Carlos Gavilondo
Senior Counsel II

VIA ELECTRONIC DELIVERY

April 15, 2013

Hon. Jeffrey Cohen, Acting Secretary
New York State Department of Public Service
3 Empire State Plaza
Albany, New York 12223-1350

Re: Case 12-E-0201, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric Service;
Buffalo Street Light Cable Replacement Program

Dear Secretary Cohen:

Attached please find a copy of the "City of Buffalo Underground Street Light Circuit Infrastructure Replacement Program" plan prepared by Niagara Mohawk Power Corporation d/b/a National Grid ("National Grid" or the "Company"). Under Section 12.6.4 of the Joint Proposal dated December 7, 2012 in this case, approved by the Commission in its *Order Approving Electric and Gas Rate Plans in Accord with Joint Proposal* (issued and effective March 15, 2013), the Company is required to prepare a comprehensive long-term street light refurbishment program plan for the City of Buffalo and submit such program plan to Department of Public Service Staff and the State's Utility Intervention Unit by April 15, 2013. The attached program plan describes a multi-year program to replace degraded or poorly performing underground street light circuit infrastructure in Buffalo and is provided in compliance with Section 12.6.4 of the Joint Proposal.

A copy of this filing is being provided directly to Paul Emerson and Denise Gerbsch of Department of Public Service Staff, and Saul Rigberg of the Utility Intervention Unit. Please contact me if you have any questions regarding this filing. Thank you for your attention to this matter.

Respectfully submitted,

/s/ Carlos Gavilondo
Carlos Gavilondo

Enc.

cc: P. Emerson, DPS
D. Gerbsch, DPS
S. Rigberg, UIU

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nationalgrid

City of Buffalo - Underground Street Light Circuit Infrastructure Replacement Program

Case 12-E-0201

April 15, 2013

Submitted By:

Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse New York 13202

City of Buffalo Underground Street Light
Circuit Infrastructure Replacement Program

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A. Introduction

In accordance with Section 12.6.4 of the Joint Proposal dated December 7, 2012 in Case 12-E-0201, which was approved by the Commission in its *Order Approving Electric and Gas Rate Plans in Accord with Joint Proposal* (issued and effective March 15, 2013), Niagara Mohawk Power Corporation d/b/a National Grid ("National Grid" or the "Company") is to develop a comprehensive long-term street light refurbishment program plan for the City of Buffalo and submit such program plan to Department of Public Service Staff and the State's Utility Intervention Unit by April 15, 2013. The Company is implementing a multi-year program in the City of Buffalo, New York aimed at replacing degraded or poorly performing underground street light circuit infrastructure. The report below provides a comprehensive description of the program and implementation details for the next three years.

B. Program Description

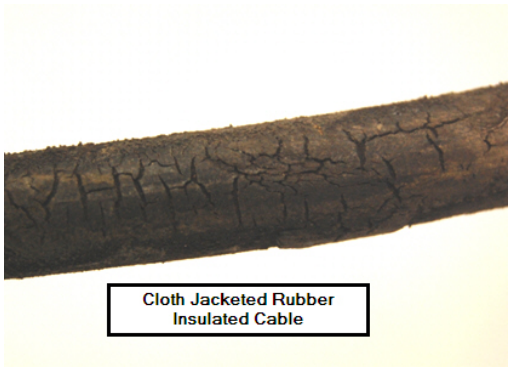
1. Background

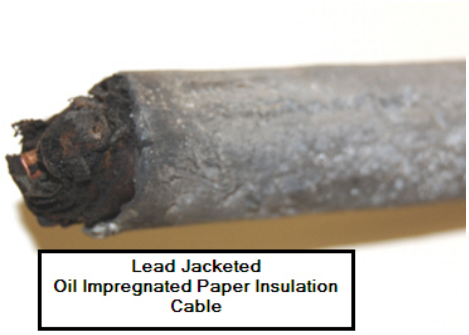
The City of Buffalo ("City") is the Company's largest single street lighting customer (taking service under the Company's tariff, PSC 214 Service Classification No. 2), with over 33,000 luminaires in-service at approximately 29,000 locations. This street lighting system includes approximately 18,823 underground sourced locations consisting of an estimated 2.9 million lineal feet of underground circuitry.

Electric street lighting in the City followed closely the developments of electric transmission and distribution during the late 1800s. Over the course of time, electric distribution equipment and street lighting technologies have changed. Although such changes often bring facility conversions, certain existing infrastructure components are often reconfigured for continued service to maximize useful life and minimize new capital costs, which can result in a system comprised of a variety of electrical cables and wiring configurations. This approach has been successfully employed for years as it relates to underground street lighting cable and conduit system components.

However, over the past decade the Company has observed an increasing number of underground street light cable failures. Repairs have often resulted in the installation of temporary overhead cables where the cable or conduit system required additional civil work for complete repair. The recent focus on testing of street lighting equipment for elevated contact voltage has increased awareness of the poor performance of underground street light circuit components.

Aged cable infrastructure estimated to have originated during the 1940s through the 1970s is believed to be a significant contributing factor to the high rate of elevated voltage incidents. A considerable portion of this circuit infrastructure is comprised of original series circuit conductor. These conductors are either woven cloth jacketed rubber insulated wire or lead covered oil impregnated paper insulated cable.





The most common failure modes of these cables are water intrusion or insulation breakdown resulting in faults with the metallic protective jacket.

Further operational problems and troublesome replacement conditions have occurred due to failure of the original conduit systems. In many cases, the in-service conduit infrastructure materials are original, which often consist of vitrified clay pipe or bituminized fiber ("Orangeburg") pipe made from layers of wood pulp and coal-tar pitch. Failures of these original conduit materials are caused by crushing or stress fatigue due to overburden loading, material degradation due consistent exposure to groundwater having high salt concentration from winter road salt usage and the obtrusion of tree roots, and are often a function of age. Also, conduit functionality often is impacted due to the number of repairs made to individual sections over time. Such repairs are required due to excavation ("dig-up") or penetration incidents caused by: construction of alternate utilities; road, curb and sidewalk replacement; sign and fence installation; and tree and nursery plantings.

Experience shows that spot circuit repairs associated with elevated voltage incidents generally do not resolve the core problem. Following a spot repair, the electrical problem often migrates to the next available path of least resistance to produce another identified incident during the subsequent test cycle. The condition of the circuit infrastructure which has been determined to be the root cause of the elevated voltage and poor electrical reliability will only continue to degrade. Rebuilding the circuit with a reliable neutral conductor and confirmed ground generally eliminates the elevated voltage condition, and promotes increased integrity of the underground street light electrical system and minimizes potential public hazards created by temporary repairs or terminations.

This report describes the framework and criteria for a program to replace underground street light circuit infrastructure within the City. The integrity of the electrical system supporting the performance of street lighting is core to maintaining safe system operation, maximizing the longevity of the lighting components, minimizing facility maintenance and promoting customer satisfaction.

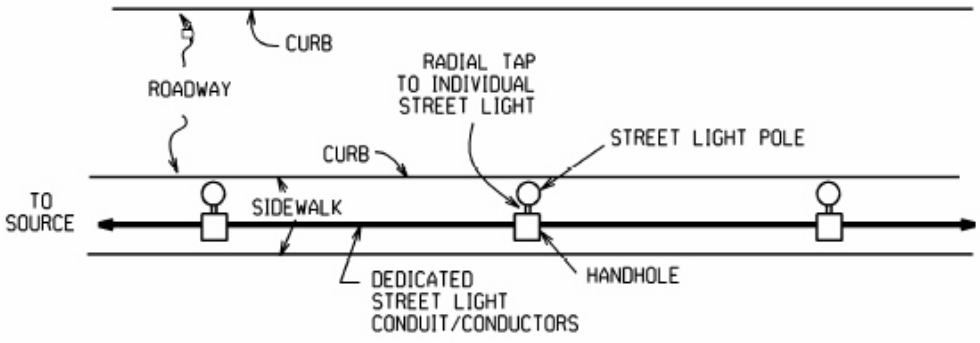
2. Replacement Guidelines

To achieve the desired reliability, performance and longevity of the street light system in the City while eliminating safety and functional problems, the Company has determined that complete street light circuit replacement is needed. There are two main rationales for replacing an entire circuit. First, experience has shown that numerous spot repairs on deteriorating cables are not a viable long-term solution to provide a safe and functional street light system. Leaving existing sections of inadequately performing cable in the circuit contributes to additional poor performance even when portions of the circuit sections are replaced. Second, the Company is utilizing a new street light circuit standard with 4 conductors, one of these conductors being a ground. For proper performance of this standard change, the circuit must be built consistently. Complete circuit replacement addresses the issues related to conductor size, multiple splices, fusing, grounding, equipment bonding, and electrical load balancing often seen with the City's aged street light system. Only complete circuit replacement can address all the independent circuit elements to meet current standards and effectively resolve identified problems.

The principal metric for circuit replacement priority is total elevated voltage incident occurrences within a geographic zone. Secondary considerations will include locations having installed temporary overhead ("TOH") units, cable locations recently repaired but noted as having a previously installed TOH, and other specific inspection-related conditions as specified in Exhibit A. Recently installed circuitry and street light infrastructure to be removed due to planned/scheduled construction projects will be excluded from the assessment consideration (reference Exhibits B and C).

In recognition of the City's ownership of the majority of street light standards, the proposed underground circuit configuration shall utilize a linear design which incorporates handholes located at individual street light locations as shown in Figure 1.

Figure 1 – New Conduit Installation Configuration



Street Light Supply from Dedicated Secondary Mains

These handholes will provide the means to install appropriate grounding equipment and ample space to facilitate radial taps and circuit protection devices to source the adjacent

street light facility. This circuit configuration supports an unimpeded cable pull, the ability to easily remedy conductor load balance issues and promotes a safer electrical termination condition when the customer's standard is not in-service.

The planned design eliminates the current circuit configuration approach which often requires the need to remove the city owned street light standard to facilitate the feed or pulling of cable through the conduit entrance at the top of a foundation. This proposed design layout will be utilized for new or complete rebuild situations. Existing street lighting installations shall require the circuit design alignment to be modified to meet existing foundation conduit entrances.

The performance measurement metric will be the reconstruction completion of designated circuits within specified zones. The monitoring of project performance will include production based upon installed circuit footage. However, the extent of conduit replacement and/or site restoration activities is uncertain until actual field conditions are determined.

The method of assessment to define circuit replacement priority is provided in section 8, "System Impact Analysis."

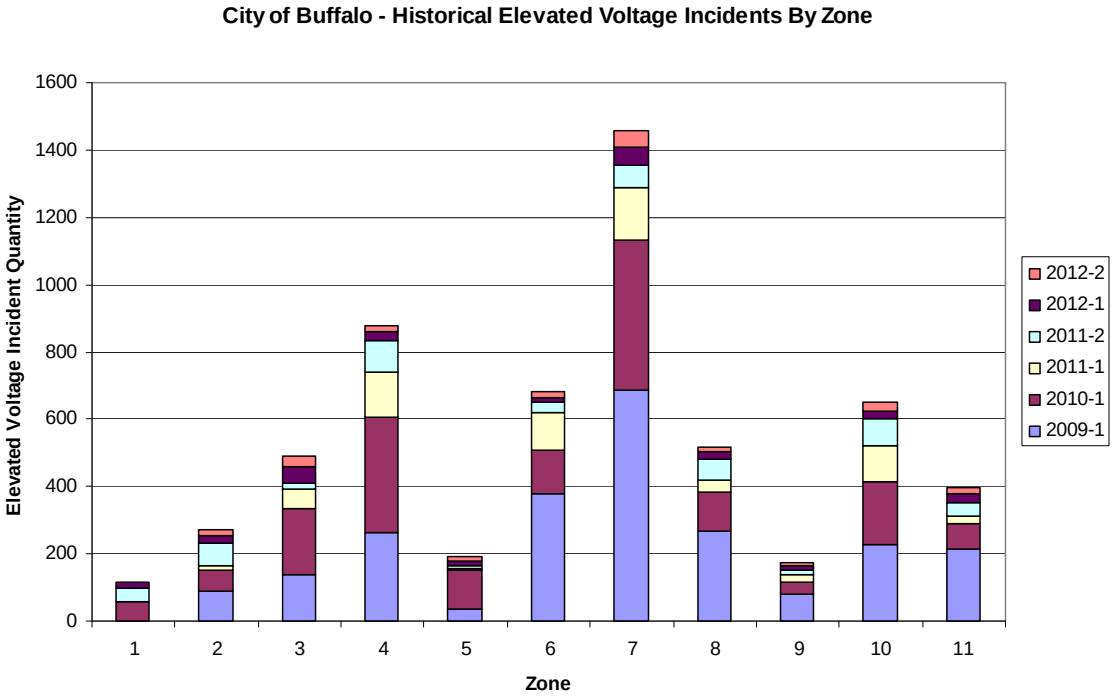
3. Errant or Elevated Voltage Fault Testing

The Company tests for elevated voltage to identify electrical fault conditions that could lead to public hazards and non-compliant electrical safety conditions. This testing complies with the Commission's Order in Case 04-M-0159 and subsequent revisions based upon Department of Public Service Staff directives and as defined in National Grid's Electric Operating Procedure (EOP) G016 – Elevated Equipment Voltage Testing (Appendix 1). The testing referenced in the EOP is performed annually and is presently done using a mobile detection device.

Test results within the City have identified an incident rate above a minimal threshold, therefore requiring that testing be performed on a semi-annual basis. The test results indicate the number of elevated voltage incidents recorded per year in a zone. The greater the cumulative number of incidents in a zone, the higher priority assigned to that zone in the circuit replacement priority plan. Figure 2 below illustrates the accumulated

elevated voltage test results which have been recorded since 2009. The test results identify a significant reduction of incidents per test cycle since the beginning of the testing program. However, the illustration of this data in Exhibit E highlights the reoccurrence condition within individual circuits even though timely repairs are made to remedy the identified incident condition.

Figure 2 – Historical Elevated Voltage Incidents by Zone

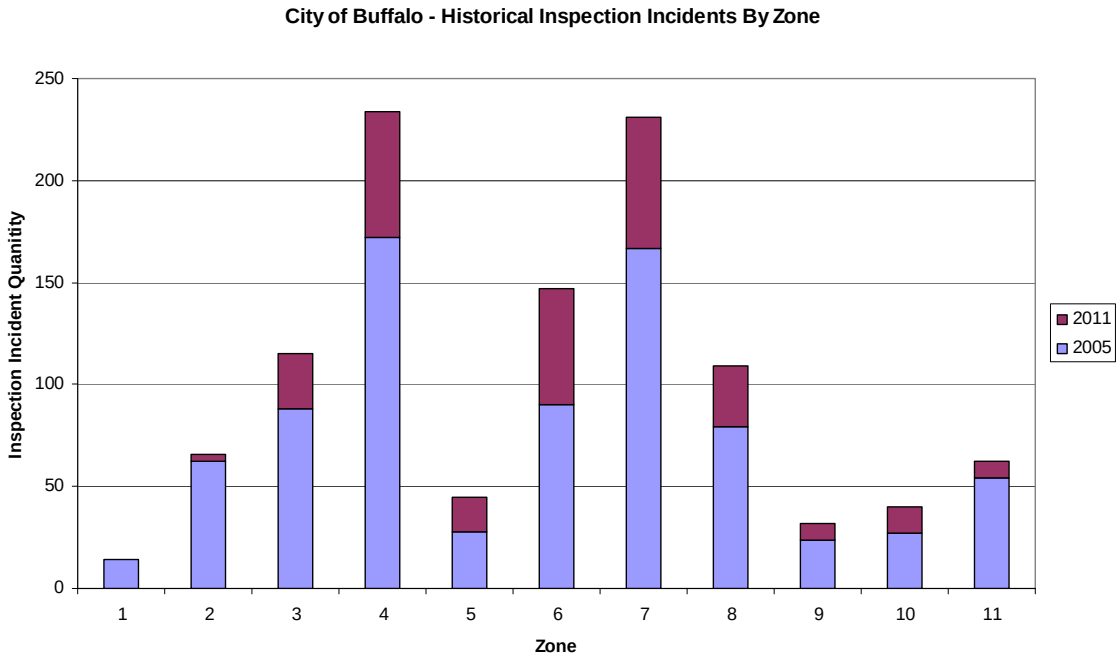


Zone	Elevated Voltage Testing Incidents						
	2009-1	2010-1	2011-1	2011-2	2012-1	2012-2	Total
1	0	57	1	42	16	1	117
2	90	62	15	63	25	15	270
3	137	196	60	15	50	34	492
4	261	343	134	94	26	22	880
5	34	117	4	12	11	12	190
6	377	133	109	30	16	19	684
7	686	447	153	71	52	50	1459
8	269	115	33	64	23	15	519
9	80	36	20	14	16	6	172
10	229	186	106	82	21	27	651
11	213	76	22	43	24	18	396
Total	2376	1768	657	530	280	219	5830

4. Inspection Program

The Company inspects street lighting infrastructure in compliance with Commission Order in Case 04-M-0159 and subsequent revisions. The street lighting infrastructure within the City is visually inspected once every five (5) years. Since the inception of the program and based upon the cyclical schedule, all lighting facilities accessible to public contact within the City have been inspected twice (2005, 2011). The inspection program follows National Grid's Electric Operating Procedure (EOP) G017 – Street Light Standard Inspection Program (Appendix 2). The Company also will consider specific inspection criteria related to circuit wiring, circuit grounding or TOH applications in the prioritization plan. These criteria are presented in Exhibit A. The historical inspection incident data are presented in Figure 3 by zone designation. In all designated zones within the City, inspection incidents have declined since the initial inspection.

Figure 3 – Historical Inspection Incidents by Zone



Zone	Inspection Incidents		
	2005	2011	Total
1	14	0	14
2	62	4	66
3	88	27	115
4	172	62	234
5	28	17	45
6	90	57	147
7	167	64	231
8	79	30	109
9	24	8	32
10	27	13	40
11	54	8	62
Total	805	290	1095

5. Other Operational Issues and Infrastructure Considerations

The Company also has a separate repair/replacement project that focuses on eliminating TOH installations at the least possible cost. The typical underground circuit repair performed to eliminate the TOH only promotes the replacement of the damaged/faulted portion of the cable. In general, these repairs do not remedy deteriorated circuit conditions which are considered the root causes of elevated voltage or other operational problems; however, they do re-establish the underground circuit application to assure accurate billing of components to the customer.

Another condition that is relevant in the assessment of the City's underground street light circuitry is potential elimination of underground-sourced street lighting located beneath overhead distribution infrastructure. Currently, some customer-owned 25-feet steel standards and arms are in close proximity to overhead electric distribution conductors. This poses the potential for the standard to become energized by contact or induced voltage. In addition to being a potential public hazard, such a situation poses a contact risk for aerial electrical workers performing maintenance on such equipment. The opportunity exists for the street lights to be installed upon the distribution poles thereby eliminating the underground street lighting infrastructure and safety conflict while providing the customer the desired illumination levels and long-term cost savings. These conditions are being addressed in specific locations within the City.

The Company will also consider recent and proposed construction projects involving the installation of new underground street light circuitry. New installations are built to current Company engineering standards and should not experience the hazard potentials or operational issues previously described. However, the various fault conditions prior to any recent reconstruction may be included within the illustrated test results.

6. Fault and Defect Data

Elevated voltage data are obtained twice per year and are specific to individual locations which are identified by address and global positioning coordinates. These data are considered to be the most accurate and relevant data available to identify problematic circuit conditions.

The inspection data are manually (visually) captured on a 5 year cycle and recorded with location address and global positioning coordinates. These inspection data represent a static assessment of a facility's physical condition. Feedback on exposed electrical components and operational functionality is provided when available or accessible. Identification of TOH installations provides an indicator of faulted underground circuitry.

Identifying underground street light circuitry that has recently been replaced or upgraded to current standards, or near-term construction projects that propose to replace existing street light infrastructure is critical to avoid redundant cable replacement. These data are retrieved from recently closed capital construction orders or from established project plans submitted to the Company by third parties.

All other data related to underground sourced street lighting locations in the vicinity of overhead distribution facilities, locations experiencing low voltage or conductor load imbalance are provided by Operations personnel familiar with the daily operation of the street lighting system in the City. Although this information is not obtained through a structured data gathering process or collectively retained following individual maintenance work activities, it is considered relevant in prioritizing the replacement of specific underground street light cable.

7. Decision Support Tools

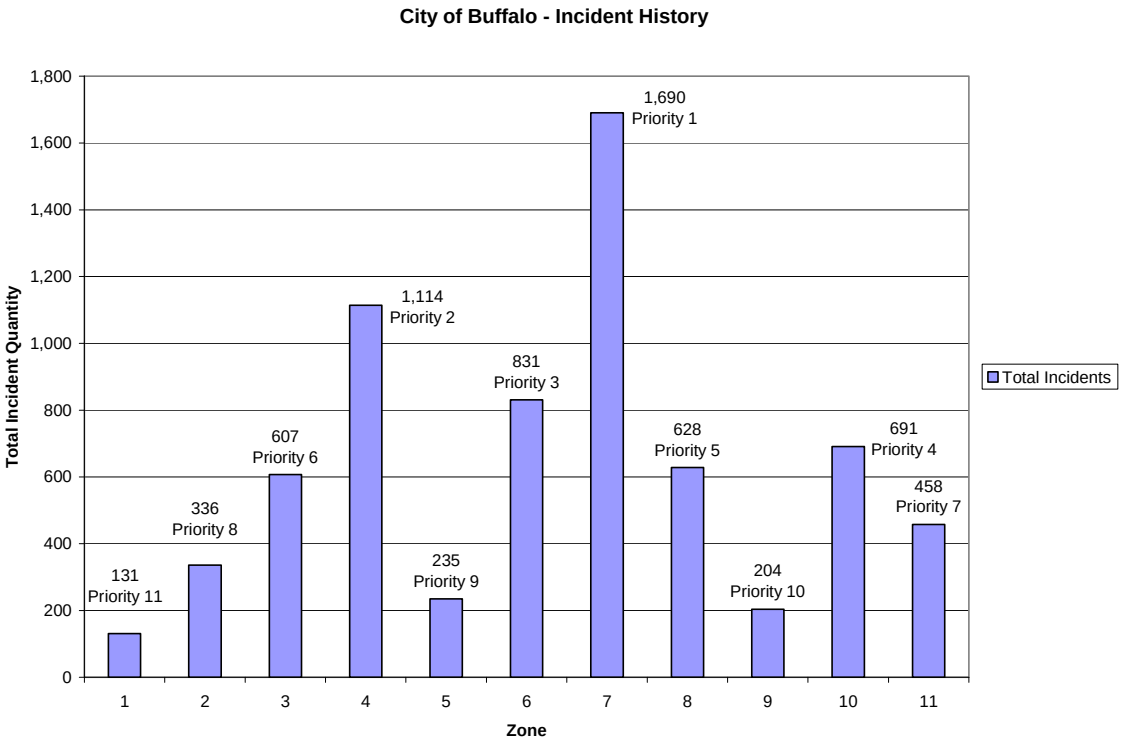
All data will be assembled by designated location information. Prioritization will be based on gross incident quantities of elevated voltage and specific inspection results within the established geographical zones, with the higher priority going to the zone with the greatest number of incidents.

8. System Impact Analysis

The assessment of circuitry to define the annual replacement priority will utilize a map of the City, subdivided to define geographic areas or zones (Exhibits D1-11). This subdivision results in eleven (11) zones. The work to be performed within a specific budgetary year shall be constrained to an individual zone until all designated work within the zone is completed. However, it is to be understood that not all circuits within a zone will be replaced. This approach promotes efficiencies by localizing outage management, construction equipment usage, material handling and site restoration activities.

Other physical conditions seen by local operation crews and supervision while responding to outages will be considered as secondary and applied based upon local knowledge as appropriate. The recognition of all available data and knowledge will be used to determine priority ranking by geographic zone for the purpose of establishing a scheduled target area for budget purposes, scheduling, engineering design and construction planning. A summary table of the accumulated testing and inspection incidents used to determine priority ranking of each zone is provided in Figure 4. The locations of these incidents are presented within the designated geographical zones in Exhibits E, 2-11.

Figure 4 – Total Incident History by Zone



Zone	Total Inspection	Total Testing	Total Incidents	Incident Priority
1	14	117	131	11
2	66	270	336	8
3	115	492	607	6
4	234	880	1,114	2
5	45	190	235	9
6	147	684	831	3
7	231	1,459	1,690	1
8	109	519	628	5
9	32	172	204	10
10	40	651	691	4
11	62	396	458	7
Total	1,095	5,830	6,925	

Following the establishment of the zone priorities, a visual assessment of the incident concentrations will be made. This visual assessment will identify local target areas of high incident concentrations. These target areas are further evaluated by Operations personnel to consider existing circuit conditions which include: electrical source location, circuit configuration, number of sections, conductor type, infrastructure materials and age. The Company also considers the general street light circuit proximity as it relates to public accessibility such as schools, parks and hospitals. Exhibit F illustrates the assignment of individual target areas planned for replacement during fiscal years 2014 and 2015 within the identified priority 1, zone 7. These proposed target areas are based upon observed incident concentrations which align with circuitry or a common geographic area. A typical individual circuit target area is additionally identified in Exhibit F. Exhibit G provides a map presentation of this individual circuit to be replaced within the highlighted local target area. This detailed level circuit illustration identifies the existing circuit configuration including source location, handholes and individual circuit sections related to specific street lights. The observed field information is integrated with the map information to provide the most accurate circuit representation for engineering analysis and/or circuit reconfiguration. Individual work orders are developed to define the circuit replacement function and address electrical load imbalance or overloading conditions. These conditions may require separation of the circuit into smaller total lengths and the facilitation of new electrical source locations.

The quantity of target areas shown on Exhibit F represents a significant number of street lighting circuits. The construction plan to address these circuit replacements is estimated to take a minimum of two years. The aforementioned process is repeated until each target area is complete. Exhibit H presents the proposed fiscal year 2016 local target areas remaining to be completed within the priority 2, zone 4.

Those locations that exhibit a lone or limited number of reported incidents will not be placed within a target area but will be monitored during each test cycle for reoccurring incidents. Such individual incidents typically indicate that the initial repair remedied the problem and the existing circuit is performing as designed.

During the planned multi-year street light cable replacement program, the testing and inspections programs will continue to be performed and additional construction projects will impact street lighting circuits throughout the City. Therefore, the priority assignment developed at this time will be re-evaluated on an annual basis using revised data to remain current. Engineering designs will typically not be performed on circuit locations which would not be scheduled for installation beyond the next construction season.

C. Benefits

1. Safety & Environmental

The replacement of electrical circuitry in conformance with current engineering standards will promote a safer community environment by eliminating potential contact voltage, exposed wire conditions and temporary overhead installations.

2. Reliability

The new underground street lighting circuitry shall provide an electric system that meets capacity requirements, provides adequate circuit protection and positive grounding. The stability and consistent power provided to the luminaires may prove beneficial to the longevity of future solid state lighting sources such as light emitting diodes (LED).

3. Customer

The customer expects consistent street lighting service from a reliable, highly functioning and safe system. This circuit replacement program shall re-establish the expected operational and safety performance.

4. Regulation/Reputation

The resolution of elevated voltage conditions shall support the established expectations for a safe and reliable street lighting system. The prospect of minimizing elevated voltage incidents may reduce the need for or frequency of mobile testing. Ultimately, a proper operating street lighting system should save long-term costs and most importantly promote enhanced public safety.

D. Estimated Costs

		Current Planning Horizon						
$M	Prior YRS	Yr 2 13/14	Yr 3 14/15	Yr 4 15/16	Yr 5 16/17	Yr 6 17/18	Yr 7+	*Program Total*
Proposed Capex Investment	1.232	2.500	2.500	2.500	2.500	2.500	12.500	25.000
Proposed Opex Investment	0.149	0.150	0.150	0.150	0.150	0.150	0.750	1.500
Proposed Removal Investment	0.184	0.400	0.400	0.400	0.400	0.400	2.000	4.000
CIAC / Reimbursement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	$1.565	$3.050	$3.050	$3.050	$3.050	$3.050	$15.250	$30.500

E. Implementation

The multi-year program will utilize both Company and contractor resources. Although specific circuits will be identified for replacement based on elevated voltage incident rates or poor electrical performance, the scope of work will depend on whether a cable can be easily replaced or whether it requires complete conduit replacement. The initial strategy is to use Company personnel to assess individual circuit construction needs. It is anticipated that Company personnel will perform the necessary construction for circuits within sensitive community areas. Conversely, areas that are known to require defined installation techniques will be designed and released to a contractor for construction. It is estimated that approximately 40% of the circuits replaced will require conduit replacement. Depending upon the location and surrounding environment, conduit installation may be performed by open excavation or directional boring. Any site restoration activities are expected to be performed immediately following construction except when postponed by weather. The aspect of maintaining a relatively confined project area is anticipated to consolidate resources, maximize efficiencies, and minimize overall costs.

F. Reporting

The Company proposes to report annual program performance as part of the annual Capital Investment Plan report. The report will include asset information relative to the replacement of underground street lighting circuitry as well as capital investment levels. The Company will also annually provide updated prioritization and the plan for the upcoming fiscal year's work for this program by providing the circuits to be targeted for replacement.

References

Exhibit A – Inspection Data – Maintenance Codes

Exhibit B – General Locations of New Street Light Underground Circuit Installations

Exhibit C - General Locations of UG Street Lights to be Removed

Exhibit D – City of Buffalo Zone Maps (1 – 11)

Exhibit E – City of Buffalo Zone Maps with Incidents (1-12)

Exhibit F – Planned FY 2014 & 2015 Local Target Area Locations

Exhibit G – Local Target Area UG Circuit Details

Exhibit H – Proposed FY 2016 Target Location Details

Appendices

Appendix 1 - Electric Operating Procedure G016 – Elevated Equipment Voltage Testing

Appendix 2 – Electric Operating Procedure G017 – Street Light Standard Inspection Program

EXHIBIT A -
Inspection Data – Maintenance Codes

The highlighted maintenance codes represent the Inspection data included in the priority assessment.

Maintenance Code	Description	Priority	Category
300	Light "ON" Day	2	Luminaire
301	Replace Lens	2	Luminaire
302	Clean	4	Luminaire
303	Paint	4	Luminaire
304	Replace Wattage Label	4	Luminaire
305	Wires Exposed	1	Luminaire
306	Damaged - Replace	2	Luminaire
307	Missing	4	Luminaire
308	Other - Comments	4	Luminaire
320	Damaged - Replace	2	Arm
321	Damaged - Repair	4	Arm
322	Rust - Paint	4	Arm
323	Other - Comments	4	Arm
330	Structure Damage - Replace	4	Standard
331	Damaged/Leaning - Repair	4	Standard
332	Paint/Maintenance	4	Standard
333	Access Cover - Replace	P	Standard
334	Bad Wiring - Repair	4	Standard
335	Stencil Required	4	Standard
336	Temporary Overhead	2	Standard
337	Ground - Repair	2	Standard
338	Knockdown/Missing	4	Standard
339	Other - Comments	4	Standard
350	Damaged/Leaning - Repair	4	Foundation
351	Anchor Bolts Damaged	4	Foundation
352	Elevated - Repair	4	Foundation
353	Other - Comments	4	Foundation
342	Access Door not Operational	B	Standard
344	Standard Repair 1 Patch	P	Standard
345	Standard Repair 2 Patches	P	Standard
346	Standard Repair 3 Patches	P	Standard
347	Standard Repair Wrap Material	P	Standard
348	Standard Repair Angle Guard	P	Standard
349	Knockdown Box/Cone Installed	P	Standard

EXHIBIT B
General Locations of New Street Light Underground Circuitry Installations

Street	Cross Street	Cross Street	Zone	Comment
Ashland	Forest	Bird	6	250 LF – Sewer Proj
Bailey	Genesee	E. Ferry	8	1100LF
Carleton	Ellicott	Michigan	4	Medical Campus Proj
Claremont	Forest	Potomac	6	1330LF – Sewer Proj
Clarendon Place	Forest	Bird	6	1520LF – Sewer Proj
Clinton	Ellicott	Oak	4	
Clinton	Pine	Jefferson	4	
Ellicott	Virginia	High	4	Medical Campus Proj
Elmwood (West)	Rt 198	Forest	7	1600LF – Tree Proj
Elmwood (East)	Rt 198	Forest	7	1600LF – Tree Proj
Erie Blvd Mall	Templeton	Harbor	3	Erie Basin Marina
Forest	Elmwood	Ashland	6	600LF – Sewer Proj
Franklin	Edward	Chippewa	4	
Fuhrmann	Coast Guard Station	Tift	1	
High	Ellicott	Michigan	4	Medical Campus Proj
Laurel	Masten	Main	4	
Main (Rt 5)	Humbolt Pkwy	Bailey	7, 10, 11	Reconstruction
Parkdale	Forest	Potomac	6	1300LF – Sewer Proj
Pearl	Edward	Chippewa	4	
Richmond	Forest	Potomac	6	Sewer Proj
Seneca	Michigan	Louisiana	4	8500LF
Skyway (Rt 5)	Church	Fuhrmann	3, 4	Bridge
Swan	Michigan	Jefferson	4	
South Park	Illinois	Hamburg	4	
Tift	Rt 5 - Skyway	Hopkins	1	
William	Michigan	Jefferson	4	

EXHIBIT C
General Locations of UG Street Lights to be Removed

Safety Condition – Clearance Steel Street Light Standards Proximity to Overhead Distribution Conductors [Underground Street Light Service to be Relocated to Overhead Street Light Service]			
Street	Cross Street	Cross Street	Zone
Spring	Clinton	Swan	4
Hickory	Clinton	South Division	4
Hickory	William	Clinton	4
South Division	Pine	Spring	4

EXHIBIT D
City of Buffalo Zone Maps – Zone 1

EXHIBIT D
City of Buffalo Zone Maps – Zone 2

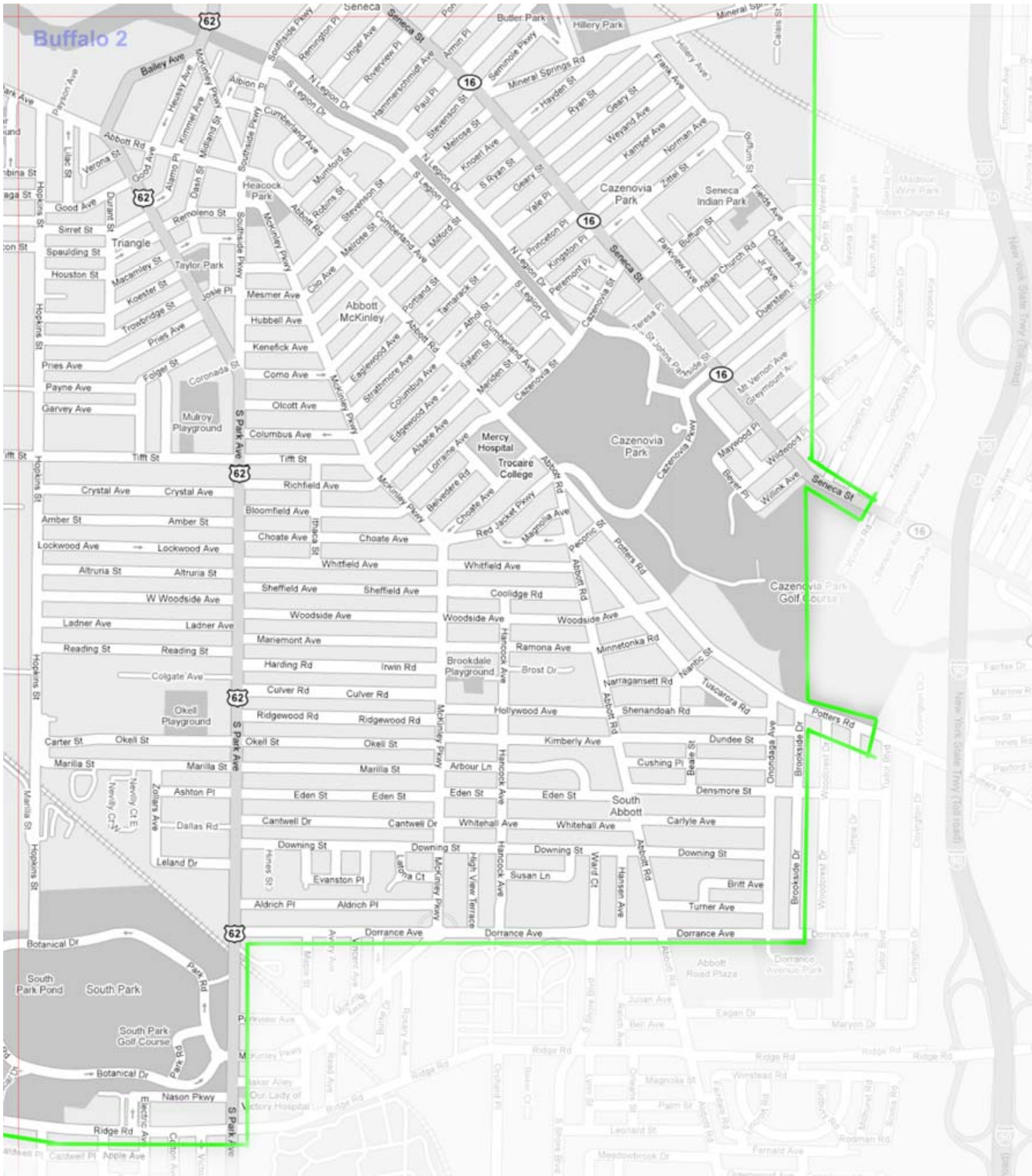


EXHIBIT D
City of Buffalo Zone Maps – Zone 3

EXHIBIT D
City of Buffalo Zone Maps – Zone 4

EXHIBIT D
City of Buffalo Zone Maps – Zone 5

EXHIBIT D
City of Buffalo Zone Maps – Zone 6

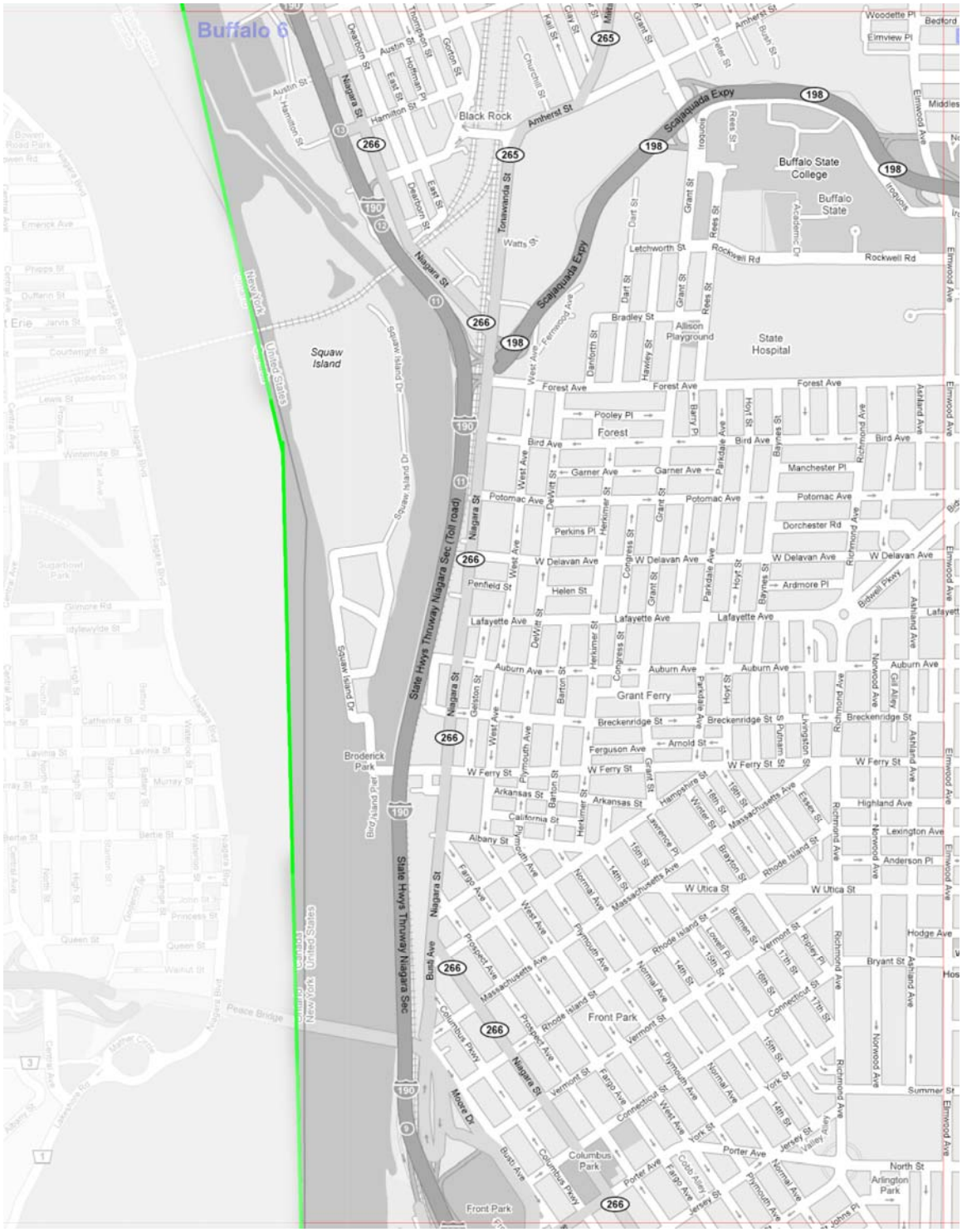


EXHIBIT D
City of Buffalo Zone Maps – Zone 7

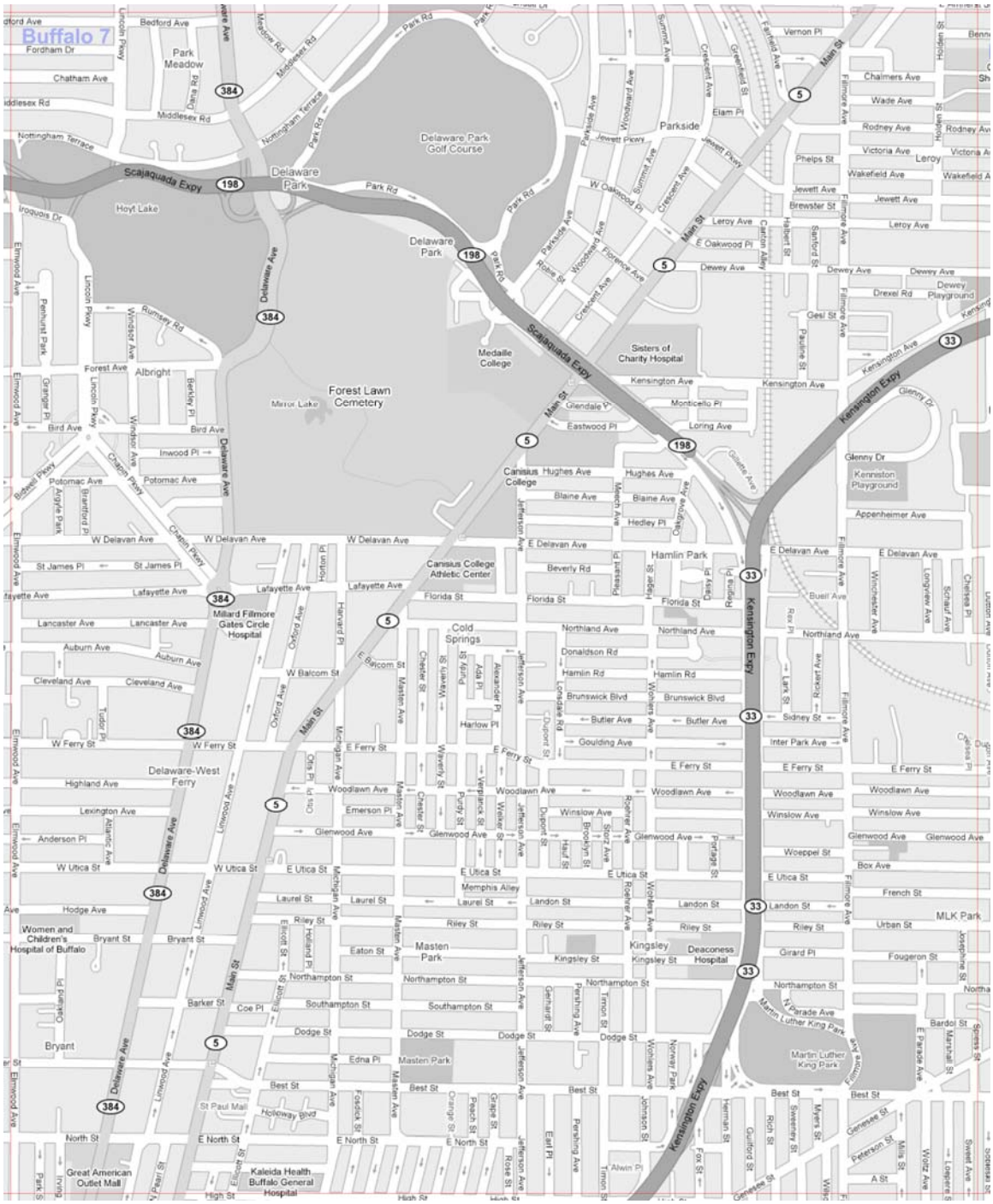


EXHIBIT D
City of Buffalo Zone Maps – Zone 8

EXHIBIT D
City of Buffalo Zone Maps – Zone 9

EXHIBIT D
City of Buffalo Zone Maps – Zone 10

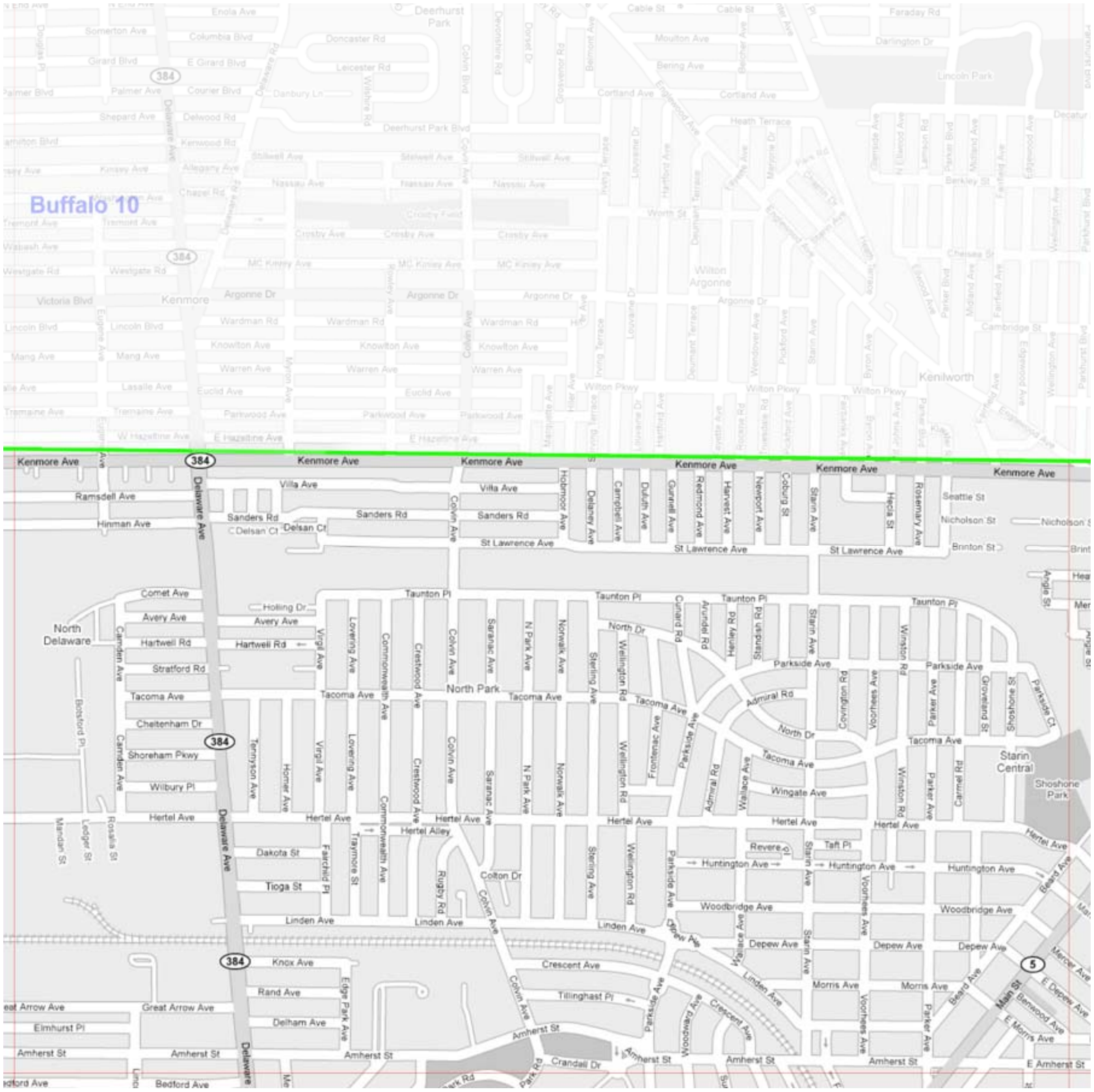


EXHIBIT D
City of Buffalo Zone Maps – Zone 11

EXHIBIT E
City of Buffalo Zone Maps with Incidents – Complete

City of Buffalo SL Cable Replacement Program
All Incidents

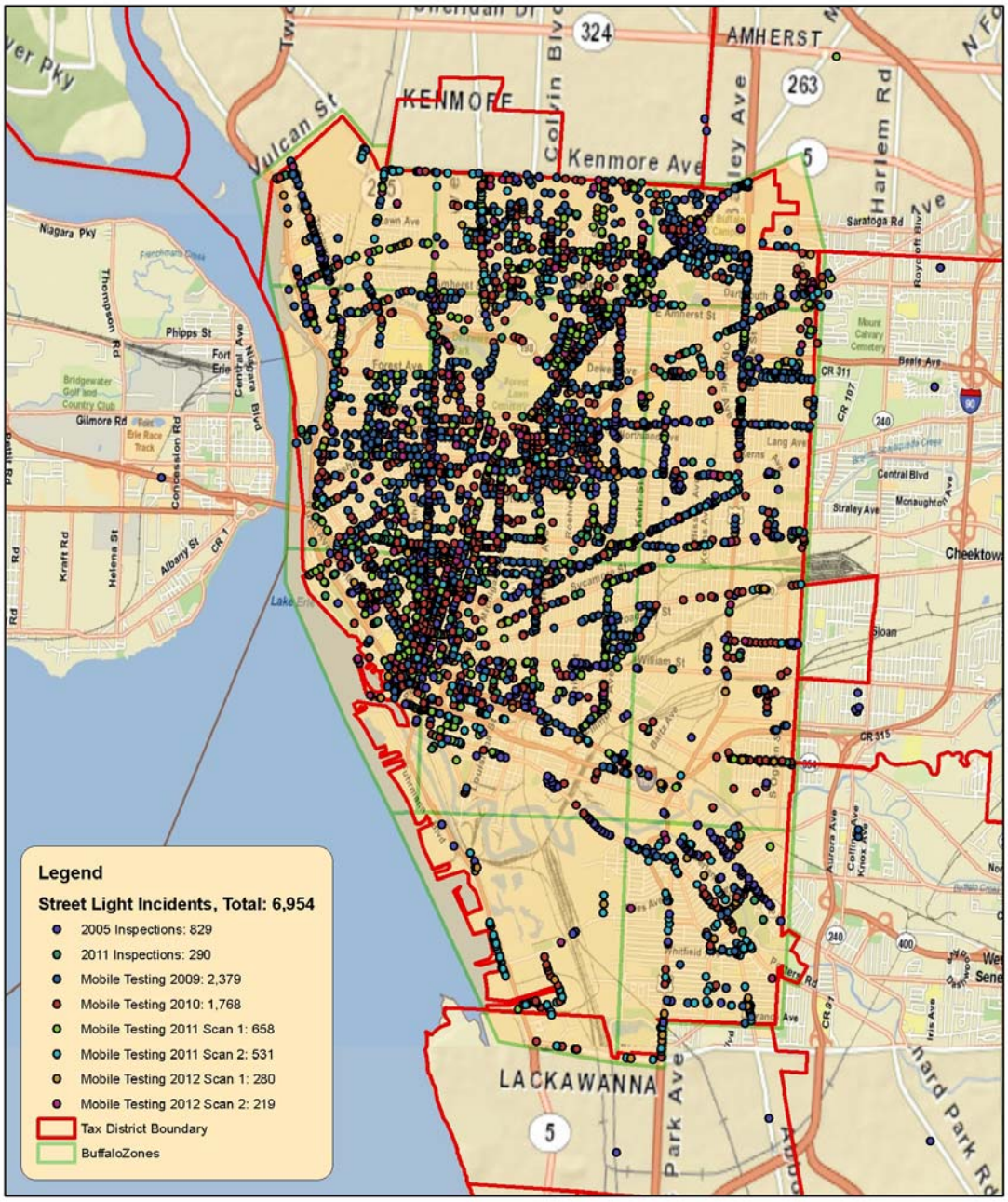


EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 1

City of Buffalo SL Cable Replacement Program
Zone 1

EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 2

City of Buffalo SL Cable Replacement Program
Zone 2

EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 3

City of Buffalo SL Cable Replacement Program
Zone 3

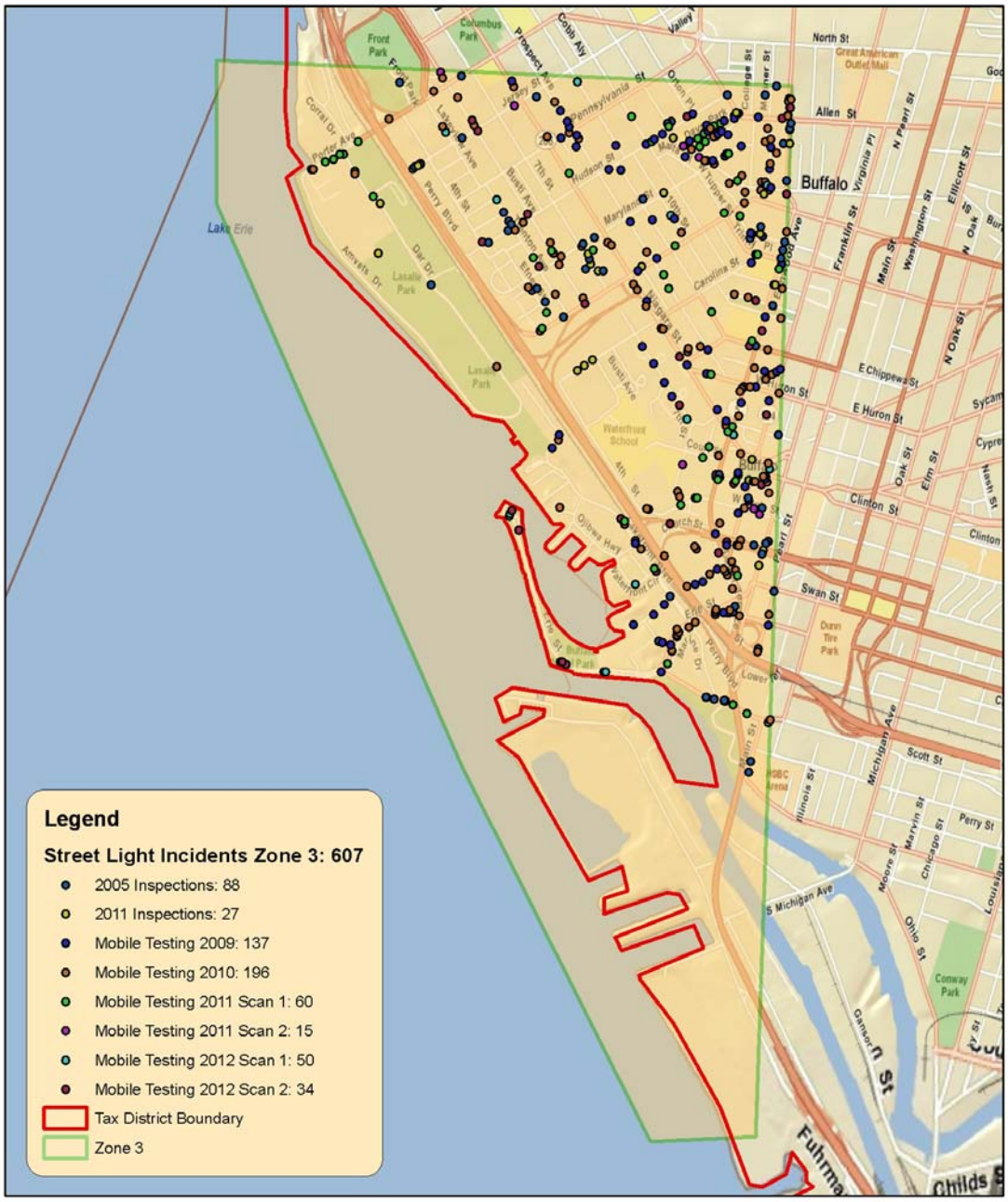


EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 4

City of Buffalo SL Cable Replacement Program
Zone 4

EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 5

City of Buffalo SL Cable Replacement Program
Zone 5

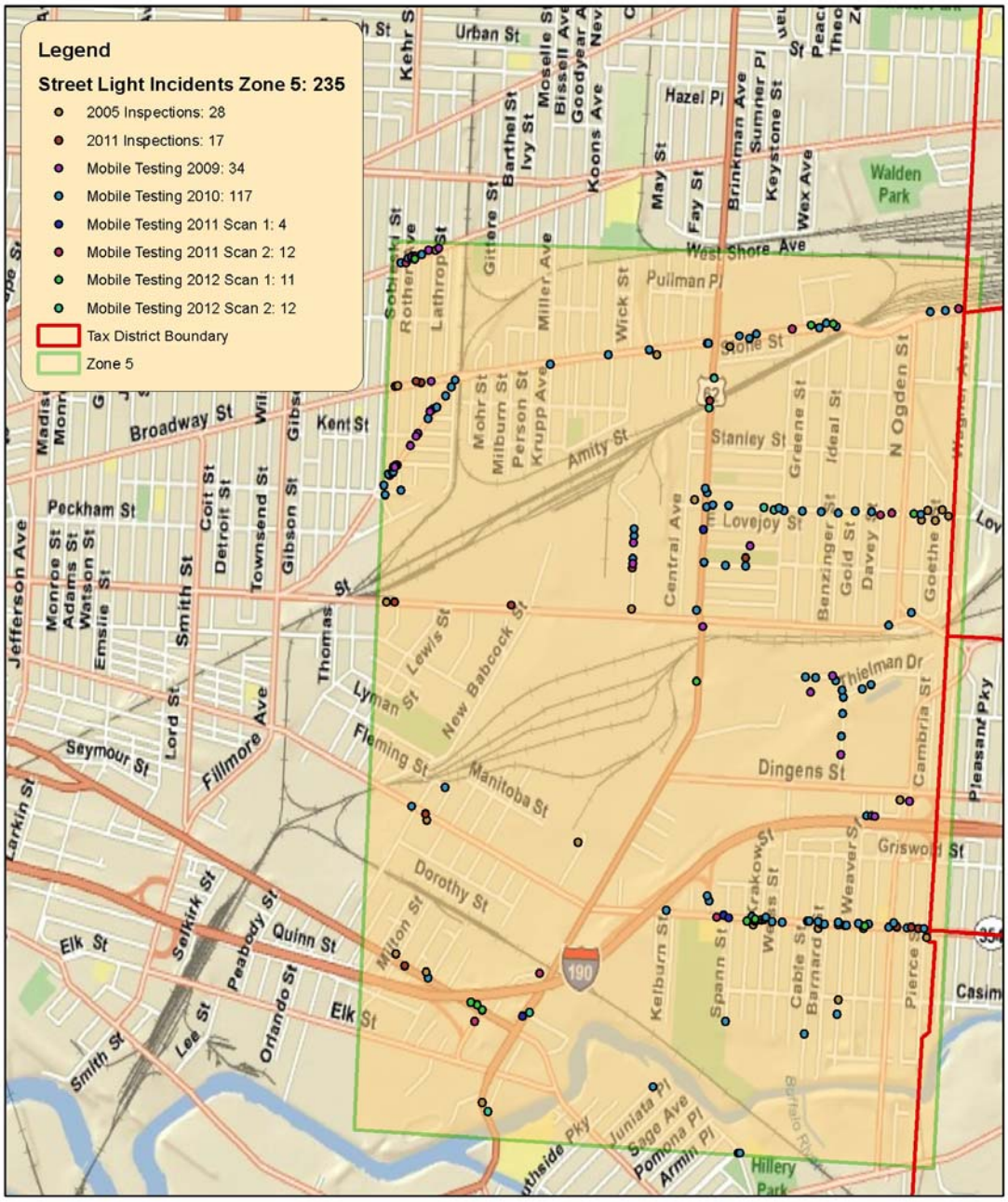


EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 6

City of Buffalo SL Cable Replacement Program
Zone 6

EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 7

City of Buffalo SL Cable Replacement Program
Zone 7

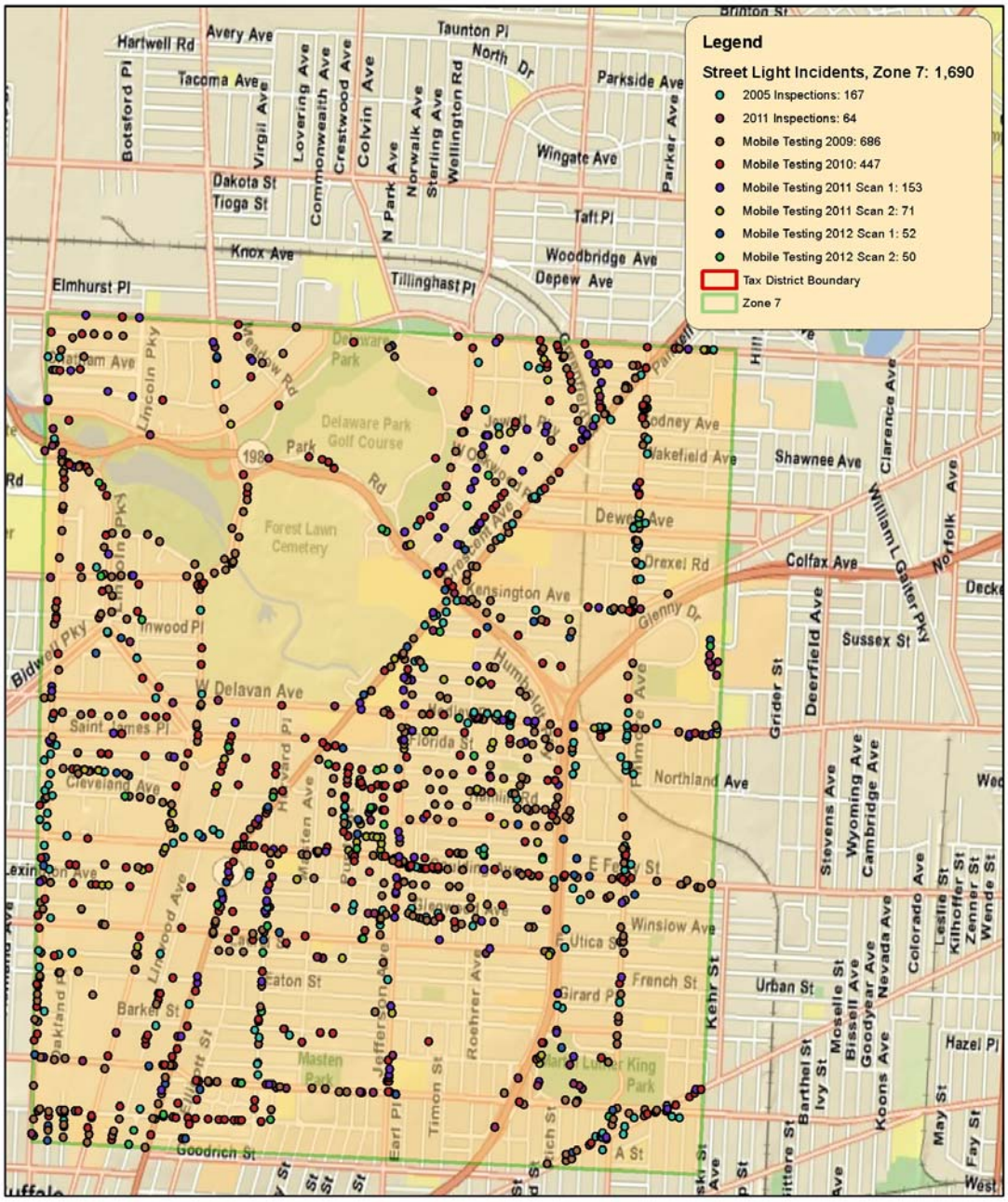


EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 8

City of Buffalo SL Cable Replacement Program
Zone 8

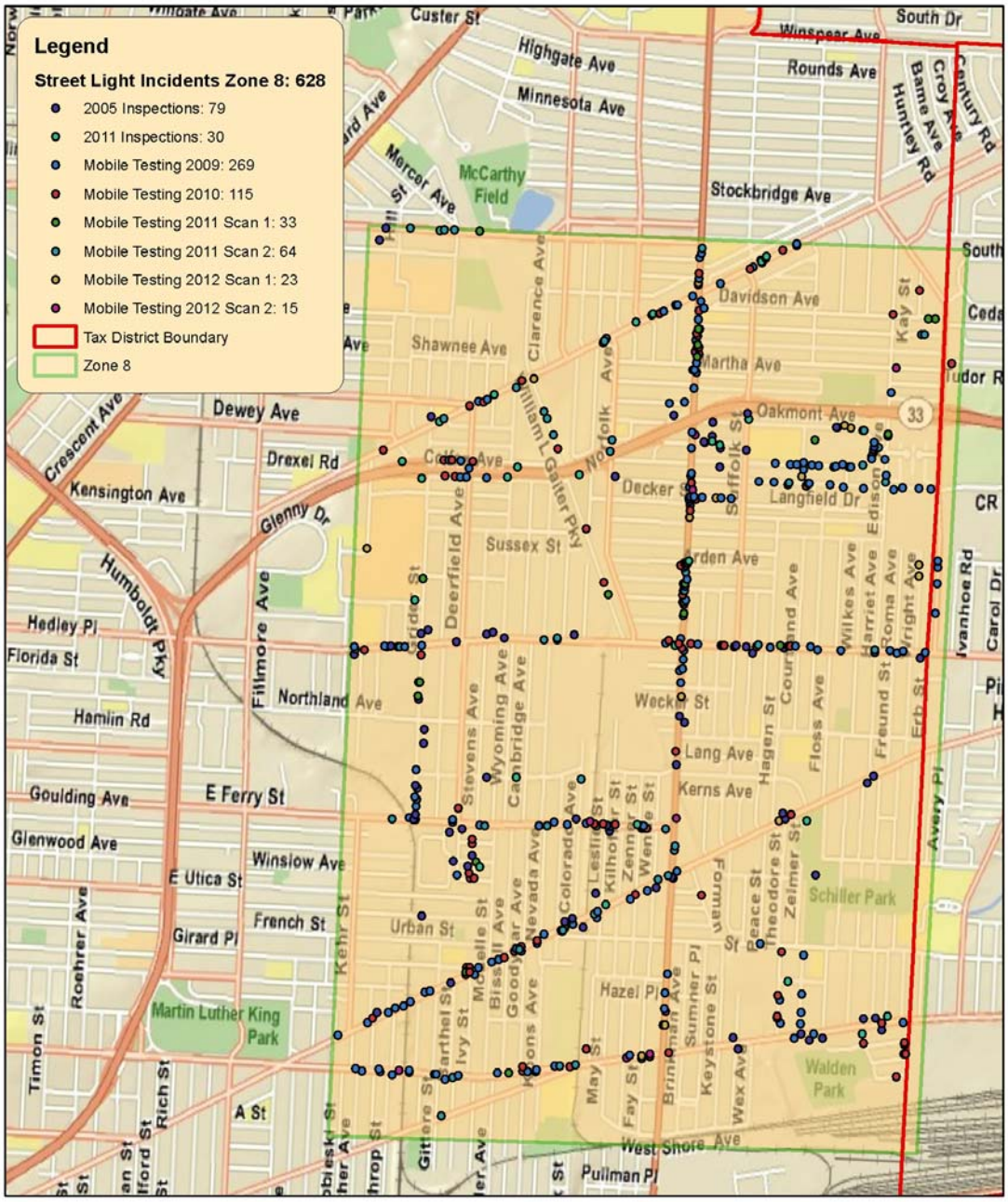


EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 9

City of Buffalo SL Cable Replacement Program
Zone 9

EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 10

City of Buffalo SL Cable Replacement Program
Zone 10

EXHIBIT E
City of Buffalo Zone Maps with Incidents – Zone 11

City of Buffalo SL Cable Replacement Program
Zone 11

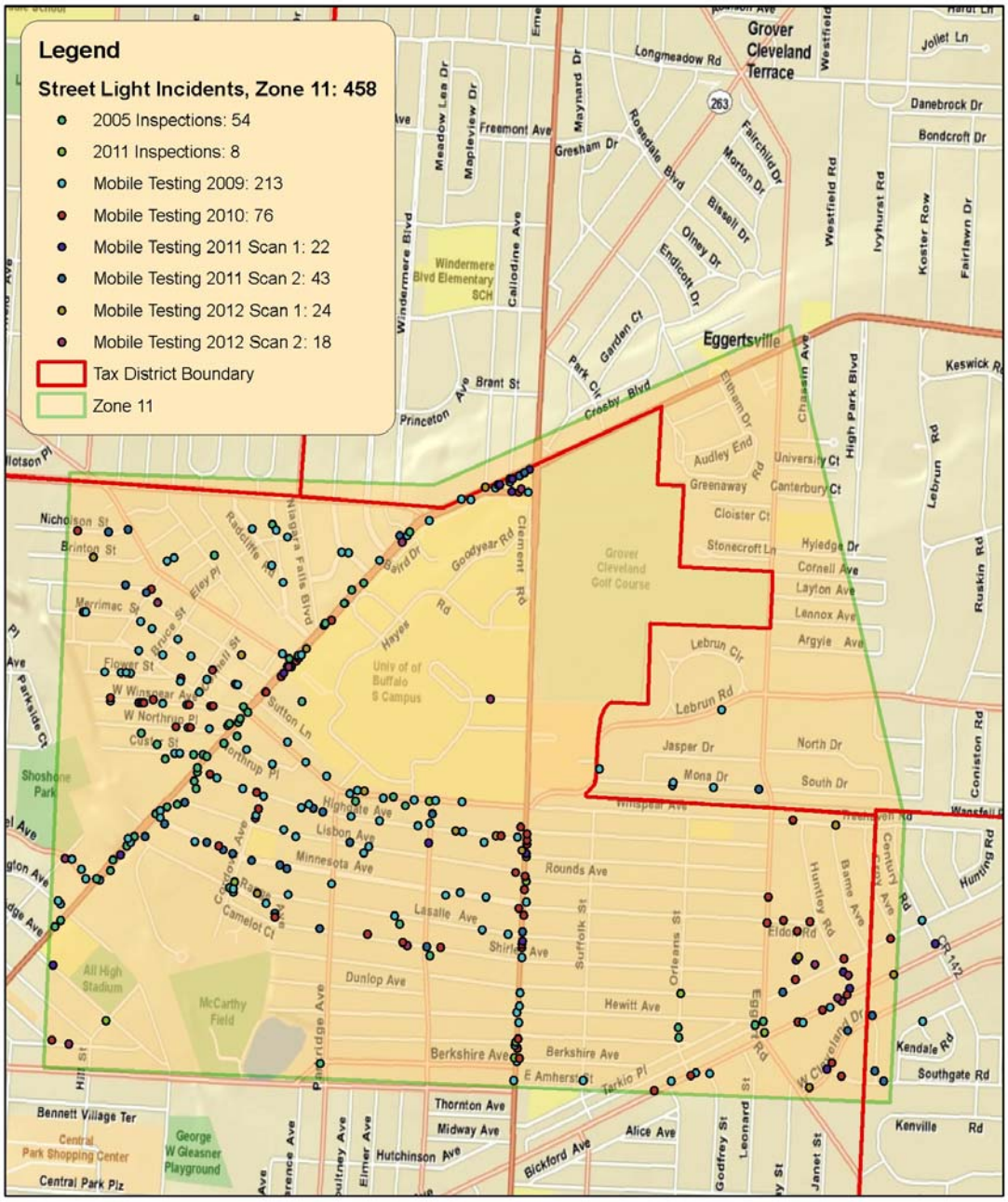


EXHIBIT F – Planned FY 2014 & 2015 Local Target Area Locations, Zone 7

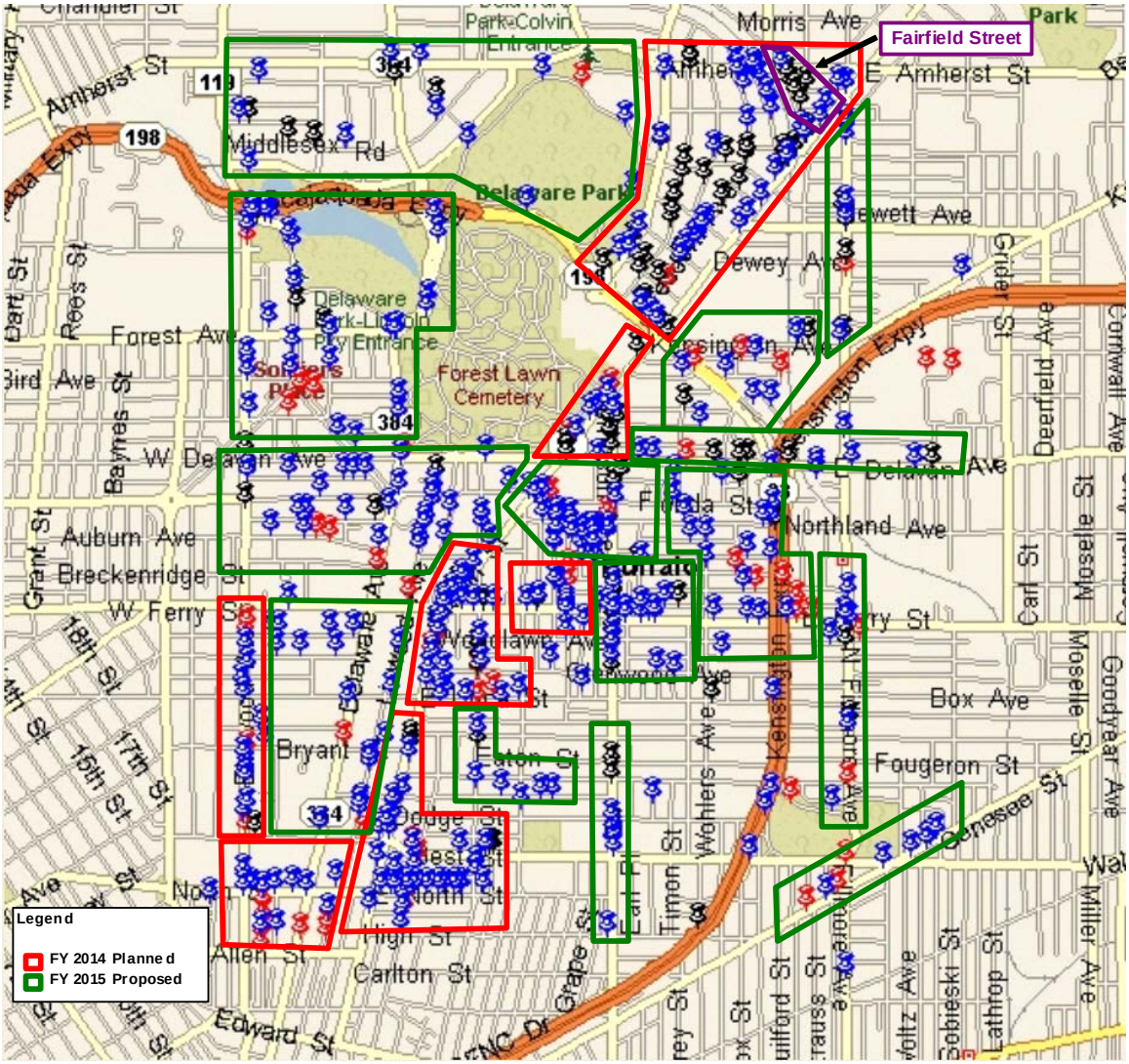


EXHIBIT G – Local Target Area UG Circuit Details, (Zone 7 - Fairfield Street)

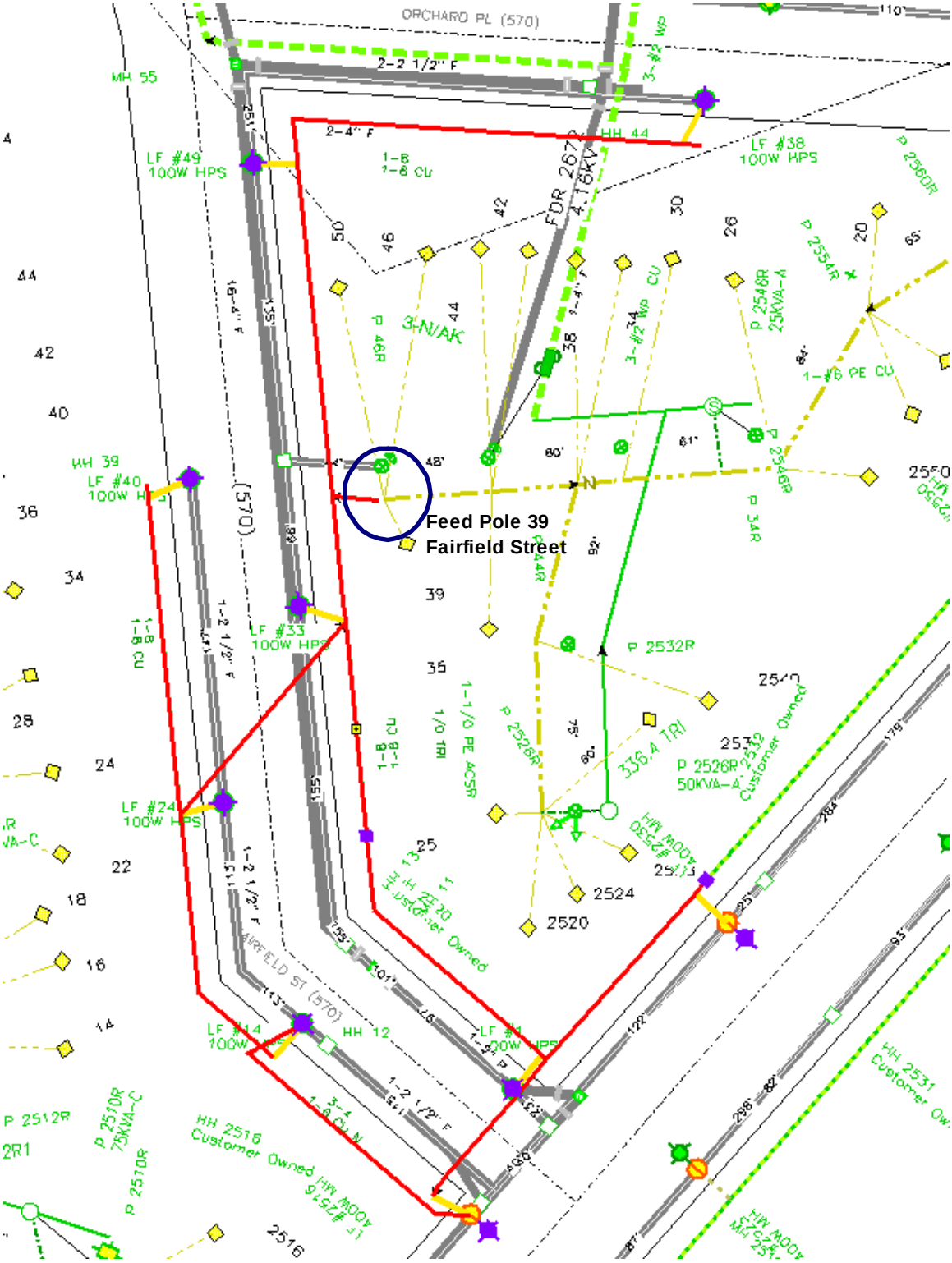


EXHIBIT H – Proposed FY 2016 Target Location Details, Zone 4