

RTG SYSTEMS INC.
ELECTRICAL CONSULTING ENGINEERS

January 10, 2018

Castles of Caledon Corporation
55 Blue Willow Drive
WOODBIDGE ON L4L 9E8

Attention: Mr. John Spina

**Reference: Belfountain Development, Visual Impact Assessment
Municipal Street Lighting System
Our File: 04XXX-00**

Dear Sir:

We have reviewed the input from the Niagara Escarpment Commission as it relates to the municipal streetlighting design associated with the proposed Belfountain development. This is being done in coordination with the Visual Impact Assessment being completed by Baker Turner Inc., with the intent of minimizing lighting effects on the scenic resources of the escarpment in consideration of Dark Sky principles.

The draft plan of subdivision indicates exclusive use of the Town of Caledon Standard 202, 18.0m municipal ROW. We also anticipate that the Town standard streetlighting assemblies will be used – coach style 40W LED fixture with 3000K colour temperature, mounted on a 1.5m decorative black scroll arm and a 9.9m direct buried octagonal concrete pole (mounting height of luminaire approx. 8.4m).

We anticipate that with a typical 50m spacing between poles, in a staggered arrangement, the light levels on the roadway will be approximately 5 lux average with a uniformity of approximately 3:1.

The 3000K colour temperature of the LED luminaires (warm white) is in keeping with current best design practices that minimize impact to the natural environment and associated wildlife. The LED luminaires themselves direct all light downward per Dark Sky principles. In any area where the municipal roadway abuts a park or sensitive natural areas, backshields can be specified on specific fixtures to mitigate any backlight.

The luminaires themselves do not contain glass refraction panels, minimizing glare from the fixtures.

Please contact us directly if there are any questions or concerns.

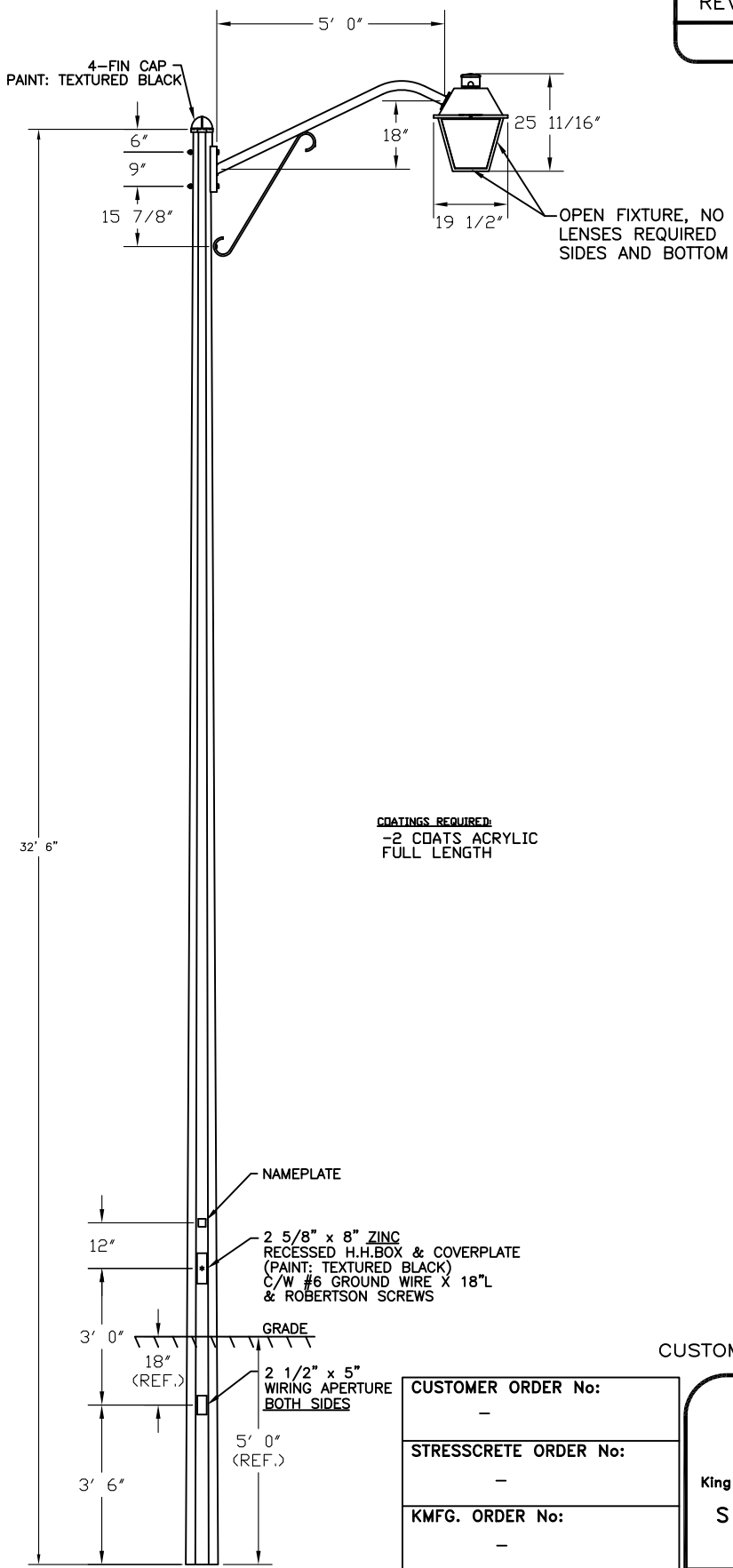
Yours truly,

**Ted Gayowsky, P. Eng.
Principal**

Copy To:

**Baker Turner Inc. - ATTN: Mr. Ted Baker, O.A.L.A.
Baker Turner Inc. – ATTN: Mr. Mike Thistle, O.A.L.A.**

REV.	ALTERATION	DATE	BY



LUMINAIRE SPECIFICATIONS

CATALOGUE NO.: K601D-S-P4NL-III-40(SSL)
-7030-120:277-EN-PR7-F4

QUANTITY:
MOUNTING TYPE: SIDE MOUNT
OPTICAL DESIGN: FLAT ARRAY
LENS MATERIAL: NO LENS
LENS FINISH: N/A
IES CLASS.: TYPE III
WATTAGE: 40W
SERIES: 7030
LIGHT SOURCE: SOLID STATE LIGHTING
LINE VOLTAGE: 120:277V
PHOTOCELL: 7-PIN TWISTLOCK RECEPTACLE (PHOTO-EYE BY OTHERS)
F4

FINIAL:
PAINT: TEXTURED BLACK
CCT/DIODE: 3000K/HE7
IES FILE: 601DPP4NL304030.ies

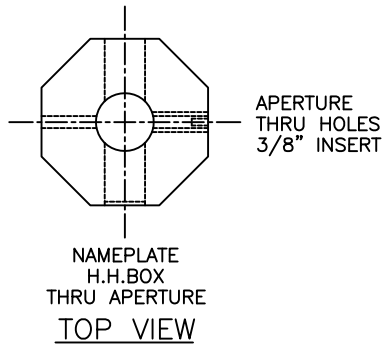
ARM SPECIFICATIONS

CATALOGUE NO.: KA175-LS
QUANTITY:
MATERIAL: ALUMINUM
PAINT: TEXTURED BLACK

POLE SPECIFICATIONS



CATALOGUE NO.: E325-BPO-GSA

QUANTITY:
SECTION: OCTAGONAL
COLOUR: ECLIPSE
FINISH: ETCHED
POLE TOP: 5 3/8" FL/FL
POLE BUTT: 8 1/2" FL/FL
POLE LENGTH: 32' 6"
APPROX WEIGHT: 1,450 lbs.
MIN. RACEWAY: 1 1/8" ø



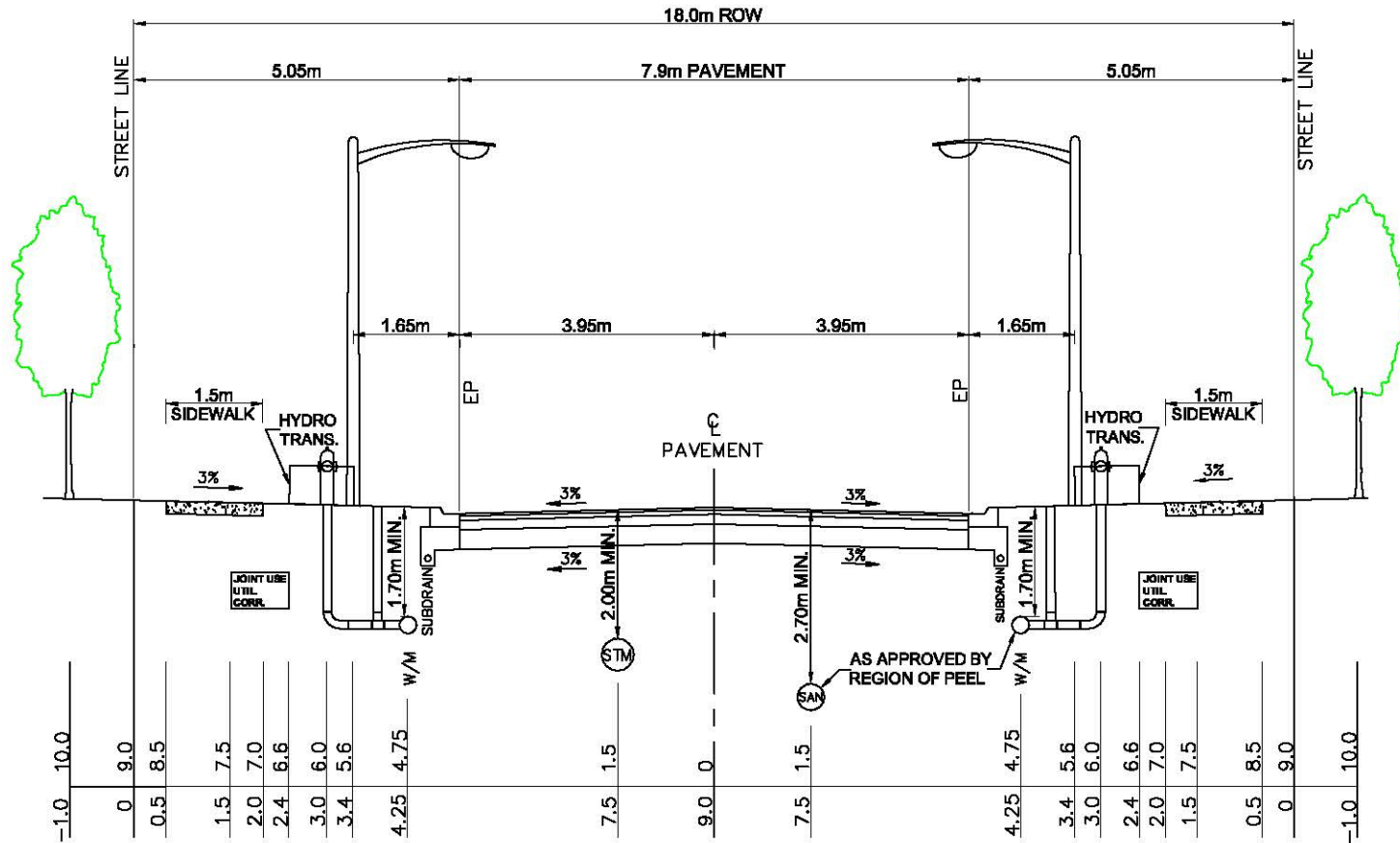
CUSTOMER APPROVAL & DATE: _____

CUSTOMER ORDER No:	-
STRESSCRETE ORDER No:	-
KMFG. ORDER No:	-
KING U.S. ORDER No:	-

  <p>King Luminaire • StressCrete • Est. 1953</p> <p>STRESSCRETE GROUP</p>	<p>Manufacturing Locations:</p> <p>Burlington, Ontario 1-800-268-7809</p> <p>Northport, Alabama 1-800-435-6563</p> <p>Atchison, Kansas 1-800-837-1024</p> <p>Jefferson, Ohio 1-800-268-7809</p>
	PROJECT/CUSTOMER:

Notes:
StressCrete makes no claims that the reference embedment depth shown is suitable for supporting this structure. It is recommended that a competent professional evaluate the soils present on site, confirming required embedment depth, hole diameter and backfill material to be used.

DRAWN BY:	AT:	CHECKED BY:	DATE:	REVISION:
DRAWING TYPE: CONCEPT DWG.			DRAWING NUMBER:	



NOTES

1. WATERMAIN TO HAVE MINIMUM COVER OF 1.7m.
2. UTILITY CORRIDOR TO HAVE A MINIMUM COVER OF 0.9m.
3. TREES TO BE PLACED IN LOCATIONS PER APPROVED LANDSCAPE PLAN.
4. STREETLIGHT FIXTURE PER APPROVED TOWN STANDARD.
5. THE FOLLOWING IS A MINIMUM ROAD BASE AND WILL REQUIRE A SOILS REPORT VERIFICATION
 - 40 mm HL3
 - 65 mm HL8
 - 150 mm GRANULAR "A"
 - 300 mm GRANULAR "B"
6. THE BOULEVARDS REQUIRE A MINIMUM OF 300mm OF TOPSOIL AND NURSERY SOD.
7. ON A CRESCENT THE WATERMAIN SHALL BE PLACED ON THE OUTSIDE.
8. FULL LENGTH MINIMUM 100 MM DIA.SUB-DRAINS C/W FILTERCLOTH SHALL BE INSTALLED, AS PER APPROVED TOWN OF CALEDON STANDARD NO. 219.
9. SUB-GRADE SHALL BE COMPACTED TO A MINIMUM 95% OF S.P.D. AT OPTIMUM MOISTURE CONTENT.
10. WHERE POSSIBLE MANHOLE LIDS TO BE LOCATED OUT OF TIRE LANE OF TRAFFIC.
- 11.LONG DIMENSION OF TRANSFORMER TO BE PARALLEL TO STREETLINE.

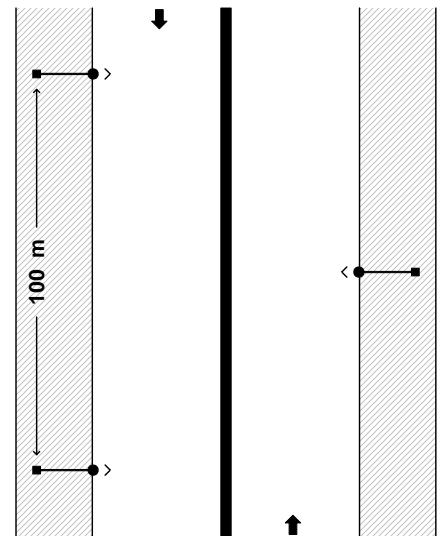
TOWN OF CALEDON 18.0m LOCAL ROAD 8.5m ROADWAY (7.9m PAVEMENT)	3	DIMENSION AND TEXT REVISION	JAN. 09	APRD: C.C.	DATE: JUNE 08
	2	DIMENSION AND LAYOUT REVISION	JULY 08	DRAWN:	SCALE: N.T.S.
	1	DIMENSION EDIT	JUNE 08	STANDARD No. 202	
	NO.	REVISION	APR'D		

Design Information

Project **Belfountain**
 Number **TBD**
 Name **Ted Gayowsky**
 Company **RTG Systems Inc.**

Roadway Information

Number Left Lanes **1**
 Left Lane Width **3.95 m**
 Median Width **0 m**
 Number Right Lanes **1**
 Right Lane Width **3.95 m**
 Calculation Method **IES RP8-2000**
 Pavement Reflectance **Asphalt - R3**
 Roadway Classification **Local**
 Pedestrian Conflict **Low**



Luminaire Information

Left Side

Label **K601 40W 3000K**
 Catalog Number **K601D-P-P4NL-III-40(SSL)-7030**
 Photometric File **601DPP4NL304030.I**
ES
 Lamp Lumens **Absolute**
 Light Loss Factor **0.90**
 Input Power **42.6 W**
 Tilt **0°**
 Arm Length **1.52 m**
 Mounting Height **8.4 m**
 Setback **1.65 m**
 Quantity **11**

Right Side

Label **K601 40W 3000K**
 Catalog Number **K601D-P-P4NL-III-40(SSL)-7030**
 Photometric File **601DPP4NL304030.I**
ES
 Lamp Lumens **Absolute**
 Light Loss Factor **0.90**
 Input Power **42.6 W**
 Tilt **0°**
 Arm Length **1.52 m**
 Mounting Height **8.4 m**
 Setback **1.65 m**
 Quantity **10**

Calculation Results - Right Side

Luminance

Average **0.4 cd/m²**
 Max **0.8 cd/m²**
 Min **0.2 cd/m²**
 Max/Min **4.0**
 Avg/Min **2.0**

Illuminance

Average **5.3 lux**
 Max **11.6 lux**
 Min **1.9 lux**
 Max/Min **6.1**
 Avg/Min **2.8**

Lv Ratio **0.3**
 STV **3.1**
 Spacing **100 m**
 Length **1000 m**
 Quantity **21**

Calculations are based on procedures established by the governing standards body or standard industry practice. Visual computes output performance based on input data as provided by, and which is the sole responsibility of, the user. Acuity Brands Lighting, Inc. cannot be held responsible for the variations in actual situations which can effect calculated output.