

Street Light Replacement Plan 2018



Project Consultants:

Glos Associates Incorporated
Acuity Brands Lighting Incorporated
P. B. S. Engineering Incorporated

Background:

In response to Council's authorization to undertake a street lighting assessment for Talbot Street in Essex Centre, with the goal of complete street light replacement, our consultants have evaluated our existing street-lighting infrastructure .

They have developed a street lighting replacement plan and we will be in position to issue a call for tenders, should Council adopt the plan and set a project start date.

It is anticipated that the start date would be early in 2018.

Between Fairview and Maidstone Avenue, there is 51 steel pole streetlights, 6 steel utility poles, 1 wooden pole and 33 black aluminium pole streetlights.

The steel poles are over 60 years old and in need of more frequent inspections to assess their structural integrity.



The lighting system is of the High Pressure Sodium type (HPS). Compared with modern Light Emitting Diode (LED) systems, HPS lighting is less efficient, requires higher maintenance and more frequent replacement.

Their physical scale, connection to overhead power lines and unsightly look add to our urban clutter,



a degraded streetscape



and a confusing community image.



Much of our street infrastructure is dated and difficult to modernize.



However, last summer, in response to the wishes of the Essex Centre BIA and local businesses, the burgundy coloured street light poles on Talbot Street from Arthur to Victoria Street were removed, refurbished and painted black.

The weathered traffic signal poles at Talbot and Centre Street were also painted black to compliment them.

These efforts have been well received by the community and have raised interest in more street lighting improvements.



The refurbished poles were the inspiration for the comprehensive street lighting plan to be recommended to Council.



In the proposed plan, the steel poles would be replaced with black aluminium poles and lighting of a comparable design to our downtown poles and lights.



The recommended replacement light standard is a Holophane Granville II with a Salem aluminium pole and decorative skirt.





Salem Aluminum Pole Granville® II LED 2 (GVD2)



POLE ATTRIBUTES:

Description The lighting post shall be all aluminum, one-piece construction, with a classic square base design.

Materials The base shall be heavy wall, cast aluminum produced from certified ASTM 356.1 Ingot per ASTM B-179-95a or ASTM B26-95. The straight shafts shall be extruded from aluminum, ASTM 6061 alloy. The tapered shaft shall be extruded from aluminum, ASTM 6063 alloy, spun to a tapered shape. Material heat treated to a T6 temper.

Construction The shaft shall be double welded to the base casting and shipped as one piece for maximum structural integrity. The shaft shall be welded inside the base casting at the top of the access door, and externally where the shaft exits the base. All welding shall be per ANSI/AWS.

Dimensions The post shall have a 9" or 13" diameter base. At the top of the post, an integral tenon with a transitional donut shall be provided for luminaire mounting.

Installation The post has an option to have four L-Type hot dip galvanized anchor bolts shipped with it. A door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

FIXTURE ATTRIBUTES:

General The GranVille® II Classic LED 2 is designed for ease of maintenance with the electrical module common to HoloPhane's original GranVille Series. A precision optical system that maximizes post spacing while maintaining uniform illumination.

Features and Benefits

- Engineered LED system for maximum performance and reliability
- Designed for use with original globes and housings maintaining familiar appearance
- Optimized to meet existing lighting standards
- Asymmetric and Symmetric distributions offer application design flexibility
- Simple access to electronic driver and components for ease of maintenance

Typical Applications

- City Streets
- Parks
- Residential Areas
- Campuses
- Walkways
- Parking Lots

Finish/Material The luminaire is finished with polyester powder paint, and, the luminaire housing is cast of aluminum. Luminaire Mounts to P07 (3X3) Tenon
Configure Entire Pole Package Assmembly For Pole and Arm Combinations

It is a black polyester painted, cast aluminium pole having a height of 4.3m (14 feet). It will be topped by the same long life (20 year) glass fixture as the downtown light fixtures and it will have an electrical outlet for seasonal lighting.



The pole has fluted channels in which brackets for flower basket hangers and banner arms can be mounted by means of a retainer block which can be moved at any time to various heights without the necessity of strapping.



The lights will be LED modules which will replace the HPS lighting presently on the existing silver poles and mercury vapour cells presently on the existing black poles.

They have a 10 year warrantied life and even longer actual field life compared with the 5-7 year field life for HPS Mercury Vapour (MV) systems. The LED light, driver, photocell and finish are rated for 100,000 hours, a 22 year or greater life span.

Annual energy and maintenance savings will average \$27,000 based on today's costing.

It is proposed that the existing street lighting be replaced in two phases.



Recommendations

Phase 1: Estimated cost \$980,000

It is recommended that the silver poles and HPS lighting be replaced in their entirety, as a first phase project, and that the downtown black poles and MV lighting be replaced in a second subsequent phase.

In Phase 1, the new streetlights would replace the steel poles (street light and utility) generally at the same locations. The new lighting system will provide a better light distribution, despite their reduced height.

They will be aesthetically superior to the steel poles and most wiring would be underground for a much cleaner appearance and easier maintenance.

More befitting of an approachable small town image, they will complement the downtown aesthetically and provide better, more consistent illumination all along Talbot Street from Fairview to Maidstone.



As well, the new poles can be located further from curbs and existing driveways.



Redundant features would be eliminated.



A provision would be made for future supplementary lighting, such as, a lighted archway entrance to the park and pedestrian lighting along the walkway.



While not all poles can be removed because they perform other functions, lighting can be removed from them to reduce their visual impact. We are exploring with ELK Energy, the long term possibility of removing some overhead power lines, where feasible, for poles that cannot be replaced.



Otherwise, overhead wiring will be eliminated along the entire route.



It is also recommended that street identification signage be completely replaced with signage of a more consistent and attractive format to complement the new street lighting.



A pair of banner poles to provide for street-wide festival banners will be required to compensate for the removal of the higher street lights near the intersection of Talbot Street and Fairview Avenue.

Phase 2: Estimated cost \$210,000

In Phase 2, the 33 existing black streetlights would be replaced with the new poles at the same locations. The existing light fixtures with new LED modules will be mounted on the replacement poles.

Street signage at the downtown street intersections with Talbot Street would also be replaced.

Phase 2 Option: Estimated cost \$16,000

Optionally, Council may choose to replace the light modules within the existing light fixtures, substituting the mercury vapour lighting with LED light modules.

The existing black poles were recently repaired and repainted increasing their longevity and improving their appearance.

As such, new lighting can be retro-fitted into the existing light fixture at a low cost with the potential to place the LED modules and glass fixtures onto new replacement poles in the future.

Summary

Most of the Talbot Street street lighting infrastructure is over 60 years old, inefficient, aesthetically unappealing and in need of replacement.

The proposed lighting system consists of 14 foot high extruded aluminium, fluted, black powder coated poles, topped by long life, high efficiency, low maintenance LED lights in long life glass fixtures.

They would present a more attractive streetscape and a more welcoming entrance into Essex Centre, while providing better light distribution, lower operating and maintenance costs and much greater longevity.

Project Phasing

Phase 1:

- replacement of the steel poles and lighting from Fairview to Southland Plaza and from Victoria to Maidstone, including the provision of underground electrical services to the streetlights and to the Heritage Park entrance;
- replacement of all street identification signage at all intersections; and
- the installation of two banner poles for street wide festival banners, north of Fairview.

Estimated project cost: \$980,000

Phase 2:

- replacement of the 33 black street light poles from Arthur to Victoria, while retaining the existing light fixtures retrofitted with new LED modules; and
- replacement of street signage at the street intersections.

Estimated project cost: \$210,000

Alternative Lighting Option:

- defer pole replacement; and
- replace the MV light modules in the existing fixtures with re-usable LED modules

Estimated project cost: \$16,000

Next Steps:

That Council receive this presentation and that it be placed on the Town website for public comment.

That, on February 21, 2017, Planning submit a report to Council with specific recommendations for street lighting and street signage replacement in 2018.

