

**MI-MAUI
Exhibit List
Case No. U-21534**

Exhibit	Title	Witness
MAU-1	Resume of Richard Bunch	Bunch
MAU-2	DTE 'Ways to Pay' Kiosks Webpage	Bunch
MAU-3	DTE Response to MAUIDE-3.17a (S1)	Bunch
MAU-4	DTE Response to MAUIDE-3.14 (S1)	Bunch
MAU-5	DTE Response to MAUIDE-3.13	Bunch
MAU-6	DTE 'Ways to Pay' Authorized Agents Webpage	Bunch
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MAU-8	DTE Response to MAUIDE-3.17a Attachment	Bunch
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MAU-12	Identity Theft Statistics	Bunch
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MAU-15	City of Ferndale LED Conversion Cost Proposal	Bunch
MAU-16	Consumers Energy LED Bill Credit	Bunch
MAU-17	U-21585 Consumers Witness Schmoekel Testimony, p. 18	Bunch
MAU-18	Electric Sales Forecast Reduction	Bunch
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MAU-20	DTE Response to MAUIDE-6.52	Bunch
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MAU-22	U-20147 DTE 2023 EDIIP Comments MI-MAUI	Bunch
MAU-23	DTE Response to MAUIDE-4.26	Bunch
MAU-24	DTE Response to MAUIDE-4.24	Bunch
MAU-25	U-21297 Witness Bellini Testimony, p. 18	Bunch
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MAU-35	COS Cost Comparisons from WP U-21534 RAB Lighting 18 Rate Model	Bunch
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MAU-37	DTE Response to MAUIDE-2.5	Bunch

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MAU-40	DTE Response to MAUIDE-2.7	Bunch
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MAU-46	Bellini Direct Testimony in U-21297 (p. RAB-16 and 17)	Bunch
MAU-47	NCHRP Study	Bunch

RICHARD J. BUNCH

rbunch@5lakesenergy.com

206-595-8293

Executive and organizational innovator with expertise in energy technology, finance, utilities and regulation. Leadership experience in academic, non-profit and public sectors. Broad topical and functional expertise in sustainable and socially responsible business and public policy. Demonstrated ability to recruit top performers and build strong teams.

EXPERTISE

- ▶ Clean energy project evaluation, development and financing for local governments; utility tariffs and regulatory processes.
- ▶ Broad understanding of sustainability and clean energy issues that impact businesses through markets, technology and public policy.
- ▶ Integration of clean energy and sustainability into organizational strategy, management and culture through education, training and strategic planning.
- ▶ Electric tariff topics including municipal streetlighting, rates and programs affecting low-income customers, service quality and billing rules, infrastructure project coordination with local governments, voluntary green power tariffs, production cost allocation, PSRC reconciliation.

PROFESSIONAL EXPERIENCE

5 Lakes Energy, Lansing, MI, Senior Consultant, May 2019-present

Michigan Municipal Association for Utility Issues, Ann Arbor, MI

Founder and Managing Director, 2017-present

Providing collective, expert and focused representation for municipal governments in Michigan Public Service Commission proceedings and in dialog with regulated utilities.

Southeast Michigan Regional Energy Office, Ann Arbor, MI

Executive Director, 2014-2017

Directed coalition of southeast Michigan municipalities cooperating to identify, finance and implement clean energy projects.

University of Michigan, Erb Institute for Global Sustainable Enterprise

Managing Director, 2008-2013

Led world-leading sustainable enterprise program at top-10 business school.

Aspen Institute Business and Society Program, New York

Senior Fellow, 2006-2008

Launched new Corporate Social Responsibility business education program in China in partnership with Chinese business schools, accrediting agency and corporations

Bainbridge Graduate Institute, Bainbridge Island, WA

Executive Director, 2003-2005

Led administration, education, fundraising and communications of fast-growing, startup business school with world-first infusion of sustainability throughout MBA curriculum.

World Resources Institute, Washington, DC

Director of Business Education, 1996-2003

Developed, fundraised and directed international sustainable business education initiatives engaging universities, companies, governments and non-profit leaders.

Washington Public Interest Research Group, Seattle, Washington

Executive Director, 1989-1992

EDUCATION

MBA with Environmental Management Certificate, University of Washington, 1995
BA in Political Science, Yale University, 1985

TRAINING

EUCI Outdoor Street Lighting Conference, June 4-5, 2019, Atlanta.
EUCI Electric Cost-of-Service – Essential Concepts for a Changing Industry Course, July 15-17, 2019, Chicago.
MSU-IPU Accounting and Ratemaking course, September 2020
EUCI Utility Green Tariffs: A to Z course, November 4-5, 2020, online
MSU-IPU Advanced Regulatory Accounting and Auditing course, October 2021
NRRI Regulatory Training Institute, Regulating Public Utility Performance course, current

REGULATORY PROCEEDINGS

Expert witness, MPSC case U-21389 (Consumers Energy electric rate case, 2023)
Expert witness, MPSC case U-21297 (DTE Electric general rate case, 2023)
Expert witness, MPSC case U-21087 (DTE Electric PrePay, 2021-2022)
Expert witness, MPSC case U-20836 (DTE Electric general rate case, 2022)
Expert witness, MPSC case U-20963 (Consumers Energy electric rate case), 2021.
Expert witness, MPSC case U-20697 (Consumers Energy electric rate case), municipal street lighting tariffs, 2020.
Expert witness, MPSC case U-20530 (I&M PSCR reconciliation)
Expert witness, MPSC case U-20561 (DTE Electric general rate case), production allocation, 2019
Expert witness, Kentucky Public Utilities Commission cases 2020-349 and 2020-350, the combined Kentucky Utilities and Louisville Gas & Electric electric and gas rate cases.
Submitted comments, MPSC case U-20147, Electric Distribution Planning. Participated in stakeholder meetings.
Submitted comments, MPSC case U-20629, electric reliability standards. Focused on municipal street lighting reliability standards.
MPSC case U-20134 (Consumers Energy general electric rate case), organized and managed coalition of municipalities intervening to challenge street lighting tariffs.
MPSC cases U-18014 and U-17767, DTE Electric general rate cases, organized and coalition of municipalities challenging street lighting tariffs.

SELECTED RESEARCH AND PUBLICATIONS

“Corporate Responsibility In a Transitioning Industry: An Automotive Supply Chain Perspective”, Automotive Industry Action Group, 2019. Co-author and researcher.
“Expect the Unexpected: Building Business Value in a Changing World”, KMPG 2012. Erb Institute (University of Michigan) research team leader and contributor.
Where Will They Lead? China 2008 MBA Student Attitudes about Business & Society. The Aspen Institute, 2008.
“Beyond Grey Pinstripes: Preparing MBAs for Social and Environmental Stewardship,” World Resources Institute and The Aspen Institute, 1998, 1999, 2001 and 2003. Creator, co-author.
Numerous academic, non-profit and public agency conference and meeting presentations and public testimony.

SERVICE

The Stewardship Network Board of Directors and Treasurer, 2022-present.
Michigan Environmental Council Board of Directors, 2009-present. Treasurer, 2017-2022.
Soulardarity Board of Directors and Secretary, 2018-present. Highland Park, MI.

Washington Public Interest Research Group and WashPIRG Foundation Board of Directors,
1994-present
PIRGIM Education Foundation Board of Directors, 2015-present. Ann Arbor, MI.
MPSC EAAC Data Analysis and Regulatory Review working group, ongoing.
MPSC Low Income Energy Policy Board, ongoing.

Ways to Pay

At DTE Energy, we're all about empowering you to pay your bill — whenever and wherever you want — through a variety of convenient payment methods. Click the sections below to learn more about each.

Pay Online

You can easily pay your bill online using your checking or savings account. Eligible customers can use Visa[®] Mastercard[®] and Discover[®] debit or credit cards.

DTE Energy Mobile App

Use your smart phone to view your bill, make a payment and much more using the DTE Energy Mobile App.

DTE Energy Bill Payment Kiosk

DTE Energy Bill Payment Kiosks are located all across the service territory and offer a safe, secure place to access account information and make payments.

- Pay with cash or personal check. Eligible customers can also pay with a Visa[®], Mastercard[®] and Discover[®] debit or credit card.
- See your account balance with name and address, no bill or account number required.
- Payments are updated to your account the same day.
- No processing fees.
- Our Bill Payment Kiosks support both English and Spanish-speaking customers.

Pay by Phone through our Automated System

Call 800.477.4747 to make a payment with your checking or savings account. Eligible customers can pay with a Visa[®], Mastercard[®] and Discover[®] debit or credit card.

Pay by Mail

Mail your DTE Energy payment coupon with a check or money order using the return envelope included with your monthly bill.

Other Ways to Pay

Pay your bill at any of the many authorized payment agents located across Michigan.

Count of Contract Acct			
Row Labels	No Cash Only	Cash Only	Grand Total
WAYNE	9,567	23,176	32,743
OAKLAND	5,021	10,040	15,061
MACOMB	3,773	8,488	12,261
WASHTENAW	1,224	2,365	3,589
SAINT CLAIR	624	1,211	1,835
LIVINGSTON	431	867	1,298
MONROE	377	833	1,210
LAPEER	325	575	900
TUSCOLA	157	272	429
SANILAC	128	262	390
HURON	89	164	253
INGHAM	64	109	173
#N/A	75	30	105
LENAWEE	6	6	12
GENESEE	1	5	6
CLARE		1	1
KALKASKA		1	1
ROSCOMMON		1	1
OTSEGO	1	1	2
US/MI/Not assigned	3	1	4
SHIAWASSEE	1	1	2
OSCEOLA		1	1
Grand Total	21,867	48,410	70,277

population

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-3.14 (S1)

Respondent: J. Sparks

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Question: Please provide all portions of the customer payment standards and procedures required by R. 460.148(3)(e) that state the conditions under which customers may be required to pay in cash.

Answer: DTE Electric objects for the reason that the request seeks a legal opinion or interpretation. Subject to and without waiving the objection, the Company would respond as follows: There are no specific requirements to communicate when customers may be required to pay cash. The [DTE Energy Resource Guide](#) published on the Company's website does explain all the available payment channels available to customers.

The Company follows and adheres to section C4.6B of its rate book that establishes after one returned payment, the Company can restrict the form of payment. Customers with a returned payment and arrears greater than \$100 are subject to the payment restriction otherwise two returned payments with or without arrears will trigger the same restriction. The Company does not use a customer's geographic location as a basis for determining cash only requirements.

Attachment: U-21534 MAUIDE-3.14 (S1) DTE Resource Guide



DTE – Payment Declined

Hello <%=CustomerName1%>,

Your recent payment of \$<%=Amount_1%> was returned from your financial institution.

Account Number: <%=maskedContractAccount%>
Service Address: <%=LongServiceAddress%>

Due to the returned payment:

- For the next 12 months, you are required to make your payment using cash at a [kiosk](#) or at an [authorized payment location](#).
- A returned check fee will be applied to your next bill.

Please make your missed payment in cash at a kiosk or authorized location as soon as possible to avoid service interruption.

If you need financial assistance making a payment, visit dteenergy.com/help.

Thank you for being a valued DTE customer.

Sincerely,

Your DTE Energy Customer Service Team

Want to save some time?

Check out our quick and easy billing and payment options.

<https://dteenergy.com/content/dam/dteenergy/deg/website/nuance-communications-images/Bill%20Payment%20Kiosks%20icon.jpg>

<https://dteenergy.com/content/dam/dteenergy/deg/website/nuance-communications-images/Bill%20Analyzer%20Tool%20icon.jpg>

<https://dteenergy.com/content/dam/dteenergy/deg/website/nuance-communications-images/MIMO%20icon.jpg>

[View Privacy Policy](#)

[Contact Us](#)

[Manage Notifications](#)

This is an automated email, so please don't reply.

Email sent by: DTE Energy, One Energy Plaza, Detroit, MI 48226-1279 USA

Ways to Pay

At DTE Energy, we're all about empowering you to pay your bill — whenever and wherever you want — through a variety of convenient payment methods. Click the sections below to learn more about each.

Pay Online

You can easily pay your bill online using your checking or savings account. Eligible customers can use Visa[®] Mastercard[®] and Discover[®] debit or credit cards.

DTE Energy Mobile App

Use your smart phone to view your bill, make a payment and much more using the DTE Energy Mobile App.

DTE Energy Bill Payment Kiosk

Easily pay your bill at a DTE Energy Bill Payment Kiosk located all throughout the service area.

Pay by Phone through our Automated System

Call 800.477.4747 to make a payment with your checking or savings account. Eligible customers can pay with a Visa[®], Mastercard[®] and Discover[®] debit or credit card.

Pay by Mail

Mail your DTE Energy payment coupon with a check or money order using the return envelope included with your monthly bill.

Other Ways to Pay

Authorized Pay Agents

DTE Energy has many authorized payment agents conveniently located across Michigan. Payments are sent electronically and are updated to your account by end of day. Authorized payment agents accept full or partial payments by cash, check or money order, before or after the due date. Look for the DTE Energy logo at the location.

Note: Some authorized payment agents may charge a nominal processing fee for their service. DTE Energy does not receive any portion of this fee. All payment options offered directly from DTE Energy are free.

To find a payment location near you, enter your ZIP Code.

DTE Payment Locations

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-3.15a

Respondent: M. Hatsios

Page: 1 of 2

Question: Please provide the following information about all DTE Energy Bill Payment Kiosks in operation any time after January 1, 2019.a. Street addresses of kiosks.

Answer: DTE Electric objects for the reasons that the request is unduly burdensome, overly broad, seeks excessive detail, seeks irrelevant information, and is not reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving its objection, the Company would respond as follows: The addresses of the kiosk locations are provided below.

Address
1 Energy Plaza Dr Detroit MI 48226
10620 W McNichols Rd, Detroit, MI 48221
11250 East Jefferson Ave Detroit MI 48214
1131 W. Warren Ave Detroit MI 48201
12048 Grand River Ave Detroit MI 48204
12278 Gratiot Ave Detroit MI 48205
12955 Grand River Ave Detroit MI 48227
13223 Hamilton Highland Park, MI 48203
1368 Baldwin Ave Pontiac MI 48340
14350 E 9 Mile Rd Warren MI 48089
14424 Schaefer Hwy Detroit MI 48227
14470 Livernois Ave Detroit MI 48238
16200 W Warren Ave Detroit MI 48228
1716 Fort Street, Lincoln Park 48146
17256 W Seven Mile Rd Detroit, MI 48235
18000 Livernois Ave Detroit MI 48221
18100 Meyers Rd Detroit MI 48235
18551 Grand River Ave Detroit MI 48223
18880 8 Mile Rd Southfield MI 48075
19230 Harper Ave Harper Woods MI 48225
1940 E 8 Mile Rd Detroit MI 48234

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-3.15a

Respondent: M. Hatsios

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19700 Kelly Road Harper Woods MI 48225
20221 Joy Rd Detroit MI 48228
20250 W 7 Mile Rd Detroit MI 48219
22800 Van Dyke Ave Warren MI 48089
25200 Van Born Rd Dearborn Heights MI 48125
2645 W Davison Detroit MI 48238
29611 Ford Rd, Garden City MI 48135
3869 W. Jefferson Ave Ecorse MI 48229
4703 Conner Ave Detroit MI 48215
500 E Warren Ave Detroit MI 48201
5555 Conner Street Detroit MI 48213
5625 Conner St Detroit MI 48213
5800 Caniff St Hamtramck MI 48212
5931 Michigan Ave Detroit MI 48210
7011 Gratiot Ave Detroit MI 48207
7404 East Seven Mile Rd Detroit MI 28234
9291 Telegraph Rd Redford Charter Township MI 48239

Attachment: None.

Co-respondent: Legal

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-3.15b

Respondent: M. Hatsios

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Question: Please provide the following information about all DTE Energy Bill Payment Kiosks in operation any time after January 1, 2019.
b. Last date of operation of kiosks (enter N/A if the kiosk is still in operation today).

Answer: DTE Electric objects for the reasons that the request is unduly burdensome, overly broad, seeks excessive detail, seeks irrelevant information, and is not reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving its objection, the Company would respond as follows:

Kiosks' last date of operation is provided below. Not applicable (N/A) means they are still in service.

Address	Last Date of Operation
1 Energy Plaza Dr Detroit MI 48226	N/A
10620 W McNichols Rd, Detroit, MI 48221	6/15/2023
11250 East Jefferson Ave Detroit MI 48214	N/A
1131 W. Warren Ave Detroit MI 48201	N/A
12048 Grand River Ave Detroit MI 48204	9/23/2023
12278 Gratiot Ave Detroit MI 48205	6/10/2023
12955 Grand River Ave Detroit MI 48227	2023 (exact date not recorded)
13223 Hamilton Highland Park, MI 48203	N/A
1368 Baldwin Ave Pontiac MI 48340	May 2024 (exact date not recorded)

Co-respondent: Legal

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-3.15b

Respondent: M. Hatsios

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14350 E 9 Mile Rd Warren MI 48089	2023 (exact date not recorded)
14424 Schaefer Hwy Detroit MI 48227	N/A
14470 Livernois Ave Detroit MI 48238	2023 (exact date not recorded)
16200 W Warren Ave Detroit MI 48228	N/A
1716 Fort Street, Lincoln Park 48146	11/6/2023
17256 W Seven Mile Rd Detroit, MI 48235	7/29/2023
18000 Livernois Ave Detroit MI 48221	6/17/2023
18100 Meyers Rd Detroit MI 48235	8/25/2023
18551 Grand River Ave Detroit MI 48223	8/4/2023
18880 8 Mile Rd Southfield MI 48075	8/22/2023
19230 Harper Ave Harper Woods MI 48225	5/30/2023
1940 E 8 Mile Rd Detroit MI 48234	N/A
19700 Kelly Road Harper Woods MI 48225	N/A
20221 Joy Rd Detroit MI 48228	N/A
20250 W 7 Mile Rd Detroit MI 48219	2023 (exact date not recorded)
22800 Van Dyke Ave Warren MI 48089	2023 (exact date not recorded)
25200 Van Born Rd Dearborn Heights MI 48125	9/3/2023
2645 W Davison Detroit MI 48238	6/18/2023

Co-respondent: Legal

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-3.15b

Respondent: M. Hatsios

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29611 Ford Rd, Garden City MI 48135	11/27/2023
3869 W. Jefferson Ave Ecorse MI 48229	N/A
4703 Conner Ave Detroit MI 48215	2023 (exact date not recorded)
500 E Warren Ave Detroit MI 48201	10/12/2023
5555 Conner Street Detroit MI 48213	N/A
5625 Conner St Detroit MI 48213	7/30/2023
5800 Caniff St Hamtramck MI 48212	2023 (exact date not recorded)
5931 Michigan Ave Detroit MI 48210	N/A
7011 Gratiot Ave Detroit MI 48207	6/12/2023
7404 East Seven Mile Rd Detroit MI 28234	5/22/2023
9291 Telegraph Rd Redford Charter Township MI 48239	N/A

Attachment: None.

Co-respondent: Legal

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-3.15c

Respondent: M. Hatsios

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Question: Please provide the following information about all DTE Energy Bill Payment Kiosks in operation any time after January 1, 2019.
c. Provide total number of payments made and total revenue collected at kiosks in calendar years 2019 and 2023.

Answer: DTE Electric objects for the reasons that the request seeks irrelevant information and is not reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving its objection, the Company would respond as follows: Payment totals collected for 2019 and 2023 from the kiosks are provided below.

Year	Payment Totals	Payment Volumes
2019	\$95,124,191	477,819
2023	\$69,923,354	267,172

Attachment: None.

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-3.17a (S1)

Respondent: J. Sparks

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Question: Please provide the following information for residential electric customers with service addresses in the zip codes shown in the table below, for calendar years 2019 and 2023:

a. The number of residential electric customers with service addresses in each zip code who had payments declined or returned in 2019 or 2023 such that they were potentially subject to the form-of-payment restrictions described in section C4.6B of the Company's rate book.

Answer: DTE Electric objects for the reasons that the request is unduly burdensome, overly broad, seeks excessive detail, seeks irrelevant information and is not reasonably calculated to lead to the discovery of admissible evidence, and seeks information that cannot be compiled and is not kept in the ordinary course of business in the format requested. Subject to and without waiving its objection, the Company would respond as follows: This data is not available for 2019 or by zip code.

In 2023, of the 70,277 electric customers subject to payment restrictions, 48,410 resulted in a cash only flag. Please see attachment for the number of electric customers by county in 2023 who were subject to payment restrictions.

Attachment: U-21534 MAUIDE-3.17a Cash Only by County All

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-3.16

Respondent: M. Hatsios

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Question: Please explain why the Company has taken some kiosks out of operation since 2019.

Answer: DTE Electric objects for the reasons that the request seeks irrelevant information and is not reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving its objection, the Company would respond as follows: Kiosk theft activity occurred in 2023. This activity resulted in numerous kiosks being damaged, requiring them to be taken out of service. It also prompted some business owners to request removal of the kiosk at their location as a precaution to protect their business from possible theft activity. A store closure also resulted in a kiosk being taken out of service.

Attachment: None.

City	Distance to nearest kiosk (Miles)	Population Demographics					Poverty					
		Population	White Percentage	Black Percentage	Latino Percentage	Mixed Race Percentage	Total Living Below Poverty Level	Poverty Rate	White Percentage of Poverty	Black Percentage of Poverty	Latino Percentage of Poverty	Mixed Race Percentage of Poverty
Detroit	-	608,709	10.5%	76.9%	7.1%	5.2%	205,986	33.8%	8.1%	79.3%	7.9%	4.6%
Ecorse	-	9,265	26.0%	43.7%	19.1%	15.7%	2,316	25.0%	35.9%	17.4%	14.0%	24.0%
Harper Woods	-	15,144	29.6%	64.1%	1.3%	4.9%	3,036	20.0%	18.0%	77.8%	2.0%	3.7%
Highland Park	-	8,777	7.5%	88.9%	1.0%	2.6%	3,298	37.6%	6.5%	92.7%	0.4%	0.2%
Redford Charter Township	-	48,791	40.3%	50.7%	4.9%	4.6%	5,671	11.6%	38.2%	54.1%	3.9%	5.6%
Lapeer	50	7,597	86.9%	1.1%	4.4%	9.5%	1,823	24.0%	85.5%	1.6%	0.2%	12.7%
Mt Clemens	15.9	14,380	65.9%	23.0%	3.4%	8.5%	2,410	16.8%	42.9%	38.1%	6.6%	14.4%
Roseville	5.7	47,216	67.8%	22.6%	3.8%	5.0%	6,322	13.4%	53.7%	34.2%	3.4%	5.8%
Hazel Park	2.3	15,000	75.1%	9.5%	5.5%	9.9%	2,324	15.5%	62.4%	16.7%	5.1%	13.2%
Port Huron	52.1	28,420	77.4%	8.2%	7.4%	8.3%	6,320	22.2%	73.4%	3.2%	7.5%	9.7%
Port Huron Charter Township	49.7	10,316	88.0%	4.9%	3.4%	3.5%	2,032	19.7%	79.9%	5.4%	2.3%	13.0%



July 15, 2024

Dear Mr. Bunch,

Upon your request, we have searched through rate books, electric tariffs and utility company websites to identify scenarios in which the utility may require a customer to pay their bill in cash.

In all, we reviewed publicly available information for 48 utilities and found no evidence that any of them ever require their customer to pay their bills in cash. Our review encompassed:

- Rate books, tariffs and websites of two large investor-owned utilities operating in Michigan.
- Websites of 39 Michigan municipal utilities.
- Website and tariffs of seven large investor-owned utilities operating outside of Michigan.

The following is a list of the Michigan-based utilities for whom we researched published tariffs, rate book, and company websites.

Consumers Energy
Indiana-Michigan Power

The following is a list of the investor-owned utilities with service territories outside of Michigan for whom we researched published tariffs and company websites.

Pacific Gas & Electric (CA)
Southern California Edison (CA)
Florida Power and Light (FL)
Consolidated Edison (NY)
Georgia Power (GA)
Dominion Energy (VA)
Duke Energy Ohio (OH)

The following is a list of the 39 Michigan municipal electric utilities for whom we researched company websites.

Baraga
Bay City
Charlevoix
Chelsea
Clinton
Coldwater
Croswell
Daggett
Eaton Rapids
Escanaba
Gladstone

Grand Haven
Harbor Springs
Hart
Hillsdale
Holland
L'Anse
Lansing
Lowell
Marquette
Marshall
Negaunee
Newberry
Niles
Norway
Paw Paw
Petoskey
Portland
St. Louis
Sebewaing
South Haven
Stephenson
Sturgis
Traverse City
Union City
Wakefield
Wyandotte
Zeeland

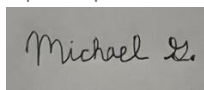
Furthermore, you had requested that we see how reasonably distributed DTE's authorized payment agents are. Per our research, it appears that there are multiple authorized payment agents in the highly populated counties in DTE's service territory. However, less-populated counties such as Sanilac, Huron, and Tuscola have one, one, and two payment agents, respectively. As a result, there may be instances of DTE customers in these counties having to drive over 50 miles round trip to meet the company's cash payment requirement. This data was gathered through [DTE's Payment Location page](#) on their website.

Sincerely yours,



Pete Schultz

He | Him | His



Michael Gasparovic

He | Him | His

[Home](#)

Victims of Identity Theft, 2021

October 12, 2023

FOR IMMEDIATE RELEASE	BUREAU OF JUSTICE STATISTICS
THURSDAY, OCTOBER 12, 2023, 10:00 AM ET	Contact: OJP MEDIA media@ojp.usdoj.gov

PRESS RELEASE

In 2021, 1 in 10 persons had been victims of identity theft in the past 12 months

WASHINGTON — In 2021, about 23.9 million U.S. residents age 16 or older (9% of the population) had experienced identity theft in the past 12 months, according to the Bureau of Justice Statistics' new report *Victims of Identity Theft, 2021*. As of 2021, about 1 in 5 persons (22%) had experienced identity theft in their lifetime.

In 2021, almost 4% of people had their credit card misused, while 3% had their bank account misused. Two percent experienced misuse of their email or social media account. Nearly 1% had their personal information misused for fraudulent purposes, such as getting medical care or applying for a job or government benefits. Less than 1% had their personal information misused to open a new account.

Consequences of identity-theft victimization varied by the type of crime victims experienced. A majority of victims (56%) spent 1 day or less resolving financial or credit problems associated with their most recent identity theft. About 7% of identity-theft victims reported the incident to law enforcement, and 67% of victims contacted a credit card company or bank. On average, victims sustained direct financial losses of \$880. Victims of new account misuse (\$3,430) had

higher direct losses on average compared to victims of bank account (\$670) and credit card misuse (\$620).

Case No. U-21534
Exhibit: MAU-12
Witness: R. Bunch
2 of 3

“While about 6 in 10 (59%) victims of identity-theft incidents in 2021 had financial losses of \$1 or more, those losses totaled \$16.4 billion” noted Kevin M. Scott, PhD, Acting Director of BJS. “In addition, 10% of identity-theft victims in 2021 were severely distressed as a result of the crime.”

Findings are from the 2021 Identity Theft Supplement (ITS) to the National Crime Victimization Survey. From July through December 2021, the ITS collected data from persons about their experience with identity theft during the 12 months before the interview. The 2021 ITS featured a redesigned questionnaire, aimed at improving the quality of data collected and modernizing the survey content. These changes include excluding attempted incidents of identity theft, collecting the month and year of the most recent occurrence of each type of identity theft and adding the misuse of an existing email or social media account as a separate type of identity theft.

“These changes resulted in several improvements to the ITS questionnaire,” Dr. Scott explained. “For example, the new questionnaire allows for reducing the number of incidents reported that occurred outside the survey window. It also decreases respondent burden by streamlining the information requested.”

BJS is also releasing the complementary third-party report, *Assessing the Measurement of Identity Theft through the Identity Theft Supplement to the National Crime Victimization Survey*, produced for BJS by RTI International, which describes efforts to assess potential sources of measurement error in the ITS.

[Victims of Identity Theft, 2021](#), written by BJS Statisticians Erika Harrell, PhD, and Alexandra Thompson; the third-party report [Assessing the Measurement of Identity Theft through the Identity Theft Supplement to the National Crime Victimization Survey](#), written by Lynn Langton, PhD, Christopher Krebs, PhD, Patrick Hsieh, PhD, Sarah Cook, Philip Lee, Jeanne Snodgrass, and Herschel Sanders, of RTI International; related documents; and additional information about BJS’s statistical publications and programs are available on the BJS website at bjs.ojp.gov.

About the Bureau of Justice Statistics [↗](#)

The Bureau of Justice Statistics of the U.S. Department of Justice's Office of Justice Programs is the principal federal agency responsible for collecting, analyzing and disseminating reliable statistics on crime and criminal justice in the United States. Kevin M. Scott, PhD, is the acting director. More information about BJS and criminal justice statistics can be found at bjs.ojp.gov.

About the Office of Justice Programs [↗](#)

The Office of Justice Programs provides federal leadership, grants, training, technical assistance, and other resources to improve the nation's capacity to prevent and reduce crime; advance equity and fairness in the administration of justice; assist victims; and uphold the rule of law. More information about OJP and its components can be found at www.ojp.gov.

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U.S. DEPARTMENT OF JUSTICE
OFFICE OF JUSTICE PROGRAMS

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-4.19a

Respondent: R. Bellini

Page: 1 of 1

Question: Witness Bellini (page 11, lines 8-9) notes the Company will accommodate certain customer requests. Will the Company accommodate customers' requests to convert burned-out HPS fixtures to LED before HPS lamp stocks are depleted?

a. If yes, will the Company assess a customer contribution for those conversions?

Answer: Yes. In the event of a failed HPS fixture - upon request, the Company is amenable to replacing with an equivalent LED fixture. In such cases, customer contributions are not required.

Attachment: None.

R. A. BELLINI

U-21297

Line
No.

1 A16. Yes. Our account managers regularly work with our municipal customers who
2 either have high concentrations of HID lights or have directly inquired as to the
3 potential benefits in transitioning to LEDs. Most recently, we proactively engaged
4 our HID municipalities and made them aware of (and assisted as needed) the
5 Southeast Michigan Council of Governments (SEMCOG) grant application process
6 (December 2022 – February 2023) that made available project grant dollars
7 earmarked for reduction of carbon emissions and encouragement of energy
8 efficiency. Several communities were awarded grants specific to HID to LED
9 conversion projects that will commence between 2024 and 2025.

10

11 **Q17. What else might explain why Mercury Vapor (MV) lights are converting to**
12 **LEDs at a faster pace than other HID's?**

13 A17. There are two factors. First, as mentioned in my direct testimony on page 7, lines
14 11-18, MV lights were rendered obsolete pursuant to the Energy Policy Act of
15 2005. In addition to there not being an option to purchase MVs, the Company
16 agreed to stop actively maintaining these fixtures and began replacing failed MV
17 fixtures to LEDs in 2017 as part of the Commission's U-18014 order. Second, in
18 contrast to MV lights, the other prominent HID lighting type currently in service
19 are high pressure sodium (HPS) lights. HPS lights are still a viable, tariff approved
20 offering for which a market still exists that allows for purchase of HPS lights and
21 related replacement parts. There are communities that simply prefer to keep HPS
22 lights in favor of LEDs, and as long as this remains a tariff approved option, the
23 Company will continue to provide support and maintenance for them.

24

Line
No.

1 CUSTOMER CONTRIBUTION IN AID OF CONSTRUCTION (CIAC) FOR
2 HID-LED CONVERSIONS

3 **Q18. Do you agree with Witness Bunch in recommending to the Commission on**
4 **page 20, lines 9-10 of his corrected direct testimony that they "...should order**
5 **the Company to stop charging CIAC for HID-LED conversions."**

6 A18. No, for two reasons. First, municipalities who proactively decided to convert their
7 lighting system to LEDs and have paid for the entirety of this conversion, will now
8 be subsidizing future LED municipal conversions. Witness Bunch seems to suggest
9 that early adopters of LEDs that have paid for their conversions will not be
10 impacted because of the accumulated savings they've realized from the conversion.
11 While municipalities may have realized savings from these conversions, if the
12 Commission were to adopt this proposal, future conversion costs would be
13 socialized among all E1 Option 1 streetlight customers, in effect making early
14 adopters pay twice. This is neither fair nor equitable and penalizes those
15 municipalities who have already made the conversion to LEDs.

16

17 Second, as Witness Bunch states on page 18, lines 16-17 of his corrected direct
18 testimony, "The basic reason to assess a CIAC fee for any project is if the customer
19 is receiving a special service or benefit that other customers don't benefit from..."
20 Such LED conversions do uniquely benefit municipalities who request them, and
21 Witness Bunch even states this a few pages later on page 20, lines 19-21 when he
22 states, "The delay on other communities receiving LEDs will also mean
23 communities that invested will be benefitted relative to those who did not make such
24 an investment."

May 20, 2019

City of Ferndale
300 E. Nine mile Rd,
Ferndale, Michigan 48220

Re: 2019 Streetlighting Conversion to LED

Based on the completed "AS Built" Field Design & Assessment, I have prepared a cost estimate for the conversion to LEDs of (1744) street lights that consist of the following:

Overhead (OH)-1383

- OH-2-100 watt MV to 58-watt Leotek LEDs
- OH-926-175-watt MV to 58-watt Leotek LEDs
- OH-49-250-watt MV to 136-watt Leotek LEDs
- OH-65-400-watt MV to 136-watt Leotek LEDs
- OH-5-1000-watt MV to 238-watt Leotek LEDs
- OH-195-100-watt HPS to 58-watt Leotek LEDs
- OH-2-150-watt HPS to 58-watt Leotek LEDs
- OH-104-250-watt HPS to 136-watt Leotek LEDs
- OH-3-1000-watt HPS to 238-watt Leotek LEDs
- OH-30-400-watt HPS to 238 watt Leotek LEDs
- OH-2-175-watt MV to 80-watt Leotek LEDs

Underground (UG)-361

- UG-2-175-watt MV to 58-watt Leotek LEDs
- UG-73-400-watt MV to 136-watt Leotek LEDs
- UG-1-1000-watt MV to 238-watt Leotek LEDs
- UG-20-100-watt HPS to 58-watt Leotek LEDs
- UG-241-250-watt HPS to 136-watt Leotek LEDs
- UG-24-400-watt HPS to 238-watt Leotek LEDs

Below please find the estimate breakdown for this project. The costs are based on the Streetlight Option 1-DTE Energy owned and maintained. The rate requires the customer pay a portion of the construction cost. The following information outlines the street lighting installation.

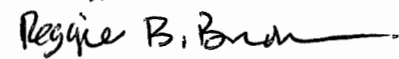
Estimate Breakdown

Project Cost:	\$418,240.00
Current Annual Invoice:	\$479,533.01
Future Annual Invoice:	\$318,454.59
Annual Savings:	\$161,078.42
Less DTE Contribution:	\$69,750.00
EO Rebate:	\$61,222.00
Payback:	2.22YRS.

The price quoted herein shall be in effect for a period of 30 Days from the issue date. After installation, the total cost for additional modification, relocation, or removal will be the responsibility of the requesting party. An authorized signature on the Municipal Street Lighting Master/Purchase Agreement and the payment contribution will be our notification to begin final design and construction scheduling.

Please feel free to call me should you have any questions.

Sincerely,



Reggie B. Brown
Account Manager
DTE- Community Lighting
734-397-4241
313-300-3693

Consumers Energy Company
Calculation of Monthly LED Conversion Credit

Case No. U-21389
WP-AMG-17

Description	2018	2019	2020	2021	2022	2023	Bridge Period 2 mo. end Feb. 2024	Test Year 12 mo. end Feb. 2025	Input	Source
Conversions										
Mercury Vapor to LED	4,259	4,308	1,325	-	-	-	-	-		A-12 (DAS-1), page 2, line 3
Failures to LED	5,299	16,403	15,310	15,775	16,407	13,197	2,199	13,197		A-12 (DAS-1), page 2, line 9
Center Suspension to LED	-	-	-	183	19	-	-	-		A-12 (DAS-1), page 2, line 5
Vicinity Upgrades to LED	-	-	-	-	1,788	1,603	267	1,603		A-12 (DAS-1), page 2, line 7
Total Lights Converted	9,558	20,711	16,635	15,958	18,214	14,800	2,466	14,800		
Incremental Conversion Costs (\$000)										
Mercury Vapor to LED	\$ 3,598	\$ 3,639	\$ 1,119	\$ -	\$ -	\$ -	\$ -	\$ -	Unit Costs: \$ 845	A-12 (DAS-1), page 2, line 4, col (d)
Failures to LED	4,818	14,913	13,919	14,342	14,916	11,998	1,999	11,998	\$ 909	A-12 (DAS-1), page 2, line 10, col (j)
Center Suspension to LED	-	-	-	742	77	-	-	-	\$ 4,053	A-12 (DAS-1), page 2, line 6, col (f)
Vicinity Upgrades to LED	-	-	-	-	855	767	128	767	\$ 478	A-12 (DAS-1), page 2, line 8, col (j)
Total Lights Converted	\$ 8,415	\$ 18,552	\$ 15,038	\$ 15,083	\$ 15,849	\$ 12,765	\$ 2,127	\$ 12,765		
Capital Expense										
Beginning Balance	\$ -	\$ 8,415	\$ 26,967	\$ 42,005	\$ 57,088	\$ 72,937	\$ 85,702	\$ 87,829		
Addition	8,415	18,552	15,038	15,083	15,849	12,765	2,127	12,765		
Ending Balance	\$ 8,415	\$ 26,967	\$ 42,005	\$ 57,088	\$ 72,937	\$ 85,702	\$ 87,829	\$ 100,594		
Depreciation Expense	\$ 125	\$ 527	\$ 1,028	\$ 1,476	\$ 1,937	\$ 2,364	\$ 2,586	\$ 2,808	2.98%	Plant Model in Rev. Req.
Net Plant										
Beginning Balance	\$ -	\$ 8,290	\$ 26,314	\$ 40,325	\$ 53,932	\$ 67,843	\$ 78,244	\$ 77,786		
Ending Balance	8,290	26,314	40,325	53,932	67,843	78,244	77,786	87,743		
Average Balance	\$ 4,145	\$ 17,302	\$ 33,319	\$ 47,128	\$ 60,887	\$ 73,044	\$ 78,015	\$ 82,764		
Test Year Revenue Requirement										
Return on CapEx							\$ 6,290	7.60%		A-14 (MRB-1), line 19, col (i)
Depreciation Expense							2,808			
Property Tax							1,247	1.24%		A-161 (BJV-1), line 19, col (e)
Total							\$ 10,345			
Test Year Number of LED Lights							103,286			Dan Schmoekel (2022 actual + projected conversions)
Annual Revenue Requirement per Light							\$ 100.16			
Monthly Revenue Requirement per Light							\$ 8.35			
Number of lights converted before policy change							10,820			Case No. U-20697
Annual Projected Credit							\$ 1,083,681			

DANIEL A. SCHMOEKEL
U-21585 DIRECT TESTIMONY

1 integration with existing software (SAP, SOAR, etc.), coordination with manufacturer and
2 municipalities, and maintenance of the new rate and tariff). The Company has decided to
3 pause implementation of advanced lighting controls based on the cost of the technology,
4 lack of customer interest, and minimal O&M savings.

5 **Q. Does the Company recommend other activities which are expected to improve outage**
6 **restoration performance and/or reduce streetlight failures?**

7 A. Yes. The Company's current practice of proactively converting HID cobrahead lights, via
8 vicinity conversion, to LED luminaires has proven financially beneficial to street lighting
9 customers. Approximately \$253,000 in customer savings has been realized since 2022
10 through vicinity conversions by reducing non-premise time of field personnel. The
11 Company will continue to perform vicinity conversions as part of its expected work plan.
12 As discussed further in this direct testimony, the Company recommends HID to LED post
13 top conversions, implementation of vicinity conversion of HID post top lights and further
14 enhancing the SOAR application to address reporting of streetlight issues.

15 **Q. Why does the Company recommend converting HID post top streetlights to LED?**

16 A. Post top streetlights represent the second largest quantity of HID streetlights the Company
17 operates and maintains (approximately 43,000). Post top streetlights are typically unique,
18 meaning other manufacturers do not produce the same exact streetlight. The Company's
19 HPS luminaire suppliers have indicated HPS post top streetlights are discontinued mainly
20 due to low demand amidst a higher demand for LED luminaires. Failed HID post top
21 fixtures will be upgraded to LED technology.

22 Implementing a post top reactive conversion program, similar to that already in
23 place for cobrahead luminaires, would result in similar customer benefits (reduced energy

U-21534 Exhibit MAU-17, Community Lighting Sales Forecast adjustment for known outages

WP U-21534 MAUI sales forecast and lum plant balances

data source

U-21534 Bellini WP-Lighting Rate Model

LookUp	Description	UG/OH	Lamp Type	LAMP WATTAGE	BillingProduct	Hours	SystemWattage	Light Count as of ME Nov 2022	Load as of ME Nov 2022	Light Count as of 2024	Load as of 2024	Total Lamp Energy Cost	Ballast watts	Ballast energy use/year/ fixture (kWh)	Total Option 1 ballast energy use/year (kWh)	Total ballast energy cost/year (\$)
E1 SL - Option I-UG	De-Energizer	UG	HPS	250	E1 SL - Option I	4200	305	17	0	17	0	\$ -	55	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	HPS	70	E1 SL - Option I	4200	95	73	29.127	73	29.127	\$ -	25	105	7,665.00	\$ -
E1 SL - Option I-UG	NULL	UG	HPS	100	E1 SL - Option I	4200	135	19759	11203.353	17584	9970.128	\$ -	35	147	2,584,848.00	\$ -
E1 SL - Option I-UG	NULL	UG	HPS	150	E1 SL - Option I	4200	200	565	474.6	445	373.8	\$ -	50	210	93,450.00	\$ -
E1 SL - Option I-UG	NULL	UG	HPS	250	E1 SL - Option I	4200	305	6221	7969.101	2931	3754.611	\$ -	55	231	677,061.00	\$ -
E1 SL - Option I-UG	NULL	UG	HPS	400	E1 SL - Option I	4200	465	1816	3546.648	961	1876.833	\$ -	65	273	262,353.00	\$ -
E1 SL - Option I-UG	NULL	UG	HPS	1,000	E1 SL - Option I	4200	1100	2	9.24	2	9.24	\$ -	100	420	840.00	\$ -
E1 SL - Option I-UG	De-Energizer	UG	LED	65	E1 SL - Option I	0	65	27	0	27	0	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	Dusk-Midnig	UG	LED	135	E1 SL - Option I	2100	135	21	5.9535	21	5.9535	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	35	E1 SL - Option I	4200	35	1735	255.045	3345	491.715	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	45	E1 SL - Option I	4200	45	26	4.914	1	0.189	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	55	E1 SL - Option I	4200	55	5141	1187.571	9207	2126.817	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	65	E1 SL - Option I	4200	65	9025	2463.825	9746	2660.658	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	75	E1 SL - Option I	4200	75	1471	463.365	1781	561.015	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	85	E1 SL - Option I	4200	85	1319	470.883	2315	826.455	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	95	E1 SL - Option I	4200	95	119	47.481	119	47.481	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	105	E1 SL - Option I	4200	105	509	224.469	508	224.028	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	115	E1 SL - Option I	4200	115	63	30.429	367	177.261	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	125	E1 SL - Option I	4200	125	4	2.1	4	2.1	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	135	E1 SL - Option I	4200	135	14801	8392.167	21534	12209.778	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	145	E1 SL - Option I	4200	145	204	124.236	216	131.544	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	155	E1 SL - Option I	4200	155	934	608.034	1016	661.416	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	165	E1 SL - Option I	4200	165	23	15.939	23	15.939	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	175	E1 SL - Option I	4200	175	711	522.585	639	469.665	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	185	E1 SL - Option I	4200	185	39	30.303	39	30.303	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	205	E1 SL - Option I	4200	205	592	509.712	604	520.044	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	215	E1 SL - Option I	4200	215	8	7.224	9	8.127	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	235	E1 SL - Option I	4200	235	560	552.72	939	926.793	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	245	E1 SL - Option I	4200	245	88	90.552	88	90.552	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	255	E1 SL - Option I	4200	255	28	29.988	28	29.988	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	265	E1 SL - Option I	4200	265	18	20.034	18	20.034	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	285	E1 SL - Option I	4200	285	1125	1346.625	1099	1315.503	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	LED	295	E1 SL - Option I	4200	295	15	18.585	15	18.585	\$ -	0	0	-	\$ -
E1 SL - Option I-UG	NULL	UG	MH	70	E1 SL - Option I	4200	85	195	69.615	195	69.615	\$ -	15	63	12,285.00	\$ -
E1 SL - Option I-UG	NULL	UG	MH	100	E1 SL - Option I	4200	120	90	45.36	83	41.832	\$ -	20	84	6,972.00	\$ -
E1 SL - Option I-UG	NULL	UG	MH	150	E1 SL - Option I	4200	180	14	10.584	14	10.584	\$ -	30	126	1,764.00	\$ -
E1 SL - Option I-UG	NULL	UG	MH	175	E1 SL - Option I	4200	210	463	408.366	217	191.394	\$ -	35	147	31,899.00	\$ -
E1 SL - Option I-UG	NULL	UG	MH	250	E1 SL - Option I	4200	300	263	331.38	264	332.64	\$ -	50	210	55,440.00	\$ -
E1 SL - Option I-UG	NULL	UG	MH	400	E1 SL - Option I	4200	460	329	635.628	228	440.496	\$ -	60	252	57,456.00	\$ -
E1 SL - Option I-UG	NULL	UG	MV	100	E1 SL - Option I	4200	120	16	8.064	10	5.04	\$ -	20	84	840.00	\$ -
E1 SL - Option I-UG	NULL	UG	MV	175	E1 SL - Option I	4200	210	1670	1472.94	830	732.06	\$ -	35	147	122,010.00	\$ -
E1 SL - Option I-UG	NULL	UG	MV	250	E1 SL - Option I	4200	300	3	3.78	1	1.26	\$ -	50	210	210.00	\$ -
E1 SL - Option I-UG	NULL	UG	MV	400	E1 SL - Option I	4200	450	786	1485.54	418	790.02	\$ -	50	210	87,780.00	\$ -
E1 SL - Option I-OH	De-Energizer	OH	HPS	100	E1 SL - Option I	0	135	4	0	4	0	\$ -	35	0	-	\$ -
E1 SL - Option I-OH	De-Energizer	OH	HPS	250	E1 SL - Option I	0	305	1	0	1	0	\$ -	55	0	-	\$ -
E1 SL - Option I-OH	Dusk-Midnig	OH	HPS	250	E1 SL - Option I	2100	305	2	1.281	2	1.281	\$ -	55	115.5	231.00	\$ -
E1 SL - Option I-OH	Dusk-Midnig	OH	HPS	400	E1 SL - Option I	2100	465	4	3.906	4	3.906	\$ -	65	136.5	546.00	\$ -
E1 SL - Option I-OH	NULL	OH	HPS	70	E1 SL - Option I	4200	95	1104	440.496	948	378.252	\$ -	25	105	99,540.00	\$ -

E1 SL - Option I-OH	NULL	OH	HPS	100	E1 SL - Option I	4200	135	8566	4856.922	5337	3026.079	\$	-	35	147	784,539.00	\$	-
E1 SL - Option I-OH	NULL	OH	HPS	150	E1 SL - Option I	4200	200	7	5.88	0	0	\$	-	50	210	-	\$	-
E1 SL - Option I-OH	NULL	OH	HPS	250	E1 SL - Option I	4200	305	5085	6513.885	2049	2624.769	\$	-	55	231	473,319.00	\$	-
E1 SL - Option I-OH	NULL	OH	HPS	400	E1 SL - Option I	4200	465	598	1167.894	0	0	\$	-	65	273	-	\$	-
E1 SL - Option I-OH	NULL	OH	HPS	1,000	E1 SL - Option I	4200	1100	15	69.3	0	0	\$	-	100	420	-	\$	-
E1 SL - Option I-OH	Dusk-Midnig	OH	LED	135	E1 SL - Option I	2100	135	5	1.4175	5	1.4175	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	Dusk-Midnig	OH	LED	285	E1 SL - Option I	2100	285	2	1.197	2	1.197	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	35	E1 SL - Option I	4200	35			3	0.441	\$	-			-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	45	E1 SL - Option I	4200	45	73	13.797	73	13.797	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	55	E1 SL - Option I	4200	55	11437	2641.947	22280	5146.68	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	65	E1 SL - Option I	4200	65	35879	9794.967	36373	9929.829	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	75	E1 SL - Option I	4200	75	604	190.26	607	191.205	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	85	E1 SL - Option I	4200	85	1033	368.781	1685	601.545	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	95	E1 SL - Option I	4200	95	1511	602.889	1509	602.091	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	105	E1 SL - Option I	4200	105	86	37.926	90	39.69	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	115	E1 SL - Option I	4200	115	1	0.483	3	1.449	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	125	E1 SL - Option I	4200	125	58	30.45	58	30.45	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	135	E1 SL - Option I	4200	135	15387	8724.429	21218	12030.606	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	145	E1 SL - Option I	4200	145	43	26.187	165	100.485	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	155	E1 SL - Option I	4200	155	401	261.051	400	260.4	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	165	E1 SL - Option I	4200	165	108	74.844	108	74.844	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	175	E1 SL - Option I	4200	175	51	37.485	53	38.955	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	185	E1 SL - Option I	4200	185	9	6.993	9	6.993	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	205	E1 SL - Option I	4200	205	76	65.436	150	129.15	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	215	E1 SL - Option I	4200	215	22	19.866	35	31.605	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	235	E1 SL - Option I	4200	235	181	178.647	699	689.913	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	245	E1 SL - Option I	4200	245	5	5.145	5	5.145	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	255	E1 SL - Option I	4200	255	11	11.781	11	11.781	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	285	E1 SL - Option I	4200	285	621	743.337	771	922.887	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	295	E1 SL - Option I	4200	295	14	17.346	14	17.346	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	305	E1 SL - Option I	4200	305	15	19.215	15	19.215	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	LED	325	E1 SL - Option I	4200	325	4	5.46	4	5.46	\$	-	0	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	MH	70	E1 SL - Option I	4200	85	1	0.357	1	0.357	\$	-	15	63	63.00	\$	-
E1 SL - Option I-OH	NULL	OH	MH	175	E1 SL - Option I	4200	210	45	39.69	10	8.82	\$	-	35	147	1,470.00	\$	-
E1 SL - Option I-OH	NULL	OH	MH	250	E1 SL - Option I	4200	300	1	1.26	1	1.26	\$	-	50	210	210.00	\$	-
E1 SL - Option I-OH	NULL	OH	MH	400	E1 SL - Option I	4200	460	5	9.66	6	11.592	\$	-	60	252	1,512.00	\$	-
E1 SL - Option I-OH	NULL	OH	MH	1,000	E1 SL - Option I	4200	1050	1	4.41	1	4.41	\$	-	50	210	210.00	\$	-
E1 SL - Option I-OH	De-Energizec	OH	MV	175	E1 SL - Option I	0	210	1	0	1	0	\$	-	35	0	-	\$	-
E1 SL - Option I-OH	NULL	OH	MV	100	E1 SL - Option I	4200	120	127	64.008	97	48.888	\$	-	20	84	8,148.00	\$	-
E1 SL - Option I-OH	NULL	OH	MV	175	E1 SL - Option I	4200	210	10395	9168.39	1644	1450.008	\$	-	35	147	241,668.00	\$	-
E1 SL - Option I-OH	NULL	OH	MV	250	E1 SL - Option I	4200	300	217	273.42	0	0	\$	-	50	210	-	\$	-
E1 SL - Option I-OH	NULL	OH	MV	400	E1 SL - Option I	4200	450	1350	2551.5	386	729.54	\$	-	50	210	81,060.00	\$	-
E1 SL - Option I-OH	NULL	OH	MV	1,000	E1 SL - Option I	4200	1060	10	44.52	0	0	\$	-	60	252	-	\$	-
E1 Electric sales forecast adjustments								248580	138588.91	174818	81394.362	\$	-			5,695,389	\$	-

Inputs

(1)Total Opt I lamp usage including outage time	75,698,973
(2)Total Opt I fixture usage including outage time	81,394,362
(3)Total Opt I ballast usage	5,695,389
(4)Night patrol outage time	4.37%

Outputs

(5)Reduction for Opt I fixture outage time	
= (2)*(4)	3,556,934
(6)Ballast usage during outages	
= (3)*(4)	248,888
(7)Net kWh reduction in Opt I sales forecast for outage time = (5) - (6)	3,308,045

(8) % reduction in Opt I sales forecast for outage time
= (7)/(2) 4.06%

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-4.28b

Respondent: R. Bellini

Page: 1 of 1

Question: Refer to the table titled “O&M 2024 Rate Case Test Period” in witness Bellini’s Lighting Rate Model workpaper, Assumptions worksheet, rows 21-33.

b. Please provide O&M actual cost data for calendar years 2019-2023 inclusive, in the same format as the referenced table.

Answer: Please see below table for actual cost data in the format requested:

O&M Category	Year				
	2019	2020	2021	2022	2023
Group Relamping	\$ -	\$ 384,929	\$ 175,601	\$ 48,551	\$ -
Streetlight Inspection	\$ 108,068	\$ 123,004	\$ 121,192	\$ 93,694	\$ 30,160
Streetlight Painting	\$ 238,674	\$ 76,027	\$ 139,845	\$ 124,311	\$ 72,726
LED Washing	\$ 248,946	\$ 165,412	\$ 132,839	\$ 136,691	\$ -
Night Patrols	\$ -	\$ 287,224	\$ 392,909	\$ 322,608	\$ 139,483
Supervisory & Administration	\$ 1,211,979	\$ 1,184,387	\$ 1,450,714	\$ 1,317,958	\$ 1,159,891
Cancelled Projects/Other	\$ 66,304	\$ 7,048	\$ 4,580	\$ 3,444	\$ 21,778
Outage Restoration	\$ 6,519,039	\$ 4,972,381	\$ 5,300,190	\$ 5,322,901	\$ 6,667,615
OPL Outage Restoration	\$ 813,078	\$ 606,053	\$ 568,260	\$ 665,636	\$ 778,858
Capitalization Credit	\$(5,941,230)	\$(4,519,892)	\$(3,666,926)	\$(4,045,128)	\$(5,452,658)
Damage Claims	\$ 457,577	\$ 501,653	\$ 587,062	\$ -	\$ (12,996)
Total	\$ 3,722,435	\$ 3,788,226	\$ 5,206,266	\$ 3,990,666	\$ 3,404,857

Attachment: None.

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-6.52

Respondent: R. Bellini

Page: 1 of 1

Question: In case no. U-21279, the revenue requirement included \$334,383 for streetlight inspections. The current filing proposes to spend \$130,000 for streetlight inspections. Why does the Company expect to see expenses in this category drop so sharply?

Answer: Assuming the question meant to refer to MPSC Case No. U-21297, please refer to page 15, line 5 through line 11 of my direct testimony. In 2023, Community Lighting began replacing streetlight only wood poles that were previously identified as condemned or near end-of-life through Distribution Operations (DO) pole top maintenance (PTM) program, in addition to replacing its decorative street light poles. Prior to 2023, DO replaced street light only wood poles in similar fashion to replacing a DO pole. Community Lighting is now provided a list of streetlight only wood poles on an ongoing basis as they are identified through the PTM program. As a result, the Company is able to replace the same number of poles (both wood and decorative) within our approved spend. The Company is currently evaluating our contractors capacity to replace a greater number of poles collectively, at which point the program projected expenditure to replace more poles (both wood and decorative) may change in the future.

Attachment: None.

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-6.53

Respondent: R. Bellini

Page: 1 of 1

Question: In case no. U-21279 the revenue requirement assumed the Company would spend \$384,427 on streetlight painting. The current filing proposes to spend \$130,000 on painting. Why does the Company expect to see expenses in this category drop by approximately two-thirds?

Answer: Assuming the question meant to refer to MPSC Case No. U-21297, previous to 2024, the Company utilized two separate industrial painting contractors. The Company decided not to renew its contract with one of these contractors, therefore reducing total bandwidth. As a result, The Company anticipated fewer posts to be painted in the projected test year.

Attachment: None.



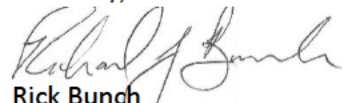
Lisa Felice
Executive Secretary
Michigan Public Service Commission
7109 W. Saginaw Highway
Lansing, MI 48917
Submitted electronically

March 15, 2024

Dear Ms. Felice:

Attached please find comments from MI-MAUI for electronic filing in the docket for case no. U-20147.

Sincerely,



Rick Bunch
Executive Director

Attachment

**Comments of Michigan Municipal Association for Utility Issues
on 2023 DTE Electric Distribution Grid Plan, case no. U-20147**

Michigan Municipal Association for Utility Issues (MI-MAUI) is a membership organization of local governments that have policy and fiscal objectives affected by utility tariffs and practices. Comments provided here represent the views of MI-MAUI rather than of its members individually.

Local governments have various interests in distribution system planning:

1. They are the stewards for the public benefit of easements occupied by electric distribution system equipment. They are responsible for seeing that easements are used for public benefit and that various uses are coordinated and compatible with each other and local regulations, goals, and policies.
2. They are electric franchisors, responsible for ensuring that conditions of the grant of franchise are observed.
3. They are elected representatives of their communities, responsible for ensuring that electric power is available, reliable, safe, and affordable for residents and for economic development purposes.
4. They deliver various program services to their communities, which may be enabled, interrupted or necessitated by utility issues. For example, they deliver various social services to vulnerable residents, who may be deeply affected by cost or reliability or electric service. They provide emergency services when electric service is interrupted and are interested in minimizing both public and private costs and the consequences of those events. They also need timely and specific information about service interruptions so they can target services where and when they are needed.

As such, the entire scope of DTE's EDIIP is within the sphere of interest of local governments within its service territory. However, MI-MAUI does not wish to provide comprehensive and exhaustive comments on the full scope of DTE's EDIIP. Rather, we wish to focus on topics about which local governments have distinctive standing to comment and/or distinctive perspectives. The omission of other topics from these comments does not signify MI-MAUI's, or its members', disinterest in them or acceptance of DTE's plans.

Costly Investments in Reliability May Erode Energy Security

Local governments are concerned about the energy security of the households and businesses they serve. Reliability is an important component of energy security, but so is affordability. Large investments in the distribution system may reduce the number of people who lose power owing to bad weather or equipment failures and how long their power stays out, but by driving rates up may – paradoxically - cause many people to lose power because they cannot afford to pay their electric bills. While DTE provides an analysis of SAIFI, SAIDI, and CAIDI using the standard definitions of those metrics, as local governments we are interested in a more holistic discussion of energy security.

If the objective is to keep people's power on, then we need a better understanding of this tradeoff between reliability investments and affordability. An EDIIP should not merely assert that there are social benefits to investing in reliability to reduce outages, without also acknowledging and examining the social costs of those investments, including increased risk of disconnection for nonpayment. It is not acceptable simply to assume that assistance will step in to help customers impacted by rate hikes; the first priority should be to keep rates affordable, with assistance making up whatever gap remains.

An EDIIP is not a rate case, but it is an appropriate forum for reviewing general costs and benefits of investment plans, as differentiated from the rate impacts of specific projects. MI-MAUI urges DTE, and the Commission, to undertake a more holistic analysis of energy security as part of the EDIIP process and content.

DTE Should Involve Local Governments in Distribution System Project Planning

Local governments and the communities they serve experience the costs and burdens of DTE's infrastructure activities both in the rates they pay and the impact of infrastructure operations on neighborhoods. Because DTE proposes a higher activity rate in the coming years, local governments are concerned both about the rate impacts of those activities and the disruptions that neighborhoods experience during projects. MI-MAUI members believe that DTE could reduce costs and disruptions caused by its infrastructure projects if those projects were better coordinated with local infrastructure projects.

Here, we are not addressing distribution system planning at the level of this current docket, nor are we commenting on DTE's communication of its project plans to local governments, or its responsiveness to local government project requests. Instead, we are advocating for DTE to implement more careful coordination with municipal infrastructure projects, such as road rebuilds or water and sewer projects. Public Works departments report too many times that DTE has implemented projects that disrupt neighborhoods and damage public infrastructure shortly before or after a municipal infrastructure project was planned in that same location. The best time to relocate conductor underground, or replace it, is when the city is tearing up the street for a road, water, or sewer project – not a year or two later. Likewise, DTE should make every reasonable effort to schedule co-located electric and gas infrastructure projects concurrently.

The general point is that DTE should seek to schedule non-emergent infrastructure projects in coordination (i.e., concurrently or consecutively) with other infrastructure projects to minimize neighborhood disruptions and reduce total costs. Non-emergent projects may be implemented a year or two earlier or later than DTE's project scheduling processes would otherwise indicate to optimize this kind of coordination.

While DTE appears to recognize that community leaders want better coordination, the EDIIP makes short shrift of the topic and describes no plans to implement responsive processes:

"There is a desire to understand the reliability performance of the local community and how that compares to other communities. In addition, communities want to understand how the overarching investment programs identified in the DGP will translate into investment plans at the local level, when that investment is expected to take place, and the reliability improvements that can be expected after the plans have been implemented. DTEE looks forward to maintaining a dialogue with its communities and further understanding the communities' sentiments toward distribution issues."¹

This passage is helpful, as far as it goes, but it does not go far. Communities want to inform DTE's project priorities concerning local goals, plans, and needs, and to influence project scheduling. This desire is much more concrete and specific than "further understanding the communities' sentiments toward distribution issues."

Local governments recognize that the kind of project coordination they desire is laborious – because they do it all the time in coordination of municipal infrastructure projects and with other service providers. Complaints

¹ EDIIP, p203.

that coordinating in this fashion would be prohibitively expensive and time-consuming ignore that DTE's current approach externalizes substantial total cost and other burdens on the community.

Although the EDIIP section on community engagement fails to mention project coordination with municipal governments and others, DTE elsewhere in the EDIIP recognizes the potential of coordinated project implementation. In the section on undergrounding:

First, DTE Gas is performing gas main replacement in the area, and cost and other construction synergies are expected from collaboration between the two utilities, both of which will be using directional boring to complete their work. The combination work will also minimize the time for construction disturbance for customers, when compared to coming in before or after gas main renewal has occurred.²

This example is compelling but focuses only on minimizing construction disturbance. DTE should also seek, whenever possible, to coordinate excavation schedules and infrastructure (e.g., road or sidewalk) repair to reduce total costs and neighborhood disturbance.

The Commission should require DTE to adopt and document its implementation of processes for genuine and comprehensive project coordination and limit the Company's recovery of costs when it falls short. We recommend that DTE undertake annual meetings with each local government, county road commission, water and sewer authority, or other public agency with responsibility for infrastructure projects in the right of way, to identify and coordinate upcoming projects.

Storm response

Local governments appreciate DTE's efforts to improve the accuracy and timeliness of its outage reporting and restoration estimates. The EDIIP gives no attention, unfortunately, to the vital roles of local governments in storm response. This is unfortunate because local governments are partners of DTE in storm response, in that they provide public safety and social services made necessary by power outages. However local governments get scarcely more accurate, timely or granular information or communication from DTE during outages than any other customer, making it very hard to provide vital public services in a timely and efficient manner. Shortcomings were detailed in testimony provided by MI-MAUI in case no. U-21297 by witness James Krizan, then city manager of Lincoln Park, and by City of Ann Arbor witness Mike Kennedy, fire chief.

We recommend that the EDIIP should:

- Discuss how DTE can properly and efficiently share information with local officials about outage locations, expected durations, and vulnerable customers and critical facilities impacted that may need emergency or social services support.
- Discuss how DTE will improve its responsiveness to local government priorities during power outages.
- Support local governments with resiliency resources, including but not limited to solar PV, backup power, and energy storage at critical municipal facilities and warming/cooling centers.

Streetlights

Unlike Consumers Energy's EDIIP, DTE's plan makes no mention of streetlights, a topic of special and proprietary concern for local governments.

² EDIIP, p127.

MI-MAUI has repeatedly shown in rate case testimony that the reliability of DTE's streetlight services is getting worse, calling into question whether and how streetlight customers will ever benefit from the Company's accelerated spending on its distribution system and its heavy investment in LED technology. The benefits customers seek in converting to LEDs include, in varying order of priority, cost savings, improved reliability, and higher-quality lighting.

DTE reported distribution rate base for E-1 (streetlights), E-2 (signals), and OPL (outdoor protective lighting) of \$286,672,000 for the period ending November 30, 2024.³ For the test year ending June 30, 2016, the Company reported \$215,689,000 in distribution rate base. That increase equates to an average annual growth in the value of lighting assets of about 3.4%. Over the same period, customers have provided many additional millions of dollars in customer contributions for DTE to convert their streetlights to LED.⁴

The results of all this investment are underwhelming so far. The number of streetlight outage days the Company reported in 2022 was 13% higher than in 2017.⁵ Over that same period, Total Duration Days rose from 6.08 days in 2017 to 7.24 days in 2022; only in 2020 were Total Duration Days less than in 2017. There were even more outages in 2022 than that, though, because the Company does not include in this total the 4,685 outages it discovered itself via its Night Patrol program. None of these outages include outages due to widespread distribution outages – these are outages *in addition* to dark nights due to distribution grid failures.

The EDIIP ignores this reliability problem, using only standard SAIDI and SAIFI metrics that do not include streetlight outages. For streetlighting customers, that ignores the vast majority of their reliability problem, as problems with streetlighting equipment dwarf general distribution system outages for this rate class. The Company cannot come up with an investment plan that is fair to streetlight customers by ignoring the primary source of the reliability problems they experience. Nor should the cost implications of their planned spending be ignored while every other distribution investment is included.

Customers also seek to use less energy and achieve climate goals by investing in LED streetlights. In case no. U-21297, MI-MAUI provided evidence that the Company systematically chooses LED streetlights that are brighter, and more expensive, than its supplier recommends to replace older HID lights. In its final order, the Commission held that DTE had overspent on LEDs by \$5.8 million and reduced the Company's cost recovery accordingly. The instant point, however, is not cost but waste: the Company installs LEDs that use more electricity than is required to meet technical lighting standards, thus denying customers of energy savings and climate progress. The EDIIP should address how the Company proposes to comply with technical lighting standards going forward.

The Company's historic overspending on excessively bright LEDs has another impact that ought to be discussed in the EDIIP: light pollution. A growing chorus of scientific studies has shown that the transition to outdoor LED lighting has significantly increased global light pollution and associates it with impacts on human health and ecosystems, among other issues. The EDIIP should discuss how the Company proposes to reduce or mitigate these impacts as the transition to LEDs continues. Potential solutions include installation of less-bright LEDs, reducing their color temperature, specifying and installing them carefully to illuminate only intended areas of the street and sidewalk, scheduled dimming, and occupancy sensors.

³ U-21297 Cost of Service Study.

⁴ From 2017-2022, 34,039 high-pressure sodium streetlights were converted to LED. Customers pay for HPS conversions, typically \$250-\$400/luminaire. This is consistent with total customer CIAC of \$10 million over that period.

⁵ U-21297, Exh A-25:O1. Outage days are figured as (standard events adjusted) x (Average days duration) + (# of Follow-up Events) x (Follow Up Outage Events Duration).

Thank you for the opportunity to comment on DTE's plan.

Sincerely,

A handwritten signature in black ink, appearing to read "Rick Bunch". The signature is fluid and cursive, with the first name "Rick" and last name "Bunch" clearly distinguishable.

Rick Bunch
Executive Director

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-4.26

Respondent: R. Bellini

Page: 1 of 1

Question: Witness Bellini describes the underground cable replacement program on p. 16 of his testimony. Please explain any criteria or method for the selection and prioritization of underground cable system replacement projects. Specifically, please address what role, if any, a history of outage events on the circuit, or the ability to coordinate with other infrastructure projects being undertaken in the same right of way, are considered.

Answer: The cable replacement program uses the following criteria to determine selection and prioritization of projects: 1) age of cable, 2) pedestrian conflict (level of pedestrian traffic), 3) recurring outages, 4) number of lights on the circuit, and 5) type of road. Though none of our completed or planned cable replacement projects have overlapped directly with municipal projects, we are open to coordinating in any way that would drive efficiencies where opportunities to do so arise.

Attachment: None.

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-4.24

Respondent: R. Bellini

Page: 1 of 1

Question: Should the second and third footnotes on Company's Exhibit A-25, Schedules O1 and O2, be understood to mean the Company had no OMS in operation from January through October 2023? If not, please explain the proper interpretation.

Answer: The Company was able to catalog outage events, but was not able to calculate duration metrics, or delineate long duration and follow-up events. Therefore, the Company used actual duration metrics as well as actual long duration and follow-up events from the point the new OMS system went live and extrapolated that data for the first 9 months of 2023.

Attachment: None.

Line
No.

1 repairs” which result in sections of failed cable being isolated and replaced. Though
2 this addresses the immediate root cause, it doesn’t necessarily increase the
3 longevity of the stretch of cable supporting that circuit, in a manner that replacing
4 failed, or end-of-life underground cable would.

5

6 **Q29. Are there any other long-term benefits expected to be realized from the Cable**
7 **Replacement program?**

8 A29. First, most of the underground system cable that is currently in service is direct
9 buried, meaning that the cable is unsleeved and buried at a depth which makes it
10 more susceptible to freezing and thawing impacts as well as 3rd party strikes during
11 excavation work (i.e. other utility work or municipal driven projects such as road
12 widening). Cable that is replaced under this program is now installed within a
13 protective sleeve which increases the likelihood that it can survive a 3rd party strike
14 or become exposed through excavation. Second, as damaged and end-of-life cable
15 is replaced with newly installed and protected cable, we expect to see a reduction
16 in outages whose root cause is determined to be an underground cable failure. Over
17 time, this will reduce the number of reactive underground cable events and increase
18 lighting system reliability.

19

20 **Outage Restoration Activities**

21 **Q30. What was DTE Electric’s performance with respect to outage duration for its**
22 **lighting customers?**

23 A30. DTE Electric has several targets for outage performance: outage duration and
24 outage defects. DTE Electric’s 2021 outage duration target was 3.0 business days
25 and DTE Electric’s 2021 actual performance was 5.2 business days. These

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-6.55

Respondent: R. Bellini

Page: 1 of 1

Question: In case no. U-21279, the revenue requirement included a spend of \$1,279,807 on Community Lighting Supervisory and Administrative staff. The current filing proposes an expenditure of \$1,800,000 for Community Lighting Supervisory and Administrative staff. Please explain the assumptions underlying the approximately \$520,000 in increased cost in this category.

Answer: Assuming the question meant to refer to MPSC Case No. U-21297, the Company's assumptions included:

- 1) New hires for unfilled positions
- 2) Inflation impacting various costs including employee salaries
- 3) Increase in administrative costs inclusive of using contractors

Attachment: None.

R. A. BELLINI
U-20836

Line
No.

1 pedestrian conflict areas that again, allow the Company to remain compliant with
2 ANSI/IES RP-8-18 lighting standards.

3

4 **Q30. Are you saying that in response to Witness Bunch's comparison to LED's**
5 **purchased by Consumer's Energy on page 59, line 20 through page 60, line 2,**
6 **that they are not using the appropriate LED luminaire equivalent to light its**
7 **roadways?**

8 A30. No, not at all. What I am saying is that each roadway setting, and related lighting
9 application will be different, and that each utility should design and implement
10 adequate streetlighting that meets the unique of roadways that they serve. As
11 mentioned in the preceding answer, our streetlighting systems for major
12 thoroughfares are designed to provide adequate lighting on long stretches of
13 roadway that commonly involve several lanes of traffic. Using higher wattage
14 fixtures means fewer poles and luminaires are used which is economical and
15 reduces the need for additional infrastructure.

16

17 **Q31. Witness Bunch suggests on page 62, line 3 of his testimony that the Company's**
18 **LED Washing program is needlessly washing lamps on an accelerated basis**
19 **and out of step with Illumination Engineering Society (IES) recommended**
20 **practices. Do you agree?**

21 A31. No. First, the IES study did not include the luminaire type predominately used by
22 the Company, which is a secondary acrylic optics (SAO) luminaire. Second, and
23 more importantly, this study was not specific to the environment in which the LED
24 luminaires are intended to operate. Heavy truck traffic and salt spray are unique to
25 a Midwest state such as Michigan, and the tri-counties (Macomb, Wayne, and

R. A. BELLINI
U-20836

Line
No.

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3

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MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-6.56

Respondent: R. Bellini

Page: 1 of 1

Question: Please provide a breakdown of the number of FTEs broken down by title and/or classification within the Community Lighting Supervisory and Administrative staff in 2021, 2022, 2023, and the same data for the projected test year if the requested \$1,800,000 were to be included in the revenue requirement.

Answer: DTE Electric objects for the reason that the information requested consists of confidential, proprietary, research and development of trade secrets, or commercial information, the disclosure of which would cause DTE Electric, its ratepayers, and its customers competitive harm. Subject to these objections, but without waiving them, DTE Electric's response follows:

See below for supervisory and administrative positions in Community Lighting:



Please note for 2024 and 2025 these are preliminary estimates that will continue to evolve due to the need to fill many key roles in both Community Lighting and throughout the Company.

Attachment: None.

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-4.20

Respondent: R. Bellini

Page: 1 of 1

Question: The E1, Option 1 tariff reads “Special Order Material Provision: For decorative or ornamental special order material, there may be an additional per luminaire per month charge for procurement and material handling. Company and Customer to mutually agree upon charges.” (Sheet D-49.0) Does the phrase “decorative or ornamental special order material” encompass luminaires with different wattages, CCTs or light distribution patterns than the Company generally uses but that are otherwise the same luminaire models?

Answer: Yes. Special order material (SOM) would refer to material, whether it be luminaires or posts for example, that the Company does not maintain as standard stock. It should be noted that while LEDs can be purchased with more expensive adjustable drivers to change the wattage output, the correlated color temperature (CCT) and the lighting distribution pattern (optics) are fixed and cannot be altered.

Attachment: None.

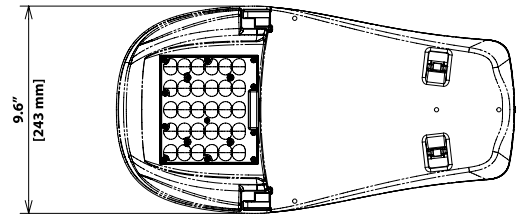
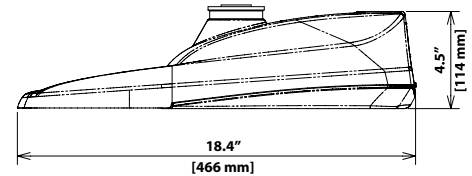
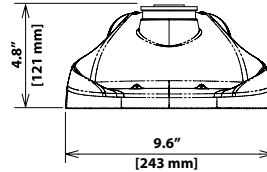
GreenCobra™ Jr. LED Street Light

GCJ J-Series Specification Data Sheet

Luminaire Data

Weight 7.7 lbs [3.5 kg]

EPA 0.39 ft²



Ordering Information

Sample Catalog No. GCJ1-30J-MV-40K-2R-GY-055-PCR7-WL

Model*	LED Code	Voltage	Color Temperature	Distribution	Finish ¹	Output Code ²	Options
GCJ1* GCJ2* GCJ3* GCJ4*	30J	MV 120-277V HV 347-480V	27K 2700K 30K 3000K 40K 4000K 50K 5000K	2R Type 2 3R Type 3R 3F Type 3F 4 Type 4 5 Type 5	GY Gray DB Dark Bronze BK Black	Refer to Page 3 to select the performance code.	FOC³ Fixed Output Code LPCR Less Photocontrol Receptacle PCR7⁴ ANSI 7-wire Photocontrol Receptacle PCR7-CR⁵ Control Ready 7-wire PC Receptacle MSL3 Motion Sensor, L3 Lens MSL7 Motion Sensor, L7 Lens WL Utility Wattage Label 4B 4-Bolt Mounting Bracket RWG Rubber Wildlife Guard SWTB Straight Wire Terminal Block BBL Bubble Level DSC Door Safety Cable CF⁶ Coastal Paint Finish SP2⁷ Extreme Surge Protection, 20KV/10KA, Fail-to-on LSSP2⁷ Extreme Surge Protection, Fail-to-off, 20kv/10kA Rating

* Refer to performance data table on page 3, 4 for specific model with corresponding output code

Notes:

- Gray, Black, and Dark Bronze standard. Consult factory for other finishes. See page 2 for RAL codes of Standard finishes.
- Specified output code is the factory set lumen performance. Refer to performance data table on page 3, 4 of this spec sheet. Field adjustable output selector enables fixture to be changed in the field to adjust light output for local conditions (not available with Fixed Output Code, FOC) or PCR7-CR option. Consult factory if wattage limits require a special drive current.
- Non-field adjustable, fixed output code. Specify required output code. Not available with PCR7-CR option.
- Includes output selector that enables field adjustability of light levels. Includes connectors to allow easy upgrade of wireless dimming via PCR7. Wireless node by others.
- Control-ready wired at factory for wireless node dimming (node by others). Output selector not included in the fixture. Not able to adjust above specified output code.
- Specify the CF Option for coastal installation. See warranty for details.
- Standard surge protection, 10kv/5kA, fail-to-on, meets enhanced surge protection based on ANSI 136.25-2015 3-part test.
- Flush mounted house side shield. Shield cuts light off at 1 mounting height behind luminaire. Gray frame with black louvers.
- Flush mounted cul-de-sac shield. Shield cuts light off at 1 mounting height behind luminaire and 2 times the mounting height on either side of luminaire. Gray frame with black louvers.
- Flush mounted front side shield cuts light off at approximately 1½ mounting height in front of luminaire (street side). Gray frame with black louvers.
- Specify Color (GY, DB, BK). Refer to Leotek web site for specific mounting details and drawings at <https://leotek.com/lighting-library/>
- Specify MV (120-277V) or HV (347-480V).

Accessories*

HSSJGCI⁸	House Side Shield, Snap-On*
CSSJGCI⁹	Cul-De-Sac Side Shield, Snap-On*
FSSJGCI¹⁰	Front Side Shield, Snap-On*
SPB¹¹	Square Pole Horizontal Arm Bracket
RPB¹¹	Round Pole Horizontal Arm Bracket
PTB¹¹	Pole Top Tenon Horizontal Arm Bracket
PTB2¹¹	Pole Top Tenon Horizontal Arm Bracket (2@180°)
WB¹¹	Wall Horizontal Arm Bracket
BSK	Bird Deterrent Spider Kit
LLPC¹²	Long-Life Twist Lock Photocontrol
SC	Twist Lock Shorting Cap

* Unless specified for field installation, Shields and Shorting Caps are shipped installed. All other options are shipped separately.



Luminaire Specifications

Housing

Die cast aluminum housing with universal two-bolt slip fitter mounts to 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter mast arm. One-piece aluminum housing provides passive heat-sinking of the LEDs and has upper surfaces that shed precipitation. Four-bolt mounting bracket (4B option) is available. Mounting provisions meet 3G vibration per ANSI C136.31-2010 Normal Application, Bridge & Overpass by independent lab. Mounting has leveling adjustment from $\pm 5^\circ$ in 2.5° steps. All hardware is stainless steel. Electrical components are accessed without tools via die cast aluminum door with stainless steel quick release latches. Provided standard with removable polycarbonate wild life guard. For additional protection, optional rubber wildlife guard (RWG) which conforms snugly to the mast arm is offered.

Light Emitting Diodes

LEDs produce minimum 90% of initial intensity at 60,000 hours of life per IES recommended lumen maintenance life projection based on 6 times the duration of the collected LM-80 data. For details on IESNA Position on LED Product Lifetime Prediction, PS-10-18. LEDs have correlated color temperature of 2700K (27K), 3000K (30K), 4000K (40K), or 5000K (50K) and 70 CRI minimum. LEDs are ROHS compliant, 100% mercury and lead free.

Field Adjustability

LED lumen output can be changed in the field to adjust light output for local conditions (not available with PCR7-CR option). The specified output code will be the factory set output. Field adjustments can be made with the output selector included in the fixture. Field adjustable range shown in performance data table.

Quality Control

Every luminaire is performance tested before and after a 2-hour burn-in period. Assembled in the USA.

Optical Systems

Micro-lens optical systems produce IESNA Type 2, Type 3, Type 4, or Type 5 distributions and are fully sealed to maintain an IP66 rating. Luminaire produces 0% total lumens above 90° (BUG Rating, U=0). Optional house side shield cuts light off at 1/2 mounting height behind luminaire. Front side shield cuts light off at approximately one mounting height in front of the luminaire (street side). Cul-de-sac shield provides back and side light control for end of cul-de-sac applications. All shields are field installable without tools.

Electrical

Rated life of electrical components is 100,000 hours. Uses isolated power supply that is 1-10V dimmable. Power supply is wired with quick-disconnect terminals. EMC meets or exceeds FCC CFR Part 15. Terminal block accommodates 6 to 14 gauge wire. Surge protection complies with IEEE/ANSI C62.41 Category C High, 10kV/5kA and ANSI C136.2-2015, 3-part test.

Power Supply

IP66 rated power power supply with high power factor of $> 90\%$. Auto sensing universal AC input from 120 to 277VAC (MV model) and 347 to 480VAC (HV mode) rated for both line to line and line to neutral applications. Maximum THD rating of 20%. Class 1 or Class 2. Built-in overheating protection mechanism will reduce drive current to LEDs and electrical components if the driver experiences unusual internal overheating situation. Built-in short circuit, voltage overload, and current overload protection with automatic recovery after correction.

Controls

3-Wire photocontrol receptacle is standard. ANSI C136.41 7-wire (PCR7) photocontrol receptacles is available. All photocontrol receptacles have tool-less rotatable bases. Wireless control module is provided by others.

Finish

Housing receives a durable, fade-resistant polyester powder coat finish with 3.0 mil nominal thickness. Standard finish tested to withstand 5000 hours in salt spray exposure per ASTM B117 and Coastal Finish per ASTM G85. Finish meets scribe creepage rating 8 per ASTM D1654. Finish tested 500 hours in UV exposure per ASTM G154 and meets ASTM D523 gloss retention.

Listings/Ratings/Labels

Luminaires are UL listed for use in wet locations in the United States and Canada. DesignLights Consortium™ qualified product. Consult DLC QPL for Standard and Premium Classification Listings. All electronic components inside of the luminaire are NRTL damp location rated per ANSI 136.37-2011 Ingress Protection standard. International Dark Sky Association listed. Luminaire is qualified to operate at ambient temperatures of -40°C to 40°C . Assembled in the U.S.A

Photometry

Luminaires photometrics are tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures.

Warranty

10-year limited warranty is standard on luminaire and components. See Leotek.com for warranty details.

Vandal Resistance

Housing and optics rated to IK10

Certification and Compliance

Luminaire complies with:
ANSI: C136.2, C136.3, C136.10, C136.13, C136.15, C136.22, C136.31, C136.35, C136.37, C136.41, C62.41, C78.377, C82.77
Other: FCC 47 CFR, IEC 60598, ROHS II, UL 1449, UL 1598

Color Specifications

Order Code	Color	RAL #	Pantone Equivalent
GY	Gray	7040	429C
BK	Black	9004	426C
DB	Dark Bronze	6022	BLACK 2C

TM21 Lumen Maintenance per IES TM21-11 Calculation

Model Number	60,000 Hours*	80,000 Hours	100,000 Hours
GCI1/2/3 30J	$>98.9\%$	$>98.7\%$	$>98.5\%$
GCI4	$>92.4\%$	$>90.6\%$	$>88.7\%$

*Calculation based on IES position statement on Lumen Maintenance Life Projections

Performance Data: 2700K (27K)

All data nominal. IES files for all CCTs available at leotek.com.

Product	LED Code	Output Code	System Wattage (W)	Delivered Lumens (Lm) ¹	Efficacy (Lm/W)	Field Adjustable Output Range
GCJ1	30J	025	17	2397	141	↕
		035	26	3692	142	
		040	30	4140	138	
		045	34	4742	139	
GCJ2	30J	050	37	5291	143	↕
		060	44	6229	141	
GCJ3	30J	065	49	6734	137	↕
		075	54	7398	137	
		080	58	7830	135	
		085	64	8448	132	
		090	67	8813	132	
GCJ4	30J	100	70	9937	142	↕
		110	80	11062	138	
		120	87	11813	136	
		130	100	13063	131	

Notes:

1. Nominal lumens. Normal tolerance $\pm 10\%$ due to factors including distribution type, LED bin variance, and ambient temperatures.
2. Maximum LED driver current is 500mA.

Performance Data: 3000K (30K)

All data nominal. IES files for all CCTs available at leotek.com.

Product	LED Code	Output Code	System Wattage (W)	Delivered Lumens (Lm) ¹	Efficacy (Lm/W)	Field Adjustable Output Range
GCJ1	30J	025	17	2533	149	↕
		040	27	4058	152	
		045	30	4560	152	
		050	34	5223	154	
GCJ2	30J	055	37	5550	150	↕
		065	44	6425	146	
GCJ3	30J	070	49	7062	145	↕
		075	54	7722	143	
		080	58	8236	142	
		090	64	8960	140	
		095	67	9380	140	
GCJ4	30J	105	70	10490	150	↕
		115	80	11637	145	
		125	87	12428	143	
		135	100	13730	137	

Notes:

1. Nominal lumens. Normal tolerance $\pm 10\%$ due to factors including distribution type, LED bin variance, and ambient temperatures.
2. Maximum LED driver current is 500mA.

Performance Data: 4000K (40K) and 5000K (50K)

All data nominal. IES files for all CCTs available at leotek.com.

Product	LED Code	Output Code	System Wattage (W)	Delivered Lumens (lm) ¹	Efficacy (lm/W)	Field Adjustable Output Range
GCJ1	30J	025	17	2669	157	
		045	27	4299	161	
		050	30	4830	161	
		055	34	5532	163	
GCJ2	30J	060	37	5883	159	
		070	44	6864	156	
GCJ3	30J	075	49	7256	149	
		080	54	7992	148	
		085	58	8468	146	
		090	64	9216	144	
		095	67	9648	144	
GCJ4	30J	110	70	10988	157	
		120	80	12207	153	
		130	87	13047	150	
		145	100	14399	144	

Notes:

1. Nominal lumens. Normal tolerance $\pm 10\%$ due to factors including distribution type, LED bin variance, and ambient temperatures.
2. Maximum LED driver current is 500mA.

BUG Ratings: 2700K (27K)

All data nominal. IES files for all CCTs are available at leotek.com.

Product & LED Code	Output Code	Type 2R	Type 3R	Type 3F	Type 4	Type 5
		BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating
GCJ1 30J	025	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1
	035	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	040	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	045	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
GCJ2 30J	050	B2-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B3-U0-G1
	060	B2-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G3
GCJ3 30J	065	B2-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G1
	075	B2-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B3-U0-G1
	080	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G1
	085	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G1
	090	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3
GCJ4 30J	100	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	110	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	120	B3-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	130	B3-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G2	B4-U0-G2

BUG Ratings: 3000K (30K)

All data nominal. IES files for all CCTs are available at leotek.com.

Product & LED Code	Output Code	Type 2R	Type 3R	Type 3F	Type 4	Type 5
		BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating
GCJ1 30J	025	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	040	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	045	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	050	B2-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B3-U0-G1
GCJ2 30J	055	B2-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B3-U0-G1
	065	B2-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G3
GCJ3 30J	070	B2-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B3-U0-G1
	075	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G1
	080	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G1
	090	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	095	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
GCJ4 30J	105	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	115	B3-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	125	B3-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	135	B3-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B4-U0-G2

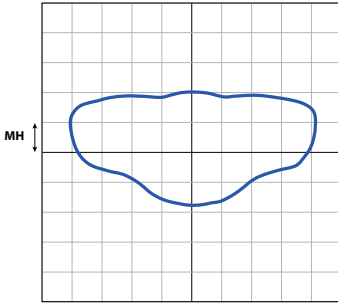
BUG Ratings: 4000K (40K) and 5000K (50K)

All data nominal. IES files for all CCTs are available at leotek.com.

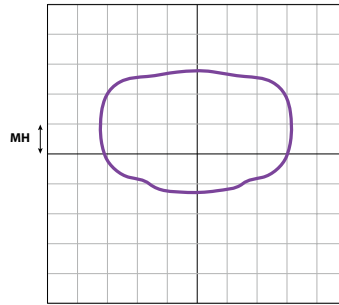
Product & LED Code	Output Code	Type 2R	Type 3R	Type 3F	Type 4	Type 5
		BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating
GCJ1 30J	025	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	045	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	050	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	055	B2-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B3-U0-G1
GCJ2 30J	060	B2-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G1	B3-U0-G1
	070	B2-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G1
GCJ3 30J	075	B2-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G1
	080	B2-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G1
	085	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G1
	090	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	095	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
GCJ4 30J	110	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	120	B3-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2
	130	B3-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B4-U0-G2
	145	B3-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2	B4-U0-G2

Optical Distribution

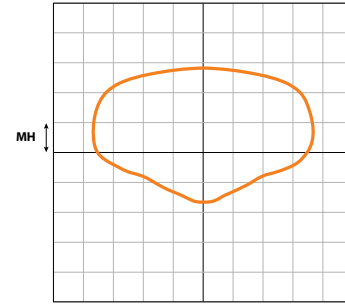
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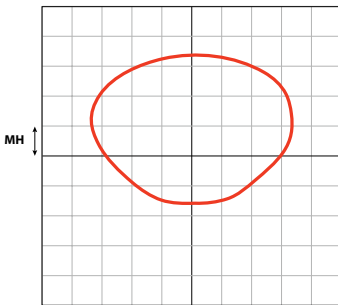
Type 2R



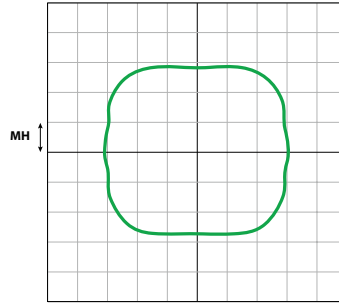
Type 3F



Type 3R



Type 4



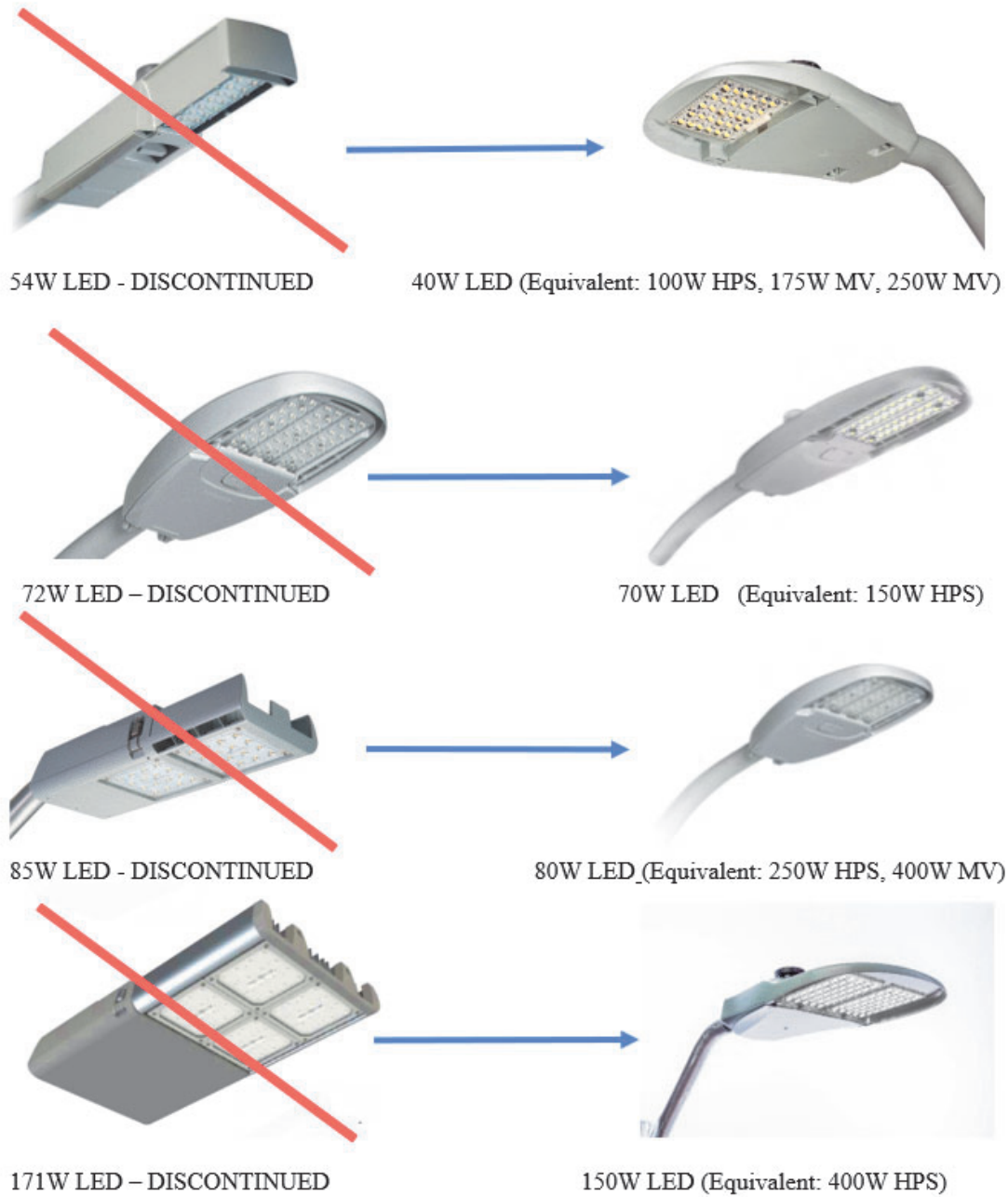
Type 5

DANIEL A. SCHMOEKEL
DIRECT TESTIMONY

1 fixtures have a wattage which will reduce the electric consumption. Figure 2 below
2 presents a comparison of the recently solicited lights to those that were discontinued.

FIGURE 2

NEW LED COBRAHEADS





Geotech, Inc.
Engineered Systems

Info@geotech-inc.com

616.949.3340

TRANSMITTAL LETTER

To: Jeff McCaul
City of Grand Rapids

Date: April 2, 2021

From: Kevin Mattox

Via: ☐ Mail
☐ Hand Deliver
☐ FAX #
☒ E-Mail

Re: Submittals for LED Upgrade (#20026)

For your:

☐ Review & Approval
☐ Adjustment/Correction/Revision
☐ General Use and Information
☒ As Requested

Memo:

Fixture Type "A"	Found No Exception
Fixture Type "B"	Found No Exception
Fixture Type "C"	Found No Exception
Fixture Type "D"	Found Exception as Noted -Provide letter for 10-year warranty.
Fixture Type "E"	Revise and Resubmit -Housing Style doesn't match between the description and the drawing. -Performance Package descriptions don't match.

Sincerely,

Kevin L Mattox, PE

☒ Enclosure – Marked-up Submittals
Geotech, Inc.

4900 Cascade Road S.E., Grand Rapids, Michigan 49645

We Listen....

....We Understand & Communicate....

....We Deliver



Consistent with LEED® goals
& Green Globes™ criteria
for light pollution reduction

Case No. U-21534

Exhibit: MAU-33

Witness: R. Bunch

2 of 14

Autobahn Series ATBS

Roadway & Security Lighting

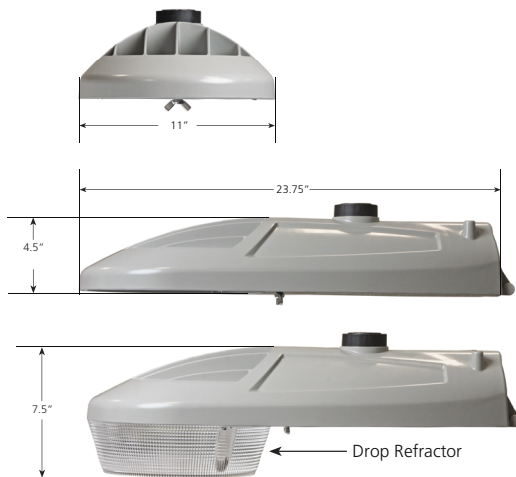
PRODUCT OVERVIEW



Applications:

Residential streets
Parking lots
General security lighting

DIMENSIONS



Effective Projected Area (EPA) The EPA for the ATBS is 0.3 sq. ft.,
Approx. Wt. = 12 lbs. (5 kg)

STANDARDS

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Color temperatures of $\leq 3000\text{K}$ must be specified for International Dark-Sky Association certification.

Rated for -40°C to 40°C ambient

CSA Certified to U.S. and Canadian standards

Complies with ANSI: C136.2, C136.10, C136.14, C136.31, C136.15, C136.37

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

Features:

OPTICAL

Same Light: Performance is comparable to 50W – 150W HPS and up to 175W Mercury Vapor roadway and security lighting luminaires.

White Light: Correlated color temperature - 4000K, 70 CRI minimum, 3000K, 70 CRI minimum or optional 5000K, 70 CRI minimum.

IP66 rated borosilicate glass optics ensure longevity and minimize dirt depreciation. Unique IP66 rated LED light engines provide 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing.

Available distributions are Type II, III, and V roadway distributions. When used with the optional acrylic refractor the unit provides approximately 10% uplight and increased vertical foot-candles

ELECTRICAL

Expected Life: LED light engines are rated $>100,000$ hours at 25°C , L70. Electronic driver has an expected life of 100,000 hours at a 25°C ambient.

Lower Energy: Saves an expected 40-60% over comparable HID luminaires.

Robust Surge Protection: Three different surge protection options provide a minimum of ANSI C136.2 10kV/5kA protection. 20kV/10kA surge protection is also available.

MECHANICAL

Includes standard AEL lineman-friendly features such as tool-less entry, 3 station terminal block and quick disconnects. Bubble level located inside the electrical compartment for easy leveling at installation.

Rugged die-cast aluminum housing and door are polyester powder-coated for durability and corrosion resistance. Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117).

Mast arm mount is adjustable for arms from 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter. The 2 – bolt clamping mechanism provides 3G vibration rating per ANSI C136.

The Wildlife shield is cast into the housing (not a separate piece).

CONTROLS

NEMA 3 pin photocontrol receptacle is standard, with the Acuity designed ANSI standard 5 pin and 7 pin receptacles optionally available.

Premium solid state locking-style photocontrol – PCSS (10 year rated life) Extreme long life solid state locking-style photocontrol – PCL1 (20 year rated life)

Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site specific requirements, and also can allow a single fixture to be flexibly applied in many different applications.

Autobahn Series ATBS

Roadway & Security Lighting

ORDERING INFORMATION

Example: ATBS A MVOLT R2

Series	Performance Packages	MVOLT	R2
ATBS Autobahn LED Roadway & Security	A 2,500 lumens B 3,200 lumens C 3,800 lumens E 4,700 lumens F 5,400 lumens G 6,100 lumens H 7,100 lumens I 8,500 lumens	MVOLT Multi-volt, 120-277V	R2 Roadway Type II R3 Roadway Type III R5 Roadway Type V D2 Type II, Drop Refractor included D3 Type III, Drop Refractor included D5 Type V, Drop Refractor included

4K,NL,MP,P7 DALI Driver per RFD 311161

Options

Color Temperature (CCT)

(Blank) 4000K CCT, 70 CRI Min.
3K 3000K CCT, 70 CRI Min.
5K 5000K CCT, 70 CRI Min.

Paint

Blank Gray (Standard)
BK Black
WH White
BZ Bronze

Surge Protection

Standard 10kV/5kA SPD
Blank Acuity SPD-10kV/5kA with inductive filter (Standard)
20 20kV/10KA SPD
MP MOV Pack
IL SPD with Indicator Light

Misc.

HS House Side Shield
NL NEMA Label

XL Not CSA Certified

Controls

(Blank) 3 Pin NEMA Photocontrol Receptacle
NR¹ No Photocontrol Receptacle
DM² 0V-10V Dimmable Driver
P5 5 Pin Photocontrol Receptacle (dimmable driver included)
P7 7 Pin Photocontrol Receptacle (dimmable driver included)
PCSS¹ DTL DSS Photocontrol
PCL1¹ DTL DLL Photocontrol 120-277V
AO Field Adjustable Output
SH Shorting Cap

Packages

(Blank) Standard Pack
JP Job Pack (54/pallet)

Install Packages

PKGS DTL DSS Photocontrol
PKGL DTL DLL Photocontrol
 Packages ship with selected photocontrol, 24", 1 1/4" diameter arm, 5' of prewire and

mounting hardware



Reviewed:

- ☒ Found no exceptions.
- ☐ Found exceptions as noted.
- ☐ Found not in compliance.
- ☐ Revise and resubmit.
- ☐ Rejected.

Drawings have been reviewed for general compliance with construction documents. We do not accept responsibility for non-complying items not detected by our review. The responsibility remains with the Contractor.

DATE: 04.02.21 BY: KLM

Accessories

ATBSREF Drop Refractor for field installation
ATBSHSS House Side Shield for field installation
ATBSLTS Light Trespass Shield for field installation
ATBS LOUVER KIT Louver Kit for field installation

with Dali Driver per RFD
311161

DALI Grand Rapids look up table - 001B

Notes

- Not available with Install Packages.
- Not available with AO option.

PART # ATBS H MVOLT MP R2 4K NL
 P7 DALI RFD311161
 DESCRIPTION: Autobahn LED
 Roadway - S Series (ATBS): Autobahn
 S Series, 7100 lumens, 120-277V,
 Roadway Type 2, Nema Label, 7 Pin
 Nema Photo Control Receptacle, MOV
 PackSpecial: DALI driver; CSA listed



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 www.americanelectriclighting.com

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Autobahn Series ATBS

Roadway & Security Lighting

P E R F O R M A N C E P A C K A G E															
Performance Package	Distribution	Input Watts	3K (3000K CCT, 70 CRI)					4K/5K (4000K/5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	25k Hours	75k Hours	100k Hours
A	R2	19	2,363	124	1	0	1	2,514	132	1	0	1	0.93	0.89	0.85
	R3		2,364	124	1	0	1	2,515	132	1	0	1			
	R5		2,490	131	2	0	0	2,649	139	2	0	1			
	D2		2,250	118	1	3	2	2,394	126	1	3	2			
	D3		2,231	117	1	3	2	2,373	125	1	3	2			
	D5		2,370	125	2	3	2	2,521	133	2	3	2			
B	R2	24	3,053	127	1	0	1	3,166	132	1	0	1	0.93	0.89	0.85
	R3		3,010	125	1	0	1	3,167	132	1	0	1			
	R5		3,136	131	2	0	1	3,336	139	2	0	1			
	D2		2,906	121	1	3	2	3,014	126	1	3	2			
	D3		2,840	118	1	3	3	2,988	125	1	3	3			
	D5		2,985	124	2	3	3	3,175	132	2	3	3			
C	R2	31	3,628	117	1	0	1	3,784	122	1	0	1	0.93	0.89	0.85
	R3		3,820	123	1	0	1	3,780	122	1	0	1			
	R5		3,787	122	2	0	1	4,029	130	3	0	1			
	D2		3,456	111	1	3	3	3,605	116	1	3	3			
	D3		3,603	116	1	3	3	3,565	115	1	3	3			
	D5		3,605	116	2	3	3	3,835	124	2	3	3			
E	R2	40	4,604	115	1	0	1	4,770	119	1	0	1	0.93	0.89	0.85
	R3		4,532	113	1	0	1	4,704	118	1	0	1			
	R5		4,575	114	3	0	1	4,867	122	3	0	1			
	D2		4,385	110	1	3	3	4,543	114	1	3	3			
	D3		4,276	107	1	3	3	4,438	111	1	3	3			
	D5		4,371	109	2	3	3	4,650	116	3	3	3			
F	R2	47	5,136	109	1	0	1	5,392	115	1	0	1	0.93	0.89	0.85
	R3		5,071	108	1	0	1	5,407	115	1	0	1			
	R5		4,864	103	3	0	1	5,175	110	3	0	1			
	D2		4,891	104	1	3	3	5,135	109	1	3	3			
	D3		4,783	102	1	3	3	5,100	109	1	3	3			
	D5		4,747	101	3	3	3	5,051	107	3	3	3			
G	R2	50	6,020	120	1	0	1	6,235	125	1	0	1	0.94	0.92	0.90
	R3		5,931	119	1	0	1	6,101	122	1	0	1			
	R5		6,084	122	3	0	1	6,404	128	3	0	1			
	D2		5,733	115	1	3	3	5,938	119	1	3	3			
	D3		5,596	112	1	3	3	5,756	115	1	3	3			
	D5		5,884	118	3	3	3	6,193	124	3	3	3			
H	R2	60	6,914	115	1	0	2	7,194	120	2	0	2	0.94	0.92	0.90
	R3		6,794	113	1	0	2	7,141	119	2	0	2			
	R5		7,133	119	3	0	1	7,508	125	3	0	1			
	D2		6,584	110	1	3	3	6,851	114	2	3	3			
	D3		6,410	107	2	3	4	6,737	112	2	3	4			
	D5		6,793	113	2	3	3	7,150	119	3	3	4			
I	R2	76	8,212	108	2	0	2	8,653	114	2	0	2	0.94	0.92	0.90
	R3		8,092	106	2	0	2	8,525	112	2	0	2			
	R5		8,553	113	3	0	2	9,003	118	3	0	2			
	D2		7,821	103	2	3	4	8,241	108	2	3	4			
	D3		7,634	100	2	3	4	8,042	106	2	3	4			
	D5		8,146	107	3	3	3	8,575	113	3	3	4			

Note: Individual fixture performance may vary. Specifications subject to change without notice.



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Consistent with LEED® goals
& Green Globes™ criteria
for light pollution reduction

Case No. U-21534

Exhibit: MAU-33

Witness: R. Bunch

5 of 14

Autobahn Series ATBS

Roadway & Security Lighting

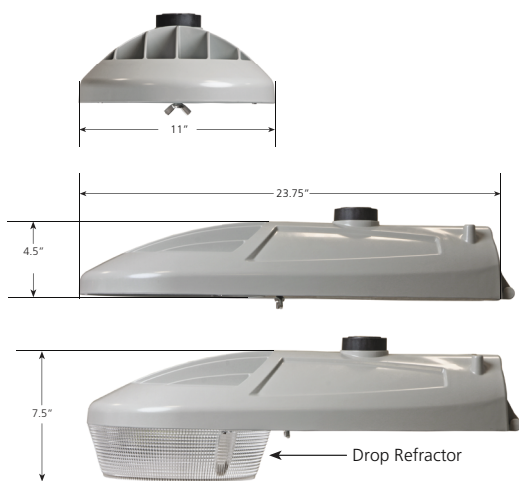
PRODUCT OVERVIEW



Applications:

Residential streets
Parking lots
General security lighting

DIMENSIONS



Effective Projected Area (EPA) The EPA for the ATBS is 0.3 sq. ft.,
Approx. Wt. = 12 lbs. (5 kg)

STANDARDS

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Color temperatures of $\leq 3000\text{K}$ must be specified for International Dark-Sky Association certification.

Rated for -40°C to 40°C ambient

CSA Certified to U.S. and Canadian standards

Complies with ANSI: C136.2, C136.10, C136.14, C136.31, C136.15, C136.37

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

Features:

OPTICAL

Same Light: Performance is comparable to 50W – 150W HPS and up to 175W Mercury Vapor roadway and security lighting luminaires.

White Light: Correlated color temperature - 4000K, 70 CRI minimum, 3000K, 70 CRI minimum or optional 5000K, 70 CRI minimum.

IP66 rated borosilicate glass optics ensure longevity and minimize dirt depreciation. Unique IP66 rated LED light engines provide 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing.

Available distributions are Type II, III, and V roadway distributions. When used with the optional acrylic refractor the unit provides approximately 10% uplight and increased vertical foot-candles

ELECTRICAL

Expected Life: LED light engines are rated $>100,000$ hours at 25°C , L70. Electronic driver has an expected life of 100,000 hours at a 25°C ambient.

Lower Energy: Saves an expected 40-60% over comparable HID luminaires.

Robust Surge Protection: Three different surge protection options provide a minimum of ANSI C136.2 10kV/5kA protection. 20kV/10kA surge protection is also available.

MECHANICAL

Includes standard AEL lineman-friendly features such as tool-less entry, 3 station terminal block and quick disconnects. Bubble level located inside the electrical compartment for easy leveling at installation.

Rugged die-cast aluminum housing and door are polyester powder-coated for durability and corrosion resistance. Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117).

Mast arm mount is adjustable for arms from 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter. The 2 – bolt clamping mechanism provides 3G vibration rating per ANSI C136.

The Wildlife shield is cast into the housing (not a separate piece).

CONTROLS

NEMA 3 pin photocontrol receptacle is standard, with the Acuity designed ANSI standard 5 pin and 7 pin receptacles optionally available.

Premium solid state locking-style photocontrol – PCSS (10 year rated life) Extreme long life solid state locking-style photocontrol – PCL1 (20 year rated life)

Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site specific requirements, and also can allow a single fixture to be flexibly applied in many different applications.

Autobahn Series ATBS

Roadway & Security Lighting

ORDERING INFORMATION

Example: ATBS A MVOLT R2

Series	Performance Packages	MVOLT	R2
ATBS Autobahn LED Roadway & Security	A 2,500 lumens B 3,200 lumens C 3,800 lumens E 4,700 lumens F 5,400 lumens G 6,100 lumens H 7,100 lumens I 8,500 lumens	MVOLT Multi-volt, 120-277V	R2 Roadway Type II R3 Roadway Type III R5 Roadway Type V D2 Type II, Drop Refractor included D3 Type III, Drop Refractor included D5 Type V, Drop Refractor included

4K,NL,MP,P7 DALI Driver per RFD 311161

Options

Color Temperature (CCT)

(Blank) 4000K CCT, 70 CRI Min.
3K 3000K CCT, 70 CRI Min.
5K 5000K CCT, 70 CRI Min.

Paint

Blank Gray (Standard)
BK Black
WH White
BZ Bronze

Surge Protection

Standard 10kV/5kA SPD
Blank Acuity SPD-10kV/5kA with inductive filter (Standard)
20 20kV/10KA SPD
MP MOV Pack
IL SPD with Indicator Light

Misc.

HS House Side Shield
NL NEMA Label

Notes

- Not available with Install Packages.
- Not available with AO option.

XL Not CSA Certified

Controls

(Blank) 3 Pin NEMA Photocontrol Receptacle
NR¹ No Photocontrol Receptacle
DM² 0V-10V Dimmable Driver
P5 5 Pin Photocontrol Receptacle (dimmable driver included)
P7 7 Pin Photocontrol Receptacle (dimmable driver included)
PCSS¹ DTL DSS Photocontrol
PCL1¹ DTL DLL Photocontrol 120-277V
AO Field Adjustable Output
SH Shorting Cap

Packages

(Blank) Standard Pack
JP Job Pack

Install Packages

PKGS DTL DSS Photocontrol
PKGL DTL DLL Photocontrol
 Packages ship with selected photocontrol, 24", 1 1/4" diameter arm, 5' of prewire and mounting hardware

Accessories

ATBSREF Drop Refractor for field installation
ATBSHSS House Side Shield for field installation
ATBSLTS Light Trespass Shield for field installation
ATBS LOUVER KIT Louver Kit for field installation

With DALI Driver per RFD 321259

DALI look up code - 001B

Autobahn LED Roadway - S Series (ATBS): Autobahn S Series, 7100 lumens, 120-277V, Roadway Type 2, Nema Label, 7 Pin Nema Photo Control Receptacle, MOV PackSpecial: **DALI driver**; CSA listed; JP - Job Pack



Geotech, Inc.
Engineered Systems
816.949.3340 info@geotech-inc.com
816.949.8218 FAX www.geotech-inc.com
4000 Cascade Road, St. Louis, Grand Rapids, Modesto, 65146

Reviewed:

☒ Found no exceptions.

☐ Found exceptions as noted.

☐ Found not in compliance.

☐ Revise and resubmit.

☐ Rejected.

Drawings have been reviewed for general compliance with construction documents. We do not accept responsibility for non-complying items not detected by our review. The responsibility remains with the Contractor.

DATE: 04.02.21 BY: KLM



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Autobahn Series ATBS

Roadway & Security Lighting

PERFORMANCE PACKAGE

Performance Package	Distribution	Input Watts	3K (3000K CCT, 70 CRI)					4K/5K (4000K/5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	25k Hours	75k Hours	100k Hours
A	R2	19	2,363	124	1	0	1	2,514	132	1	0	1	0.93	0.89	0.85
	R3		2,364	124	1	0	1	2,515	132	1	0	1			
	R5		2,490	131	2	0	0	2,649	139	2	0	1			
	D2		2,250	118	1	3	2	2,394	126	1	3	2			
	D3		2,231	117	1	3	2	2,373	125	1	3	2			
	D5		2,370	125	2	3	2	2,521	133	2	3	2			
B	R2	24	3,053	127	1	0	1	3,166	132	1	0	1	0.93	0.89	0.85
	R3		3,010	125	1	0	1	3,167	132	1	0	1			
	R5		3,136	131	2	0	1	3,336	139	2	0	1			
	D2		2,906	121	1	3	2	3,014	126	1	3	2			
	D3		2,840	118	1	3	3	2,988	125	1	3	3			
	D5		2,985	124	2	3	3	3,175	132	2	3	3			
C	R2	31	3,628	117	1	0	1	3,784	122	1	0	1	0.93	0.89	0.85
	R3		3,820	123	1	0	1	3,780	122	1	0	1			
	R5		3,787	122	2	0	1	4,029	130	3	0	1			
	D2		3,456	111	1	3	3	3,605	116	1	3	3			
	D3		3,603	116	1	3	3	3,565	115	1	3	3			
	D5		3,605	116	2	3	3	3,835	124	2	3	3			
E	R2	40	4,604	115	1	0	1	4,770	119	1	0	1	0.93	0.89	0.85
	R3		4,532	113	1	0	1	4,704	118	1	0	1			
	R5		4,575	114	3	0	1	4,867	122	3	0	1			
	D2		4,385	110	1	3	3	4,543	114	1	3	3			
	D3		4,276	107	1	3	3	4,438	111	1	3	3			
	D5		4,371	109	2	3	3	4,650	116	3	3	3			
F	R2	47	5,136	109	1	0	1	5,392	115	1	0	1	0.93	0.89	0.85
	R3		5,071	108	1	0	1	5,407	115	1	0	1			
	R5		4,864	103	3	0	1	5,175	110	3	0	1			
	D2		4,891	104	1	3	3	5,135	109	1	3	3			
	D3		4,783	102	1	3	3	5,100	109	1	3	3			
	D5		4,747	101	3	3	3	5,051	107	3	3	3			
G	R2	50	6,020	120	1	0	1	6,235	125	1	0	1	0.94	0.92	0.90
	R3		5,931	119	1	0	1	6,101	122	1	0	1			
	R5		6,084	122	3	0	1	6,404	128	3	0	1			
	D2		5,733	115	1	3	3	5,938	119	1	3	3			
	D3		5,596	112	1	3	3	5,756	115	1	3	3			
	D5		5,884	118	3	3	3	6,193	124	3	3	3			
H	R2	60	6,914	115	1	0	2	7,194	120	2	0	2	0.94	0.92	0.90
	R3		6,794	113	1	0	2	7,141	119	2	0	2			
	R5		7,133	119	3	0	1	7,508	125	3	0	1			
	D2		6,584	110	1	3	3	6,851	114	2	3	3			
	D3		6,410	107	2	3	4	6,737	112	2	3	4			
	D5		6,793	113	2	3	3	7,150	119	3	3	4			
I	R2	76	8,212	108	2	0	2	8,653	114	2	0	2	0.94	0.92	0.90
	R3		8,092	106	2	0	2	8,525	112	2	0	2			
	R5		8,553	113	3	0	2	9,003	118	3	0	2			
	D2		7,821	103	2	3	4	8,241	108	2	3	4			
	D3		7,634	100	2	3	4	8,042	106	2	3	4			
	D5		8,146	107	3	3	3	8,575	113	3	3	4			

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ORDERING INFORMATION

ATBM						MVOLT			
Series		Performance Packages		Voltage		Optics		Mounting	
ATBM	Autobahn LED Roadway	P05	9,700 lumens	MVOLT	Multi-volt, 120-277V	R2	Roadway Type II	(Blank)	2 Bolt Mounting
		P10	11,000 lumens				R3	Roadway Type III	4B
		P20	12,800 lumens	347	347V	R4	Roadway Type IV		
		P30	15,500 lumens	480	480V	R5	Roadway Type V		
		P40	17,400 lumens						
		P50	18,700 lumens						
		P60	20,000 lumens						
		P70	21,500 lumens						
		</							

Color Temperature (CCT)		Control Options		Accessories	
(Blank)	4000K CCT, 70 CRI Min.	(Blank)	3 Pin NEMA Photocontrol Receptacle	ATBMHSS	House Side Shield
3K	3000K CCT, 70 CRI Min.			ATBMLTS	Light Trespass Shield
5K	5000K CCT, 70 CRI Min.	P7	7 Pin Photocontrol Receptacle (dimmmable driver included) ¹	RKATBMMVOLTS PD	ATBM Acuity SPD, MVOLT
Paint		NR	No Photocontrol Receptacle	RKATBMHVSPD	ATBM Acuity SPD, 347/480V
(Blank)	Gray	AO	Field Adjustable Output ³	RKATBMMVOLTMP	ATBM MOV Pack, MVOLT
BK	Black	DM	0-10V Dimmable Driver ²	RKATBMHVMP	ATBM MOV Pack, 347/480V
BZ	Bronze	PCSS	Solid-State Lighting Photocontrol ⁴		
DDB	Dark Bronze	PCLL	Solid-State Long Life Photocontrol		
GI	Graphite	PCCC	Solid-State Long Life Photocontrol with remote control on/off ⁴		
WH	White	SH	Shorting Cap		
Surge Protection		Packages		RFD302291: Autobahn LED Roadway - M Series (ATBM): ATBM, 18,700 lumens, MVOLT, Roadway Type II, NEMA Label, 7 Pin Photocontrol Receptacle, Special: DALI driver; CSA listed.	
(Blank)	Standard 20kV/10kA SPD	(Blank)	Standard Pack		
MP	MOV Pack	JP	Job Pack (36/pallet)		
Miscellaneous Options				DALI look up code- 0003	
HSS	House Side Shield				
NL	NEMA Label Indicating Wattage				
XL	Not CSA Certified – No Terminal Block Cover				
UMR-XX	8" Horizontal Arm for Round Pole, Painted to match Fixture				
UMS-XX	8" Horizontal Arm for Square Pole, Painted to match Fixture				
UMR-GALV	8" Horizontal Arm for Round Pole, Painted to match Fixture				
UMS-GALV	8" Horizontal Arm for Square Pole, Painted to match Fixture				

Catalogue No: ATBMP50MVOLTR24KNLP7DALI

Drawing No: DR-22714
Date: 02/26/21
Type: B

ORDERING INFORMATION

ATBM						MVOLT	
Series		Performance Packages		Voltage		Mounting	
ATBM Autobahn LED Roadway		P05 9,700 lumens P10 11,000 lumens P20 12,800 lumens P30 15,500 lumens P40 17,400 lumens P50 18,700 lumens P60 20,000 lumens P70 21,500 lumens		MVOLT Multi-volt, 120-277V 347 347V 480 480V		R2 Roadway Type II R3 Roadway Type III R4 Roadway Type IV R5 Roadway Type V	
						(Blank) 2 Bolt Mounting 4B 4 Bolt Mounting	
 Geotech, Inc. <i>Engineered Systems</i> 616.949.3140 info@geotech-inc.com 616.949.6235 FAX www.geotech-inc.com 4900 Cascade Road, S.E., Grand Rapids, Michigan 49546							
Reviewed: ☒ Found no exceptions. ☐ Found exceptions as noted. ☐ Found not in compliance. ☐ Revise and resubmit. ☐ Rejected. Drawings have been reviewed for general compliance with construction documents. We do not accept responsibility for non-complying items not detected by our review. The responsibility remains with the Contractor.							
DATE: 04.02.21 BY: KLM							
R2							
				Options			
<u>Color Temperature (CCT)</u> (Blank) 4000K CCT, 70 CRI Min. 3K 3000K CCT, 70 CRI Min. 5K 5000K CCT, 70 CRI Min.		<u>Control Options</u> (Blank) 3 Pin NEMA Photocontrol Receptacle P7 7 Pin Photocontrol Receptacle (dimmable driver included) ¹ NR No Photocontrol Receptacle AO Field Adjustable Output ³ DM 0-10V Dimmable Driver ² PCSS Solid-State Lighting Photocontrol ⁴ PCLL Solid-State Long Life Photocontrol PCCC Solid-State Long Life Photocontrol with remote control on/off ⁴ SH Shorting Cap		<u>Accessories</u> ATBMHSS House Side Shield ATBMLTS Light Trespass Shield RKATBMMVOLTSPD ATBM Acuity SPD, MVOLT RKATBMHVSPD ATBM Acuity SPD, 347/480V RKATBMMVOLTMP ATBM MOV Pack, MVOLT RKATBMHVMP ATBM MOV Pack, 347/480V			
<u>Paint</u> (Blank) Gray BK Black BZ Bronze DDB Dark Bronze GI Graphite WH White		<u>Packages</u> (Blank) Standard Pack JP Job Pack (		RFD321260: Autobahn LED Roadway - M Series (ATBM): ATBM, 18,700 lumens, MVOLT, Roadway Type II, NEMA Label, 7 Pin Photocontrol Receptacle, Special: DALI driver, CSA listed.			
<u>Surge Protection</u> (Blank) Standard 20kV/10kA SPD MP MOV Pack							
<u>Miscellaneous Options</u> HSS House Side Shield NL NEMA Label Indicating Wattage XL Not CSA Certified – No Terminal Block Cover UMR-XX 8" Horizontal Arm for Round Pole, Painted to match Fixture UMS-XX 8" Horizontal Arm for Square Pole, Painted to match Fixture UMR-GALV 8" Horizontal Arm for Round Pole, Painted to match Fixture UMS-GALV 8" Horizontal Arm for Square Pole, Painted to match Fixture				Catalogue No: ATBMP50MVOLTR24KNLP7DALI JP		DALI look up code - 0003	
						Drawing No: DR-22714 Date: 02/26/21 Type: B JP	

Autobahn Series ATBL
Roadway

ORDERING INFORMATION

Example: ATBL A MVOLT R2

ATBM

Series
ATBL Autobahn LED Roadway

Performance Packages

A	19,000 lumens
B	21,000 lumens
C	22,000 lumens
D	25,000 lumens
E	27,000 lumens
F	29,000 lumens
G	30,000 lumens

Voltage

MVOLT	Multi-volt, 120-277V
347	347V
480	480V

Optics

N2	Roadway Type II, Narrow
R2	Roadway Type II
R3	Roadway Type III
R4	Roadway Type IV
R5	Roadway Type V

MVOLT

Mounting

(Blank)	2 Bolt Mounting
4B	4 Bolt Mounting

R2

Options

Color Temperature (CCT)

(Blank)	4000K CCT, 70 CRI Min.
3K	3000K CCT, 70 CRI Min.
5K	5000K CCT, 70 CRI Min.

Paint

(Blank)	Gray
BK	Black
BZ	Bronze
DDB	Dark Bronze
GI	Graphite
WH	White

Surge Protection

(Blank)	Standard 10kA/5kV SPD
20	20kV/10kA SPD
MP	MOV Pack - 10kA/5kV SPD
IL	SPD with Indicator Light 10kA/5kV SPD ¹

Miscellaneous Options

HSS	House Side Shield
NL	NEMA Label Indicating Wattage
PT	Power Tray
XL	Not CSA Certified – No Terminal Block Cover

Control Options

(Blank)	3 Pin NEMA Photocontrol Receptacle
P5	5 Pin Photocontrol Receptacle (dimnable driver included) ¹
P7	7 Pin Photocontrol Receptacle (dimnable driver included) ¹
NR	No Photocontrol Receptacle ²
A0	Field Adjustable Output ¹
DM	0-10V Dimmable Driver ³
PCSS	Solid-State Lighting Photocontrol ⁴
PCLL	Solid-State Long Life Photocontrol
PCCC	Solid-State Long Life Photocontrol with remote control on/off
SH	Shorting Cap ⁵

Packages

(Blank)	Standard Pack
JP	Job Pack (24 per pallet)

Notes:

1. Dimmable Driver included. Not available with DM.
2. Not available with P5 or P7.
3. Controls by Others. Not available with A0.
4. MVOLT only.
5. Not available with PCSS or PCLL.

RFD300745: Autobahn LED Roadway - L
Series (ATBL): ATBL, 22,000 Lumen
Package, MVOLT, Roadway Type II,
NEMA Label, 7 Pin Photocontrol
Receptacle
DALI Driver
Special: DALI Driver. CSA listed.

DALI look up code- 001C

Catalogue No: ATBLCMVOLTR24KNLP7DL

Drawing No: DR-22714
Date: 02/26/21
Type: C



Reviewed:

- ☒ Found no exceptions.
- ☐ Found exceptions as noted.
- ☐ Found not in compliance.
- ☐ Revise and resubmit.
- ☐ Rejected.

Drawings have been reviewed for general compliance with construction documents. We do not accept responsibility for non-complying items not detected by our review. The responsibility remains with the Contractor.

DATE: 04.02.21 BY: KLM

Autobahn Series ATBL
Roadway

ORDERING INFORMATION

Example: ATBL A MVOLT R2

ATBM

Series
ATBL Autobahn LED Roadway

Performance Packages

A	19,000 lumens
B	21,000 lumens
C	22,000 lumens
D	25,000 lumens
E	27,000 lumens
F	29,000 lumens
G	30,000 lumens

Voltage

MVOLT	Multi-volt, 120-277V
347	347V
480	480V

Optics

N2	Roadway Type II, Narrow
R2	Roadway Type II
R3	Roadway Type III
R4	Roadway Type IV
R5	Roadway Type V

MVOLT

Mounting

(Blank)	2 Bolt Mounting
4B	4 Bolt Mounting

R2

Options

Color Temperature (CCT)

(Blank)	4000K CCT, 70 CRI Min.
3K	3000K CCT, 70 CRI Min.
5K	5000K CCT, 70 CRI Min.

Paint

(Blank)	Gray
BK	Black
BZ	Bronze
DDB	Dark Bronze
GI	Graphite
WH	White

Surge Protection

(Blank)	Standard 10kA/5kV SPD
20	20kV/10kA SPD
MP	MOV Pack - 10kA/5kV SPD
IL	SPD with Indicator Light 10kA/5kV SPD ¹

Miscellaneous Options

HSS	House Side Shield
NL	NEMA Label Indicating Wattage
PT	Power Tray
XL	Not CSA Certified – No Terminal Block Cover

Control Options

(Blank)	3 Pin NEMA Photocontrol Receptacle
P5	5 Pin Photocontrol Receptacle (dimnable driver included) ¹
P7	7 Pin Photocontrol Receptacle (dimnable driver included) ¹
NR	No Photocontrol Receptacle ²
A0	Field Adjustable Output ¹
DM	0-10V Dimmable Driver ³
PCSS	Solid-State Lighting Photocontrol ⁴
PCLL	Solid-State Long Life Photocontrol
PCCC	Solid-State Long Life Photocontrol with remote control on/off
SH	Shorting Cap ⁵

Packages

(Blank)	Standard Pack
JP	Job Pack

Notes:

1. Dimmable Driver included. Not available with DM.
2. Not available with P5 or P7.
3. Controls by Others. Not available with A0.
4. MVOLT only.
5. Not available with PCSS or PCLL.

RFD#321261 Autobahn LED Roadway -
L Series (ATBL): ATBL, 22,000 Lumen
Package, MVOLT, Roadway Type II,
NEMA Label, 7 Pin Photocontrol
Receptacle

DALI Driver

Special: DALI Driver. CSA listed.

Catalogue No: ATBLCMVOLTR24KNLP7DLJP

DALI look up code - 001C

Drawing No: DR-22714

Date: 02/26/21 Type:

C-JP



Reviewed:

- ☒ Found no exceptions.
- ☐ Found exceptions as noted.
- ☐ Found not in compliance.
- ☐ Revise and resubmit.
- ☐ Rejected.

Drawings have been reviewed for general compliance with construction documents. We do not accept responsibility for non-complying items not detected by our review. The responsibility remains with the Contractor.

DATE: 04.02.21 BY: KLM

Autobahn Series ATBL
Roadway

ORDERING INFORMATION

Example: ATBL A MVOLT R2

ATBM

Series
ATBL Autobahn LED Roadway

Performance Packages

A	19,000 lumens
B	21,000 lumens
C	22,000 lumens
D	25,000 lumens
E	27,000 lumens
F	29,000 lumens
G	30,000 lumens

Voltage

MVOLT	Multi-volt, 120-277V
347	347V
480	480V

Optics

N2	Roadway Type II, Narrow
R2	Roadway Type II
R3	Roadway Type III
R4	Roadway Type IV
R5	Roadway Type V

MVOLT

Mounting

(Blank)	2 Bolt Mounting
4B	4 Bolt Mounting



- Reviewed:
- ☐ Found no exceptions.
 - ☒ Found exceptions as noted.
 - ☐ Found not in compliance.
 - ☐ Revise and resubmit.
 - ☐ Rejected.

Drawings have been reviewed for general compliance with construction documents. We do not accept responsibility for non-complying items not detected by our review. The responsibility remains with the Contractor.

DATE: 04.02.21 BY: KLM

R2

Options

Color Temperature (CCT)

(Blank)	4000K CCT, 70 CRI Min.
3K	3000K CCT, 70 CRI Min.
5K	5000K CCT, 70 CRI Min.

Paint

(Blank)	Gray
BK	Black
BZ	Bronze
DDB	Dark Bronze
GI	Graphite
WH	White

Surge Protection

(Blank)	Standard 10kA/5kV SPD
20	20kV/10kA SPD
MP	MOV Pack - 10kA/5kV SPD
IL	SPD with Indicator Light 10kA/5kV SPD ¹

Control Options

(Blank)	3 Pin NEMA Photocontrol Receptacle
P5	5 Pin Photocontrol Receptacle (dimnable driver included) ¹
P7	7 Pin Photocontrol Receptacle (dimnable driver included) ¹
NR	No Photocontrol Receptacle ²
AO	Field Adjustable Output ¹
DM	0-10V Dimmable Driver ³
PCSS	Solid-State Lighting Photocontrol ⁴
PCLL	Solid-State Long Life Photocontrol
PCCC	Solid-State Long Life Photocontrol with remote control on/off
SH	Shorting Cap ⁵

Packages

(Blank)	Standard Pack
JP	Job Pack (24 per pallet)

Notes:

- Dimmable Driver included. Not available with DM.
- Not available with P5 or P7.
- Controls by Others. Not available with A0.
- MVOLT only.
- Not available with PCSS or PCLL.

RFD300747: Autobahn LED Roadway -
L Series (ATBL): ATBL, 29,000 Lumen
Package, MVOLT, Roadway Type II,
NEMA Label, 7 Pin Photocontrol
Receptacle
Special: DALI Driver. CSA listed.

Miscellaneous Options

HSS	House Side Shield
NL	NEMA Label Indicating Wattage
PT	Power Tray
XL	Not CSA Certified - No Terminal Block Cover

Catalogue No: ATBLFMVOLTR24KNLP7DL

DALI look up code - 001D

Drawing No: DR-22714

Date: 02/26/21

Type: D

Provide letter for
10 year warranty.

AEL Headquarters, 3825 Columbus Road, Granville, OH 43023
www.americanelectriclighting.com

© 2015-2017 Acuity Brands Lighting, Inc. All Rights Reserved. ATBL 03/28/17

Warranty Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx
Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Please contact your sales representative for the latest product information.

Autobahn Series ATBL
Roadway

ORDERING INFORMATION

Example: ATBL A MVOLT R2

ATBM

Series
ATBL Autobahn LED Roadway

Performance Packages

A	19,000 lumens
B	21,000 lumens
C	22,000 lumens
D	25,000 lumens
E	27,000 lumens
F	29,000 lumens
G	30,000 lumens

Voltage

MVOLT	Multi-volt, 120-277V
347	347V
480	480V

Optics

N2	Roadway Type II, Narrow
R2	Roadway Type II
R3	Roadway Type III
R4	Roadway Type IV
R5	Roadway Type V

MVOLT

Mounting

(Blank)	2 Bolt Mounting
4B	4 Bolt Mounting

R2

Options

Color Temperature (CCT)

(Blank)	4000K CCT, 70 CRI Min.
3K	3000K CCT, 70 CRI Min.
5K	5000K CCT, 70 CRI Min.

Paint

(Blank)	Gray
BK	Black
BZ	Bronze
DDB	Dark Bronze
GI	Graphite
WH	White

Surge Protection

(Blank)	Standard 10kA/5kV SPD
20	20kV/10kA SPD
MP	MOV Pack - 10kA/5kV SPD
IL	SPD with Indicator Light 10kA/5kV SPD ¹

Miscellaneous Options

HSS	House Side Shield
NL	NEMA Label Indicating Wattage
PT	Power Tray
XL	Not CSA Certified – No Terminal Block Cover

Control Options

(Blank)	3 Pin NEMA Photocontrol Receptacle
P5	5 Pin Photocontrol Receptacle (dimnable driver included) ¹
P7	7 Pin Photocontrol Receptacle (dimnable driver included) ¹
NR	No Photocontrol Receptacle ²
AO	Field Adjustable Output ¹
DM	0-10V Dimmable Driver ³
PCSS	Solid-State Lighting Photocontrol ⁴
PCLL	Solid-State Long Life Photocontrol
PCCC	Solid-State Long Life Photocontrol with remote control on/off
SH	Shorting Cap ⁵

Packages

(Blank)	Standard Pack
JP	Job Pack

Notes:

1. Dimmable Driver included. Not available with DM.
2. Not available with P5 or P7.
3. Controls by Others. Not available with A0.
4. MVOLT only.
5. Not available with PCSS or PCLL.

RFD321262: Autobahn LED Roadway
- L Series (ATBL): ATBL, 29,000 Lumen
Package, MVOLT, Roadway Type II,
NEMA Label, 7 Pin Photocontrol
Receptacle
Special: **DALI Driver**, CSA listed.

DALI look up table - 001D

Catalogue No: ATBLFMVOLTR24KNLP7DL JP

Drawing No: DR-22714
Date: 02/26/21 Type:
D-JP

DALI look up code - 0024

Contempo Series 245L LED (245L)

20LED, 1200mA

120-277V

4000K CCT

Distribution Type III

Optics Glass

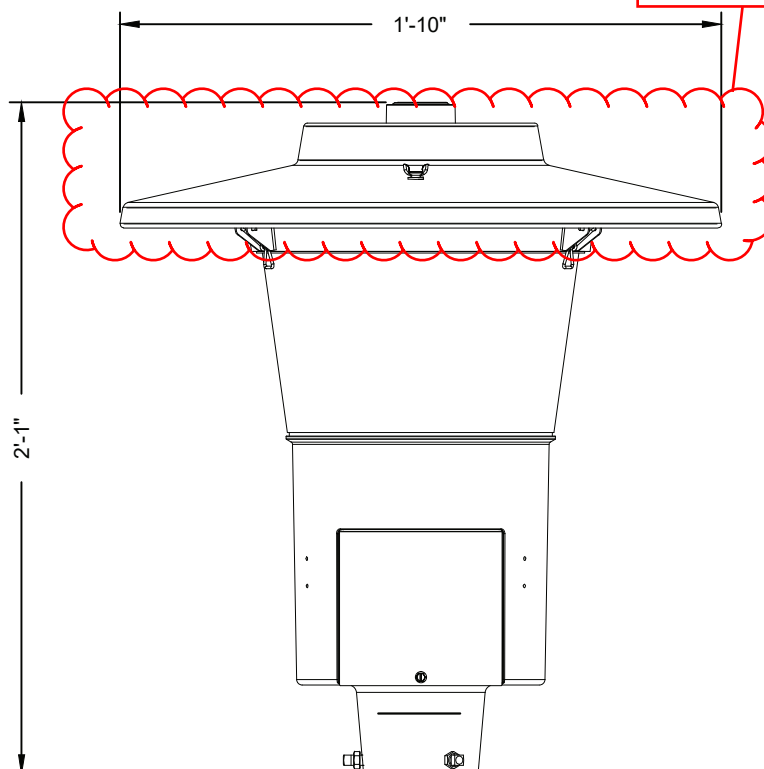
Finish: Black

7 Pin Receptacle, Style D

Stainless Steel Hardware

Tool-Less

Modified with DALI Driver

Old Performance Package Description**Don't match****Geotech, Inc.**
Engineered Systems616.949.3340 info@geotech-inc.com
616.949.8238 FAX www.geotech-inc.com
4900 Cascade Road, S.E., Grand Rapids, Michigan 49508

Reviewed:

- ☐ Found no exceptions.
- ☐ Found exceptions as noted.
- ☐ Found not in compliance.
- ☒ Revise and resubmit.
- ☐ Rejected.

Drawings have been reviewed for general compliance with construction documents. We do not accept responsibility for non-complying items not detected by our review. The responsibility remains with the Contractor.

DATE: 04.02.21 BY: KLM

CUSTOMER NOTES:

1. STANDARD SPECS NOT SHOWN HERE CAN BE FOUND ON SEPARATE CUT SHEETS (PLEASE SEE SALES).
2. SIGNED APPROVAL TO ACCOMPANY PO.

Catalog #'s:

Fixture: 245LP55AS40KR3GLBKR7SDSSTLDL RFD309214

Customer SignatureDate

Grand Rapids 2021 Relight

Grand Rapids, Michigan

ORDER #:2006-21-12861-2	TYPE: E	DRAWING #:
REVISION: 2	REVISION DATE: 02/26/21	TSG 012539
DRAWN: AS/SS	ORIGIN DATE: 01/21/21	PAGE: 9 of 18

THIS DRAWING, WHEN APPROVED, SHALL BECOME THE COMPLETE SPECIFICATION FOR THE MATERIAL TO BE FURNISHED BY HOLOPHANE ON THE ORDER NOTED ABOVE. A UNIT OF SIMILAR DESIGN MAY BE SUPPLIED, BUT ONLY AFTER APPROVAL BY THE CUSTOMER IN WRITING. ON POLE ORDERS AN ANCHOR BOLT TEMPLATE PRINT WILL BE SUPPLIED WITH EACH ANCHOR BOLT ORDER TO MATCH THE POLE PROVIDED. THIS PRINT IS THE PROPERTY OF HOLOPHANE AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS CONDITION THAT IT WILL NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO OUR INTERESTS, AND ONLY IN CONNECTION WITH MATERIAL FURNISHED BY HOLOPHANE.

U-21534 WP MI-MAUI LED luminaire plant balance disallowance
U-21534 Exhibit MAU-32, LED luminaire plant balance disallowance

data source U-21534 WP Bellini Lighting Rate Model

						Leotek							COS of							
						Recomme		COS of					COS of							
						Original	nded	Nearest	Leotek	COS of			COS of							
						HID	watts	DTE LED	recomme	DTE	Unit COS	Total COS	Original	Consumers	Nearest	Consumers	COS of			Total cos
LookUp	GE	Hours	Syste	Count	Current	fixture	medium	tariff	nded LED	choice	difference	difference (overspend)	fixture	Recommen	DTE LED	recommen	DTE choice	Unit COS	difference (overspend)	
E1 SL - Option I-UG	65	0	65	27	0					286.58			0				286.58			
E1 SL - Option I-UG	135	2100	135	21	5.9535					381.88							381.88			
E1 SL - Option I-UG	35	4200	35	3345	491.715	70	27	35	245.73	245.73	0.00	\$ -					245.73			
E1 SL - Option I-UG	45	4200	45	1	0.189					259.35							259.35			
E1 SL - Option I-UG	55	4200	55	9207	2126.817	100	30	35	245.73	272.96	27.23	\$ 250,710	100	40	45	259.35	272.96	13.62	\$ 125,355	
E1 SL - Option I-UG	65	4200	65	9746	2660.658	100	30	35	245.73	286.58	40.85	\$ 398,080	100	40	45	259.35	286.58	27.23	\$ 265,387	
E1 SL - Option I-UG	75	4200	75	1781	561.015	150	64	65	286.58	300.19	13.62	\$ 24,249	150	70	75	300.19	300.19	0.00	\$ -	
E1 SL - Option I-UG	85	4200	85	2315	826.455	150	64	65	286.58	313.81	27.23	\$ 63,038	150	70	75	300.19	313.81	13.62	\$ 31,519	
E1 SL - Option I-UG	95	4200	95	119	47.481					327.42							327.42			
E1 SL - Option I-UG	105	4200	105	508	224.028					341.04							341.04			
E1 SL - Option I-UG	115	4200	115	367	177.261					354.65							354.65			
E1 SL - Option I-UG	125	4200	125	4	2.1					368.27							368.27			
E1 SL - Option I-UG	135	4200	135	21534	12209.778	250	89	85	313.81	381.88	68.08	\$ 1,465,944	250	80	85	313.81	381.88	68.08	\$ 1,465,944	
E1 SL - Option I-UG	145	4200	145	216	131.544	250	89	85	313.81	394.31	80.51	\$ 17,389	250	80	85	313.81	394.31	80.51	\$ 17,389	
E1 SL - Option I-UG	155	4200	155	1016	661.416	250	89	85	313.81	406.74	92.93	\$ 94,421	250	80	85	313.81	406.74	92.93	\$ 94,421	
E1 SL - Option I-UG	165	4200	165	23	15.939					419.17							419.17			
E1 SL - Option I-UG	175	4200	175	639	469.665	310	123	125	368.27	431.60	63.33	\$ 40,469					431.60			
E1 SL - Option I-UG	185	4200	185	39	30.303					444.03							444.03			
E1 SL - Option I-UG	205	4200	205	604	520.044	400	133	135	381.88	468.89	87.00	\$ 52,551	400	150	155	406.74	468.89	62.15	\$ 37,536	
E1 SL - Option I-UG	215	4200	215	9	8.127					481.32							481.32			
E1 SL - Option I-UG	235	4200	235	939	926.793	400	133	135	381.88	506.17	124.29	\$ 116,710	400	150	155	406.74	506.17	99.43	\$ 93,368	
E1 SL - Option I-UG	245	4200	245	88	90.552					518.60							518.60			
E1 SL - Option I-UG	255	4200	255	28	29.988					531.03							531.03			
E1 SL - Option I-UG	265	4200	265	18	20.034					543.46							543.46			
E1 SL - Option I-UG	285	4200	285	1099	1315.503	400	133	135	381.88	568.32	186.44	\$ 204,896	400	150	155	406.74	568.32	161.58	\$ 177,576	
E1 SL - Option I-UG	295	4200	295	15	18.585					614.38							614.38			
E1 SL - Option I-OH	135	2100	135	5	1.4175					374.15							374.15			
E1 SL - Option I-OH	285	2100	285	2	1.197					599.37							599.37			
E1 SL - Option I-OH	35	4200	35	3	0.441					203.04							203.04			
E1 SL - Option I-OH	45	4200	45	73	13.797					220.15							220.15			
E1 SL - Option I-OH	55	4200	55	22280	5146.68	100	30	35	203.04	237.27	34.22	\$ 762,468	100	40	45	220.15	237.27	17.11	\$ 381,234	
E1 SL - Option I-OH	65	4200	65	36373	9929.829	100	30	35	203.04	254.38	51.33	\$ 1,867,139	100	40	45	220.15	254.38	34.22	\$ 1,244,759	
E1 SL - Option I-OH	75	4200	75	607	191.205	100	30	35	203.04	271.49	68.44	\$ 41,546					271.49			
E1 SL - Option I-OH	85	4200	85	1685	601.545	150	64	65	254.38	288.60	34.22	\$ 57,664	150	70	75	271.49	288.60	17.11	\$ 28,832	
E1 SL - Option I-OH	95	4200	95	1509	602.091	150	64	65	254.38	305.71	51.33	\$ 77,462	150	70	75	271.49	305.71	34.22	\$ 51,641	
E1 SL - Option I-OH	105	4200	105	90	39.69					322.82							322.82			
E1 SL - Option I-OH	115	4200	115	3	1.449					339.93							339.93			
E1 SL - Option I-OH	125	4200	125	58	30.45					357.04							357.04			
E1 SL - Option I-OH	135	4200	135	21218	12030.606	250	89	85	288.60	374.15	85.56	\$ 1,815,310	250	80	85	288.60	374.15	85.56	\$ 1,815,310	
E1 SL - Option I-OH	145	4200	145	165	100.485	250	89	85	288.60	389.17	100.57	\$ 16,594					389.17			
E1 SL - Option I-OH	155	4200	155	400	260.4	250	89	85	288.60	404.18	115.58	\$ 46,234					404.18			
E1 SL - Option I-OH	165	4200	165	108	74.844	250	89	85	288.60	419.20	130.60	\$ 14,105					419.20			

[illegible]

Inputs				
Crossover conversion equivalences				
	Leotek MED equivalent	Nearas t DTE LED tariff	Consumers equivalent	Nearas t DTE LED tariff
Incumbent HPS 50	17	15		
70	27	25		
100	30	35	40	45
150	64	65	70	75
200	72	75		
250	89	85	80	85
310	123	125		
400	133	135	150	155

1	2	3	4	77	78	79	80	81	82	83	192	193	194	195	196	197	198	199	200
Total Revenue Comparison - COS vs Current (\$)										Total Revenue Comparison - Proposed vs COS (\$)									
Energize d/Dusk- MidNigh	Lamp Ty	Lamp Wattage	E1-OptionI- OH	E1-OptionI-UG	OptionII	E1- OptionIII	D9-OH	D9-UG											
LookUp									E1-OptionI-OH	UG	OptionII	E1- OptionIII	D9-OH	D9-UG					
MV100	MV	100 W	25,405	(123)	-	162	-	(1,409)	(22,451)	123	-	-	-	1,409					
MV175	MV	175 W	425,563	(3,449)	-	3,954	184,119	(1,204)	(361,896)	9,873	-	-	(63,719)	1,204					
MV250	MV	250 W	-	(1)	-	677	4,515	(61)	-	15	-	-	(1,951)	61					
MV400	MV	400 W	178,091	2,741	2,070	7,002	43,795	(2,539)	(153,688)	7,878	-	-	(14,366)	2,539					
MV1000	MV	1,000 W	-	-	-	-	9,259	-	-	-	-	-	(2,735)	-					
HPS70	HPS	70 W	63,873	(957)	-	3,139	-	(6,020)	(42,290)	957	-	-	-	6,020					
HPS100	HPS	100 W	626,441	(150,893)	-	134,400	192,302	(5,068)	(485,331)	154,256	-	-	(118,605)	5,068					
HPS150	HPS	150 W	-	134	-	37,639	36	-	-	4,418	-	-	(19)	-					
HPS250	HPS	250 W	269,041	20,758	2,816	33,910	177,581	(65)	(181,197)	36,756	-	-	(82,487)	65					
HPS310	HPS	310 W	-	-	-	1,200	-	-	-	-	-	-	-	-					
HPS360	HPS	360 W	-	-	-	-	-	-	-	-	-	-	-	-					
HPS400	HPS	400 W	-	18,927	1,254	22,179	155,892	-	-	15,644	-	-	(96,505)	-					
HPS1000	HPS	1,000 W	-	270	-	-	9,430	-	-	(24)	-	-	(5,736)	-					
MH70	MH	70 W	365	(4,996)	-	-	-	-	(337)	4,996	-	-	-	-					
MH100	MH	100 W	389	(1,855)	-	1,218	-	-	(359)	1,855	-	-	-	-					
MH150	MH	150 W	-	828	-	-	-	-	-	(156)	-	-	-	-					
MH175	MH	175 W	3,270	(2,788)	-	3,197	-	-	(2,866)	2,788	-	-	-	-					
MH250	MH	250 W	390	(2,297)	-	1,150	-	-	(339)	4,052	-	-	-	-					
MH320	MH	320 W	-	-	-	-	-	-	-	-	-	-	-	-					
MH400	MH	400 W	3,293	6,020	-	1,712	132	-	(2,872)	4,491	-	-	(38)	-					
MH1000	MH	1,000 W	2,326	-	-	-	14,710	111	(2,179)	-	-	-	(3,680)	-					
De-Energiz	De-Energ	MV	100 W	-	-	-	-	-	-	-	-	-	-	-					
De-Energiz	De-Energ	MV	175 W	203	-	-	-	-	(180)	-	-	-	-	-					
De-Energiz	De-Energ	MV	250 W	-	-	-	-	-	-	-	-	-	-	-					
De-Energiz	De-Energ	MV	400 W	-	-	-	-	-	-	-	-	-	-	-					
De-Energiz	De-Energ	MV	1,000 W	-	-	-	-	-	-	-	-	-	-	-					
De-Energiz	De-Energ	HPS	70 W	-	-	-	-	-	-	-	-	-	-	-					
De-Energiz	De-Energ	HPS	100 W	352	-	-	-	-	(290)	-	-	-	-	-					
De-Energiz	De-Energ	HPS	250 W	(7)	(1,513)	-	-	-	32	1,696	-	-	-	-					
De-Energiz	De-Energ	HPS	360 W	-	-	-	-	-	-	-	-	-	-	-					
De-Energiz	De-Energ	HPS	400 W	-	-	-	-	-	-	-	-	-	-	-					
De-Energiz	De-Energ	HPS	1,000 W	-	-	-	-	-	-	-	-	-	-	-					
De-Energiz	De-Energ	LED	65 W	-	1,252	-	-	-	-	(1,244)	-	-	-	-					
Dusk-Midn	Dusk-Mik	MV	100 W	-	-	-	-	-	-	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	MV	175 W	-	-	-	-	-	-	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	MV	250 W	-	-	-	-	-	-	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	MV	400 W	-	-	-	-	-	-	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	MV	1,000 W	-	-	-	-	-	-	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	HPS	70 W	-	-	-	-	-	-	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	HPS	100 W	-	-	-	-	-	-	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	HPS	250 W	55	-	-	-	-	28	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	HPS	360 W	-	-	-	-	-	-	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	HPS	400 W	39	-	-	-	-	(2,197)	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	HPS	1,000 W	-	-	-	-	-	-	-	-	-	-	-					
Dusk-Midn	Dusk-Mik	LED	135 W	(110)	(709)	-	-	-	255	992	-	-	-	-					
Dusk-Midn	Dusk-Mik	LED	285 W	(24)	-	-	-	-	119	-	-	-	-	-					
LED25	LED	25 W	-	-	-	-	-	(3,973)	-	-	-	-	-	3,973					
LED35	LED	35 W	(9)	(51,419)	-	18,095	148	(207,080)	15	51,419	-	-	(56)	207,080					
LED45	LED	45 W	242	(12)	-	787	-	-	384	12	-	-	-	-					
LED55	LED	55 W	219,639	(85,499)	-	7,231	52,058	(12,570)	123,059	85,499	-	-	(21,797)	12,570					
LED65	LED	65 W	404,353	(60,849)	-	5,285	75,267	(29,868)	214,903	69,314	-	-	(32,732)	29,868					

LED75	LED	75 W	7,512	(5,700)	-	1,674	5,535	(121,684)	3,820	13,124	-	-	(2,466)	121,684
LED85	LED	85 W	22,974	(365)	-	136,437	246	(94,651)	11,253	17,653	-	-	(113)	94,651
LED95	LED	95 W	22,474	101	-	2,196	-	(506)	10,659	944	-	-	-	506
LED105	LED	105 W	1,454	939	-	172,885	-	(383)	670	4,185	-	-	-	383
LED115	LED	115 W	52	1,046	-	187,198	295	(6,527)	24	3,136	-	-	(143)	6,527
LED125	LED	125 W	1,083	15	-	13,122	-	-	477	35	-	-	-	-
LED135	LED	135 W	443,198	104,579	-	121,202	84,441	(51,603)	182,054	197,192	-	-	(42,102)	51,603
LED145	LED	145 W	3,902	1,269	-	65	715	-	1,465	2,038	-	-	(358)	-
LED155	LED	155 W	10,613	6,879	-	21,865	-	-	-	9,870	-	-	-	-
LED165	LED	165 W	3,164	179	-	8,652	-	-	-	230	-	-	-	-
LED175	LED	175 W	1,705	5,626	-	1,894	-	-	-	6,562	-	-	-	-
LED185	LED	185 W	314	378	-	1,815	-	-	-	411	-	-	-	-
LED195	LED	195 W	-	-	-	198	-	-	-	-	-	-	-	-
LED205	LED	205 W	6,087	7,015	-	4,392	5,025	(44,089)	-	6,708	-	-	(2,599)	44,089
LED215	LED	215 W	1,521	114	-	74,767	20,464	-	(46)	102	-	-	(10,636)	-
LED225	LED	225 W	-	-	-	6,825	45	-	-	-	-	-	(24)	-
LED235	LED	235 W	43,973	13,658	-	-	55,169	(1,668)	(13,823)	11,212	-	-	(28,862)	1,668
LED245	LED	245 W	330	1,369	-	28	-	-	(109)	1,075	-	-	-	-
LED255	LED	255 W	761	464	-	5,032	-	-	(262)	350	-	-	-	-
LED265	LED	265 W	-	315	-	132,614	-	-	-	230	-	-	-	-
LED275	LED	275 W	-	-	-	8,124	-	(1,623)	-	-	-	-	-	1,623
LED285	LED	285 W	60,630	21,309	-	418	45,140	(148)	(23,097)	14,652	-	-	(23,957)	148
LED295	LED	295 W	1,145	306	-	-	87,543	(9,859)	(448)	204	-	-	(46,616)	9,859
LED305	LED	305 W	1,273	-	-	172	-	-	(510)	-	-	-	-	-
LED315	LED	315 W	-	-	-	-	-	-	-	-	-	-	-	-
LED325	LED	325 W	365	-	-	-	-	-	(152)	-	-	-	-	-
LED335	LED	335 W	-	-	-	-	-	-	-	-	-	-	-	-
LED345	LED	345 W	-	-	-	-	-	-	-	-	-	-	-	-
LED355	LED	355 W	-	-	-	-	-	-	-	-	-	-	-	-
LED365	LED	365 W	-	-	-	-	-	-	-	-	-	-	-	-
LED375	LED	375 W	-	-	-	-	-	-	-	-	-	-	-	-
LED385	LED	385 W	-	-	-	-	-	-	-	-	-	-	-	-
LED395	LED	395 W	-	-	-	-	546	-	-	-	-	-	(296)	-
			2,857,710	(156,935)	6,141	1,184,512	1,224,409	(602,488)	(747,703)	745,523	-	-	(602,599)	602,599

LED	\$	1,258,621	\$	(37,741)		\$	432,638	\$	(586,233)	Total by lum type	LED	\$	510,710	\$	495,906		\$	(212,757)	\$	586,233
HID	\$	1,599,089	\$	(119,194)		\$	791,772	\$	(16,255)		HID	\$	(1,258,413)	\$	249,616		\$	(389,842)	\$	16,366
	\$	2,857,710	\$	(156,935)		\$	1,224,409	\$	(602,488)			\$	(747,703)	\$	745,523		\$	(602,599)	\$	602,599



The City of Ann Arbor
https://www.a2gov.org › departments › programs › Pages ›
FY2024-2029 Capital Improvements Plan
The Capital Improvements Plan (CIP) outlines a six-year schedule of public service expenditures for large, physical improvements that are permanent in ...



The City of Ann Arbor
https://www.a2gov.org › systems-planning › Pages › Cap... ›
Capital Improvement Planning
Capital Improvements Plan (CIP) – A document that schedules projects for a period of six years into the future based on studies of available fiscal and staffing ...



MLive.com
https://www.mlive.com › news › ann-arbor › 2023/12 ›
See which projects are included in Ann Arbor's new \$1.2B ...
Dec 29, 2023 — See which projects are included in Ann Arbor's new \$1.2B capital plan ...
ANN ARBOR, MI — Ann Arbor has updated the \$1.2 billion list of projects ...



WEMU
https://www.wemu.org › wemu-news › ann-arbor-release... ›
Ann Arbor releases six-year capital improvement plan
Jan 3, 2024 — The \$1.2 billion plan details the infrastructure projects the city will invest in from 2024 to 2029.



MLive.com

basic facilities, services, and installations needed for the community to function.

The current CIP covers fiscal years 2024-2029 (starting July 1, 2023, and ending June 30, 2029). The Updated FY2024-2029 CIP was approved by [Planning Commission on December 5, 2023](#). The [City Planning Commission materials](#) include the complete CIP report, a list of newly added projects, a project clean-up summary identifying all projects completed since the last CIP cycle, and detailed information about the prioritization metrics used in the CIP process.

Kayla Coleman,
Capital Projects Asset Manager

734.794.6430 x43728

kcoleman@a2gov.org

Case No. U-21534
Exhibit: MAU-36
Witness: R. Bunch
2 of 12

Connect with Us



Updated FY2024-2029 CIP Quick Facts and Resources:

- Complete listing of Updated FY2024-2029 CIP [Project Costs by Asset Category](#) (PDF)
- Access detailed CIP project information through an [interactive mapping tool](#)
- 473 total projects included
- Just under \$1.2 billion of funding needed for projects within the six-year planning period
- Just under \$1.7 billion of funding is needed for the total project costs, which includes the six-year planning period plus funds spent prior to FY2024 and required funds



Birmingham, MI

https://www.bhamgov.org/engineering_department

Current Construction Projects

Planned Projects for the 2024 Construction Season Map showing areas for 2024 Capital Improvements. The city will **host a third S. Eton Resurfacing Project** ...



Revize websites

<https://cms7files1.revize.com/Finance> PDF

2021-2022 Approved Budget

Jun 30, 2022 — Birmingham has the 7th Best School District in Michigan (2020) by Niche. ... 11.

The "Capital Improvements" section provides a listing of capital ...

People also ask

What is the average household income in Birmingham Michigan?

What is the poverty rate in Birmingham Michigan?

What is Birmingham Michigan ZIP code?

Feedback



Birmingham, MI

https://bhamgov.org/planning_department/citywide

The Capital Improvement Plan is a guide and forum to aid the Ferndale City Council and the Ferndale City Manager's Office in making decisions regarding the physical development and infrastructure maintenance of the City and determining what, if any, resources can or should be available to carry out City Council's ... Nov 15, 2023

Ferndale (.gov)
https://www.ferndalemi.gov › PDFs › 2025-2030_... PDF

CAPITAL IMPROVEMENT PLAN - Ferndale

About featured snippets Feedback

Ferndale (.gov)
https://www.ferndalemi.gov › resources › community-pl...

Community Plans

FYE 2025-2030 Capital Improvement Plan ... The Capital Improvement Plan (CIP) is a financial planning document focused on the City's capital assets. Included ...

SG SmithGroup
https://www.smithgroup.com › projects › city-of-fernda...

City of Ferndale Master Plan

In its latest master plan update, the City of Ferndale incorporates its planning goals into one cohesive framework, championing issues of equity and climate ...
Missing: Capital Improvement

Overall, the city's capital improvement plan calls for the expenditure of over \$80M across all funding sources. The City of Lincoln Park's Capital Improvement Plan (CIP) is a planning tool for the city for future capital improvement projects. Apr 12, 2023

 miplace.org
<https://www.miplace.org/bp1-cip-lincoln-park> PDF [more icon]
City of Lincoln Park Fiscal Year 2023-24 through 2028-29

About featured snippets Feedback

People also ask :

- What is a capital improvement plan in Michigan? [down arrow]
 - What is the purpose of the capital improvement program? [down arrow]
 - What is the history of Lincoln Park? [down arrow]
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City of Livonia, Mi. (.gov)
https://livonia.gov › DocumentCenter › View › C... PDF

CAPITAL IMPROVEMENTS PROGRAM 2016 - 2021

CITY OF LIVONIA, MICHIGAN. CAPITAL IMPROVEMENTS PROGRAM. 2016 - 2021. PREPARED BY THE. CITY OF LIVONIA PLANNING COMMISSION. May 19, 2016. Page 2 ...

City of Livonia, Mi. (.gov)
https://livonia.gov › Planning

Planning | Livonia, MI

The Livonia Guide to Development (PDF) is a great ... Quick Links · Capital Improvement Plan 2024-2035 ... Contact Us. 33000 Civic Center Drive Livonia, MI 48154

People also ask

What is a capital improvement plan in Michigan?

What is the city of Livonia master plan?

Feedback

City of Livonia, Mi. (.gov)
https://www.ci.livonia.mi.us › Forms-Documents

Forms & Documents | Livonia, MI

View & Download Economic Development Documents · 2016 to 2021 Capital Improvements

Design Plan

department. The [Livonia Guide to Development \(PDF\)](#) is a great reference tool in the early planning stages of your project.

Livonia Vision 21

If you are interested in learning about the requirements for new development, construction, and renovation we strongly encourage you to schedule a preliminary design or conceptual review meeting with our staff. These meetings are available at no cost and can help to significantly reduce the lead time for future permitting, planning, and/or zoning requests. To schedule a meeting, contact us at (734) 466-2290 or email planning@livonia.gov.

The Planning Director also serves as the City's Economic Development Director, providing information and assistance to those wishing to find or develop industrial facilities or land.

SERVICES

- o Site Planning
- o Demographic Information
- o Economic Development Corporation
- o Federal Programs
- o [Planning Commission](#)
- o [Plymouth Road Development Authority](#)
- o [Livonia Brownfield Redevelopment Authority](#)

PLANNING COMMISSION CALENDAR

TUE, JUN. 4

Planning Commission Meeting

TUE, JUN. 11

Planning Commission - Study Meeting

TUE, JUN. 18

Planning Commission Meeting

TUE, JUL. 9

Planning Commission - Study Meeting

TUE, JUL. 16

Planning Commission Meeting

TUE, JUL. 23

Planning Commission - Study Meeting

[Contact the Planning Department](#)

Case No. U-21534

Exhibit: MAU-36

Witness: R. Bunch

7 of 12

MARK S. TAORMINA

Department Head

Phone: [\(734\) 466-2290](tel:7344662290)

LIVONIA VISION 21 COMPREHENSIVE. MASTER PLAN

- o [Livonia Starts Now, Book 1 of 4 \(PDF\)](#)
- o [Land Development, Book 2 of 4 \(PDF\)](#)
- o [Systems Development, Book 3 of 4 \(PDF\)](#)
- o [Strategic Development, Book 4 of 4 \(PDF\)](#)

QUICK LINKS

- Capital Improvement Plan 2024-2035
- City of Livonia, Code of Ordinances
- City of Livonia, Zoning Ordinance

 Madison Heights
https://www.madison-heights.org › Capital-Improvement...
Capital Improvement Plans (CIP) | Madison Heights, MI
Five-Year Capital Improvement Plans.

 Madison Heights
https://www.madison-heights.org › City-Budget-Capital-I...
City Budget / Capital Improvement Plan | Madison Heights, MI
The document **compiles** the financial data needed to support the City's comprehensive decision-making and policy development process, and it reflects a reasonable ...

People also ask

What is a Capital Improvement Plan in Michigan?

What is included in a Capital Improvement Plan?

What is the **shoreline** Capital Improvement Plan?

Who are the members of Madison Heights Town Council?

Feedback



GOVERNMENT

SERVICES

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BUSINESS

I WANT TO...

Case No. U-21534
Exhibit: MAU-36
Witness: R. Bunch
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Capital Improvement Plans (CIP)

Five-Year Capital Improvement Plans (CIP)

[FY 2024-29 Capital Improvement Plan \(CIP\)](#)

[FY 2023-28 Capital Improvement Plan \(CIP\)](#)

* Once approved, the Capital Improvement Plans are included as a subsection of the Policy Budget Document

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Pdf 2021 2020



City of Pleasant Ridge Michigan
<https://cityofpleasantridge.org> › Isvr_document_cat › ca...
Capital Improvement Plan
Capital Improvement Plan. Capital Improvement Plan Capital Improvement Plan **2018-2024**
(203 KB). Category. Budget and Finance.

People also ask

- What is a capital improvement plan in Michigan? ▾
- What is included in a capital improvement plan? ▾
- Feedback



Michigan Municipal League
<https://mml.org> › cip-pleasantridge2018-2024 PDF
2018-2024 Capital Improvement Plan
Feb 5, 2018 — A Capital Improvement Plan (CIP) is a **multi-year planning instrument used to identify needs and financing sources for public infrastructure** ...



City of Pleasant Ridge Michigan
<https://cityofpleasantridge.org> › ... › Budget and Finance
Budget and Finance



Case No. U-21534
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Capital Improvement Plan

Capital Improvement Plan

 [Capital Improvement Plan 2018-2024 \(203 KB\)](#)

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 **Washtenaw County Road Commission**
https://www.wcroads.org

Washtenaw County Road Commission: Home

Offers a number of services for the community to maintain a safe and convenient road system for the traveling public in **Washtenaw County**.

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Washtenaw County Road Commission. Search. Toggle ...

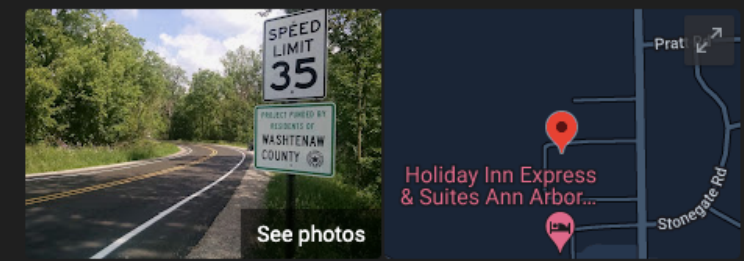
Contact Us
Contact Us ... Main Office & Permit Hours: 6 a.m. to 4:30 p.m ...

Road Work Advisories
Road Closure: McKean Rd (Augusta & Ypsilanti Twps ...

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Washtenaw County Road Commission

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2.3/5 Facebook · 47 votes

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-2.5

Respondent: J. Kryscynski

Page: 1 of 1

Question: Refer to witness Kryscynski's testimony on AJK-101 starting at line 5. Does the Company routinely review municipal Capital Improvement Plans to identify projects that might be coordinated?

Answer: Assuming the question is referring to witness Kryscynski's testimony starting on AJK-102 line 5, no. Once a DTE project is selected to move forward, our local governmental affairs team reaches out to the affected municipalities to notify them of work and identify potential coordination opportunities.

Attachment: N/A

MPSC Case No: U-21534

Requester: AA

Question No.: AADE-1.7

Respondent: J. Kryscynski

Page: 1 of 1

Question: Please indicate how the Company has complied with the Commission's directive in Case No. U-21297 to "include a demonstration of its efforts to improve communication and coordination with local governments regarding construction activities."

Answer: Please see MAUIDE-2.8.

Attachment: *None*

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-2.8

Respondent: J. Kryscynski

Page: 1 of 3

Question: Please list all projects in the historical test year, or which are planned from now through the end of the test year, that were or are planned to be coordinated with another utility or local unit of government.

Answer: The Company does not currently have a database system that includes the coordination efforts between the Company and other utilities or local units of government. Gathering this information for the listed timeframe would take 250+ hours due to the high volume of municipalities and projects.

While there is no formal analysis on this work, the Company has included some examples that are illustrative of the coordination between DTE, local units of government and other utilities. Included in these examples are DTE-owned or municipal-owned projects on which DTE collaborates to resolve conflicts and eliminate delays where possible.

Ann Arbor

Regular meetings on permitting, and collaboration on city and DTE projects and potential conflicts. This includes current DTE Electric and DTE Gas major infrastructure projects planned for the near term and electric reliability and investment projects for the next five years. DTE will be reviewing city project plans to understand overlap areas and suggest collaboration opportunities.

Rochester Hills

Recent meeting with engineering staff and Rochester Hills city staff to discuss the need for a new substation in the area to improve reliability and meet future electricity demands. City staff is helping DTE find a suitable property that meets substation requirements including acreage, proximity to the ITC corridor and proximity to load. Regular communications have been established as both organizations seek the optimal location to benefit the customers in this area.

Southfield – 12 Mile/Telegraph

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-2.7

Respondent: S. Deol

Page: 1 of 1

Question: Does the Company routinely review DTE Gas Company's planned underground projects to identify projects that might be coordinated?

Answer: The Buffalo-Charles pilot project was the first construction collaboration between DTE Electric and DTE Gas. Based on the efficiencies realized the company will determine next steps.

Attachment: N/A

MPSC Case No: U-21534

Requester: MAUI

Question No.: MAUIDE-1.2

Respondent: T. Uzenski

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Question: In discovery response AGDE 9.279c in U-21297, the Company reported spending “approximately \$1 million” on the Regional Relations department’s work with “local municipalities (e.g., cities, counties, villages, townships [...]) to facilitate dialogue on operational matters such as storm recovery, infrastructure improvements and other capital projects.” That response indicated these expenses were recorded in FERC accounts 920, 921, 923, and 930.2. Please provide the amount allocated to this activity in the historical test year and projected test year.

Answer: The total cost in FERC accounts 920, 921, 923 and 930.2 for Regional Relations is:
2022: \$0.733 million
2025: \$0.801 million (adjusted historical cost of \$733,000 plus inflation)

Attachment: *none*