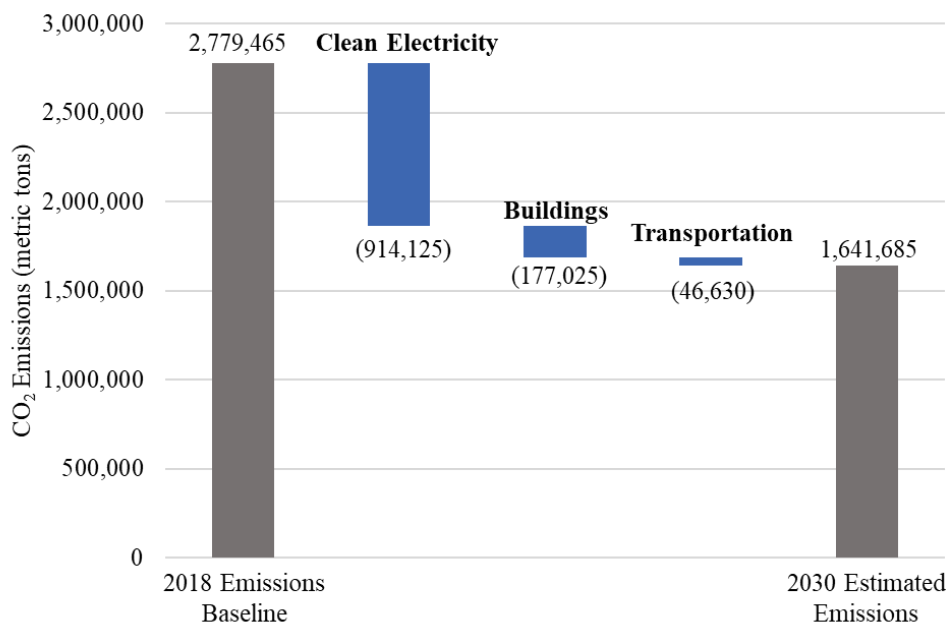
The advocacy recommendations support all interim targets and focus on ways that the City of Green Bay can engage with other municipalities across the state to encourage state agencies to pass more climate-friendly policies. This can help enable local action, and hopefully encourage state action.

The tree canopy recommendation provides benefits as trees absorb carbon and additional shade can lower cooling needs and save energy.

Together, these recommendations work to meet the interim targets set for 2030 and lay the groundwork for future reductions. Figure 9 illustrates the estimated impact of meeting the targets. As 60% of current CO₂ emissions come from electricity, transitioning to clean energy has the largest relative impact of all the recommendations.

The buildings recommendations include both the energy efficiency reductions and electrification impacts across all building types. Starting electrification now will ensure that it occurs naturally as equipment is replaced at end-of-life and will lay the groundwork for full electrification of buildings by 2050. As transportation is a smaller component of total CO₂ emissions, the relative impact is smaller. Together, the plan results in a 40% reduction by 2030 compared to 2018 emissions.

Figure 9. Estimated CO₂ reductions from interim targets and recommended actions



COMMUNITY ENGAGEMENT

As Green Bay's carbon neutrality goal will require action by the entire community, this plan must reflect what the people who live and work in Green Bay envision for their community. The planning effort intentionally incorporated ways for Green Bay community members to influence and impact the recommendations in the energy roadmap at various times in the planning process.

Survey

Early in the project, the team deployed a communitywide energy survey for residents and local businesses to gather perspectives on Green Bay's goals, gauge support of specific strategies, and to better understand attitudes and behaviors around energy savings. The goal of the survey was to ensure the recommendations developed adequately addressed community sentiments and concerns.

The survey was conducted from January 2023 to April 2023. The team deployed the survey in multiple ways:

- Mailed a postcard to any home not part of a neighborhood association
- Neighborhood associations emailed the survey to their members
- Posts were made on social media platforms twice per week
- Mayor Genrich made and distributed a video on the survey
- Community organizations helped spread the word about the survey
- In-person survey tabling occurred at the Aging and Disability Resource Center

Community Open House

After draft recommendations were developed, the team held a Community Open House in July 2023 to receive direct feedback on the components of the plan. The Open House was held in-person at Green Bay Water Utility. At the event, posters detailing the draft recommendations were available, and residents had the opportunity to ask questions, write comments on post-it notes, and use green and red stickers to indicate agreement and disagreement, respectively. The team uploaded the posters in multiple languages to the City's website as well to provide an option to provide feedback online.

Outreach for the Open House included emails, a social media event, social media posts, news coverage, and distribution of a poster to local organizations. The event included translated materials for Spanish and Hmong speakers, onsite interpreters, and kid-friendly activities.



Community Engagement Results

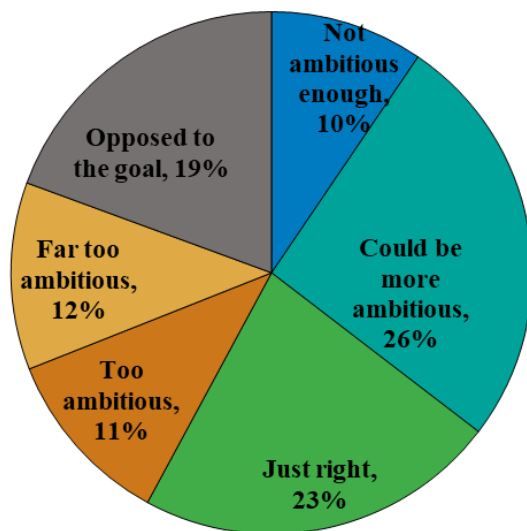
The community engagement efforts had the following response rates:

- **650** residential responses to the online survey
- **24** businesses responses to online survey
- Around **50 attendees** at the Open House
- Over **70 comments** on draft recommendations at the Open House or through the online form

The residential survey respondents were well-distributed across income levels, age groups, and neighborhoods in the city. With the residential sample size, there is 95% confidence that all percentages displayed are within 4% of the full population results.

Figure 10 illustrates the residential responses when asked their opinion of the City of Green Bay's goals. The results highlight that most of the respondents (59%) either agree with the goal or think the City of Green Bay could be even more ambitious with its goals.

Figure 10. Responses for "What do you think of the City of Green Bay's goals?"



Other results from the survey confirm the community's general support for energy actions. A few key takeaways are highlighted below. Each section of this report also includes survey results relevant to the recommendations. All the survey responses are available in Appendix B: Survey Results.

- The survey asked about specific energy strategies, such as increasing the share of renewable energy, updating buildings, educating the community, or promoting public transportation. Across strategies, most respondents (between 56% and 78%) supported energy actions.
- Over 90% of residential respondents agreed that saving energy is important.

What about the City's goal excites you?

"Recognition that achieving carbon neutrality is vital & doable and that it will require significant resident participation."

"If the city actually commits to this goal, it will be a model for other cities across the country to follow. The world is overheating, the Great Lakes aren't icing over, important ecosystems are dying. We don't need more subdivisions or parking garages. We need green infrastructure and sustainable practices that include everybody."

What about the City's goal concerns you?

"Cost efficiency, ability to identify effective solutions that will garner support of all stakeholders, timing (2050) is not soon enough - significant progress should be achieved prior to 2050."

"I'm concerned that some of the goals could impact low-income households by potentially adding to financial strain."

BUILDINGS

Eighty-six percent of CO₂ emissions in Green Bay come from residential, commercial, and industrial buildings. This large percentage of CO₂ emissions elevates this sector to a top priority for the citywide energy plan. This section focuses on energy efficiency and electrification options for buildings. The benefits of these actions include lower energy costs for buildings, improved comfort within buildings, local job creation, and reduced CO₂ and air pollutant emissions.

The identified recommendations in this section support the interim targets to reduce municipal, commercial, industrial, and residential energy use and electrify building energy use. The recommendations include specific focus areas for municipal operations, and recommended policies or actions to support communitywide reductions. The municipal actions and resulting policies or guides can also serve as case studies and resources to support commercial, residential, and industrial reductions.

The recommended actions for buildings work together with recommendations on renewable energy and education to address building CO₂ emissions.

Municipal: reduce municipal energy use 20% and electrify 10% of energy use by 2030

- Prioritize energy efficiency upgrades in municipal facilities to showcase commitment to energy reductions.
- Introduce heat pump installations in city buildings and document lessons learned, verified savings, and successes.
- Develop guidelines for operations of municipal buildings and for purchasing decisions.

Communitywide: reduce communitywide energy use 10% and electrify 8% of energy use by 2030

- Create high-performance building standards for new municipal buildings and promote their use by private developers.
- Explore ways to encourage sustainable construction through existing City funding programs, such as tax-increment financing.
- Develop an energy benchmarking program for commercial buildings.
- Explore policies to reduce residents' energy bills through energy efficiency.

Quick Facts



70% of residential survey participants support upgrading existing buildings.



\$48 billion for residential and commercial building retrofits and new construction through federal funding.



86% of emissions come from commercial industrial, and residential buildings in the City of Green Bay.



~\$900,000 spent on building energy annually.



~10% of households and businesses claim a Focus on Energy rebate in a year.



City Operations Recommendation:

Prioritize energy efficiency upgrades in municipal facilities

Energy efficiency upgrades in municipal facilities have the potential to save the City money in operating costs and allow the city to showcase its commitment to energy reductions.

Energy use intensity (EUI) of several city facilities is higher than comparable buildings in the region. Figure 11 illustrates EUI indexed on a regional median by building category, climate zone, and age. Any building over 100% has worse performance compared to the similar buildings in the region.

To understand potential upgrades in buildings, Slipstream and Northeast Wisconsin Technical College (NWTC) students and their instructor performed walkthroughs at city facilities. Slipstream performed walkthroughs at five facilities, and NWTC reviewed three buildings.

The audits identified several opportunities:

- **LED upgrades:** LED lighting is 40 to 50% more efficient than fluorescents, cost-competitive, and emits higher quality light. When upgrading to LEDs, we recommend incorporating daylight and occupancy controls for additional savings.
- **Controls or thermostat updates:** HVAC temperature setpoints or schedules controlled through building automation systems can reduce energy consumption at buildings with little to no cost.
- **Plug load control:** Appliances in buildings should be on timers and consolidated where possible. Our assessments found that equipment, such as computers and TV monitors, were running all day.
- **End-of-system heating system replacements:** When existing systems reach the end of useful life, high-efficiency units or heat pumps should be prioritized to lower energy use.

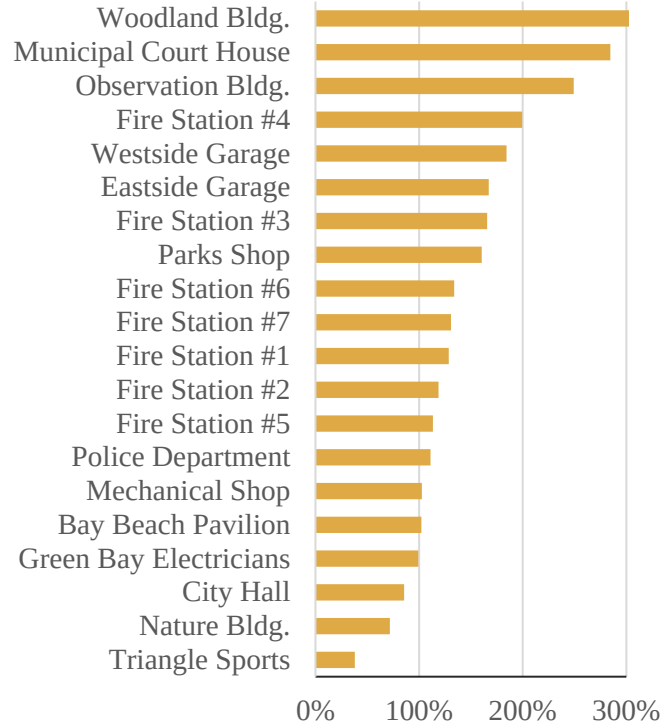
Table 2 lists key metrics for the buildings that received energy assessments – the buildings with stars were audited by NWTC. Implementing similar measures at all buildings could greatly increase energy savings and reach the interim target of reducing total municipal energy use by 20% by 2030. Appendix A: Department Results has full results.

Cost Considerations: Focus on Energy incentives are available for a wide range of efficiency measures; can work with contractors and ask them to apply for commercial building tax credits.

Table 2. Potential savings for municipal facilities from energy upgrades

Building	Upfront Costs	Payback Period	Annual Cost Savings	CO ₂ Savings (MT)
Municipal Court House	\$15,500	<1 year	\$19,200 (69%)	118
Police Department	\$47,000	1.8 years	\$25,500 (25%)	143
Fire Station #2*	\$1,920	<1 year	\$2,430 (14%)	15
Fire Station #4*	\$18,115	<1 year	\$6,950 (28%)	43
Fire Station #5*	\$785	<1 year	\$860 (5%)	5
Fire Station #6	\$8,600	2 years	\$4,200 (28%)	23
Fire Station #7	\$7,800	2 years	\$3,800 (23%)	20
Westside Garage	\$40,000	2.8 years	\$14,300 (14%)	89

Figure 11. Building EUI indexed on regional median EUI



City Operations Recommendation:

Introduce heat pump installations in city buildings and document lessons learned, verified savings, and successes.

As more clean electricity is generated and distributed in Green Bay as it works towards its 100% renewable energy goal, electrification of building equipment is essential to ultimately meet the corresponding goal for carbon neutrality. Moving away from fossil fuel-emitting heating technology towards electricity-powered heat pump technology is a primary strategy for decarbonizing buildings.

Electrification is the process of phasing out equipment that uses fossil fuels (i.e., natural gas, propane, gasoline) with equipment that uses electricity. For Green Bay facilities, this is most applicable to heating systems and water heating systems.



Modern heat pump technology allows for cold climate-rated systems that operate cost-effectively even in northern Wisconsin. Although all heating systems do not need to be replaced immediately, considering a transition to heat pumps at equipment failure is important for meeting carbon goals. With lifetimes over 25 years, a heating replacement decision in the next few years can lock in a heating fuel through the 2050 timeline. Development of an equipment replacement plan to switch to electric as part of the regular capital improvement process can save money in the long-term by minimizing the number of heating equipment early replacements.

In many situations, heat pumps are still more expensive than a high-efficiency natural gas system. However, incentives from the state and federal government and changing energy costs are causing heat pumps to become more cost competitive. City of Green Bay should compare costs and CO₂ impacts of conventional systems versus heat pump options when replacing equipment at failure. Table 3 lists the heat pump options for Green Bay buildings and equipment systems.

Table 3. Heat pump options for City of Green Bay buildings

Existing System	Heat Pump System	Notes
Furnace and A/C Split System	Dual-Fuel Air-Source Heat Pump	A cost-effective electrification option that still uses gas but electrifies heating at temperatures above 25°F.
	Air-Source Heat Pump	Full electrification option.
Steam Boiler System	Variable Refrigerant Flow (VRF)	Suitable for historic retrofit applications and buildings with many smaller rooms, such as offices, courthouses, and police and fire stations.
	Geothermal heat pump system	Requires land for geothermal borefield. Inflation Reduction Act offsets 30% of cost.
Single Zone RTU	Heat-Pump RTU	Emerging technology.

The City of Green Bay should prioritize heat pumps in buildings with the best cost performance, which includes new construction or buildings with simpler heating systems such as furnace and A/C split systems

By leading the implementation of heat pump projects in public buildings, the City can develop local case studies that demonstrate heat pump performance, successes, and lessons learned. These projects should report verified savings, as this is a key metric consumers and contractors are looking for to feel confident in heat pumps.

Cost considerations: Moderate cost; incentives only cover a portion of upfront costs. Replacement at end-of-life reduces incremental cost of high-efficiency electric options.

City Operations Recommendation:
Develop guidelines for operations of municipal buildings.

The operation of a building and the behavior of building occupants has a significant impact on building energy use. Operational guidelines can save energy without significant investment and have the potential to positively impact occupant comfort and productivity.

We recommend that City of Green Bay develop internal guidelines that define clear goals for operations of buildings. As the City of Green Bay does not have a central facilities team, this will help ensure that individual facilities are aware of operational best practices to minimize energy use while considering comfort of occupants.

The guidelines should be written with enough flexibility to reflect that each building has unique characteristics and that decisions need to balance energy use and comfort. The City should also set up appropriate communications channels so that building occupants can provide ongoing feedback.

Figure 12 provides an overview of the types of items that the guidelines could include, such as ongoing maintenance, HVAC system operation, plug load management, and lighting. Across our walkthroughs at the City of Green Bay, we identified both successful implementation of some of these items. However, it is also important to develop a policy to institutionalize current norms and habits. For example, reminders to shut off the lights or turn off equipment as well as the use of sleep timers for TVs or monitors can save electricity at little inconvenience to building occupants. Implementation of the HVAC guidelines need to be accompanied by clear communication channels so occupants can provide feedback on comfort.

The City can also share these guidelines publicly and encourage use by other facilities and campuses across the city.

Cost Considerations: Low cost. Requires staff time to develop the operational guidelines; can rely on similar policies from other municipalities or campuses

Figure 12. Operating policy examples

Operational Policies	Heating, ventilation, and air conditioning (HVAC) systems	Establish temperature setpoints and setbacks for occupied and unoccupied times.
		Keep a list of operating parameters, including the temperature set points and operating schedule, for each piece of equipment. Locate in visible locations to make sure equipment is programmed correctly.
		Post guidance on when operable windows can be opened based on room thermostat setpoints. For example, assuming thermostats are set from 70 degrees to 75 degrees, building occupants should have clear direction that they can opened windows between 68-77 degrees outdoor temperature.
		Create communication channels for building occupants to provide feedback on comfort or operational issues. A regularly administered survey can be useful to gather additional feedback on occupant comfort.
	Plug loads	Develop a policy that prohibits or limits the use of individual fridges, space heaters, printers, and other peripheral equipment at workstations. Consider ways to consolidate the number of fridges and printers across the building.
		Implement computer power management policy to require staff to shut down computers at the end of the day.
		Implement TV sleep requirements to ensure TVs are not running all day.
	Lighting	Promote or incentivize occupants to turn off switched lights when not in use.

City Operations Recommendation:

Develop internal guidelines for purchasing decisions.

The City of Green Bay does not have a central facilities team to manage buildings and equipment purchases. As a result, multiple individuals across the city are responsible for equipment, lighting, and appliance purchases for municipal buildings. In the walkthroughs of City buildings, the team identified that this leads to different standards in purchasing of equipment. As an example, some buildings are implementing LEDs as lights fail while others are still relying on compact fluorescent bulbs.

We recommend that the City develop purchasing guidelines, so all employees have a clear guideline on equipment to purchase to meet the City's energy goals. Internal guidelines that encourage energy savings decisions at replacement is important as equipment can last for decades. By implementing a policy to ensure that sustainable decisions are being made at replacement, the City can steadily work towards its goals while making upgrades during the normal capital improvement process. This will minimize costs by limiting the need for early replacement, and ensure equipment selected leads to lower operational costs.

Sustainable purchasing policies have been recognized in many areas as a best practice for meeting energy and carbon goals. The guidelines can be written to incorporate flexibility and to incorporate cost and performance considerations. Similar to the operation guidelines, the City can publicize and promote use of a similar policy by community businesses. Figure 13 summarizes recommended items to consider in purchasing guidelines.

Figure 13. Purchasing policy example items

Purchasing Policy	Heating, ventilation, and air conditioning (HVAC) systems	Consider an electrification police for space conditioning. If not possible, install condensing units with efficiency higher than 95%.
		Install a minimum of ENERGY STAR certified AC with SEER2 ≥ 15.2 . Refer to CEE Tiers for energy efficient equipment for larger cooling equipment like RTUs.
		Install smart thermostats with occupancy sensors to setback temperatures in buildings without a building automations system.
		Consider installing or upgrading building automation system when replace major equipment.
	Appliances and other equipment	Purchase ENERGY STAR equipment to replace office equipment and water heaters.
		New windows should meet or exceed ENERGY STAR requirements. Large commercial windows should target U-value of 0.3 and SHGC of 0.25.
		Consider replacing water heaters with heat pump water heaters.
	Lighting	Purchase LEDs for replacement of lighting. Program LEDs to 70% of output at first to save wattage.
		Consider addition of daylighting and occupancy controls for LED systems.

Examples of other cities that have implemented sustainable purchasing policies are below:

- **Cities in Minnesota:** Over 50 local governments in Minnesota have implemented a policy addressing sustainable purchasing.⁵
- **Ann Arbor, MI:** In 2018, Ann Arbor implemented guidelines for purchasing that covers energy.⁶

Cost Considerations: Low cost. Requires staff time to develop purchasing guidelines.

⁵Summary of Green Step Cities purchasing policies is here: <https://greenstep.pca.state.mn.us/bp-action-detail/81825>

⁶ Ann Arbor's purchasing policy is here: http://www.responsiblepurchasing.org/resources/policies/city/ann_arbor_2018.pdf

City Operations and Communitywide Recommendation:

Create high-performance building standards for new municipal buildings and promote their use by private businesses.

New construction design decisions have a lasting impact on the lifetime operating costs and CO₂ emissions of a building. One way to ensure energy-efficient construction is to develop new construction guidelines. The guidelines should be required for municipal buildings and encouraged for use by private businesses. Addressing new construction helps ensure that city emissions do not grow substantially as new development and economic growth occurs in the City.

The new construction guidelines could rely on existing building standards, such as LEED or PHIUS, and require that new construction of municipal buildings meet the requirements of the standard. Another flexible and straightforward way to develop a guideline is to define a targeted EUI by building type for new construction projects. Targets could start by using median EUI for similar buildings in the same climate zone (available in EnergyStar Portfolio Manager) or target EUIs defined by building industry experts in widely used standards, such as ASHRAE-100.

New Construction Guidelines

- ✓ Set an aggressive but feasible energy targets
- ✓ Consider building certifications (LEED, PHIUS, etc.)
- ✓ Design solar ready buildings
- ✓ Design to be EV-ready or EV-capable

Over time, these target EUIs can be adjusted to move closer to net-zero targets. New Buildings Institute sets target EUIs for net-zero buildings.⁷ The targets are designed to minimize energy use in a building and enable renewable energy to cover any remaining energy consumption. Using technologies available today, research suggests that a low-energy building adds little cost compared to a conventional design, especially when considering the cost savings that efficient building design will enable.⁸

The guidelines can also focus on incorporating EV charging considerations into a building design. This includes requiring a building to have sufficient electrical capacity or a 240V outlet installed at parking spots to allow for future EV charging stations. This can avoid additional costs in the future for piecemeal electrical upgrades to support higher electrical loads required for EV charging stations.

Lastly, the guidelines should consider including solar-ready design. A solar-ready building is designed to minimize costs and optimize production of a future solar installation. The added design requirements often add minimal construction costs for a new building.⁹

Examples of other cities that have implemented similar items:

- **Eau Claire, WI:** Eau Claire developed a Net-Zero Energy building guide and included a goal in its Renewable Energy Plan for municipal building construction or renovations to follow the guide.¹⁰
- **Edina, MN:** Edina adopted a sustainable building policy in 2022 that requires all new municipal buildings meet certain efficiency standards.¹¹

Cost Considerations: Medium. Requires staff time to develop the guidelines and encourage use by private developers. Potential cost for consultant assistance with performance standards.

⁷ New Buildings Institute, Zero Energy Commercial Building Targets, <https://newbuildings.org/wp-content/uploads/2019/09/ZeroEnergyCommercialBuildingTargets.pdf>

⁸ Ibid.

⁹ L. Lisell. 2009. "Solar Ready Buildings Planning Guide." <https://www.nrel.gov/docs/fy10osti/46078.pdf>

¹⁰ Eau Claire Renewable Energy Plan is here: <https://www.eauclairewi.gov/home/showpublisheddocument/30746/637321522054730000>; Eau Claire Net-Zero Energy Guidelines available here: <https://www.eauclairewi.gov/home/showpublisheddocument/35147/637520949832230000>

¹¹ Edina Sustainable Purchasing policy: <https://www.edinamn.gov/DocumentCenter/View/12677/Sustainable-Building-Policy?bidId=>

Communitywide Recommendation:

Explore ways to encourage sustainable construction through existing City funding programs, such as tax-increment financing.

Sixty-nine percent of residential survey respondents supported strengthening energy efficiency requirements for new buildings. In Wisconsin, building energy codes can only be set at the state level, prohibiting the City from setting its own stricter building codes. Nevertheless, there are options, beyond mandates or stricter building codes, for municipalities to encourage sustainable new construction in the city.

We recommend that the City of Green Bay consider two ways to incorporate sustainable requirements into existing funding sources for new development. The sustainable requirements could target energy efficiency, onsite renewable energy, or stipulate that the new buildings follow the municipal new construction guidelines discussed in the above recommendation. Two pathways to encourage sustainable construction are below:

- 1. Integrate into tax incremental financing policies (TIF):** Tax-increment financing districts are a tool used by municipalities to encourage new growth in certain areas of the city. It uses the projected increased tax revenue to provide upfront financial assistance for development in TIF districts. The City of Green Bay has several tax-increment districts currently open and could include renewable energy as eligible project costs or require that any building applying for TIF funding meet certain sustainable requirements. Examples include:
 - **Middleton and Sheboygan, WI** – The TIF policy goals include language around mitigating environmental impacts. The language also includes renewable energy, green roof, EV charging, and whole building efficiency as eligible project costs.¹² Both cities use similar language.
 - **Rochester, MN** – Includes explicit text in its TIF policy stating that projects will be more strongly considered if they meet a green building certification standard. The policy also sets environmental standards that all redevelopment and economic development projects must meet. Another requirement is that the building must participate in Rochester’s voluntary benchmarking program for 3 years.¹³
 - **Milton, WI** – The City of Milton considers the sustainability of the building design when approving projects in TIF districts. The City uses a numerical scoring guide in reviewing projects and each project must accumulate a certain number of points for consideration. One measure is the use of sustainable materials or energy efficiency.¹⁴
- 2. Encouraging sustainable design through revolving fund or other City funding sources:** The City of Green Bay has additional development funding sources that could also incorporate language to encourage sustainable design. The revolving fund language, for example, already includes a list of priorities for funded projects. The City could start with encouraging sustainable development as a priority area for funded projects under the revolving fund. An example is below:
 - **City of Edina, MN:** The City requires that any private building receiving financing assistance of any kind must meet the sustainable building requirements.¹⁵

Cost Considerations: Low to medium. Requires staff time to review, create, and add language to existing policies and engage the design community.

¹² City of Middleton language is available here: <https://www.cityofmiddleton.us/DocumentCenter/View/6953/TIF-Policy-Final-Middleton>; City of Sheboygan language is here: <https://www.sheboyganwi.gov/wp-content/uploads/2021/07/TIF-Policy-2021-06-21.pdf>

¹³ Rochester TIF language is here: <https://www.rochestermn.gov/home/showpublisheddocument/31103/637545120560070000>

¹⁴ City of Milton, WI. Tax Incremental Financing Policy & Application. <http://www.milton-wi.gov/DocumentCenter/View/368/TIF-Policy?bidId=>

¹⁵ Edina’s Sustainable Building Policy includes language requiring private development that receives city funding to meet sustainable criteria: <https://www.edinamn.gov/DocumentCenter/View/12677/Sustainable-Building-Policy>

City Operations and Communitywide Recommendation:

Develop an energy benchmarking program for commercial buildings.

Commercial building energy use is a significant contributor to overall citywide emissions. A common way that municipalities are working to address commercial emissions is to implement a benchmarking program. Benchmarking is measuring and tracking a building's energy use over time, and a program requires that data to be publicly disclosed annually.

Benchmarking programs are designed to cover a subset of building types (commercial, municipal, or multifamily), and only buildings of a certain size (e.g. above 10,000 ft²). Typically, cities target the largest buildings in the city as the total number of buildings impacted is low, but the total energy use covered is high.

We recommend that the City of Green Bay implement a program that requires benchmarking for municipal and commercial buildings in the city. The City could work with WPS to help business owners easily upload energy data. Benchmarking ordinances have the potential to save 2% on energy costs annually, which over five years could result in close to 10% savings for commercial buildings covered under the policy.¹⁶ If the city faces substantial pushback, it could start with municipal buildings and a voluntary system for commercial owners.

Examples of cities that have implemented relevant benchmarking policies are below:

- **Des Moines, Iowa:** Des Moines adopted a benchmarking requirement in 2019 for any commercial building over 25,000 square feet and publishes all energy data online.¹⁷
- **Madison, WI:** Madison adopted a voluntary benchmarking program in September 2015. In 2023, the City moved from a voluntary program to a mandatory program for all buildings over 25,000 square feet.

Cost Considerations: Medium. Staff time to develop dashboard, engage with building owners, and publicize program.

Communitywide Recommendation:

Explore policies to reduce residents' energy bills through energy efficiency.

Residential buildings in Green Bay represent a significantly smaller portion of total citywide CO₂ emissions. The associated benefits of energy efficiency upgrades, such as cost savings and improved comfort, elevate the importance of ensuring policies cover homes in Green Bay as well. Across the United States, cities are implementing policies to improve consumer information about energy costs without requiring upgrades. Two common policies to provide better consumer information about energy use in homes are:

- **Home rating ordinance for home sales:** Encourage or require all house sales to include information about energy use to give full information to potential buyers.¹⁸
- **Rental efficiency disclosure:** Requires property owners to disclose energy costs for the past year either for the actual apartment or the average across the building.¹⁹

The policies along with education can have a significant impact. The policy should be informed by input from homeowners, renters, property owners, and an analysis of housing and energy trends. The City should only proceed with a policy if analysis suggests its affordable and effective.

Cost Considerations: Low. Staff time to consider impact of policies.

¹⁶ EPA, Benchmarking and Energy Savings, https://www.energystar.gov/sites/default/files/buildings/tools/DataTrends_Savings_20121002.pdf

¹⁷ Des Moines' energy benchmarking is here: <https://www.dsm.city/initiatives/buildingbenchmarking.php>

¹⁸ Bloomington, MN has a truth-in-sales policy: <https://www.bloomingtonmn.gov/sites/default/files/2021-09/Ord%202021-29.pdf>

¹⁹ Minneapolis, MN energy disclosure policy: <https://www2.minneapolismn.gov/business-services/licenses-permits-inspections/rental-licenses/renter-protections/energy-disclosure/>

CLEAN ELECTRICITY

The City of Green Bay has a goal of 100% clean energy by 2050.²⁰ Clean energy refers to energy production that does not release carbon, such as solar energy, wind energy, nuclear, or hydroelectric or geothermal. Clean energy provides multiple benefits including cost savings, improved air quality, carbon savings, and local job creation.

Meeting this goal will require a strong partnership with WPS, the local utility. WPS has robust goals to increase the amount of renewable energy in its fuel mix and decrease the amount of CO₂ released per unit of electricity generated. In the last five years alone, a major coal plant in the area, Pulliam, has closed and new solar and other sources of electricity have come online.

Local adoption of renewable energy can also provide direct benefits to household and businesses through reduced energy costs. Renewable energy costs have continued to decline over time, and the federal tax credits and rebates for up to 30% of upfront cost make the next nine years an opportune time for adoption.

Municipal: transition 65% of municipal electricity to clean electricity by 2030.

- Install solar PV on City-owned buildings and facilities to reach 6% renewable energy.
- Work with WPS to identify off-site renewable energy solutions for municipal operations.

Communitywide: transition 60% of communitywide electricity to clean electricity by 2030.

- Create open dialogue with WPS on clean energy transition goals.
- Facilitate a solar group buy to lower barriers and costs for solar.
- Streamline adoption of solar on homes and businesses.

Quick Facts



68% of residential survey participants support increasing renewable generation



30% tax credit available for city, business or residential solar installations.



8.08% of current mix (WPS) [that is renewable energy](#)



2 solar installations at city facilities



<1% of households or businesses claimed solar rebates by Focus on Energy



²⁰ <https://greenbaywi.gov/1233/Energy-Planning#:~:text=In%20May%202021%2C%20the%20City,%2C%20and%20businesses%2C%20by%202050.>

City Operations Recommendation:

Install solar PV at City-owned property to reach 6% renewable energy.

The City intends to lead the way in transitioning to 100% clean energy. The City of Green Bay has existing solar installations at Leicht Park and Fire Station #5.

The City has identified an additional twelve City facilities that are good options for on-site solar energy, allowing the City to install around 1 MW of solar on municipal facilities in the next several years. The buildings have ample roof space, ideal orientation for solar production, and strong payback periods.

The cost of installing solar on buildings is estimated to be between \$2,000 and \$2,500 per kilowatt (kW). This cost is offset by Focus on Energy solar rebates and a federal tax credit for up to 30% of these costs. The tax credit will be available through 2032, making the next nine years an ideal time to install solar and leverage the upfront cost reduction.



Table 4 lists the recommended installations. The table includes PV size, annual electricity replaced, total CO₂ savings, upfront cost, and payback period. The payback periods are within a reasonable timeframe – and provide an opportunity for cost savings within the 25–30-year lifetime of the panels. We recommend that the City prioritize buildings with the lowest payback period for the first installations and install the arrays in phases as needed for the largest buildings.

Appendix A: Department Results contains more detail on the solar analysis for each building.

Cost Considerations: 30% rebate available for cities from Inflation Reduction Act; Focus on Energy incentives for solar.

Table 4. Recommended solar installations at City buildings and facilities

Location	PV Size (kW dc)	Annual Electricity Replaced (kWh)	Annual CO ₂ Savings (MT)	Upfront Cost after Rebates (\$)	Payback Period (years)
Transit Building	300	572,800	436	\$25,500	9.9
Eastside Garage	86	101,000	77	\$32,000	10.0
Westside Garage	20	26,035	166	\$234,900	10.0
Fire Station #7	20	24,670	21	\$121,190	10.5
Fire Station #6	20	24,265	18	\$32,000	10.7
Green Bay Electricians	20	24,000	18	\$32,000	11.1
Bay Beach	20	26,035	20	\$32,000	11.2
Water Utility Main Building	157	185,630	140	\$47,270	11.3
Fire Station #4	16	16,805	13	\$32,000	12.3
Fire Station #2	29	34,925	26	\$141,000	12.4
Westside Parks	72	85,885	65	\$190,750	12.8
Courthouse	20	23,785	18	\$199,820	14.2
Filter Plant	150	185,790	158	\$387,000	16.2
Green Bay Police	100	118,795	90	\$101,380	18.6
Total	1,031	1,407,580	1,233	\$1,544,810	-

City Operations Recommendation:

Work with WPS to identify off-site renewable energy solutions.

On-site installations of renewable energy on City facilities will only cover a fraction of city operations electricity. Off-site renewable energy installations on larger areas of land (either owned by the city or privately-owned) must be paired with on-site solutions for the City to reach its 100% clean energy goal. Roughly another 18 MW of solar would be needed to replace all municipal current electricity use with renewable energy sources.

Due to state policies, municipalities must primarily work with the utility on off-site renewable energy. WPS recently received approval to implement a Renewable Energy Pathways pilot,²¹ which allows customers to subscribe to a portion of a utility-scale renewable energy generating facility and then pay the cost for the resource minus a credit for the energy value of the resource. The City should contact WPS to better understand participation in this program and discuss other opportunities for dedicated off-site renewable opportunities.

Cost Considerations: Low. Staff time establish an ongoing relationship with WPS. No upfront costs; monthly costs covered by existing budget item for energy bills.

Communitywide Operations Recommendation:

Create open dialogue with WPS on clean electricity transition goals.

Electricity use across the City of Green Bay contributes close to 60% of citywide CO₂ emissions. Carbon emissions from electricity is impacted by the carbon intensity of the grid (or the amount of CO₂ released per unit of electricity produced). The carbon intensity for the grid serving the City of Green Bay was the highest in the nation as of 2018 and second highest in 2021.²² Greening the grid therefore has significant potential to reduce carbon emissions – transitioning to 60% clean electricity would lower overall city emissions by 33%.

A transition to a clean energy grid requires direct collaboration with the local utility, WPS. The parent company of WPS, WEC Energy Group, has committed to an 80% reduction in CO₂ emissions by 2030 compared to 2005, which it estimates to be roughly 39% renewable and 24% nuclear energy.²³ These goals are ambitious and could drive a significant portion of CO₂ reductions for the City of Green Bay.

As utilities are a key partner in meeting CO₂ goals, several communities have established recurring meetings or a memorandum of understanding (MOU) with utilities to formalize the relationship.

Through these agreements, cities have a mechanism to discuss the timeline for the transition to clean electricity with utilities and ensure consumer costs are considered. The MOUs typically recognize the joint goals of the city and utility and discuss collaboration moving forward.

Examples of MOUs include:

- **Madison, WI:** Signed a MOU with Madison Gas and Electric in 2017 to work collaboratively on renewable energy projects and energy efficiency and establish plans for regular communication.²⁴
- **Minneapolis, MN:** Signed a MOU with Xcel Energy that recognizes the importance of the utility in meeting its goals and sets out to facilitate collaboration of the goals.²⁵

Cost Considerations: Low. Costs of collaborating with WPS is largely staff time while renewable electricity transition costs are covered by utility.

²¹Full program application and details available online: <https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=472698>;

²² Environmental Protection Agency eGrid data: <https://www.epa.gov/egrid/data-explorer>

²³ 2022 Corporate Responsibility. WEC Energy Group. <https://www.wecenergygroup.com/csr/cr2022/wec-corporate-responsibility-report-2022.pdf#pagemode=bookmarks>

²⁴ Madison MOU: <https://madison.legistar.com/View.ashx?M=F&ID=5368330&GUID=A2A66EE0-94AA-4387-A24F-D8A0F9D1494D>

²⁵ Minneapolis MOU: <https://mplscleanenergypartnership.org/wp-content/uploads/2015/02/xcel-mou-attach-b.pdf>

Communitywide Recommendation:

Facilitate a solar group buy to lower barriers and costs for solar.

Residential and commercial adoption of solar on or at homes and businesses can help move Green Bay towards its goal of 100% renewable energy while providing individual businesses and homeowners cost savings. In the community survey, 59% of residents surveyed said using renewable energy was important to their household. However, 80% of residents survey stated that renewable energy was too expensive.

Solar group buy is a program designed to lower barriers to solar adoption and facilitate widespread adoption across a community. The program is run by a third-party organization at no-cost to the city and provides:

- Solar education to local homeowners and businesses through a series of events or marketing materials.
- A negotiated lower price for solar installations by participants through a sole-source agreement with a single solar installer.

Many cities and counties in Wisconsin and the Midwest have implemented similar programs. Wisconsin nonprofits that run group buys include Midwest Renewable Energy Association, RENEW Wisconsin, and Legacy Solar Co-op.²⁶

Cost Considerations: Low. No cost to City for program other than collaboration with local nonprofit that administers the program.

Communitywide Recommendation:

Streamline adoption of solar on homes and businesses.

Local adoption of solar can be unintentionally hindered by local zoning or permitting requirements or lack of knowledge about the process. The City can be a key partner in encouraging adoption of solar by providing education to residents and businesses and ensuring permitting processes are as clear as possible.

A free national program, SolSmart, exists to help local governments work through steps to remove barriers and accelerate installations.²⁷ To pursue a certification, a city must complete a certain number of steps that encourage solar adoption. These include items like reviewing permitting requirements, creating an online permitting checklist, or education to community members.

Each community can select a pathway to designation that respects the city's unique characteristics and goals. The criteria include options for communities to understand how to lower barriers more specifically for low-income communities. SolSmart also provides templates for several actions and offers free online resources. These free resources could be used to help with permitting and inspections.

SolSmart research has found that most communities see a 17-19% increase in solar deployment after receiving a designation. Currently, 21 other communities in Wisconsin are certified SolSmart communities.²⁸

Cost Considerations: Staff time; potential for free technical assistance through SolSmart

"Moving in the right direction but we must make the transition to renewable energy quickly and we have to help residents to move to renewable energy resources as well."

-Green Bay resident

"Anything to help reduce barriers + incentivize this (solar) is greatly needed."

-Green Bay resident

²⁶ Examples of solar group buys are here: <https://www.midwestrenew.org/solargrouppbuy/> or <https://legacysolarcoop.org/solar-group-buys/> or <https://www.renewwisconsin.org/wi-solar-group-buys/>

²⁷ For more information on SolSmart, see here: <https://solsmart.org/>

²⁸ Case studies from Wisconsin communities are located here: <https://solsmart.org/our-communities/#?state=Wisconsin&level=>

TRANSPORTATION

Transportation accounts for 11% of communitywide CO₂ emissions in Green Bay, which is the third largest source after commercial and residential buildings.

Reducing emissions from vehicles driven by Green Bay's residents and businesses can significantly improve air quality and reduce CO₂ emissions. Supporting the community as it transitions to EVs will lead to communitywide long-term energy cost savings and reduced emissions. As the percentage of renewable energy on the power grid increases, EVs have the benefit of having zero-tailpipe emissions.

Across municipal operations, gas and diesel purchases account for around 33% of total energy costs. This amounts to roughly \$2 to \$3 million a year. The recommendations identify how to transition the City's fleet to low- or no-emissions vehicles and provide accompanying recommendations for how the City can reduce communitywide transportation emissions. The actions identified here can be coupled with the education recommendations and other city plans, such as the Green Bay Safe Walk and Bike Plan to drive reductions in vehicles mile traveled (VMT) and encourage a transition to EVs.

Municipal: Reduce total municipal fleet emissions by 15% by 2030.

- Pilot low-carbon vehicles in municipal fleets to inform a gradual transition to EVs.
- Enact total cost of ownership and fleet right-sizing vehicle purchasing policies.

Communitywide: Reduce private transportation emissions by 15% by 2030.

- Engage private sector to develop public EV charging.
- Support holistic transportation solutions.

Quick Facts



11% of communitywide CO₂ emissions are from transportation.



56% of residents support installing more EV charging stations.



70 - 72% of residents support promoting existing transit and expanding biking and walking trails.



\$7,500 per electric vehicle tax credits from Inflation Reduction Act



City Operations Recommendation:

Pilot low-carbon vehicles in municipal fleets to inform a gradual transition to EVs.

Municipal fleet accounts for roughly 27% of the municipal CO₂ baseline, and over \$2 million in costs annually. The City has over 500 vehicles it manages, including small cars, SUVs, pickup trucks, buses, garbage trucks, plows, and off-road equipment. As the fleet serves critical functions for City operations, the primary way to save energy and lower costs across the fleet is to transition to low-carbon vehicles.

Through this analysis, the team analyzed the benefits of various types of low-carbon vehicles and found that EVs provide the most significant CO₂ benefits and have well-proven performance. Every vehicle type does not have a market-ready EV, so the analysis focused on identifying which vehicles have a cost-competitive alternative. The analysis did consider other fuel types, especially for heavy-duty vehicles, but found that safety or cost considerations made conversions difficult. We recommend that the City begin with EVs and monitor the market for advancements in other fuels.

To alleviate concerns with EV transitions, we recommend that the City, Water Utility, and Transit add limited numbers of EVs to their fleets in 12–18-month pilot projects. For the pilots, we recommend focusing on cars, SUVs, light-duty trucks, and transit buses that are ready for regular replacement; typically drive less than 100 miles per day²⁹; and are parked near potential charging locations. Light-duty EVs are cost-competitive with conventional vehicles in most cases; however, conversion to low-carbon buses will require grant funding to cover the significant incremental cost.

In parallel with purchasing EVs, the City will need to install EV chargers. We recommend adding level 2 charging stations at municipal buildings where vehicles would regularly park when off-duty.

Following the pilot, we recommend the City slowly transition to EVs for vehicles with cost-competitive alternatives. Table 5 shows emissions savings from transitioning the City's light duty vehicles to EVs both with the current emissions rate for electricity generation and for the future under a 100% renewable electricity scenario. A full overview is available in Appendix A: Department Results.

Cost Considerations: Incremental costs over conventional vehicles low to moderate. 30% tax credit available for all EV purchases through IRA's Commercial Clean Energy Tax Credit.

Benefits of EVs



Lower fuel cost (\$/mile) than gasoline or diesel vehicles.



Maintenance costs 50% lower compared to gasoline or diesel vehicles.



Reduce CO₂ emissions up to 40% with current electricity mix.



Lower energy use while idling reduces engine wear and saves money.

Table 5. Annual savings Estimate - Full EV Transition

Department	Vehicles to replace	Cost savings	MT CO ₂ avoided (current)	MT CO ₂ avoided (100% renewable)
DPW	31	\$12,290	14	41
Fire	33	\$31,090	37	102
Inspections	16	\$6,930	8	24
IT and Parking	10	\$5,615	7	16
Parks & Recreation	43	\$13,465	15	46
Police	53	\$43,390	66	130
Metro Transit	54	\$434,949	652	1,81
Water Utility	24	\$16,594	28	45
Total	264	\$564,323	827	2,216

²⁹ A range greater than 100 miles would be required for electric transit buses used for a pilot. Due to the larger battery size used in electric transit buses, it may be necessary to install level 3 charging at the Metro Transit building to support these vehicles.

City Operations Recommendation: Enact total cost of ownership and fleet right-sizing vehicle purchasing policies.

To aid in reducing overall municipal fleet emissions, we recommend that the City adopt a fleet optimization vehicle purchasing policy. The policy would aid in the transition to EVs, standardize considerations when replacing vehicles and ensure an optimal-sized fleet. The policy would require purchase requests to include analyses of three questions.

1. Could the purpose of the vehicle be accomplished by expanding the use of an existing vehicle, rather than purchasing a new vehicle?
2. Could a smaller vehicle, with a lower purchase cost and lower ongoing fuel expenses, effectively meet the performance requirements for the requested vehicle?
3. Considering purchase costs, tax credits, incentives, expected resale value, fuel type, fuel efficiency, and expected maintenance costs, which model offers the lowest total cost of ownership (TCO) for the City, while meeting the City's performance requirements?

"I work at Bay Beach and we use huge trucks for just about everything when a crossover [SUV] would do the job well enough. We even use the trucks for driving around to park to pick up garbage. A small car could do this easily."

-Green Bay resident

The City may further align the analysis with its clean energy goals by incorporating a comparison of the lifetime CO₂ of each model into the TCO analysis. Table 6 summarizes EV vs conventional vehicle considerations.

Table 6. EV vs conventional vehicle TCO comparisons - upfront and operating costs

TCO Factor	Electric vehicle or conventional vehicle comparison
Purchase Cost	Purchase costs vary by vehicle category.
Fuel Cost	Fuel cost per mile is lower for EVs than for all categories of conventional vehicles.
Maintenance Cost	Studies show approximately 50% lower maintenance costs for EVs. ³⁰
Resale Value	Some analyses have shown higher resale value for EVs, but irregularities in markets for all used and new vehicles from 2020 – 2023 creates uncertainty.
CO₂ Emissions	For all light duty vehicle types, EVs charged with purchased electricity in WI produce lower CO ₂ emissions per mile than equivalent conventional models.

Green Bay can develop an internal policy document to institutionalize its commitment to applying a TCO review to all vehicle and equipment purchases. Examples of similar policies in the Midwest include:

- **City of Minneapolis, MN.** Enacted a Green Fleet Policy in 2010 (updated 2020) that creates guidelines for fleet right-sizing and making vehicle and equipment purchases that align with the City's emissions reduction objectives.³¹
- **City of Milwaukee, WI.** Passed a Low and Zero-Emissions Vehicles ordinance in 2023, which establishes a preference for the City to purchase or lease EV, PHEV, and hybrid vehicles. The policy sets cost and performance criteria that would need to be met to justify purchasing or leasing a gasoline or diesel vehicle, rather than a low/no emissions vehicle.³²

Cost Considerations: Staff time to develop policy; tax credits available for actual purchases.

³⁰ Harto, C. *Electric Vehicle Ownership Costs: Chapter 2 – Maintenance*. Consumer Reports. September, 2020. (<https://advocacy.consumerreports.org/wp-content/uploads/2020/09/Maintenance-Cost-White-Paper-9.24.20-1.pdf>)

³¹ Minneapolis' policy is available here:

<https://lms.minneapolismn.gov/download/Agenda/1338/GreenFleetPolicyDraft11.1.20.pdf/49872/2073/Green%20Fleet%20Policy%20Draft%2011.1.20.pdf>

³² Milwaukee passed a similar ordinance in 2023: <https://milwaukee.legistar.com/LegislationDetail.aspx?ID=6049286&GUID=A1369ACF-64D2-4E7C-96E0-776D8DA99624&Options=ID|Text|&Search=emission>

Communitywide Recommendation:

Engage private sector to develop public EV charging.

EV adoption among Green Bay residents offers a pathway to decreasing communitywide emissions from transportation. National trends show that most EV charging takes place at homes and workplaces. However, strategically located public charging stations can enable residents of multifamily buildings and visitors to Green Bay to own and drive EVs in the community.

Feedback from the survey and Open House encouraged the City to be strategic in its engagement with EV charging installations. This section highlights how the City can work with partners to ensure community EV charging stations are spread across town and located in needed places. Underlying all recommended actions for installations is the need for a good network of Level 2 and Level 3 charging stations across the city. In general, Level 3 chargers are essential for long-route drivers visiting Green Bay, while Level 2 chargers are ideal for in-town drivers. Level 3 chargers should be located close to highways, while Level 2 chargers should be close to multifamily housing and where people usually spend an hour or more.

Below are more detailed recommendations for the City on how to support establishment of a robust EV charging station network in the City:

- Educate the public on available incentives. Input from Green Bay residents and businesses recognized that most charging infrastructure needs to be installed at homes and businesses, rather than provided by the City. WPS currently has a pilot program for EV charging under which residents can receive support for EV charging infrastructure. The City should engage with WPS to understand current participation and how to market to residents. Additionally, the federal government currently has a tax credit available to residents in certain low-income areas and Green Bay has several qualifying tracts. The City should provide education to residents and private businesses in those areas about the credit.
- Demonstrate municipal leadership. Municipal facilities that residents visit for an extended period, such as Bay Beach, city pools, municipal parking garages and park facilities, may be ideal locations for public charging stations.
- Engage on statewide plans. The Wisconsin EV Infrastructure (WEVI) Deployment Plan³³ identifies EV charging coverage gaps on I-41, I-141, and I-43 in and around Green Bay. Input received on the WEVI plan will inform how the State prioritizes investments in EV infrastructure development along the state's primary transportation corridors. We recommend that the City engage with the WI DOT in support of investment in funding charging systems at locations in the City.
- Collaborate with private organizations. The City should partner with local organizations to help drive additional installations of EV chargers. Economic development staff could also advise developers of new office and multifamily properties about the benefits of offering on-site charging. As another option, the City could encourage EV charging installations through its TIF policies. For example, Stevens Point's TIF policy requires a certain number of stations are added based on size of project.³⁴

Cost Considerations: Low to medium costs. Staff time to develop partnerships; tax credit available for EV charging stations in certain locations.

"For long-range refueling, also need to consider site placement. We don't necessarily need them everywhere! We need them in strategic locations. Talk to users. It could be a conversation with businesses that are attracting tourism/business from non-residents that may refuel on route."

-Green Bay resident

³³ Wisconsin WEVI plan: <https://wisconsin.gov/Documents/projects/WEVI-plan-final-22-0914.pdf>

³⁴ More details on the Stevens Point policy is here:

<https://static1.squarespace.com/static/6037df5f4808c15334a7778d/t/64877643aa1bb959d6ea728b/1686599235979/EV+TIF+Policy+Doc++Stevens+Point.pdf>

Communitywide Recommendation: Support holistic transportation solutions.

Fifty-two percent of residential survey respondents stated that minimizing the amount of gasoline that they purchase is a priority to their household; however, the residential survey also showed that unaccompanied driving is the primary mode of transportation in the city (86%). Over 98% of residents report that they rarely take the bus, 71% rarely walk or bike, and 33% rarely carpool.

Increasing walking, biking, and use of public transportation can decrease total vehicle miles driven in the city and related CO₂ emissions. The Plan reaffirms the importance of continuing to support holistic transportation solutions. These include:

- **Improving and promoting pedestrian and bike infrastructure:** The City of Green Bay has an existing Green Bay Safe Walk and Bike Plan that addresses ways to empower adults and children to make walking and biking part of their daily routines.³⁵ The Clean Energy Green Bay Plan recommends continued action on, and investment in, the Safe Walk and Bike Plan.
- **Continuing to promote transit ridership:** Survey results and comments submitted at the Open House demonstrated low use of the Green Bay Metro Transit services. The City and Metro Transit should continue to promote the benefits of bus ridership and market existing user tools, such as the app to track buses and times live.
- **Align zoning with emissions goals.** Pedestrian-oriented developments (POD) and transit-oriented developments (TOD) bring the places where people live, work, and shop closer together. By shortening these distances, PODs and TODs can enable Green Bay residents to more easily walk, bike, and bus to their regular destinations, thereby achieving their goals of reducing gasoline consumption.

Cost Considerations: Medium costs; development of additional trails and biking routes.

“Consider how/whether to raise awareness about safe bike routes in urban & other areas, convince people that biking is safe if done correctly & support bike access to schools”

-Green Bay resident

“We really need better biking infrastructure. There are so many benefits in addition to reducing CO₂ including better air quality + public health to schools”

-Green Bay resident



³⁵ <https://greenbaywi.gov/DocumentCenter/View/4410/Safe-Walk--Bike-Plan---FINAL?bidId=>

EDUCATION

The communitywide survey revealed that 90% of City of Green Bay residents are interested in saving energy in their homes and 79% support educating the public on energy efficiency and renewable energy opportunities. Residential respondents also noted that energy efficiency and renewable energy costs are a barrier.

Several existing resources, such as Focus on Energy, federal funding, and state funding, are positioned to help address industrial, commercial, and residential energy use. These programs can lead to significant reductions in energy use communitywide; but only if there is awareness of the opportunities.

Unprecedented amounts of funding in clean energy and energy efficiency tax credits and rebates through the Inflation Reduction Act makes this a vital time for educational efforts to ensure Green Bay receives the benefits of this funding.

The City of Green Bay is well-positioned to help raise awareness of energy strategies through education and marketing efforts as well as partnerships with outside organizations. These efforts will help bring benefits to Green Bay residents and businesses by removing potential barriers, assisting them in finding financial benefits, and ultimately lowering energy bills and improving comfort in homes and businesses.

The recommendations in this section form a comprehensive approach to education and should be implemented together. The recommendations support each of the interim targets for communitywide reductions by providing comprehensive resources to residents and businesses.

- Hire an energy education employee.
- Develop an online education hub with energy resources.
- Conduct outreach and marketing to inform residents and businesses.
- Create an initiative to highlight energy actions by local businesses and residents.
- Partner with local organizations to grow the clean energy workforce.

Quick Facts



79% of residential survey participants support educating the public on EE and renewable energy



67% of residential survey participants say that energy efficiency improvements are too expensive



~10% of current residents and businesses participate in Focus on Energy's existing incentives



Billions of dollars in tax credits and rebates for residents and businesses.



Communitywide Recommendation:

Hire an energy education employee.

Community education is a significant undertaking for the City and having a dedicated staff person prioritizes this work. We recommend that the City of Green Bay pursue hiring an energy education staff person in 2024. The City of Green Bay has federal funding from the Energy Efficiency and Conservation Block Grant (EECBG) and can use this funding to fill this limited-term position.

This new staff person can be the first step in implementing the educational recommendations. The staff person will then be responsible for leading efforts on education, including:

- Developing partnerships with other organizations to collaborate on education and outreach. Partnerships may include Green Bay Area Public Schools, Wisconsin Sustainable Business Council, local weatherization agencies, neighborhood associations, business districts, Focus on Energy, nearby communities, and various community organizations.
- Forming an outreach and marketing plan around general energy topics and funding.
- Creating a website and marketing materials to share with Green Bay residents and businesses.

Cost Considerations: Medium to High. Cost for staff person; funding available from EECBG grant.

Communitywide Recommendation:

Develop an online education hub with energy resources.

Establishing a webpage on the City website with energy resources and toolkits is an important first step in community education. The website should provide:

- Strategies for residents and businesses who want to take action to help the City meet its goals. [Example fact sheets are in the appendix.](#)
- Information about available funding sources for individual and business energy actions. Should highlight Focus on Energy rebates, IRA tax credits, PACE financing for commercial buildings, and any city funding.
- Information about Green Bay's ongoing initiatives on clean energy.

“There could be a resource for what anyone can do to assist GB in goal to reach net zero in 2050. For citizens + another list for business owners maybe.”

-Green Bay resident

This website can be referenced during in-person events to build awareness of the available resources. The listing of available resources on Green Bay's website makes it more accessible to residents and businesses familiar with the city's website but unsure of how to find the resources on other sites.

Examples of similar websites include:

- **Middleton, WI:** City of Middleton's website includes high-level recommendations for residents and links to other tools and resources.³⁶
- **Eau Claire, WI:** City of Eau Claire's website provides information for residents and businesses and links to potential funding sources, such as Focus on Energy and local utility rebates.³⁷
- **Iowa City, WI:** Iowa City's website provides information about the city energy plan and separate pages for specific topic areas or programs available to residents and businesses.³⁸

Cost Considerations: Low to medium. Cost for staff time.

³⁶ City of Middleton website: <https://www.cityofmiddleton.us/593/Community-Participation-in-Sustainability>

³⁷ Eau Claire website: <https://www.eauclairewi.gov/government/our-divisions/sustainability/resources>

³⁸ Iowa City website: <https://www.icgov.org/government/departments-and-divisions/climate-action-outreach>

Communitywide Recommendation:

Conduct outreach and marketing to inform residents and businesses.

The hiring of a dedicated staff person and the creation of a website are first steps to increasing awareness of clean energy and associated funding opportunities. As a more comprehensive step, we recommend the City develop and implement an outreach plan on general energy education and, more specifically, funding or financing available for energy efficiency. Outreach topics include benefits of clean energy actions, which actions to prioritize, and funding opportunities.

The outreach plan should consider how to partner with relevant organizations, the need for translation or interpreters for materials, and different venues or platforms for reaching businesses and residents. Considerations for the outreach plan are highlighted below:

- **Partner with Focus on Energy to deliver presentations:** Focus on Energy administers utility incentive programs for the state of Wisconsin. The organization regularly partners with cities to host presentations on available rebates and incentives through the program. The City of Green Bay should inquire about the possibility of a series of neighborhood-specific presentations. Milwaukee is currently piloting a similar approach.
- **Consider how the City and Green Bay Public Area Schools can collaborate:** A collaboration with the school district could provide education to students and get children and youth excited and interested in clean energy actions. Early education on potential careers in the sector can also support workforce development.
- **Engage community organizations:** Community-based organizations (CBOs) in Green Bay have existing relationships with community members and are often a trusted source of information. Building partnerships with these groups can help ensure marketing materials or events are accessible to non-English speakers or community members missed by traditional outreach strategies. The City should also consider hosting events at CBOs to provide a more familiar location and hopefully increase attendance at events.
- **Develop marketing materials:** The City should develop print and digital marketing materials to share at community events and with various partner organizations. These should include a mix of written materials, presentations, and short videos. The materials should also be translated into other languages to improve accessibility across the Green Bay population.
- **Connect with Chamber of Commerce and business districts:** Local businesses are key to meeting the City's energy goals. It's important that educational efforts around the benefits of energy and potential funding sources are effectively communicated to businesses. The City can rely on existing relationships with the Green Bay Chamber of Commerce and business districts to understand the best methods to deliver this information to the business community.
- **Highlight local low-income weatherization program through Newcap to increase participation:** Newcap delivers weatherization to low-income residents at no-cost to the homeowner or landlord. The free program saves \$400 on energy costs on average annually. The City should work with Newcap to understand the best way to increase resident awareness of the program, and how to help residents successfully apply and participate in the program.

The plan should also consider how to highlight emerging technologies that residents and businesses may have technical questions around, such as heat pump technology, EVs, and renewable energy.

Cost Considerations: Medium. Cost for staff person; could benefit from volunteers to help with education.

"Get students involved! Kids have lots of great ideas! This is their future we are talking about. Partner with GBAPS!"

-Green Bay resident

Communitywide Recommendation:

Create an initiative to highlight energy actions by local businesses and residents.

Public programs that highlight energy actions by local businesses and residents serve to recognize people taking energy actions and encourage others to join in. Creating a database of successful stories can demonstrate feasibility of projects and help to eliminate concerns around clean energy actions.

We recommend the City develop an initiative to highlight successful local actions. This should include a webpage on the City's website to document actions taken by local business owners and residents, which can serve as an educational resource. The City could also try a competition by tracking the number of entries by neighborhood and offering a small prize and recognition in the local paper and on the City's website.

Examples of similar programs are below:

- **Sustainable Eau Claire and Sustainable Middleton Awards (WI):** Both cities have an annual program that recognizes local businesses, residents, and organizations that have taken significant energy action in the year. The cities ask for nominations each year and then highlight the actions with a short description.³⁹
- **Northbrook, IL Green Business Program:** The program celebrates local governments that have made substantial effort in any environmental area and highlights the actions they took.⁴⁰
- **Cedar Rapids, IA Green Homes program:** The Green Homes program in Cedar Rapids specifically highlights residential actions. Community members submit actions they have taken, and then the City displays a dashboard with information on actions by neighborhood and topic area.⁴¹

Cost Considerations: Low to medium. Cost for staff time to set up dashboard or awards.

Communitywide Recommendation:

Partner with local organizations to grow the clean energy workforce.

A robust and large workforce of contractors is a prerequisite for meeting the City's clean energy goals. Installation of efficient equipment and renewable energy at the rate needed to meet existing goals requires a knowledgeable contractor network. It can also provide local good-paying jobs and economic development.

The City of Green Bay should consider how it can aid in workforce development. Although outside the scope of the City's primary responsibilities, the City can work to be a partner in these efforts with existing experts in the area, such as the technical colleges and universities. A few ways the City can be a partner in this work:

- **Continue to provide opportunities for hands-on learning:** The City has partnered with NWTC on energy audits and solar assessments many times in the past. This provides hands-on learning for students and provides the City energy audits and assessment results.
- **Help organize training events for existing contractors:** Hosting events that connect contractors with emerging technology resources can help expand the numbers of contractors offering those services. Dane County organized an event to bring over 100 contractors together to discuss heat pumps in residential homes.⁴²
- **Connect with local job centers:** Help organize events to support recruitment into clean energy jobs.

Cost Considerations: Low. Limited staff time to support partnerships

³⁹ City of Middleton information here: <https://www.cityofmiddleton.us/118/Sustainability>; City of Eau Claire information here: <https://www.eauclairewi.gov/government/our-divisions/sustainability/sustainable-eau-claire-awards>

⁴⁰ Northbrook Green Business Program: <https://www.northbrook.il.us/1113/Green-Business-Program>

⁴¹ City of Cedar Rapids dashboard: https://www.cedar-rapids.org/local_government/sustainability/sustainable-neighborhoods.php

⁴² Overview of Dane County's event is available here: <https://daneclimateaction.org/OECC-Blog/Heat-Pump-Conference>

URBAN TREE CANOPY

An urban forest is all public and private trees and shrubs in a community. This includes trees in yards, parks, open spaces, and along streets. An urban tree canopy is important to reducing the city's carbon profile as trees and living plants absorb and store CO₂.

Trees also provide additional benefits, such as reduced air pollution, reduced storm water runoff, lower summer air temperatures from increased shade, and increased property values. The increased shade can directly impact cooling needs for the City, and support energy use reduction targets. A previous Green Bay urban tree analysis found that a single large tree can provide \$3,000 in benefits over a 40-year period.

Promoting a healthy tree canopy can complement the other recommendations in this report and help lower CO₂ emissions. Potential strategies to increase the urban tree canopy in Green Bay include:

- **Plant new trees:** identify sites and species diversity needs communitywide, and plant new trees. Ensure a maintenance plan is in place.
- **Protect and maintain existing trees:** Adopt tree protection ordinances and a tree management plan.
- **Minimize and restore trees lost to age, mortality, and land conversion:** Identify impact from tree disease, such as Emerald Ash Bore, and a replacement strategy. Determine landscaping ordinances for trees.
- **Promote public education and awareness:** Promote tree benefits and promote proper tree planting.



STATEWIDE ADVOCACY

The recommendations presented in the previous sections focus on immediate actions the City can take given current state law and regulations. City governments are currently prohibited by Wisconsin state law on several other clean energy actions. Examples include:

- Inability to enact a local energy building code stronger than the statewide code. The current statewide code has not been updated for several years. For example, Minnesota has adopted the 2012 residential IECC and 2021 commercial IECC and Illinois has adopted 2018 for both residential and commercial while Wisconsin uses the 2009 residential IECC and 2015 commercial IECC.
- Limited ability to pursue community solar or off-site solar installations without utility involvement.
- Prohibited from using third-party power purchases (PPA) for renewable energy installations. Third-party power purchases are a key financing method that could limit the need for a city to invest a substantial amount of money upfront.

The City should continue to advocate at the statewide level for improved policies to enable local action on energy-related actions and improve options for residents and businesses. The City should primarily work through the Wisconsin Local Government Climate Coalition, a group of 21 member communities that are working to accelerate local climate change solutions.

The coalition provides a coordinated voice for local governments on energy issues and helps to amplify the voice of the local governments. Advocacy can include signing joint letters or comments, acting as an intervenor in cases at the Public Service Commission, or giving public testimony. This advocacy will primarily address the Public Service Commission and the Wisconsin State Legislature as each has authority on different issues. Through this collaboration, the City should advocate for:

- **Stronger energy building codes at the state level.** The state currently has adopted the 2009 energy code on the residential level and the 2015 energy code on the commercial side.
- **Enablement of community solar.** Community solar, a solar array to which residents or businesses can subscribe to own part of it, can only be provided by utilities in Wisconsin right now. Other states have enabled community ownership of solar power arrays, which enables access to low-cost solar. Enabling legislation has been previously introduced in Wisconsin but never passed.
- **Legality of third-party purchasing for renewable energy installations.** Power purchase agreements allow for a third party to pay the installation cost for renewable energy, and then charge the City a price per unit of energy. This is a common financing tool to allow for installations without paying large upfront costs but is currently illegal in Wisconsin.
- **More funding for energy efficiency and electrification rebates at the state level.** More funding for rebates for energy efficiency and electrification can lower barriers to adoption.
- **Continuation of net metering policy.** Net metering pays back any excess solar generation at the full retail rate. Without this policy, excess generation is paid at a lower rate which impacts the economic feasibility of all installations. There are current cases at the PSC determining the future of net metering.

Statewide advocacy can help meet the interim targets by giving the city more latitude to take stronger actions, and encouraging the state to engage in supportive actions and activities.

IMPLEMENTATION AND FUNDING

This section provides recommendations on how to implement the actions identified in the plan, and details various funding sources available for the City.

Implementation

The implementation of this comprehensive plan will be a multi-year and multi-faceted effort. Recommended strategies to aid in implementation are below:

1. **Leverage an internal City team to discuss sustainability.** The City currently has a sustainability staff of one person, and no central facilities or fleet team to manage all buildings and vehicles. This project identified several staff with responsibilities and interests related to sustainability or these recommended actions. The City should institute an internal staff committee or recurring meetings where a larger group of staff can discuss current and future actions for renewable energy installations, fleet upgrades, or building upgrades. This could identify places where existing staff can provide additional assistance in implementing these recommendations and ensure that best practices on purchases and operations are being shared across departments.
2. **Collaborate with the Sustainability Commission.** The Sustainability Commission can be an excellent partner and provide additional support in implementing recommendations. For example, the Commission could assist in educational materials and meetings, could help pursue a SolSmart certification, or could help with research and analysis on benchmarking or other programs. This support could be integrated into an annual workplan for the Commission to help assign responsibility.
3. **Develop a multiyear prioritization process.** Internal staff and the Sustainability Commission should use these recommendations to prioritize actions each year or couple of years. The prioritization process will help balance the need for action with staff capacity constraints and funding available.
4. **Consider how to track progress towards goal.** To understand impact and progress towards its goals, the City needs to consider how to create a communitywide baseline and how often to track its progress. Many other communities try to comprehensively update their carbon profile every three to five years. The City should evaluate the process used to develop the 2018 baseline, and how often they could feasibly update the carbon profile to track progress. This can help track progress towards 2050 goals and the interim targets set by 2030.
5. **Continue to engage the community.** This plan was developed based on feedback from City residents. It's important that the City continues to engage the community to inform and receive feedback on potential actions and share lessons learned and successes. The engagement can also provide a space for businesses and residents to share their successes on clean energy, electrification, or energy efficiency.

Funding

The implementation of these recommendations requires investment in capital upgrades and staff time. There are several sources of funding that the City can consider.

Leverage fuel and maintenance cost savings generated by use of EVs and building energy efficiency to fund capital expenses.

As identified in the report, the energy efficiency, solar installations, and fleet upgrades will save the City money in annual operating cost. The City could quantify avoided energy and maintenance costs from EVs, solar and efficient buildings and apply those avoided costs to implement other recommended actions during the subsequent budgeting cycle.

Utilize and publicize Focus on Energy existing incentives.

WPS participates in Focus on Energy statewide incentives for renewable energy installations and energy efficiency upgrades and installations. It's recommended that the City provide a copy of this report to its Energy Advisor and ask for assistance in identifying the best way to access rebates. The amount available is determined by each energy efficiency measure and often specific characteristics of the equipment, such as the size of the solar system or efficiency of the new equipment. Residents and businesses can also access these rebates, so the City should work to publicize the funding source.

Apply for and create awareness of federal tax credits.

The Inflation Reduction Act includes a provision, direct pay, that makes non-taxable entities eligible for the tax credits. Table 7 highlights the tax credits most relevant to recommendations in the plan, including renewable energy installations, alternative vehicle purchases, and vehicle refueling.

The alternative vehicle tax credits have a limit per vehicle but there are no limits on total amount of projects rebated in a year or total amount of money the City can receive in a year. All credits are available starting in 2023 and extend to 2032. The vehicle charging tax credits must be in low-income or non-urban census tracts. The City of Green Bay has several census tracts that qualify as low-income tracts and are eligible for the credit.

Table 7. Eligible tax credits for direct pay/elective pay

	Renewable Energy	Alternative Vehicles	Vehicle Charging
Energy Plan Items	Solar installations	Electric vehicle or PHEV purchases	Refueling and charging property
Amount	30% of upfront cost	30% of vehicle cost (or 15% for PHEVs) or incremental cost compared to ICE	6% of upfront cost 30% if prevailing wage and registered apprentice requirements are met
Limit	-	\$40,000 for vehicles over 14,000 lbs \$7,500 for vehicles under 14,000 lbs	\$100,000
Bonus	10% if meets domestic content requirements for steel and iron	-	-
Restrictions		From a qualified manufacturer ⁴³	Must be in a low-income or non-urban census tract

The City can also receive funding through the Energy Efficient Commercial Buildings Deduction (179D) for any building upgrades that reduce energy use by at least 25%. However, this credit is not available for elective pay and the City's contractors would have to claim the credit and reduce the total cost to the City.

The Inflation Reduction Act also created rebate and tax credits for residents and businesses that the City should highlight in their educational efforts.

Identify and apply for other state and federal grant and financing opportunities.

Other grants and opportunities through the state or federal government could also provide funding for these projects. These grant opportunities include the Wisconsin Energy Innovation Grant and federal grants, such as the Energy Efficiency and Conservation Block Grant and Clean Heavy Duty Vehicle program.

⁴³ A list of qualified commercial vehicles is here: <https://www.irs.gov/credits-deductions/manufacturers-for-qualified-commercial-clean-vehicle-credit>

APPENDIX A: DEPARTMENT RESULTS

Analysis Methodology

The project team conducted an in-depth analysis of municipal buildings and fleet to identify opportunities for building upgrades, renewable energy installations, and low-carbon fleet alternatives. This more in-depth analysis for municipal operations provides the City with specific opportunities to demonstrate internal commitment to its goals.

The team collected detailed information about existing Green Bay facilities and vehicles, and the associated gasoline, diesel, electricity, and natural gas use. This data was collected for 2021 and 2022 to ensure that the opportunities reflect current transportation and energy use trends after COVID. This scope of the analysis focused primarily on buildings and fleet and excluded most other operations such as lighting, parking ramp electricity use, or parks.

The building energy use data comes directly from ENERGY STAR Portfolio Manager, which the City of Green Bay uses to track building energy use data and the fleet data comes from fleet management systems.

This appendix starts by describing the methodology for the building analysis, solar analysis, and fleet analysis before moving on to the results for each department. The department results include baseline energy use data, building efficiency results, solar results, and fleet results.

Building Analysis

The project scope included an energy assessment at select city facilities. As assessments for each building was outside the scope of this project, the team reviewed current energy use intensity (EUI) of all buildings and worked with city staff to identify priority buildings. The team selected buildings with higher EUI than the median EUI for similar building types, and those with daily use and upcoming equipment replacements or updates. Several buildings were excluded from consideration due to uncertainty about plans for the current site or renovations that were already ongoing.

Slipstream visited five buildings – the Police Station, Fire Station #6, Fire Station #7, the Municipal Courthouse, and the Westside Garage. The walkthroughs included reviewing current heating and cooling systems, lighting equipment, and appliances and discussing comfort and operations with building staff. The team then developed energy models to estimate savings opportunities. The models were informed by equipment and condition of facilities, building energy code requirements at time of construction, and weather data.

Measure costs were based on secondary research, industry reference materials, and past project experience. These estimates inform the prioritization of improvement measures. Actual energy savings from the recommended improvements will be dependent on weather and building operation. Further engineering and final pricing of all recommended measures will be required prior to implementation.

NWTC visited three buildings, which were partially selected based on ability to complete an energy analysis within one semester. The three buildings were Fire Station #2, Fire Station #4, and Fire Station #5. The analysis included estimation of first costs, calculation of potential savings, and calculation of payback period.

Solar Analysis

The project team identified solar opportunities by reviewing energy use profiles and roof space available by building. The team started by reviewing each main facility's roof via Google satellite and identifying which buildings had adequate roof space, little to no shading, and an ideal orientation. The team also reviewed which buildings had a solar assessment completely recently. After this initial review, the team selected 2 buildings for an onsite assessment by NWTC and another 13 buildings that would be analyzed using satellite images.

The satellite images or onsite review provided details on the amount of roof or ground space available, the direction the array could face and the degree tilt. South-facing arrays generally offer the most cost-effective opportunities for installing solar arrays, followed by east or west facing arrays. The degree tilt represents how angled the panels are on the roof. On average, matching the degrees of tilt for the panels to the degrees latitude of the solar array will produce the most electricity. If a building's roof is not tilted at this angle, panel mounting can apply a tilt; however, the tilt must be balanced against shading effects created between rows of panels.

For the 13 buildings analyzed by Slipstream, the amount of space available was combined with monthly energy data and utility bill rates and entered into a technoeconomic tool, ReOpt, to find the most cost-effective solution. ReOpt uses the building's energy loads, utility rate, space available, orientation and tilt, and optimizes the sizing of solar PV. It also provides the potential energy and cost savings across the year. The onsite assessments followed a similar methodology using building inputs to find the optimal solar size and resulting energy production and cost savings.

The analysis uses the net metering limit of 20 kW dC to determine cost savings. This is the current limit set by Wisconsin Public Service and any solar installation below this size receives the full utility retail rate (the same as what is paid) for any overproduction of solar that is sent back to the grid. Any solar size above 20 kW dC receives the wholesale rate (or buyback) for any overproduction of solar. The buyback rate is lower than the retail rate and changes yearly. Both rates are only applicable when the amount of solar produced at a certain time is higher than the building's consumption. The remainder of the time the solar array is saving money as no energy must be purchased from the grid.

Other assumptions include:

- The lifetime of the system is 25 years. This is a conservative estimate with estimates ranging from 25 to 50 years.
- The upfront cost of the system is \$2,500/kW for systems below 50 kW, \$2,200/kW for systems between 50 and 100 kW and around \$2,000 for systems larger than 100 kW.
- Roof loading and electrical panel space needs to be verified by a trained design professional.
- Operations and maintenance costs are low per year. Inverters need to be replaced at year 15.

For each building, we present main inputs and the sizing, cost, and environmental impacts. Table 8 includes a definition for each output shared for the buildings.

Table 8. Solar analysis output definitions

Output	Definition
System Size	Total solar photovoltaics size in kW DC.
Payback (years)	Calculated as total upfront cost (after incentives) divided by first year cost savings.
Percent Renewable Electricity	Total electricity produced divided by total energy consumption
Lifetime CO ₂ Savings (metric tons)	Avoided grid electricity use multiplied by a grid hourly emissions factor
Lifetime Energy Savings	Total energy bill savings over the lifetime of the solar panels (25-years).
Total Upfront Cost	Total initial upfront cost (\$2500/kW multiplied by system size)
Focus on Energy Incentives	Focus on Energy Business rebates ⁴⁴
IRA Tax Credit	30% direct pay through Inflation Reduction Act.
Net Cost	Total initial upfront cost minus rebates and tax incentives

Fleet Analysis

The methodology used to analyze current vehicle performance and prepare recommendations for fleet vehicle replacements is described below:

⁴⁴ Solar rebates are here: <https://assets.focusonenergy.com/production/inline-files/2023/RR-Solar-PV-APL.pdf>

1. Calculated key performance indicators (KPIs) for existing municipal fleet vehicles.
 - Collected data showing the number of gallons and cost of fuel purchased for each vehicle, as well as the fuel type (gasoline, diesel, or other) during a 12-month period.
 - Collected data showing the number of miles driven by each vehicle during the same 12-month period.
 - Applied data for fuel use, fuel type, and miles driven to calculate the pounds of CO₂ emitted by each vehicle.
 - All City-owned vehicles were assigned to one of fourteen categories: Small Car, Mid-size Car, Large Car, Compact Pickup, Full-size Pickup, Heavy-duty Pickup, Small SUV, Mid-size SUV, Full-size SUV, Hybrid SUV, Passenger Van, Work Van, Large Truck, and “Other.” [Other includes on-road and off-road equipment, such as lawnmowers, street sweepers, and tractors.]
 - Calculated the annual fuel use, fuel cost, miles driven, and CO₂ emissions for all City vehicles, then segmented each metric for each vehicle category.
2. Surveyed the market to identify all commercially-available EVs and plug-in hybrid electric vehicles (PHEVs) for the categories of vehicles found in the City’s fleet. Also evaluated options for other alternative fuel vehicles, such as LP and hydrogen-fueled buses.
 - Limited findings to eliminate vehicles that are not yet in production or had limited market share, making them difficult for the City to obtain.
 - Based on market trajectories, alignment with climate goals, and budget constraints limiting opportunities for future shifts in vehicle types, focused analysis and recommendations on EVs and PHEVs.
 - Within each vehicle category, identified a cost-effective EV option that met minimum driving range requirements and had a strong fuel economy (kWh/100 miles) rating to use for opportunity analysis.
 - Used the commercial clean vehicle tax credit qualified manufacturer list to reduce the assumed cost of each EV by the value of any federal tax credit⁴⁵ for which it may be eligible.
3. Surveyed the market to identify a leading gasoline or diesel-powered vehicle in each existing vehicle category in the City fleet that the City would be likely to consider for purchase during its normal vehicle retirement and replacement process. Identified cost and fuel economy metrics for each selected vehicle.
4. Used previous gasoline, diesel, and electricity costs to calculate the cost of fuel used to drive one mile by the selected EV in comparison to the cost of gasoline or diesel needed to fuel a new conventional vehicle in the same category.
5. Applied research by Consumer Reports⁴⁶ to estimate the average per mile maintenance costs for EVs and gasoline or diesel-powered vehicles.
6. Calculated the potential cost savings per mile [fuel cost + maintenance cost] that the City could obtain by purchasing an EV in place of a gasoline or diesel vehicle. If the net purchase cost of the EV exceeded the cost of the gasoline or diesel vehicle, calculated the number of miles after which the per mile cost savings from driving the EV would surpass the incrementally higher purchase cost of the EV.
7. Met with relevant city staff to discuss recommendations and understand driving patterns and potential for charging infrastructure additions.

⁴⁵ Municipalities have access to certain Federal tax credits through a direct pay provision in the Inflation Reduction Act.

⁴⁶ Harto, C. *Electric Vehicle Ownership Costs: Chapter 2 – Maintenance*. Consumer Reports. September, 2020. (<https://advocacy.consumerreports.org/wp-content/uploads/2020/09/Maintenance-Cost-White-Paper-9.24.20-1.pdf>)

Charging Infrastructure

Level 2 charging stations require 240V electric service and can fully charge a light-duty vehicle in 4-10 hours, depending on the battery capacity of the vehicle. Level 1 chargers use standard 120V electric service, but are unable to fully recharge a battery overnight, while Level 3 chargers can fully recharge a vehicle in less than 30 minutes but are much more expensive than Level 2 chargers. Table 9 summarizes the three levels of EV charging stations.

The costs listed in Table 9 show typical ranges for the combined cost of the station hardware, electrical upgrades and electrician labor to install each EV charging port. The hardware cost for Level 2 charging stations is modest; however, installing conduit between existing electrical panels and the location of the charging station and upgrading electrical service (if necessary) can add complexity and expense to installing the stations. Due to the wide variation in the costs of installing the high voltage electrical service required for Level 3 stations, the cost listed for Level 3 stations only represents the material expenses.

Table 9. EV charging station types and costs

Charger type	Range Miles per charging hour	Uses	Installed cost per port (est.)
Level 1 (120V AC)	~5	Home charging	~\$1,200 - \$1,500
Level 2 (240V AC)	~25	Home, workplace, and public charging (most common)	~\$1,500 - \$4,200
Level 3 (DC)	200+	Public charging; transportation corridors	~\$20,000 - \$150,000 (Hardware only)

Department of Public Works

Baseline Data

Figure 14 illustrates the relative CO₂ emissions and cost impact across DPW fleet and buildings. (buildings in shades of orange and fleet in green). Fleet is the largest contributor, reflecting the garbage trucks and heavy equipment DPW uses.

Figure 14. Annual CO₂ emissions and cost impacts of DPW buildings and fleet (2021 data)

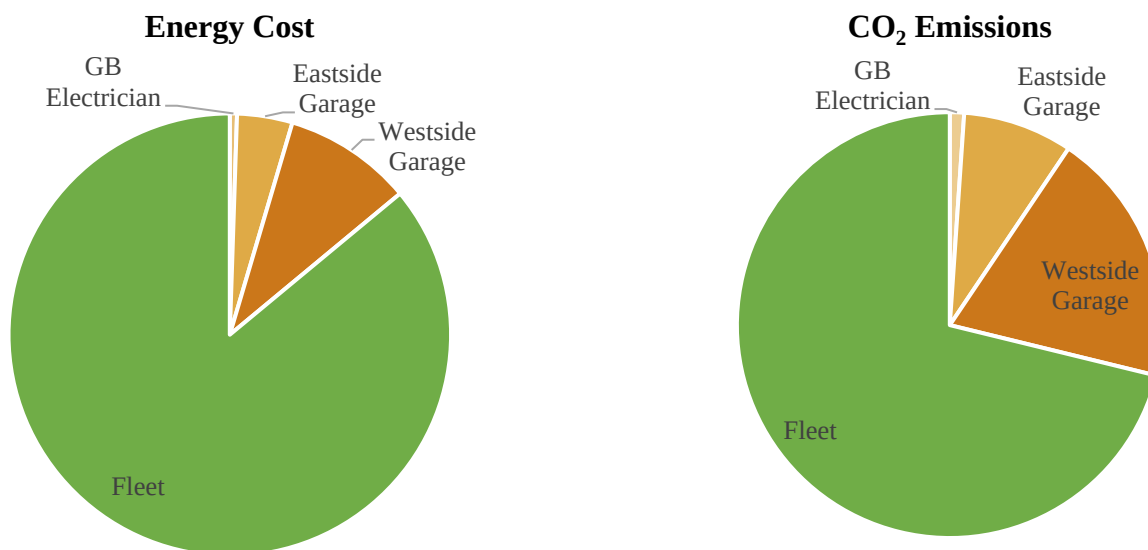
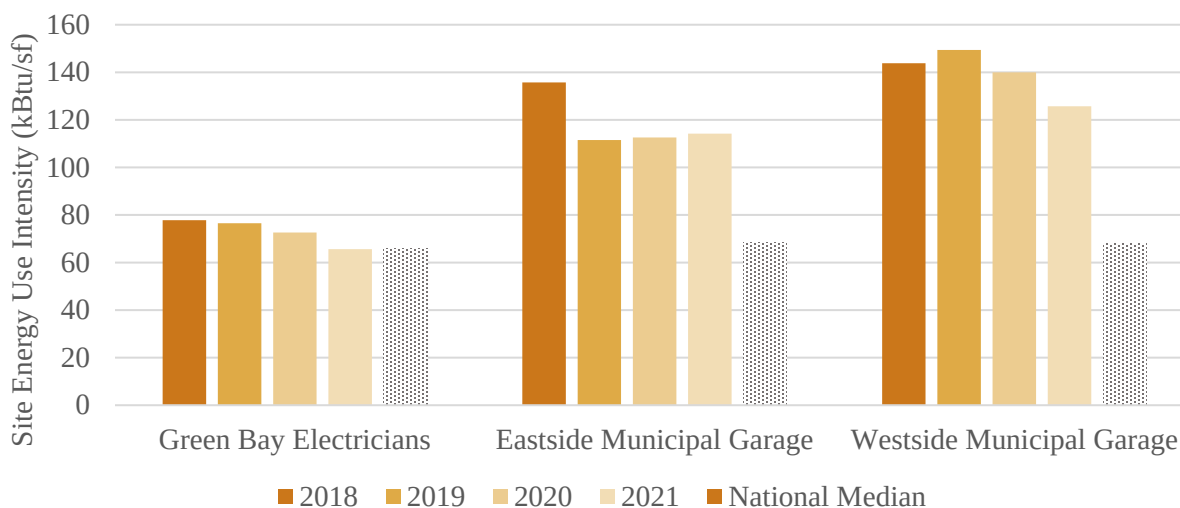


Figure 15 illustrates the EUI of the Department of Public Works buildings over time and compared to the median EUI of similar buildings (age, building type, and characteristics) in the climate zone. Both garages show a higher EUI compared to the median EUI while the Green Bay Electricians building shows a similar EUI to the median EUI. All three buildings also show improvements over time in EUI, which likely reflects the gradual upgrades to LED lighting and other efficiency improvements. All three buildings should continue to identify opportunities for energy savings and focus on lowering EUI over time. The building section provides an overview of energy saving opportunities for the Westside Garage, which likely directly translate to opportunities for the other two buildings.

Figure 15. Department of Public Works EUI over time and compared to the climate-zone median EUI



Buildings

Westside Garage

Size: 78,400 ft²

Existing heating and cooling system: Steam radiators; offices cooled by direct expansion rooftop units

Electricity Use: ~375,000 kWh/yr

Natural Gas Use: ~75,000 therms/yr

Weather-normalized Site EUI: 126 kBtu/square foot/yr. Above regional median for comparable buildings.



The municipal garage, constructed in 1952 with additions in 1983 and 1987, houses maintenance facilities for municipal vehicles and administrative offices. An old heating system and shop equipment, including welding equipment and an extensive compressed air system, contribute to high energy use in the building.

Table 10 details the recommended measures and associated costs and savings. The measures are organized by high priority and medium priority. The high priority measures are items with short payback periods, significant savings, or important comfort upgrades. Medium priority are upgrades with higher payback periods or lower savings.

Table 10. Westside Garage recommended energy efficiency measures

Improvement measure	Priority		First Cost	Annual Utility Cost Savings		Simple Payback	Annual Energy Savings		Annual CO ₂ Savings	
				\$	(%)		Electric Savings (%)	Gas Savings (%)	Tons CO ₂	%
Maintenance Refresh	●	High	\$0	\$2,100	2%	-	2%	2%	14.0	2%
Install LED bulbs	●	High	\$14,200	\$5,900	6%	2	15%	-2%	32.2	5%
Install notched v-belts	●	High	\$900	\$600	1%	2	2%	0%	3.1	0%
Multiple Retro Commissioning Measures	●	Med	\$21,200	\$5,200	5%	4	5%	5%	35.0	5%
Garage door install/ upgrade weather sealing	●	Med	\$3,700	\$500	0%	8	0%	1%	3.5	1%
Total Savings - High & Medium Priority		-	\$40,000	\$14,300	14%	-	24%	5%	88.7	13%

High Priority: Maintenance refresh

Next Step: Implement any steps that can be done by facilities staff

The Westside Garage staff mentioned that they have annual maintenance be done on HVAC equipment. We recommend this basic maintenance refresh continue to be done. Additionally, every few years, a more in-depth assessment of weatherstripping and other sealing in the building could be done to verify there are not leaky areas in the building.

High Priority: Install LED lighting

Next Step: Receive quote for integrated replacement; discuss with Focus on Energy representative to understand potential rebates for LEDs and controls.⁴⁷

Although building lighting has been partially converted to LEDs, we recommend prioritizing converting the remaining fixtures. This is a cost-effective way to gain substantial electricity savings.

High Priority: Install notched V-belts

Next Step: Determine the appropriate sizes of notched v-belt replacements and order from a supplier.

⁴⁷ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

Notched (also known as “cogged”) v-belts transmit power from the motor to the driveshaft more efficiently and reduce waste heat and wear, extending the life of the belt. Notched v-belts are widely available from hardware and industrial suppliers.

Medium Priority: Multiple retrocommissioning measures

Next Step: Focus on Energy provides incentives and a list of qualified contractors for retrocommissioning or building tune-ups. Contact them to understand potential programs and enroll.⁴⁸

Staff mentioned having issues with how long the building takes to heat up in the morning. In the assessment, we also noticed that the BAS system did not have any trends set for the building. A retrocommissioning study at the building could help alleviate any comfort concerns while also identifying potential savings from adjustments to current controls. This is a moderate cost for improvements. As the garage plans its boiler replacements in the next few years, that would be a great time to make sure the BAS system is working in an optimal way. As part of this, the building may also need to upgrade to Direct Digital Control (DDC) devices. DDC devices for thermostats and rooftop units are more reliable than older pneumatic controls and permit an operator to implement advanced control schemes such as thermostat scheduling, static pressure reset, and Demand-Controlled Ventilation (DCV).

Medium Priority: Garage door weather sealing

Next Step: Purchase and install spring-loaded garage door hinges. Focus on Energy provides an incentive.⁴⁹

We recommend installing spring-loaded garage door hinges to reduce air leakage around the overhead doors in the garage. The hinges fit most commercial doors and reduce the gaps between the wall and door to reduce air leakage.

Compressed air measures

Next Steps: Create an inventory of all uses for compressed air and determine whether some uses can be accomplished with alternatives such as low-pressure blowers.

Although not modeled, we recommend reviewing compressed air sources and determining need for each. Compressed air systems consume very large amounts of electricity. Often, only 10-15% of the electricity consumed ends up as useful energy at the end use. The Department of Energy provides numerous resources for saving energy in various types and sizes of compressed air systems.⁵⁰

⁴⁸ Information on retrocommissioning available here: <https://focusonenergy.com/business/building-optimization>

⁴⁹ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

⁵⁰ <https://www.energy.gov/eere/iedo/compressed-air-systems>

Solar

Eastside Garage



Utility rates: Flat rate of \$0.1238/kWh; no demand charge.

Wholesale (buyback) energy rate: \$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: South facing at 10-degree tilt

Annual energy use: ~160,000 kWh

Solar Cost: \$2,200/kW

Table 11 presents the optimized solution for solar on Eastside Garage. NWTC completed this analysis.

Table 11. Recommended solar array for Eastside Garage

Metric	System Information
System Size (kW DC)	86
Payback (years)	10.0
Percent Renewable Electricity	63%
Lifetime CO ₂ Savings (MT)	1,921
Lifetime Energy Savings	\$303,000
Total Upfront Cost	\$189,200
Focus on Energy Incentives	(\$11,250)
IRA Tax Credit	(\$56,760)
Net Cost	\$121,190

Green Bay Electricians



Utility rates: Flat rate of \$0.1238/kWh; no demand charge.

Wholesale (buyback) energy rate: \$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: South facing at 10-degree tilt

Annual energy use: ~28,000 kWh

Solar Cost: \$2,500/kW

Table 12 presents the optimized option for solar on Green Bay Electricians. NWTC completed this analysis.

Table 12. Recommended solar array for Green Bay Electricians

Metric	System Information
System Size (kW DC)	20
Payback (years)	11.1
Percent Renewable Electricity	84%
Lifetime CO ₂ Savings (MT)	456
Lifetime Energy Savings	\$72,000
Total Upfront Cost	\$50,000
Focus on Energy Incentives	(\$3,000)
IRA Tax Credit	(\$15,000)
Net Cost	\$32,000

Westside Garage



Available roof space: 18,450 square feet available

Utility rates: Flat rate of \$0.1238/kWh; no demand charge.

Wholesale (buyback) energy rate: \$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: Southeast facing at 20-degree tilt

Annual energy use: ~375,000 kWh

Solar Cost: \$2,000/kW

Table 13 presents the optimized option for solar on Westside Garage. As needed, DPW should consider phased installations if the upfront cost for the total amount is too high to install all at once. Phased installations can balance single-year budget constraints and end in a final array that maximizes the solar size and CO₂ reductions.

Table 13. Recommended solar array for Westside Garage

Metric	System Information
System Size (kW DC)	184
Payback (years)	10.0
Percent Renewable Electricity	59%
Lifetime CO ₂ Savings (MT)	3,576
Lifetime Energy Savings	\$585,890
Total Upfront Cost	\$369,260
Focus on Energy Incentives	(\$23,580)
IRA Tax Credit	(\$110,780)
Net Cost	\$234,900

Fleet

The Department of Public Works (DPW) operates roughly 185 vehicles and pieces of equipment to maintain the City's streets, lands, and sidewalks. The combined annual cost of fuel for these vehicles is nearly \$1 million and fuel combusted to power the vehicles emits over 2,390 metric tons of CO₂ per year. The vehicle types include SUVs, work vans, full-size pickups, heavy-duty pickups, large and small trucks, and other equipment.

Figure 16 illustrates the fuel impact of each vehicle type for the DPW fleet. The fuel impact translates directly into cost and CO₂ baseline numbers, so the percentages are representative of the impact across vehicle types for both fuel cost and CO₂ emissions. The vehicle types in blue (SUVs, full-size pickups, and work vans) are the vehicle types with identified EV alternatives. At this point, there are not cost-competitive alternatives for the majority of DPW vehicles.

Figure 16. DPW Fuel impact by vehicle category (2021 data)

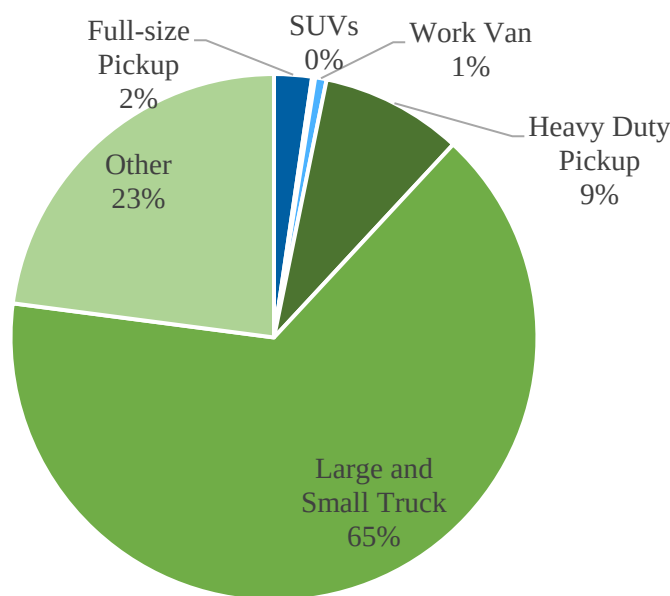


Table 14 shows miles per gallon fuel economy for each vehicle type in the current DPW fleet.

Table 14. DPW fleet miles per gallon by vehicle category

Vehicle category	Avg. MPG
Full-size Pickup	11.6
Small SUV	19.1
Hybrid SUV	26.6
Work Van	9.2
Heavy Duty Pickup	6.5
Large and Small Truck	2.6

Table 15 shows examples of current DPW vehicles in each light duty category, as well as examples of alternative electric models. The new gasoline vehicle benchmark indicates the approximate cost and fuel efficiency rating for a new conventional vehicle in the same category. The EV incremental cost is the difference between the cost of the new conventional vehicle and the cost of the corresponding EV. It includes the expected reduction in cost from the Commercial Clean Vehicle Tax Credit (up to \$7,500), which the Inflation Reduction made available to local governments, for each vehicle.⁵¹ The cost savings per mile is the reduced per mile cost of fueling and maintaining the EV instead of the conventional vehicle. Miles for financial payback indicates the

⁵¹ The value of any available Federal tax credits are applied to the EV MSRP to calculate the EV incremental cost.

number of miles after which the cumulative benefit of the lower cost of driving the EV would surpass the higher cost (if any) of purchasing the EV.

Table 15. DPW EV alternative analysis

Category	Current Vehicle	New gasoline vehicle benchmark		Ex. EV Alternative	EV Incremental Cost	Cost Savings/Mile	Miles for Financial Payback
Full-size Pickup	Chevrolet Silverado	20 mpg	\$41,800	Ford Lightning	\$8,600	\$0.123	70,000
Small SUV	Chevrolet Equinox	29 mpg	\$32,428	Hyundai Kona	\$2,500	\$0.102	24,000
Hybrid SUV	Toyota RAV4	40 mpg	\$34,878	Hyundai Kona	\$0	\$0.073	0
Work Van	Ford Transit	25 mpg	\$44,455	Ford E-Transit	\$3,600	\$0.095	38,000

Some work vans in DPW's fleet are 10 or more years old and may be ready for replacement in the near term. The department also has older full-size pickup trucks that it may consider replacing. The City may most cost-effectively add EVs to its fleet by adding vehicles through regular replacement cycles. Therefore, we recommend that DPW start its transition to EVs by replacing one or two existing work vans and one full-size pickup truck with alternative electric models. As other vehicles reach replacement age, we recommend transitioning them to EVs as well. EV replacements of these vehicles will save over 50% of total operating costs (fuel and maintenance costs) and over 20% of CO₂ emissions per vehicle.

Table 16 shows the potential savings from replacing all DPW vehicles in the applicable categories with electric models. Currently, there are not cost-effective electric models for most medium- and heavy-duty vehicle types, which are used by the department. As EV technology and the EV market continue to progress, we anticipate that cost-competitive electric vehicle options will emerge soon for additional vehicle categories. We recommend that the City continue to monitor the market to identify new EV opportunities.

Additionally, as the City transitions to using a higher percent renewable electricity, these emissions savings will continue to increase for each vehicle.

Table 16. Estimated DPW annual savings for full light-duty EV transition

Vehicle category	Operating Cost Savings	CO ₂ Emissions Savings (metric tons)
Full Size Pickup	\$9,300	10.7
Small SUV	\$440	0.6
Hybrid SUV	\$580	0.4
Work Van	\$1,743	1.3
Total	\$12,065	13.0

DPW will need to install an adequate number of level 2 charging stations to support the three EVs in the pilot phase and eventually a more large-scale transition to EVs. (background information on EV charger costs is included in the section, Charging Infrastructure).

Based on the number of miles driven annually by most light-duty DPW vehicles, the City should start by installing 1-2 charging ports at either the East or West DPW building (depending on where it will park the EVs overnight) to support the first few EVs it purchases. As DPW adds charging infrastructure for initial vehicles, we recommend:

- Assess total future electrical service needs when upgrading for new vehicle charging stations. When planning for any electrical service upgrades or laying of new conduit, assess the total potential number

of EVs that may be stationed at the location and the corresponding associated number of charging stations needed. The department can support long-term cost savings by including future needs in current upgrade plans.

- Consider how many vehicles a single charger can support. In the DPW's fleet, the average daily miles driven for vehicles recommended for replacement suggests that EV alternatives may not require daily charging,⁵² thus allowing one level 2 charging station to support two or three EVs, if the charging schedules for the vehicles can be staggered.
- Assign vehicle parking locations to enable charging. Installing charging stations inside garage areas or near building exteriors is likely to require DPW to add the least conduit to connect the stations to the electrical panel. We recommend that DPW reserve locations in garages or near buildings where it will park EVs and that it establishes a policy that prohibits non-EVs from parking in these spots.

⁵² Statement is based on a finding that the average miles driven per workday for most City vehicles is less than half of the advertised driving range between charges for typical EV models.

Parks, Recreation, and Forestry Department

Baseline Data

Figure 17 illustrates the relative CO₂ emissions and cost impact across Parks, Recreation, and Forestry fleet and buildings (buildings in shades of orange and fleet in green). The Wildlife Sanctuary buildings are shown together. The Nature Building, Observation Building, and Woodland Building contribute 45%, 30%, and 25% of the total impact, respectively. Triangle Parks is not included in the graphs as the impact is less than 1%.

Figure 17. Annual CO₂ emissions and cost impacts of Parks, Recreation, and Forestry buildings and fleet (2021 data)

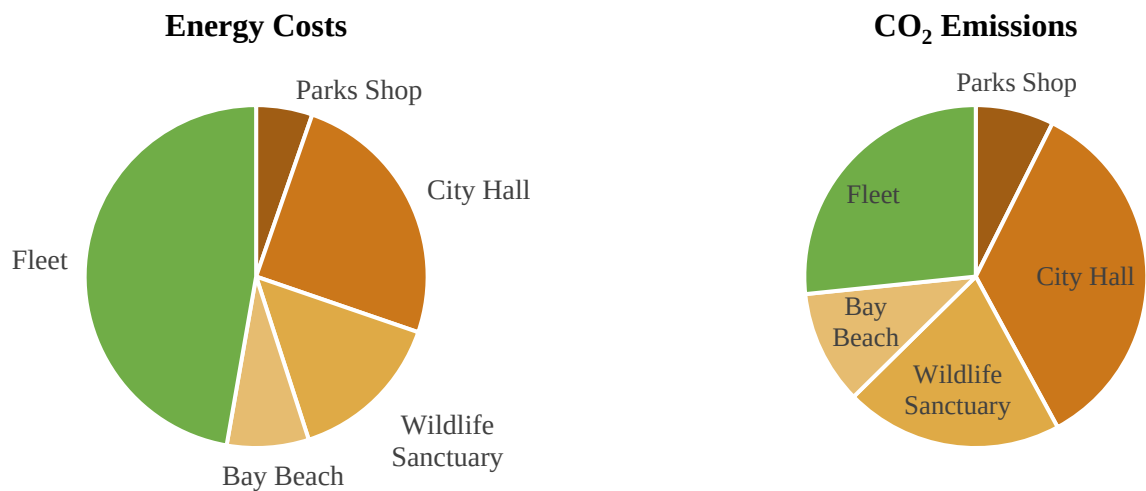
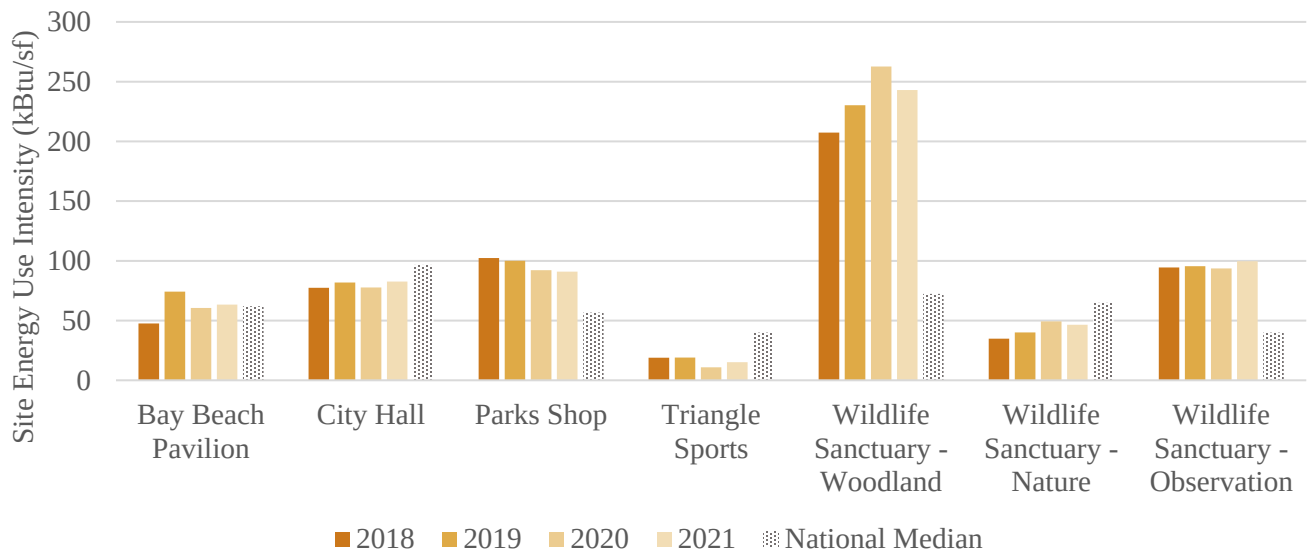


Figure 18 illustrates the EUI of the buildings over time and compared to the median EUI of similar buildings (age, building type, and characteristics) in the climate zone. City Hall, Triangle Sports, and the Nature Building perform better than the median EUI while Bay Beach Pavilion is about equivalent, and the Parks Shop, the Observation Building and Woodland Building perform worse.

City Hall’s performance likely reflects the improvements identified from audits in previous years while Triangle Sports’ EUI likely reflects the low relative use. Due to previous audits on City Hall, the relatively low overall energy impact on the City’s overall energy profile, or low hours of use, the project team did not conduct any in-depth energy analysis for these buildings.

Figure 18. Parks, Recreation, and Forestry Department building EUI over time and compared to climate-zone median



Solar

The solar analysis excluded Triangle Sports and the Wildlife Sanctuary buildings due to the significant shading on each of the buildings. City Hall was analyzed but ultimately removed from the recommendations as the roof has a significant amount of equipment limiting the space available for solar and the electric rate structure lead to a high payback period.

Westside Parks



Available roof space: 7,200 square feet available

Utility rates: Flat rate of \$0.1238/kWh; no demand charge.

Wholesale (buyback) energy rate: \$0.0472 in off-peak;
\$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: Southeast facing at 20-degree tilt

Annual energy use: ~135,000 kWh

Solar Cost: \$2,200/kW

Table 17 presents the optimized option for solar on the Westside Parks building.

Table 17. Westside Parks recommended solar array

Metric	System Information
System Size (kW DC)	72
Payback (years)	12.8
Percent Renewable Electricity	64%
Lifetime CO ₂ Savings (MT)	1,395
Lifetime Energy Savings	\$197,630
Total Upfront Cost	\$158,400
Focus on Energy Incentives	(\$9,500)
IRA Tax Credit	(\$47,520)
Net Cost	\$101,380

Bay Beach Train Storage



Available roof space: 18,450 square feet available

Utility rates: Flat rate of \$0.1238/kWh; no demand charge.

Wholesale (buyback) energy rate: \$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: Southwest facing at 25-degree tilt

Annual energy use: ~58,780 kWh

Solar Cost: \$2,500/kW

Table 18 presents one option for solar on the Bay Beach Train Storage. This analysis uses information from a previous site assessment done by a third-party solar developer and was updated to reflect current incentives.

Table 18. Bay Beach Train Storage recommended solar array

Metric	System Information
System Size (kW DC)	20
Payback (years)	11.2
Percent Renewable Electricity	44%
Lifetime CO ₂ Savings (MT)	495
Lifetime Energy Savings	\$71,595
Total Upfront Cost	\$50,000
Focus on Energy Incentives	(\$3,000)
IRA Tax Credit	(\$15,000)
Net Cost	\$32,000

Fleet

The Parks, Recreation, and Forestry Department operates roughly 125 vehicles and pieces of equipment to maintain the City's parks and lands, as well as the Bay Beach amusement park. The combined annual cost for fuel for these vehicles is approximately \$175,000 and fuel combusted to power the vehicles emits over 418 metric tons of CO₂ per year. The vehicle types include mid-size cars, small SUVs, work vans, full-size pickups, heavy-duty pickups, large trucks, and other equipment.

Figure 19 illustrates the fuel impact of each vehicle type for the Parks, Recreation, and Forestry fleet. The fuel impact translates directly into cost and CO₂ baseline numbers, so the percentages are representative of the impact across vehicle types for both fuel cost and CO₂ emissions. The vehicle types in blue (cars, SUVs, full-size pickups, and work vans) are the vehicle types with identified EV alternatives. At this point, there are not cost-competitive alternatives for the heavy-duty trucks. There are EV alternatives for some other equipment, such as lawnmowers, while other pieces of equipment have limited to no alternatives. However, most have limited battery capacity and create a potential barrier when trying to use the equipment for a full work day.

Figure 19. Department of Parks, Recreation and Forestry Department fuel impact by vehicle type (2021 data)

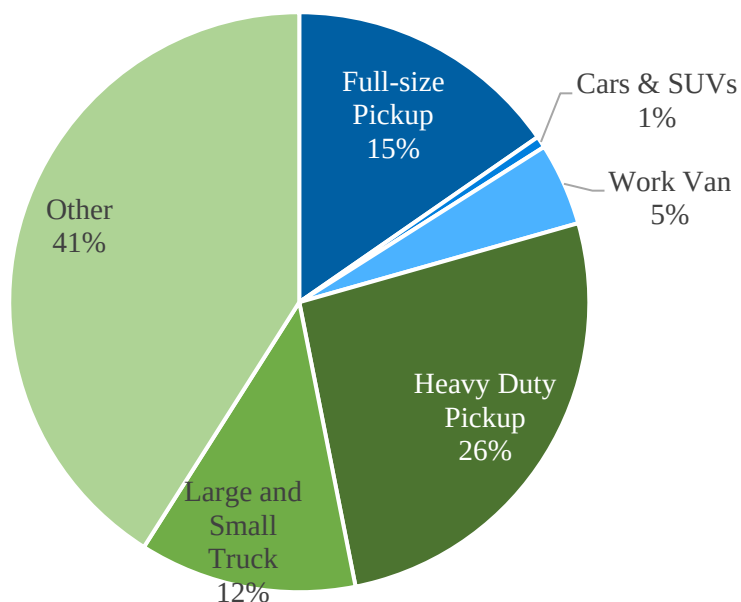


Table 19 shows current miles per gallon for each vehicle type in the current Parks, Recreation, and Forestry fleet.

Table 19. Parks, Recreation, and Forestry fleet miles per gallon by vehicle category

Vehicle category	Avg. MPG
Mid-Size Car	14.6
Full-size Pickup	11.5
Small SUV	25.6
Work Van	10.9
Heavy Duty Pickup	9.6
Large Truck	7.7

Table 20 shows examples of current Parks, Recreation, and Forestry vehicles in each light duty category, as well as examples of alternative electric models. The new gasoline vehicle benchmark lists the approximate cost and fuel efficiency rating for a new conventional vehicle in the same category. The EV incremental cost is the

difference between the cost of the new conventional vehicle and the cost of the corresponding EV. It includes the expected reduction in cost from Inflation Reduction Act credits (up to \$7,500) for each vehicle.⁵³ The cost savings per mile is the reduced per mile cost of fueling and maintaining the EV instead of the conventional vehicle. Miles for financial payback indicates the number of miles and years after which the cumulative benefit of the lower cost of driving the EV would surpass the higher cost of purchasing the EV.

Table 20. Department of Parks, Recreation, and Forestry EV alternative analysis

Category	Current Vehicle	New gasoline vehicle benchmark		Ex. EV Alternative	EV Incremental Cost	Cost Savings/Mile	Miles for Financial Payback
Mid-size Car	Ford Focus	34.5 mpg	\$24,500	Chevrolet Bolt EV	\$0	\$0.084	0
Full-size Pickup	Chevrolet Silverado	20 mpg	\$41,800	Ford Lightning	\$8,600	\$0.123	70,000
Small SUV	Jeep Cherokee	29 mpg	\$32,428	Hyundai Kona	\$2,500	\$0.102	24,000
Work Van	Ford E150	25 mpg	\$44,455	Ford E-Transit	\$3,600	\$0.095	38,000

Multiple work vans and full-size pickup trucks in the department's fleet are 10 or more years old and may be ready for replacement in the near term. At least one of the department's SUVs may also be nearing replacement. The City may most cost-effectively add EVs to its fleet by adding vehicles through regular replacement cycles. Therefore, we recommend that the Department of Parks, Recreation, and Forestry start its transition to EVs by replacing 1-2 existing work vans and 1-2 full-size pickup trucks with alternative electric models. As other vehicles reach replacement age, we recommend transitioning them to EVs as well. Replacement of the vehicles could lead to over 50% savings in operating costs (fuel and maintenance) and between 20% and 30% savings in CO₂ emissions per vehicle.

Table 21 shows the potential savings from replacing all of the department's vehicles in the applicable categories with electric models. Currently, there are not cost-effective electric models for most medium- and heavy-duty vehicle types, which are used by the department. As EV technology and the EV market continue to progress, we anticipate that cost-competitive electric vehicle options will emerge soon for additional vehicle categories. We recommend that the City continue to monitor the EV market to identify new EV opportunities.

Additionally, as the City transitions to using a higher percent renewable electricity, these emissions savings will continue to increase for each vehicle.

Table 21. Estimated Department of Parks, Recreation, and Forestry annual savings for full light duty EV adoption

Vehicle category	Operating Cost Savings	Emissions Savings (MT CO ₂)
Full Size Pickup	\$10,635	12.2
Work Van	\$4,027	3.1
Small SUV	\$683	0.9
Mid-size car	\$68	0.1
Total	\$15,413	16.3

The department will need to install an adequate number of level 2 charging stations to support the EVs in the pilot phase and eventual transition to more EVs. (Background information on types of EV chargers and costs is included in the Charging Infrastructure section.)

⁵³ The value of any available Federal tax credits are applied to the EV MSRP to calculate the EV incremental cost.

Because of the limited number of EVs that will be purchased for the pilot, we recommend selecting vehicles so that at least two EVs will be regularly parked overnight at the same facility, such as at the Parks Shop. In this way, the department can provide charging capacity for the vehicles while avoiding the cost of installing EV charging systems at all locations until the EV transition has progressed further. The vehicles that are recommended for replacement with EVs during the pilot have low annual mileage, suggesting that they are typically driven fewer than 30 miles per day. Most current light duty EVs advertise driving ranges of over 200 miles between charges. Therefore, we anticipate that the EVs the department purchases for the pilot may only require charging 1-2 times per week. As the department adds charging infrastructure for initial vehicles, we recommend:

- Assess total future electrical service needs when upgrading for new vehicle charging stations. When planning for any electrical service upgrades or laying of new conduit, assess the total potential number of EVs that may be stationed at the location and the corresponding number of charging stations needed. The Department of Parks, Recreation, and Forestry may choose to select vehicles for the pilot that will all be parked at the same location when off-duty so that it only needs to add charging stations at one location. As the department prepares to install charging stations at the pilot location, it can support long-term cost savings by including future charging needs in current electrical upgrade plans.
- Consider how many vehicles a single charger can support. The average daily miles driven for vehicles recommended for replacement suggests that EV alternatives may not require daily charging, thus allowing one level 2 charging station to support two or three EVs. Decisions on number of EV chargers should consider anticipated daily mileage for the initial group of EVs, the number and daily mileage of EVs that the department is likely to add, and any potential for vehicles to require more frequent charging during periods of high use.
- Assign vehicle parking locations to enable charging. Installing charging stations inside garage areas or near building exteriors is likely to require the Department of Parks, Recreation, and Forestry to add the least conduit to connect the stations to the electrical panel. We recommend that the department reserve locations in garages or near buildings where it will park EVs and establish a policy that prohibits non-EVs from parking in these spots.

Police Department

Baseline Data

Figure 20 illustrates the relative CO₂ emissions and cost impact across Police fleet and buildings (buildings in shades of orange and fleet in green). Fleet is a large percent of total energy cost and CO₂ emissions due to daily patrol vehicle use.

Figure 20. Annual CO₂ emissions and cost impacts of Police buildings and fleet (2021 data)

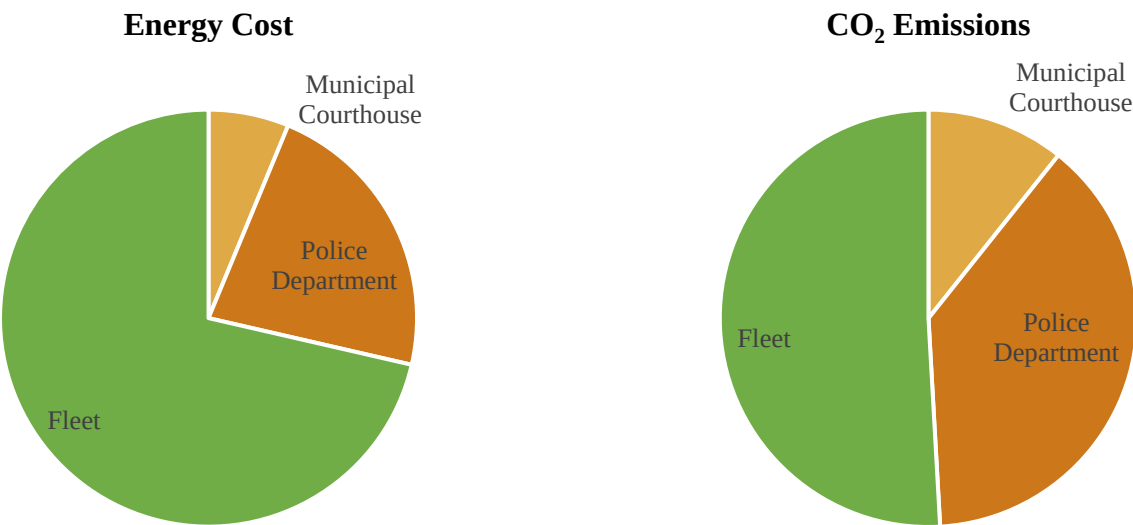
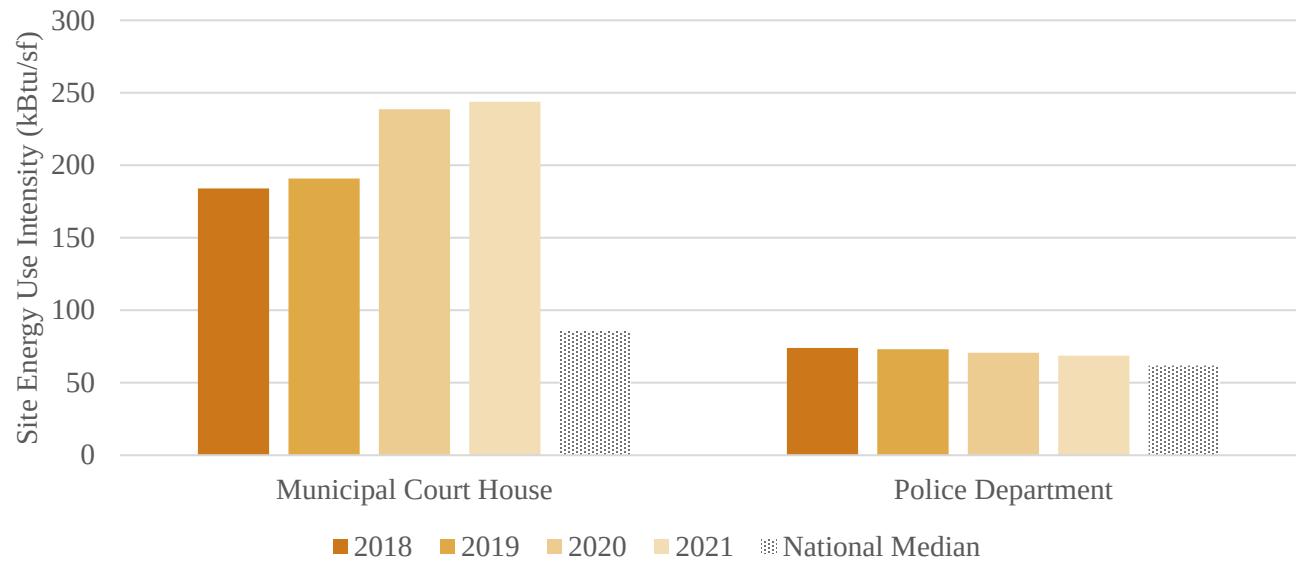


Figure 21 illustrates the EUI of the Police Department buildings over time and compared to the median EUI of similar buildings (age, building type, and characteristics) in the climate zone. The Police Station’s EUI is similar to the regional median while the Municipal Court House is significantly higher than the climate-zone median. We performed energy assessments at both buildings – the Municipal Court House was selected due to its higher-than-average EUI while the police station was prioritized as it is one of the largest City-owned buildings.

Figure 21. Police Department building EUI over time and compared to climate-zone median



Buildings

Police Station

Size: 68,600 ft²

Existing heating and cooling system: VAV system with hot water boilers and air-cooled chiller; garage heated by gas-fired unit heaters

Electricity Use: ~715,000 kWh/yr

Natural Gas Use: ~20,000 therms/yr

Weather-normalized Site EUI:

69 kBtu/square foot/yr. Similar to regional median for comparable buildings.



The police station was built in 1967 and has been remodeled several times, with the last remodel in 2010. The building had brand new boilers installed in recent years and has a relatively well-performing EUI. The building is open 24/7 and has opportunities for significant energy savings.

Table 22 details the recommended measures and associated costs and savings. The measures are organized by high priority and medium priority. The high priority measures are items with short payback periods, significant savings, or important comfort upgrades. Medium priority are upgrades with higher payback periods or lower savings. Gas savings are negative as the upgrade to LEDs will have a slightly negative impact on natural heating in the building and increase gas usage slightly.

Table 22. Police Station recommended measures

Improvement measure	Priority		First Cost	Annual Utility Cost Savings		Simple Payback	Annual Energy Savings		Annual CO ₂ Savings	
				\$	(%)		Electric Savings (%)	Gas Savings (%)	Tons CO ₂ e	%
Maintenance Refresh	●	High	\$0	\$2,000	2%	-	2%	2%	12.0	2%
Install LED bulbs	●	High	\$24,700	\$17,700	17%	1	26%	-23%	97.8	16%
Plug load management	●	High	\$3,400	\$1,200	1%	3	2%	-1%	6.2	1%
Install notched v-belts	●	High	\$300	\$200	0%	2	0%	0%	0.8	0%
Multiple Retro Commissioning Measures	●	Med	\$18,600	\$4,400	4%	4	5%	1%	26.0	4%
Total Savings - High & Medium Priority			\$ 47,000	\$ 25,500	25%	-	30%	-21%	142.8	23%

High Priority: Install LED lighting and occupancy and daylight controls

Next Step: Receive quote for integrated replacement; discuss with Focus on Energy representative to understand potential rebates for LEDs and controls.⁵⁴

We recommend installation of LEDs, and consideration of installation of daylighting and additional occupancy controls. LEDs have a significant savings potential compared to fluorescent lights. Implementing daylighting and occupancy controls at the time of install can lead to additional savings and is the most cost-effective time to add controls.

High Priority: Install plug load controls for appliances

Next Step: Determine the type and number of advanced power strips needed and shop for discounted appropriate products in the online Focus on Energy Marketplace.⁵⁵

⁵⁴ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

⁵⁵ Focus on Energy Marketplace: <https://focusonenergymarketplace.com/power-strips.html>

We recommend installing advanced or “smart” power strips to reduce idle power consumption for electronic appliances. These eliminate “vampire loads” consumed by electronic devices when they are turned off but still plugged in by automatically deactivating the plug on the power strip. The police station has over 100 computers and over 200 monitors and TVs along with numerous vending machines, fridges, freezers, and smart boards. Throughout the walkthrough, many of these pieces of equipment were always on. The National Renewable Energy Laboratory has an infographic to help consumers select the right type of product for their needs.⁵⁶

High Priority: Maintenance refresh

Next Step: Implement any steps that can be done by facilities staff

We recommend a basic maintenance refresh be done every couple of years. It can be primarily by carried out by facilities staff or local contractors and have an immediate impact on energy consumption. Items include regularly changing furnace filters, testing and adjusting combustion air in furnaces and unit heaters, cleaning air conditioner cooling coils, ensuring that combustion air intakes and air conditioner condensers are not obstructed, and checking and replacing weatherstripping around doors, windows, and other exterior penetrations as needed.

High Priority: Install notched V-belts

Next Step: Determine the appropriate sizes of notched v-belt replacements and order from a supplier.

Notched (also known as “cogged”) v-belts have notches which allow the belt to bend around driveshaft sheaves more easily. This not only transmits power from the motor more efficiently but also reduces waste heat and wear, extending the life of the belt. Notched v-belts are widely available from hardware and industrial suppliers.

Medium Priority: Multiple retrocommissioning measures

Next Step: Focus on Energy provides incentives and a list of qualified contractors for retrocommissioning or building tune-ups. Contact them to understand potential programs and enroll.⁵⁷

During the assessment, it was noted that all sections of the building are used 24/7 and observed that the BAS system had very few trends set, or controls implemented. A retrocommissioning study at the building could help identify potential savings or ways to define occupancy by zone of the building. This is a moderate cost for potentially large energy improvements. As part of this, the building may also need to upgrade to Direct Digital Control (DDC) devices. DDC devices for thermostats and rooftop units are more reliable than older pneumatic controls and permit an operator to implement advanced control schemes such as thermostat scheduling, static pressure reset, and Demand-Controlled Ventilation (DCV).

Compressed air measures

Next Step: Create an inventory of all uses for compressed air and determine whether some uses can be accomplished with alternatives such as low-pressure blowers.

Although not modeled, we recommend reviewing compressed air sources and determining need for each. Compressed air systems consume very large amounts of electricity. Often, only 10-15% of the electricity consumed ends up as useful energy at the end use. The Department of Energy provides numerous resources for saving energy in various types and sizes of compressed air systems.⁵⁸

⁵⁶ <https://www.nrel.gov/docs/fy14osti/60461.pdf>

⁵⁷ Information on retrocommissioning available here: <https://focusonenergy.com/business/building-optimization>

⁵⁸ <https://www.energy.gov/eere/iedo/compressed-air-systems>

Courthouse

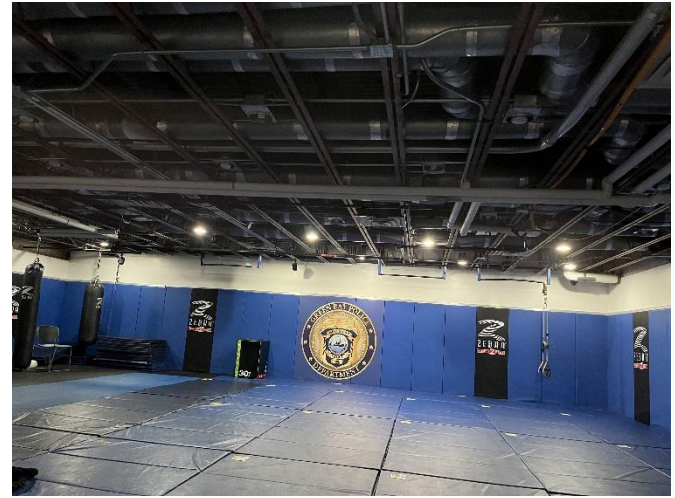
Size: 11,530 ft²

Existing heating and cooling system: VAV system with hot water boilers and air-cooled chiller; garage heated by gas-fired unit heaters

Electricity Use: ~170,000 kWh/yr

Natural Gas Use: ~9,500 therms/yr

Weather-normalized Site EUI: 243 kBtu/square foot/yr. Above regional median for comparable buildings.



The courthouse is a small one-story building with a basement. The basement is an exercise area for police while the first-floor functions as the courthouse. It was last renovated in 2000. The courthouse uses a high amount of energy for its size, almost triple the amount of a typical courthouse. Our walkthrough and energy analysis believes this is mostly due to the air handling unit controls, although there are other ways to reduce the amount of energy too.

Table 23 details the recommended measures and associated costs and savings. The measures are organized by high priority, end-of-life, and medium/low priority. The high priority measures are items with short payback periods, significant savings, or important comfort upgrades. Medium priority are upgrades with higher payback periods or lower savings. End-of-life measures are ones that should be done at equipment replacement, and do not have payback periods as the first cost should be compared to the upfront cost of the alternative option. Low priority measures are ones we modeled but do not recommend due to long payback periods.

Table 23. Municipal Courthouse recommended measures

Improvement measure		Priority	First Cost		Annual Utility Cost Savings		Simple Payback	Annual Energy Savings		Annual CO ₂ Savings	
			\$	\$	(%)	Years		Electric Savings (%)	Gas Savings (%)	Tons CO ₂	%
Implement new AHU schedules		High	\$0	\$6,400	23%	-		22%	25%	40.5	23%
Retro-Commissioning + Fan Controls		High	\$3,200	\$6,700	24%	Less than 1		26%	19%	42.1	24%
Thermostat setbacks		High	\$700	\$1,800	6%	Less than 1		3%	16%	12.2	7%
Update Boiler Controls		High	\$2,000	\$300	1%	7		0%	4%	2.1	1%
Maintenance Refresh		High	\$0	\$400	1%	-		1%	1%	2.3	1%
Install LED bulbs		High	\$4,200	\$2,900	10%	1		16%	-4%	16.1	9%
Refrigerant recharge		Med	\$1,000	\$100	0%	17		0%	0%	0.3	0%
Heat pump hot water heater		Med	\$2,900	\$400	1%	7		2%	-1%	2.1	1%
Lighting occupancy controls		Med	\$1,500	\$200	1%	11		1%	-1%	0.7	0%
Implement Demand Controlled Ventilation		Low	\$15,600	\$100	0%	226		0%	1%	0.4	0%
Efficient Air Conditioner		EOL	\$43,500	\$100	0%	-		0%	0%	0.4	0%
Roof Insulation Upgrade		EOL	\$9,400	\$400	1%	-		0%	4%	2.5	1%
Walls Insulation Upgrade		EOL	\$25,000	\$1,200	4%	-		1%	12%	8.3	5%
Total Priority Measures - EOL, High & Medium Priority			\$ 15,500	\$ 19,200	69%			72%	58%	118.4	67%

High Priority: Implement new air handling unit schedules

Next Step: Review building automation controls to implement a new air handling unit schedule to turn off the unit during unoccupied times.

We observed that the air handling is always on. This is partially due to police officers using the courthouse exercise area in the evening and night. However, the air handling unit uses a lot of energy, and reducing its operation to only occupied hours would reduce the building energy cost by 23%. To account for the times police officers use the exercise area, schedule the unit to be on when officers typically use it, install a manual switch that officers can use to turn on the unit at night, or implement an occupancy-sensor based ventilation system to turn on the unit when someone is in the space.

High Priority: Retrocommissioning and fan controls review

Next Step: Hire controls contractor to conduct a retro-commissioning (RCx) study and update the HVAC controls.

During the walkthrough, we observed the noise from the fan was very loud. The BAS also showed the fan speed was set to 100% despite most VAV boxes dampers being closed. It appears the fan may not be changing speeds, causing loud fan noise, and using a lot of energy. Having a controls contractor review control sequences, sensors, and equipment in a retro-commissioning study should resolve the fan issue and address other controls that may be contributing to the high gas and electricity use of the building. In addition, if variable frequency drives (VFDs) are not already on the air handling unit fans, consider adding them to better reduce fan speed.

High Priority: Thermostat setbacks

Next Step: Have staff review the BAS thermostat setbacks or hire a controls contractor to review them.

The BAS system showed that most spaces were set to an occupied temperature only. When the building is scheduled to be unoccupied, increase the thermostat setpoint by 5°F in the summer and decrease by 5°F in the winter. This will optimize air handling unit operation while ensuring the building does not get too hot in the summer or too cold in the winter. Implement a warm-up cycle in the morning to bring the building up to temperature when occupants arrive.

High Priority: Update boiler controls

Next Step: Hire a controls contractor to review the boiler control sequences and implement an outdoor air temperature reset schedule.

The courthouse has a 96% efficient condensing boiler, but boilers only get that efficiency if the hot water return temperature is below 140°F. The hot water return temperature was observed to be 176°F during the walkthrough. This is likely required in the coldest parts of the winter to heat the building, but not during all times of the year. Have a controls contractor implement a controls sequence to lower the hot water temperature when its warmer outside to improve operation of the high-efficient boiler.

High Priority: Maintenance refresh

Next Step: Implement any steps that can be done by facilities staff.

We recommend a basic maintenance refresh be done every couple of years. It can be primarily by carried out by facilities staff or local contractors and have an immediate impact on energy consumption. Items include regularly changing furnace filters, testing and adjusting combustion air in furnaces and unit heaters, cleaning air conditioner cooling coils, ensuring that combustion air intakes and air conditioner condensers are not obstructed, and checking and replacing weatherstripping around doors, windows, and exterior penetrations.

High Priority: Install LED lighting

Next Step: Receive quote for LED replacement; discuss with Focus on Energy representative to understand potential rebates for LEDs.⁵⁹

We recommend installation of LEDs. LEDs have a significant savings potential compared to fluorescent lights.

Medium Priority: Install a heat pump hot water heater

Next Step: Receive quote for a heat pump hot water heater.

The municipal courthouse uses an electric water heater for the shower and bathrooms in the building. A heat pump water heater has three times the efficiency of a typical electric hot water heater. This could be done at the

⁵⁹ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

end of the current water heater's life. However, the energy savings result in a 7-year payback before incorporating any incentives, which suggests it might be worth exploring early replacement.

Medium Priority: Recharge refrigerant of air-cooled condenser unit

Next Step: Hire contractor to recharge refrigerant.

The air-cooled condensing unit is 25 years old and may need a refrigerant recharge. Air conditioning equipment with a 15% drop in refrigerant charge can increase the cooling electricity by over 10%.

Medium Priority: Install lighting occupancy controls

Next Step: Receive quote for integrated replacement; discuss with Focus on Energy representative to understand potential rebates for controls.⁶⁰

The municipal courthouse already has some occupancy sensors and installing additional sensors would save even more energy. Consider implementing when installing LED fixtures to help save on the installation cost.

Low Priority: Implement Demand Controlled Ventilation (DCV)

Next Step: Receive quote from a controls contractor to install a carbon dioxide sensor to reduce outdoor airflow when people are not in the building.

Because the exercise center and courtroom can vary from many people to no people, we modeled implementing DCV. DCV will limit the outdoor air at the air handling unit until carbon dioxide levels increase due to more people in the building. Once carbon dioxide levels rise, the air handling will bring in more outdoor air to ventilate the building. Significant energy could be saved in the times that outdoor air is limited. Despite the potential savings, the payback period for this measure is very high, so we do not recommend consideration in the near-term. If a larger HVAC retrofit was occurring, it may make sense to explore DCV at that time.

End of Life: Air-cooled condensing unit

Next Step: Receive quote for a new air-cooled condensing unit and incorporate into the capital plan.

The municipal courthouse's 25-ton air-cooled condensing unit is almost 25 years old and may be approaching end of life. Consider replacing with a new efficient unit meeting CEE Tier 1 with efficiency ratings of 10.3 EER and 11.6 IEER. Another option is to consider replacing the air handling unit and air-cooled condenser with new electrification technology.

End of Life: Roof insulation

Next Step: Receive quote for a new roof insulation and incorporate into the capital plan.

New insulation was added in 2000, but when additional reroofing work is necessary, consider adding additional roof insulation. Recommendation assumes a layers of polyisocyanurate to achieve R-35 insulation.

End of Life: Wall insulation

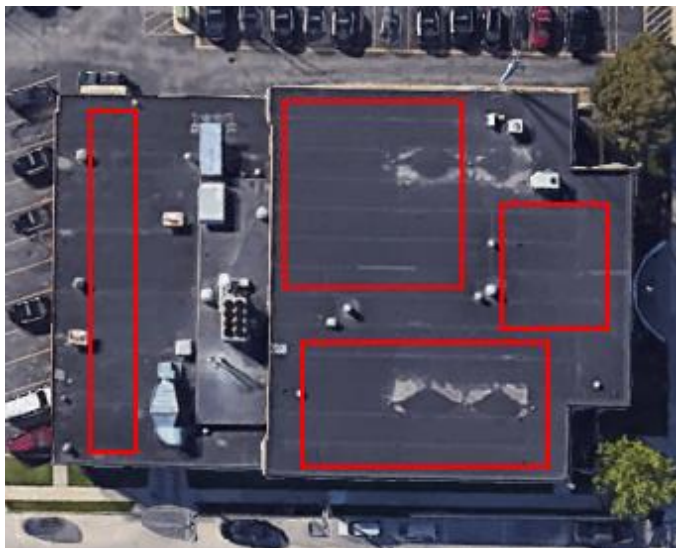
Next Step: Receive quote for insulating walls and incorporate into the capital plan.

Assuming that there is minimal insulation on the brick building walls, consider adding exterior or interior insulation. We recommend installing insulation equivalent to R-15 continuous insulation.

⁶⁰ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

Solar

Police Station



Available roof space: 10,670 square feet available

Utility rates: Time of use rate - \$0.04569/kWh in off-peak; \$0.07767/kWh in on-peak

Wholesale (buyback) energy rate: \$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: Southeast facing at 20-degree tilt

Annual energy use: ~715,000 kWh

Solar Cost: \$2,200/kW

Table 24 presents the optimized solar option for the police station. The police station is on a time-of-use rate with lower energy rates per kWh. This lowers the energy cost savings per kWh of solar electricity produced and leads to a higher payback period than most of the other buildings.

Table 24. Police Station recommended solar array

Metric	System Information
System Size (kW DC)	100
Payback (years)	18.6
Percent Renewable Electricity	17%
Lifetime CO ₂ Savings (MT)	1,930
Lifetime Energy Savings	\$189,810
Total Upfront Cost	\$220,000
Focus on Energy Incentives	(\$13,000)
IRA Tax Credit	(\$66,000)
Net Cost	\$141,000

Municipal Court House



Available roof space: 3,600 square feet available

Utility rates: Flat rate of \$0.1238/kWh; no demand charge.

Wholesale (buyback) energy rate: \$0.0472 in off-peak;
\$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: Southwest facing at 20- degree tilt

Annual energy use: ~170,000 kWh

Solar Cost: \$2,500/kW

Table 25 presents the optimized solar option for the courthouse.

Table 25. Municipal Courthouse recommended solar array

Metric	System Information
System Size (kW DC)	20
Payback (years)	14.2
Percent Renewable Electricity	14%
Lifetime CO ₂ Savings (MT)	386
Lifetime Energy Savings	\$56,320
Total Upfront Cost	\$50,000
Focus on Energy Incentives	(\$3,000)
IRA Tax Credit	(\$15,000)
Net Cost	\$32,000

Fleet

The Police Department operates roughly 58 vehicles for functions including patrols, administration, traffic enforcement, and administration. The combined annual cost for fuel for these vehicles is approximately \$94,000 and fuel combusted to power the vehicles emits over 221 metric tons of CO₂ per year. The fleet includes multiple sizes of cars, pickup trucks, and SUVs, as well three large trucks. The primary vehicle types are large cars, mid-size SUVs, and minivans.

Figure 22 illustrates the fuel impact of each vehicle type for the Police fleet. The fuel impact translates directly into cost and CO₂ baseline numbers, so the percentages are representative of the impact across vehicle types for both fuel cost and CO₂ emissions. The vehicle types in blue (cars, SUVs, full-size pickups, passenger vans, and work vans) are the vehicle types with identified EV alternatives. Cost-competitive electric model alternatives are currently available that could replace over 90% of the Police Department's existing gasoline and diesel-powered fleet.

Figure 22. Police Department fuel impact by vehicle category (2021 data)

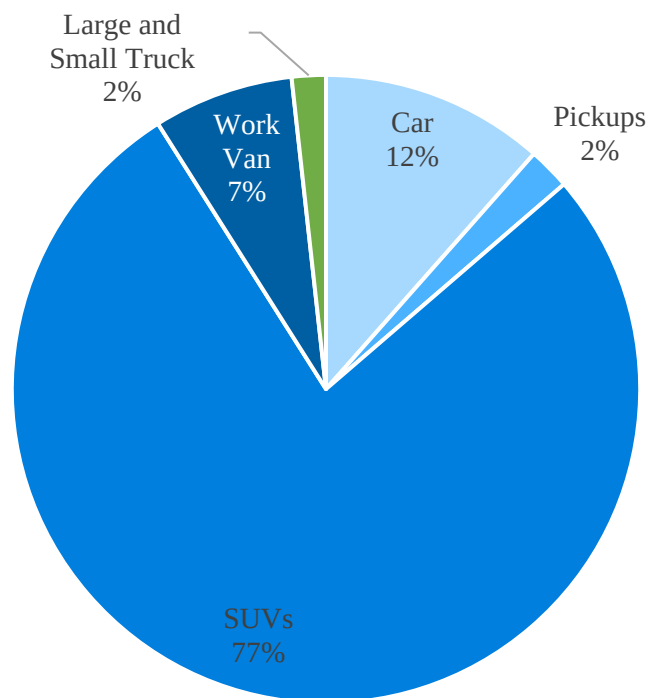


Table 26 shows miles per gallon fuel economy for each vehicle type in the current Police Department fleet.

Table 26. Police Department fleet miles per gallon for each vehicle type

Vehicle category	Avg. MPG
Small Car	21.7
Mid-Size Car	18.8
Large Car	15.3
Full-size Pickup	11.2
Heavy Duty Pickup	13.5
Small SUV	14.1
Mid-size SUV	12.4
Large SUV	13.0 ⁶¹

⁶¹ Fuel and mileage data received for the large SUV and work van were inaccurate. Fueleconomy.gov rated mpg is stated here.

Vehicle category	Avg. MPG
Passenger Van	16.7
Work Van	23.0
Large Truck	1.5

Table 27 shows examples of current police vehicles in each light duty category, as well as examples of alternative electric models. The new gasoline vehicle benchmark indicates the approximate cost and fuel efficiency rating for a new conventional vehicle in the same category. The EV incremental cost is the difference between the cost of the new conventional vehicle and the cost of the corresponding EV. It includes the expected reduction in cost from the Commercial Clean Vehicle Tax Credit (up to \$7,500), which the Inflation Reduction made available to local governments, for each vehicle.⁶² The cost savings per mile is the reduced per mile cost of fueling and maintaining the EV instead of the conventional vehicle. Miles for financial payback indicates the number of miles after which the cumulative benefit of the lower cost of driving the EV would surpass the higher cost of purchasing the EV.

Table 27. Police department EV Alternative Analysis

Category	Current Vehicle	New gasoline vehicle benchmark	Ex. EV Alternative	EV Incremental Cost	Cost Savings/Mile	Miles for Financial Payback
Small Car	Chevrolet Cruz	36 mpg \$16,800	Chevrolet Bolt EV	\$3,200	\$0.081	40,000
Mid-size Car	Dodge Avenger	34.5 mpg \$24,500	Chevrolet Bolt EV	\$0	\$0.084	0
Large Car	Dodge Charger	31 mpg \$31,000	Chevrolet Bolt EUV	\$0	\$0.093	0
Full-size Pickup	Ford F-150	20 mpg \$41,800	Ford Lightning	\$8,600	\$0.123	70,000
Small SUV	Chevrolet Equinox	29 mpg \$32,400	Hyundai Kona	\$2,500	\$0.102	24,000
Mid-size SUV	Ford Explorer	21 mpg \$36,800	Tesla Model Y	\$5,700	\$0.141	41,000
Large SUV	Chevrolet Tahoe	17 mpg \$54,200	Mazda CX-90 PHEV	\$0	\$0.143	0
Passenger Van	Dodge Grand Caravan	21 mpg \$40,600	Chrysler Pacifica PHEV	\$0	\$0.120	0
Work Van	Ford Transit Connect	25 mpg \$44,500	Ford E-Transit	\$3,600	\$0.095	38,000

The department may most cost-effectively add EVs to its fleet by adding vehicles through regular replacement cycles. Use and performance requirements for Police vehicles differ from those that apply to other departments. Patrol vehicles (and some other vehicle uses) operate for longer hours each day, drive more miles per year, and must endure long periods of idling. These factors contribute to patrol vehicles needing to be replaced on a three-year cycle, rather than the extended periods of ownership for vehicles in other departments. More frequent vehicle acquisitions position the department to initiate a pilot to incorporate EVs into portions of its fleet and to then expand its EV fleet quickly as additional gasoline vehicles require replacement.

Police departments around the United States have demonstrated the effectiveness of adding EVs to their patrol fleets, as well as to serve other functions in those departments. However, due to the complexity presented by upfitting patrol vehicles, we recommend that the Police Department pilot EVs for another function, such as traffic enforcement. Because of the higher performance requirements for patrol vehicles and the consequent risk

⁶² The value of any available Federal tax credits are applied to the EV MSRP to calculate the EV incremental cost.

presented by any technology changes, we recommend that the department closely monitor the success of the pilot. Monitoring should include collecting feedback from drivers and maintenance staff on vehicle performance readiness and include tracking of energy use and maintenance requirements. After a 12-month pilot period, the department can apply the lessons learned as it adds EVs to its fleet and incorporates EVs into additional functions.

We estimate that the department could reduce fuel and maintenance costs by 70% and reduce CO₂ emissions by 60% in comparison to gasoline-powered vehicles for the mid-size SUVs that would be added in the pilot.

Table 28 shows the potential savings from replacing all Police vehicles in the applicable categories with electric models. As the City transitions to a higher percent renewable electricity, these emissions savings will continue to increase for each vehicle.

Table 28. Estimated Police Department annual savings for full light-duty EV transition

Vehicle category	Operating Cost Savings	Emissions Savings (MT CO ₂)
Small Car	\$351	0.3
Mid-size Car	\$653	0.7
Large Car	\$3,384	3.9
Full-size Pickup	\$417	0.5
Small SUV	\$1,749	2.3
Mid-size SUV	\$32,119	52.7
Large SUV	\$557	0.7
Passenger Van	\$3,233	4.1
Work Van	\$927	0.7
Total	\$43,390	65.9

The department will need to install an adequate number of level 2 charging stations to support the EVs in the pilot phase and a larger-scale transition to EVs. (Background information on types of EV chargers and costs is included in the Charging Infrastructure section.)

Based on input from the department, we understand that traffic enforcement vehicles have daily off-duty cycles that would be sufficient to allow the vehicles to be recharged at level 2 charging stations. For the pilot, we recommend that the department install at least one level 2 charging port per pilot vehicle that will be off-duty at any one time. During the pilot, the department can evaluate actual charging needs for the pilot vehicles and determine the total charging capacity that would be needed for a fully-electric light duty fleet. Following this assessment, the department may engage the City's electricians to create a plan to increase electrical service to the Police Station and to design plans for routing conduit and adding electrical circuits to enable the total number of charging stations needed to support a fully-electric fleet.

As part of its charging plan, the department should assign vehicle parking locations to enable charging. Installing charging stations inside garage areas or near building exteriors is likely to require adding the least conduit to connect the stations to the electrical panel. We recommend that the department reserve locations in its garage or near the station where it will park EVs and establish a policy that prohibits non-EVs from parking in these spots.

Fire Department

Baseline Data

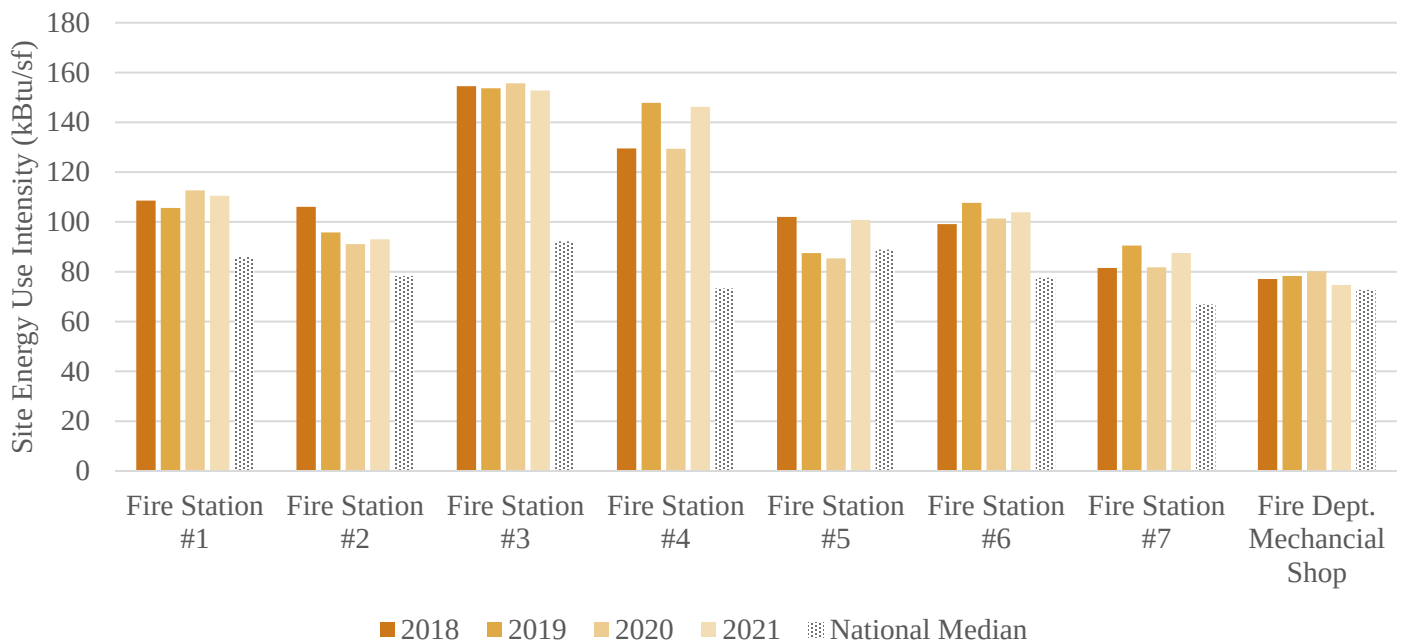
Figure 23 illustrates the relative CO₂ emissions and cost impact for Fire Department buildings versus fleet. Each individual fire station contributes roughly an equal percentage of total energy costs and CO₂ emissions while the Fire Department Mechanical Shop contributes less than 5% of total building energy cost and CO₂ emissions.

Figure 23. Annual CO₂ emissions and cost impacts of Fire Department buildings and fleet (2021 data)



Figure 24 illustrates the EUI of the Fire Department buildings over time and compared to the median EUI of similar buildings (age, building type, and characteristics) in the climate zone. All fire station's EUIs are above the national median while the mechanical shop is roughly equivalent to the median. The team performed energy assessments at several fire stations and the details in the building section provide an overview of opportunities for saving energy.

Figure 24. Fire Department building EUI over time and compared to national median



Buildings

Fire Station #2

Size: 13,000 ft²

Age: 1964

Existing heating and cooling system: Radiant heating units, furnace, and AC in apparatus room, RTU in living quarters

Electricity Use: ~99,000 kWh/yr

Natural Gas Use: ~8,500 therms/yr

Weather-normalized site EUI: 93 kbtu/sf.
Above regional median for comparable buildings



The energy assessment and analysis for Fire Station #2 was completed by NWTC students and their instructor. The Fire Station was found to have relatively consistent consumption year-round and have a higher energy use per square foot of similar buildings. The NWTC team noted that plug loads were managed well within the fire station and the HVAC equipment was high-efficiency with new controls.

Table 29 highlights the recommended measures identified by NWTC. Both measures are high priority as they have payback periods of 1 year or less.

Table 29. Fire Station #2 recommended measures

Improvement measure	Priority		First Cost	Annual Utility Cost Savings		Simple Payback	Annual Energy Savings	Annual CO ₂ Savings	
							Electric Savings (%)	Tons CO ₂	%
LED Lighting	●	High	1920	\$1,940	11%	1	16%	11.6	10%
Plug load management	●	High	-	\$490	3%	-	4%	2.9	3%
Total Savings - High & Medium Priority			\$ 1,920	\$2,430	14%		20%	14.5	12%

High Priority: LED lighting

Next Step: Incentives are available through Focus on Energy for LEDs; discuss with Focus on Energy representative potential incentives.⁶³

Changing out fluorescent bulbs with LED tubular bulbs could save over 1,000 kWh each month. Removing unnecessary bulbs from active fixtures can reduce usage by 5-10%. The NWTC team recommends reducing the number of lights on in the garage/truck bay as well as the dining room and transitioning all lightbulbs to LEDs. Additionally, attaching a photoeye to the flagpole base light will reduce usage of the light by roughly 50% by limiting number of hours it is on.

High Priority: Plug load management

Next Step: Implement timers and energy-saving power strips throughout the Fire Station.

Plug load management can save electricity with simple power strip upgrades or sleep timers. We recommend setting sleep timers on the TV's so after a certain amount of time it shuts off automatically. Using this across all the TVs could save an estimated \$500/year.

It is also possible to use energy-saving power strips for some smaller savings around the building. The offices would benefit the most from energy-saving power strips due to their condensed nature and the proximity of all the plug loads in the rooms. The power strips can save approximately 20% of the total energy usage of a plug

⁶³ See lighting rebates here: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf.

load. Lower hours of use of the electric resistance heater can also save energy; 8 hours of use results in over 10 kWh of use or \$450 per year if it runs every night.

End of Life Considerations: Windows and attic insulation

The NWTC team also evaluated the current HVAC equipment and building envelope. The HVAC equipment was high efficiency condensing units with no need for a near-term upgrade. The team did identify that windows and higher insulation could generate savings, but the savings were minimal for the initial cost. These measures should be considered when replacing windows or updating roofs.

Fire Station #4

Size: 10,300 ft²

Age: 2001

Existing heating and cooling system: Radiant heating units, furnaces, and AC in apparatus room, constant air volume system from DX air-cooled chiller and boilers in living quarters

Electricity Use: ~150,000 kWh/yr

Natural Gas Use: ~9,900 therms/yr

Weather-normalized site EUI: 146 kbtu/sf. Above regional median for comparable buildings



The energy assessment and analysis for Fire Station #4 was completed by NWTC students and their instructor. The station was found to use 85% more energy per square foot compared to buildings of similar use and climate. The building has started to update lighting to LEDs and has good management of plug load energy use. Occupants' complaints include heating and AC running simultaneously in garage and abnormally hot dorm rooms and basement.

Table 30 highlights the recommended measures identified by NWTC. The high priority measures are items with short payback periods, significant savings, or important comfort upgrades. End-of-life measures are ones that should be done at equipment replacement, and do not have payback periods as the first cost should be compared to the upfront cost of the alternative option.

Table 30. Fire Station #4 recommended measures

Improvement measure	Priority		First Cost	Annual Utility Cost Savings		Simple Payback	Annual Energy Savings		Annual CO ₂ Savings	
				\$	(%)		Electric Savings (%)	Gas Savings (%)	Tons CO ₂	%
LED Lighting	●	High	\$8,315	\$1,600	6%	5.2	9%		9.5	6%
Plug load management	●	High	-	\$490	2%	-	3%		2.9	2%
Heating system controls	●	High	\$1,000	\$4,400	18%	0.2	23%	3%	26.7	17%
Boiler replacement	●	EOL	\$8,800	\$470	2%	18.7		7%	3.6	2%
Total Savings - High & Medium Priority			\$18,115	\$6,950	28%		35%	10%	42.8	26%

High Priority: LED lighting

Next Step: Incentives are available through Focus on Energy for LEDs; discuss with Focus on Energy representative potential incentives.⁶⁴

We recommend changing out fluorescent bulbs with LED lightbulbs. Fixtures are 2x4 troffers with fluorescent lighting in almost all areas except in the Gear room, which has LEDs.

High Priority: Plug load management

Next Step: Implement timers and energy-saving power strips throughout the Fire Station.

⁶⁴ See lighting rebates here: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

Plug load management can save electricity with simple power strip upgrades or sleep timers. We recommend setting sleep timers on the TV's so after a certain amount of time it shuts off automatically. Using this across all the TVs could save an estimated \$500/year.

High Priority: Heating system controls

Next Step: Discuss potential for heating system control upgrades with Focus on Energy representative.

It was reported that outdoor air exchange runs often in the apparatus space, drawing a significant amount of electricity. Additionally, the furnaces are currently controlled with a switch. We recommend installing a control system to reduce the heating run time and outdoor air exchange. Modeling illustrates that this would have a significant impact on energy use.

End of Life Considerations: Boiler system replacement

Next Step: Develop replacement plan for heating system, including timeline and potential systems

The boiler system is 85% efficient and is still the original boiler installed at construction. We recommend that when this boiler system needs to be replaced, it be done so with a 95% efficient model. Another adoption for heating system replacement is to transition to a high-efficiency electric heat pump option. As heating systems last for a significant amount of time, considering a heat pump at adoption is important for full decarbonization of the building.

Fire Station #5

Size: 14,245 ft²

Age: 1997

Existing heating and cooling system:

Radiant heating units, furnaces for heating, AHU for cooling, and air-cooled chiller

Electricity Use: ~78,000 kWh/yr

Natural Gas Use: ~11,700 therms/yr

Weather-normalized site EUI: 101 kbtu/sf. Similar to median for comparable buildings



The energy assessment and analysis for Fire Station #5 was completed by NWTC students and their instructor. The building has fully upgraded to LEDs and installed a solar array in 2021. The HVAC system is also efficient and well-maintained. These upgrades lead to limited recommended actions.

Table 31 highlights the recommended measures identified by NWTC.

Table 31. Fire Station #5 recommended actions

Improvement measure	Priority		First Cost	Annual Utility Cost Savings		Simple Payback	Annual Energy Savings	Annual CO ₂ Savings	
			\$	\$	(%)	Years	Electric Savings (%)	Tons CO ₂	%
Photoeye sensors	●	High	\$785	\$380	2%	2.1	4%	2.3	2%
Plug load management	●	High	-	\$490	3%	-	5%	2.9	2%
Total Savings - High & Medium Priority			\$785	\$860	5%		9%	5.2	4%

High Priority: Photoeye sensors

Next Step: Purchase and add photeyes.

The building has fully transitioned to LEDs. However, there are some schedule/controls adjustments that could be made to reduce energy use. Adding a photosensor or automatic control to ten of the exterior lights will prevent them from being on constantly without needing manual intervention every day. High Priority: Plug load management

Next Step: Implement timers and energy-saving power strips throughout the Fire Station.

Plug load management can save electricity with simple power strip upgrades or sleep timers. We recommend setting sleep timers on the TV's so after a certain amount of time it shuts off automatically. Using this across all the TVs could save an estimated \$500/year.

Fire Station #6

Size: 8,500 ft²

Existing heating and cooling system: Furnaces and split-system A/C; apparatus bay heated by gas-fired unit heaters.

Electricity Use: ~87,000 kWh/yr

Natural Gas Use: ~6,000 therms/yr

Weather-normalized Site EUI: 104 kBtu/square foot/yr.
Above regional median for comparable buildings.



This 1968 fire station houses firefighting vehicles and equipment as well as living and working space for on-duty firefighters. Heating and air conditioning are provided by furnaces and residential-style air conditioners and one rooftop unit. The building recently installed new windows and has an 8-year old roof. Occupants noted comfort concerns in the living quarters. Energy saving opportunities include conducting maintenance, LED lighting replacement and introducing automatic control of electronic appliances.

Table 32 details the recommended measures and associated costs and savings. The measures are organized by high priority and medium priority. The high priority measures are items with short payback periods, significant savings, or important comfort upgrades. Medium priority are upgrades with higher payback periods or lower savings.

Table 32. Fire Station #6 recommended measures

Improvement measure	Priority		First Cost	Annual Utility Cost Savings		Simple Payback	Annual Energy Savings		Annual Carbon Savings	
				\$	\$		(%)	Years	Electric Savings (%)	Gas Savings (%)
Maintenance Refresh		High	\$0	\$300	2%	-	2%	2%	1.7	2%
Install LED bulbs		High	\$3,600	\$2,100	13%	2	21%	-3%	11.6	12%
Install occupancy and daylight controls		High	\$2,000	\$800	5%	3	7%	0%	4.3	5%
Plug load management		High	\$300	\$200	1%	1	2%	0%	1.1	1%
Multiple Retro Commissioning Measures		Med	\$2,700	\$800	5%	4	5%	5%	4.7	5%
Total Savings - High & Medium Priority			\$ 8,600	\$ 4,200	28%	-	37%	4%	23.4	25%

High Priority: Install LED lighting and occupancy and daylight controls

Next Step: Receive quote for integrated replacement; discuss with Focus on Energy representative to understand potential rebates for LEDs and controls.⁶⁵

We recommend installation of LEDs, and consideration of installation of daylighting and additional occupancy controls. LEDs have a significant savings potential compared to fluorescent lights and implementing daylighting and occupancy controls at the time of install can lead to additional savings and is the most cost-effective time to add controls.

High Priority: Install plug load controls for appliances

Next Step: Determine the type and number of advanced power strips needed and shop for discounted appropriate products in the online Focus on Energy Marketplace.⁶⁶

We recommend installing advanced or “smart” power strips to reduce idle power consumption for electronic appliances. These eliminate “vampire loads” consumed by electronic devices when they are turned off but still plugged in by automatically deactivating the plug on the power strip. This is especially important for TVs

⁶⁵ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

⁶⁶ Focus on Energy Marketplace: <https://focusonenergymarketplace.com/power-strips.html>

across the fire station. The National Renewable Energy Laboratory has an infographic to help consumers select the right type of product for their needs.⁶⁷

High Priority: Maintenance refresh

Next Step: Implement any steps that can be done by facilities staff

We recommend a basic maintenance refresh be done every couple of years. It can be primarily by carried out by facilities staff or local contractors and have an immediate impact on energy consumption. Items include regularly changing furnace filters, testing and adjusting combustion air in furnaces and unit heaters, cleaning air conditioner cooling coils, ensuring that combustion air intakes and air conditioner condensers are not obstructed, and checking and replacing weatherstripping around doors, windows, and other exterior penetrations as needed.

Medium Priority: Replace exterior lightbulbs and add motion controls

Next Step: Receive quote for retrofitting exterior light fixtures with LED bulbs; discuss with Focus on Energy representative to understand potential rebates for LEDs and controls.⁶⁸

We recommend replacing the old light bulbs in the wall packs above exterior doors with LEDs. This will significantly reduce the electricity cost of exterior lighting. In addition, consider adding motion controls to dim light fixtures when no one is outside. This captures additional savings in facilities occupied 24/7 like the fire station. Consider implementing both measures at the same time to save on installation costs.

Medium Priority: Retrocommissioning

Next Step: Focus on Energy provides incentives and a list of qualified contractors for retrocommissioning or building tune-ups. Contact Energy Representative to understand potential programs and enroll.⁶⁹

We recommend exploring retrocommissioning to address current comfort and thermostat issues in the building. Retrocommissioning is a process of servicing and repairing existing heating and air conditioning equipment to restore it to nearly its original level of performance.

EOL Considerations: Appliances and HVAC

We recommend adoption of highly efficient appliances and heating and cooling equipment at end-of-life. For appliances, we recommend ENERGYSTAR appliances.⁷⁰ For heating and cooling, we recommend an analysis on the feasibility of a heat pump system to fully decarbonize the building. This should be considered against highly efficient natural gas equipment in terms of cost and CO₂ impacts.

⁶⁷ <https://www.nrel.gov/docs/fy14osti/60461.pdf>

⁶⁸ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

⁶⁹ <https://focusonenergy.com/business/building-optimization>

⁷⁰ A list of qualified ENERGYSTAR products is here: https://www.energystar.gov/products/products_list

Fire Station #7

Size: 8,500 ft²

Existing heating and cooling system: Hot water boilers and split-system A/C; apparatus bay heated by gas-fired unit heaters.

Electricity Use: ~94,000 kWh/yr

Natural Gas Use: ~4,000 therms/yr

Weather-normalized Site EUI: 88 kBtu/square foot/yr. Above regional median for comparable buildings



This 1981 fire station houses firefighting vehicles and equipment as well as living and working space for on-duty firefighters. It has cinder block walls, hot water boilers for space heating, and central air. The fire station requires on manual setting of thermostats and manual switches for lights. Energy saving opportunities include LED lighting replacement and introducing automatic control of electronic appliances.

Table 33 details the recommended measures and associated costs and savings. The measures are organized by high priority and medium priority. The high priority measures are items with short payback periods, significant savings, or important comfort upgrades and medium priority are items with slightly longer payback periods.

Table 33. Fire Station #7 recommended measures

Improvement measure	Priority		First Cost	Annual Utility Cost Savings		Simple Payback	Annual Energy Savings		Annual CO ₂ Savings	
				\$	(%)		Electric Savings (%)	Gas Savings (%)	Tons CO ₂	%
Install LED bulbs	●	High	\$3,100	\$1,800	11%	2	16%	-2%	10.1	10%
Install occupancy and daylight controls	●	High	\$1,700	\$700	4%	3	6%	0%	3.7	4%
Plug load management	●	High	\$200	\$400	2%	Less than 1	4%	-1%	2.3	2%
Garage door weather stripping	●	Med	\$1,000	\$200	1%	8	0%	2%	0.8	1%
Refrigerant recharge	●	Med	\$300	\$200	1%	3	1%	0%	0.6	1%
Exterior lighting replacement	●	Med	\$1,200	\$400	2%	4	3%	0%	1.9	2%
Exterior lighting motion controls	●	Med	\$300	\$100	0%	6	0%	0%	0.2	0%
Total Savings - High & Medium Priority			\$ 7,800	\$ 3,800	23%	-	29%	-1%	19.6	19%

High Priority: Install LED lighting and occupancy and daylight Controls

Next Step: Receive quote for integrated replacement; discuss with Focus on Energy representative to understand potential rebates for LEDs and controls.⁷¹

We recommend installation of LEDs, and consideration of installation of daylighting and additional occupancy controls. LEDs have a significant savings potential compared to fluorescent lights. Implementing daylighting and occupancy controls at the time of install can lead to additional savings and is the most cost-effective time to add controls.

High Priority: Install plug load controls for appliances

Next Step: Determine the type and number of advanced power strips needed and shop for discounted appropriate products in the online Focus on Energy Marketplace.⁷²

We recommend installing advanced or “smart” power strips to reduce idle power consumption for electronic appliances. These eliminate “vampire loads” consumed by electronic devices when they are turned off but still plugged in by automatically deactivating the plug on the power strip. The National Renewable Energy Laboratory has an infographic to help consumers select the right type of product for their needs.⁷³

⁷¹ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

⁷² Focus on Energy Marketplace: <https://focusonenergymarketplace.com/power-strips.html>

⁷³ <https://www.nrel.gov/docs/fy14osti/60461.pdf>

Medium Priority: Garage door weather sealing

Next Step: Purchase and install spring-loaded garage door hinges. Focus on Energy provides an incentive.⁷⁴

We recommend installing spring-loaded garage door hinges to reduce air leakage around the overhead doors in the garage. The hinges fit most commercial doors and reduce the gaps between the wall and door to reduce air leakage.

Medium Priority: Refrigerant recharge

Next Step: Have a contractor service the air conditioner.

Air conditioners can lose refrigerant over time, and replenishing refrigerant can restore an air conditioner to its original cooling capacity and efficiency. This can lead to energy savings for cooling.

Medium Priority: Replace exterior light bulbs and add motion controls

Next Step: Receive quote for retrofitting exterior light fixtures with LED bulbs; discuss with Focus on Energy representative to understand potential rebates for LEDs and controls.⁷⁵

We recommend replacing the old lightbulbs installed in the onsite pole fixture and wall packs with LEDs. This will significantly reduce the electricity cost of exterior lighting. In addition, consider adding motion controls to the light fixtures at the same time. Motion controls which can dim light fixtures when no one is outside can capture additional savings in facilities occupied 24/7 like the fire station. Consider implementing both measures at the same time to save on installation costs.

EOL Considerations: Appliances and HVAC

We recommend adoption of highly efficient appliances and heating and cooling equipment at end-of-life. For appliances, we recommend ENERGYSTAR appliances.⁷⁶ For heating and cooling, we recommend an analysis on the feasibility of a heat pump system to fully decarbonize the building. This should be considered against highly efficient natural gas equipment in terms of cost and CO₂ impacts.

⁷⁴ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

⁷⁵ Lighting rebates are available on page 4: https://s3.us-east-1.amazonaws.com/focusonenergy/staging/inline-files/2023/BIZ-Summary_of_Services_and_Incentives.pdf

⁷⁶ A list of qualified ENERGYSTAR products is here: https://www.energystar.gov/products/products_list

Solar

Fire Station #2



Available roof space: 3,800 square feet available

Utility rates: Flat rate of \$0.1238/kWh; no demand charge.

Wholesale (buyback) energy rate: \$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: Southeast facing at 20-degree tilt

Annual energy use: ~99,000 kWh

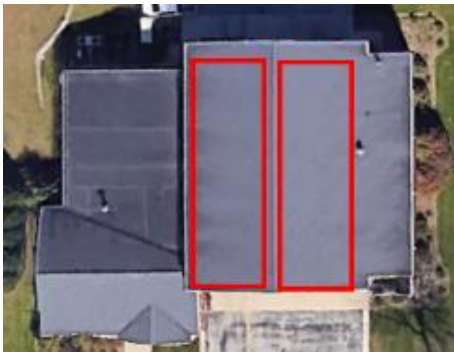
Solar Cost: \$2,500/kW

Table 34 presents the optimized cost-effective solar option for Fire Station #2.

Table 34. Fire Station #2 recommended solar arrays

Metric	System Information
System Size (kW DC)	29
Payback (years)	12.4
Percent Renewable Electricity	35%
Lifetime CO ₂ Savings (MT)	567
Lifetime Energy Savings	\$95,095
Total Upfront Cost	\$73,500
Focus on Energy Incentives	(\$4,175)
IRA Tax Credit	(\$22,050)
Net Cost	\$47,275

Fire Station #4



Available roof space: 3,200 square feet available

Utility rates: Flat rate of \$0.1238/kWh; no demand charge.

Wholesale (buyback) energy rate: \$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: East or west at 20-degree tilt

Annual energy use: ~150,000 kWh

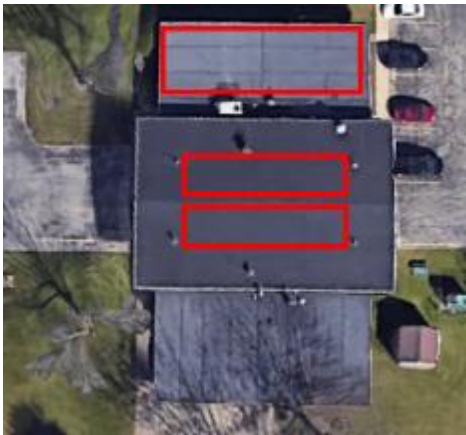
Solar Cost: \$2,500/kW

Table 35 presents the optimized solar option for Fire Station #4. It is optimized for budget for a 2024 array. A larger system is possible based on roof space.

Table 35. Fire Station #4 recommended solar array

Metric	System Information
System Size (kW DC)	16
Payback (years)	12.3
Percent Renewable Electricity	11%
Lifetime CO ₂ Savings (MT)	273
Lifetime Energy Savings	\$51,745
Total Upfront Cost	\$40,000
Focus on Energy Incentives	(\$2,500)
IRA Tax Credit	(\$12,000)
Net Cost	\$25,500

Fire Station #6



Available roof space: 3,400 square feet available

Utility rates: Flat rate of \$0.1238/kWh; no demand charge.

Wholesale (buyback) energy rate: \$0.0472 in off-peak;
\$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: Southwest facing at 20-degree tilt

Annual energy use: ~87,000 kWh

Solar Cost: \$2,500/kW

Table 36 presents the optimized solar option for Fire Station #6. It does not maximize roof space but optimizes the payback period by staying below the net metering limit.

Table 36. Fire Station #6 recommended solar array.

Metric	System Information
System Size (kW DC)	20
Payback (years)	10.7
Percent Renewable Electricity	28%
Lifetime CO ₂ Savings (MT)	393
Lifetime Energy Savings	\$74,707
Total Upfront Cost	\$50,000
Focus on Energy Incentives	(\$3,000)
IRA Tax Credit	(\$15,000)
Net Cost	\$32,000

Fire Station #7



Available roof space: 2,600 square feet available

Utility rates: Flat rate of \$0.1238/kWh; no demand charge

Wholesale (buyback) energy rate: \$0.0472 in off-peak;
\$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: South facing at 20-degree tilt

Annual energy use: ~94,000 kWh

Solar Cost: \$2,500/kW

Table 37 presents the optimized solar option for Fire Station #7. The array stays below the net metering limit to maximize cost-effectiveness; however, a slightly larger array is possible based on roof space.

Table 37. Fire Station #7 recommended solar array

Metric	System Information
System Size (kW DC)	20
Payback (years)	10.5
Percent Renewable Electricity	26%
Lifetime CO ₂ Savings (MT)	452
Lifetime Energy Savings	\$75,965
Total Upfront Cost	\$50,000
Focus on Energy Incentives	(\$3,000)
IRA Tax Credit	(\$15,000)
Net Cost	\$32,000

Fleet

The Fire Department operates roughly 67 vehicles and pieces of equipment. The combined annual cost for fuel for these vehicles is approximately \$190,000 and fuel combusted to power the vehicles emits over 455 metric tons of CO₂ per year. In addition to the department's large trucks, the Fire Department operates compact, full-size, and heavy-duty pickup trucks; all sizes of SUVs; work and passenger vans; full-size pickups, heavy-duty pickup trucks; and other equipment.

Figure 25 illustrates the fuel impact of each vehicle type for the Fire Department fleet. The fuel impact translates directly into cost and CO₂ baseline numbers, so the percentages are representative of the impact across vehicle types for both fuel cost and CO₂ emissions. The vehicle types in blue (SUVs, full-size pickups, passenger vans and work vans) are the light duty vehicle types with identified EV alternatives.

Large trucks are responsible for close to half of the Fire Department's fuel expenses and emissions. Manufacturers of fire trucks, including Pierce and E-One, have developed partially electric and fully electric fire trucks, which may become viable options for the Fire Department to add to its fleet. The electric fire trucks that are currently available are an emerging application of EV technology and may be cost-prohibitive for the Fire department without supplemental funding. We recommend that the Fire Department monitor the development and costs of electric fire trucks, as well as supplemental funding opportunities. This will make the department prepared to add electric fire trucks to its fleet when a cost-effective opportunity arises, or if the department has an opportunity to access grant funding for this purpose.

Figure 25. Fire Department fuel impact by vehicle category (2021 data)

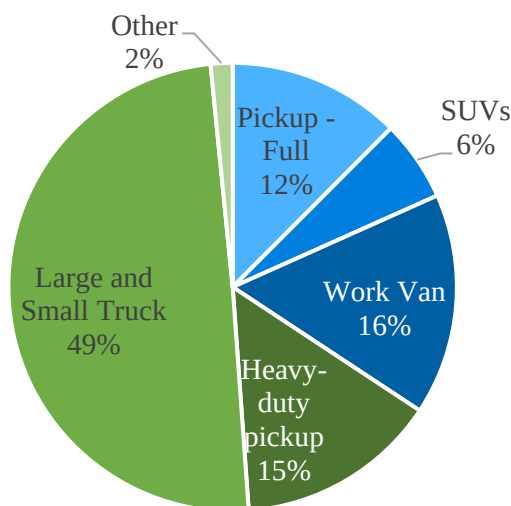


Table 38 shows miles per gallon fuel economy for each vehicle type in the Fire Department's fleet.

Table 38. Fire Department fleet miles per gallon by vehicle category

Vehicle category	Avg. MPG
Compact Pickup	16.5
Full-size Pickup	12.5
Heavy Duty Pickup	9.3
Small SUV	21.3
Mid-size SUV	17.3
Large SUV	8.0
Passenger Van	13.8
Work Van	10.4
Large Truck	3.7

Table 39 shows examples of current Fire department vehicles in each light duty category, as well as examples of alternative electric models. The new gasoline vehicle benchmark lists the approximate cost and fuel efficiency rating for a new conventional vehicle in the same category. The EV incremental cost is the difference between the cost of the new conventional vehicle and the cost of the corresponding EV. It includes the expected reduction in cost from the Commercial Clean Vehicle Tax Credit (up to \$7,500), which the Inflation Reduction made available to local governments, for each vehicle.⁷⁷ The cost savings per mile is the reduced per mile cost of fueling and maintaining the EV instead of the conventional vehicle. Miles for financial payback indicates the number of miles after which the cumulative benefit of the lower cost of driving the EV would surpass the higher cost (if any) of purchasing the EV.

Table 39. Fire Department EV Alternative Analysis

Category	Current Vehicle	New gasoline vehicle benchmark	Ex. EV Alternative	EV Incremental Cost	Cost Savings/Mile	Miles for Financial Payback
Compact Pickup	Chevrolet Colorado	23 mpg \$29,200	Ford Maverick Hybrid*	\$0	\$0.050	0
Full-size Pickup	Chevrolet Silverado	20 mpg \$41,800	Ford Lightning	\$8,600	\$0.123	70,000
Small SUV	Chevrolet Equinox	29 mpg \$32,428	Hyundai Kona	\$2,500	\$0.102	24,000
Mid-size SUV	Ford Explorer	21 mpg \$36,800	Hyundai Ioniq 5	\$8,500	\$0.137	62,000
Large SUV	Ford Expedition	17 mpg \$54,200	Mazda CX-90 PHEV**	\$0	\$0.143	0
Passenger Van	MV-1	22 mpg \$40,600	Chrysler Pacifica PHEV**	\$0	\$0.120	0
Work Van	Ford Transit	25 mpg \$44,455	Ford E-Transit	\$3,600	\$0.095	38,000

*No cost-effective EV is now available in this category. The proposed vehicle is a standard hybrid, which is more fuel efficient and has lower cost than the conventional alternative.

** A plug-in hybrid electric vehicle (PHEV) can drive a certain distance (typically about 30 miles) in all-electric mode but has a gasoline backup engine that powers the vehicle after the electric only range is exceeded.

The Fire Department may most cost-effectively add EVs to its fleet by adding vehicles through regular replacement cycles. The department operates all sizes of SUVs, full-size pickup trucks, and work vans that are 10 or more years old. The existing gasoline-powered vehicles may be ready for replacement in the near term. When each vehicle in these categories is replaced, the department can use information such as EV incremental cost, cost savings/mile, and miles for financial payback to strategically add EVs to its fleet.

We recommend that the department starts its transition to EVs by replacing a small SUV, a mid-size SUV, and a work van with alternative electric models. Existing vehicles in these three categories are near the end of their service lives and all three categories present opportunities for cost-effective transitions to EVs. Testing vehicles across three categories will allow the department to investigate multiple applications for EVs and to then apply lessons learned from the pilot to add EVs in more categories through its regular vehicle replacement schedule. Replacement of the vehicles could lead to 53% - 67% savings in operating costs (fuel and maintenance) and 22% - 56% savings in CO₂ emissions per vehicle.

Table 40 shows the potential savings from replacing all of the department's vehicles in the applicable categories with electric models. Currently, there are not cost-effective electric models for most medium- and heavy-duty

⁷⁷ The value of any available Federal tax credits are applied to the EV MSRP to calculate the EV incremental cost.

vehicle types, which are used by the department. As the department explores the feasibility of also adding electric fire trucks to its fleet, it can significantly add to the savings shown above.

Additionally, as the City transitions to a higher percent renewable electricity, these emissions savings will continue to increase for each vehicle.

Table 40. Estimated Fire Department annual savings for full light-duty EV transition

Vehicle category	Operating Cost Savings	Emissions Savings (MT CO ₂)
Compact Pickup	\$277	0.8
Full Size Pickup	\$14,593	16.7
Small SUV	\$2,998	4.0
Mid-size SUV	\$7,582	12.5
Large SUV	\$34	0.04
Passenger Van	\$624	0.8
Work Van	\$7,917	6.0
Total	\$34,025	40.8

The department will need to install an adequate number of level 2 charging stations to support the light duty EVs in the pilot phase. (Background information on types of EV chargers and costs is included in the Charging Infrastructure section.)

Locations for charging systems during the pilot should be based on the station(s) where each EV will be parked when off-duty. The department may reduce costs for adding charging infrastructure during the pilot by stationing all EVs at one location. In this way, the department can provide charging capacity for the vehicles while avoiding the cost of installing EV charging systems at all locations until the EV transition has progressed further.

The vehicles that are being recommended for replacement with EVs during the pilot have low annual mileage, suggesting that they are typically driven fewer than 50 miles per day. Most current light duty EVs advertise driving ranges of over 200 miles between charges. Based on the relatively low annual mileage for vehicles to be included in the pilot, the pilot EVs may only require charging 2-3 times per week, and therefore it may be possible for two charging ports to support the three pilot vehicles. As the department adds charging infrastructure for initial vehicles, we recommend:

- Assess total future electrical service needs when upgrading for new vehicle charging stations. When planning for any electrical service upgrades or laying of new conduit, assess the total potential number of EVs that may be stationed at the location and the corresponding number of charging stations needed. As the department prepares to install charging stations at the pilot location, it can support long-term cost savings by including future charging needs in current electrical upgrade plans.
- Consider how many vehicles a single charger can support. The average daily miles driven for vehicles recommended for replacement suggests that EV alternatives may not require daily charging, thus allowing one level 2 charging station to support two or three EVs. Decisions on number of EV chargers should consider anticipated daily mileage for the initial group of EVs, the number and daily mileage of EVs that the department is likely to add, and any potential for vehicles to require more frequent charging during periods of high use.
- Assign vehicle parking locations to enable charging. Installing charging stations near building exteriors is likely to require the department to add the least conduit to connect the stations to the electrical panel. We recommend that the department reserve locations near buildings where it will park EVs and establish a policy that prohibits non-EVs from parking in these spots.

Transit

Baseline Data

Figure 26 illustrates the relative CO₂ emissions and cost impact for the Transit building, the fixed route vehicles, contractor vehicles, and non-revenue vehicles.

Figure 26. Annual CO₂ emissions and cost impacts of Transit buildings and fleet (2022 data)

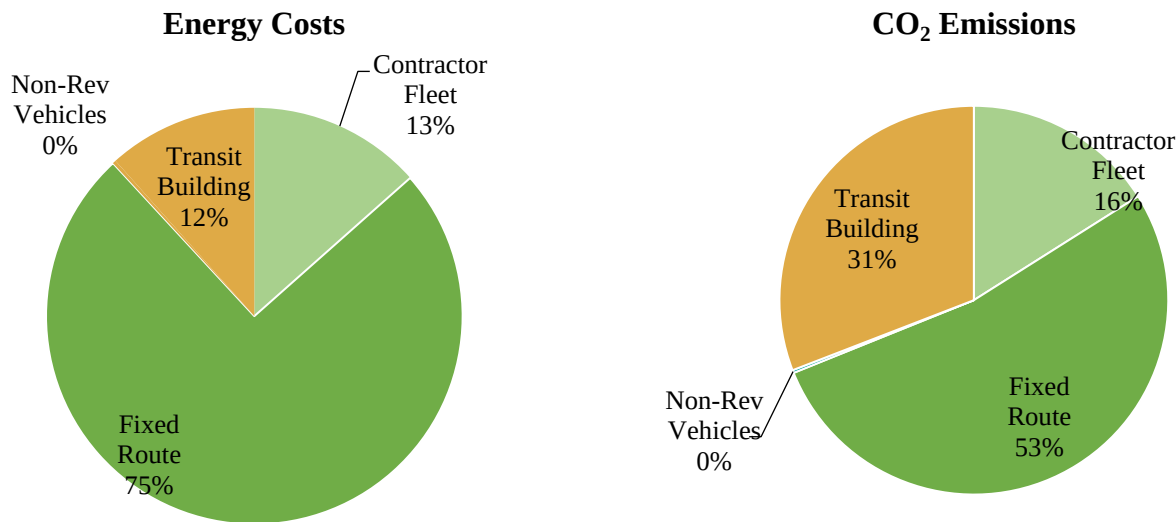
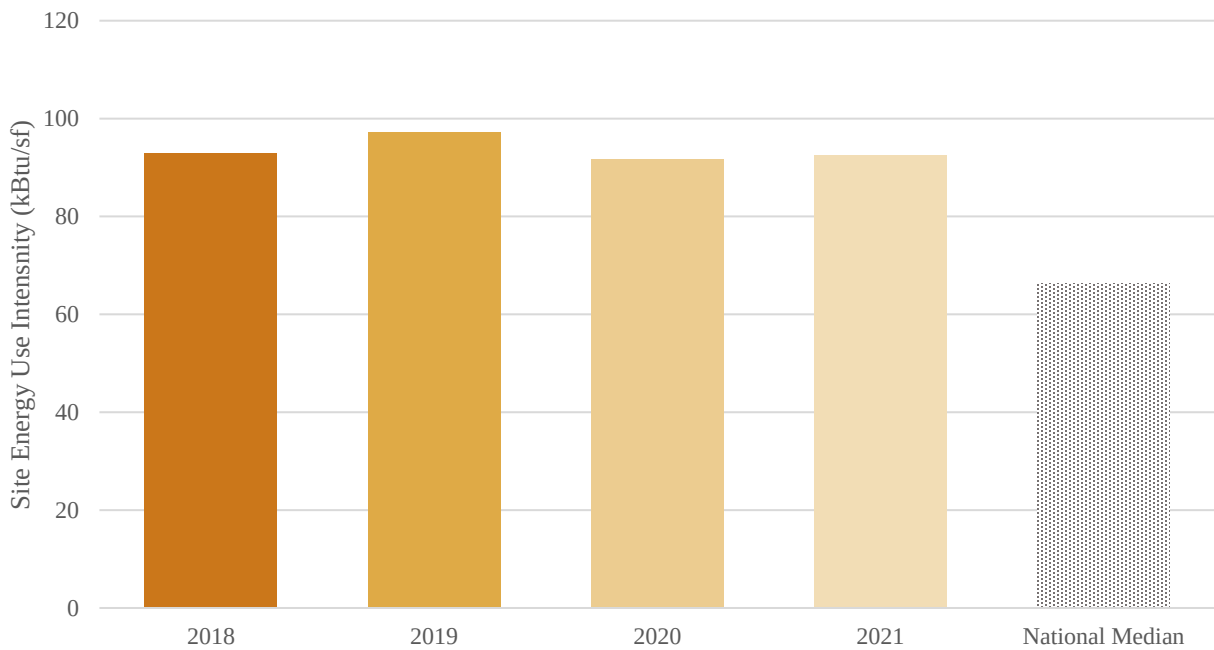


Figure 27 illustrates the EUI of the Transit Main Building over time and compared to the median EUI of similar buildings (age, building type, and characteristics) in the climate zone. The EUI is slightly higher than the national median. However, the building had significant upgrades done in 2022, including a heating system replacement and LED lighting upgrades, that likely lowered the EUI. For this reason, we did not complete an energy assessment of the Transit building.

Figure 27. Transit building EUI compared over time and to national median



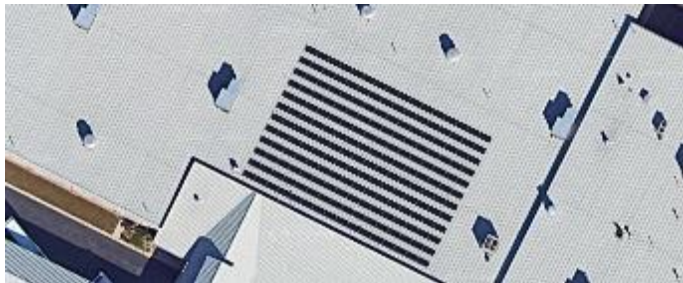
Solar Transit Center



Office Roof

Available space: Up to 86 kW

Orientation: Southwest facing at 23-degree tilt



Main Roof

Available space: Up to 960 kW

Orientation: Southwest facing at 10-degree tilt



Bus Canopy

Available roof space: Up to 85 kW

Orientation: Southwest facing at 23-degree tilt

Overall

Wholesale energy rate: \$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Annual energy use: ~297,000 kWh

Utility rates: Flat rate

Solar Cost: \$2,000/kW

Table 41 presents the recommended solar array for the Transit Center. NWTC completed the analysis of this array. The recommended size does not use all the available roof space, but rather maximizes cost-effectiveness for the array. If the building adds EV charging, a larger array could be considered.

Table 41. Transit Center recommended solar arrays

Metric	System Information
System Size (kW dC)	300
Payback (years)	9.9
Percent Renewable Electricity	66%
Lifetime CO ₂ Savings (metric tons)	10,898
Lifetime Energy Savings	\$982,205
Total Upfront Cost	\$600,000
Focus on Energy Incentives	(\$33,000)
IRA Tax Credit	(\$180,000)
Net Cost	\$387,000

Fleet

Metro Transit operates 36 transit buses to serve fixed routes in and around the city of Green Bay. Metro Transit contracts with a third-party, Via, to provide on-demand and paratransit services for the community, using six vans and six shuttle buses. Metro Transit also uses five non-revenue vehicles, as well as other motorized equipment to support its operations. The fuel to power Metro Transit’s fixed-route buses and non-revenue vehicles costs over \$610,000 per year and generates over 1,460 metric tons of CO₂ per year. Metro Transit indirectly incurs over \$130,000 in additional fuel expenses per year for the contractor fleet, which generates an additional 315 metric tons of CO₂ per year.

Figure 28 illustrates the fuel impact of each vehicle type for the Transit fleet. The fuel impact translates directly into cost and CO₂ baseline numbers, so the percentages are representative of the impact across vehicle types for both fuel cost and CO₂ emissions. The vehicle types in blue (small and mid-size SUVs, vans, shuttle buses, and transit buses) are the vehicle types with identified EV alternatives. All of Transit’s vehicles have an alternative EV option. However, the incremental cost of EV buses and battery capacity suggest that grant funding will likely be needed to justify a EV bus transition.

Figure 28. Transit fuel impact by vehicle category (2022 data)

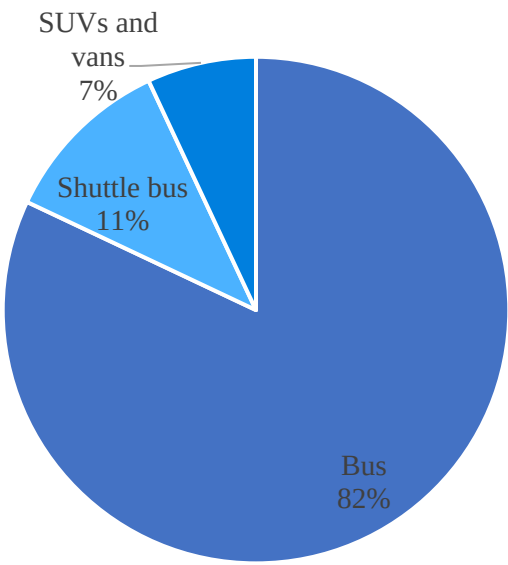


Table 42 shows current miles per gallon for each vehicle type in Metro Transit’s fixed route, contractor, and non-revenue fleets.

Table 42. Metro Transit fleet miles per gallon for each vehicle type

Fixed-Route Fleet	Avg. MPG
Transit Bus	5.4
Contractor Fleet	
Shuttle Bus	7.8
Passenger Van	18.4
Non-Revenue Fleet	
Small SUV	29.6
Mid-Size SUV	24.0
Heavy-Duty Pickup	13.4

The project team worked to gather information on the performance and costs of both Battery Electric Buses (BEBs) and Fuel Cell Electric Buses (FCEBs) as potential technologies. The cost of constructing hydrogen

fueling stations and the additional cost of the PV-powered electrolysis equipment needed to produce emissions-free hydrogen fuel creates a significant barrier to adding FCEBs to Metro Transit’s fleet. Higher fuel cost per mile for hydrogen, compared with diesel or electricity, and fewer examples of other transit agencies in the region that have successfully deployed FCEBs also create concerns for Metro Transit when considering FCEBs. Based on cost, emissions, and market development considerations, the recommendations currently focus on incorporating BEBs, rather than FCEBs, into its fleet. We recommend Transit continue to evaluate the feasibility of FCEBs as the technology develops and more places purchase the buses.

Table 43 shows examples of current Metro Transit and contractor fleet vehicles in each light duty category, as well as examples of alternative electric models. The new gasoline vehicle benchmark lists the approximate cost and fuel efficiency rating for a new conventional vehicle in the same category. The EV incremental cost is the difference between the cost of the new conventional vehicle and the cost of the corresponding EV. It includes the expected reduction in cost from Inflation Reduction Act credits (up to \$7,500 for light duty vehicles and \$40,000 for large vehicles) for each vehicle.⁷⁸ The cost savings per mile is the reduced per mile cost of fueling and maintaining the EV instead of the conventional vehicle. Miles for financial payback indicates the number of miles after which the cumulative benefit of the lower cost of driving the EV would surpass the higher cost of purchasing the EV.

Table 43. Metro Transit EV alternative analysis

Category	Current Vehicle	New gasoline/diesel vehicle benchmark	Ex. EV Alternative	EV Incremental Cost	Cost Savings/Mile	Miles for Financial Payback
Transit Bus	Gillig Bus	5.2 mpg \$457,000	Gillig BEB	\$453,000 ⁷⁹	\$0.672	674,000
Shuttle Bus	Ford Starcraft	7.3 mpg \$130,000	GreenPower Motor Co. AV Star	\$20,000	\$0.438	46,000
Passenger Van	Ford Passenger Van	22 mpg \$40,600	Chrysler Pacifica PHEV	\$0	\$0.120	0
Small SUV	Ford Edge	29 mpg \$32,400	Hyundai Kona	\$2,500	\$0.102	24,000
Mid-size SUV	Ford Explorer	21 mpg \$36,800	Hyundai Ioniq 5	\$8,500	\$0.137	62,000

The types of light duty vehicles and the shuttle buses in the contractor fleet and in Metro Transit’s non-revenue fleet can be cost-effectively replaced with electric alternatives when the existing vehicles are ready to be retired. However, without supplemental funding from the FTA Low- and No-Emissions grant program, or other sources, replacing existing buses with BEBs is not cost-effective.

Therefore, we recommend that Metro Transit start by transitioning its light duty vehicles and its Contractor Fleet to EVs and continue to explore funding opportunities for bus replacements. When each of Metro Transit’s three SUVs reaches the end of its service life, we recommend the department replace it with a cost-effective electric alternative.

Table 44 shows the potential savings from replacing all of Metro Transit’s vehicles in the applicable categories with electric models. We recommend that the department continue to watch the low-carbon bus market and funding opportunities.

⁷⁸ The value of any available Federal tax credits are applied to the EV MSRP to calculate the EV incremental cost.

⁷⁹ Incremental cost assumes \$40,000 Commercial Clean Vehicle Tax Credit, but no other grant funding. Incremental Cost and Miles for Financial Payback would decrease significantly with supplemental funding through the FTA’s Low- and No-Emissions Bus Grant program.

Additionally, as the City transitions to a higher percent renewable electricity, these emissions savings will continue to increase for each vehicle.

Table 44. Estimated savings for Metro Transit and contractor fleet for full EV transition

Vehicle category	Operating Cost Savings	Emissions Savings (MT CO ₂)
Fixed Route and Non-Revenue Fleet		
Transit Bus	\$422,235	484.6
Small SUV	\$391	0.5
Mid-size SUV	\$633	1.0
Metro Transit Total	\$423,259	486.1
Contractor Fleet		
Passenger Van	\$30,833	38.7
Shuttle Bus	\$57,552	127.2
Contractor Total	\$88,385	165.9
Grand Total	\$511,644	652.0

Metro Transit contracts with a third party to provide paratransit and on-demand transportation services to the Green Bay community. While the department does not own the vehicles that provide paratransit and on-demand transportation, it has the ability to influence the third-party vendor through its contract for service. We recommend that the department communicate with the contractor regarding its commitment to transition to a zero-emissions fleet and negotiate contractual requirements that would direct the vendor to develop a plan for a parallel transition of its fleet vehicles. The department may use information in this report regarding fuel and maintenance cost savings opportunities that it could achieve by shifting to electric passenger vans and shuttle buses to support its negotiations with the contractor.

Most light duty EVs can be driven over 200 miles between charges. Based on the low annual mileage of the department's SUVs, the non-revenue light duty EVs may only require charging 1-2 times per week. Therefore, the department may only need to install 1-2 level 2 charging stations at its facility to support the electric SUVs. (Background information on types of EV chargers and costs is included in the Charging Infrastructure section.) As the department adds charging infrastructure for initial SUV vehicles, we recommend:

- Assess total future electrical service needs when upgrading for new vehicle charging stations. When planning for any electrical service upgrades or laying of new conduit, assess the total potential number of EVs that may be stationed at the location and the corresponding number of charging stations needed. As the department prepares to install charging stations at its facility, it can support long-term cost savings by including future charging needs in current electrical upgrade plans.
- Consider how many vehicles a single charger can support. The average daily miles driven for non-revenue light duty vehicles recommended for replacement suggests that EV alternatives may not require daily charging, thus allowing one level 2 charging station to support two or three EVs. Decisions on number of EV chargers should consider anticipated daily mileage for the initial group of EVs, the number and daily mileage of EVs that the department is likely to add, and any potential for vehicles to require more frequent charging during periods of high use.
- Assign vehicle parking locations to enable charging. Installing charging stations inside garage areas or near building exteriors is likely to require Metro Transit to add the least conduit to connect the stations to the electrical panel. We recommend that the department reserve locations in garages or near buildings where it will park EVs and establish a policy that prohibits non-EVs from parking in these spots.

The charging infrastructure strategy needed to support BEBs would require an assessment by trained electricians to understand upgrades needed and electrical service constraints.

Water Utility

Baseline Data

The Green Bay Water Utility is responsible for all drinking water distribution in the City of Green Bay, and has numerous facilities related to pumping, storing, cleaning, and distributing the water. The sources of energy for the Water Utility are therefore different than the typical fleet and buildings breakdown as seen for other departments. Table 45 illustrates the CO₂ emissions and energy costs for each major source of energy. The pumps are the most significant source of CO₂ emissions and cost followed by the Filter Plant. These facilities do significant work in cleaning and distributing water for the City of Green Bay.

Table 45. Water Utility CO₂ emissions and cost data (2021 data)

Source	Carbon Emissions (metric tons)	Cost
Pumps	7,444	\$725,815
Filter Plant	1,229	\$150,895
Fleet	376	\$160,795
Wells	62	\$23,810
Main Building	319	\$38,265
Booster Stations	175	\$39,660
PRV Stations	54	\$14,265
Tanks	37	\$8,035
Misc.	36	\$12,215
Total	9,731	\$1,173,75

Figure 29 illustrates the relative CO₂ impact of Water Utility facilities and vehicles. The pumps contribute the largest portion of emissions, which relates to the constant energy needed to draw and pump water.

Figure 29. Relative CO₂ impact of Water Utility facilities, buildings, and vehicles (2021 data)



Buildings and Operations

The Water Utility has already implemented several energy efficiency initiatives across the facilities. In 2021, the Water Utility renovated its main office building and implemented several energy efficiency design items.

Recognizing the large impact that pumps have on total energy use, the Water Utility initiated a pump efficiency study. We recommend the Water Utility prioritize implementing any recommendations from that study to lower the energy, cost and CO₂ impact from pumps.

Filter Plant

As the Water Utility was undergoing a comprehensive pump study, the team primarily focused on efficiency opportunities for the Filter Plant. The recommendations below provide high-level opportunities for potential savings at the Filter Plant:

- **Install equipment for granular monitoring of equipment.** The filter plant is a large complex with multiple important water treatment processes that run year-round. To fully understand current energy use and understand efficiency opportunities, more granular benchmarking of processes is needed. This will allow the staff to better track energy use from different equipment and processes and compare that to industry standards.
- **Replace the remainder of the lights with LEDs.** The Filter Plant has transitioned roughly 75% of interior lights and none of the exterior lights to LEDs. A full transition will lead to additional savings for the facility. Focus on Energy has incentives for LED replacements.
- **Work with a contractor to identify ways to add better occupancy controls for both lights and HVAC.** As a facility that requires a 24/7 presence, occupancy sensors and controls for lighting could generate electricity savings by ensuring that lights are only on when someone is in that part of the facility. Similarly, occupancy sensors for HVAC could help lower heating costs by only heating sections of the facility with occupants rather than heating the whole facility year-round.
- **Explore potential for steam trap incentives.** The Filter Plant currently uses internal staff to examine and repair their steam traps as needed. Focus on Energy offers incentives for each steam trap examined and any leaky trap repaired. The Water Utility should explore how to leverage those rebates for its existing practices.
- **Work with Focus on Energy to identify rebates for efficiency updates.** The Filter Plant mentioned having VFDs on many pieces of equipment. However, there were some pumps and other pieces of equipment that did not have VFDs. The Filter Plant should identify if there are other opportunities for adding VFDs to improve efficiency and lower energy use.
- **Consider high efficiency heating at replacement:** When the current boilers reach replacement, the Filter Plant should consider high efficiency heating equipment and discuss with a contractor the options for electrification.

Focus on Energy has a water treatment best practice guide that may provide additional guidance on next steps for reducing energy use within the Filter Plant.⁸⁰

⁸⁰ Water and Wastewater Treatment Industry. February 2020. https://assets.focusonenergy.com/production/inline-files/2021/BIZ-EE-Best_Practices-Water_Wastewater.pdf

Solar

Water Utility Main Building



Available roof space: 15,700 square feet available

Utility rates: Flat rate

Wholesale (buyback) energy rate: \$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation:

Annual energy use: ~297,000 kWh

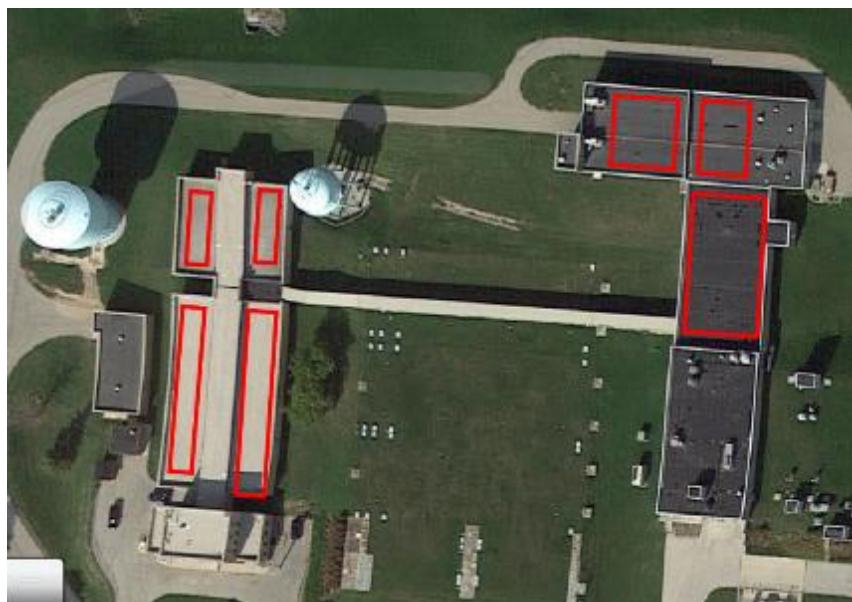
Solar Cost: \$2,000/kW for larger array; \$2,500/kW for smaller array

Table 46 presents two options for the Water Utility. The larger array maximizes the space available on the building's roof while the smaller version minimizes cost. The recommendation is to eventually install the total 157 kW but to start with the 50-kW system as needed for cost reasons. It is a typical approach to install solar on a building in phases to work within budget requirements.

Table 46. Water Utility Main Building two potential solar arrays

Metric	Optimized Solution	50-kW Constraint
System Size (kW DC)	157	50
Payback (years)	11.3	14.3
Percent Renewable Electricity	63%	20%
Lifetime CO ₂ Savings (MT)	3010	958
Lifetime Energy Cost Savings	\$440,661	\$141,240
Total Upfront Cost	\$314,220	\$125,000
Focus on Energy Incentives	(\$20,140)	(\$6,750)
IRA Tax Credit	(\$94,265)	(\$37,500)
Net Cost	\$199,815	\$80,750

Water Utility Filter Plant



Available roof space: 15,000 square feet available

Utility rates: Time of use rate -
\$0.04569/kWh in off-peak;
\$0.07767/kWh in on-peak

Wholesale (buyback) energy rate:
\$0.0472 in off-peak; \$0.05575/kWh in summer on-peak; \$0.05168 in winter off-peak

Orientation: South-facing with 20-degree tilt

Annual energy use: ~1,493,900 kWh

Solar Cost: \$2,000/kW

Table 47 presents the optimized solar option for the Water Utility Filter Plant. The Filter Plant is on a time-of-use rate with lower energy rates per kWh. This lowers the energy cost savings per kWh of solar electricity produced and leads to a higher payback period than most of the other buildings. For that reason, we'd recommend the Water Utility start with the main building and then consider the solar opportunities at the Filter Plant.

Table 47. Water Utility Filter Plant recommended solar arrays

Metric	System Information
System Size (kW DC)	150
Payback (years)	16.2
Percent Renewable Electricity	12%
Lifetime CO ₂ Savings (MT)	3,399
Lifetime Energy Savings	\$294,810
Total Upfront Cost	\$300,000
Focus on Energy Incentives	(\$19,250)
IRA Tax Credit	(\$90,000)
Net Cost	\$190,750

Fleet

The City of Green Bay Water Utility operates roughly 55 vehicles and pieces of equipment to support providing clean water to Green Bay residents and businesses. The combined annual cost for fuel for these vehicles exceeds \$135,000 and fuel combusted to power the vehicles emits over 310 metric tons of CO₂ per year. The vehicle types include large cars, compact pickups, heavy-duty pickups, SUVs, work vans, and large trucks.

Figure 30 illustrates the fuel impact of each vehicle type for the Water Utility fleet. The fuel impact translates directly into cost and CO₂ baseline numbers, so the percentages are representative of the impact across vehicle types for both fuel cost and CO₂ emissions. The vehicle types in blue (large cars, SUVs, and work vans) are the vehicle types with identified EV alternatives. While there is not a cost-competitive EV option to replace compact pickup trucks, the category is shown in blue because we recommend a hybrid option for these vehicles. At this point, there are not cost-competitive alternatives for the heavy-duty vehicles that are responsible for the majority of the Water Utility’s fuel costs and emissions.

Figure 30. Water Utility fuel impact by vehicle category (2021 data)

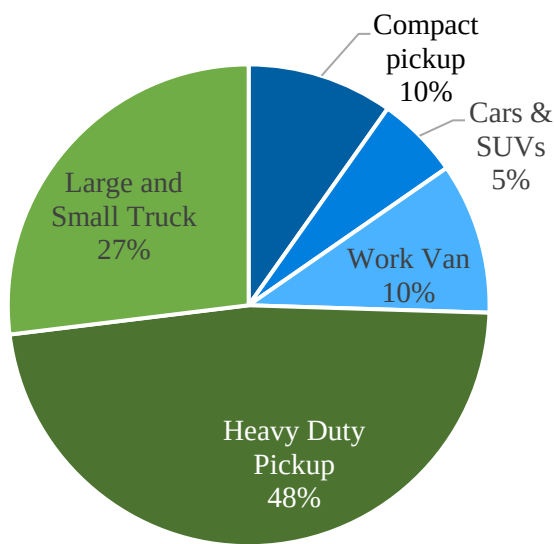


Table 48 shows miles per gallon fuel economy for each vehicle type in the current Water Utility fleet.

Table 48. Water Utility fleet miles per gallon for each vehicle type

Vehicle category	Avg. MPG
Large Car	20.4
Compact Pickup	13.9
Small SUV	25.0
Mid-size SUV	16.3
Work Van	10.4
Heavy-Duty Pickup	7.3
Large Truck	4.1

Table 49 shows examples of current Water Utility vehicles in each light duty category, as well as examples of alternative electric and hybrid models. The new gasoline vehicle benchmark lists the approximate cost and fuel efficiency rating for a new conventional vehicle in the same category. The EV incremental cost is the difference between the cost of the new conventional vehicle and the cost of the corresponding efficient or electric vehicle. It includes the expected reduction in cost from the Commercial Clean Vehicle Tax Credit (up to \$7,500), which

the Inflation Reduction made available to local governments, for each vehicle.⁸¹ The cost savings per mile is the reduced per mile cost of fueling and maintaining the EV instead of the conventional vehicle. Miles for financial payback indicates the number of miles after which the cumulative benefit of the lower cost of driving the EV would surpass the higher cost (if any) of purchasing the EV.

Table 49. Water Utility EV alternative analysis

Category	Current Vehicle	New gasoline vehicle benchmark	Ex. EV Alternative	EV Incremental Cost	Cost Savings/Mile	Miles for Financial Payback
Large Car	Chevrolet Impala	31 mpg \$31,000	Chevrolet Bolt EUV	\$0	\$0.093	0
Compact Pickup	Chevrolet Colorado	23 mpg \$29,200	Ford Maverick Hybrid*	\$0	\$0.050	0
Small SUV	Chevrolet Equinox	29 mpg \$32,428	Hyundai Kona	\$2,500	\$0.102	24,000
Mid-size SUV	Dodge Journey	21 mpg \$36,800	Hyundai Ioniq 5	\$8,500	\$0.137	62,000
Work van	Chevrolet G2500 Express	25.5 mpg \$44,500	Ford E-Transit	\$3,600	\$0.093	36,200

*No cost-effective EV is now available in this category. The proposed vehicle is a standard hybrid, which is more fuel efficient and has lower cost than the conventional alternative.

The Water Utility has one or more large cars, compact pickups, small SUVs, and work vans that are 10 or more years old, and which may be ready for replacement in the near term. The utility may most cost-effectively add EVs to its fleet by adding vehicles through regular replacement cycles. Therefore, we recommend that the water utility start its transition to EVs by replacing two existing work vans and a small SUV with alternative electric models. Replacement of the pilot vehicles could lead to 22% - 47% savings in CO₂ emissions and 53% - 62% operational cost savings per vehicle.

We also recommend that the utility consider replacing its aging compact pickups with hybrid models as these vehicles reach replacement age. The conventional hybrid models will marginally reduce fuel costs and emissions while requiring no investment in charging infrastructure.

Table 50 shows the potential savings from replacing all Water Utility vehicles in the applicable categories with electric or hybrid models. As vehicles reach replacement age, we recommend transitioning them to EVs. As EV technology and the EV market continue to progress, we anticipate that EV options will emerge for additional vehicles. We recommend that the utility continue to monitor the market to identify new EV opportunities.

Additionally, as the City transitions to a higher percent renewable electricity, these emissions savings will continue to increase for each vehicle.

Table 50. Estimated Water Utility annual savings for full light duty EV transition

Vehicle category	Operating Cost Savings	Emissions Savings (MT CO ₂)
Large Car	\$589	0.7
Compact Pickup	\$4,368	7.0
Small SUV	\$3,006	4.0
Mid-size SUV	\$1,239	2.0
Work van	\$3,698	2.8
Total	\$12,900	16.5

⁸¹ The value of any available Federal tax credits are applied to the EV MSRP to calculate the EV incremental cost.

The utility will need to install an adequate number of level 2 charging stations to support the three EVs in the pilot phase (background information on EV chargers and costs is included in the section, Charging Infrastructure.)

Based on the number of miles driven annually by most vehicles, if all three vehicles will be primarily parked at the Water Utility's main building, the utility should start by installing 2-3 charging ports at the main building to support these vehicles. As the utility adds charging infrastructure for initial vehicles, we recommend consideration of:

- Assess total future electrical service needs when upgrading for new vehicle charging stations. When planning for any electrical service upgrades or laying of new conduit, assess total potential EVs that may be stationed at the location and the corresponding associated number of charging stations needed. Support long-term cost savings by including future needs in current upgrade plans.
- Consider how many vehicles a single charger can support. The two oldest work vans are driven 5,000 – 6,000 miles annually. The range per charge of one of the leading electric models of electric work van is 116 miles.⁸² Depending on the likelihood of the two vans having concurrent high mileage days, the utility may plan for installing one port per van or it may determine that one port could support both vehicles. The small SUV that is recommended for the pilot is driven over 24,000 miles per year; however, small SUV EVs can drive 200 – 250 miles between charges. If the small SUV is expected to regularly have mileage days, it may be beneficial for the utility to install a port dedicated for this vehicle.
- Assign vehicle parking locations to enable charging. Installing charging stations inside garage areas or near building exteriors is likely to require the Water Utility to add the least conduit to connect the stations to the electrical panel. We recommend that the utility reserve locations in garages or near buildings where it will park EVs and establish a policy that prohibits non-EVs from parking in these spots.

⁸² A driving range of 116 miles is considerably lower than typical ranges for most light duty EVs.

Inspections

Fleet

The City of Green Bay’s Inspections department operates roughly 17 vehicles to visit building sites and complete administrative functions. The combined annual cost for fuel for these vehicles exceeds \$20,000 and fuel combusted to power the vehicles emits over 48 metric tons of CO₂ per year. The vehicle types include mid-size cars, full-size pickups, heavy-duty pickups, and small- and mid-size SUVs.

Figure 31 illustrates the fuel impact of each vehicle type for the Water Utility fleet. The fuel impact translates directly into cost and CO₂ baseline numbers, so the percentages are representative of the impact across vehicle types for both fuel cost and CO₂ emissions. The vehicle types in blue (cars, SUVs, and full-size pickups) are the vehicle types with identified EV alternatives. As shown in the figure, EV alternatives are commercially available for most of the types of vehicles that the department operates.

Figure 31. Inspections Department fuel impact by vehicle category

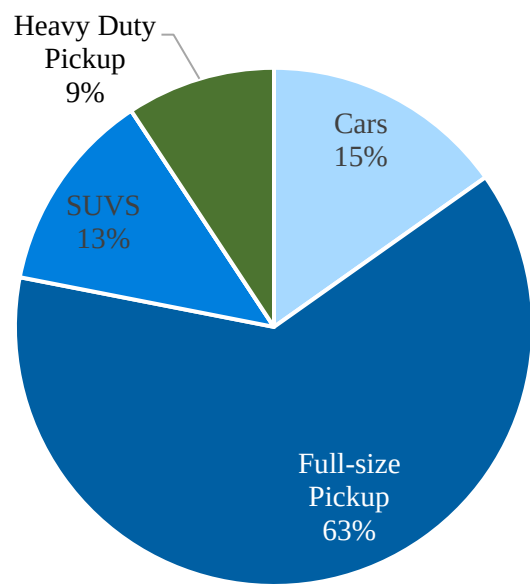


Table 51 shows miles per gallon fuel economy for each vehicle type in the current Inspections department fleet.

Table 51. Inspections department fleet miles per gallon for each vehicle type

Vehicle category	Avg. MPG
Mid-size Car	16.8
Full-size Pickup	10.8
Heavy-duty Pickup	1.8
Small SUV	12.6
Mid-size SUV	10.0

Table 52 shows examples of current Inspections department vehicles in each light duty category, as well as examples of alternative electric models. The new gasoline vehicle benchmark lists the approximate cost and fuel efficiency rating for a new conventional vehicle in the same category. The EV incremental cost is the difference between the cost of the new conventional vehicle and the cost of the corresponding EV. It includes the expected reduction in cost from the Commercial Clean Vehicle Tax Credit (up to \$7,500), which the Inflation Reduction made available to local governments, for each vehicle.⁸³ The cost savings per mile is the reduced per mile cost

⁸³ The value of any available Federal tax credits are applied to the EV MSRP to calculate the EV incremental cost.

of fueling and maintaining the EV instead of the conventional vehicle. Miles for financial payback indicates the number of miles after which the cumulative benefit of the lower cost of driving the EV would surpass the higher cost of purchasing the EV.

Table 52. Inspections Department EV alternative analysis

Category	Current Vehicle	New gasoline vehicle benchmark		Ex. EV Alternative	EV Incremental Cost	Cost Savings/Mile	Miles for Financial Payback
Mid-size Car	Ford Focus	34.5 mpg	\$24,600	Chevrolet Bolt EV	\$0	\$0.084	0
Full-size Pickup	Chevrolet 1500	20 mpg	\$41,800	Ford Lightning	\$8,600	\$0.123	70,000
Small SUV	Jeep Patriot	29 mpg	\$32,428	Hyundai Kona	\$2,500	\$0.102	24,000
Mid-size SUV	Dodge Journey	21 mpg	\$36,800	Hyundai Ioniq 5	\$8,500	\$0.137	62,000

Although cost-competitive EV alternatives are available for most of the Inspections Department's fleet, the department does not have a separate facility where it stores its vehicles and where it could install charging systems. Until it is able to identify a location where it could install charging ports to refuel the vehicles, the department will not be able to move forward with converting its existing vehicles to electric alternatives.

Table 53 shows the potential savings from replacing all Inspections department vehicles in the applicable categories with electric models.

Currently, there is not a cost-effective electric heavy-duty pickup truck; however, several manufacturers have announced that they are developing EVs in this category. As the market and technology continue to progress, we anticipate that cost-competitive electric vehicle options will emerge for this vehicle category in the near future. We recommend that the City continue to monitor the EV market to identify new EV opportunities.

Additionally, as the City transitions to a higher percent renewable electricity, these emissions savings will continue to increase for each vehicle.

Table 53. Estimated Inspections department annual savings for full light duty EV adoption

Vehicle category	Operating Cost Savings	Emissions Savings (MT CO ₂)
Mid-size car	\$1,233	1.2
Full Size Pickup	\$4,758	5.5
Small SUV	\$795	1.1
Mid-size SUV	\$144	0.2
Total	\$6,930	8.0

Because of the savings potential of converting to EVs, we recommend that the City develop a strategy for providing EV charging ports to support vehicles used by the City departments that operate from City Hall.

Parking & IT

Fleet

Together, the Parking and IT departments operate roughly 14 vehicles and pieces of equipment for parking enforcement and administrative functions. The combined annual cost for fuel for these vehicles exceeds \$27,000 and fuel combusted to power the vehicles emits over 65 metric tons of CO₂ per year. The vehicle types include a compact pickup, a full-size pickup, heavy-duty pickups, and SUVs.

Figure 32 illustrates the fuel impact of each vehicle type for the Water Utility fleet. The fuel impact translates directly into cost and CO₂ baseline numbers, so the percentages are representative of the impact across vehicle types for both fuel cost and CO₂ emissions. The vehicle types in blue (SUVs and full-size pickups) are the vehicle types with identified EV alternatives. At this point, there are not cost-competitive alternatives for the heavy-duty pickup trucks.

Figure 32. Parking Department and IT Department fuel impact by vehicle category

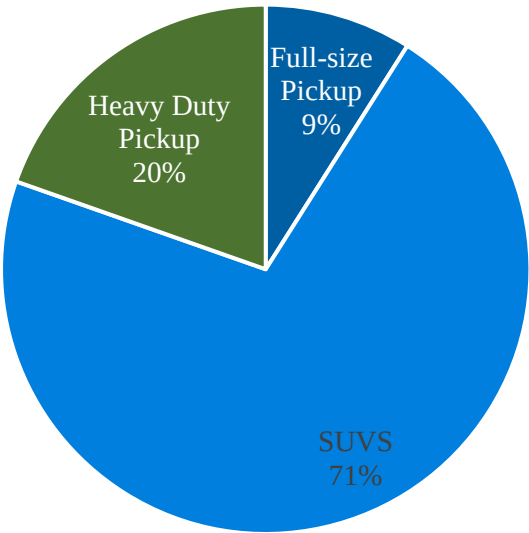


Table 54 shows current miles per gallon for each vehicle type in the current combined fleets of the two departments.

Table 54. Parking and IT fleet miles per gallon for each vehicle type

Vehicle category	Avg. MPG
Compact Pickup	13.2
Full-size Pickup	6.7
Small SUV	11.2
Hybrid SUV	13.9
Heavy-Duty Pickup	5.2

Table 55 shows examples of current vehicles in each light duty category, as well as examples of alternative electric models. The new gasoline vehicle benchmark lists the approximate cost and fuel efficiency rating for a new conventional vehicle in the same category. The EV incremental cost is the difference between the cost of the new conventional vehicle and the cost of the corresponding EV. It includes the expected reduction in cost from the Commercial Clean Vehicle Tax Credit (up to \$7,500), which the Inflation Reduction made available to

local governments, for each vehicle.⁸⁴ The cost savings per mile is the reduced per mile cost of fueling and maintaining the EV instead of the conventional vehicle. Miles for financial payback indicates the number of miles after which the cumulative benefit of the lower cost of driving the EV would surpass the higher cost of purchasing the EV.

Table 55. Parking and IT Department Efficiency and EV Alternative Analysis

Category	Current Vehicle	New gasoline vehicle benchmark	Ex. EV Alternative	EV Incremental Cost	Cost Savings/Mile	Miles for Financial Payback
Compact Pickup	Chevrolet Colorado	23 mpg \$29,200	Ford Maverick Hybrid*	\$0	\$0.050	0
Full-size Pickup	Chevrolet 1500	20 mpg \$41,800	Ford Lightning	\$8,600	\$0.123	70,000
Small SUV	Jeep Wrangler	29 mpg \$32,428	Hyundai Kona	\$2,500	\$0.102	24,000
Hybrid SUV	Ford Escape – Hybrid	40 mpg \$34,900	Hyundai Kona	\$0	\$0.076	0

*No cost-effective EV is now available in this category. The proposed vehicle is a standard hybrid, which is more fuel efficient and has lower cost than the conventional alternative.

The departments have at least one small SUV, hybrid SUV, and full-size pickup truck that are 10 or more years old and which may be ready for replacement in the near term. Although cost-competitive EV alternatives are available for most of the departments' fleet, the departments do not have a separate facility where it stores its vehicles and where it could install charging systems. Until the City is able to identify a location where it could install charging ports to refuel the vehicles, the departments will not be able to move forward with converting its existing vehicles to electric alternatives.

Table 56 shows the potential savings from replacing all Parking and IT vehicles in the applicable categories with electric models. Currently, there is not a cost-effective electric heavy-duty pickup truck; however, several manufacturers have announced that they are developing EVs in this category. As the market and technology continue to progress, we anticipate that cost-competitive electric vehicle options will emerge for this vehicle category in the near future. We recommend that the City continue to monitor the EV market to identify new EV opportunities.

Additionally, as the City transitions to a higher percent renewable electricity, these emissions savings will continue to increase for each vehicle.

Table 56. Estimated Parking and IT annual savings for full light duty EV and efficient vehicle adoption

Vehicle category	Operating Cost Savings	Emissions Savings (MT CO ₂)
Compact Pickup	\$185	0.3
Full Size Pickup	\$339	0.4
Small SUV	\$4,969	6.6
Hybrid SUV	\$222	0.2
Total	\$5,715	7.5

Because of the savings potential of converting to EVs, we recommend that the City develop a strategy for providing EV charging ports to support vehicles used by the City departments that operate from City Hall.

⁸⁴ The value of any available Federal tax credits are applied to the EV MSRP to calculate the EV incremental cost.

APPENDIX B: SURVEY RESULTS

Residential Results

The residential survey had 650 responses. With a population of 107,000, the survey sample leads to a margin of error around 4%. This means that there is 95% confidence that the survey results fall within plus or minus 4% of the reported number. For example, if 50% of respondents stated agreement with a statement, there'd be a 95% confidence that the actual population results fall within 46% and 54%. In some situations, the responses will add up to more than 100% due to rounding.

Table 57 includes responses to the question that asked for support on possible future energy actions. The results show that over 50% of respondents support or strongly support the majority of actions.

Table 57. Responses to question “Please rate your support for the following possible future actions.”

Strategy	Strongly Oppose	Somewhat Oppose	Neutral	Somewhat Support	Strongly Support
Develop additional biking/walking trails	9%	5%	14%	20%	52%
Promote existing transit options	7%	3%	20%	26%	44%
Increase public transportation options	10%	6%	19%	22%	43%
Install more EV charging in the city	22%	9%	13%	19%	37%
Increase share of renewable energy	16%	8%	8%	16%	52%
Offer financial support for residents	18%	5%	9%	18%	50%
Educate the community about energy savings	5%	3%	13%	18%	61%
Strengthen EE requirements for new buildings	16%	7%	7%	22%	48%
Update existing buildings to save energy	11%	7%	12%	27%	43%

Table 58 details responses for how residents use and manage energy within their homes.

Table 58. Responses to question “Indicate your level of agreement with the following statements on how you manage energy use”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Saving energy is important to my household	1%	1%	8%	41%	49%
Using renewable energy is important to my household	11%	9%	21%	28%	31%
Our household has made changes to our home or household	3%	5%	16%	50%	26%
Minimizing amount of gasoline is a priority	13%	13%	22%	34%	18%

Table 59 includes responses when asked what barriers exist for saving energy or shifting to renewable energy. The results indicate that cost is the top concern across respondents.

Table 59. Responses to question “What gets in the way of your household saving energy or shifting to using renewable energy?”

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
EE improvements are too expensive	2%	9%	21%	36%	31%
Solar is too expensive	1%	5%	14%	32%	48%
My landlord does not want to spend money	2%	7%	30%	21%	40%
I have to prioritize other things	6%	16%	30%	37%	11%
I do not know how to save energy	30%	38%	17%	13%	2%
Contractors are hard to find	7%	12%	59%	16%	6%
Nothing!	20%	30%	36%	12%	2%
I am not interested in saving energy	53%	32%	9%	4%	2%
I am not interested in renewables	47%	23%	12%	8%	10%

Table 60 indicates the energy actions that respondents had previously taken to reduce energy use. The most common actions were adjusting thermostats, using LEDs, and shutting off appliances and lights. The percentages listed indicate the total percent of respondents that selected the option.

Table 60. Responses to question “Which actions has your household taken to reduce energy use?”

Energy Action	Percent of Respondents
Adjust thermostat to save energy	85%
Purchase alternative sources of energy	5%
Installed a smart thermostat	44%
Installed extra insulation or windows	53%
Upgraded to high-efficiency heating, cooling, or water heating equipment	2%
Replaced lightbulbs with LEDs	88%
Installed low flow faucets, showers, or toilets	45%
Shutting off appliances and lights more often when I’m not using them	85%
Purchased a hybrid or electric vehicle	12%
Choosing to walk, bike, or take the bus more often	20%

Table 61 details what environmental trends are concerning to Green Bay residents. The highest number of respondents selected higher utility bills. The percentages listed indicate the total percent of respondents that selected the option.

Table 61. Responses to the question “Which of the following recent trends (in Green Bay and elsewhere) are concerning to you?”

Environmental Concerns	Percent of Respondents
Agriculture challenges	34%
Our ability to accommodate displaced people	39%
Longer periods without rain	25%
More frequent periods of extreme heat or cold	34%
Flooding	36%
Heavier rainfalls	27%
Higher utility bill costs	72%
Longer allergy season	20%
None	4%
Reduced air quality	44%

Table 62 indicates the modes of transportation residential respondents often use. The most frequent method of transportation is driving alone.

Table 62. Responses to the question “How frequently do you use each of the following transportation options?”

Transportation Method	Frequency	Percent of Respondents
Ride the bus	Frequently	1%
Ride the bus	Rarely or Never	98%
Ride the bus	Sometimes	2%
Ride in a car with others	Frequently	21%
Ride in a car with others	Rarely or Never	33%
Ride in a car with others	Sometimes	46%
Drive by myself	Frequently	85%
Drive by myself	Rarely or Never	2%
Drive by myself	Sometimes	13%
Use other motorized transportation	Frequently	6%
Use other motorized transportation	Rarely or Never	85%
Use other motorized transportation	Sometimes	9%
Walk or ride a bike	Frequently	6%
Walk or ride a bike	Rarely or Never	70%
Walk or ride a bike	Sometimes	24%

Demographics

Table 63 indicates the age group distribution of the survey respondents. The results indicate an even distribution across age groups.

Table 63. Age distribution of respondents

Age Group	Percent of Respondents
19 to 29 years old	6%
30 to 39 years old	18%
40 to 49 years old	17%
50 to 59 years old	19%
60 to 69 years old	24%
70 to 79 years old	14%
80 to 89 years old	2%

Table 64 indicates the housing type distribution of the survey respondents. The results indicate a skew towards 1-4 unit homes.

Table 64. Housing type distribution of respondents

Housing Type	Percent of Respondents
I own a condominium unit	3%
I own, and reside in, a 1-4 unit house	86%
I rent an apartment or house	7%
I stay in someone else's home	1%
Other	3%

Table 65 details the income level of the survey respondents. The results indicate a relatively well-spread distribution of income groups.

Table 65. Annual income distribution of respondents

Income Level	Percent of Respondents
Less than \$10,000	1%
\$10,000 to \$29,000	6%
\$30,000 to \$49,000	14%
\$50,000 to \$69,000	18%
\$70,000 to \$89,000	22%
\$90,000 to \$149,000	28%
\$150,000 or more	11%

Table 66 indicates the distribution of residential respondents across zip codes.

Table 66. Geographic distribution of respondents

Zip Code	Percent of Respondents
54229	1%
54301	18%
54302	14%
54303	17%
54304	26%
54311	11%
54313	12%
Other	<2%

Table 67 indicates the race of respondents. The results show a skew towards white respondents.

Table 67. Race of respondents

Race	Percent of Respondents
American Indian or Alaska Native or Native Hawaiian	3%
White	88%
Other	9%

Business Results

The business survey only had 24 unique responses, which is not considered statistically significant. The results are still illustrated here for transparency.

Table 68 indicates business respondents' general perceptions of the existing Green Bay goals.

Table 68. Responses to question "What do you think of Green Bay's energy goals?"

Categories	Percent of Respondents
Not nearly ambitious enough	4%
Could be more ambitious	21%
Just right	46%
Too ambitious	4%
Far too ambitious	12%
Opposed to the goal	13%

Table 69 details the business respondents to potential energy strategies the City could use to reduce energy use. The majority of strategies are supported by the majority of the respondents.

Table 69. Responses to question "Please rate your support for the following possible future actions."

Strategy	Strongly Oppose	Somewhat Oppose	Neutral	Somewhat Support	Strongly Support
Install more EV charging in the city	21%	-	33%	21%	25%
Increase share of renewable energy	17%	4%	8%	13%	58%
Offer financial support for residents	13%	4%	8%	21%	54%
Educate the community about energy savings	17%	4%	8%	12%	58%
Strengthen EE requirements for new buildings	12%	4%	17%	13%	54%
Update existing buildings to save energy	8%	12%	13%	29%	38%

Table 70 indicates the responses to the question around what the City could do to best support businesses in reducing energy use.

Table 70. Responses to question "How could the City best support your business in reducing energy use?"

Support Options	Very Not Helpful	Not Helpful	Neutral	Somewhat Helpful	Very Helpful
Offer financing for EE and renewables	4%	8%	8%	17%	63%
Provide information for businesses on EE	8%	9%	29%	25%	29%
Increase bus service	21%	33%	13%	8%	25%
Publicly recognize businesses	17%	12%	21%	21%	29%
Provide information for businesses on solar	8%	8%	13%	33%	38%

Table 71 shows the responses to how businesses manage energy use at their company.

Table 71. Responses to question “Please rate agreement with how you manage energy use at a company”

Response Options	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Company has worked to reduce energy consumption	4%	8%	21%	25%	42%
Managing energy use is important to profit	-	13%	25%	21%	41%
Reducing energy use is a priority	4%	13%	13%	44%	26%
Transitioning to renewables is a priority	17%	9%	17%	22%	35%

Table 72 details the responses to what barriers get in the way of the company saving energy or shifting to renewable energy. The percentages listed indicate the total percent of respondents that selected the option.

Table 72. Responses to question “what gets in the way of company saving energy or shifting to using renewable energy?”

Barriers	Percent of Respondents
The return on investment (ROI) on energy efficiency improvement is too long.	54%
Building improvements that save energy are too expensive.	50%
Renewable energy systems (like solar panels) are too expensive.	46%
Other projects take priority over energy efficiency improvements.	42%
Our company does not own its facilities, so it cannot make energy saving improvements.	33%
We are unsure how to save energy in our building(s).	8%
We are not interested in using renewable energy.	8%
Nothing holds us back! We are saving energy and transitioning to renewable energy.	4%
We are not interested in saving energy.	4%

Table 73 indicates what previous actions the business respondents have taken to reduce energy use. The percentages listed indicate the total percent of respondents that selected the option.

Table 73. Responses to question “What actions has your company taken to reduce energy use?”

Energy Saving Action	Percent of Respondents
Adjust building temperature to save energy	83%
Added more insulation	50%
Upgraded to energy efficient heating, cooling, or water heating equipment	71%
Hired an energy manager	13%
Install occupancy light controls	50%
Upgrade lights to LEDs	92%
Install low-flow faucets	50%
Modified supply chain or logistics to reduce energy use	17%
Install solar panels	8%
Purchase hybrid or electric vehicles	17%
Appointed staff to lead sustainability efforts	26%
Created an internal energy team	9%
Set energy reduction goal	17%

Demographics

Table 74 shows the size of the building across business respondents.

Table 74. Size of building distribution

Building Size	Percent of Respondents
5,000 ft² or smaller	46%
5,000 ft² - 10,000 ft²	25%
10,001 ft² - 25,000 ft²	8%

Building Size	Percent of Respondents
25,001 ft² - 50,000 ft²	4%
50,001 ft² - 100,000 ft²	4%
More than 100,000 ft²	13%

Table 75 indicates the geographic distribution of business respondents.

Table 75. Geographic distribution of respondents

Zip Code	Percent of Respondents
54303	44%
54301	27%
54302	13%
54304	4%
54311	4%
54313	4%
55301	4%

APPENDIX C: BASELINE DATA METHOD

The communitywide carbon profile was developed through primary data collection, and secondary data or assumptions where needed. The process started in 2019 when the Sustainability Commission worked with University of Wisconsin - Green Bay students to develop the municipal baseline. Over the past year, the team has worked to collect additional data to include all community emissions. The methods followed standard greenhouse gas emissions accounting protocol wherever possible.⁸⁵

Building Energy Use

Building energy use comes from propane, fuel oil, electricity, and natural gas in Green Bay. The natural gas and electricity data comes directly from WPS while propane and fuel oil data come from the Energy Information Administration (EIA) and Census data. The propane and fuel oil data are secondary data as it requires using regional data on average use in a home or per commercial square feet and multiplying by the total number of buildings or homes in Green Bay that use fuel oil or propane.

The municipal energy use comes directly from energy bills for the city. This is subtracted from the total energy use numbers to avoid double counting.

Table 76. Energy use details for carbon baseline

	Non-residential	Residential	Source
Propane Use	-	2,494,675 gallons	Census and EIA data
Fuel Use	621,296 gallons	187,129 gallons	Census data and EIA data
Natural Gas	122,178,611 therms	29,678,627 therms	WPS
Electricity	1,779,435,717 kWh	306,544,084 kWh	WPS

To calculate CO₂ emissions, energy use is multiplied by emissions factors for each fuel. The emissions factors are from EPA's eGrid for electricity⁸⁶ and EPA's Emissions Factors for Greenhouse Gas Inventories for the rest of the fuels.⁸⁷ The emissions factor is the total amount of emissions released per unit of energy generated.

Transportation

Vehicle miles traveled for the City of Green Bay was not available from local sources. Instead, the transportation emissions data is from Google Environmental Insights. The tool provides emissions baselines for vehicle miles traveled within the City using established greenhouse gas inventory methodology. It uses Google data sources from Google maps to produce the estimates of emissions. As a quality check, this data was compared to Brown County vehicle miles traveled multiplied by the amount of roadway in Brown County that falls within the City of Green Bay.

The municipal gasoline and diesel use comes directly from fleet management systems and is subtracted from the total city number to avoid double counting.

Waste and Wastewater

Waste emissions come directly through the generation of greenhouse gas emissions as waste decays in landfills. To generate waste emissions estimates, we collected the total pounds of waste sent to the landfill by the City of Green Bay (~27,000 lbs a year) and used ICLEI methods to calculate resulting emissions.⁸⁸

⁸⁵ The City relied on ICLEI protocol for greenhouse gas accounting (<https://icleiusa.org/ghg-protocols/>) and the EPA's Local Greenhouse Gas Inventory tool (<https://www.epa.gov/statelocalenergy/local-greenhouse-gas-inventory-tool>).

⁸⁶ Electricity emissions factors are here: <https://www.epa.gov/egrid>

⁸⁷ EPA emissions factors for other fuels are here: https://www.epa.gov/sites/default/files/2021-04/documents/emission-factors_apr2021.pdf

⁸⁸ Protocols for calculations are here: <https://icleiusa.org/ghg-protocols/>

For wastewater, we worked with NEW Water to receive estimates of the emissions generated for stationary combustion sources and total population served. Using total population served, we estimated the proportion the City of Green Bay accounts for and multiplied that proportion by the total CO₂ emissions from NEW Water.

RESIDENTIAL ENERGY

NO-COST CHANGES

Turn off lights and unplug equipment when not in use. Equipment can draw power while plugged in even when not in use.

Set a thermostat schedule to save energy. Turn it down a few degrees in winter while sleeping or away. Turn it up a few degrees in summer while away.

Use blinds to manage comfort and lighting. Open blinds can naturally warm your home and provide light. Closed blinds can help keep your home cool.

Use fans efficiently. Push air down in the winter and pull air up in the summer.

Walk, bike, or take more public transportation to reduce transportation costs.

LOW-COST CHANGES

Updates all lights in homes to LEDs. LEDs can save between 40 and 50% of lighting use and have same cost as other bulbs.

Upgrade to programmable or smart thermostat to easily set schedules.

Purchase advanced power strips which turn off items when not in use.

Install weatherstrip, door snakes, or window film to reduce air leaking.

Consider a home assessment by a professional.

SIGNIFICANT INVESTMENTS

Purchase ENERGYSTAR appliances when replacing large equipment.

Consider upgrades to heat pump technology when replacing heating, cooling, or water heating equipment. Prioritize high-efficiency equipment.

Work with qualified contractor to understand potential for added insulation.

Install renewable energy on home.

Purchase an electric vehicle to offset transportation emissions and costs.

Benefits of EE

- Lower energy bills
- Improved comfort in home
- Emissions reductions
- Improved property value
- Health benefits

Financial Resources

Rebates from Focus on Energy:

- Free energy savings packs
- Thermostats rebates
- Insulation rebates
- Heating and cooling equipment) rebates
- Trade ally network
- Solar incentives

Free weatherization for low-income homes through Newcap

Tax credits available for home upgrades, clean energy, and EVs through federal funding

Funding Links

Focus on Energy:

<https://focusonenergy.com/residential>

Federal tax credits:

<https://www.irs.gov/credits-deductions-for-individuals>

Newcap:

https://www.newcap.org/newcap_programs/weatherization-assistance-program/



COMMERCIAL ENERGY

UNDERSTAND BUILDING ENERGY USE

Benchmark building to understand total current energy use and trends over time and compared to similar buildings.

Consider submeter or hourly data tracking to better understand energy use.

IMPLEMENT LOW-COST MEASURES

Develop and implement schedules for heating/cooling through building automation systems or thermostats.

Institute appliance and lighting operation policies to ensure shutdown at night.

Weatherstrip and install air sealing around doors and windows.

Consider an energy audit performed by a trained professional to identify opportunities.

IMPLEMENT MEDIUM COST MEASURES

Updates lights to LEDs and consider daylighting and occupancy controls as part of the upgrade.

Hire a retrocommissioning expert to examine building control systems and determine significant savings.

IMPLEMENT SIGNIFICANT MEASURES

Develop plans for HVAC upgrades to prioritize decarbonization with electrification or high-efficiency equipment at end-of-life.

Consider how to add additional insulation or air sealing during roof upgrades or large-scale building retrofits.

Install renewable energy onsite on roofs or surrounding ground space.

Benefits of EE

- Lower energy bills
- Improved comfort and productivity
- Emissions reductions

Financial Resources

Rebates from Focus on Energy:

- Retrocommissioning or building tune-ups
- LED lighting and controls rebates
- Insulation rebates
- Heating and cooling equipment rebates
- Trade ally network
- Solar incentives

Tax credits available for home upgrades, clean energy, and EVs through federal funding

PACE financing Wisconsin

Funding Links

Focus on Energy:

<https://focusonenergy.com/residential>

Federal tax credits:

<https://www.irs.gov/credits-deductions-for-individuals>

PACE financing:

<https://www.pacewi.org/property-owners-eligible-projects.html>



RENEWABLE ENERGY

Benefits of Renewable Energy

Lower monthly energy bills if installed on home or business

Lower CO₂ emissions and air pollution from fossil fuel generation

Local job creation and economic development

Energy independence and potential for backup power if includes battery storage

Types of Renewable Energy and Estimated Costs

Solar PV

- Converts sunlight into electricity; often installed on roof or as ground system.
- Cost: Roughly \$3 per watt installed

Geothermal

- Uses the ground as a heat source and heat sink to provide heating and cooling for home or business; two to three times more efficient than traditional heating. Requires space to drill underground.

Wind energy systems

- Wind turbines use motion of wind to turn shaft and generate electricity. Requires at least one acre of land.
- Cost: Roughly \$5 per 120 kilowatts

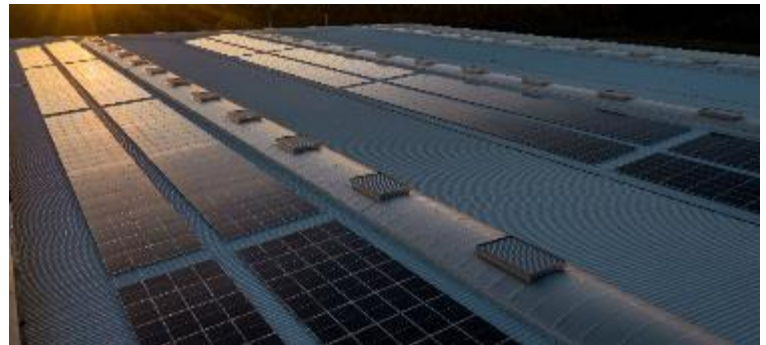
Renewable Energy Utility Programs

Apply for rebates and tax credits

- \$500 for solar on homes from [Focus on Energy](#)
- Up to \$50,000 for [solar on business](#) from Focus on Energy
- 30% tax credit from federal government on all clean energy (see IRA fact sheet)

Participate in NatureWise through WPS

- Purchase 100 kWh blocks of Wisconsin based renewable energy
- Pay an extra \$1.277 per month



INFLATION REDUCTION ACT



Federal law passed in August 2022

Provisions for billions of funding in clean energy



\$227 billion estimated in business tax credits

\$43 billion in residential tax credits

Residential Tax Credits

Available 2023 - 2032

Clean Energy Tax Credit

Eligibility: Solar, geothermal heat pumps, battery storage technology, wind turbines

Amount: 30% tax credit on upfront cost; cannot exceed amount owed in taxes

Energy Efficiency Tax Credit

Eligibility: Home energy improvements, including windows, efficient heating and cooling, doors, heat pumps, insulation or air sealing

Amount: 30% tax credit on upfront costs

Limits: \$1200 annual limit with separate \$2,000 heat pump limit; specific limits for other equipment

Electric Vehicle Tax Credit

Eligibility: New or previously-owned vehicles

Amount: Up to \$7,500 for new models or up to \$4,000 for used vehicles

Restrictions:

- Requirements for manufacturing and mineral extraction to receive credits
- Not available for consumers above certain incomes or vehicles above certain MSRP

Commercial Tax Credits

Available 2023 - 2032

Clean Energy Tax Credit

Eligibility: Solar, geothermal, battery energy storage, wind

Amount: 30% tax credit on upfront cost if below 1 MW or meet prevailing wage and apprenticeship requirements above 1 MW

179D Commercial Tax Credit

Eligibility: Building efficiency improvements for existing and new buildings

Amount: \$0.50 - \$1.00 per square foot if meet 25% energy use reduction over baseline

Bonus: 5 times the base amount if meets prevailing wage and apprentice requirements

Commercial Electric Vehicle Tax Credit

Eligibility: New or leased commercial-owned vehicles

Amount: 15% for plug-in hybrids; 30% tax credit on upfront costs

Limits: \$7,500 for vehicles <14,000 lbs and \$40,000 for all other vehicles

Restrictions: must be from a qualified manufacturer

More information is available online at a variety of sources.

<https://www.whitehouse.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf>

<https://www.rewiringamerica.org/app/ira-calculator>



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.8

Consideration with possible action on request by Department of Public Works to award contract to MJT Trucking for hauling stockpiled street sweepings to the landfill.

BACKGROUND

Department of Public Works stockpiles street sweeping material at the West Side Yard Waste Center site on Hurlbut Street. Once the pile is large enough, a contract is secured with a trucking company to haul the material to the landfill. This activity has historically occurred every 2 to 3 years. This is a standard recurring process. MJT Trucking is the lowest cost responsive bidder this time around. They have performed fine work for DPW in the past.

RECOMMENDATION

Authorize Department of Public Works to enter contract with MJT Trucking to haul stockpiled street sweepings from the West Side Yard Waste Center on Hurlbut Street to the landfill.

FISCAL IMPACT

ATTACHMENTS

1. 2023-61 Quote Summary
2. MJT Trucking LLC

CITY OF GREEN BAY QUOTATION SUMMARY
RFQ #2023-61 Hauling Stockpiled Street Sweepings

DEPT: DPW REQ # 2023-61 DS Planholders: 5 Vendors CC# 96239 ISSUED: 11/06/2023 DUE:		VENDOR #1		VENDOR #2		VENDOR #3	
		MJT Trucking LLC Luxemburg, WI		BEST Enterprise LLC DePere, WI		Dan Brown Trucking LLC Alma Center, WI	
UNIT	DESCRIPTION	ES PRICE	TOTAL	ES PRICE	TOTAL	ES PRICE	TOTAL
EA	Estimate 6,600 Tons-All Labor & Equipment Necessary to Load, Haul & Dispose of Stockpiled Street Sweepings	\$ 8.99	\$ 59,334.00	\$ 11.79	\$ 77,814.00	\$ 13.00	\$ 85,800.00
LEAD TIME:		3 Days		10 Days			
PAYMENT TERMS: NET 30							
EARLY PAYMENT DISCOUNT:		Net 30		Net 30		Net 30	
COMPANY ACCEPTS P-CARD PAYMENTS:		No		No		No	
BID COMPLIANT:		Yes		Yes		Yes	

Recommendation: Award to MJT Trucking LLC in the amount of \$59,334.00

VENDOR #4		VENDOR #5	
MadCity Mulch LLC		Utility Transport Services Inc	
Waunakee, WI		Markham, IL	
ES PRICE	TOTAL	ES PRICE	TOTAL
\$ 14.99	\$ 98,934.00	\$ 15.47	\$102,102.00
1 Days		24-48 Hours	
Net 30		Net 30	
No		Yes	
Yes		Yes	



CITY OF GREEN BAY PURCHASING DEPT

RFQ #: 2023 – 61 Hauling Stockpiled Street Sweepings

To:	Notice to all Vendors	CC: 96239
From:	Troy Van Handel – Buyer	
For Questions:	Email In Writing To PurchasingAg@greenbaywi.gov	
Issue Date:	11/06/2023	
Due Date & Time:	Thursday, November 16, 2023 by 2:00 p.m. (CTS)	

Response to this request is required to be on this specification/worksheet. Additional information may be attached. The City of Green Bay reserves the right to reject any and all quotations or to waive any technicality and accept any quotations that are deemed to be in the best interest of the City. Purchases are Wisconsin Sales and Federal tax-exempt.

METHOD OF SUBMITTAL:

Emailed quotes are permissible or via eBidding platform on DemandStar, sealed envelope by mail, delivery or in person. Faxed quotes will **NOT** be considered.

2023 – 61 Hauling Stockpiled Street Sweepings
City of Green Bay Purchasing Department
100 North Jefferson St. – Room 101
Green Bay, WI 54301

Bids must be delivered as instructed. Deliveries to other City departments and/or locations may result in disqualification.

When mailing your response via a third-party delivery service, the outside of the packaging **MUST** be clearly marked with the RFB name and number. This ensures that the bid can be delivered to the correct purchasing agent w/o having to open the bid.

DESCRIPTION OF MATERIALS	EA PRICE	TOTAL
ESTIMATE 6,600 TONS – All Labor & Equipment Necessary To Load, Haul, & Dispose of Stockpiled Street Sweepings.		
ROUTE – City of Green Bay's West Side Yard Waste Center (1445 Hurlbut Street, Green Bay, WI) to the Outagamie County Landfill (1419 Holland Road, Appleton, WI).		
INDICATE PRICE PER TON (Contractor Supplies Loader & Loads Own Vehicle)		
TOTAL	\$ 8.99 /TON	\$ 59,334

Items May Be Awarded Individually By Line

LEAD TIME (Upon receipt of order)
3 days
PAYMENT TERMS (Net 30)
Yes ☒ No ☐ Other ☐
EARLY PAYMENT DISCOUNT (Special Terms)
STATE IF COMPANY ACCEPTS PAYMENT BY CREDIT CARD (The City Will Not Pay Fees Associated w/ Credit Card Purchases)
Yes ☐ No ☒ Other ☐

ADDENDUMS:

Any addendums will be posted on DemandStar and VendorNet. It is the Vendors responsibility to check these sites.

The undersigned here by acknowledges receipt of the following addenda:

Addendum Number: 1 11/13/2023

Mike Tebon
SIGNATURE

November 13, 2023
DATE

VENDOR'S SIGNATURE & INFORMATION:

Vendor Full Legal Company Name: MJT Trucking LLC

Street Address: E510 Macco Rd

City, State, Zip Code: Luxemburg, WI

Bidder's Contact Name & Title (Print): Mike Tebon, President

Phone # & Fax # 920-371-0774

Taxpayer I.D. Number: 20-3240373

Date: November 13, 2023

Email Address: mcbb3@centurytel.net

Authorized Signature: Mike Tebon

Thank You For Your Time And Interest In Doing Business With The City Of Green Bay.



Addendum #: 1

RFB#: 2023-61 Hauling Stockpiled Street Sweepings

RFQ Due Date: November 16, 2023, by 2:00 p.m. (CT)

The purpose of this Addendum is to clarify questions received from Vendors and notify Vendors of changes made to the specifications on this bid. Vendors must acknowledge receipt of any and all Addenda in the space provided in the bid documents. Failure to do so may result in rejection of the proposal. All requirements of the proposal documents remain unchanged except as cited herein.

Information contained in this Addendum will be included in any subsequent contractual agreement between the City and the successful bidder(s).

Questions & Answers, Clarifications, or Modifications Below.

Vendor to provide price quote as follows. Prices to include all delivery charges, EXCLUDING tipping fees. The selected Contractor will be paid based on the scale weights at the landfill, but the City is paying the landfill directly for the tipping fees (disposal).

Vendor to assure proper weight upon loading vehicle. If vendor vehicle would be found overweight by law enforcement or a vehicular mishap would occur due to improper loading, the City would not be held liable.

Question 1: What is the consistency of the street sweepings? Mostly sand/gravel or more organic material?

Answer: Sand, dirt, street trash/debris. The pile is outside and uncovered and compressed.

Question 2: Are they stored outside or in a shed/Quonset hut? If inside how high is the roof?

Answer: Outside, no roof cover.

Question 3: What time does your facility open and close? Is it gated or could we have access after hours to haul?

Answer: Our current hours are 7:15 am-4:30 pm through 11/22. Starting after Thanksgiving, our hours go down to 7:15 am-2:30 pm. It does have a locked gate. We have had contractors leave their loader on-site to load when they'd like, and we can get you access to the gate.

Question 4: Is there a loading ramp near the pile?

Answer: No ramp, but shouldn't be necessary.

Question 5: Is the physical location at 1445 or 1470 Hurlbut St?

Answer: 1470 Hurlbut St – there are two gates – one for public drop-off, one for contractors. You would need the contractor side which would be located down Hurlbut on the SE end.

Question 6: Do street sweepings get hauled to the landfill every year?

Answer: Historically street sweepings have been hauled every 2 to 4 years. After this mass haul project is complete, DPW is looking at either 1) hauling sweepings to the landfill weekly itself, or 2) contracting with a vendor to haul sweepings weekly to the landfill. No decision has been made on this item yet.

Question 7: Is the 6,600 tons based off the previous sweepings haul? And is this pile about the same size?

Answer: No and no. Sweepings volume varies depending on interval between hauls. Volume of the sweepings pile is measured for each individual haul project.

Question 8: Who was awarded the previous contract and at what price per ton?

Answer: The last sweepings haul was completed between the dates of 6/5/21 and 11/5/21 by MJT Trucking. That contract bid was \$8.49 per ton. The total haul was 9,266.41 tons.

Question 9: Is there a ceiling amount to this contract if there ends up being more than 6,600 tons, or once we hit 6,600 we would stop?

Answer: The ceiling amount is the actual content of the sweepings pile. DPW measures sweepings pile volume for each haul project. Tonnage estimate is based on a historic density number of 1.1 tons per cubic yard. DPW expects the successful bidder to haul the entire pile regardless of estimated volume and weight.

Question 10: Does DPW have a contact at the Outagamie County landfill to arrange for early/late deliveries?

Answer: DPW has never worked alternate delivery times with the (old) Outagamie County or (new) Brown County Landfills. Their hours are pretty much set. We suspect a fee would be charged if they are open outside of regular hours because they must have staff and equipment on-site whenever open. The answer to this question can be posed to the Brown County Port and Resource Recovery Department at (920) 492-4950.

Question 11: Can the contractor start loading each day before 7 AM?

Answer: Yes, DPW will arrange access to the site with the successful haul contractor.

Question 12: Is there room to park dump trucks overnight at the DPW facility?

Answer: Yes, DPW will arrange access and on-site equipment storage with the successful contractor.

Question 13: Are the 6,600 tons stockpiled and ready to be hauled, or is the material generated over a period of time.

Answer: 6,600 is an estimate, but is available to be hauled immediately.

Question 12: How many square feet is the proposed playground area?

Answer: The Sullivan Park Proposed Area Map file is available to download. The map is scaled to print as an 8.5" x 11" with 1" = 40'. (Anne) Sullivan Park is approximately 9,742 Ft².

Question 13: What is the actual density of street sweepings?

Answer: DPW does not know the actual density. We measure/estimate the sweepings pile volume. When the haul project is over, we know the tonnage. The actual tons hauled divided by the measured/estimated volume is the density we estimate. Currently that number is around 1.1 tons per cubic yard. Vendors are welcome to sample density if they wish.

*****End of Addendum*****



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.9

Consideration with possible action on request by Department of Public Works to award the professional engineering services contract for stormwater restoration projects at Baird Creek Burgundy Court and Twin Pines Court to Ruekert & Mielke, Inc. (R/M).

BACKGROUND

The Baird Creek-Burgundy Ct. and Bairds Creek Christa McAuliffe Park are surface water sediment control projects funded by ARPA. The projects are intended to address erosion and reduce sediment transport towards Baird Creek. The scope of the project includes conceptual planning, design and construction plans for the proposed work. The City received three proposals and evaluated the proposals based on consultant qualifications, design team experience, proposed approach to project and costs. Ruekert & Mielke, Inc. was selected for the proposed project.

RECOMMENDATION

To approve a recommendation from the Department of Public Works to award the professional engineering services contract for Stormwater Restoration Projects at Baird Creek Burgundy Court and Twin Pines Court to Ruekert & Mielke, Inc. (R/M) for a total of \$64,761.

FISCAL IMPACT

\$64,761. The stormwater projects are ARPA funded.

ATTACHMENTS

- I. Ruekert-Mielke_Stormwater Restoration Projects at Baird Creek Proposal

CITY OF GREEN BAY



Professional Engineering Services Stormwater Restoration Projects at Baird Creek Burgundy Court and Twin Pines Court

November 8, 2023

Nicholas Connor
nconnor@ruekert-mielke.com
1400 Lombardi Ave, Suite 101S
Green Bay, WI 54304
920.876.6382



November 8, 2023

Valerie Joosten, P.E.
Utility Manager
City of Green Bay
Room 300, City Hall
100 N. Jefferson Street
Green Bay, WI 54301

Re: Professional Engineering Services Stormwater Restoration Projects at Baird Creek Burgundy Court and Twin Pines Court

Dear Valerie Joosten, P.E.:

Thank you for providing Ruekert & Mielke, Inc. (R/M) with an opportunity to submit a proposal to provide professional engineering services for the projects located at Burgundy Court and Twin Pines Court.

R/M has been involved first-hand with the restoration and stabilization of degrading channels to promote the healthy flow of surface water, prevent further erosion, and stabilize banks. Our staff is knowledgeable in the various facets of planning and developing a comprehensive design considering factors such as cost, materials, placement, and long-term effectiveness.

Our proposed team of environmental experts are well equipped with valuable knowledge to ensure the project is designed in compliance with with local regulations and safeguards the natural habitat of Baird Creek.

R/M focuses on making communities better places to live, work, and enjoy. This type of project is an example of our environmental team's core area of expertise.

Our project team awaits responding to your inquiries – call us at 262.542.5733 or email us at nconnor@ruekert-mielke.com.

Sincerely,

RUEKERT & MIELKE, INC.



Nicholas Connor

Senior Biologist

nconnor@ruekert-mielke.com

TABLE OF CONTENTS:

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KEY DIFFERENTIATORS



Ruekert & Mielke, Inc. (R/M) is a 100% employee-owned civil engineering firm with **more than 75 years** of service to local communities and organizations. Our engineers, environmental scientists, agricultural experts, and technology consultants empower our clients to thrive by solving infrastructure challenges.

ABOUT

- Established in 1946
- 120+ Employees
Located in Wisconsin
- Assured Wetland
Deliniator

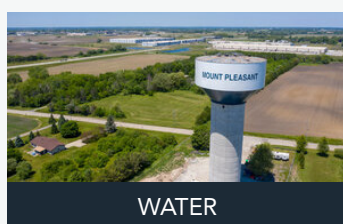
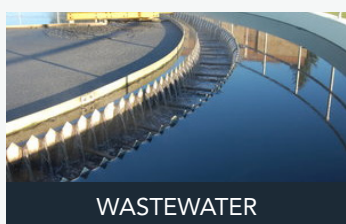
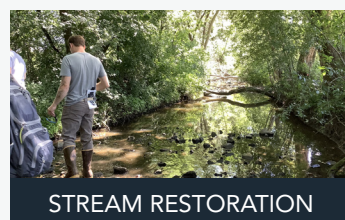
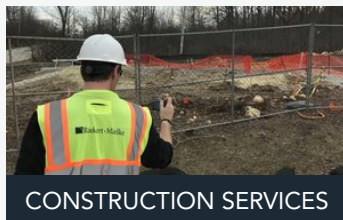
100%
**EMPLOYEE
OWNED**

LOCATIONS



WAUKESHA, WI
MADISON, WI
GREEN BAY, WI
KENOSHA, WI
MILWAUKEE, WI

SERVICES



PROPOSED PROJECT SCOPE

The overall objective of the Burgundy Court and Twin Pines Court projects is to mitigate erosion and sediment deposition within two drainage channels to promote the long-term health and sustainability of the channels as well as Baird Creek. R/M understands the RFP includes two projects:

Burgundy Court

The Burgundy Court project aims to address the restoration of an eroding stormwater conveyance channel that discharges into Baird Creek from a stormwater outfall located north of Hidden Way. The existing channel, which runs parallel to Burgundy Court and passes through privately-owned residences on the east side of the street, is experiencing channel erosion and sediment deposition. Currently, approximately 200 feet of gabions protect the channel immediately downstream of the storm sewer outfall. Downstream of the gabion installation is an 800-foot unlined section of the channel, where the erosion and deposition are occurring. A downstream culvert conveys stormwater north to another unlined channel, extending approximately 300 feet before discharging into Baird Creek.

The scope of this project, funded through the American Rescue Plan Act (ARPA), centers on the design and implementation of restoration measures. A restoration plan for the Burgundy Court channel was previously developed in 2009 that included lining and gabion installation within the 800-foot channel upstream of the rail spur, as well as lining and ditch check installation for the 300-foot channel downstream of the rail spur. The primary focus of the restoration effort will be on the

channel upstream of the rail spur, particularly the section that flows through residential properties. Restoration of the 300-foot channel downstream of the rail spur may be incorporated if the budget allows for it.

Twin Pines Court

The objective of the second project is the restoration of an eroding channel responsible for discharging surface water into Baird Creek. This channel is situated in the vicinity northwest of Twin Pines Court and northeast of Christa McAuliffe Park. Erosion-related issues within this channel manifest at a point approximately 100 feet northwest from the northwest corner of private Parcel 21-7753 on Twin Pines Court and persist downstream until the channel ultimately discharges into Baird Creek to the north.

The project scope, funded through the American Rescue Plan Act (ARPA), includes lining approximately 500 feet of the eroding channel with riprap and installation of ditch checks to mitigate erosion and sediment-related concerns.

Ruekert & Mielke (R/M) understands that the original designs included gabion baskets (Burgundy Court) and lining the channel with riprap and installation of ditch checks (Twin Pines Court). R/M has extensive experience working with these strategies (see Wildcat Creek in Brown Deer Project information); and [can design the project to include these strategies if the City has a strong preference for them](#). However, it is our opinion that a more cost-effective and natural solution is available. RM's proposal for each project is to restore and stabilize the aforementioned

channels using natural channel design that focuses on restoring channel hydrology, form, and function using natural materials over hard armor. Specifically, R/M proposes to use integrated bank treatment and native vegetation in the channels to accomplish these goals.

This approach relies on grading the channel banks back to achieve a 3:1 (or similar) bank slope. The resulting channel is lined with cobblestone half-way up to the top of channel. The area from the top of the cobblestone to the top of bank is planted with native grasses and wildflowers. Although the approach is different from gabion or riprap, it will achieve the same end result: a stabilized channel under current conditions and flow regime.

This approach has two significant advantages over gabion, riprap, and ditch check installation, especially as it relates to the channel by the privately-owned residences. [The first advantage is cost efficiency. The amount of stone required for this approach is greatly reduced, thereby reducing the purchase and trucking cost of stone.](#) The grasses and wildflowers planted above the integrated bank treatment, will provide the remaining stabilization. This technique has been widely applied to drainage channels as well as all types and sizes of streams (Natural Channel Design, US Department of Agriculture: [chrome-extension://efaidnbmnnnibpcajpcgiclfindmkaj/https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17771](https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17771). wba). [The second advantage of this approach, especially through a residential area, is aesthetic.](#) The residents adjacent to the 800-foot section of channel will experience a more natural channel with grasses and flowers instead of gabion walls. R/M has used this technique with great results in multiple municipalities including, among others, Greenfield and Brown Deer.

Both strategies, the gabion/riprap or the natural channel, will address the pressing issue of erosion and sediment deposition within the stormwater conveyance channels that discharge into Baird Creek. Given our current understanding of the project scope and hydrology of the channel, it is [R/M's opinion that a natural channel will be more](#)

[cost effective, equally as functional, and better accepted by residents than gabion baskets, riprap, or ditch checks.](#)

R/M understands the RFP includes proposing a cost-effective and functional restoration, designing the restoration, and potentially implementing the project in line with the available funding. The primary area of concern is the channel upstream of the rail spur, with the option to address the downstream 300-foot channel if financially feasible.

R/M further understands the objective of the RFP are to manage:

[Erosion Assessment and Design](#)

The project necessitates a thorough assessment of the erosion concerns along the channel, commencing at the point mentioned and extending downstream. The consultant should conduct a detailed site evaluation to identify the root causes of erosion and sediment deposition. This includes analyzing the geology, hydrology, and existing infrastructure. Such an assessment will provide the foundation for designing an effective restoration plan.

[Restoration Measures](#)

The primary focus of the project is the restoration and stabilization of the channels within the two project areas. This will serve to stabilize the banks, prevent further erosion, and promote the healthy flow of surface water. R/M will develop a comprehensive design for restoration method chosen, considering factors such as cost, materials, placement, and long-term effectiveness.

[Environmental Considerations](#)

During the design phase R/M will take into account any potential environmental impacts associated with the restoration work. This may include ensuring that the project is in compliance with local regulations and safeguards the natural habitat in the vicinity of Baird Creek.

[Cost Management](#)

R/M understands that managing costs effectively is critical to ensuring project success. R/M will create a budget estimate that encompasses all aspects of the restoration work, including design, materials, labor, and any contingencies.

QUALIFICATIONS

At R/M our staff provides our clients with unparalleled planning, design, and construction management services while focusing on building a more sustainable future. [Our experts are at the forefront of industry-wide technological innovation from state of the art data collection devices and drone surveys, to our natural resource team dedicated to restoring streams using natural channel design.](#) We have spent more than 75 years building lasting relationships with the organizations and municipalities that we serve and we are committed to providing them with unparalleled customer service.

R/M has decades of experience working in the municipalities within the projects areas and has intimate knowledge of the stormwater basins that confer an efficiency in survey, design, modeling, permitting, and bidding that is unrivaled in Wisconsin.

R/M has an in-house environmental and natural resource team that includes environmental and civil engineers certified in flood plain management, ecologists that are Assured Wetland Delineators and Professional Wetland Scientists, biologists who have completed courses in Natural Channel Design, and technical staff that are experts in grant administration and permitting compliance. [Our team is capable of conducting all of the engineering design and environmental compliance required for this RFP.](#)

Furthermore, R/M is currently working with the Milwaukee Metropolitan Sewerage District (MMSD) to design and install over 400 green infrastructure features and has been recognized by WDNR for our work in erosion control and design.

Together, the R/M team of experts is unrivaled in expertise and client solutions because of our decades of experience in the design of stormwater BMPs and our commitment to the communities we live, work, and play in.

[R/M has embraced natural channel design wherever possible on stream restoration projects.](#) Instead of relying solely on traditional engineering methods (gabion, stone or rip rap), this approach combines ecological principles with engineering techniques to create sustainable and self-maintaining stream channels. This type of Bioengineering utilizes natural materials, such as plants, logs, and rocks, to stabilize and reshape stream banks, enhance water flow, and promote biodiversity. By strategically placing these materials and incorporating native vegetation, bioengineered stream channels mimic the natural processes and features of a healthy stream system. [This approach not only provides structural stability but also improves water quality, supports habitat creation, and mitigates erosion.](#) It offers a holistic and environmentally friendly solution that accomplished the goals of traditional engineering techniques while also

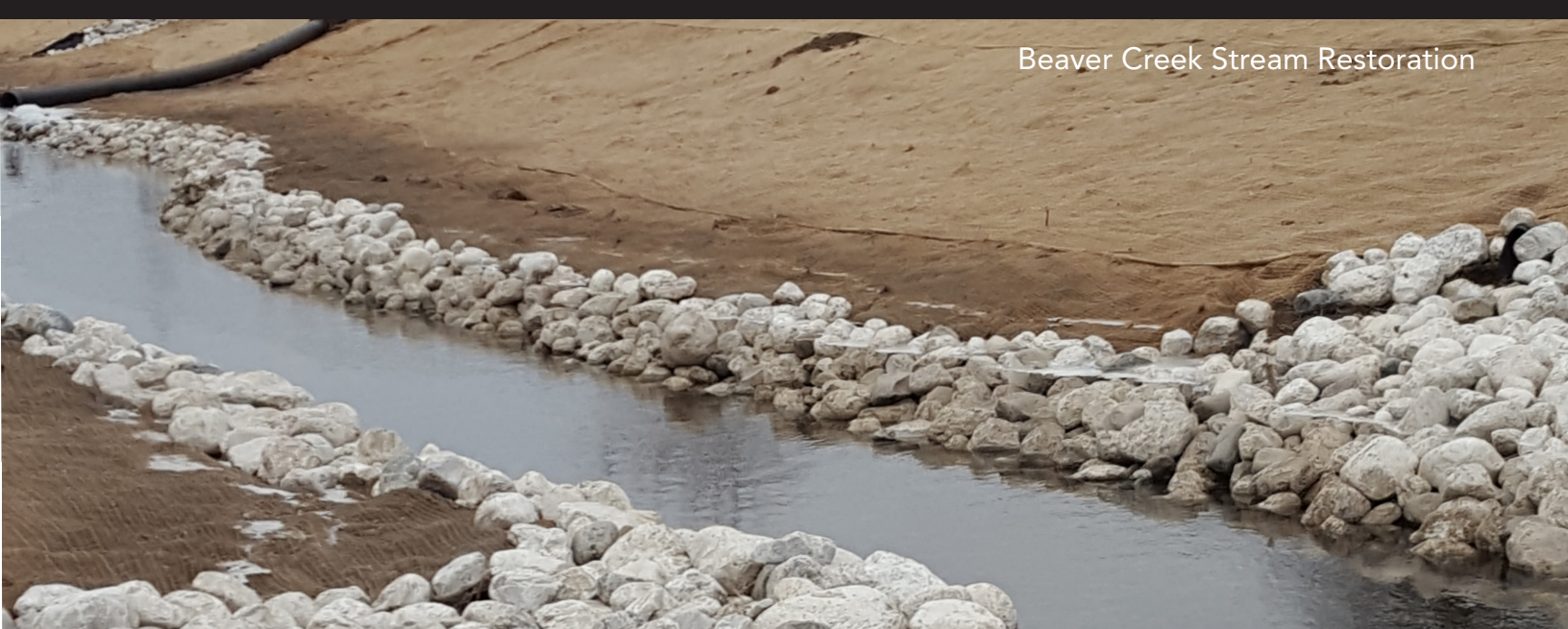
providing a naturally functioning stream that creates improved recreational and educational opportunities for communities.

Because R/M utilizes natural channel design, costs associated with stone, are greatly reduced. This creates a financial incentive as well as a more naturally functioning stream.

Furthermore, R/M has worked with communities on large-scale restoration projects (See Greenfield's Honey Creek Restoration Project) and has extensive experience working with land-owners to convey the concepts and goals of projects occurring adjacent to their property in multiple forums including community meetings, phone calls, reports, and community outreach. Through these experiences, R/M has become adept at working with residents on many different concerns they may have about a project occurring near their property. This approach can help to avoid amendments to the design from project misunderstandings and ultimately creates project efficiencies for the City and R/M.

R/M utilizes the latest drone mapping techniques to minimize disturbance and noise and to create easy to read vision plans for the community.

R/M has consulted with many municipalities about a variety of infrastructure project types that would be eligible for funding utilizing ARPA funding. Most municipalities are in a wait and see mode with how they want to allocate their ARPA funds. We have assisted many municipalities identify project scope and budget for projects they are considering using ARPA funds for. The ARPA guidelines for utilizing these Federal funds are very similar to the other Federal programs such as WDNR Clean Water Fund and Safe Drinking Water Loan Fund; Community Development Block Grant; USDA Rural Development; and EDA funds; all of which have Federal requirements for project development and bidding. R/M is experienced with overseeing the design/bidding/construction management for Federally funded projects.



Beaver Creek Stream Restoration

CITY OF GREENFIELD



SERVICES

- Flood Field Survey
- Site Investigations
- Floodplain Modeling
- Waterway Stabilization

PROJECT TEAM

- Terry Tavera, P.E., CFM, CPESC - *Project Manager*
- Steve Wurster, P.E., CFM, CPSWQ - *Quality Assurance*
- Chris Genellie, P.E., CPESC, CPSWQ - *Design*
- Sean Sullivan, P.E. - *Design*

CLIENT CONTACT

Jeff Katz, P.E.
City Engineer
jeffrey.kats@greenfieldwi.us
414.939.8322

WILDCAT CREEK WATERWAY IMPROVEMENT

The City of Greenfield struggled with storm events flooding Wildcat Creek to the point of frequent over-topping, structure flooding, and bank erosion. The community voiced concerns during public information meetings, driving the City to understand the extent of the flooding problems. Ruekert & Mielke, Inc. assisted to determine the flood risks and develop an integrated storm water system.

To bring about the most comprehensive results, R/M worked with the City of Greenfield, the City of New Berlin, and Milwaukee County to run flood field surveys and site investigations to determine the breadth of the problem into the watershed. R/M created an informed multi-phase implementation plan for waterway improvements.

IMPROVEMENTS TO MINIMIZE STORM WATER IMPACT

Our engineering team at R/M outlined multiple construction phases, including the following improvements:

- Construction of a dual 8x5 foot RCB structure under Coldspring Road
- Removal of dual 48-inch CMP culverts, road widening, and 10X6 foot RCB culvert extensions under Howard Avenue and 124th Street and shoreline stabilization
- Construction of an 8x6 foot RCB structure and road lowering on 112th Street
- Installation of a backwater preventor in the STH 100 storm sewer outfall into the Root River
- Construction of 350 feet of modular block floodwall
- Installation of a geotextile wrapped soil lifts and integrated bank treatment for shoreline stabilization in Kulwicki Park, and native prairie channel buffer protection

Bank erosion was addressed using gabion baskets, integrated bank treatment and geotextile wrapped soil lift shoreline stabilization. The construction of a flood wall, public safety improvements, channel stabilization, and fish passage improvements all acted to minimize the effects of future flooding and to improve habitat. R/M helped the City obtain cost sharing dollars from the City of New Berlin, as well as grants from the Fund for Lake Michigan and the DNR River Protection Program.

The R/M team worked with the safety of the City's community in mind, understanding that flooding caused hazards and that all efforts would work to limit or eliminate future dangers to the public while protecting the environment.

CITY OF GREENFIELD



SERVICES

- Flood Field Survey
- Site Investigations
- Floodplain Modeling
- Waterway Stabilization

PROJECT TEAM

- Nick Connor - *Project Manager*
- Terry Tavera, P.E. - *Design Engineer/Floodplain Analysis*
- Theran Stautz - *Ecologist*
- Kaley DuCoeur - *Permitting Specialist*

CLIENT CONTACT

Jeff Katz, P.E.
City Engineer
jeffrey.kats@greenfieldwi.us
414.939.8322

HONEY CREEK STREAM RESTORATION

The Honey Creek Headwaters and Stream Restoration Project Area includes a 0.92-mile segment of Honey Creek located within the City of Greenfield's most utilized community park – Konkel Park. The headwaters area of Honey Creek was not a defined stream; it was originally a diverse marsh complex. That was channelized to facilitate drainage. Later, sections downstream were lined with concrete, or encapsulated. As a result, invasive plant species, particularly cattails and reed canary grass, now choke and restrict flow in the main channel. Sediment buildup is severe, blocking flow and trapping debris.

The goals of this project are to reduce flooding, enhance plant and animal habitat, improve water quality, and make it a more enjoyable place for park visitors. To help pay for these improvements the City of Greenfield worked with R/M to apply for and **receive over \$700,000 in funding for this project, which is about 30% of the overall project costs. R/M also helped to administer the City to receive \$1.2M in MMSD green solution funds.**

This project will restore about six acres of the creek and riparian zone. The restoration and access improvements included over 1.5 acres of stream bed and aquatic restoration, over 5 acres of floodplain habitat restoration, a low-flow meandering stream along a boardwalk and trail, and a naturalized flood storage pond to improve water quality.

SERVICES

- Experts at local, state, and federal permit compliance
- Feasibility Study
- Grant Application
- Wetland Delineation
- Stream Restoration
- Environmental Services
- Survey
- Design

PROJECT BENEFITS

- 1,293,000 gallons of additional storm water storage
- 1,800 linear feet of stream added through increased sinuosity and stream re-alignment
- 6.36 acres of restored floodplain 1.3 miles of stream bank stabilization - 415 pounds of phosphorous reduction annually
- 16, 259lbs of TSS and 45.51lbs of TP was captured by the storm water pond installed adjacent to the creek

COMMUNITY BENEFITS

- Outdoor classrooms
- Multiple observation decks and wildlife viewing trails
- Boardwalk with interpretive signs
- Public shelter with renewable design
- One acre water quality facility

VILLAGE OF BROWN DEER



SERVICES

- Shared Use Path
- Creek Naturalization
- DNR Storm Water Permit Application
- DNR CH 30 Permit Application
- Utility Coordination
- Site Investigation Coordination

PROJECT TEAM

- Nick Connor - *Project Manager*
- Terry Tavera, P.E. - *Design Engineer/Floodplain Analysis*
- Theran Stautz - *Ecologist*
- Kaley DuCoeur - *Permitting Specialist*

CLIENT CONTACT

Matthew Maederer
Director of Public Works
mmaederer@browndeerwi.org
414.371.3021

BEAVER CREEK RESTORATION AND NATURALIZATION

Ruekert & Mielke, Inc. (R/M) teamed with the Village of Brown Deer to plan and design a restoration and naturalization project for a stretch of Beaver Creek and Brown Deer Trail in the heart of the Village. Village officials recognized the need to revitalize a significant portion of the creek and the heavily used trail that runs parallel to it. R/M set out to transform the entire appearance of the creek and trail by altering the layout and adding natural features to make a pedestrian-friendly corridor that connects the Village's outer residential neighborhoods to a growing commercial and retail development corridor.

Restoration and naturalization efforts include the removal of 1,700 linear feet of concrete-lined channel and the excavation and grading of the entire corridor to create a natural meander look of the creek and pedestrian "bump-outs" on the multi-use trail that follow the meanders. The incorporation of river stone riffles and vegetated soil lifts along the creek add both a water quality aspect and a natural habitat for fish and wildlife. The repaving, realignment, and extension of the adjacent multi-use trail enhances a vital connection while providing rest areas for users to enjoy the natural look and feel of the newly restored Beaver Creek.

PROJECT HIGHLIGHTS

The end result is a design that combines water quality improvements, aesthetic quality, and the creation of wildlife habitats all into one recognizable and unique feature for a vital corridor in the Village of Brown Deer.

VILLAGE OF SLINGER



SERVICES

- Field Survey
- Stream Survey
- Hydraulic and Hydrologic Modeling
- Stream Design
- Streambank Stabilization
- Waterway and DNR Trade approvals

PROJECT TEAM

- Terry Tavera, P.E. - *Project Manager*
- Nick Connor - *Environmental Design and Approvals*
- Katie Buchalski, P.E. - *Design EngineerSpecialist*

CLIENT CONTACT

Greg Moser
Utilities Superintendent
Village of Slinger
262.644.5265
gmoser@vi.slinger.wi.gov

RUBICON RIVER RESTORATION AND NATURALIZATION

The Village of Slinger was having issues meeting new phosphorous reduction requirements in their Wastewater Treatment Plant (WWTP). At the same time the City of Hartford was experiencing severe streambank failure through a 400 foot section of the Rubicon River. The bank failure was a threat to human health and safety because it was near a private development. The Village of Slinger worked with the DNR and the City of Hartford to form a unique trading agreement where Slinger would design and install the project in the City of Hartford in exchange for receiving phosphorous credits at their WWTP. The goal of this project was to stabilize 400 linear feet of streambank along the Rubicon River utilizing natural channel design.

R/M evaluated the current state of the streambank within the project area through a field survey and stream survey. The results of the field work were evaluated utilizing HEC-RAS and Civil 3D. The modeling results were utilized to develop a focused approach to stabilize the streambank using natural design techniques that included grading the streambank, restoring appropriate stream morphology, installation of rootwads (at the outside bend of pools), and planting of native grasses and wildflowers. Designing this stabilization project did have its challenges, because of it being located in a restricted corridor R/M was able to overcome this through the establishment of easements that allowed this project to continue smoothly.

The project utilized integrated bank treatment shoreline stabilization as well as native plantings. Existing trees that were removed were reutilized as rootwads providing habitat in the creek and reducing cost for stone. The final results were a stabilized streambank with rootwads and native grasses allowing it to look like a native stream.

ORGANIZATIONAL CHART



Project Manager

Terry Tavera, P.E.



Project Engineer

Katie Buchalski, P.E.



GI Expert/QA&QC

Nicholas Connor, MS



Wetland
Delineation

Theran Stautz, PWS



Permitting

Kaley DuCoeur



Streambank
Design

Abby Hanson, E.I.T.





TERRY TAVERA

PROJECT MANAGER

As project manager and engineer, Terry has been involved in a wide-variety of municipal and private projects. Terry specializes in water resources and water quality planning. He has experience in the design and project management of storm water management projects, transportation, hydraulic and hydrologic modeling, flood control studies, water main, and wastewater projects.

EXPERIENCE

Storm Water Management Plan

Village of Fontana-on-Geneva-Lake, WI

Terry was the project manager and author of the Village-Wide Storm Water Management Plan. The study identified and addressed storm water quality and flooding problems at key hot spots throughout the Village limits. Recommendations included improvements to open channel conveyance facilities, storm sewer and drainage systems upgrades, storm water detention facilities, bioretention facilities, green infrastructure, shoreline and outfall stabilization. \$4.4 million in capital costs were included as part of the recommended plan. We also prepared a companion study for the Watershed Description and Geometric Assessment of Potawatomi Creek and Van Slyke Creek, the two major creeks within the Village, and integrated both of the study results and recommendations.

Shoreline Stabilization and Stream Restoration

- City of Greenfield
- City of Hartford
- Village of Brown Deer
- Village of Fontana-on-Geneva-Lake

Storm Water & Green Infrastructure

- Village of Fontana-on-Geneva Lake - Mohr Road, Shabbona Drive
- City of Oconomowoc - Fowler Lake Bypass Flume, Various Road Projects Drainage
- City of Greenfield - Wildcat Creek Waterway Improvements at Howard Ave, 124th Street, and Hwy 100
- City of Waukesha - Summit Avenue/Delafield Street Storm Water Analysis and Design
- Village of Slinger - Tennes Detention Pond
- City of Pewaukee - Meadowbrook Farms/Deer Haven Waterway Improvements
- City of Brown Deer - Beaver Creek Concrete Channel Removal, Natural Shoreline Stabilization, and Multi-use Trail

Storm Water Management Plans

- Village of Fox Point - Storm Water Master Plan
- Village of Oregon - Storm Water Master Plan
- Village of Kewaskum - TID No. 2 Storm Water Management Plan
- City of Oconomowoc - Storm Water Quality Master Plan, Water Pollution Reduction Projects
- City of Greenfield - Wildcat Creek Floodplain and Alternative Analysis
- New Berlin School District - New Berlin West High School, Ronald Reagan Elementary
- Village of North Barrington, IL - Wynstone Subdivision Flood Analysis

CONTACT

 262.542.5733

 ttavera@ruekert-mielke.com

 Waukesha, WI

EDUCATION

- Bachelor of Science, Civil Engineering - University of Wisconsin, Madison

REGISTRATIONS & AFFILIATIONS

- Professional Engineer- WI & IL
- American Society of Civil Engineers
- Wisconsin Association of Floodplain, Stormwater and Coastal Managers
- Association of State Floodplain Managers Construction Document Technologist
- Certified Professional in Erosion and Sediment Control
- Certified Floodplain Manager



KATELYN C. BUCHALSKI P.E.

PROJECT ENGINEER

Katelyn's background includes construction review and the study of wetlands, soil, and ecology. She received her Bachelor of Science in Environmental Engineering with a Minor in Ecology from Michigan Technological University, where she also served as the President of the Society of Women Engineers.

EXPERIENCE

Bay Beach Storm Water Management Plan

Katelyn is currently working on the completion of the storm water master plan for the City of Green Bay's Bay Beach Amusement Park. She has completed stormwater analysis and design, wetland delineation assistance, erosion control design and project coordination. She is the primary project liaison with the Wisconsin DNR and the US Army Corps of Engineers, securing project permitting that includes wetland delineation, wetland exemptions, and wetland disturbance.

Storm Water Permit Compliance

Katelyn has worked with a number of communities on storm water permitting compliance, and has been involved with MS4 and TMDL plan development and coordination, storm water modeling, municipal storm water program updates, and storm water alternatives analysis.

- Village of Elm Grove
- Village of Thiensville
- Village of Brown Deer
- Town of Norway
- Village of Mukwonago

Project Design

Katelyn's project design work has included storm water and site design, storm water analysis, erosion control and storm water plan development, project sequencing, specification work, and project permitting. She has worked on projects with a number of municipalities

- City of Stevens Point
- City of Columbus
- City of Menasha
- Waupaca School District
- City of Tomahawk
- Private Developments

Construction Review

- Village of Mishicot - Katelyn lead construction review on a \$1,000,000 road reconstruction project.
- Village of Mukwonago - Katelyn lead construction review on a 20-lot addition to an existing residential development.
- Green Bay School District - Katelyn is part the construction review team for site rehabilitation work for seven school facilities. The team is tasked with construction management that includes some design-build aspects.

Wetland Delineation

Katelyn is part of our wetland delineation team, and has helped complete delineations for a number of sites.

- City of Green Bay
- Village of Fontana
- Village of Saukville
- City of Cedarburg

CONTACT

📞 920.876.6382

✉ kbuchalski@ruekert-mielke.com

🏢 Green Bay, WI

EDUCATION

- Bachelor of Science, Environmental Engineering - Michigan Technological University
- Passed Fundamentals of Engineering Exam

REGISTRATIONS & AFFILIATIONS

- Society of Women Engineers - Michigan Tech Section Former President
- Certified Wisconsin Sedimentation and Erosion Control Inspector (WISECI)



NICHOLAS P. CONNOR MS

SENIOR BIOLOGIST

Nick is a Senior Biologist with over 9 years of experience managing and completing complex ecological-related projects for both public and private sector clients in transportation, energy, and commercial/residential development. Areas of expertise consist of fluvial geomorphology, natural channel design, wetland delineations, wetland mitigation design and monitoring, threatened and endangered species surveys, Endangered Species Act, NEPA/ FERC environmental documentation, Clean Water Act Section 404/401 permitting, Phase I and II Environmental Site Investigations and Remedial Action Projects, and proposal preparation. Nick has worked on projects throughout Wisconsin, Illinois, and Michigan and has served in a multitude of project roles from task/technical lead, field coordinator, field quality manager, senior technical reviewer, business development team, and project manager.

EXPERIENCE

Stream Restoration

Nick has served as Project manager for numerous sites located throughout southeastern Wisconsin. Projects consisted of multiple stream restoration projects using natural channel design, aquatic and riparian habitat improvement, stream bank stabilization, fluvial geomorphic and habitat surveys, and urban river improvements. Tasks completed on these projects included topographic/bathymetric surveys, fluvial geomorphic assessments, natural channel restoration design, hydrologic analysis, water quality monitoring, fish, invertebrate and tree surveys, permitting, grant writing, and community outreach.

Wetland Delineation and Assessment

Nick has completed numerous wetland delineations, wetland mitigation design and monitoring, NEPA, Clean Water Act Section 404/401 permitting, and environmental site investigations and remedial action projects. Nick has provided wetland delineation and assessments for municipal development sites, solar farms, private development sites, and municipal landfills.

HIGHLIGHTED PROJECTS

Restoration of the Honey Creek Headwaters

- Feasibility study
- NHI ER Review
- Cultural Resource Review
- Fish, invertebrate, and tree surveys
- Water quality monitoring
- Fluvial geomorphic assessment using Rosgen Geomorphic classification
- Hydrologic analysis
- Natural Channel Design
- Stream and riparian habitat improvements
- Stream bank stabilization
- Permitting
- Development of comprehensive grant program (project awarded over \$800,000 in grants)
- Community outreach

Beaver Creek Restoration

- NHI ER Review
- Cultural Resource Review
- Fluvial geomorphic assessment using Rosgen Geomorphic classification
- Natural Channel Design
- Stream and riparian habitat improvements
- Stream bank stabilization
- Permitting

Rubicon River Stream bank Stabilization

- NHI ER Review
- Cultural Resource Review
- Fluvial geomorphic assessment using Rosgen Geomorphic classification
- Hydrologic analysis
- Stream and riparian habitat improvements
- Stream bank stabilization

CONTACT

📞 262.542.5733

✉ nconnor@ruekert-mielke.com

🏠 Waukesha, WI

EDUCATION

- M.S., Environmental Services - American University, Washington D.C.
- Graduate Certificate, Environmental Risk Assessment - American University, Washington D.C.
- B.S., Biology - University of Wisconsin, Milwaukee

REGISTRATIONS & AFFILIATIONS

- Rosgen Level IV Certified
- Wisconsin Department of Natural Resources (WDNR) Certified Environmental Reviewer
- 40-Hour HAZWOPER



THERAN P. STAUTZ ^{PWS}

SENIOR ECOLOGIST, ASSURED WETLAND DELINEATOR

Theran is a Professional Wetland Scientist and WDNR Assured Wetland Delineator with nearly 20 years of experience in wetland ecology, forest ecology, and ecological restoration. He has completed hundreds of wetland delineations throughout the Midwest and Southeast United States. His wetland and permitting projects include commercial and municipal improvements, roads, energy and utility lines, and parks/trails. He routinely evaluates sites for wetlands and threatened and endangered species. He then provides guidance related to expected permitting requirements. Theran handles tree/vegetation surveys, habitat assessments, mitigation and restoration planning, and coordinates restoration monitoring and management. He creates ecological maps and analyzes spatial data using ArcPro. Theran volunteers with Pheasant Forever to plan and conduct prescribed burns throughout Wisconsin.

EXPERIENCE

Ecology

- Wisconsin and Michigan DNR – Vegetation Community Survey for Lower Menominee River Area of Concern*
- Indian Community School - Habitat Stewardship Plan
- Indian Community School - Ecological Management

Invasive Species

- Great Lakes Commission – Menominee River Islands Invasive Species Removal and Treatment*
- Packaging Corporation of America – Monitoring and Maintenance of Invasive Species*

Restoration

- Afterglow Farm – Ravine/Watershed Restoration
- Village of Thiensville – Pigeon Creek Channel Restoration
- City of Greenfield – Honey Creek Channel Restoration
- Village of Fontana - Van Slyke Creek Floodplain Restoration
- Herro - Oak Savanna and Prairie Restoration*

Tree Survey

- Seven Oaks Dairy – County ZZ Property
- Indian Community School – Specimen and Wildlife Trees
- Village of Hobart – Centennial Centre*
- Crane Island Development – Crane Island Residential Development*
- TPC – TPC Sawgrass Lodging*

Wetland Ecology

- MRB Commercial – Pioneer Park Wetland Mitigation Area*
- Wisconsin Department of Transportation – Freedom Mitigation Bank Monitoring*
- Oneida Tribe of Indians of Wisconsin/Interfluve – South Branch Little Suamico River Restoration Planning*

GIS

- Various Locations – TDS/Frontier Inspection Mapping
- North American Hydro – Wetland Mapping*

CONTACT

📞 608.819.2600

✉ tstautz@ruekert-mielke.com

🏢 Madison, WI

EDUCATION

- Bachelors of Science – Natural Resources, University of Wisconsin-Madison (1997- 2002)
- Majors: Forest Science, Recreational Resource Management

REGISTRATIONS & AFFILIATIONS

- Professional Wetland Scientist, Society of Wetland Scientists
- Assured Wetland Delineator, WDNR
- Certified Pesticide Applicator, Wisconsin Department of Ag, Trade and Consumer Protection
- Advanced Wetland Plant Identification, Natural Resource Conservation Service
- Grasses: Identification and Ecology, University of Wisconsin-Milwaukee
- Wetland Grasses, Rushes and Sedges, University of Wisconsin-Extension
- Applied Fluvial Geomorphology, Wildland Hydrology

* Experience Prior to Working at R/M



KALEY A. DUCOEUR E.I.T.

ENVIRONMENTAL TEAM LEADER

Kaley DuCoeur has performed environmental assessments across multiple states to provide environmentally compliant projects. She has performed ecologically driven assessments, directed and coordinated teams performing site layout and routing, aerial mapping, surveying, design, permitting, and construction oversight through erosion and sediment control device inspections and restoration. Services she oversaw also included infrastructure management. Her experience ranges from project sizes of 100's of acres of earth disturbance to minimal, discrete disturbances. Since her move to Wisconsin, she has primarily focused on linear utility projects. These projects span both urban and rural settings in the renewable energy, agricultural, fiber optics, and conventional utilities markets throughout Wisconsin.

CONTACT

📞 920.876.6382

✉️ kducoeur@ruekert-mielke.com

🏢 Green Bay, WI

EDUCATION

- B.S. of Environmental Studies, Business Minor, Concentration in Leadership & Management - California University of Pennsylvania

CERTIFICATIONS

- Wisconsin Department of Natural Resources (WDNR) Certified Karner Blue Butterfly Surveyor
- WDNR Natural Heritage Inventory Certified Environmental Reviewer

REGISTRATIONS & AFFILIATIONS

- 10 Hour OSHA
- 16 Hour Wetland Permitting Training - Richard Chinn
- Phase I & II Environmental Site Assessments- ASTM
- Wetland Delineation
- Restoration Ecology
- Non-Native Invasive Species Identification
- North Pacific Sedge Identification

AREA OF EXPERTISE

- National Environmental Protection Act/WI Environmental Protection Act compliance
- Pipeline & Hazardous Materials Safety Act compliance specific to environmental regulations
- WDNR Wetland & Waterway regulations, permitting, and associated permit requirements
- Clean Water Act permitting
- Endangered Species Act permitting

EXPERIENCE

Rubicon River Streambank Stabilization - Village of Slinger

A water quality trading project, the Village of Slinger performed streambank stabilization along a portion of the Rubicon River in the City of Hartford. This project included soil lifts and placement of root wads along the eroded banks. Additionally, native plantings and willow tree cuttings were used for long-term stabilization along the eroded bank. This project fit within a WDNR Chapter 30 general permit, and a USACE NWP 13.

Honey Creek Letter of Permission - City of Greenfield

Large naturalized streambank design, including recreational facilities, floodplain and wetland restorations, and a bridge replacement. This project far exceeded the WDNR and USACE permit thresholds, placing the project into a Federal Letter of Permission permit and a State Individual Wetland and Waterway Permit. To complicate matters, the project area has known contaminated soils, contaminated dredge materials, and potentially contaminated dewater discharge.

* Experience Prior to Working at R/M



ABIGAIL H. HANSON E.I.T.

STREAM BANK DESIGN

Abby will be assisting with the design and implementation of the naturalized streambank design. She has construction oversight and administration experience from her work on stream reconstruction projects in Greenfield, Brown Deer, and Thiensville. Abby also has experience with green infrastructure inspection which gives her a unique perspective to bring to the design of this project. Her expertise include streambank design, construction oversight, and permit compliance.

CONTACT

📞 262.542.5733

✉️ ahanson@ruekert-mielke.com

🏠 Waukesha, WI

EDUCATION

- Bachelor of Science, Civil Engineering and Environmental Engineering with a certificate in Environmental Studies and Leadership - University of Wisconsin, Madison
- "Using HEC-RAS to Model Bridges, Culverts, and Floodplains" UW-Madison Continuing Education.

REGISTRATIONS & AFFILIATIONS

- American Society of Civil Engineers
- Central States Water Environmental Association (CSWEA WI)
- American Public Works Association - Young Professionals Committee Engineer-In-Training

EXPERIENCE

Milwaukee County TMDL Analysis

Milwaukee County Department of Administrative Services

Storm water BMP modeling for approximately 200 BMPs. Upstream drainage area delineation of approximately 50 BMPs. Perform ArcGIS Pro base map development, water quality mapping, and WinSLAMM modeling for the TMDL Analysis and Summary Report. Assisted in developing the TMDL Analysis and Summary report that serves as a planning document in reaching TMDL compliance in each of the reachsheds located in Milwaukee County.

Menomonee Falls MS4 & TMDL Storm Water

Village of Menomonee Falls

Performed ArcGIS Pro base map development, water quality mapping, and WinSLAMM modeling for the municipal Storm Water Management Plan. This information will be used to determine if the municipality's existing conditions are in compliance with regulatory requirements. Training and coordinating team members to meet project deadlines.

MMSD Green Infrastructure Condition Inspections (2021)

Milwaukee County

Conducted hundreds of green infrastructure inspections throughout Milwaukee County using Survey123 and ArcGIS. Performed an in-depth review of the existing data for the client and then performed quality control of the data collected to ensure accuracy and consistency of the inspections. Furnished inspection from recommendations, data definitions and clarifications following appropriate management guidelines and created a final report document summarizing the recommendations and findings.

MS4 Permit Compliance

Assisted with multiple components of MS4 permits to ensure compliance.

- Village of Elm Grove
- Village of Brown Deer
- Town of Hartford
- Village of Slinger
- Village of Menomonee Falls
- Village of Saukville
- Village of Thiensville
- Milwaukee County

PROJECT SCHEDULE

TASK	2023				2024																								2024																													
	DECEMBER				JANUARY				FEBRUARY				MARCH				APRIL				MAY				JUNE				JULY					AUGUST					SEPTEMBER					OCTOBER				NOVEMBER				DECEMBER						
	4	11	18	25	1	8	15	22	29	5	12	19	26	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	
Projected Award																																																										
Topographic Survey & Drone ¹																																																										
Environmental & Subsurface Investigations ²																																																										
Wetland Delineation																																																										
Agency Coordination & Approvals																																																										
Coordination w Regulatory Agencies																																																										
Regulatory Approvals																																																										
Utility Coordination																																																										
Stormwater Design																																																										
Concept Plan																																																										
Final Design																																																										
Design Coordination Meetings ³		1								2				3			4						5			6																																
Public Involvement Meetings ⁴													1				4						2																																			
Bidding/Construction Assistance																																																										
Bidding																																																										
Construction																																																										

Assumptions:
1) Field work may be delayed due to snow cover
2) Assume no chemical testing of sediment required
3) 1st coordination meeting in person, subsequent may be virtual
4) Public information meetings for both projects to be held jointly

DETAILED STAFF ANALYSIS AND FEE

The chart below indicates information as requested in item 6, letters G through I on the Request for Proposals.

Employee Name				Terry Tavera	Katie Buchalski	Dan Schwartz	Aaron Krueger	Gene Deprey	Theran Stautz	Nick Connor	Abby Hansen		TOTAL TASK HOURS	TOTAL TASK COST
Classification				Engineer 6 (Senior PM)	Engineer 4 (Proj Engineer)	Professional Land Surveyor	Engineer Technician 3	Engineer Technician 2	Environmental Scientist 4	Enviornmental Scientist 3	Environmental Technician 2	Administrative Assistant		
Billing Rate				\$194.00	\$173.00	\$160.00	\$140.00	\$126.00	\$149.00	\$141.00	\$98.00	\$89.00		
	Task Description	Task Start Date	Task End Date	Hours										
1	Project Administration	12/6/2023	12/31/2024		8.00								8	\$1,384
2	Topopgraphic Survey (Drone)	12/6/2023	1/31/2024		24.00	6.00							30	\$5,112
3	Envir. & Subsurface Investigations	12/6/2023	4/1/2024		4.00					8.00			12	\$1,820
4	Wetland Delineation	5/1/2024	6/1/2024						14.00	6.00			20	\$2,932
5	Agency Coordination & Approvals	1/1/2024	7/1/2024	2.00	2.00					60.00	80.00		144	\$17,034
6	Utility Coordination	3/1/2024	6/1/2024		4.00							1.00	5	\$781
7	Stormwater Design	1/1/2024	7/1/2024	8.00	80.00		40.00	40.00	4.00			4.00	176	\$26,984
8	Design Coordination Meetings	12/6/2023	6/1/2024	6.00	12.00							2.00	20	\$3,418
9	Public Involvement	3/1/2024	5/1/2024	8.00	8.00								16	\$2,936
10	Bidding/Construction Assistance	7/1/2024	12/31/2024		8.00							1.00	9	\$1,473
	LABOR TOTAL			24.00	150.00	6.00	40.00	40.00	18.00	74.00	80.00	8.00	440	\$63,874
	REIMBURSABLES													\$887
	TOTAL COST													\$64,761

STANDARD AGREEMENT

To Whom It Concerns,

Ruekert & Mielke, Inc. has previously negotiated modified language for indemnification with the City of Green Bay Attorney. Most recently the modified PSA agreement dated July 3, 2023 between Ruekert & Mielke, Inc. and City of Green Bay for the Triangle Sports Area Snowmaking project represents the modified language. The below are two excerpts showing the modified language. Also attached is the TSA PSA agreement that was approved on July 3, 2023.

1. INDEMNIFICATION (HOLD HARMLESS) AGREEMENT

General Liability

Consultant hereby agrees to indemnify, defend and hold harmless the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers, and each of them, from and against any and all suits, actions, legal or administrative proceedings, claims, demands, damages, liabilities, interest, attorneys' fees, costs and expenses of whatsoever kind or nature in any manner directly or indirectly caused, occasioned, or contributed to in whole or in part or claimed to be caused, occasioned, or contributed to in whole or in part, by reason of any act, omission, fault, or negligence, whether active or passive, of Consultant or of anyone acting under its direction or control or on its behalf even if liability is also sought to be imposed on City, its elected and appointed officials, officers, employees, agents, representatives and volunteers. The obligation to indemnify, defend and hold harmless the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers, and each of them, shall be applicable unless liability results from the sole negligence of the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers.

~~Consultant will indemnify and hold harmless the City for any claims by reason of its negligent acts, errors or omissions for professional services. The obligation to indemnify and hold harmless the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers and each of them, shall be applicable except to the extent the liability results from the negligence of the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers.~~

Consultant shall reimburse the City, its elected and appointed officials, officers, employees, agent or authorized representatives or volunteers for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

Professional Services Liability

~~Consultant will indemnify and hold harmless the City for 3rd party claims by reason of its negligent acts, errors or omissions for professional services. The obligation to indemnify and hold harmless the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers and each of them, shall be applicable except to the extent the liability results from the negligence of the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers.~~

In the event that Consultant employs other persons, firms, corporations or entities (sub-contractor) as part of the work covered by this Agreement, it shall be Consultant's responsibility to require and confirm that each sub-contractor enters into an Indemnity Agreement in favor of the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers, which is identical to this Indemnity Agreement.

This indemnity provision shall survive the termination or expiration of this Agreement.

6. INSURANCE

Liability Insurance: Consultant shall procure and maintain during the life of this Agreement the following Commercial General Liability Insurance and Automobile Liability insurances:

A. PROFESSIONAL LIABILITY (Errors and Omissions)

(1) Minimum Limits

(a) \$2,000,000 each claim/\$3,000,000 annual aggregate

~~(b) Any deductible not to exceed \$25,000 each claim~~

STANDARD AGREEMENT FOR PROFESSIONAL SERVICES BETWEEN CITY OF GREEN BAY AND CONSULTANT

Project: Ruekert & Mielke, Inc

THIS AGREEMENT is made this 3rd day of July 2023, by and between the City of Green Bay, a municipal corporation of the State of Wisconsin, located in Brown County, Wisconsin, (hereinafter called "City") and Ruekert & Mielke, Inc. (hereinafter called "Consultant").

NOW, THEREFORE, in consideration of the following terms and conditions, City and Consultant mutually agree as follows:

1. SCOPE OF WORK

Consultant agrees to perform all services and furnish all materials necessary as fully described and specified in the Request for Quotation (RFQ).

2. FEES

Total fees payable to Consultant shall not exceed the amount of \$20,500 for all services, materials, equipment, and authorized reimbursable expenses under this Agreement unless an Amendment to Agreement, signed by both parties, approves additional fees in writing. Any such additional fees shall be defined in writing and authorized prior to execution of such work.

3. AMENDMENTS TO AGREEMENT

This Agreement may be amended only by written instrument signed by both parties. If in the reasonable judgment of the City, the scope or nature of the services to be performed by Consultant change or deviate materially from the scope or nature of the services described above, the City may, at its discretion, suspend performance of its services until a written agreement superseding this Agreement and adjusting the scope, schedule, and terms and conditions has been executed. Where additional work is to be completed on a time and expense compensation, charges shall be in accordance with the fee schedule submitted with the Consultant's Proposal.

4. COMPENSATION

City agrees to pay for services provided in accordance with the compensation provisions described in the Consultant's Proposal. Consultant will bill the City, no more than monthly, with net payment due in 30-days from the invoice date. Consultant may, after giving 72-hour notice, suspend service under the Agreement until the City has paid all amounts in full due for services rendered and expenses incurred.

5. INDEMNIFICATION (HOLD HARMLESS) AGREEMENT

General Liability

Consultant hereby agrees to indemnify, defend and hold harmless the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers, and each of them, from and against any and all suits, actions, legal or administrative proceedings, claims, demands, damages, liabilities, interest, attorneys' fees, costs and expenses of whatsoever kind or nature in any manner directly or indirectly caused, occasioned, or contributed to in whole or in part or claimed to be caused, occasioned, or contributed to in whole or in part, by reason of any act, omission, fault, or negligence, whether active or passive, of Consultant or of anyone acting under its direction or control or on its behalf even if liability is also sought to be imposed on City, its elected and appointed officials, officers, employees, agents, representatives and volunteers. The obligation to indemnify, defend and hold harmless the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers, and each of them, shall be applicable unless liability results from the sole negligence of the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers.

~~Consultant will indemnify and hold harmless the City for any claims by reason of its negligent acts, errors or omissions for professional services. The obligation to indemnify and hold harmless the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers and each of them, shall be applicable except to the extent the liability results from the negligence of the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers.~~

Consultant shall reimburse the City, its elected and appointed officials, officers, employees, agent or authorized representatives or volunteers for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

Professional Services Liability

~~Consultant will indemnify and hold harmless the City for 3rd party claims by reason of its negligent acts, errors or omissions for professional services. The obligation to indemnify and hold harmless the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers and each of them, shall be applicable except to the extent the liability results from the negligence of the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers.~~

In the event that Consultant employs other persons, firms, corporations or entities (sub-contractor) as part of the work covered by this Agreement, it shall be Consultant's responsibility to require and confirm that each sub-contractor enters into an Indemnity Agreement in favor of the City, its elected and appointed officials, officers, employees, agents, representatives and volunteers, which is identical to this Indemnity Agreement.

This indemnity provision shall survive the termination or expiration of this Agreement.

6. INSURANCE

Consultant shall not commence work under this Agreement until it has obtained the insurance required herein. All coverages shall be with insurance carriers licensed and admitted to do business in the State of Wisconsin. All coverages shall be with carriers acceptable to the City. A minimum AM Best Rating of A-VII is required.

It is hereby understood and agreed that the insurance required by the City is primary coverage and that any insurance or self-insurance maintained by the City, its officers, council members, agents, employees or authorized volunteers will not contribute to a loss.

Worker's Compensation and Employers Liability Minimum Requirements as required by Statute: Consultant shall cover or insure under applicable labor laws relating to worker's compensation insurance, all of their employees in accordance with the law in the State of Wisconsin. Consultant shall provide statutory coverage for work related injuries and employer's liability insurance with limits of \$100,000 each accident, \$500,000 disease policy limit and \$100,000 disease each employee.

Liability Insurance: Consultant shall procure and maintain during the life of this Agreement the following Commercial General Liability Insurance and Automobile Liability insurances:

- A. PROFESSIONAL LIABILITY (Errors and Omissions)
 - (1) Minimum Limits
 - (a) \$2,000,000 each claim/\$3,000,000 annual aggregate
 - ~~(b) Any deductible not to exceed \$25,000 each claim~~
 - (2) Must continue coverage for 3 years after final payment for service/job
- B. GENERAL LIABILITY COVERAGE

- (1) Commercial General Liability
 - (a) \$4,000,000 general aggregate
 - (b) \$1,000,000 products - completed operations aggregate
 - (c) \$1,000,000 personal injury and advertising injury
 - (d) \$2,000,000 each occurrence limit
- (2) Claims made form of coverage is not acceptable.
- (3) Insurance must include:
 - (a) Premises and Operations Liability
 - (b) Blanket Contractual Liability including coverage for the joint negligence of the City of Green Bay, its officers, council members, agents, employees, authorized volunteers and the named insured
 - (c) Personal Injury
 - (d) Explosion, collapse and underground coverage
 - (e) Products/Completed Operations
 - (f) Independent Contractors

C. BUSINESS AUTOMOBILE COVERAGE

- (1) Minimum Limits - \$2,000,000 Combined Single Limit for Bodily Injury and Property Damage each accident
- (2) Must cover liability for "Any Auto" - including Owned, Non-Owned and Hired Automobile Liability

Additional Insured: Consultant shall name the City, including all elected and appointed officials, all employees and volunteers, all boards, commissions and/or authorities and their board members, employees and volunteers as Additional Insured on the General Liability Coverage. This coverage shall be primary to the Additional Insured, and not contributing with any other insurance or similar protection available to the Additional Insured, whether other available coverage is primary, contributing or excess.

Waiver of Workers Compensation Subrogation: The workers' compensation policy is to be endorsed with a waiver of subrogation. The insurance company, in its endorsement, agrees to waive all rights of subrogation against the City, its officers, officials, employees and volunteers for losses paid under the terms of the policy that arises from the work performed by the named insured for or on behalf of the City of Green Bay.

Cancellation Notice: All insurances required by this Agreement shall include an endorsement stating the following: "Thirty (30) days Advance Written Notice of Cancellation or Ten (10) days for Non-Renewal shall be sent to: City of Green Bay; Attn: Risk Management; 100 North Jefferson St.; Green Bay, WI 54301."

Proof of Insurance Coverage: Consultant shall provide to the City, at the time this Agreement is returned for execution, Certificates of Insurance and/or policies, acceptable to the City. If so requested, certified copies of any or all policies shall also be furnished. The Additional Insured Policy endorsement must accompany the Certificate of Insurance. A copy of the Certificate of Insurance must be on file with Risk Management. If no Certificates of Insurance and/or policies are provided to the City upon execution of this Agreement, the Agreement shall be null and void.

Continuation of Coverage: If any of the above coverage expires during the term of this Agreement, the Consultant shall deliver renewal certificates and/or policies to the City at least ten (10) days prior to the expiration date.

7. DISPUTE RESOLUTION

All claims, disputes or any other matters in question between the parties arising out of or relating to this Agreement or breach thereof shall be subject to mediation as a condition precedent to the institution of any legal proceedings by either party. If such claim, dispute or any other matter involves a lien arising out of

Consultant's services, Consultant may proceed in accordance with applicable law to comply with lien notice and filing deadlines prior to resolution of the matter by mediation.

The City and Consultant shall attempt to resolve claims, disputes and other matters in question between them by mediation in accordance with the current Mediation Rules of the American Arbitration Association unless the parties agree otherwise. A request for mediation shall be filed in writing with the other party to this Agreement and, if applicable, the American Arbitration Association.

The parties shall share equally the mediator's and any filing fees. Mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall have the same force and effect as settlements in any court having jurisdiction thereof.

8. ACCESS/UTILITIES

The City will arrange access to the site, as necessary, for Consultant to complete the work. Consultant will take reasonable precautions to minimize any damage to the site due to its operation. Site restoration is not included unless specifically requested by the City.

Consultant is responsible for locating public utilities and agrees to indemnify and save the City harmless from all claims, suits, losses, cost and expenses including attorney's fees as a result of any personal injury, death or property damage occurring from damage to public utilities. Consultant shall coordinate with a private locating service for locating utilities on private property.

9. SAFETY

Consultant shall comply with all Occupational Safety and Health Administration (OSHA) and State and Local safety and health standards and any other applicable rules and regulations.

Consultant's work or field personnel shall not be responsible for determining or implementing the means, methods, techniques, sequences or procedures of construction. Consultant will not be responsible for evaluating, reporting or effecting job conditions concerning health, safety or welfare, unless specifically requested in writing. Consultant's work or failure to perform same shall not in any way excuse any contractor, subcontractor or supplier from performance of its work in accordance with contract documents.

10. OWNERSHIP OF DOCUMENTS

Any reports, specifications, drawings, or other documents prepared by the Consultant in the performance of its obligations under this Agreement shall become the property of the City. All such materials shall be returned to the City upon completion, termination, or cancellation of this Agreement and payment in full of all monies due the Consultant. The Consultant shall not use, willingly allow, or cause such materials to be used for any purpose other than the performance of all Consultant's obligations under this Agreement without the written consent of the City. The City agrees that the Consultant shall not be responsible for any re-use by the City, or by third parties that obtained the documents from or through the City, for purposes other than original intent of the documents provided by the Consultant.

11. SAMPLES

Unless otherwise agreed or consumed in testing, test specimens shall be retained for a minimum of thirty (30) days following submission of final report.

12. ASSIGNMENT, TRANSFER OR SUBCONTRACTING

The Consultant shall not subcontract, assign or transfer any interest in this Agreement or any payments due hereunder except upon prior written consent of the City. All terms, conditions, covenants and agreements

herein shall extend to and be obligatory upon any successors or assigns of Consultant upon the execution of any written consent by the City. Consent shall not be given to any proposed assignment that would release the Consultant of their responsibilities under this Agreement.

13. TERMINATION FOR CONVENIENCE

The City reserves the right to terminate this Agreement, or any part of this Agreement, upon fourteen (14) days written notice. In case of such termination, the Consultant shall be entitled to receive payment from the City for work completed to date in accordance with the terms and conditions of this Agreement.

14. TERMINATION FOR CAUSE

Either party may terminate this Agreement in the event the other party fails to fulfill any of its obligations under this Agreement in a timely manner or otherwise violate any of the covenants, agreements or stipulations material to this Agreement. Termination of the Agreement is accomplished by the party initiating the termination giving fourteen (14) days written notice to the other party. In case of such termination, the Consultant shall be entitled to receive payment from the City for work completed to date in accordance with the terms and conditions of this Agreement.

15. NO DISCRIMINATION

During the term of this Agreement, the Parties, and the employees, representatives, agents and or volunteers thereof, shall not discriminate against any person based on race, color, creed, religion, sex, national origin, age, ancestry, disability, sexual orientation, gender identity, gender non-conformity, gender expression, transgender status, pregnancy, or marital or parental status.

16. SEVERABILITY

In the event that any section, clause or portion of this Agreement shall be adjudged or decreed to be invalid, the remainder of the Agreement shall remain in full force and not be affected by such judgment.

17. APPLICABLE LAWS

This Agreement shall be governed in all respects by the laws of State of Wisconsin.

18. ENTIRE AGREEMENT

This Agreement, together with the City's Request for Quotation (dated 6/12/23), Consultant's Quotation (dated 6/30/23), the attachments appended hereto, and all documents, drawings, specifications, and instruments specifically incorporated herein and made a part hereof, shall constitute the entire Agreement of the parties.

19. COMPLIANCE WITH LAWS

Consultant is responsible to see that services and documents furnished by Consultant conform to the applicable laws, rules, regulations, codes, orders, and special requirements, except as may be specifically provided otherwise herein.

20. COUNTERPARTS

This Agreement may be executed in several counterparts, and the signatures on this Contract may be transmitted electronically. Electronic signatures will be deemed to constitute original signatures and counterparts to this Agreement containing the signatures (whether original or electronic) of all the parties will be deemed to constitute a single, enforceable Contract.

21. TIME

This Agreement shall be effective on July 3, 2023 (which is the Effective Date of the Agreement).

All schedules are to be strictly met.

CITY

Signature: _____

Name: _____

Title: _____

Date: _____

CONSULTANT

Signature: _____

Name: _____

Title: _____

Date: _____



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY**AGENDA ITEM # F.10**

Consideration with possible action on request by Department of Public Works to adopt the Proposed 2024 Storm Water Utility Rates.

BACKGROUND

The storm water utility rates are determined annually based on the proposed budget and number of equivalent runoff units. An equivalent runoff unit or ERU means the unit by which a storm sewer charge is calculated and is based on an average horizontal impervious area of a fully developed single-family parcel within the City. An ERU is established as 3,000 square feet. The projected number of ERUs for 2024 is estimated to be 80,000 based on the City's billing records. The calculated storm sewer rate for 2024 is \$11.37 per month per ERU.

RECOMMENDATION

To approve the proposed 2024 Storm Water Utility Rates.

FISCAL IMPACT

The proposed rates are based on the approved 2024 Storm Water Utility budget.

ATTACHMENTS

1. I&S 2024 Storm Water Utility Budget - Final Rates
2. I&S 2024 Stormwater Utility Budget Comparison
3. I&S 2024 Storm Water Utility Budget Graph

STORM WATER UTILITY

ACCOUNT NUMBER 205525 - XXXXX

Number of ERU's

80,000

2024 BUDGET

11/20/23

ACCOUNT #	ACCOUNT	2024 BUDGET
50001	REGULAR SALARIES	\$1,787,425
50003	SEASONAL SALARIES	\$5,000
50501	OVERTIME	\$41,996
51201	HEALTH INSURANCE	\$379,009
51202	DENTAL INSURANCE	\$27,876
51203	LIFE INSURANCE	\$1,845
51210	SOCIAL SECURITY	\$108,981
51211	MEDICARE	\$25,513
51212	WORKER'S COMPENSATION	\$36,606
51301	WRS - EMPLOYER SHARE	\$124,288
51402	CLOTHING ALLOWANCE	\$5,950
51403	SAFETY GLASSES	\$1,000
51404	PERSONAL SUPPLIES	\$5,000
52001	TRAINING & TRAVEL	\$12,690
52003	DUES & BONDS	\$10,362
53001	CONTRACTUAL SERVICES	\$285,650
53002	COPY MACHINE	\$3,000
53014	LICENCES & PERMITS	\$56,844
53017	FINANCE SERVICES	\$425,000
53020	DATA PROCESSING SERVICES	\$67,400
53021	LEGAL FEES	\$3,000
53040	SANITATION DISPOSAL CHARGES	\$125,000
53102	SEDIMENT CREDIT - GBP (New 2019)	\$354,893
53110	SEWER SAMPLING CHARGES	\$4,000
54001	MATERIALS & SUPPLIES	\$166,435
54007	PUBLIC EDUCATION	\$5,000
54010	GAS, OIL & LUBRICANT	\$65,000
55101	EQUIPMENT REPAIRS	\$200,000
55130	CITY EQUIPMENT USAGE	\$300,000
55320	DIKE MAINTENANCE	\$5,000
55358	PUMP STATION REPAIRS	\$100,000
56101	ELECTRICITY	\$108,350
56201	NATURAL GAS	\$110
56302	CELL PHONES	\$10,000
56402	WATER	\$1,900
56403	SEWER	\$100
57098	DEPARTMENT INSURANCE CHARGES	\$22,337
59910	TRANSFER OUT - GENERAL FUND	\$570,000
59930	TRANSFER OUT - DEBT SERVICE	\$1,661,300
59940	TRANSFER OUT - CAPITAL PROJECTS	\$2,550,798
	Subtotal Stormwater Utility & Forestry Debt Service	\$9,664,658
205670	TRANSFER OUT - FORESTRY FUNDING	\$1,535,279
	Less Forestry Revenue	
	Subtotal Stormwater Utility and Forestry	\$11,199,937
44310	APPLIED PERMIT AND CONNECTION FEE REVENUE	-\$38,500
46490	APPLIED PACKER SANITATION REIMB	-\$10,000
48100	APPLIED INTEREST REVENUE	-\$200,000
48592	LOCAL GRANTS	-\$10,000
48921	SALE OF SCRAP REVENUE	-\$2,000
49220	ARPA INTEREST	-\$22,626
	TOTAL	\$10,916,811

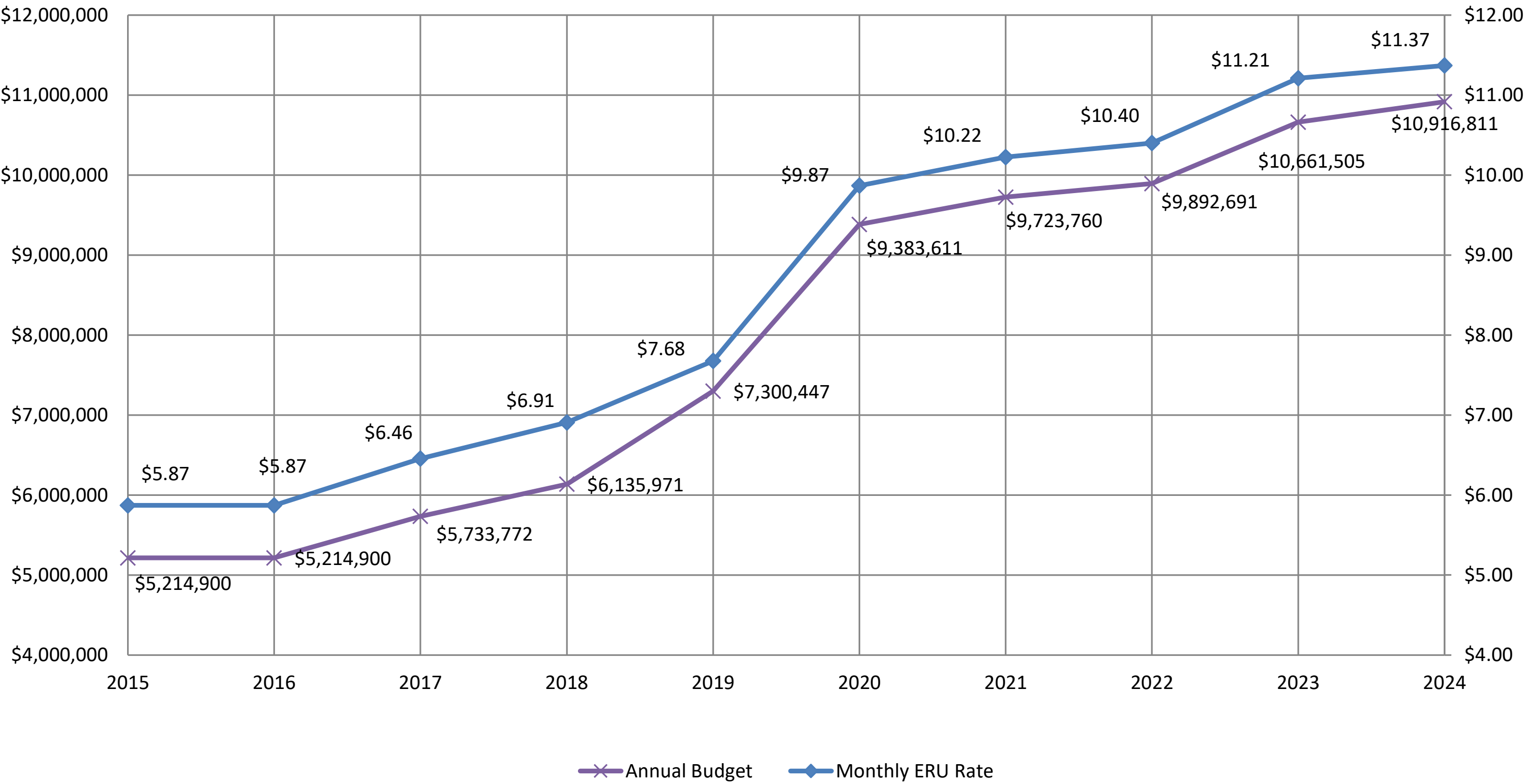
ERU charge(per year) **\$136.46**

ERU Charge(per month) **\$11.37**

STORM WATER UTILITY - ANNUAL BUDGET COMPARISON

ACCOUNT #	TITLE	2015 Budget	2016 Budget	2017 Budget	2018 Budget	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget	2024 Budget
50001	REGULAR SALARIES	\$1,073,670	\$1,108,778	\$1,131,498	\$1,162,066	\$1,265,315	\$1,344,840	\$1,449,296	\$1,487,466	\$1,537,182	\$1,787,425
50003	SEASONAL SALARIES										\$5,000
50501	OVERTIME	\$40,000	\$39,996	\$40,000	\$39,996	\$39,996	\$39,996	\$39,996	\$39,996	\$39,996	\$41,996
51201	HEALTH INSURANCE	\$281,200	\$246,737	\$268,694	\$259,141	\$298,600	\$307,597	\$298,045	\$327,811	\$334,507	\$379,009
51202	DENTAL INSURANCE	\$22,670	\$21,470	\$21,614	\$22,240	\$23,822	\$26,960	\$27,868	\$27,836	\$25,709	\$27,876
51203	LIFE INSURANCE	\$1,720	\$1,656	\$1,937	\$2,047	\$2,155	\$2,280	\$2,206	\$1,882	\$1,938	\$1,845
51204	LEVY SUPPORTED HEALTH INSURANCE	\$10,290	\$10,070	\$8,610	\$7,630	\$5,540	\$3,690	\$2,680	\$0	\$0	\$0
51210	SOCIAL SECURITY	\$66,430	\$68,762	\$70,072	\$72,065	\$78,142	\$82,988	\$89,557	\$92,323	\$95,474	\$108,981
51211	MEDICARE	\$15,550	\$16,079	\$16,381	\$16,875	\$18,297	\$19,427	\$20,967	\$21,616	\$22,352	\$25,513
51212	WORKER'S COMPENSATION	\$12,630	\$12,010	\$24,485	\$22,410	\$19,150	\$16,728	\$48,288	\$37,174	\$39,114	\$36,606
51301	WRS - EMPLOYER SHARE	\$75,680	\$75,817	\$79,752	\$80,565	\$85,531	\$93,508	\$100,558	\$99,313	\$107,274	\$124,288
51402	CLOTHING ALLOWANCE		\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$5,950
51403	SAFETY GLASSES	\$1,000	\$1,000	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,000
51404	PERSONAL SUPPLIES	\$3,000	\$0	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
52001	TRAINING & TRAVEL	\$1,000	\$5,000	\$8,000	\$6,000	\$10,900	\$5,900	\$9,275	\$5,900	\$6,900	\$12,690
52003	DUES & BONDS	\$4,500	\$4,500	\$5,500	\$6,500	\$5,500	\$6,000	\$6,000	\$6,000	\$9,520	\$10,362
53001	CONTRACTUAL SERVICES	\$70,000	\$250,000	\$250,000	\$250,000	\$150,000	\$100,000	\$200,000	\$150,000	\$150,000	\$285,650
53002	COPY MACHINE	\$1,500	\$1,500	\$1,550	\$1,600	\$1,600	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
53014	LICENCES & PERMITS	\$16,000	\$16,200	\$27,000	\$40,700	\$40,700	\$47,000	\$48,000	\$46,100	\$51,600	\$56,844
53017	FINANCE SERVICES	\$270,000	\$280,000	\$280,000	\$300,000	\$300,000	\$350,000	\$350,000	\$375,000	\$401,000	\$425,000
53020	DATA PROCESSING SERVICES	\$15,500	\$27,000	\$35,000	\$24,750	\$28,000	\$36,673	\$36,673	\$40,000	\$50,000	\$67,400
53021	LEGAL FEES				\$0		\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
53031	ENGINEERING/ADMINISTRATIVE SERVICES	\$0		\$10,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
53040	SANITATION DISPOSAL CHARGES	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$125,000
53102	SEDIMENT CREDIT - GBP					\$150,000	\$275,000	\$324,777	\$334,525	\$344,556	\$354,893
53110	SEWER SAMPLING CHARGES	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$4,000
54001	MATERIALS & SUPPLIES	\$60,000	\$60,000	\$75,000	\$75,000	\$75,000	\$102,891	\$75,000	\$100,000	\$100,000	\$166,435
54007	PUBLIC EDUCATION			\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
54010	GAS, OIL & LUBRICANT	\$50,000	\$50,000	\$50,000	\$50,000	\$57,500	\$61,000	\$61,000	\$61,000	\$61,000	\$65,000
55101	EQUIPMENT REPAIRS	\$125,000	\$125,000	\$175,000	\$150,000	\$150,000	\$150,000	\$200,000	\$200,000	\$200,000	\$200,000
55130	CITY EQUIPMENT USAGE	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
55140	EQUIPMENT REPLACEMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
55150	NEW EQUIPMENT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
55191	EQUIPMENT REPLACEMENT FUND	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
55320	DIKE MAINTENANCE	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
55358	PUMP STATION REPAIR				\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
56101	ELECTRICITY	\$65,500	\$71,860	\$71,860	\$76,660	\$98,260	\$106,000	\$106,000	\$106,000	\$110,000	\$108,350
56201	NATURAL GAS	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110
56301	TELEPHONE		\$0	\$1,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$0
56302	CELL PHONES	\$1,650	\$1,650	\$4,200	\$5,000	\$5,000	\$5,000	\$7,000	\$7,000	\$7,000	\$10,000
56402	WATER	\$200	\$200	\$200	\$1,500	\$1,635	\$1,725	\$1,725	\$1,750	\$1,750	\$1,900
56403	SEWER	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
57098	DEPARTMENT INSURANCE CHARGES	\$6,330	\$7,230	\$14,010	\$10,747	\$14,574	\$17,155	\$18,020	\$18,829	\$21,851	\$22,337
59910	TRANSFER OUT - GENERAL FUND	\$200,000	\$200,000	\$200,000	\$200,000	\$470,000	\$470,000	\$470,000	\$470,000	\$470,000	\$570,000
59930	TRANSFER OUT - DEBT SERVICE	\$414,600	\$561,852	\$561,329	\$561,329	\$814,460	\$814,460	\$1,498,273	\$1,415,895	\$1,533,354	\$1,661,300
59940	TRANSFER OUT - CAPITAL PROJECTS	\$2,249,190	\$1,437,323	\$1,776,370	\$2,062,440	\$2,462,060	\$3,147,230	\$2,421,980	\$2,412,980	\$2,888,110	\$2,550,798
205670	TRANSFER OUT - FORESTRY FUNDING						\$1,189,853	\$1,250,866	\$1,371,585	\$1,416,608	\$1,535,279
44310	APPLIED PERMIT AND CONNECTION FEE REVENUE										-\$38,500
46490	APPLIED PACKER SANITATION REIMB										-\$10,000
48100	APPLIED INTEREST REVENUE						-\$75,000	-\$75,000	\$0	\$0	-\$200,000
48592	LOCAL GRANTS										-\$10,000
48921	SALE OF SCRAP REVENUE										-\$2,000
49220	ARPA INTEREST										-\$22,626
	TOTAL	\$5,214,900	\$5,214,900	\$5,733,772	\$6,135,971	\$7,300,447	\$9,383,611	\$9,723,760	\$9,892,691	\$10,661,505	\$10,916,811
	Equivalent Runoff Units (ERU's)	74,000	74,000	74,000	74,000	79,250	79,250	79,250	79,250	79,250	80,000
	ERU charge(per year)	\$70.47	\$70.47	\$77.48	\$82.92	\$92.12	\$118.41	\$122.70	\$124.83	\$134.53	\$136.46
	ERU Charge(per month)	\$5.87	\$5.87	\$6.46	\$6.91	\$7.68	\$9.87	\$10.22	\$10.40	\$11.21	\$11.37

STORM WATER UTILITY BUDGET





Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY**AGENDA ITEM # F.11**

Consideration with possible action on request by Department of Public Works to purchase yearly structure cast iron castings from Neenah Foundry in the amount of \$51,240 for the Sewer Section.

BACKGROUND

This is an annual year end purchase that the Department of Public Works requests so cast iron castings are available throughout the year for sewer maintenance and projects.

RECOMMENDATION

To approve a recommendation from the Department of Public Works to purchase yearly structure cast iron castings from Neenah Foundry in the amount of \$51,240.

FISCAL IMPACT

\$51,240. The items are budgeted for under the Stormwater Utility and Sanitary Utility Materials and Supplies budget.

ATTACHMENTS

- I. Q00141827

QUOTATION

Q00141827



CITY OF GREEN BAY
100 N JEFFERSON ST
GREEN BAY, WI 54301
US

2121 Brooks Ave
 Neenah, WI 54956

PHONE: | FAX:
 tony.hanlon@groupnei.com

Attn: Mike DeNiel
Phone:
Mobile Phone: (920) 609-5322
Email: mike.deniel@greenbaywi.gov

Date: Nov 21, 2023
Job Name: Winter 2023 Casting Order
Job Location: Green Bay, WI
Expiration Date: Nov 28, 2023
Bid Date:

We are pleased to submit the following quotation in accordance with your request.

Line	Quantity	Catalog	Description	Sales Price	Total Price
			Frame 1689-2301		
1	3 EA	1689-W	FRAME--TYPE-A--NON-ROCKING SEAT--GI CLASS 35B--AA 23-3/8, BB 1-1/2, LTRD. 'NEENAH FOUNDRY CO'--'AASHTO M306 CLASS 35B', 'MADE IN USA'	\$232.00	\$696.00
			Grate Type "D" 2050-0003		
2	1 EA	2050	GRATE--TYPE-D--NON-ROCKING SEAT--GI CLASS 35B--23 X 1-1/2	\$151.00	\$151.00
			Solid Lid (storm) 1050-0009		
3	5 EA	1050	SOLID LID--TYPE-B--NON-ROCKING SEAT--GI CLASS 35B--23 X 1-1/2	\$152.00	\$760.00
			Solid Lid (sanitary) 1550-0050		
4	1 EA	1550	SOLID LID--TYPE-B--NON-ROCK T-SEAL,AC--GI CLASS 35B--23 X 1-13/32 PLUS 3/32 GSKT., FINAL B DIM 1-1/2	\$170.00	\$170.00
			Frame 1110-003		
5	31 EA	1110	FRAME--TYPE-A--NON-ROCKING SEAT--GI CLASS 35B--AA 22-1/4, BB 1-1/2	\$264.00	\$8,184.00
			Solid Lid (storm) 1090-1013		
6	47 EA	1090	SOLID LID--TYPE-B--NON-ROCKING SEAT--GI CLASS 35B--22 X 1-1/2	\$138.00	\$6,486.00
			Solid Lid (sanitary) 1090-0084		
7	100 EA	1090	SOLID LID--TYPE-B--NON-ROCK MACH SELF-SEAL--GI CLASS 35B--22 X 1-1/2	\$179.00	\$17,900.00
			Grate Type "A" 2090-0005		
8	2 EA	2090	GRATE--TYPE-A--NON-ROCKING SEAT--GI CLASS 35B--22 X 1-1/2	\$203.00	\$406.00
			Adjusting Ring 1979-0119		
9	3 EA	1710	ADJUSTING RING--TYPE-N--NON-ROCKING SEAT--GI CLASS 35B--AA 22-1/4, BB 1-1/2, F 4-1/2, M 3, N 22	\$570.00	\$1,710.00

QUOTATION

Q00141827



Line	Quantity	Catalog	Description	Sales Price	Total Price
10	5 EA	1710	Adjusting Ring 1979-0035 ADJUSTING RING--TYPE-N--NON-ROCKING SEAT--GI CLASS 35B--AA 22-1/4, BB 1-1/2, F 3-1/2, M 2, N 22	\$428.00	\$2,140.00
11	5 EA	3067	Inlet Frame 3067-2000 INLET FRAME--TYPE-N--REGULAR SEAT--GI CLASS 35B--AA 18 X 35-3/4, BB 2, FOUR SIDED SEAT SUPPORT	\$271.00	\$1,355.00
12	16 EA	3290	Curb Box 3290-7000 CURB BOX--TYPE-N--3 INCH RADIUS - OPEN--GI CLASS 35B--LTD.'DUMP NO WASTE' 'DRAINS TO FRESH WATER' IN 1/2 IN. LTRS--W/ FISH/LOON LOGO	\$274.00	\$4,384.00
13	4 EA	3067	Grate Type "R" 3067-0004 GRATE--TYPE-R--REGULAR SEAT--GI CLASS 35B--17-3/4 X 35-1/4 X 2, DIAGONAL BAR	\$197.00	\$788.00
14	11 EA	3070	Inlet Frame 3070-0010 INLET FRAME--TYPE-N--REGULAR SEAT--GI CLASS 35B--AA 17-3/8 X 20-1/4, BB 2, 4 SIDED SEAT SUPPORT	\$278.00	\$3,058.00
15	12 EA	3070	Curb Box 3070-0007 CURB BOX--TYPE-N--3 INCH RADIUS - OPEN--GI CLASS 30	\$175.00	\$2,100.00
16	7 EA	3070	Grate Type "R" 3070-0009 GRATE--TYPE-R--REGULAR SEAT--GI CLASS 35B--17 X 19-7/8 X 1-7/8, DIAGONAL BAR REVERSIBLE	\$136.00	\$952.00
Quotation Comments:					
TOTAL ESTIMATED WEIGHT: 27,306 lbs (Excluding Skids)				TOTAL QUOTATION VALUE: (Excluding Shipping & Handling)	<u>\$51,240.00</u>
				ESTIMATED S & H:	<u>\$0.00</u>

TERMS & CONDITIONS

Neenah Foundry Terms & Conditions apply and are available upon request. Castings furnished unpainted. Quantities are approximate, changes could alter unit prices. Estimated Shipping & Handling based on above quantities shipping in one complete shipment. Any order submitted pursuant to this quotation shall not result in a contract until it is accepted and acknowledged in writing by Neenah Foundry Company (SELLER).

Notwithstanding any contrary provision in the incorporated Terms and Conditions, this quote shall expire after 7 days from the date of issuance. All orders are subject to review of buyer's credit status. Standard terms for qualified customers are Net 30 Days. Prices do not include tax. If tax exempt, please provide a sales tax exemption certificate at time of order or any applicable tax will be charged

QUOTATION

Q00141827



<https://groupnei.com/wp-content/uploads/2022/11/Terms-and-Conditions-of-Sale-rev.-202210.pdf>

FOB Origin - Freight Excluded

NEENAH FOUNDRY COMPANY

BY _____

Tony Hanlon

Inside Sales Representative



Report to the
**Improvement and Service Committee
of the City of Green Bay**

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.12

Consideration with possible action on request by Department of Public Works to authorize the purchase of equipment to complete upgrades to the stormwater lift station located at Main Street and N. Irwin Avenue.

BACKGROUND

Electrical upgrades are needed at the stormwater lift station at N. Irwin Avenue and Main Street. The upgrades will allow the system to run more efficiently and reliably. Funds are available within the current budget for this type of work.

RECOMMENDATION

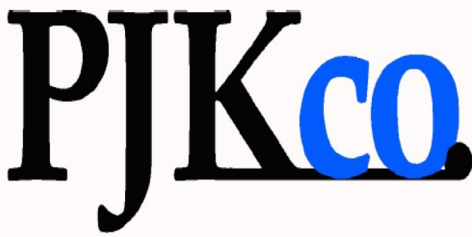
To approve the purchase of a new control panel from PJ Kortens & Company Inc. in the amount of \$29,900 and to approve the purchase of electrical components from Viking Electric for the total amount of \$50,850.

FISCAL IMPACT

Funds are budgeted for this equipment out of the Storm Water Utility Budget out of the Pump Station Repair Fund \$79,250.

ATTACHMENTS

- I. Combined Quotes

**PJ Kortens & Company, Inc.**

Phone: (920) 730-9023
Fax: (920) 730 - 8931
1985 W Packard Street
Appleton, WI 54914

Quote**No.: 230229****Date: 09/25/2023**

Green Bay, City of
1820 Mill Street
Green Bay, WI 54302-3514

Prepared for: Eric Van Laanen

Green Bay Main & Irwin Storm Water Station

Scope:

P.J. Kortens & Co. respectfully submits this proposal to provide a new control panel for the Irwin/Main St Storm Water Pump Station.

At Irwin/Main St Storm Water Pump Station, a new Control Microsystems 474 PLC, Maple System MMI (man machine interface) will be installed in a new Nema 12 enclosure. The following major items are included:

1. Provide the new equipment in a new Nema 12 enclosure with the following major components (Installed of panel by others)
 - a) Control Microsystems 334 PLC
 - b) 24 VDC Backup power (UPS) -
 - c) 24VDC power supply
 - d) HOA switches
 - e) Maple System HMI
 - f) 8 port Network Switch
 - g) Interface relays
 - h) Seal & over temp pump module (reuse existing units)
 - i) 4RF Licensed radio - (Provided by customer)
2. Room temperature transmitter
3. Building flood switch
3. Configuration of the PLC & HMI
4. Check out and startup of control panel

P.J. Kortens & Co will include the following as part of this proposal:

1. Equipment submittal and HMI screen approval
2. Off-site system testing
3. All PLC, MMI, and VFD programming
4. Storm Water Station startup
5. Operator training
6. 12 months parts and labor warranty
7. 2 sets of electrical drawing and O&M manuals

Note: The following is not covered under our scope:

1. Electrical equipment (conduit, wire) and installation
2. Power panel board with main CB, branch breakers for the VFD's, 240 surge protection, phase monitoring and transformer
- 3) VFD's
4. Submersible level transducer/ floats
5. Radio, Radio surge protection, antenna or antenna cable
6. Terminations and labeling of power control and signal conductors
7. Installation of control panel by others.

Quantity	Part Number	Description
1	SCE-30EL3012LPPL	Enclosure, Enviroline, 30x30x12, 3-PT Latch
1	SCE-30P30	Subpanel, 30x30
1	TBUP474-UA50-BB00S	SCADAPack 474 with DI, DO, AI, AO
1	HMI5070B	7" HMI Ethernet/ Serial Class I, Division 2
1	NDR-240-24	Power Supply, 10.0 A, 24 VDC- UL508

Quantity	Part Number	Description
1	DR-UPS40	UPS w/ External Battery
2	SLA12-9F2	Battery, 9Amp/hour
1	2891929	8 Port Ethernet Switch, 24VDC
1	TDS1301TR150	Surge Diverter, 120-150 VAC/20kA
1	O1701	Float Switch, Brass Stem, Buna N Float
1	ISDUM4	4-channel isolated switch, 120 VAC OR 24 VDC, 8 dip Sw
1	2865340	Intrinsically safe barrier / 4-20 MA
1	QAC3171	Industrial Thermometer, -58-122 F Temp Range, 4-20 MA
2	ASD340NU	Selector Switch, 3 Pos, Maintained, 30mm, 4 NO
2	BST-010	Contact block NO
10	0916606	Circuit Breaker, UT6-TMC, 4 Amp
1	QOU120	Circuit Breaker, 20A
1	Misc. Materials	Misc. Materials
1.00	Contract Panel Construction	Panel Construction
1.00	Labor - Documentation	Documentation
1.00	Labor - Electrical Design	Electrical Design
1.00	Labor - Field Labor	Field Labor
1.00	Labor - Programming	Programming Labor
1.00	Labor - Documentation	Training
1	Mileage Expenses	Mileage
1	Misc. Materials	Misc. Materials

Your Price: **\$29,900.00**

Total: **\$29,900.00**

Prices are firm until 10/21/2023 Terms: Net 15

Prepared by: Mark Hoff, mark.hoff@pjko.com

Date: _____

Accepted by: _____

Date: _____

Disclaimer

Terms and Conditions

1. All prices quoted are valid for 30 days. Please fax signed quote to 920-730-8931 or email to info@pjko.com so that your order can be placed. Any sales tax due will be invoiced in addition to the quoted price.
2. PJKortens & Company, Inc. (hereafter named as "Seller") agrees to perform the deliveries and services as stated in the 'Scope of Work' attached to this agreement.

Unless otherwise specified in Seller's quotation, the Purchaser shall pay the purchase price (including the price of goods and fees for services) in full within thirty (30) days after the services are rendered or the goods are shipped, unless otherwise stated in the proposal. Hardware invoiced FOB shipping from factory, with verification of receipt for assembly or installation.

3. All invoices from the Seller unpaid after the due date shall bear interest at the rate of one and one-half percent per month. The Seller may, at their option, cease to perform services or deliver goods for the Purchaser upon the Purchaser's failure to make timely payment. In the event collection of any amounts due hereunder is referred to an attorney by the Seller, Purchaser shall bear all costs of collection including, but not limited to, Seller's reasonable attorney's fees.

4. Warranty Period: Seller will warrant errors and omissions in the performance of the Scope of Work for twelve (12) months after acceptance of the work. For the purpose of start of the Warranty Period, acceptance of the work shall occur on the earliest of the following events:

- (a) The date of first use by the Purchaser or first use for the benefit of the Purchaser, whether such use is partial or complete;
- (b) The date of completion of the start-up or commissioning;
- (c) Thirty (30) days after the Seller has delivered to the Purchaser the products under contract, or three (3) months after Seller has been caused to stop work for any reason beyond Seller's control.

In the event Purchaser believes Seller owes a warranty obligation applicable to the Scope of Work, or has otherwise failed to comply with any other contract obligation, it must notify Seller in writing within 20 days of its discovery of such obligation and in no event later than 90 days after completion of the applicable services or deliverables. If Seller owes a warranty obligation, it will promptly commence to remedy and cure such default upon receipt of such notice from Purchaser at Seller's own cost and expense or, at Seller's option, will refund to Purchaser the portion of the compensation paid for any defective services or deliverables. Such performance by Seller is Purchaser's sole and exclusive remedy in the event of a warranty obligation of Seller or any other failure of Seller to comply with its contract obligations. SELLER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ANY OTHER WARRANTIES (INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY, TITLE/AGAINST INFRINGEMENT AND FITNESS FOR A PARTICULAR PURPOSE) ARE EXPRESSLY DISCLAIMED BY SELLER TO THE FULLEST EXTENT PERMITTED BY LAW. All parts or products not manufactured by Seller will be covered only by the express warranty provided by the manufacturer. No warranty applies to the extent of damage or wear caused by misuse, normal wear and tear, negligence, accident, corrosion, modification by Purchaser, faulty installation, loss of product, or tampering in a manner to impair normal operation of the equipment.

5. With respect to products supplied by Seller that are covered by a manufacturer's warranty, Seller's sole responsibility shall be to replace, or at Seller's option repair, any equipment or parts thereof which are found to be defective in material or workmanship to the extent Seller is able to obtain such repair or replacement parts from the manufacturer. Seller shall provide such replacement parts FOB at manufacturer's shipping point, in keeping with the manufacturer's warranty policy, and Seller is not responsible for the cost of labor or expenses associated with the replacement or repair of any such parts. Under no circumstances will Seller extend or modify a manufacturer's warranty terms and/or conditions, or accept responsibility for consequential or speculative damages as a result of the products or services supplied by this agreement.

6. Intellectual Property: Seller retains all rights, title and interest in its services and deliverables, including patents and copyrights; however, upon payment of the agreed compensation to Seller, Purchaser will be deemed to have been granted a non-exclusive, non-transferable, royalty-free, perpetual license to use the services and deliverables for the purposes contemplated in the proposal, except that third-party "shrink-wrapped" software or "off-the-shelf" hardware provided through Seller will be subject to Purchaser's compliance, at its own costs, with all applicable manufacturer licensing requirements. Purchaser may not sell, sublicense, assign or transfer its license to the services and deliverables provided by Seller without the prior written consent of Seller, nor may Purchaser reverse engineer or make derivative works from the services or deliverables.

7. If Purchaser is the "end user" of the work, subject to the other terms and conditions set forth herein the Seller grants to Purchaser a non-transferable, non-exclusive, license to use the software for Purchaser's internal purpose only. The Purchaser shall not sell, license, disclose, give away, assign or transfer the software or any interest therein to anyone. The Purchaser, however, may engage other persons or firms to modify or add to the Systems Integrator's Software, in which case such other persons or firms may modify or add to the software for no purpose other than for Purchaser's internal benefit and, shall first execute and deliver to the Seller a confidentiality agreement indicating they shall not otherwise use, disclose, give away or transfer any interest in the software to anyone. If the Purchaser makes additions or modifications to the Software, Purchaser will own such additions and modifications, including all intellectual property rights in the additions and modifications.

8. Purchaser agrees that it will not, either while work is being performed by Seller pursuant to these terms and conditions, or within two (2) years thereafter; (a) hire any employee of Seller; (b) solicit or encourage any employee to leave the employ of Seller; or (c) hire any person who has left the employ of Seller within two (2) years after the termination of such person's employment with Seller. Seller offers the option to hire any current or previous Seller's employee from the date of this contract up to 24 months after the project or assignment is complete for a fee of 50% of that staff member's total pay, wages, and/or salary with Purchaser (however described by Purchaser) for a period of (5) five years, per employee, which fee the parties agree to as liquidated damages and as a reasonable estimate of the economic harm Seller will suffer from the loss of its employees. This fee represents the cost of replacement of the Seller employee. In addition, Purchaser shall give Seller fifteen (15) business days prior written notice of intent to hire any Seller employee.

9. Limit of Liability: In no event shall Seller be liable for more than the cost of the products sold contract or services provided. In no event shall Seller be liable for any damages resulting from loss of data, loss of profits, cost of cover or other special, incidental, consequential or indirect damages arising in any way out of the agreement.

10. Termination: If Purchaser fails to comply with its obligations under the proposal or these Terms and Conditions (including without limitation the full and timely payment to Seller), Seller may provide written notice of such default to Purchaser and may thereafter suspend further performance until such default is cured by Purchaser. When such default is cured by Purchaser, the amount to be paid for the Scope of Work will be equitably increased to account for Seller's damages arising from such suspension (including without limitation demobilization and remobilization expenses and increased costs of performance) and Seller the time for Seller to complete the Scope of Work will be equitably extended to account for such suspension. If Purchaser fails to cure such default within 30 days of its receipt of such notice from Seller, Seller may terminate its agreement with Purchaser by providing written notice to Purchaser and in such an event, Purchaser will pay Seller for all portions of the Scope of Work performed (in whole or in part) through the date of such termination, Seller's demobilization expenses and other reasonable termination costs, the amount of expected overhead and profit Seller would have earned on the cancelled portions of the Scope of Work if not for Purchaser's default, and any collection costs incurred by Seller in obtaining payment for its services and deliverables from Purchaser.
11. Safety items may exist that are not identified or corrected. It is the Purchaser's responsibility to do a thorough safety assessment of their facilities.
12. During the course of the project, either Purchaser or Seller may request changes to the Scope of the Work. Such changes will be effective if the other party agrees to the change in writing. If the agreed change results in greater or lesser cost, Seller's compensation for the work will be adjusted accordingly.
13. Purchaser acknowledges that the services and deliverables may be subject to export and use restrictions under applicable law, include Export Administration Regulations maintained by the United States Department of Commerce. Purchaser agrees to comply with all such requirements and to hold Seller harmless from any violations of such requirements.
14. In the event that performance of the services and/or delivery to Purchaser of the deliverables is delayed by circumstances beyond the reasonable control of Seller (including without limitation changes to the scope of work, delays by Purchaser in providing information to Seller, fire, natural disasters, civil disturbances, acts of governmental authorities, labor disputes, unavailability of materials or shipping delays), Seller will promptly notify Purchaser of such circumstances in writing and Seller will be granted an equitable extension of the time to meet its obligations under the agreement.
15. Seller is an independent contractor and will have sole charge over, and be solely responsible for, (a) the payment of its employees and subcontractors and (b) the means, methods, techniques and sequences used in the performance of the services and the creation of its deliverables. Both Seller and Purchaser assume that the industrial exemption applies to all services under this agreement, and Purchaser acknowledges that individuals not licensed as professional engineers may execute some or all of the services and create some or all of the deliverables.
16. In the event Seller and Purchaser cannot resolve any claim or dispute between them arising out of or related to the proposal or the scope of work through direct negotiations, such dispute shall be subject to arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association. Such arbitration proceedings will be held in Wisconsin before a single arbitrator with experience in resolving disputes arising from information technology services. The prevailing party (as determined by the arbitrator) will be entitled to recover from the other party all costs incurred in resolving the dispute, including reasonable attorneys' and expert fees and the costs of arbitration. The arbitrator's award shall be final and may be entered as a judgment in any court with jurisdiction.
17. The agreement and these Terms and Conditions will be governed by the laws of Wisconsin and of the United States of America (including the Federal Arbitration Act, 9 U.S.C. § 1, et seq. with respect to the parties' agreement to arbitrate any dispute arising out of or related to the proposal or the scope of work), without regard to rules governing choice or conflict of laws. Purchaser and Seller agree that the agreement is predominately for the performance of services, not for the sale of goods, and further agree that the United Nations Convention on Contracts for the International Sale of Goods will not apply to their agreement.
18. Neither Purchaser nor Seller may assign its respective rights and obligations under their agreement without the written consent of the other party. However, Seller may subcontract or delegate its work obligations to other persons or entities, but will nonetheless be responsible to Purchaser for the performance of the work as required by the proposal. Both Purchaser and Seller agree that there are no third-party beneficiaries to their agreement.
19. If any term of the agreement or these Terms and Conditions is found to be unenforceable, the remaining terms will remain in effect. The failure of either Seller or Purchaser to exercise any rights under their agreement will not be deemed a waiver of such right except as agreed in writing or as otherwise set forth in these Terms and Conditions.
20. These Terms and Conditions, along with the attached Services Agreement and Scope of Work, constitute the entire integrated agreement between Seller and Purchaser for the services, deliverables and project. These terms supersede all previous and contemporaneous agreements, proposals and representations, written or oral, concerning such matters. Any additional, conflicting or inconsistent Purchaser terms (whether set forth in a request for proposals, purchase order or acknowledgement or in any other document) are expressly rejected by Seller and are not a part of this agreement.



Life Is On | **Schneider**
Electric

Prepared By:

Ben Hirsch
1936 Donbea Street
Green Bay, 54311
ben.hirsch@vikingelectric.com

Proposal Name: CITY OF GREEN BAY

Quote Name: CITY OF GREEN BAY

Proposal Number: P-230911-3986705

Quote Number: Q-4388675

Quote Date: 09/18/2023

Through Addenda Number: 0

Sales Representative: Matthew Pavlovich

Conditions of Sale

This Quotation is subject to Coordinated Project Terms. See <https://www.se.com/us/en/download/document/0100PL0043/>

Quoted price in currencies other than U.S. Dollars is per the annual Schneider Electric exchange guidance.
Quote is valid for 30 days. Quoted lead times are approximate and subject to change.

Schneider Electric reserves the right to amend, withdraw or otherwise alter this submission without penalty or charge as a result of any event beyond its control arising from or due to the current Covid-19 epidemic or events subsequent to this epidemic / pandemic including changes in laws, regulations, by laws or direction from a competent authority.

Seq #	Qty	Product Description
1	2	Designation : Product Details: 2 - ATV660D90T4N2AAYABNG-Altivar 660 ATV660D90T4N2AAYABNG Main circuit breaker disconnect 100k AIC rated Selected for 460 Vac 3 phase motor 125 Horsepower Sized for Normal duty. Drive controller rated for 156 Max Output Amps Max. Output Current Rating Will Be Lower Than The Continuous Output Current Rating Of The Drive When Bypass Option Is Selected. Type 12 Enclosure UL508A Label RAL7035 (Gray) Standard IEC Rated Bypass Contactors Isolation and bypass contactors (with mechanical and electrical Interlocking). Isolation and bypass contactor sequencing provides true motor isolation. Remote automatic bypass operation using Auto Start contacts. Control options: AFC-Off-Bypass selector switch Hand-Off-Auto selector switch Test-Normal selector switch Speed Potentiometer Pilot light options: Bypass pilot light (yellow) Overload Trip pilot light (yellow) Power on pilot light (red) Run pilot light (green) Trip pilot light (yellow) Auxiliary contacts: 1 NO/NC run contact 1 NO/NC trip contact 1 NO/NC bypass run contact A09 - 5% Line Impedance G14 - Transient voltage suppressor TYPE 1 SPD 40K Revision - 9/11/2023 - (20230730.000/20230730.000) 9/11/2023 7:21:15 PM

Seq #	Qty	Product Description
2	1	Designation : Product Details: 1 - I-Line MB Panel (INTERIOR)-I-Line Panelboard Consisting of 480Y/277V 3Ph 4W 60Hz SCCR: 35kA Fully Rated Suitable For Use As Service Entrance UL Single Main: 400AS/400AT/3P LG Circuit Breaker 80% Rated Main Trip Function: LI Main Trip Unit: Standard Trip Unit Incoming Conductors: 1 - (2) 2/0 - 500 kcmil AL Ground Bar Bus: 600A Rated Aluminum: Tin Plated 36" of Mounting Inches Type 1,Box: 68H x 42W x 9.5D Incoming: Bottom Trim: Surface with Door Box Cat No: HC4268DB Front Cat No: HCW68TSD Ref. Drawing: PBA420 Type: HCP Feeders: 2 - 400A/3P LH 2 - 20A/2P BG 2 - 20A/3P BG Optional Features: Standard Panel (Box Ahead),Standard Solid Neutral,Standard Ground Bar,Standard Mains and Feeders Mechanically Restrained Branch User Placement 1 - HC4268DB-PANELBOARD ENCLOSURE/BOX TYPE 1 68H 42W 1 - HCW68TSD-PANELBOARD COVER/TRIM ILINE 4PC W/DOOR



Expiration Date: 10/18/23

Quotation

TO:

CITY OF GREEN BAY-(ELEC) BAY
1820 MILLS ST
GREEN BAY, WI 54302-3514

Project Info:

Project: CITY OF GREEN BAY
Job #: 118874
Ack Date 09/18/23
PO#
Quoter: BEN HIRSCH

Type	Quantity	Vendor	Description	Unit or Lot#	Unit Price	Ext Price
	1	SCHNEIDE	TOTAL LOT SQUARE D PRICE = (SEE ATTACHED BOM - Q-4388675)	Unit	49,350.000/EA	49,350.00

From:

VIKING ELECTRIC
PROJECT SALES 800-787-2111
1936 DONBEA ST
GREEN BAY, WI 54311-6262
Printed By: BEN HIRSCH

Total**49,350.00****Notes**

Order is subject to Viking's standard terms and conditions
Sales tax not included
Orders to be billed through 3rd party require a purchase order from
that party in advance of any shipment



VIKING ELECTRIC
1936 DONBEA ST
GREEN BAY, WI 54311-6262
800-787-2111 Fax 920-494-5575

Brett.Stanzel@vikingelectric.com

QUOTE TO:
CITY OF GREEN BAY-(ELEC)
1820 MILLS ST
GREEN BAY, WI 54302-3514

Quotation

QUOTE DATE	QUOTE NUMBER
09/18/23	S007330729
PAGE NO.	
1 of 1	

SHIP TO:
CITY OF GREEN BAY-(ELEC)
1820 MILLS ST
GREEN BAY, WI 54302-3514

CUSTOMER NUMBER		CUSTOMER ORDER NUMBER		JOB NAME		QUOTED TO	
6794		AMP				TIM	
SALESPERSON		SHIP VIA		FREIGHT ALLOWED		EXPIRATION DATE	
BRETT STANZEL		GRB-830A		No		09/17/23	
ORDER QTY	UPC	DESCRIPTION			UNIT PRICE	U	EXT PRICE
1ea		AMEMI WPSCT4-4TM 400 AMP 3 PHASE WPS CT CABINET 10-12 WEEK LEAD TIME ****PLUS FREIGHT**** Item is subject to NS return policy			1500.000	e	1500.00

TERMS & CONDITIONS

TAXES NOT INCLUDED

OUR PRODUCTS AND SERVICES ARE SUBJECT TO, AND GOVERNED EXCLUSIVELY BY, OUR TERMS AND CONDITIONS OF SALE, WHICH ARE INCORPORATED HEREIN AND AVAILABLE AT www.vikingelectric.com/terms ADDITIONAL OR CONFLICTING TERMS ARE REJECTECT, VOID AND OF NO FORCE OR EFFECT.

Subtotal	1500.00
S&H CHGS	0.00
Amount Due	1500.00



Report to the
**Improvement and Service Committee
of the City of Green Bay**

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.13

Consideration with possible action on request by Department of Public Works for the extension of lease with Brown County for West Side Yard Waste Center property.

BACKGROUND

City of Green Bay traded the West Side Yard Waste property to Brown County in 2017 for an alternate site owned by the County. The alternate/traded site will be used for a relocation of the West Side Yard Waste Center. Since 2017, DPW has been leasing the old/existing West Side Yard Waste Center property from the County while it makes plans for relocation to the new site. The existing lease extension expired in 2023. DPW has asked Brown County if they would allow a second lease extension because we are not ready to relocate the yard waste center yet. The County has agreed to the request and forwarded a proposed lease extension agreement for signature.

RECOMMENDATION

Authorize Mayor and Director of Public Works to effectuate lease extension document for West Side Yard Waste Center property through May 31, 2028.

FISCAL IMPACT

ATTACHMENTS

1. 2023 WSYSC lease extension-UNSIGNED
2. 2019 WSYWC lease agreement extension-signed
3. 2017 WSYWC lease agreement

**SECOND AMENDMENT
to
SURFACE LEASE AGREEMENT JUNE 1, 2017**

This SECOND AMENDMENT TO SURFACE LEASE AGREEMENT (the “Amendment”) is entered into as of the 1st day of June 2023 by and between Brown County, a body corporate organized under the Laws of Wisconsin (“County”), and City of Green Bay (“City”) (hereinafter, may be collectively referred to in the plural as “Parties” and in the singular as “Party”).

WHEREAS, the Parties are the parties of that certain Surface Lease Agreement dated June 1, 2017, as subsequently amended (the “Lease”) for the County owned Hurlbut property used by the City of Green Bay as the West Side Yard Waste Facility. A copy of the lease is attached hereto as Exhibit A and incorporated herein by reference; and

WHEREAS, the Parties mutually desire to extend the term of the Lease and memorialize the monthly lease rate for each respective year of the extended term.

NOW, THEREFORE, in consideration of the mutual promises contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

1. Term. The term of the Lease shall be extended for an additional five (5) years commencing June 1, 2023, through the date of expiration on May 31, 2028 (the “Extended Term”).

2. Monthly Lease Rates; Annual Escalator. The monthly lease rate shall increase annually on the anniversary of this Agreement in the amount of One Hundred and 00/100 (\$100.00). A schedule of the monthly lease rate for each year of the Extended Term is set forth below:

LEASE YEAR	MONTHLY RATE
June 1, 2023 - May 31, 2024	\$1,400.00
June 1, 2024 - May 31, 2025	\$1,500.00
June 1, 2025 - May 31, 2026	\$1,600.00
June 1, 2026 - May 31, 2027	\$1,700.00
June 1, 2027 - May 31, 2028	\$1,800.00

3. Other Terms of Lease. Except for the terms of the Lease amended herein, in all other respects, the terms of the original Lease and any earlier amendments remain in effect. If there is a conflict between this Amendment and the original Lease or any earlier amendment, the terms of this amendment will prevail.

IN WITNESS WHEREOF, the undersigned have executed this Second Amendment to Surface Lease Agreement as of the day and year first above written.

BROWN COUNTY

CITY OF GREEN BAY

By:_____
Troy J Streckenbach, County Executive

By:_____
Patrick Moynihan Jr., County Clerk

By:_____
Eric Genrich, Mayor

By:_____
Steve Grenier, Public Works Director

Amendment One

To the June 2017

Surface Lease Agreement

Between

Brown County and City of Green Bay

The term of the Agreement will be extended until June of 2023. The Rent schedule will be as follows;

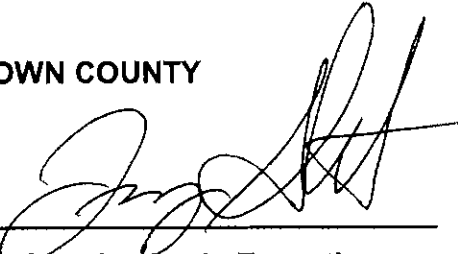
2020 \$1,100/month

2021 \$1,200/month

2022 \$1,300/month

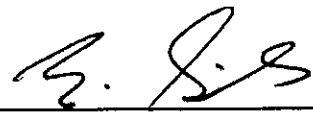
2023 \$1,400/month

BROWN COUNTY

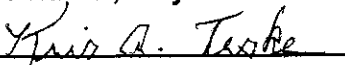
By 

Troy Streckenbach, Executive

CITY OF GREEN BAY

By: 

Eric Genrich, Mayor

By: 

Kris A. Teske, Clerk

AS TO FORM:

By 

Dean Haen, Port & Resource Recovery Department

SURFACE LEASE AGREEMENT

THIS SURFACE LEASE AGREEMENT (the "Agreement"), entered into this 1st day of JUNE, 2017, by and between BROWN COUNTY, a body corporate pursuant to Wis. Stat. s. 59.01 (the "Lessor"), and CITY OF GREEN BAY, a Wisconsin corporation (the "Lessee"), is to evidence the following agreements and understandings:

WITNESSETH:

That Lessor, for and in consideration of the covenants and agreements hereinafter set forth to be kept and performed by Lessee, has demised and leased to Lessee certain parcels of land (the "Leased Premises") located at Green Bay, Wisconsin and owned by Lessor, as set forth in Exhibit "A" attached hereto and incorporated herein by this reference; and

NOW, THEREFORE, in exchange for the mutual promises contained herein and other good and valuable consideration, the receipt, adequacy and sufficiency of which is hereby acknowledged, the Lessor and Lessee, Parties herein, agree as follows:

1. Rent

Lessee agrees to pay to Lessor rent for the Leased Premises during the Lease Period (as defined below), the sum of five hundred dollars (\$500) per per month in 2017, seven hundred fifty dollars (\$750) per month in 2018, and one thousand dollars (\$1000) per month in 2019. (the "Rent"), payable in advance on the first day of each month, starting June 1, 2017 (the "Rent Payment Commencement Date") and ending upon the expiration of this Agreement. The Parties acknowledge the Lease Period will commence on June 1, 2017.

2. Term

The initial term of this Lease shall be for three (3) years from June 2017 and shall continue until June 2020, (the "Lease Period").

3. Leased Premises

The Leased Premises are outlined and identified in Exhibit A. The Leased Premises legal description is: Lot 3 Bayport Industrial Center No. 1 Re-Plat, a County Plat, City of Green Bay, Brown County, Wisconsin. Parcel No. is 6-3041.

The Leased Premises consists of a 36-acre parcel of land. During the term of the Lease, the Lessee is required to maintain the property in the same condition, reasonable wear and tear excluded, as the property is in at the date of the commencement of this Lease, at the Lessee's cost. Failure to adequately maintain the property will be a material breach of this Agreement and may lead to Lessor's termination of this Agreement, subject to notice of such breach and a reasonable period of time to cure such breach.

4. Lessor's Right of Access

Lessor shall retain the right to access Leased Premises as set forth herein. Lessee shall not obstruct, or interfere with the driveway at any time in any manner. Lessor shall have the right to grant this right of access to others. The gated entrance to the Leased Premises shall be closed and locked at the end of each working day by the last party to enter or exit the Leased Premises. In addition to the above right of access, the Lessor shall have the right, upon reasonable notice to the Lessee, to enter and inspect or show the Leased Premises. Lessor shall maintain the right to use its property not included in the Leased Premises for any purpose which does not interfere with the Lessee's intended use of the Leased Premises.

5. Use

Lessor agrees the Lessee may use the Leased Premises for the handling and storage of compost. This shall include, but not be limited to, compost and material storage piles, milled asphalt storage piles, buildings and concrete barriers. The Lessee agrees that it will not use the Leased Premises for any unlawful purpose and the Lessee will comply with all federal, state, and local laws, ordinances, and regulations with respect to its use of the Leased Premises, and will indemnify, defend, and hold the Lessor harmless from any penalty, damage, or charge imposed or incurred as a result of the Lessee's use of the Leased Premises after the commencement date hereof in violation of any such law, ordinance, or regulation. Lessor, Lessee and any other user of the Leased Premises or Lessor's property adjacent to the Leased Premises must cooperate concerning access to premises. The cooperation includes but is not limited to securing and locking gates for ingress and egress.

Lessee shall be liable for any damage or injury incurred. Lessee is responsible for remedying any and all issues related to the Lease including but not limited to environmental damage, nuisance claims, or any action due to the activity of Lessee while acting on the Leased Premise.

6. Insurance

Lessee agrees that it shall at all times during the Lease Period indemnify, defend and hold harmless Lessor, Brown County and its agents, officers, and employees, against any and all loss, damages, and costs or expenses which Lessor may sustain, incur, or be required to pay by reason of any personal injury, death or property loss resulting from Lessee's acts or omissions under this Agreement; however, the provisions of this paragraph shall not apply to liabilities, losses, charges, costs, or expenses caused by Lessor, Brown County and/or its agents, officers and employees, notwithstanding, Brown County does not waive, and specifically reserves, its right to assert any and

all affirmative defenses and limitations of liability as specifically set forth in Wisconsin Statutes, Chapter 893 and related statutes.

In addition to the foregoing, Lessee agrees that during the Lease Period it shall provide general liability insurance coverage for its operations upon the Leased Premises in a minimum amount of \$2,000,000 per occurrence and automobile liability coverage with a minimum of \$1,000,000 per occurrence combined bodily injury and property damage limits for owned, non-owned and hired autos and the Lessor shall be provided a certificate of insurance, showing it as an additional insured during the term of this Lease Agreement.

The Lessor hereby agrees to give prompt written notice to the Lessee of any claim against the Lessor or the filing of any action or suit against Lessor in any court, based upon any act or omission of the Lessee, its agents and employees, in connection with the Lessee's use or occupancy of the Leased Premises.

7. Environmental Compliance & Indemnification

a. All capitalized terms used in this section and not heretofore defined shall have the meanings set forth below:

- (1) **"ENVIRONMENTAL CLAIMS"** means any and all actions, suits, orders, claims, liens, notices, investigations, proceedings or complaints, whether any of the foregoing are administrative, civil, criminal, judicial or otherwise, related to any Environmental Law, that has been threatened, brought, issued, asserted or alleged by:
- i) a federal, state or local agency or body or a citizen or citizen group for compliance, injunctive relief, losses, damages (including but not limited to natural resource damages), penalties, removal, response, remedial or other action pursuant to an Environmental Law related to the presence of actual or threatened Release of a Hazardous Substance, or a condition at, in, under or on (including migrating

from) any environmental media at the Leased Premises or related to waste or material sent for treatment, storage, recycling or disposal from the Leased Premises, including, without limitation and by way of illustration only, in the event that a lawsuit is commenced by the EPA, the State of Wisconsin or any other unit of government having jurisdiction over the Release of a Hazardous Substance at the Leased Premises which demands, orders or requires any investigation, testing, monitoring, clean-up, remediation, removal, corrective action, closure, response action, treatment, mitigation, restoration work, processing, extraction, excavation, demolition or any other action of any kind or nature whatsoever in connection with Releases at, in, under or on (or migrating from) the Leased Premises; or ii) a third party seeking damages and/or injunctive relief related to actual or alleged personal injury, medical monitoring, wrongful death, and/or property damage resulting from construction, operation or maintenance of the Leased Premises and/or the Release or threatened Release of a Hazardous Substance, or a condition, at, in, under or on (including migrating from) the Leased Premises or for a violation of an Environmental Law at or related to the Leased Premises.

- (2) **"ENVIRONMENTAL LAW"** means all applicable current and future federal, state and local environmental, land use, zoning, health, chemical use, safety and sanitation laws, statutes, rules, regulations, ordinances, permits, licenses, approvals and codes of any governmental agency and common law relating to the protection of the environment and/or governing the use, storage, treatment, generation, transportation, processing, handling, production or disposal of Hazardous Substances.

- (3) **"ENVIRONMENTAL PERMITS"** means all permits, licenses, approvals, authorizations, consents or registrations required by any applicable Environmental Law or in connection with the ownership, use and/or operation of the Leased Premises for the storage, treatment, generation, transportation, processing, handling, production or disposal of Hazardous Substances, or the cleanup, remediation, sale, transfer or conveyance of the Leased Premises.
- (4) **"HAZARDOUS SUBSTANCE"** means, without limitation, any flammable explosives, radon, radioactive materials, asbestos, urea formaldehyde foam insulation, polychlorinated biphenyls, biological agents, toxic molds, mineral oil, natural gas, petroleum and petroleum products, methane, hazardous materials, solid or hazardous wastes, waste waters, hazardous or toxic substances, regulated materials, pollutants, contaminants or related materials or chemicals, including their constituents and degradation products, posing a risk of harm to health or the environment, as defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Sections 9601 et seq.), the Toxic Substances Control Act (15 U.S.C. Sections 2601 et seq.), the Hazardous Materials Transportation Act, as amended (49 U.S.C. Sections 1801 et seq.), the Resource Conservation and Recovery Act, as amended (42 U.S. C. Sections 6901 et seq.), and any other applicable Environmental Law and the regulations promulgated there under.
- (5) **"RELEASE"** means any actual or threatened spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including, without limitation, any environmental media and the

abandonment or discarding of barrels, containers, and other closed receptacles) of any Hazardous Substance.

8. Environmental Indemnities

a. Lessee hereby covenants that, upon and after the Commencement Date, Lessee shall forever indemnify, assume, defend and hold Lessor, its officers, directors, employees, contractors, agents, successors and assigns ("Lessor Indemnified Parties"), harmless from any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, consequential damages, disbursements and/or expenses (including without limitation, reasonable attorneys' fees, expert witness and consultant fees and disbursements, whether incurred as the result of a third party claim or a claim to enforce this Lease) (collectively "Losses") which may be imposed upon, incurred by or asserted or awarded against any Lessor Indemnified Party resulting from or arising out of any of the following;

(1) Lessee's noncompliance with, or violation of, any obligations contained in Sections 5 and 7 above, including the provisions relating to site access, and/or of any Environmental Law with regard to the Leased Premises.

(2) Any Environmental Claim under Environmental Laws currently in effect or which comes into effect after the Commencement Date, related to the presence of a Hazardous Substance, or other condition existing at the Leased Premises prior to or as of the Commencement Date or wastes or materials sent from the Leased Premises prior to or as of the Commencement Date, or wastes or materials sent from the Leased Premises by Lessee after the

Commencement Date, even if such Environmental Claim is not known, discovered or asserted until after the Commencement Date, and which arises as a result of Lessee's use or occupancy of the Leased Premises.

(3) Any Release of a Hazardous Substance at, on, in, under or from the Leased Premises, including to any adjacent property, prior to or as of the Commencement Date, even if such Release is not discovered until after the Commencement Date, including without limitation, any Release of a Hazardous Substance which occurred prior to, or as of, the Commencement Date and which continues after such date, and which arises as a result of Lessee's use or occupancy of the Leased Premises.

(4) Any Release of a Hazardous Substance at, on, in, under or from the Leased Premises, including to any adjacent property, during the term of this Agreement, except to that caused or contributed to by Lessor or Lessor's employees, agents, contractors, guests or invitees, or to the extent caused by an off-site source.

b. The Parties agree and Lessor hereby covenants that, Lessor shall forever indemnify, assume, defend and hold Lessee, its officers, directors, employees, contractors, agents, successors and assigns ("Lessee Indemnified Parties"), harmless from any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, consequential damages, disbursements and/or expenses (including without limitation, reasonable attorneys' fees, expert witness and consultant fees and disbursements, whether incurred as the result of a third party claim or a claim to enforce this Agreement) (collectively "Losses") which may be

imposed upon, incurred by or asserted or awarded against any Lessee Indemnified Party resulting from or arising out of any of the following:

- (1) Lessor's noncompliance with, or violation of, any Environmental Law with regard to the Leased Premises.
- (2) Any Environmental Claim under Environmental Laws currently in effect or which come into effect after the Commencement Date, related to the presence of a Hazardous Substance or other condition created by Lessor at the Leased Premises after the Commencement Date or wastes or materials sent from the Leased Premises by Lessor after the Commencement Date.
- (3) Any Release of a Hazardous Substance at, on, in, under or from the Leased Premises, including to any adjacent property, subsequent to the Commencement Date to the extent caused or contributed to by Lessor or Lessor's employees, agents, contractors, guests or invitees.

- c. Except as otherwise expressly provided above, the party seeking to enforce an indemnity obligation pursuant to this Section shall have the burden of demonstrating that such indemnity obligation rests with the other party.

9. **Reservation of Rights.** Notwithstanding any other portions of this Agreement, nothing contained herein is intended to waive or estop either the Lessee or its insurer or the Lessor or its insurer from relying upon the limitations, defenses, and immunities contained within 345.05 and 893.80 of the Wisconsin Statutes. To the extent that indemnification is available and enforceable, the Lessee or its insurer or the Lessor or its insurer shall not be

liable in indemnity, contribution, or otherwise for an amount greater than the limits of liability of municipal claims established under Wisconsin law.

10. Discharge of Liens

Lessee shall not do or suffer anything to be done whereby the Leased Premises may be encumbered by any liens of mechanics, laborer, material, men, chattel mortgages, or any other liens. Lessee shall, whenever and as often as any such liens are filed against all or any portion of the Leased Premises which purport to be for labor, material, or funds furnished or to be furnished to Lessee, discharge the same of record within ten (10) days after the date of filing by payment, bonding, or otherwise, as provided by law. Lessee shall, upon reasonable notice and request in writing from Lessor, defend for Lessor, at Lessee's expense, any action, suit, or proceeding which may be brought for the enforcement of any such lien and will pay any damages and discharge any judgments entered in such action, suit, or proceeding and save harmless Lessor from any liability, claim, or damages resulting there from. If Lessee fails to procure the discharge as aforesaid of any such lien, Lessor may, without further notice to Lessee, procure the discharge by bonding or payment or otherwise, and all costs and expenses to which Lessor may be put in obtaining such discharge shall be paid by Lessee as additional rent within ten (10) days after notice from Lessor of the amount due.

11. Revisions and/or Terminations

- a. This Agreement may be terminated by either Party for any reason or for no reason at all by giving thirty (30) days written Notice to the other Party of said termination.
- b. Failure to comply with any part of this Lease may be considered cause for revision, suspension, or termination.

- c. Revisions of this Lease must be agreed to by Lessor and Lessee by an addendum signed by the authorized representatives of both parties.

12. Upon Termination

Lessee agrees at the end of the Lease, all materials belonging to or placed on the Leased Premises by the Lessee, must be removed from the Leased Premises and the property returned to a flat natural soil surface, unless otherwise agreed to by the parties. Any areas improved to provide all weather vehicular access existing on the Leased Premises shall remain and become the property of the Lessor without any compensation owed to Lessee for their construction or maintenance during the Lease Term. The Lessee further agrees that, upon termination of this Lease, the Lessee shall surrender quiet and peaceful possession of the Leased Premises in like good order as of the Commencement Date, natural wear and tear excepted, and loss or damage due to an act of God excepted.

13. Other Terms and Conditions

The Lessee covenants and agrees that it will, throughout the term of Lease, or any renewals or extensions thereof, be responsible for the payment of all utilities applicable to the operation of the Leased Premises by the Lessee, and the Lessee shall be responsible for the maintenance of all improvements on the Leased Premises.

14. Assignment/Subletting

This Lease and/or any interest herein shall not be mortgaged, pledged, encumbered, assigned, or otherwise transferred in any manner by Lessee, voluntarily or involuntarily, by operation of law or otherwise, or the Leased Premises or any part thereof, sublet or occupied for the conduct of any business by any third person, firm, or corporation or for any other purpose than as herein authorized without the prior written consent of Lessor.

15. Notices

Any notice by either Party to the other shall be in writing and shall be deemed to be duly given only if delivered personally or mailed in a postpaid envelope in the United States postal system, addressed as designated below. Notice shall be deemed to have been duly given, if delivered personally, upon the date such notice was placed in the mail.

If to Lessor: Brown County Port and Resource Recovery
Department
Dean Haen, Director
2561 S. Broadway Street
Green Bay, WI 54304

If to Lessee: City of Green Bay Public Works Department
Steve Grenier, Public Works Director
100 N. Jefferson St
Green Bay, WI 54301

16. Binding Effect

The terms and covenants contained in this Lease (and in any exhibit annexed hereto) shall bind and inure to the benefit of the Lessor and the Lessee, and their respective successors and assigns.

17. Governing Law

Any lawsuits related to or arising out of disputes under this Agreement shall be commenced and tried in the Courts of Brown County, Wisconsin and the Lessor and Lessee shall submit to the jurisdiction of the Courts for such lawsuits. In all respects, this Agreement shall be governed, construed and enforced in accordance with the laws of the State of Wisconsin.

18. Severability

If any term, covenant, condition or provision of this Lease or the application thereof to any Party or circumstance shall, at any time or to any extent, be

invalid or unenforceable, the remainder of this Lease, or the application of such term or provision to Parties or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term, covenant, condition and provision of this Lease shall be valid and be enforced to the fullest extent permitted by law.

19. Counterparts.

This Agreement may be executed in several counterparts, and the signatures on this Contract may be transmitted electronically. Electronic signatures will be deemed to constitute original signatures and counterparts to this Agreement containing the signatures (whether original or electronic) of all the parties will be deemed to constitute a single, enforceable Contract.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first written above.

BROWN COUNTY

By _____

Troy Streckenbach, Executive

CITY OF GREEN BAY

By _____

James J. Schmitt, Mayor

By _____

Kris A. Teske, Clerk

AS TO FORM:

By _____

Dean Haen, Port & Resource Recovery Department



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.14

Consideration with possible action on request by Green Viper LLC to dedicate to the City the pavement and underground utilities for the Woods Subdivision once all required documents are received from the Developer.

BACKGROUND

RECOMMENDATION

FISCAL IMPACT

ATTACHMENTS

- I. Woods at Baird Creek Subdivision

EROSION CONTROL PLAN

OF 17





Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.15

Consideration with possible action on request by Green Viper LLC to dedicate to the City the stormwater facility located in Outlot I of the Woods at Baird Creek Subdivision.

BACKGROUND

RECOMMENDATION

FISCAL IMPACT

ATTACHMENTS

- I. Woods at Baird Creek Subdivision

EROSION CONTROL PLAN

OF 17





Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.16

Consideration with possible action on transfer of retired Department of Public Works dump truck with plows to Chad Roffers Trucking, Inc. in exchange for five months of rental usage of a loader for the winter of 2023/24.

BACKGROUND

City of Green Bay replaced a loader in 2023. The loader that was replaced was sold through auction to Chad Roffers Trucking, Inc. DPW annually seeks rental loaders for plow duty from November 15 through April 15 each winter. DPW has experienced difficulty finding rental loaders from vendors for winter 2023/24. Chad Roffers Trucking, Inc. has agreed to rent its loader (recently owned by DPW) to DPW at a rate of \$4,000 per month for the winter of 2023/24. A rental rate of \$4,000 per month is lower than the rate DPW would pay to a dealer. The loader is a known quantity as it was recently a DPW fleet vehicle. DPW believes this is a fair exchange.

As rental payment for the loader, Chad Roffers Trucking, Inc. has asked to take ownership of a retired 2007 Sterling dump truck with front and wing plows for \$20,000. This truck has a corroded frame and has no value to DPW for repair or restoration. \$20,000 is equal to five (5) months of loader rental at \$4,000 per month. Chad Roffers Trucking, Inc., DPW, and Legal Department are agreeable to the terms of the exchange between the retired dump truck and five months of loader rental.

RECOMMENDATION

Authorize Director of Public Works to effectuate agreement with Chad Roffers Trucking, Inc. for release of one 2007 Sterling dump truck with plows, in exchange for five (5) months of rental of one loader owned by Chad Roffers Trucking, Inc.

FISCAL IMPACT

ATTACHMENTS

None



Report to the
**Improvement and Service Committee
of the City of Green Bay**

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.17

Report the award of contract SEWERS 3-23 SANITARY SEWER – EAST RIVER CROSSING AT GROVE STREET to PTS Contractors, Inc. in the amount of \$1,186,000.

BACKGROUND

Staff was given approval at the October 3, 2023, Common Council meeting to award this contract at the staff level. This is a capital improvement project to replace an aging sewer crossing below the East River at Grove Street.

RECOMMENDATION

FISCAL IMPACT

\$1,186,000. 2023 capital improvement project.

ATTACHMENTS

1. Award Letter SIGNED - PTS Contractors, Inc. 11-15-23 (B Spears)
2. QUESTCDN_Project Bid Results Results Sewers 3-23 Sanitary Sewer-East River Crossing at Grove Street



Public Works Department
100 North Jefferson Street - Room 300
Green Bay, Wisconsin 54301-5026
www.greenbaywi.gov

Administration | Engineering | Traffic 920.448.3100
Operations 920.448.3535
Parking 920.448.3431
Fax 920.448.3102

November 15, 2023

PTS Contractors, Inc.
4075 Eaton Rd.
Green Bay, WI 54311

Ladies and Gentlemen:

You have been awarded contract SEWERS 3-23 SANITARY SEWER – EAST RIVER CROSSING AT GROVE STREET in the amount of \$1,186,000.

The terms of the award require your officers and bonding agent to complete and return the enclosed pages **within ten (10) days of this notice.**

1. Contract pages (C-1, C-2, and C-3)
2. Performance pages (PB-1, PB-2, and PB-3)
3. Payment bond (PYB-1, PYB-2, and PYB-3)
4. Federal W-9 form

Please return the completed pages to:

City of Green Bay Department of Public Works
Attn: Michelle Wolter
100 N. Jefferson Street, Room 300
Green Bay, WI 54301

If you have any questions, please call (920) 448-3100.

Sincerely,

Steven M. Grenier, PE
Director of Public Works

ejns

Enclosures

cc: James Brunette
Jennifer McCartney

SEWERS 3-23 SANITARY SEWER–EAST RIVER CROSSING AT GROVE STREET

Quest Number: 8787377

Closing Date: Tue, 11/14/2023 02:00 PM CST

Posting Type: Construction Project

Owner Name:	Green Bay WI, City of
Owner Contact:	Steven Grenier, P.E.
Owner Phone:	920-448-3100
Solicitor Name:	Green Bay WI, City of
Contact:	Max McGuire
Email:	max.mcguire@greenbaywi.gov
Phone:	920-448-3324
Award Date:	
Comments:	
Award Status:	Pending
Letting Bid Tabulation:	View on vBid

Company	Contact	Phone	E-mail	Amount	Awarded	Comment
PTS Contractors, Inc	Jeannie Petasek	920-468-5217	JPetasek@PTSCcontractors.net	\$ 1,186,000.00		
Advance Construction Inc.	Paul Kultgen	920-434-3978	pkultgen@advconst.net	\$ 1,199,841.75		
Dorner Inc.	Tina Aschenbrenner	920-845-2442	tina.asch@dornerinc.com	\$ 1,498,107.20		



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.18

Consideration with possible action on request by Department of Public Works to award the PARKS 12-23 FINGER ROAD CONCESSION UTILITIES contract at a staff level and report the award at the next Improvement & Services Committee meeting.

BACKGROUND

A new concession stand at the Finger Road Ballfields has been donated by a user group; the City is responsible for constructing the utilities to the concession stand. To have the utilities installed and functional for next season, award is needed prior to the holiday break.

RECOMMENDATION

Award at staff level and report out.

FISCAL IMPACT

Parks has budgeted monies for this project.

ATTACHMENTS

None



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.19

Consideration with possible action to approve and accept staff recommendation of the quote for appraisal services for the acquisition of rights-of-way required for Country Club Road from West Mason Street Frontage Road to Indian Hill Drive.

BACKGROUND

RECOMMENDATION

FISCAL IMPACT

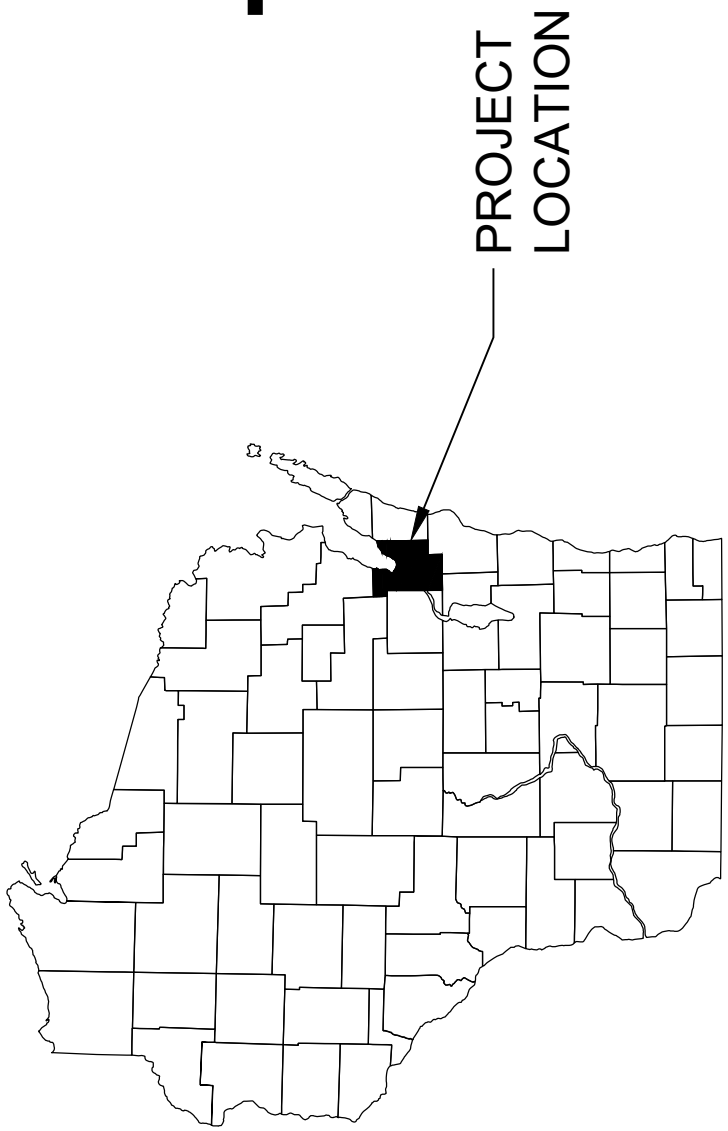
ATTACHMENTS

- I. APPROVAL COUNTRY CLUB ROAD APPRAISAL CONTRACT

I&S Agenda November 29, 2023

Consideration with possible action to approve and accept staff recommendation of the quote for appraisal services for the acquisition of rights-of-way required for Country Club Road from West Mason Street Frontage Road to Indian Hill Drive.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PROJECT PLAT TITLE SHEET
4987-02-75
COUNTRY CLUB ROAD
WEST MASON STREET FRONTAGE ROAD - INDIAN HILL DRIVE
CITY OF GREEN BAY
BROWN COUNTY



CONVENTIONAL SYMBOLS

SECTION LINE	SECTION CORNER SYMBOL	R/W MONUMENT (TO BE SET)
QUARTER LINE	NON-MONUMENTED	
SIXTEENTH LINE	R/W POINT	
NEW REFERENCE LINE	FOUN IRON PIN (1-1/2" UNLESS NOTED)	IP
NEW R/W LINE	GEODETIC SURVEY MONUMENT	
EXISTING R/W OR HE LINE	SIXTEENTH CORNER MONUMENT	
PROPERTY LINE	SIGN	OFF-PREMISE SIGN
LOT, TIE & OTHER MINOR LINES		
SLOPE INTERCEPT		
CORPORATE LIMITS		
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)		
NEW R/W (FEE OR HE)		
TEMPORARY LIMITED EASEMENT AREA		
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)		
TRANSMISSION STRUCTURES		
BUILDING		
BRIDGE		

CONVENTIONAL ABBREVIATIONS

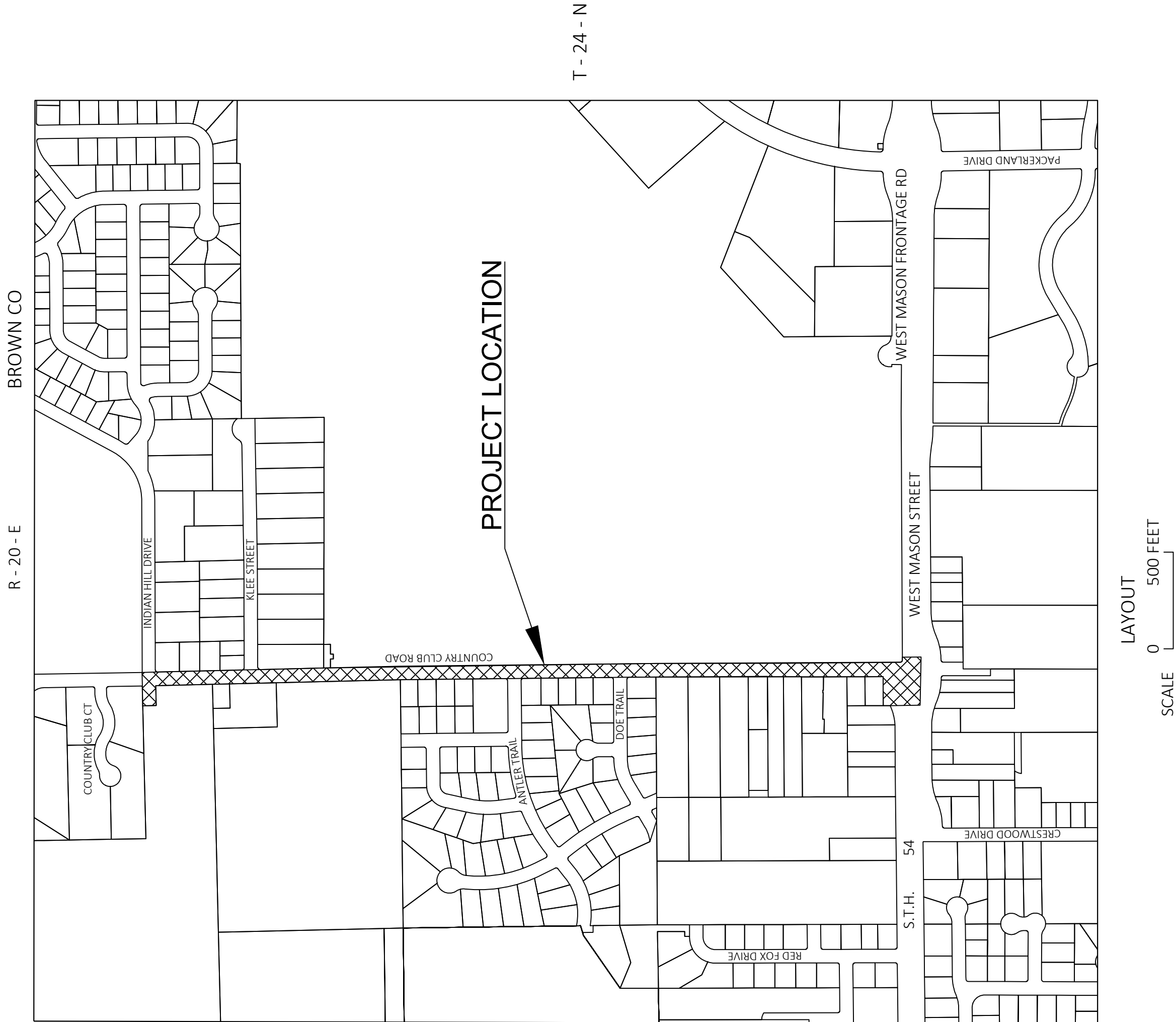
ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTRICTIVE DEVELOPMENT	RDE
CENTERLINE	C/L	EASEMENT	
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY	CO	SECTION	SEC
COUNTY TRUNK HIGHWAY	CTH	SEPTIC VENT	SEPV
DISTANCE	DIST	SQUARE FEET	SF
CORNER	COR	STATE TRUNK HIGHWAY	STH
DOCUMENT NUMBER	DOC	STATION	STA
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED	TLE
GAS VALVE	GV	EASEMENT	
GRID NORTH	GN	TRANSPORTATION PROJECT	TPP
HIGHWAY EASEMENT	HE	PLAT	
IDENTIFICATION	ID	UNITED STATES HIGHWAY	USH
LAND CONTRACT	LC	VOLUME	V
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NCS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	P OB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ / DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS



THE NOTES, CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 4987-02-75.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BROWN COUNTY, NAD83(2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 1" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER SURVEYS OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY.

PARCEL AND IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE TPP DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE TPP DETAIL PAGES.

PROJECT NUMBER 4987-02-75 -4. 01
SHEET 2 OF 2
AMENDMENT NO:

PLOT DATE :

PLOT NAME :

PLOT BY :

TACKMIR, JILL

OCTOBER 12, 2023

FILE NAME : I:\451450506 COUNTRY CLUB ROAD\CSDRW\4.01.DWG

LAYOUT NAME: TITLE

TRANSPORTATION PROJECT PLAT NO: 4987-02-75-4.01

THAT PART OF LOTS 7, A, 8 AND 9 OF SECTION 30, PART OF LOTS 1 AND 2 OF CERTIFIED SURVEY MAP NO. 1701, VOLUME 7 OF CERTIFIED SURVEY MAPS, ON PAGE 93, DOCUMENT NO. 885828, LOTS 1 AND 2 OF CERTIFIED SURVEY MAP NO. 2045, VOLUME 9 OF CERTIFIED SURVEY MAPS, ON PAGE 53, DOCUMENT NO. 940229, AND PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 6487, VOLUME 43 OF CERTIFIED SURVEY MAPS, ON PAGE 151, DOCUMENT NO. 1858080, AND PART OF LOT 6 OF SECTION 29, PART OF LOT 51, FIRST ADDITION TO PACKERLAND SUBDIVISION, VOLUME 14, PLATS, PAGE 27, DOCUMENT NO. 688212, ALL IN TOWNSHIP 24 NORTH, RANGE 20 EAST, FOURTH PRINCIPAL MERIDIAN, IN THE CITY OF GREEN BAY, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER COUNTRY CLUB ROAD (W MASON STREET FRONTAGE RD - INDIAN HILL DR) - CITY OF GREEN BAY
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE CITY OF GREEN BAY DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 62.22, WISCONSIN STATUTES, THE CITY OF GREEN BAY HEREBY ORDERS THAT:

- THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
- THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF CITY OF GREEN BAY, PURSUANT TO THE PROVISIONS OF SECTION 62.22, WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED					
PARCEL NUMBER	OWNER(S)	INTEREST(S) REQUIRED	R/W ACRES		
			NEW	EXISTING	TOTAL
1	UNITED STATES OF AMERICA IN TRUST	TLE			0.022
2	CHRISTOPHER J. & ROSE M. BRAUER	TLE			0.018
3	ROGER L. & PATRICIA L. ARNOLDI	TLE			0.031
4	JAMES J. & KATHERINE L. JOHNSON	TLE			0.031
6	DANIEL J. & DANIELLE P. MORRIS	TLE			0.025
7	JASON D. PRIES & ELIZABETH M. SAUER PRIES	TLE			0.021
8	DENNIS C. & SHEA M. GREIL	TLE			0.024
9	JEREMIAH D. NEWMAN	TLE			0.044
11	LINDA M. SERVIA	TLE			0.036
12	ARNOLD A. & CAROL A. VANDENBUSH REVOCABLE TRUST	TLE			0.061
13	NORTHEAST WISCONSIN TECHNICAL COLLEGE	FEE, TLE	0.009		0.608
50	SPECTRUM	RELEASE OF RIGHTS			
51	WISCONSIN PUBLIC SERVICE - ELECTRIC	RELEASE OF RIGHTS			
52	BROWN COUNTY TECHNOLOGY SERVICES	RELEASE OF RIGHTS			
53	GREEN BAY WATER UTILITY	RELEASE OF RIGHTS			

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.
PURPOSED OF ALL THE TLES IS FOR GRADING, UNLESS NOTED.

UTILITY EASEMENTS

UTILITY NO.	OWNER(S)	EASEMENTS
50	SPECTRUM	NO EASEMENT OF RECORD - PARCEL 13
51	WISCONSIN PUBLIC SERVICE CORP - ELECTRIC	DOC. NO. 1502980 - PARCEL 13
52	BROWN COUNTY TECHNICAL SERVICES	DOC. NO. 1502980 - PARCEL 13
53	GREE BAY WATER UTILITY	NO EASEMENT OF RECORD - PARCEL 13

NOTES:
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BROWN COUNTY, NAD83(2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

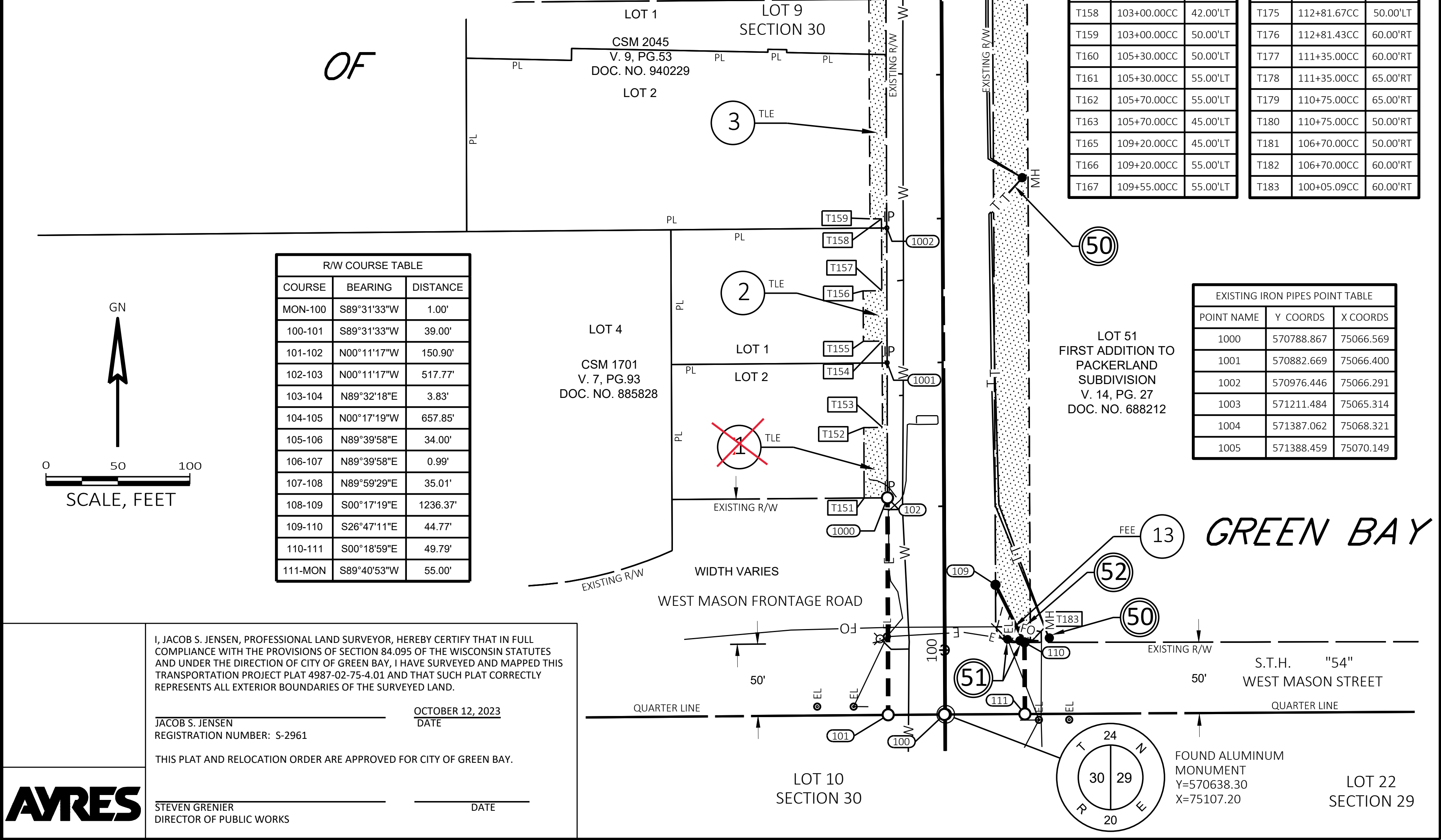
ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY.

ALL EXISTING IRON PINS ARE 3/8" CAPPED REBARS UNLESS OTHERWISE NOTED. FOUND MONUMENT INFORMATION SHOWN REPRESENTS TYPE AND LOCATION OF EXISTING MONUMENTS WITHOUT OPINION AS TO THEIR VALIDITY AND USE AS A PROPERTY OWNER.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
WEST MASON ST: FIRST ADDITION TO PACKERLAND SUBDIVISION, STATE AID PROJECT NO. 3350, PROJECT DF 038-2(29).
WEST MASON STREET FRONTAGE RD: CSM 1701.
COUNTRY CLUB RD: CSM 1701, CSM 2045, CSM 6487, FIRST ADDITION TO PACKERLAND SUBDIVISION.

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2.



I, JACOB S. JENSEN, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF CITY OF GREEN BAY, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT 4987-02-75-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

JACOB S. JENSEN
REGISTRATION NUMBER: S-2961

OCTOBER 12, 2023
DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR CITY OF GREEN BAY.

STEVEN GRENIER
DIRECTOR OF PUBLIC WORKS

DATE

4

TRANSPORTATION PROJECT PLAT NO: 4987-02-75-4.02

THAT PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 9326, DOCUMENT NO. 2964717, AND THAT PART OF LOTS 1-10 OF DEER TRAIL PARK, VOLUME 16, ON PAGE 200, DOCUMENT NO. 876819, AND PART OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 30, AND PART OF LOTS 3, 4, 5, AND 6 OF SECTION 29, ALL IN TOWNSHIP 24 NORTH, RANGE 20 EAST, FOURTH PRINCIPAL MERIDIAN, IN THE CITY OF GREEN BAY, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER COUNTRY CLUB ROAD (W MASON STREET FRONTAGE RD - INDIAN HILL DR) - CITY OF GREEN BAY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE CITY OF GREEN BAY DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 62.22, WISCONSIN STATUTES, THE CITY OF GREEN BAY HEREBY ORDERS THAT:

- THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
- THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF CITY OF GREEN BAY, PURSUANT TO THE PROVISIONS OF SECTION 62.22, WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNER(S)	INTEREST(S) REQUIRED	R/W ACRES			
			NEW	EXISTING	TOTAL	TLE
13	NORTHEAST WISCONSIN TECHNICAL COLLEGE	TLE	-----	-----	-----	0.726
14	JOHN L. BREUNINGER AND JERI L. BAUMAN	TLE	-----	-----	-----	0.054
16	DAVID G. & DIANNE C. SCHNEIDER	TLE	-----	-----	-----	0.038
17	PAUL E. & LOIS J. BUTKOVICH	TLE	-----	-----	-----	0.032
18	JON M. & CAROL J. POPPY	TLE	-----	-----	-----	0.031
19	CONNOR J. & AUBREE L. CHRISMAN	TLE	-----	-----	-----	0.031
21	NICHOLAS M. & GRETA C. DUCAT	TLE	-----	-----	-----	0.035
22	ASLO PROPERTIES LLC	TLE	-----	-----	-----	0.070
23	WAYNE R. & KATHERYN VORPAHL	TLE	-----	-----	-----	0.015
24	MARK T. & BRENDA L. VAUGHN	TLE	-----	-----	-----	0.034
26	ABDIKARIM Y. AYNAN AND KADIJA XAWEY MALAK	TLE	-----	-----	-----	0.026
27	PETER H. & KENDALL L. ABEGGLEN	TLE	-----	-----	-----	0.011
50	SPECTRUM	RELEASE OF RIGHTS				
51	WISCONSIN PUBLIC SERVICE CORP - ELECTRIC	RELEASE OF RIGHTS				
54	AT&T	RELEASE OF RIGHTS				

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT. PURPOSED OF ALL THE TLES IS FOR GRADING, UNLESS NOTED.

UTILITY EASEMENTS		
UTILITY NO.	OWNER(S)	EASEMENTS
50	SPECTRUM	DOC. NO. 1249114 - PARCEL 13
51	WISCONSIN PUBLIC SERVICE CORP - ELECTRIC	DOC. NO. 2820620 - PARCEL 13
54	AT&T	DOC. NO. 1249114 & 2321137 - PARCEL 13

NOTES:
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BROWN COUNTY, NAD83(2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY.

ALL EXISTING IRON PINS ARE 5/8" CAPPED REBARS UNLESS OTHERWISE NOTED.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
COUNTRY CLUB RD: CSM 9326, DEER TRAIL PARK.
DOE TRAIL: DEER TRAIL PARK.
ANTLER TRAIL: CSM 9326, DEER TRAIL PARK.

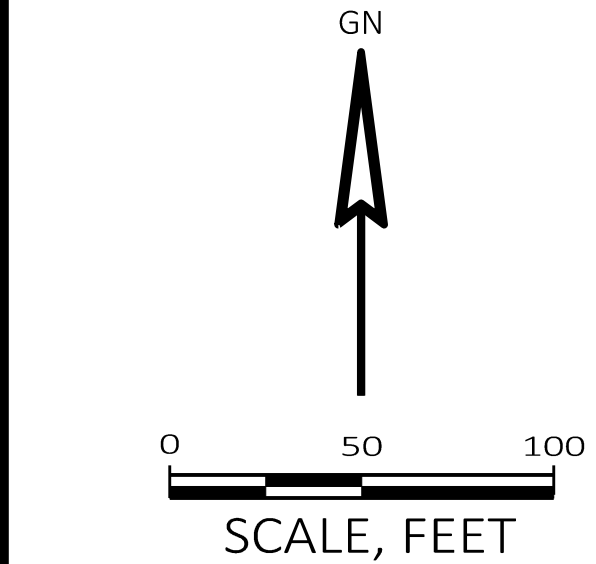
FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF DOCUMENT NUMBER XXXXX.

EXISTING IRON PIPES POINT TABLE		
POINT NAME	Y COORDS	X COORDS
2000	572102.542	75064.105
2001	572113.683	74953.993
2002	572183.706	74923.061
2003	572559.232	75059.535
2004	572662.321	75045.990
2005	573287.674	75121.234

R/W COURSE TABLE		
COURSE	BEARING	DISTANCE
MON-200	S89°54'37"E	34.99'
200-201	S00°36'50"E	1322.88'
201-202	S89°59'29"W	35.01'
202-203	S89°39'58"W	0.99'
203-204	S89°39'58"W	34.00'
204-205	N00°36'49"W	137.70'
205-206	N00°36'50"W	94.00'
206-207	N00°36'50"W	454.29'
207-208	N00°36'50"W	94.00'
208-209	N00°36'50"W	542.76'
209-210	N89°20'43"E	35.00'
210-MON	N89°20'43"E	0.01'

R/W STATION & OFFSET TABLE		
POINT	STATION	OFFSET
200	126+04.23 CC	35.00'RT
201	112+81.54 CC	36.00'RT
202	112+81.71 CC	0.99'RT
203	112+81.71 CC	0.00'
204	112+81.69 CC	34.00'LT
205	114+19.58 CC	34.00'LT
206	115+13.58 CC	34.00'LT
207	119+67.69 CC	34.92'LT
208	120+61.88 CC	35.00'LT
209	126+04.64 CC	35.00'LT
210	126+04.66 CC	0.00'

STATION & OFFSET TABLE		
POINT	STATION	OFFSET
T250	126+04.05CC	50.00'RT
T251	120+35.00CC	50.00'RT
T252	120+35.00CC	80.00'RT
T253	118+25.00CC	80.00'RT
T254	118+25.00CC	50.00'RT
T255	116+50.00CC	50.00'RT
T256	116+01.00CC	50.00'RT
T257	116+01.40CC	75.00'RT
T258	114+25.00CC	75.00'RT
T259	114+25.00CC	60.00'RT
T260	113+00.00CC	60.00'RT
T261	112+81.97CC	60.00'RT
T262	112+81.43CC	60.00'RT
T263	112+81.67CC	50.00'LT
T264	112+82.11CC	50.00'LT
T265	114+31.61CC	50.00'LT
T266	115+01.61CC	50.00'LT
T267	116+00.00CC	50.00'LT
T268	116+50.50CC	50.00'LT
T269	119+79.88CC	50.00'LT
T270	120+90.00CC	35.00'LT
T271	120+90.00CC	75.00'LT
T272	121+30.00CC	75.00'LT
T273	121+30.00CC	50.00'LT
T274	122+25.00CC	50.00'LT
T275	122+25.00CC	42.00'LT
T276	123+39.97CC	41.98'LT
T277	123+40.00CC	55.00'LT
T278	123+75.00CC	55.00'LT
T279	123+75.00CC	50.00'LT
T280	124+70.00CC	50.00'LT
T281	124+70.00CC	43.00'LT
T282	125+75.00CC	43.00'LT
T283	125+74.86CC	34.92'LT



I, JACOB S. JENSEN, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF CITY OF GREEN BAY, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT 4987-02-75-4.02 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

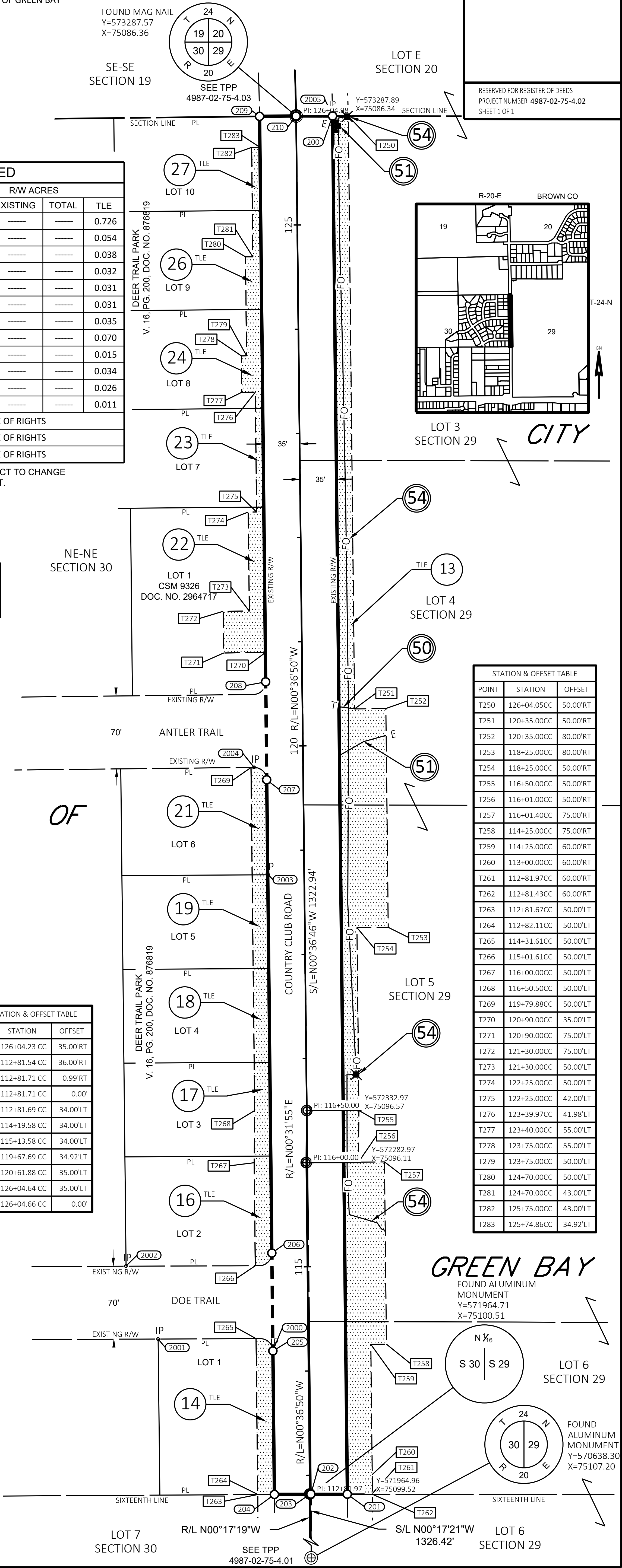
JACOB S. JENSEN
REGISTRATION NUMBER: S-2961

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR CITY OF GREEN BAY.

STEVEN GRENIER
DIRECTOR OF PUBLIC WORKS

OCTOBER 12, 2023
DATE

DATE



TRANSPORTATION PROJECT PLAT NO: 4987-02-75-4.03

THAT PART OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 19, AND THAT PART OF LOT D AND E OF SECTION 20, AND THAT PART OF LOTS 2 AND 3 OF CERTIFIED SURVEY MAP NO. 1543, VOLUME 6, PG.257, DOCUMENT NO. 848046, LOT 1 OF CERTIFIED SURVEY MAP NO. 1643, VOL. 6, PG. 493, DOCUMENT NO. 870907, LOT 1 OF CERTIFIED SURVEY MAP NO. 2610, VOL. 12, PG. 285, DOCUMENT NO. 1011228, LOT 9 OF MEMORY ACRES, VOL. 16, PG. 153, DOCUMENT NO. 858239, LOT 7 OF ORCHARD VALLEY SUBDIVISION NO. 1, VOL. 11, PG. 50, DOCUMENT NO. 580998, ALL IN TOWNSHIP 24 NORTH, RANGE 20 EAST, FOURTH PRINCIPAL MERIDIAN, IN THE CITY OF GREEN BAY, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER COUNTRY CLUB ROAD (W MASON STREET FRONTAGE RD - INDIAN HILL DR) - CITY OF GREEN BAY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE CITY OF GREEN BAY DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 62.22, WISCONSIN STATUTES, THE CITY OF GREEN BAY HEREBY ORDERS THAT:

- THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
- THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF CITY OF GREEN BAY, PURSUANT TO THE PROVISIONS OF SECTION 62.22, WISCONSIN STATUTES.

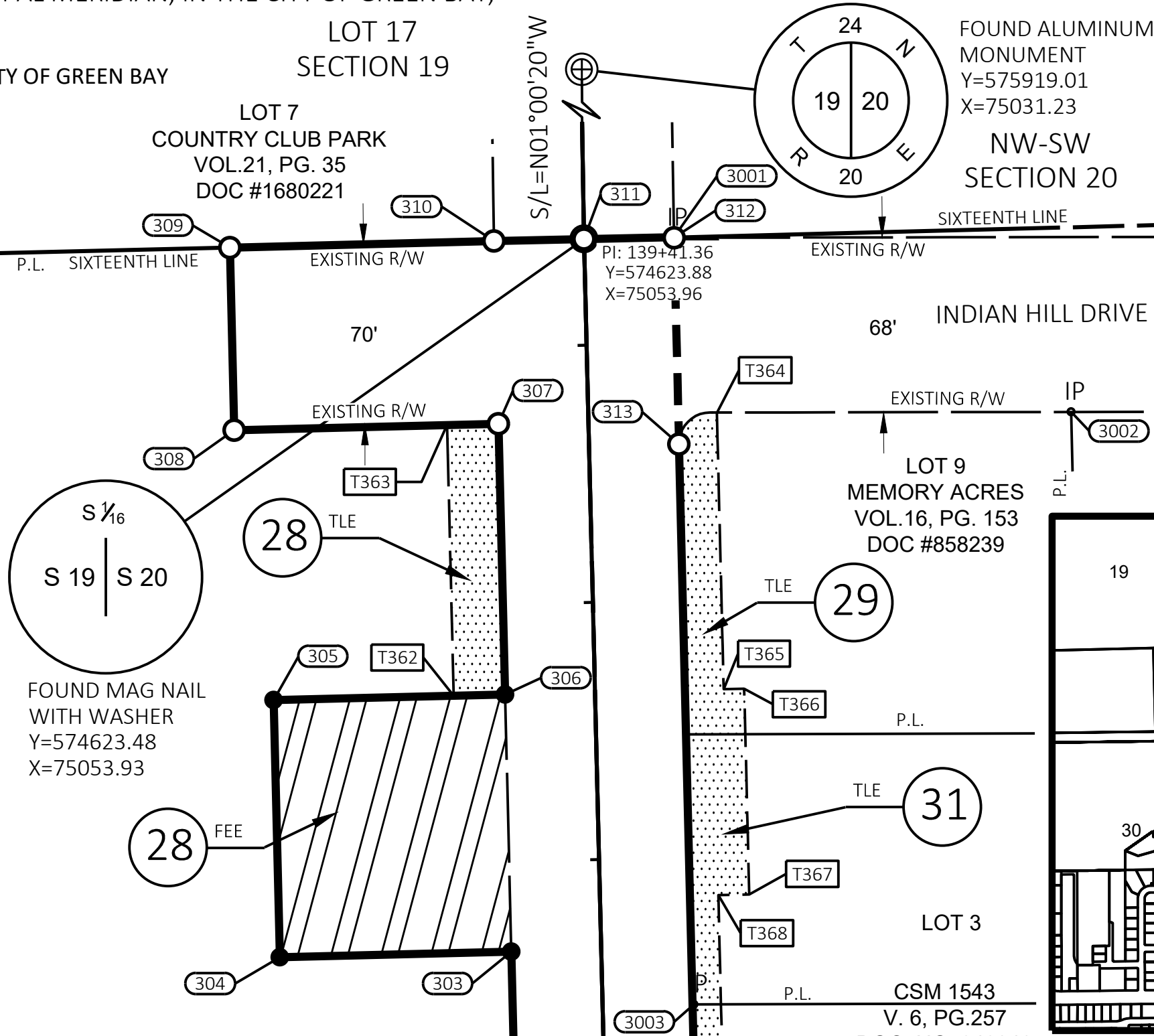
UTILITY EASEMENTS

UTILITY NO.	OWNER(S)	EASEMENTS
50	SPECTRUM	DOC. NO. 1297775 - PARCEL 13
51	WISCONSIN PUBLIC SERVICE CORP - ELECTRIC	DOC. NO. 1297775 - PARCEL 13
54	AT&T	DOC. NO. 1249114 & 2321137 - PARCEL 13



0 50 100
SCALE, FEET

CITY



RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 4987-02-75-4.03
SHEET 1 OF 1

R/W STATION & OFFSET TABLE		
POINT	STATION	OFFSET
300	126+04.66 CC	0.00'
301	126+04.64 CC	35.00'LT
302	126+04.74 CC	35.00'LT
303	136+65.00 CC	35.00'LT
304	136+65.00 CC	125.00'LT
305	137+65.00 CC	125.00'LT
306	137+65.00 CC	35.00'LT
307	138+70.36 CC	35.00'LT
308	138+70.35 CC	137.75'LT
309	139+41.35 CC	137.75'LT
310	139+41.36 CC	35.00'LT
311	139+41.36 CC	0.00'LT
312	139+40.99 CC	35.00'RT
313	138+60.70 CC	35.00'RT
314	134+24.58 CC	35.00'RT
315	133+27.50 CC	35.00'RT
316	0+00.00 CC	0.00'
317	126+04.23 CC	35.00'RT

R/W COURSE TABLE		
COURSE	BEARING	DISTANCE
MON-300	S89°21'38"W	0.01'
30-301	S89°20'43"W	35.00'
301-302	N00°36'50"W	0.10'
302-303	N01°23'17"W	1059.79'
303-304	S88°36'43"W	90.00'
304-305	N01°23'17"W	100.00'
305-306	N88°36'43"E	90.00'
306-307	N01°23'17"W	105.36'
307-308	S88°36'22"W	102.75'
308-309	N01°23'17"W	71.00'
309-310	N88°24'19"E	90.75'
310-311	N88°59'40"E	47.00'
311-312	N89°12'58"E	35.00'
312-313	S01°23'21"E	80.29'
313-314	S01°23'17"E	436.12'
314-315	S01°23'17"E	97.08'
315-316	S01°23'17"E	722.76'
316-317	S00°36'50"E	0.98'
317-MON	N89°54'37"W	34.99'

TLE STATION & OFFSET TABLE		
POINT	STATION	OFFSET
T350	133+00.00CC	35.00'LT
T351	133+00.00CC	65.00'LT
T352	133+40.00CC	65.00'LT
T353	133+40.00CC	39.00'LT
T354	134+10.00CC	39.00'LT
T355	134+10.00CC	50.00'LT
T356	134+45.00CC	50.00'LT
T357	134+45.00CC	37.00'LT
T358	135+25.00CC	37.00'LT
T359	135+25.00CC	44.00'LT
T360	135+75.00CC	44.00'LT
T361	135+75.00CC	35.00'LT
T362	137+65.00CC	55.00'LT
T363	138+70.36CC	55.00'LT
T364	138+72.45CC	50.00'RT
T365	137+65.00CC	50.00'RT
T366	137+65.00CC	58.00'RT
T367	136+85.00CC	58.00'RT
T368	136+85.00CC	46.00'RT
T369	136+00.00CC	46.00'RT
T370	136+00.00CC	55.00'RT
T371	135+10.00CC	55.00'RT
T372	135+10.00CC	50.00'RT
T373	134+12.52CC	50.00'RT
T374	133+42.50CC	50.00'RT
T375	132+30.00CC	50.00'RT
T376	132+30.00CC	56.00'RT
T377	132+00.00CC	56.00'RT
T378	132+00.00CC	50.00'RT
T379	126+04.98CC	50.00'RT
T380	126+04.02CC	50.00'RT

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST(S) REQUIRED	R/W ACRES			
			NEW	EXISTING	TOTAL	TLE
1	UNITED STATES OF AMERICA IN TRUST	TLE				0.046
13	NORTHEAST WISCONSIN TECHNICAL COLLEGE	TLE	-----	-----	-----	0.137
28	ONEIDA GOLF & COUNTRY CLUB INC.	FEE, TLE	0.207	-----	-----	0.048
29	SURVIVOR'S TRUST UNDER SCOTT L. LEMMINGER AND JULIE A. LEMMINGER REVOCABLE TRUST	TLE	-----	-----	-----	0.046
31	RICHARD C. & PAMELA S. SMITH	TLE	-----	-----	-----	0.044
32	JAMES H. & SANDRA J. HANSEN	TLE	-----	-----	-----	0.039
33	JOHN W. & TERRI L. JULEY	TLE	-----	-----	-----	0.121
34	UNITED STATES OF AMERICA IN TRUST FOR MARGARET SMITH SUMMERS	TLE				0.048
35	UNITED STATES OF AMERICA IN TRUST FOR RICHARD J. SUMMERS	TLE				0.012
50	SPECTRUM	RELEASE OF RIGHTS				
51	WISCONSIN PUBLIC SERVICE CORP - ELECTRIC	RELEASE OF RIGHTS				
54	AT&T	RELEASE OF RIGHTS				

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT. PURPOSED OF ALL THE TLES IS FOR GRADING, UNLESS NOTED.

NOTES:
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BROWN COUNTY, NAD83(2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/8" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY.

ALL EXISTING IRON PINS ARE 3/8" CAPPED REBARS UNLESS OTHERWISE NOTED.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
COUNTRY CLUB RD: CSM 9326, DEER TRAIL PARK.
DOE TRAIL: DEER TRAIL PARK.
ANTLER TRAIL: CSM 9326, DEER TRAIL PARK.

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF DOCUMENT NUMBER XXXXX.

I, JACOB S. JENSEN, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF CITY OF GREEN BAY, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT 4987-02-75-4.03 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

JACOB S. JENSEN
REGISTRATION NUMBER: S-2961
OCTOBER 12, 2023
DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR CITY OF GREEN BAY.

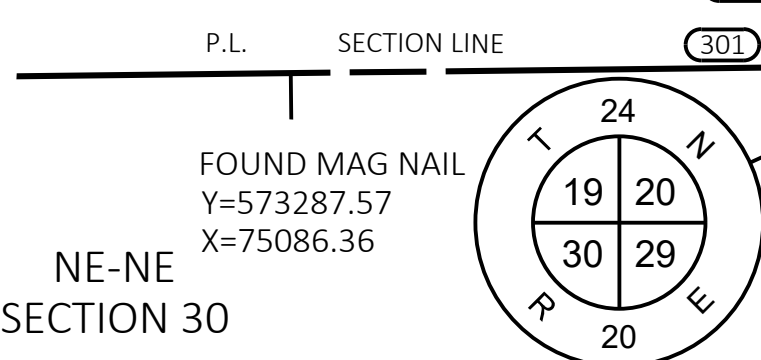
STEVEN GRENIER
DIRECTOR OF PUBLIC WORKS

DATE

AYRES

SE-SE
SECTION 19

GREEN BAY



COUNTRY CLUB ROAD

EXISTING IRON PIPES POINT TABLE		
POINT NAME	Y COORDS	X COORDS
3000	574170.320	75029.974
3001	574624.501	75088.855
3002	574556.614	75243.304
3003	574326.272	75096.703
3004	574221.484	75099.171
3005	574096.768	75254.016
3006	574026.862	75233.520
3007	574026.413	75118.827
3008	574011.056	75103.834
3009	573684.931	75111.617
3010	573647.722	75112.701
3011	573287.674	75121.234
3012	573929.571	75035.755

LOT D
SECTION 20

LOT E
SECTION 20

LOT 3
SECTION 29

SEE TPP
4987-02-75-4.02



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.20

Consideration with possible action to approve and accept the additional rights-of-way required for Ricky Drive at Vine Street.

<u>Part of Tax Parcel #</u>	<u>Interest Required</u>	<u>Owner's Name</u>	<u>Amount</u>
21-1361-3	Fee	Rankin GB Holdings, LLC	\$10.00

BACKGROUND

RECOMMENDATION

To approve and accept

FISCAL IMPACT

ATTACHMENTS

- I. APPROVAL DEED - RICKY DR AT VINE ST

I&S Agenda November 29, 2023

Consideration with possible action to approve and accept the additional rights-of-way required for Ricky Drive at Vine Street.

<u>Part of tax parcel number</u>	<u>Interest Required</u>	<u>Owners Name</u>	<u>Amount</u>
21-1361-3	Fee	Rankin GB Holdings, LLC	\$10.00

WARRANTY DEED

Document No.

THIS INDENTURE, made by Rankin GB Holdings LLC, a Wisconsin limited liability company grantor, conveys and warrants the property described below to THE CITY OF GREEN BAY, a Wisconsin Municipal Corporation, grantee, for the sum of Ten and no/100 dollars (\$10.00).

Any person named in this deed may make an appeal from the amount of compensation within six months after the date of recording of this deed as set forth in s.32.05(2a) Wisconsin Statutes. For the purpose of any such appeal, the amount of compensation stated on the deed shall be treated as the award, and the date the deed is recorded shall be treated as the date of taking and the date of evaluation.

Legal Description

SEE PAGE TWO FOR LEGAL DESCRIPTION.

Return to:

City of Green Bay – Clerk
100 N. Jefferson Street
Green Bay, WI 54301-5026

Part of tax parcel number: 21-1361-3

EXEMPT S.77.25(2r)


(Signature)
Logan Rankin owner
(Print Name and Title above)

10/25/23
(Date)

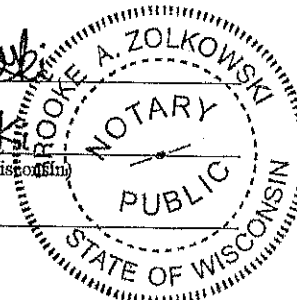
(Signature)

(Print Name and Title above)

State of Wisconsin)

10/25/2023)SS. Outagamie
County)
On the above date, this instrument was acknowledged before me by the named person(s) or officers.

Brooke A. Zolkowski
(Signature, Notary Public, State of Wisconsin)
Brooke A. Zolkowski
(Print or Type Name, Notary Public, State of Wisconsin)
02/17/2026
(Date Commission Expires)



THIS INSTRUMENT DRAFTED BY:
Thomas H. Giese – R/W Specialist

Project: R/W required for Habitat Homestead platPart of tax parcel number 21-1361-3.

LEGAL DESCRIPTION

Part of Lot 26, Astors Plat of Private Claim 3 thru 7, and part of Vacated Vine Street, all located in Private Claim 6 and 7, East Side of Fox River, City of Green Bay, Brown County, Wisconsin, more fully described as follows:

Commencing at the Northwestern Corner of Lot 1, Volume 43, Certified Survey Maps, Page 247, Map No. 6521, Document No. 1878062, Brown County Records; thence S63°38'18"E, 136.00 feet along a Northerly line of said Lot 1 and its extension to the Point of Beginning; thence 47.47 feet being an arc of a 130.00 foot radius curve to the Right whose long chord bears N71°42'22"E, 47.21 feet; thence 4.87 feet being an arc of a 5.00 foot radius curve to the Left whose long chord bears N54°16'12"E, 4.68 feet; thence S26°22'24"W, 37.31 feet; thence N63°38'18"W, 35.76 feet to the Point of Beginning.

Parcel contains 700 square feet / 0.02 acres more or less.

Parcel subject to easements and restrictions of record.

Parcel to be dedicated to public for right of way proposes.



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Part of Lot 26, Astors Plat of Private Claim 3 thru 7, and part of Vacated Vine Street, all located in Private Claim 6 and 7, East Side of Fox River, City of Green Bay, Wisconsin, more fully described as follows:

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Parcel contains 700 square feet / 0.02 acres more or less.
Parcel subject to easements and restrictions of record.
Parcel to be dedicated to public for right of way purposes.

SURVEYOR'S CERTIFICATE

I, Steven M. Bieda, Professional Land Surveyor, PLS-2275, do hereby certify that the above described property was surveyed and mapped in accordance with AE-7 of the Wisconsin Administrative Code and is correct to the best of my knowledge and belief.



Steven M. Bieda
PLS-2275
October 10th, 2023

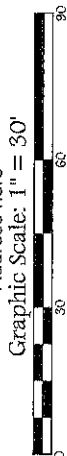
NOTES

Bearings referenced to a Northerly line of Lot 1, Volume 43, Certified Survey Maps, Page 247, Map No. 6521, Document No. 1878062, Brown County Records, assumed to be S63°38'18"E.

Plat of Survey

Part of Lot 26, Astors Plat of Private Claim 3 thru 7, and part of Vacated Vine Street, all located in Private Claim 6 and 7, East Side of Fox River, City of Green Bay, Brown County, Wisconsin.

-Address here-

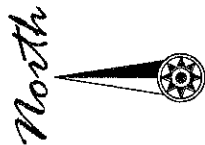


Curve Data

CURVE	ARC LENGTH	RADIUS	CHORD LENGTH	CHORD BEARING	CENTRAL ANGLE
1-2	47.47'	130.00'	47.21'	N71°42'22"E	20°55'16"
2-3	4.87'	5.00'	4.68'	N54°16'12"E	55°47'36"

Legend

- 1.32" (o.d.) x 18" iron pipe with cap
- weighing 1.68 lbs/lin ft set
- 1" iron pipe found
- △ PK nail set
- () recorded as bearing



Lot 26
Astors Plat of PC
3-7 E.S.F.R.

S63°38'18"E 91.48'
136.00'

Private Claim 6 E.S.F.R.

Private Claim 7 E.S.F.R.

Lot 1
43CSM247

Parcel A
700 sq. ft.
0.02 ac.

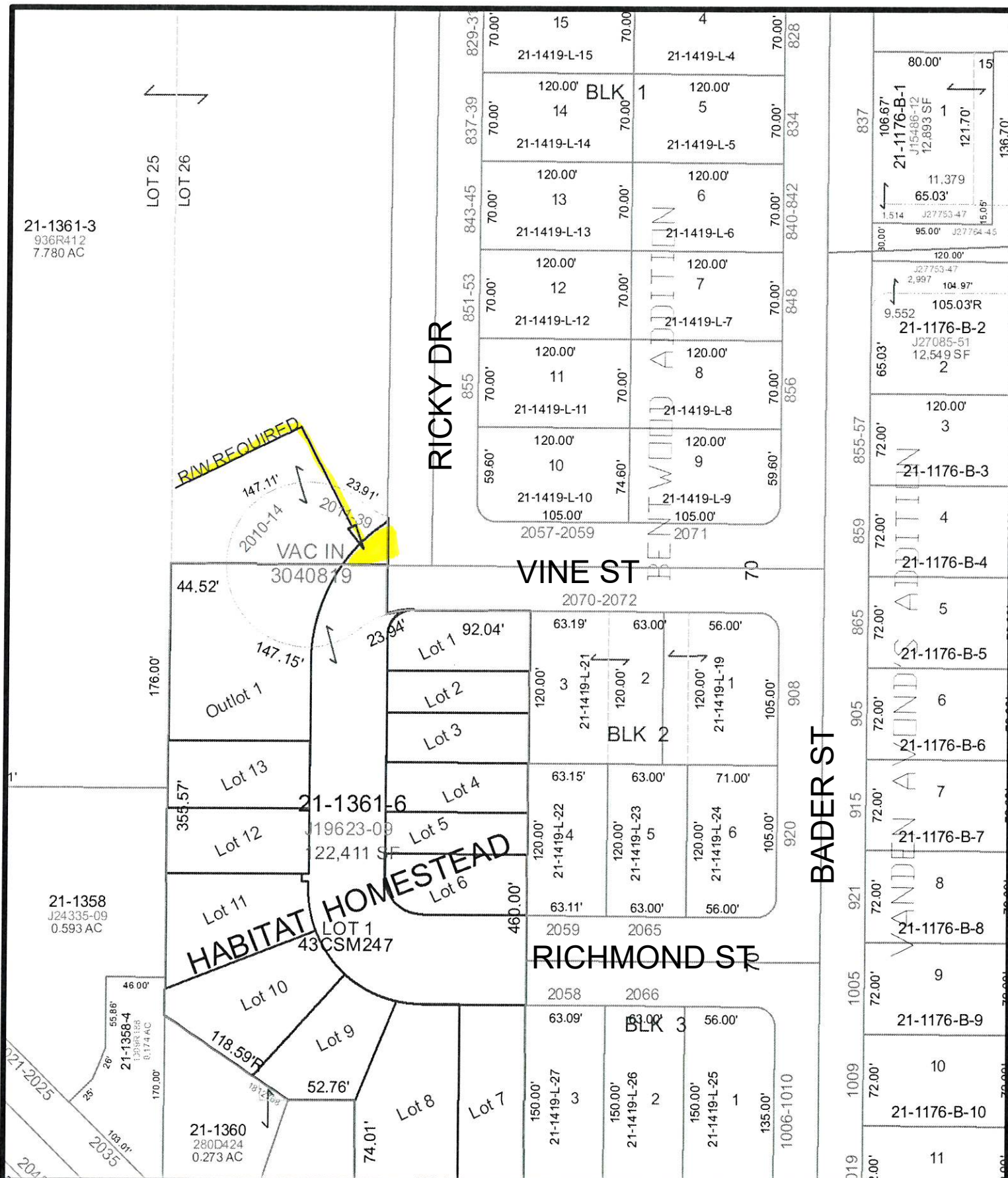
S26°22'24"W 37.31'
S26°22'24"W 1.15'
N63°38'18"W 35.76'
N26°22'24"E 38.43'

Ricky Drive

Vine Street

Client: Rankin GB Holding LLC
Tax Parcel: 21-1361-3
Drafted By: NDK
File: D-5401FOS 082923.dwg
Data File: D-5401.klt
Mau & Associates, LLP
LAND SURVEYING & PLANNING
CIVIL & WATER RESOURCE ENGINEERING
Phone: 920-434-9870 Website: www.mau-associates.com
400 Security Blvd Ste 1, Green Bay, WI 54313-8712

Sheet One of One
Project No.: D-5401
Drawing No.: L-12124
Fieldwork Completed: 09/29/23





Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # F.2I

Report of actions taken by the Department of Public Works.

A. Granting of Licenses

I. Sidewalk Builder

a. Absolute Concrete LLC

BACKGROUND

RECOMMENDATION

FISCAL IMPACT

ATTACHMENTS

None



Report to the
Improvement and Service Committee
of the City of Green Bay

MEETING DATE

November 29, 2023

PREPARED BY

AGENDA ITEM # G.I

Director's Report on recent activities of the Public Works Department.

BACKGROUND

RECOMMENDATION

FISCAL IMPACT

ATTACHMENTS

None