

File No. 04-1000-20-2016-029

April 18, 2016

s.22(1)

Dear s.22(1) :

Re: Request for Access to Records under the Freedom of Information and Protection of Privacy Act (the "Act")

I am responding to your request of January 18, 2016 for:

Information as to whether there have been any changes to the street lights which illuminate the intersection of Dave and Burrard Streets and whether there has been any change to the strength of the illumination the street lights produce. This may result from change in the type of street lights or the lumens the street lights emit, from February 10, 2012 to January 18, 2016.

All responsive records are attached. Some information in the records has been severed, (blacked out), under s.15(1)(l) and s.22(1) of the Act. You can read or download these sections here:

http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96165_00

Under section 52 of the Act you may ask the Information & Privacy Commissioner to review any matter related to the City's response to your request. The Act allows you 30 business days from the date you receive this notice to request a review by writing to: Office of the Information & Privacy Commissioner, info@oipc.bc.ca or by phoning 250-387-5629.

If you request a review, please provide the Commissioner's office with: 1) the request number assigned to your request (#04-1000-20-2016-029); 2) a copy of this letter; 3) a copy of your original request for information sent to the City of Vancouver; and 4) detailed reasons or grounds on which you are seeking the review.

Please do not hesitate to contact the Freedom of Information Office at foi@vancouver.ca if you have any questions.

Yours truly,

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

Barbara J. Van Fraassen, BA
Director, Access to Information
City Clerk's Department, City of Vancouver

Encl.

:kt



Eecol Electric (Sask) Inc
 19645-92A Avenue
 Langley BC V1M 3B3

Salesperson / Telephone / Fax
 /604-455-6060/604-881-1084

**CITY OF VANCOUVER
 Purchase Order**

PO number/date
 4500540304 / Oct 04, 2013
 Issuing employee/Telephone
 Scott Russell / 604-871-6208
 Our fax number Created by
 604-871-6104 RUSSESC
 Our email address
 scott.russell@vancouver.ca
 Our reference 4600004567

Please bill to:
 Accounts Payable
 PO Box 7757
 Vancouver, BC, V6B 0L5
 Tel/Fax: 604-673-8355, 604-673-8356
 Email : APCentral@vancouver.ca

Please deliver to:
 City of Vancouver Engineering
 NATIONAL YARD STORES
 701 National Avenue
 Vancouver, B.C. BC V6A 4L3

Delivery date: 2013/10/18

Please forward all invoices to the above "bill to" address. The purchase order number must be shown on all related invoices and correspondence.

Currency CAD

In accordance with PS20130263 - Supply and Delivery of Light Emitting Diode (LED) Street Lighting Cobrahead Luminaires, on an 'as and when required' basis, with purchase orders to be issued by National Yard Stores. The Supply Agreement is signed with Acuity Brand and the purchase order/payment goes through its distributor - Eecol Electric (Sask) Inc.

Delivery is to National Yard Stores.

Contact information:

City's Project Manager: Phil Wong, Electrical Design & Support Services, 604-871-6686

Acuity Brand / Holophane: Lynn Asselin, Phone: 1-604-815-0866 (Brackendale #), Cell Phone: 604-787-9087, email: lynn.asselin@holophane.com

Eecol Electric: Eric Kuntz, PH: 604-455-8160 FX: 604-881-4328
 Direct Line 604-455-8163, email: kuntzej@eecol.com

Goods receipts by National Yard Stores,

Item	Material #		Description	Unit price	Delivery Date		
	Order qty.	U/M			Ext. price	Tx	

Item	Material # Order qty.	U/M	Description	Unit price	Delivery Date Ext. price	Tx
00010	128601 47	Each	LUMINAIRE, LED, INTXN, ATB2 80B E10 R3	657.50	Oct 18, 2013 30,902.50	IB

LED Intersection Street Cobrahead Luminaires
 in accordance with the specifications set out herein.
 Make: ATB2 80BLED E10 MVOLT R3 NL
 Model Year and No.: AUTOBAHN AEL ATB2 2012

PRICE PER UNIT: \$655.00
 Provincial Environmental Levy \$2.50

00020	128621 63	Each	LUMINAIRE, LED, INTXN, ATB2 80B E70 R3	657.50	Oct 18, 2013 41,422.50	IB
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LED Intersection Street Cobrahead Luminaires
 in accordance with the specifications set out herein.
 Make: ATB2 80BLED E70 MVOLT R3 NL
 Model Year and No.: AUTOBAHN AEL ATB2 2012

PRICE PER UNIT: \$655.00
 Provincial Environmental Levy \$2.50

00030	128623 6	Each	LUMINAIRE, LED, RES. ATB2 60B E53 R2	518.50	Oct 18, 2013 3,111.00	IB
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LED Residential Street Cobrahead Luminaires in accordance with the
 specifications set out herein.
 Make: ATB2 60B LED E53 MVOLT R2 NL
 Model Year and No.: AUTOBAHN ATB2 2012

PRICE PER UNIT: \$516.00
 Provincial Environmental Levy \$2.50

00040	128622 12	Each	LUMINAIRE, LED, INTXN, ATB2 80B E53 R2	657.50	Oct 18, 2013 7,890.00	IB
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LED Intersection Street Cobrahead Luminaires
 in accordance with the specifications set out herein.
 Make: ATB2 80BLED E53 MVOLT R2 NL

Item	Material # Order qty.	U/M	Description	Unit price	Delivery Date Ext. price	Tx
			Model Year and No.: AUTOBAHN AEL ATB2 2012			
			PRICE PER UNIT: \$655.00			
			Provincial Environmental Levy \$2.50			
00050	128621 4	Each	LUMINAIRE, LED, INTXN, ATB2 80B E70 R3	657.50	Oct 18, 2013 2,630.00	IB
			LED Intersection Street Cobrahead Luminaires in accordance with the specifications set out herein. Make: ATB2 80BLED E70 MVOLT R3 NL Model Year and No.: AUTOBAHN AEL ATB2 2012			
			PRICE PER UNIT: \$655.00			
			Provincial Environmental Levy \$2.50			
00060	128624 2	Each	LUMINAIRE, LED, INTXN, ATB2 80B E53 R3	657.50	Oct 18, 2013 1,315.00	IB
			LED Intersection Street Cobrahead Luminaires in accordance with the specifications set out herein. Make: ATB2 80BLED E53 MVOLT R3 NL Model Year and No.: AUTOBAHN AEL ATB2 2012			
			PRICE PER UNIT: \$655.00			
			Provincial Environmental Levy \$2.50			
00070	128625 3	Each	LUMINAIRE, LED, ARTERIAL ATB2 40B E53 R2	407.50	Oct 18, 2013 1,222.50	IB
			LED Arterial Street Cobrahead Luminaires in accordance with the specifications set out herein. Make: ATB2 40BLED E53 MVOLT R2 NL Model Year and No.: AUTOBAHN AEL ATB2 2012			
			PRICE PER UNIT: \$405.00			
			Provincial Environmental Levy \$2.50			

Total net item value excluding tax

88,493.50

Item	Material # Order qty.	Description U/M	Unit price	Delivery Date Ext. price	Tx
		HST		0.00	
		Parking Tax		0.00	
		GST		4,424.69	
		PST		6,194.56	
		Total Including tax		99,112.75	

Tax code legend: IB - GST&PST Applied
 IG - GST Applied
 IM - GST Applied, PST Self-Assessed
 IN - Non-Taxable
 SB - GST&PST Applicable Self-Assessed
 SG - GST Applicable Self-Assessed

10% hold back for 90 days of Assessment Period as defined in Section 3.08 in the PS20130263 - Supply Agreement. The hold back can be released upon confirmation from the City's Project Manager if no defective product during the Assessment Period.

PURCHASE ORDER TERMS AND CONDITIONS

PRECEDENCE OF DOCUMENTS:

If there is a written contract for the sale and purchase of the goods or services referred to on the first page of this purchase order (the "Supply"), which written contract has been entered into prior to the issuance of this purchase order and is existing between the person or company to which this purchase order is addressed (the "Vendor") and the City of Vancouver (the "City") as of the time of the issuance of this purchase order, then this purchase order shall not be construed as an amendment to, or as a waiver of any term of, or as a contract supplementary to, such pre-existing contract (the "Contract"). Rather, in such event, the Contract shall govern the Supply, and, notwithstanding any other statement herein, the terms and conditions herein shall have no effect, except as may be expressly referred to in the Contract, and save that this purchase order may be used for the City's accounts payable and supplier-management purposes and that the City requests that the Vendor include the number of this purchase order on all invoices and other documents relating to the Supply and that the Vendor direct invoices for the Supply to the address set forth above under "Please bill to." If there is no Contract (as defined above), a contract will be formed on the terms and conditions stated in this purchase order upon the Vendor's execution of this purchase order or the commencement of performance of the Supply, in the manner and to the extent stated under "Offer and Acceptance" below.

REQUIRED DOCUMENTATION:

Failure to meet these requirements may result in the goods and/or invoices being returned at the Vendor's cost.

- a. The purchase order number must be shown on all related invoices, shipping papers, transportation bills, packages, packing lists and correspondence.
- b. A separate invoice must be rendered for each shipment or delivery and mailed or delivered with the goods to the Department/Division/Branch shown on the front of the purchase order. All invoices must bear a unique reference (invoice) number.
- c. A packing list must be included with each shipment applied against this purchase order.
- d. Where applicable, serial numbers are to be shown on the invoice including serial numbers of trade-in equipment.
- e. The Vendor shall provide appropriate labels and material safety data sheets for WHMIS regulated products. No product containing asbestos shall be supplied at any time without written authorization.

OFFER AND ACCEPTANCE:

The Vendor, by the execution of this purchase order or by the commencement of performance enters into a binding agreement of purchase and sale with the City for the supply of the goods and services as listed on the face of this purchase order subject to these terms and conditions.

The City's placement of this purchase order with the Vendor is expressly conditioned upon the Vendor's acceptance of all the terms and conditions contained on, attached to, or expressly incorporated by reference in this purchase order.

Any terms and conditions proposed by the Vendor that are inconsistent with or in addition to the terms and conditions of this purchase order are void and of no effect, whether

provided in an invoice, confirmation of purchase or other instrument.

PAYMENT:

Payment by the City shall be made after final acceptance by the City of the goods and services, notwithstanding any previous passing of title to the goods.

PRICES/TERMS OF SHIPMENT:

Unless otherwise noted on the face of the purchase order:

- a. prices and shipping terms are DDP (Incoterms 2000); and
- b. prices include all packing, handling, cartage, taxes, duties and are otherwise all-inclusive.

DELIVERY:

Time is of the essence. The Vendor must advise immediately of any shortage or delay of any kind. If delivery of goods and services is not completed by the delivery date, the City reserves the right to terminate this purchase order in whole or in part and to purchase substitute goods and services elsewhere and charge the Vendor with any incidental or consequential damages that might be incurred.

WARRANTY:

Without limitation to any additional warranties provided by the Vendor, whether indicated on the face of the purchase order or otherwise provided, the Vendor warrants that: (a) all goods shall be of merchantable quality and free from defects in workmanship and materials; (b) all goods shall strictly conform to applicable samples, specifications and drawings; (c) all goods and services shall be fit for the purpose intended by the City; (d) all goods shall be free and clear of all liens, charges and encumbrances; (e) the goods and services shall comply with the standards set forth by applicable federal, provincial, municipal and industry regulatory agencies; (f) the shipping and handling of any hazardous material will be made in accordance with all applicable laws and regulations; and (g) the goods and services shall comply with all applicable environmental protection laws and regulations.

Unless a longer warranty period is specified on the face of the purchase order or is otherwise provided, the foregoing warranty shall be valid for one year from the date of acceptance of the goods and services by the City. If at any time prior to the expiration of any applicable warranty period, any weakness, deficiency, failure, breakdown or deterioration in workmanship or material should appear or be discovered in the goods and services furnished by the Vendor, or if the goods and services do not conform to the terms and conditions of this purchase order, the City may at its option (a) require the Vendor to promptly replace, redesign or correct the defective and non-conforming goods and services at no expense to the City, or (b) the City may replace or correct the defective goods and services and charge the Vendor with all expenses incurred by the City. The Vendor agrees to indemnify and save harmless the City, its members, officers, employees, assigns, agents, clients and the public from any liability, loss, cost and expense arising either directly or indirectly, from breach of any warranty given by the Vendor hereunder.

INSPECTION:

All goods and services are subject to inspection and approval by the City upon delivery. The City reserves the right to refuse acceptance of goods and services which are not in accordance with City's specifications or not in compliance with the Vendor's warranties (expressed or implied). Goods not accepted will be returned to the Vendor at the Vendor's expense. The City will not be deemed to have accepted goods and services by virtue of a partial or full payment for them and in no event unless and until the City gives the Vendor written confirmation of acceptance following the City's receipt, inspection and approval of the goods and services.

PASSAGE OF TITLE/RISK:

Despite any other term of this purchase order, risk of loss or damage to the goods and services will remain with the Vendor until the receipt, inspection and written approval of the goods and services by the City.

INSURANCE:

The Vendor shall purchase and maintain insurance appropriate for a prudent supplier of the goods and services. The Vendor shall provide proof of such insurance, if so requested by the City.

INDEMNITY:

The Vendor agrees to indemnify and save harmless the City, its members, officers, employees, assigns, agents and clients from any liability, loss, cost and expense arising directly or indirectly from claims, proceedings and investigations ("Losses") advanced by or on behalf of third parties to the extent such Losses are caused or contributed to by any breach of this agreement by the Vendor or negligence or willful misconduct by the Vendor or other party for whom the Vendor is responsible.

WAIVER AND LIMITATIONS OF LIABILITY:

The Vendor hereby waives and disclaims any right of action or claim against the City (other than for payment of the purchase price set forth on the face of this purchase order) for any liability, loss, cost and expense arising directly or indirectly from its supply of the goods and services listed on the face of this purchase order.

If, regardless of the foregoing, the City becomes liable on any basis to the Vendor its liability shall not in the aggregate exceed the purchase price set forth on the face of this purchase order.

WORKSAFEBC:

The Vendor shall maintain registration with WorkSafeBC and adhere to all WorkSafeBC practices relevant to the goods and/or services to be delivered by the Vendor under the terms of this purchase order.

CITY SUPPLIED PROPERTY:

Title to any items which have been supplied to the Vendor by the City, or paid for by the City, in advance of delivery by the Vendor of the goods and services ordered on the face of the purchase order, shall at all time be vested in the City. The risk of loss for such items shall remain with the Vendor until delivery to the City of such items, in the same conditions as originally received by the Vendor. The Vendor hereby agrees to be responsible for any and all loss or damage to the City's property while such property is in its possession or control.

Technical information, specifications, drawings, designs, building and floor plans and other documentation relating to the business or activities of the City disclosed by the City to the Vendor pursuant to this purchase order shall be held in strict confidence by the Vendor and shall remain the exclusive property of the City and may not be copied or reproduced without the express written consent of the City.

INTELLECTUAL PROPERTY:

The Vendor shall defend, indemnify and hold harmless the City, its members, officers, employees, agents, clients, and the public from any expense, cost, loss, claim, damage, judgment or liability for infringement or alleged infringement of third party intellectual property rights including any patent, copyright, industrial design, trademark or trade secret with respect to the goods and services and their process of manufacture. The Vendor shall at its own expense defend or assist in the defence of, at the City's option, any action in which such infringement is alleged.

COMPLIANCE WITH LAWS:

In accepting this purchase order, the Vendor represents that it has complied and will continue during the performance of this purchase order to comply with the provisions of all applicable third party contracts, and all applicable laws. The laws of British Columbia govern this agreement, the courts of British Columbia have exclusive jurisdiction over any disputes under it, and all provisions of the International Sale of Goods Act (BC) are specially excluded.

NO PROMOTION OF RELATIONSHIP:

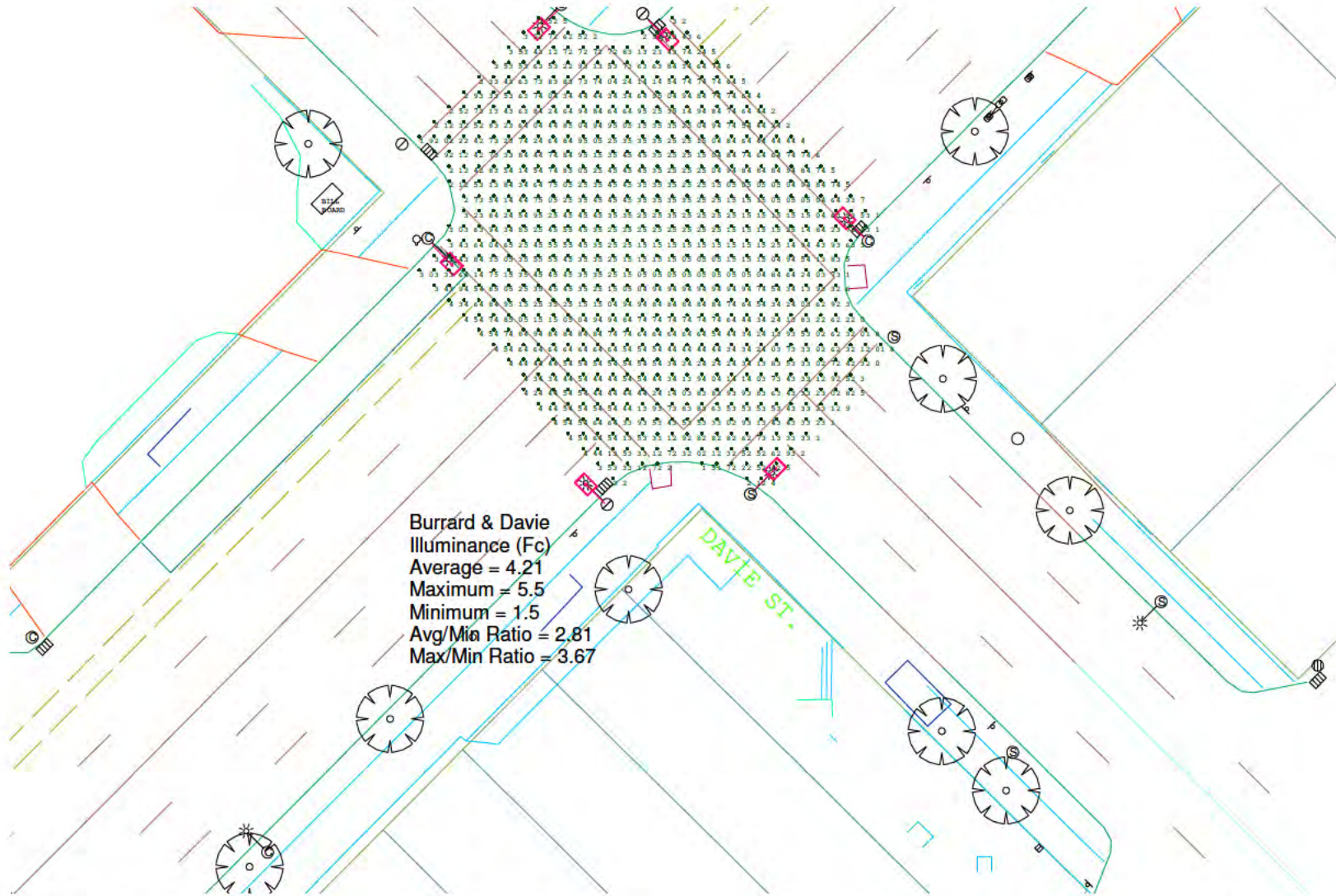
The Vendor must not disclose or promote its relationship with the City, including by means of any verbal declarations or announcements and by means of any sales, marketing or other literature, letters, client lists, press releases, brochures or other written materials without the express prior written consent of the City.

ASSIGNMENT:

This purchase order shall not be assigned or subcontracted by the Vendor without the prior written consent of the City.

CHANGES/MODIFICATIONS/TERMINATION:

The City reserves the right at any time, to cancel or terminate this purchase order in whole or in part by written or verbal notice confirmed in writing or to make changes in any one or more of the following: quantity, specifications, methods of shipment or packing, and place or timing of delivery. If any such change causes a change in the cost of or the time required for performance of this purchase order, an equitable adjustment shall be made in the price or delivery schedule, or both. No agreement or understanding to modify this purchase order shall be binding on the City unless in writing and signed by the City's authorized agent.



Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Burrard & Davie	Illuminance	Fc	4.21	5.5	1.5	2.81	3.67

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	6	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3

TEOB Work Slip

SAP Network #	Address	8.00/09 ON DAVIE	Lane
CELD45227		900 - 999 DAVIE ST	
Work Order #	WO Short Description		Reason
437312	T_Elec - Int. SL Upgrade		T_WorkRqst
Activity Type	Sub Activity Type	Problem	Method
Street Light Planned	T_Project	T_Replace	

SAFETY WARNING:

Group Project	Ref #1	C13-1105 Dept Generated File #	Responsibility	Parent SAP Network #
45227	Ref #2		TL	

Service Request #	Incident Date	311 Case #	Contact Name	Contact #

Asset Category	Asset ID	Status	Asset Area	Sub Area	District
Trolley Street Light	4039	IN_SERVICE		N09	

Temporary Operation

Pole Type	Lum Type	Lamp Watts
TrlyA23E	CobraHead	250

WO Created Date	Schedule Start	Last Completed WO Activity	Last Completed WO Desc
Oct 18, 2013		Street Light Planned	T_SL LED Upgrade - Burrard

JOB DETAILS

Various Intersections - Street Lighting Upgrade - C13-1105 - Electrical

Designer: Karen Bell

For intersections: Burrard & Davie, Burrard & Georgia, Commercial & Broadway, Granville & Davie, Nanaimo & Broadway, Knight & E 49th, Abbott & Pender, Knight & E 41st, Howe & Davie, Oak & W 12th, Burrard & Smithe, Main & Hastings (16 lights in total), Main & Terminal

Street Lighting

1. **Remove** existing HPS luminaires
2. **Install** LED luminaires and rewire as required

(185 W - ATB2 800 LED E70 R3)

GIS REVISED

Asset Comments: 10'ft Mast Arm

TEOB Work Slip

Assigned By	Assigned Date	Assigned Time	Arrival Date	Arrival Time
KAREN BELL	Dec 10/13	11:00PM	Dec 11/13	

PROBLEM FOUND

as per w/o

WORK COMPLETED/MATERIALS USED

- set up cones and signage
- removed existing S/L fixture
- installed new LED fixture
- removed cones and signage

~~ENTERED~~

Time Charged :


Stray Voltage Check

OTHER WORK REQUIRED

Complete

ADDITIONAL COMMENTS

s.22(1)

Completed Date	Completed Time	Crew Member Name	Crew Member Name	Crew Member Name
Dec 11/13		J. de Graaf	M. Tremblay	—
Print Name		Signature		Truck #
John de Graaf				D1736

TEOB Work Slip

SAP Network #	Address	1.00/10 ON DAVIE			Lane	
CELD45227		1000 - 1099 DAVIE ST				
Work Order #	WO Short Description			Reason		
437313	T_Elec - Int. SL Upgrade			T_WorkRqst		
Activity Type		Sub Activity Type		Problem	Method	
Street Light Planned		T_Project		T_Replace		
SAFETY WARNING:						
Group Project	Ref #1	C13-1105 Dept Generated File #		Responsibility	Parent SAP Network #	
45227	Ref #2			TL		
Service Request #	Incident Date	311 Case #	Contact Name		Contact #	
Asset Category		Asset ID	Status	Asset Area	Sub Area	District
Trolley Street Light		23541	IN_SERVICE		N09	
Temporary Operation						
Pole Type		Lum Type		Lamp Watts		
TrlyA7E		CobraHead		250		
WO Created Date	Schedule Start	Last Completed WO Activity		Last Completed WO Desc		
Oct 18, 2013		Street Light Reactive		T_Davie Village Receptacles		
JOB DETAILS						
<p>Various Intersections - Street Lighting Upgrade - C13-1105 - Electrical Designer: Karen Bell</p> <p><i>For intersections: Burrard & Davie, Burrard & Georgia, Commercial & Broadway, Granville & Davie, Nanaimo & Broadway, Knight & E 49th, Abbott & Pender, Knight & E 41st, Howe & Davie, Oak & W 12th, Burrard & Smith, Main & Hastings (16 lights in total), Main & Terminal</i></p> <p><u>Street Lighting</u></p> <ol style="list-style-type: none"> Remove existing HPS luminaires Install LED luminaires and rewire as required <p style="color: red;">(185W - AT32 80SLED E70 R3</p>						
<p>Asset Comments:10'ft Mast Arm</p>						

GIS REVISED

TEOB Work Slip

Assigned By	Assigned Date	Assigned Time	Arrival Date	Arrival Time
KAREN BELL	Dec 10/13	11:00PM	Dec 11/13	

PROBLEM FOUND

as per w/o

WORK COMPLETED/MATERIALS USED

- set up cones and signage
- removed existing S/L fixture
- installed new LED fixture
- removed cones and signage

~~ENTERED~~

Time Charged :		Stray Voltage Check <input checked="" type="checkbox"/>
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OTHER WORK REQUIRED

Complete

ADDITIONAL COMMENTS

s.22(1)

Completed Date	Completed Time	Crew Member Name	Crew Member Name	Crew Member Name
Dec 11/13		J. de Graaf	M. Tremblay	
Print Name		Signature		Truck #
John de Graaf				D1736

TEOB Work Slip

SAP Network #	Address	9.00/11 ON BURRARD	Lane
CELD45227		1100 - 1199 BURRARD ST	
Work Order #	WO Short Description		Reason
437314	T_Elec - Int. SL Upgrade		T_WorkRqst
Activity Type		Sub Activity Type	Problem
Street Light Planned		T_Project	T_Replace

SAFETY WARNING:

Group Project	Ref #1	C13-1105 Dept Generated File #	Responsibility	Parent SAP Network #
45227	Ref #2		TL	

Service Request #	Incident Date	311 Case #	Contact Name	Contact #

Asset Category	Asset ID	Status	Asset Area	Sub Area	District
Street Street Light	36872	IN_SERVICE		N09	

Temporary Operation

Pole Type	Lum Type	Lamp Watts
Davit	CobraHead	200

WO Created Date	Schedule Start	Last Completed WO Activity	Last Completed WO Desc
Oct 18, 2013		Street Light Reactive	T_SLO - cct problem

JOB DETAILS

Various Intersections - Street Lighting Upgrade - C13-1105 - Electrical

Designer: Karen Bell

For intersections: Burrard & Davie, Burrard & Georgia, Commercial & Broadway, Granville & Davie, Nanaimo & Broadway, Knight & E 49th, Abbott & Pender, Knight & E 41st, Howe & Davie, Oak & W 12th, Burrard & Smith, Main & Hastings (16 lights in total), Main & Terminal

Street Lighting

1. **Remove** existing HPS luminaires
2. **Install** LED luminaires and rewire as required

(185W - ATB2 803 LED E70 R3)

GIS REVISED

Asset Comments:

TEOB Work Slip

Assigned By	Assigned Date	Assigned Time	Arrival Date	Arrival Time
KAREN BELL	Dec 10/13	11:00PM	Dec 11/13	

PROBLEM FOUND

as per w/o

WORK COMPLETED/MATERIALS USED

- set up cones and signage
- removed existing s/b fixture
- installed new LED fixture
- removed cones and signage

~~ENTERED~~

Time Charged :


Stray Voltage Check

OTHER WORK REQUIRED

Complete

ADDITIONAL COMMENTS

s.22(1)

Completed Date	Completed Time	Crew Member Name	Crew Member Name	Crew Member Name
Dec 11/13		J. de Graaf	M. Tremblay	
Print Name		Signature		Truck #
John de Graaf				D1736

#1



TEOB Work Slip

SAP Network #	Address	10.00/11 ON BURRARD	Lane
CELD45227		1100 - 1199 BURRARD ST	
Work Order #	WO Short Description		Reason
437315	T_Elec - Int. SL Upgrade		T_WorkRqst
Activity Type		Sub Activity Type	Problem
Street Light Planned		T_Project	T_Replace

SAFETY WARNING:

Group Project	Ref #1	C13-1105 Dept Generated File #	Responsibility	Parent SAP Network #
45227	Ref #2		TL	

Service Request #	Incident Date	311 Case #	Contact Name	Contact #

Asset Category	Asset ID	Status	Asset Area	Sub Area	District
Trolley Street Light	26833	IN_SERVICE		N09	

Temporary Operation

Pole Type	Lum Type	Lamp Watts
TrlyA7E	CobraHead	200

WO Created Date	Schedule Start	Last Completed WO Activity	Last Completed WO Desc
Oct 18, 2013		Street Light Reactive	T_Access Handle Lifted

JOB DETAILS

Various Intersections - Street Lighting Upgrade - C13-1105 - Electrical

Designer: Karen Bell

For intersections: Burrard & Davie, Burrard & Georgia, Commercial & Broadway, Granville & Davie, Nanaimo & Broadway, Knight & E 49th, Abbott & Pender, Knight & E 41st, Howe & Davie, Oak & W 12th, Burrard & Smithe, Main & Hastings (16 lights in total), Main & Terminal

Street Lighting

1. Remove existing HPS luminaires
2. Install LED luminaires and rewire as required

(185W - ATB2 80B LED E70 R3)

GIS REVISED

Asset Comments:12'ft Mast Arm

TEOB Work Slip

Assigned By	Assigned Date	Assigned Time	Arrival Date	Arrival Time
KAREN BELL	Dec 10/13	11:00PM	Dec 11/13	

PROBLEM FOUND

as per w/o

WORK COMPLETED/MATERIALS USED

- set up cones and signage
- removed existing S/L fixture
- installed new LED fixture
- removed cones and signage

~~ENTERED~~

Time Charged :


Stray Voltage Check

OTHER WORK REQUIRED

Complete

ADDITIONAL COMMENTS

s.22(1)

Completed Date	Completed Time	Crew Member Name	Crew Member Name	Crew Member Name
Dec 11/13		J. de Graaf	M. Tremblay	
Print Name		Signature		Truck #
John de Graaf				D1736

TEOB Work Slip

SAP Network #	Address	1/12 ON BURRARD			Lane	
CELD45227		1200 - 1299 BURRARD ST				
Work Order #	WO Short Description			Reason		
437316	T_Elec - Int. SL Upgrade			T_WorkRqst		
Activity Type		Sub Activity Type		Problem	Method	
Street Light Planned		T_Project		T_Replace		
SAFETY WARNING:						
Group Project	Ref #1	C13-1105 Dept Generated File #		Responsibility	Parent SAP Network #	
45227	Ref #2			TL		
Service Request #	Incident Date	311 Case #	Contact Name		Contact #	
Asset Category		Asset ID	Status	Asset Area	Sub Area	District
Street Street Light		43591	IN_SERVICE		N09	
Temporary Operation						
Pole Type		Lum Type		Lamp Watts		
DavitCombo		CobraHead		200		
WO Created Date	Schedule Start	Last Completed WO Activity		Last Completed WO Desc		
Oct 18, 2013		Street Light Planned		T_SL LED Upgrade - Burrard		
JOB DETAILS						
<p>Various Intersections - Street Lighting Upgrade - C13-1105 - Electrical Designer: Karen Bell</p> <p><i>For intersections: Burrard & Davie, Burrard & Georgia, Commercial & Broadway, Granville & Davie, Nanaimo & Broadway, Knight & E 49th, Abbott & Pender, Knight & E 41st, Howe & Davie, Oak & W 12th, Burrard & Smithe, Main & Hastings (16 lights in total), Main & Terminal</i></p> <p><u>Street Lighting</u></p> <ol style="list-style-type: none"> Remove existing HPS luminaires Install LED luminaires and rewire as required <p style="color: red; font-size: 1.2em;">(185W - AT32 80B LED E70 R3)</p>						
GIS REVISED						
Asset Comments:						

TEOB Work Slip

Assigned By	Assigned Date	Assigned Time	Arrival Date	Arrival Time
KAREN BELL	Dec 10/13	11:00PM	Dec 11/13	

PROBLEM FOUND

as per w/o

WORK COMPLETED/MATERIALS USED

- set up cones and signage
- removed existing S/L fixture
- installed new LED fixture
- removed cones and signage

~~ENTERED~~


Time Charged :		Stray Voltage Check <input checked="" type="checkbox"/>
----------------	--	---------------------------------------------------------

OTHER WORK REQUIRED

Complete

ADDITIONAL COMMENTS

s.22(1)

Completed Date	Completed Time	Crew Member Name	Crew Member Name	Crew Member Name
Dec 11/13		J. de Graaf	M. Tremblay	—
Print Name		Signature		Truck #
John de Graaf				D1736

TEOB Work Slip

SAP Network #	Address	2.00/12 ON BURRARD	Lane
CELD45227		1200 - 1299 BURRARD ST	
Work Order #	WO Short Description		Reason
437317	T_Elec - Int. SL Upgrade		T_WorkRqst
Activity Type		Sub Activity Type	Problem
Street Light Planned		T_Project	T_Replace

SAFETY WARNING:

Group Project	Ref #1	C13-1105 Dept Generated File #	Responsibility	Parent SAP Network #
45227	Ref #2		TL	

Service Request #	Incident Date	311 Case #	Contact Name	Contact #

Asset Category	Asset ID	Status	Asset Area	Sub Area	District
Trolley Street Light	3692	IN_SERVICE		N09	

Temporary Operation

Pole Type	Lum Type	Lamp Watts
TrlyA7E	CobraHead	200

WO Created Date	Schedule Start	Last Completed WO Activity	Last Completed WO Desc
Oct 18, 2013		Street Light Planned	T_SL LED Upgrade - Burrard

JOB DETAILS

Various Intersections - Street Lighting Upgrade - C13-1105 - Electrical

Designer: Karen Bell

For intersections: Burrard & Davie, Burrard & Georgia, Commercial & Broadway, Granville & Davie, Nanaimo & Broadway, Knight & E 49th, Abbott & Pender, Knight & E 41st, Howe & Davie, Oak & W 12th, Burrard & Smithe, Main & Hastings (16 lights in total), Main & Terminal

Street Lighting

- Remove** existing HPS luminaires
- Install** LED luminaires and rewire as required

(185W - ATB2 800 LED E70 R3)

GIS REVISED

Asset Comments:

TEOB Work Slip

Assigned By	Assigned Date	Assigned Time	Arrival Date	Arrival Time
KAREN BELL	Dec 10/13	11:00PM	Dec 11/13	

PROBLEM FOUND

as per w/o

WORK COMPLETED/MATERIALS USED

- set up cones and signage
- removed existing S/L fixture
- installed new LED fixture
- removed cones and signage

~~ENTERED~~


Time Charged :		Stray Voltage Check <input checked="" type="checkbox"/>
----------------	--	---------------------------------------------------------

OTHER WORK REQUIRED

Complete

ADDITIONAL COMMENTS

s.22(1)

Completed Date	Completed Time	Crew Member Name	Crew Member Name	Crew Member Name
Dec 11/13		J. de Graaf	M. Tremblay	—
Print Name		Signature		Truck #
John de Graaf				D1736

Bell, Karen

From: Magbitang, June
Sent: Friday, August 23, 2013 8:38 AM
To: Asselin, Lynn (lynn.asselin@holophane.com); Bell, Karen
Cc: Wong, Phil; Blagojevic, Gruja
Subject: Emailing: CoV intersections - AGi files.zip
Attachments: CoV intersections - AGi files.zip

Hi, Lynn ...

We would like to request for a photometric calculation of the 10 intersection locations as per attachment. These 10 will be the remaining top 20 intersections that we have to replace from HPS to LED (you've provided the photometric calc for the other 8 locations already from your RFP LED submission) and the other 2 intersection locations was replaced already.

Today is my last day (I'll be away for 2 weeks) and returning Monday, 9 Sept. In my absence, pls contact Karen or Phil

Pls phone me on my cell phone at 604 603-2394 if you need to discuss and have some questions

Thanks,
June

The message is ready to be sent with the following file or link attachments:

CoV intersections - AGi files.zip

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

Bell, Karen

From: Asselin, Lynn <lynn.asselin@holophane.com>
Sent: Friday, August 30, 2013 8:30 AM
To: Bell, Karen
Subject: RE: Intersections

Thanks ; I will have these done for you today.

cheers

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane

an Acuity Brands Company

Vancouver & province of British Columbia
Office Phone: 1-604-815-0866 (Brackendale #)
Cell Phone: 604-787-9087

Fax: 1-604-815-0840

E-Mail: lynn.asselin@Holophane.com

Website - <http://www.holophane.com>



From: Bell, Karen [<mailto:Karen.Bell@vancouver.ca>]
Sent: Friday, August 30, 2013 7:14 AM
To: Asselin, Lynn
Cc: Magbitang, June
Subject: RE: Intersections

Hi Lynn,

Please use LLF of 0.72 and major/major, high pedestrian conflict (per RP8).

Karen

From: Asselin, Lynn [<mailto:lynn.asselin@holophane.com>]
Sent: Thursday, August 29, 2013 8:29 PM
To: Bell, Karen
Subject: Intersections

Hi Karen

Can you tell me the Criteria and Light loss factor for the 10 intersections?

THANKS

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane

an Acuity Brands Company

Vancouver & province of British Columbia

Office Phone: 1-604-815-0866 (Brackendale #)

Cell Phone: 604-787-9087

Fax: 1-604-815-0840

E-Mail: lynn.asselin@Holophane.com

Website - <http://www.holophane.com>



Bell, Karen

From: Wong, Phil
Sent: Wednesday, December 04, 2013 2:33 PM
To: Bell, Karen; Magbitang, June
Subject: Fw: LED fixtures

FYI

Sent from my BlackBerry Wireless Handheld
please reply to phil.wong@vancouver.ca

From: Asselin, Lynn [mailto:lynn.asselin@holophane.com]
Sent: Wednesday, December 04, 2013 02:30 PM Pacific Standard Time
To: Wong, Phil
Subject: RE: LED fixtures

Hi Phil

The DM means:

You get a Dimming Driver with long leads and crimped into a terminal block system to attach to a DIMMING CONTROL MODULE: others or ROAM.

WITHOUT DM:

You still get a dimming driver; it takes longer to install the crimped terminal block system to a DIMMING CONTROL MODULE: there are leads but they are short.

You still can facilitate to an adaptive lighting system but just another step to get the leads onto a crimped wires onto a disconnect/terminal system.

SUGGESTION: It would be better to have DM; but I checked all your orders that went through our system and they all have Dimming drivers just so you know.

Any questions, let me know.

THANKS

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane
an Acuity Brands Company
Vancouver & province of British Columbia
Office Phone: 1-604-815-0866 (Brackendale #)
Cell Phone: 604-787-9087 or toll free 866-640-8639

Fax: 1-855-216-2065
E-Mail: lynn.asselin@Holophane.com
Website - <http://www.holophane.com>



From: Wong, Phil [mailto:phil.wong@vancouver.ca]
Sent: Wednesday, December 04, 2013 12:02 PM
To: Asselin, Lynn
Subject: RE: LED fixtures

Thanks Lynn. Here is a pdf which is causing the confusion. Where it says DM it seems to indicate we need to include this to get the 0 to 10 volt dimming

From: Asselin, Lynn [mailto:lynn.asselin@holophane.com]
Sent: Wednesday, December 04, 2013 11:18 AM
To: Wong, Phil
Subject: RE: LED fixtures

Hi Phil

All Autobahn come with Dimming drivers; ROAM DM is an adder for the DCM (dimming control module) ; you have 2 different prices. The autobahns that were ordered all have dimming drivers only. These fixtures that can be hooked to ANY Dimming Control module or our ROAM DCM in the future.

Is that what you mean?

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane
an Acuity Brands Company
Vancouver & province of British Columbia
Office Phone: 1-604-815-0866 (Brackendale #)
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Fax: 1-855-216-2065
E-Mail: lynn.asselin@Holophane.com
Website - <http://www.holophane.com>



From: Wong, Phil [mailto:phil.wong@vancouver.ca]
Sent: Wednesday, December 04, 2013 11:15 AM
To: Asselin, Lynn
Subject: LED fixtures

I am following up on our orders for LED's for various locations. I got a note that the City did not include "DM" on the purchase orders. I wanted to double check to see if that would create a problem since I would like dimming capability for the fixtures as per the RFP.

If we left off the "DM" does that mean we are not going to get the capability if we choose to do adaptive lighting in the future.

Phil.

Bell, Karen

From: Wong, Phil
Sent: Wednesday, December 04, 2013 11:38 AM
To: Bell, Karen; Magbitang, June
Subject: FW: LED fixtures

From: Asselin, Lynn [mailto:lynn.asselin@holophane.com]
Sent: Wednesday, December 04, 2013 11:18 AM
To: Wong, Phil
Subject: RE: LED fixtures

Hi Phil

All Autobahn come with Dimming drivers; ROAM DM is an adder for the DCM (dimming control module) ; you have 2 different prices. The autobahns that were ordered all have dimming drivers only. These fixtures that can be hooked to ANY Dimming Control module or our ROAM DCM in the future.

Is that what you mean?

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

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Fax: 1-855-216-2065
E-Mail: lynn.asselin@Holophane.com
Website - <http://www.holophane.com>



From: Wong, Phil [mailto:phil.wong@vancouver.ca]
Sent: Wednesday, December 04, 2013 11:15 AM
To: Asselin, Lynn
Subject: LED fixtures

I am following up on our orders for LED's for various locations. I got a note that the City did not include "DM" on the purchase orders. I wanted to double check to see if that would create a problem since I would like dimming capability for the fixtures as per the RFP.

If we left off the "DM" does that mean we are not going to get the capability if we choose to do adaptive lighting in the future.

Phil.

Bell, Karen

From: Bell, Karen
Sent: Wednesday, December 11, 2013 9:45 AM
To: Magbitang, June; Wong, Phil
Subject: RE: Top 20 intersections - estimates

Here is the complete list of intersections slated for lighting upgrades (the list shown below as part of my Sept 30th email is only a partial list).

Both Knight & 49th and Knight & 41st are on the list for lighting upgrades.

BURRARD ST	DAVIE ST
BURRARD ST	W GEORGIA ST
CLARK DR	E BROADWAY
COMMERCIAL DR	E BROADWAY
GRANVILLE ST	DAVIE ST
COMMERCIAL DR	EAST 12TH AVE
THURLOW ST	NELSON ST
NANAIMO ST	E BROADWAY
KNIGHT ST	E 49TH AVE
ABBOTT ST	W PENDER ST
KNIGHT ST	E 41ST AVE
HOWE ST	DAVIE ST
OAK ST	W 12TH AVE
BURRARD ST	SMITHE ST
MAIN ST	E HASTINGS ST
JOYCE	KINGSWAY
MAIN ST	TERMINAL AVE

From: Bell, Karen
Sent: Wednesday, December 11, 2013 8:59 AM
To: Magbitang, June; Wong, Phil
Subject: RE: Top 20 intersections - estimates

FYI, just noticed a typo on the list below.....Knight & 49th should be Knight & 41st

However not to worry, the work orders were correctly issued as Knight & 41st

From: Magbitang, June
Sent: Monday, December 09, 2013 12:02 PM
To: Wong, Phil; Bell, Karen
Subject: RE: Top 20 intersections - estimates

Hi, Phil / Karen ...

*Pls see **completed LED installation** below (3 intersections completed so far; 1 intersection per night done by pm crew)*

*Thanks,
June*

From: Wong, Phil
Sent: Monday, September 30, 2013 11:16 AM
To: Bell, Karen
Cc: Magbitang, June
Subject: RE: Top 20 intersections - estimates

At Main and Hastings, if I recall correctly, there are a total of 16 HPS lights (double davits).

This is probably not a good candidate for the cooper since I won't be buying any more cooper fixtures.

From: Bell, Karen
Sent: Monday, September 30, 2013 10:56 AM
To: Wong, Phil
Subject: Top 20 intersections - estimates

Hi Phil,

I have ten estimates completed for the 'Top 20' intersections:

Intersection	Estimate	Notes
Burrard & Nelson	\$29,970	6 LED fixtures, new 30' davit pole, concrete base, conduit, conductors, sidewalk re&re, traffic control, etc. Toby confirmed that the proposed 30ft davit pole at the SW corner is acceptable (TDM does not require any new TS equipment at that corner)
Howe & Davie	\$6,720	4 LED fixtures, wiring, traffic control
Nanaimo & Kingsway LED Installation Complete	\$10,980	8 LED fixtures, wiring, traffic control
Knight & E 49 th LED installation Complete	\$10,980	8 LED fixtures, wiring, traffic control
Joyce & Kingsway	\$10,980	8 LED fixtures, wiring, traffic control
Commercial & Broadway LED installation Complete	\$10,980	8 LED fixtures, wiring, traffic control
Granville & Davie	\$8,850	6 LED fixtures, wiring, traffic control
Burrard & Davie	\$8,850	6 LED fixtures, wiring, traffic control
Burrard & Smithe	\$8,850	6 LED fixtures, wiring, traffic control
Abbott & Pender	\$7,780	5 LED fixtures, wiring, traffic control

All intersections use the same Autobahn fixture: ATB2 80LED E70 R3 - \$655.00/each

I'll model the remaining intersections with the same fixture (except Main & Hastings, I'll model the Cooper Ventus from Andrey's project).

Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca

Bell, Karen

From: Wong, Phil
Sent: Thursday, December 12, 2013 4:26 AM
To: Bell, Karen
Subject: Fw: LED install at Burrard @ Davie

Sent from my BlackBerry Wireless Handheld
please reply to phil.wong@vancouver.ca

From: Miller, Mel
Sent: Wednesday, December 11, 2013 02:45 PM Pacific Standard Time
To: Antoniazzi, Rob; Wong, Phil
Subject: LED install at Burrard @ Davie

Hey Guys
This location is now complete
Thanks

Mel Miller
Trades Supervisor,Afternoon Shift
Electrical Operations Branch,Engineering Services
Tel:604-871-6785
Cell:s.15(1)(l)
Fax:604-871-6290

Bell, Karen

From: Bell, Karen
Sent: Thursday, January 23, 2014 2:11 PM
To: Clark, Kevin
Subject: LED installations

Hi Kevin,

Following is the list of intersections from the 'Lighting Upgrade' project:

Thurlow & Nelson
Clark & Broadway
Burrard & Davie
Burrard & Georgia
Commercial & Broadway
Granville & Davie
Nanaimo & Broadway
Knight & E 49th
Abbott & Pender
Knight & E 41st
Howe & Davie
Oak & W 12th
Burrard & Smithe
Main & Hastings
Main & Terminal
Commercial & 12th

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca

Bell, Karen

From: Bell, Karen
Sent: Tuesday, November 05, 2013 11:27 AM
To: Wong, Phil
Subject: 'Top 20' intersections
Attachments: Top 20 intersections - estimates REVISED Nov 5.XLSX

Hi Phil,

Attached is the updated 'Top 20' intersection lighting upgrades with current intersection list:

Delete: Burrard & Nelson, Fraser & Broadway
Add: Commercial & 12th, Thurlow & Nelson

Fixtures should arrive within the next 2 weeks.

Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca

Bell, Karen

From: Bell, Karen
Sent: Wednesday, November 06, 2013 2:13 PM
To: Electrical Office
Subject: FW: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form
Attachments: ENG - SED - C13-1105 - TS TL - Various Intersections - Lighting Upgrade - Subactivities Form.XLS; ENG - SED - C13-1105 - TS TL - Various Intersections - Lighting Upgrade - Subactivities Form.tr5

-----Original Message-----

From: Bell, Karen
Sent: Wednesday, November 06, 2013 10:21 AM
To: Electrical Office
Cc: Marom, Ofer
Subject: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form

The Subactivities form for 'Various Intersections - Lighting Upgrades' has been revised.

Please cancel Civil and Electrical work orders for:
Fraser & Broadway
Burrard & Nelson

Please issue work orders for:
Thurlow & Nelson
Commercial & 12th

Thanks,
Karen .

-----< HP TRIM Record Information >-----

Record Number: DOC/2013/221972
Title : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form

Bell, Karen

From: Electrical Office
Sent: Thursday, November 07, 2013 11:31 AM
To: Bell, Karen
Subject: RE: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form

CER442544 and CET442545 Created
WO 442716, 442717, 422718, 422719, 442720 for Street lighting.

Vandocs Updated.

Jindy Gill
Streets/Traffic & Electrical National Yards City of Vancouver

-----Original Message-----

From: Bell, Karen
Sent: Wednesday, November 06, 2013 2:13 PM
To: Electrical Office
Subject: FW: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form

-----Original Message-----

From: Bell, Karen
Sent: Wednesday, November 06, 2013 10:21 AM
To: Electrical Office
Cc: Marom, Ofer
Subject: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form

The Subactivities form for 'Various Intersections - Lighting Upgrades' has been revised.

Please cancel Civil and Electrical work orders for:
Fraser & Broadway
Burrard & Nelson

Please issue work orders for:
Thurlow & Nelson
Commercial & 12th

Thanks,
Karen

-----< HP TRIM Record Information >-----

Record Number: DOC/2013/221972

Title : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form

Bell, Karen

From: Bell, Karen
Sent: Friday, November 08, 2013 1:25 PM
To: Wong, Phil
Subject: FW: HP TRIM Document : DOC/2013/261494 : ENG - SED - C13-1105 - Lighting Upgrades - Work orders
Attachments: ENG - SED - C13-1105 - Lighting Upgrades - Work orders.tr5

Hi Phil,

All work orders and related drawings for the 'top 20' intersections have been submitted to Rob today and posted on Vandocs for Ops. Fixtures should arrive roughly November 14th.

Karen

-----Original Message-----

From: Bell, Karen
Sent: Friday, November 08, 2013 1:22 PM
To: Antoniazzi, Rob
Subject: HP TRIM Document : DOC/2013/261494 : ENG - SED - C13-1105 - Lighting Upgrades - Work orders

Hi Rob,

I've scanned the work orders and saved on Vandocs should you need to print off additional copies.

Thanks,
Karen

-----< HP TRIM Record Information >-----

Record Number: DOC/2013/261494
Title : ENG - SED - C13-1105 - Lighting Upgrades - Work orders

Bell, Karen

From: Bell, Karen
Sent: Friday, November 08, 2013 7:27 AM
To: Russell, Scott
Cc: Amarkhanyan, Andrey; Antoniazzi, Rob
Subject: FW: LED orders

Scott,

Please include Rob Antoniazzi in the notification when the fixtures are received. As the bulk of these fixtures are for a high-profile project, Rob will schedule the installations as soon as possible following delivery.

Thanks,
Karen

From: Russell, Scott
Sent: Friday, October 04, 2013 3:13 PM
To: Bell, Karen; Amarkhanyan, Andrey
Subject: LED orders

Please review PO# 4500540304 before I send it to the vendor.

Karen: lines 10 and 20
Andrey: lines 30 – 70



Thank you.

Bell, Karen

From: Bell, Karen
Sent: Wednesday, November 13, 2013 11:12 AM
To: Russell, Scott
Subject: RE: Intersection lighting upgrades

ATB2 80BLEDE70 MVOLT R3 NL - 3 fixtures to be charged to CET442545
ATB2 80BLEDE10 MVOLT R3 NL - 8 fixtures to be charged to CET437241

Remainder of fixture quantities below to be charged to CELD45227

From: Russell, Scott
Sent: Wednesday, November 13, 2013 10:37 AM
To: Bell, Karen
Subject: RE: Intersection lighting upgrades

Please provide an account number, if available

From: Bell, Karen
Sent: Friday, October 04, 2013 1:41 PM
To: Russell, Scott
Subject: Intersection lighting upgrades

Scott,

Please order the following Autobahn fixtures:

ATB2 80BLEDE70 MVOLT R3 NL - quantity: 63
ATB2 80BLEDE10 MVOLT R3 NL - quantity: 47

Project name: 'Top 20' intersections - lighting upgrades

Regards,
Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca

Bell, Karen

From: Bell, Karen
Sent: Thursday, November 21, 2013 2:16 PM
To: Wong, Phil
Subject: FW: Acuity LED Cobrahead Order Update re: led eta

'Top 20' intersection order is under PO 4500540304, I've highlighted in blue below

From: Russell, Scott
Sent: Thursday, November 21, 2013 2:13 PM
To: Wong, Phil; Bell, Karen
Cc: Amarkhanyan, Andrey; Pulgar, Armando; Magbitang, June; Stewart, Kurt (eng); Antoniazzi, Rob; Sevilla, Erwin
Subject: RE: Acuity LED Cobrahead Order Update re: led eta

See below

From: Eric Kuntz [<mailto:kuntzej@eecol.com>]
Sent: Wednesday, November 20, 2013 2:36 PM
To: Russell, Scott
Cc: Lynn Asselin
Subject: Acuity LED Cobrahead Order Update

Hi Scott,

Here is an update on the orders thus far:

Orders shipped to you complete Tuesday Nov 19

PO#4500540230 & 4500540584 received!!!

Outstanding Orders:

PO# 4500540304

We have received about half of the order, the rest is due here Nov 25/26. Expect us to ship it to you Tues/Wed next week Nov 26/27

PO#'s 4500541295, 4500541335, 4500541336, 4500541336

Currently show an Estimated Ship Date of Dec 13 from Chicago. ETA here is Dec 20 - 24. Because of the Christmas, I would expect delivery to you somewhere Dec 21 - Jan 3. If there is anything that is urgent around that time, let me know and I will work to expedite.

--

Regards,

Eric Kuntz

Sales and Client Services (Industrial)

EECOL Electric Langley Main

19645 92A Ave

Langley, BC V1M 3B3

Phone: (604) 455-8160 Direct (604) 455-8163

Fax: (604) 881-4328
Email: kuntzej@ecol.com
Web Site: www.ecol.com

Do we have an eta yet?

Sent from my BlackBerry Wireless Handheld please reply to phil.wong@vancouver.ca

Bell, Karen

From: Bell, Karen
Sent: Thursday, November 21, 2013 7:22 AM
To: Russell, Scott
Cc: Amarkhanyan, Andrey
Subject: FW: Intersection lighting upgrades

Please order additional fixtures:

ATB2 80BLEDE53 MVOLT R2 NL	SKU 128622
----------------------------	------------

Quantity: 8
Charge: CELD45227

From: Bell, Karen
Sent: Wednesday, November 13, 2013 11:12 AM
To: Russell, Scott
Subject: RE: Intersection lighting upgrades

ATB2 80BLEDE70 MVOLT R3 NL - 3 fixtures to be charged to CET442545
ATB2 80BLEDE10 MVOLT R3 NL - 8 fixtures to be charged to CET437241

Remainder of fixture quantities below to be charged to CELD45227

From: Russell, Scott
Sent: Wednesday, November 13, 2013 10:37 AM
To: Bell, Karen
Subject: RE: Intersection lighting upgrades

Please provide and account number, if available

From: Bell, Karen
Sent: Friday, October 04, 2013 1:41 PM
To: Russell, Scott
Subject: Intersection lighting upgrades

Scott,

Please order the following Autobahn fixtures:

ATB2 80BLEDE70 MVOLT R3 NL - quantity: 63
ATB2 80BLEDE10 MVOLT R3 NL - quantity: 47

Project name: 'Top 20' intersections - lighting upgrades

Regards,
Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca

Bell, Karen

From: Bell, Karen
Sent: Wednesday, November 27, 2013 8:17 AM
To: Antoniazzi, Rob
Cc: Wong, Phil
Subject: FW: 26-Nov-13 I5-A1, I5-A2, I5-B2 LUMINAIRE, LED, INTXN, ATB2 80B E10 R3
SKU# 128601 for S/L Upgrade 39 po4500540304/CELD45227 S/L Upgrade
Karen Bell

All 110 Autobahn fixtures are in Stores for the 'top 20' intersections.

From: Swanston, Matthew
Sent: Wednesday, November 27, 2013 8:14 AM
To: Bell, Karen
Cc: Janda, Dilbagh; Mazza, Saverio; Page, Steve; Rockey, Barb; Russell, Scott; Wong, David (Eng)
Subject: 26-Nov-13 I5-A1, I5-A2, I5-B2 LUMINAIRE, LED, INTXN, ATB2 80B E10 R3 SKU# 128601 for S/L Upgrade 39 po4500540304/CELD45227 S/L Upgrade Karen Bell

FYI, The following has arrived at National Stores;

26-Nov-13	I5-A1, I5-A2, I5-B2	LUMINAIRE, LED, INTXN, ATB2 80B E10 R3	SKU# 128601 for S/L Upgrade	39	po4500540304/C
-----------	---------------------	----------------------------------------	-----------------------------	----	----------------

Thanks,
Matt

Bell, Karen

From: Rockey, Barb
Sent: Wednesday, November 27, 2013 9:44 AM
To: Bell, Karen
Cc: Mazza, Saverio; Swanston, Matthew; Janda, Dilbagh; Curry, Brian; Page, Steve; Russell, Scott; Wong, David (Eng)
Subject: 26-Nov-13 I4 - A1, I4 - B2, H4 - C1, H5 -C2 Sku#128621; LUMINAIRE, LED, INTXN, ATB2 80B E70 R3 for S/L Upgrade 60 po4500540304/CELD45227 unknown Karen Bell RE: bin location change

FYI

Bin Location change for I4 - B1 is at I4 - A1

26-Nov-13	I4 - A1, I4 - B2, H4 - C1, H5 -C2	Sku#128621; LUMINAIRE, LED, INTXN, ATB2 80B E70 R3 for S/L Upgrade	60	po4500
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Stock locator has been updated

Thanks

From: Rockey, Barb
Sent: Tuesday, November 26, 2013 3:27 PM
To: Bell, Karen
Cc: Mazza, Saverio; Swanston, Matthew; Janda, Dilbagh; Curry, Brian; Page, Steve; Russell, Scott; Wong, David (Eng)
Subject: 26-Nov-13 I4 - B1, I4 - B2, H4 - C1, H5 -C2 Sku#128621; LUMINAIRE, LED, INTXN, ATB2 80B E70 R3 for S/L Upgrade 60 po4500540304/CELD45227 unknown Karen Bell

FYI

The following has arrived at stores;

26-Nov-13	I4 - B1, I4 - B2, H4 - C1, H5 -C2	Sku#128621; LUMINAIRE, LED, INTXN, ATB2 80B E70 R3 for S/L Upgrade	60	po4500
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These have already been charged out

Thanks

Barb

Bell, Karen

From: Wong, Phil
Sent: Wednesday, November 27, 2013 12:00 PM
To: Bell, Karen; Antoniazzi, Rob
Subject: Fw: top 20 intersections

Would you be able to provide a tentative schedule so I can keep everyone in the loop?

Sent from my BlackBerry Wireless Handheld
please reply to phil.wong@vancouver.ca

From: Kolbuch, Kathryn
Sent: Wednesday, November 27, 2013 09:06 AM Pacific Standard Time
To: Wong, Phil; Cheng, Alina
Subject: RE: top 20 intersections

Thanks Phil, glad to hear the materials have arrived.

Can you please confirm what the installation schedule is for these fixtures, working with Craig and Kevin?

Which intersections will be completed this year and when?

Thanks,

Kathryn

From: Wong, Phil
Sent: Wednesday, November 27, 2013 9:00 AM
To: Cheng, Alina
Cc: Kolbuch, Kathryn
Subject: top 20 intersections

I have some good news.

I got a message that all the LED fixtures (except fixtures for Joyce/Kingsway which was from a different supplier) are in. Crews are starting tonight to switch over to LED.

I'm working out details with Procurement on Joyce/Kingsway on available options. We ordered the LED's in August, prior to the multiyear contract and was surprised to hear that at the last minute they said they could not meet our deadlines. I'm leaning to cancelling the PO and ordering fixtures from our multi-year contract which would be consistent with our other intersections.

In order to have Joyce/Kingway done, I plan to use ½ of the fixtures for Hastings/Main which we were going to use 16 LED fixtures. We can finalize Hastings/Main sometime next year.

In the meantime, Main/Hastings will have roadway LED's and temporarily continue to use HPS on the sidewalk. This location has always been overlit already (using HPS) so I am comfortable with having this location as partially converted to LED.

If you have any concerns over this approach, please let me know.

Phil.

Bell, Karen

From: Bell, Karen
Sent: Wednesday, November 27, 2013 1:35 PM
To: Antoniazzi, Rob
Subject: HP TRIM Document : DOC/2013/278220 : ENG - SED - C13-1105 - Lighting Upgrades - Work orders (revised 13-Nov-22)
Attachments: ENG - SED - C13-1105 - Lighting Upgrades - Work orders (revised 13-Nov-22).tr5

Hi Rob,

I've updated the work orders and copied to Vandocs.

Karen

-----< HP TRIM Record Information >-----

Record Number : DOC/2013/278220
Title : ENG - SED - C13-1105 - Lighting Upgrades - Work orders (revised 13-Nov-22)

Bell, Karen

From: Bell, Karen
Sent: Wednesday, October 02, 2013 11:56 AM
To: Electrical Office
Subject: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form
Attachments: ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form.tr5

Please create a work order per the attached Subactivities form. At this time, I only require a network number for purchasing materials. The civil and electrical scope of work may be revised for Fraser & Broadway (pending site investigation).

Thanks,
Karen

-----< HP TRIM Record Information >-----

Record Number: DOC/2013/221972
Title : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Bell, Karen

From: Wong, Phil
Sent: Thursday, October 03, 2013 7:17 AM
To: Bell, Karen; Pulgar, Armando
Cc: Magbitang, June
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

No, that is good enough. I will advise Rob J.

From: Bell, Karen
Sent: Thursday, October 03, 2013 7:07 AM
To: Wong, Phil; Pulgar, Armando
Cc: Magbitang, June
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

I don't have a formal quote from Lynn. When I asked for pricing for the 80LED fixture with 700mA driver, she stated the fixture would be the 'same price' as the 80LED 1A fixture. Should I request a formal quote?

From: Wong, Phil
Sent: Wednesday, October 02, 2013 2:30 PM
To: Bell, Karen; Pulgar, Armando
Cc: Magbitang, June
Subject: FW: PS20130263 - LED light - contract with Acuity Brands

Could you provide the quotes from Lynn on the specific configurations of the fixtures? I want to go through the process to make sure the contract details are followed.

Thanks.

From: Johnson, Rob (ENG)
Sent: Wednesday, October 02, 2013 2:28 PM
To: Wong, Phil
Cc: Russell, Scott
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

That's probably worth pursuing. Can you ask your designers to send me the quotes they got and I'll ask Lynn Asselin. (Holophane)

From: Wong, Phil
Sent: Wednesday, October 02, 2013 2:26 PM
To: Johnson, Rob (ENG)
Cc: Russell, Scott
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Should we ask Acuity to confirm their understanding?

From: Johnson, Rob (ENG)
Sent: Wednesday, October 02, 2013 2:25 PM
To: Wong, Phil
Cc: Russell, Scott
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Hi Phil,

The request for new SKU number led me to believe these were different fixtures then what's under contract. If Acuity recognizes these as the same fixtures then no need for amendment. I guess Scott will know how to describe new SKU (when he sets them up) in order to differentiate from existing Skus.

From: Wong, Phil
Sent: Wednesday, October 02, 2013 2:08 PM
To: Johnson, Rob (ENG)
Cc: Russell, Scott
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

The items are basically the same as the contract items but configured differently so that it has different light patterns and energy consumption. If we need to add these in as amendments, it is OK by me. To me, it is the same thing. It would be good to have a different SKU so we can track easier.

If we need to get all the various combinations and add them in as amendments, that works for me too. Let me know what you want us to do next.

Phil.

From: Russell, Scott
Sent: Wednesday, October 02, 2013 2:04 PM
To: Wong, Phil
Cc: Johnson, Rob (ENG)
Subject: FW: PS20130263 - LED light - contract with Acuity Brands

Hi Phil,

Please see Rob's email. Armando and Karen have both requested items not in the OA/contract (3 total). If you will have more configurations, we should add them now rather than pursuing another amendment later.

Cheers,
Scott

From: Johnson, Rob (ENG)
Sent: Wednesday, October 02, 2013 1:53 PM
To: Russell, Scott
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Hi Scott,

Currently the Supply Agreement we have with Acuity has four fixtures. If we want to add more to this agreement we'll have to do an amendment. Please confirm Phil that this is indeed what he wants to do.

We should also get the quote from Acuity for any additional fixtures that we want added to the SA so we know what the pricing should be. Also maybe good idea to try and include any other fixtures that we may anticipate needing (while we're at).

From: Russell, Scott
Sent: Wednesday, October 02, 2013 12:43 PM
To: Johnson, Rob (ENG)
Subject: FW: PS20130263 - LED light - contract with Acuity Brands

From: Russell, Scott
Sent: Wednesday, October 02, 2013 12:40 PM
To: Liu, Yuyi
Cc: Brennan, Brian
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Hi Yuyi,
I'll be adding another SKU. Did you get my last addition of 2 SKUs (128610, 128611)? Also, the payment terms are not auto-populating in the PO- the default shows net 30 days. The 10% holdback does not show up other than in your notes in the text field.

Cheers,
Scott

From: Bell, Karen
Sent: Wednesday, October 02, 2013 11:22 AM
To: Russell, Scott
Cc: Amarkhanyan, Andrey; Magbitang, June; Pulgar, Armando; Sevilla, Erwin; Stewart, Kurt (eng)
Subject: FW: PS20130263 - LED light - contract with Acuity Brands

Scott,

Please add another SKU for an Autobahn fixture (for Intersections): ATB2 80LED E70 R3

Thanks,
Karen

From: Pulgar, Armando
Sent: Thursday, September 26, 2013 2:42 PM
To: Bell, Karen; Sevilla, Erwin; Amarkhanyan, Andrey; Stewart, Kurt (eng)
Subject: FW: PS20130263 - LED light - contract with Acuity Brands

FYI.

From: Russell, Scott
Sent: Wednesday, September 25, 2013 12:00 PM
To: Liu, Yuyi; Wong, Phil
Cc: Roberts, Shelley; Magbitang, June; Antoniazzi, Rob; Pulgar, Armando
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Hi Yuyi,
I have added 2 SKUs to the LED complement at the request of Electrical Design. Can you add the following lines highlighted in yellow to the OA? Thanks!

Material	Material Description	Plnt	Name 1	Schedule A	Change
128598	LUMINAIRE, LED, LANE WAY, ATB0 20	2007	Engineering Services	Item# 1	n/a
128599	LUMINAIRE, LED, RESIDENTIAL, ATB2 60B	2007	Engineering Services	Item# 2	n/a
128600	LUMINAIRE, LED, ARTERIAL, ATB2 40B	2007	Engineering Services	Item# 3	n/a
128601	LUMINAIRE, LED, INTERSECTION, ATB2 80B	2007	Engineering Services	Item# 4	n/a
128610	LUMINAIRE, LED, RESIDENTIAL, ATB2 60B R3	2007	Engineering Services	item#2b	R3
128611	LUMINAIRE, LED, ARTERIAL, ATB2 40B E70	2007	Engineering Services	item#3b	E70

Regards,

Scott Russell
Inventory Planner/Buyer
Stores Supervisor
City of Vancouver
National Works Yard
701 National Avenue, Vancouver, BC V6A 4L3
Tel.604-871-6208
Email: scott.russell@vancouver.ca

From: Liu, Yuyi
Sent: Wednesday, September 11, 2013 12:58 PM
To: Russell, Scott; Wong, Phil
Cc: Roberts, Shelley; Magbitang, June; Antoniazzi, Rob
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Hi Scott,

The outline agreement has been set up as discussed, OA # 4600004567. Let me know if you have any questions.

Thank you,

Yuyi

From: Russell, Scott

Sent: Tuesday, September 10, 2013 11:39 AM
To: Liu, Yuyi; Wong, Phil
Cc: Roberts, Shelley; Magbitang, June; Antoniazzi, Rob
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Hi Yuyi,

I spoke with Phil and we agreed that the first four items in Schedule A should have SKUs (see below). At a later date, we can review whether or not to add additional items or change existing ones. Any exceptions/dimmable requirements can also be ordered as required. Orders will be placed when materials are required for a project (not purchased and stored) and, therefore, I have set-up the Material Master for external planning in MRP. The tracking during the assessment period will occur external to Stores. Has Acuity Brands given you any indication about what information they will require in order to satisfy a return and reimburse the City for any expenses for removal/installation of defective products? As far as the holdbacks, can that info be forced into the PO from the OA?

The SKUs are as follows:

Material	Material Description	Plnt	Name 1
128598	LUMINAIRE, LED, LANE WAY, ATB0 20	2007	Engineering Services
128599	LUMINAIRE, LED, RESIDENTIAL, ATB2 60B	2007	Engineering Services
128600	LUMINAIRE, LED, ARTERIAL, ATB2 40B	2007	Engineering Services
128601	LUMINAIRE, LED, INTERSECTION, ATB2 80B	2007	Engineering Services

<< File: schedule a.pdf >>

Regards,

Scott Russell
Inventory Planner/BuyerStores Supervisor
City of Vancouver National Works Yard
701 National Avenue, Vancouver, BC V6A 4L3
Tel.604-871-6208
Email: scott.russell@vancouver.ca

From: Liu, Yuyi

Sent: Thursday, September 05, 2013 2:18 PM
To: Wong, Phil; Russell, Scott
Cc: Roberts, Shelley; Magbitang, June; Antoniazzi, Rob
Subject: PS20130263 - LED light - contract with Acuity Brands

Thank you Phil,

The contract is signed and attached.

You may want to discuss with your team on how to set up payment authorization for releasing the 10% holdback for the 90 days of product assessment period, and how to bill the vendor if the LED light fails during the first 90 days upon delivery and the City crew perform the removal/re-installation. As the assessment period beginning on the delivery date, please keep record of product delivery for each order and not to stock up the LED light for too long. Ideally, they should be installed asap to maximize the "actual" product assessment time. Call me if you have any question on this.

I met Lynn yesterday. She said the purchase order should go to their distributor Eecol Electric and she prefers to receive a notification when the City places an order to Eecol Electric.

Hi Scott,

I will work with Rob Johnson when he is back next week to set up a material OA in SAP so you will be able to release order against it.

Thanks,

Yuyi

<< File: PS20130263 - Supply Agreement (signed by both parties) Aug.21.pdf >>

From: Wong, Phil
Sent: Wednesday, September 04, 2013 9:19 AM
To: Liu, Yuyi
Cc: Russell, Scott; Roberts, Shelley
Subject: LED Lights

Further to our conversation, I had a brief discussion with Scott on the preferred set up for LED procurement.

We agreed that the preferred arrangement is to order the items through Stores since they have existing handling procedures that staff are familiar with.

Phil.

Bell, Karen

From: Russell, Scott
Sent: Thursday, October 03, 2013 7:54 AM
To: Bell, Karen
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

We're looking into how we might proceed with your request. I'll be in touch.

From: Bell, Karen
Sent: Thursday, October 03, 2013 7:43 AM
To: Russell, Scott
Cc: Wong, Phil
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

ATB2 80BLED E70 MVOLT R3 NL - price per unit \$655.00

From: Russell, Scott
Sent: Wednesday, October 02, 2013 12:35 PM
To: Bell, Karen
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

The part number seems to be missing a few details.

For instance, is it ATB2 80LED E70 MVOLT R3 NL

Or even ATB2 80BLED E70 MVOLT R3 NL

Please inform.

From: Bell, Karen
Sent: Wednesday, October 02, 2013 11:22 AM
To: Russell, Scott
Cc: Amarkhanyan, Andrey; Magbitang, June; Pulgar, Armando; Sevilla, Erwin; Stewart, Kurt (eng)
Subject: FW: PS20130263 - LED light - contract with Acuity Brands

Scott,

Please add another SKU for an Autobahn fixture (for Intersections): ATB2 80LED E70 R3

Thanks,
Karen

From: Pulgar, Armando
Sent: Thursday, September 26, 2013 2:42 PM
To: Bell, Karen; Sevilla, Erwin; Amarkhanyan, Andrey; Stewart, Kurt (eng)
Subject: FW: PS20130263 - LED light - contract with Acuity Brands

FYI.

From: Russell, Scott
Sent: Wednesday, September 25, 2013 12:00 PM
To: Liu, Yuyi; Wong, Phil
Cc: Roberts, Shelley; Magbitang, June; Antoniazzi, Rob; Pulgar, Armando
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Hi Yuyi,

I have added 2 SKUs to the LED complement at the request of Electrical Design. Can you add the following lines highlighted in yellow to the OA? Thanks!

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128598	LUMINAIRE, LED, LANE WAY, ATB0 20	2007	Engineering Services	Item# 1	n/a
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128600	LUMINAIRE, LED, ARTERIAL, ATB2 40B	2007	Engineering Services	Item# 3	n/a
128601	LUMINAIRE, LED, INTERSECTION, ATB2 80B	2007	Engineering Services	Item# 4	n/a
128610	LUMINAIRE, LED, RESIDENTIAL, ATB2 60B R3	2007	Engineering Services	item#2b	R3
128611	LUMINAIRE, LED, ARTERIAL, ATB2 40B E70	2007	Engineering Services	item#3b	E70

Regards,

Scott Russell
Inventory Planner/Buyer
Stores Supervisor
City of Vancouver
National Works Yard
701 National Avenue, Vancouver, BC V6A 4L3
Tel.604-871-6208
Email: scott.russell@vancouver.ca

From: Liu, Yuyi
Sent: Wednesday, September 11, 2013 12:58 PM
To: Russell, Scott; Wong, Phil
Cc: Roberts, Shelley; Magbitang, June; Antoniazzi, Rob
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Hi Scott,

The outline agreement has been set up as discussed, OA # 4600004567. Let me know if you have any questions.

Thank you,

Yuyi

From: Russell, Scott
Sent: Tuesday, September 10, 2013 11:39 AM
To: Liu, Yuyi; Wong, Phil
Cc: Roberts, Shelley; Magbitang, June; Antoniazzi, Rob
Subject: RE: PS20130263 - LED light - contract with Acuity Brands

Hi Yuyi,

I spoke with Phil and we agreed that the first four items in Schedule A should have SKUs (see below). At a later date, we can review whether or not to add additional items or change existing ones. Any exceptions/dimmable requirements can also be ordered as required. Orders will be placed when materials are required for a project (not purchased and stored) and, therefore, I have set-up the Material Master for external planning in MRP. The tracking during the assessment period will occur external to Stores. Has Acuity Brands given you any indication about what information they will require in order to satisfy a return and reimburse the City for any expenses for removal/installation of defective products? As far as the holdbacks, can that info be forced into the PO from the OA?

The SKUs are as follows:

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128598	LUMINAIRE, LED, LANE WAY, ATB0 20	2007	Engineering Services
128599	LUMINAIRE, LED, RESIDENTIAL, ATB2 60B	2007	Engineering Services
128600	LUMINAIRE, LED, ARTERIAL, ATB2 40B	2007	Engineering Services
128601	LUMINAIRE, LED, INTERSECTION, ATB2 80B	2007	Engineering Services

<< File: schedule a.pdf >>

Regards,

Scott Russell
Inventory Planner/BuyerStores Supervisor
City of Vancouver National Works Yard
701 National Avenue, Vancouver, BC V6A 4L3
Tel.604-871-6208
Email: scott.russell@vancouver.ca

From: Liu, Yuyi
Sent: Thursday, September 05, 2013 2:18 PM
To: Wong, Phil; Russell, Scott
Cc: Roberts, Shelley; Magbitang, June; Antoniazzi, Rob
Subject: PS20130263 - LED light - contract with Acuity Brands

Thank you Phil,

The contract is signed and attached.

You may want to discuss with your team on how to set up payment authorization for releasing the 10% holdback for the 90 days of product assessment period, and how to bill the vendor if the LED light fails during the first 90 days upon delivery and the City crew perform the removal/re-installation. As the assessment period beginning on the delivery date, please keep record of product delivery for each order and not to stock up the LED light for too long. Ideally, they should be installed asap to maximize the "actual" product assessment time. Call me if you have any question on this.

I met Lynn yesterday. She said the purchase order should go to their distributor Eecol Electric and she prefers to receive a notification when the City places an order to Eecol Electric.

Hi Scott,

I will work with Rob Johnson when he is back next week to set up a material OA in SAP so you will be able to release order against it.

Thanks,

Yuyi

<< File: PS20130263 - Supply Agreement (signed by both parties) Aug.21.pdf >>

From: Wong, Phil
Sent: Wednesday, September 04, 2013 9:19 AM
To: Liu, Yuyi
Cc: Russell, Scott; Roberts, Shelley
Subject: LED Lights

Further to our conversation, I had a brief discussion with Scott on the preferred set up for LED procurement.

We agreed that the preferred arrangement is to order the items through Stores since they have existing handling procedures that staff are familiar with.

Phil.

Bell, Karen

From: Bell, Karen
Sent: Friday, October 04, 2013 1:27 PM
To: Marom, Ofer
Subject: Intersection lighting upgrades
Attachments: TS pole numbers.xlsx

Ofer,

Please provide asset numbers for all TS poles.

Thanks,
Karen

-----Original Message-----

From: Electrical Office
Sent: Thursday, October 03, 2013 3:24 PM
To: Bell, Karen
Subject: FW: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Hi Karen,

Spoke with Kim, and it would be best for the SL upgrades to be attached to each individual pole asset at the intersection instead of the intersection assets themselves. Since the upgrade is technically only an upgrade to each Street Light and not upgrading the intersection asset per se, it doesn't make sense to capitalize the intersection asset for the new fixtures.

Can you send me a list of the pole #s and Assets for the poles at the intersections only getting the fixtures?

Thanks!

Tyler Fahmi

Streets, Traffic & Electrical Operations | National Yard City of Vancouver | Direct: 604-871-6674 | Office: 604-829-4299

-----Original Message-----

From: Bell, Karen
Sent: Wednesday, October 02, 2013 11:56 AM
To: Electrical Office
Subject: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Please create a work order per the attached Subactivities form. At this time, I only require a network number for purchasing materials. The civil and electrical scope of work may be revised for Fraser & Broadway (pending site investigation).

Thanks,
Karen

-----< HP TRIM Record Information >-----

Record Number : DOC/2013/221972
Title : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Bell, Karen

From: Bell, Karen
Sent: Friday, October 04, 2013 1:41 PM
To: Russell, Scott
Subject: Intersection lighting upgrades

Scott,

Please order the following Autobahn fixtures:

ATB2 80BLEDE70 MVOLT R3 NL - quantity: 63

ATB2 80BLEDE10 MVOLT R3 NL - quantity: 47

Project name: 'Top 20' intersections - lighting upgrades

Regards,
Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca

Bell, Karen

From: Russell, Scott
Sent: Friday, October 04, 2013 3:13 PM
To: Bell, Karen; Amarkhanyan, Andrey
Subject: LED orders

Please review PO# 4500540304 before I send it to the vendor.

Karen: lines 10 and 20
Andrey: lines 30 – 70



Thank you.

Bell, Karen

From: Bell, Karen
Sent: Friday, October 04, 2013 7:04 AM
To: Electrical Office
Subject: RE: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Hi Tyler,

I can put a list together for you. In the meantime, can you create a work order for purchasing materials? These installations need to be completed by the end of the year and there is a 6-week delivery for the fixtures.

Thanks,
Karen

-----Original Message-----

From: Electrical Office
Sent: Thursday, October 03, 2013 3:24 PM
To: Bell, Karen
Subject: FW: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Hi Karen,

Spoke with Kim, and it would be best for the SL upgrades to be attached to each individual pole asset at the intersection instead of the intersection assets themselves. Since the upgrade is technically only an upgrade to each Street Light and not upgrading the intersection asset per se, it doesn't make sense to capitalize the intersection asset for the new fixtures.

Can you send me a list of the pole #s and Assets for the poles at the intersections only getting the fixtures?

Thanks!

Tyler Fahmi

Streets, Traffic & Electrical Operations | National Yard City of Vancouver | Direct: 604-871-6674 | Office: 604-829-4299

-----Original Message-----

From: Bell, Karen
Sent: Wednesday, October 02, 2013 11:56 AM
To: Electrical Office
Subject: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Please create a work order per the attached Subactivities form. At this time, I only require a network number for purchasing materials. The civil and electrical scope of work may be revised for Fraser & Broadway (pending site investigation).

Thanks,
Karen

-----< HP TRIM Record Information >-----

Record Number: DOC/2013/221972

Title : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Bell, Karen

From: Wong, Phil
Sent: Friday, October 04, 2013 9:36 AM
To: Magbitang, June
Cc: Bell, Karen
Subject: RE: 'Top 20' intersections - estimates

Perfect, this falls nicely within my available budget.

Please go ahead and buy what we need and assign to a design tech if not Karen.

Phil.

From: Bell, Karen
Sent: Friday, October 04, 2013 9:31 AM
To: Wong, Phil
Subject: RE: 'Top 20' intersections - estimates

Joyce & Kingsway fixtures costs added, Oak & 12th fixture costs added (Andrey's Granville project), traffic control split out.

From: Wong, Phil
Sent: Friday, October 04, 2013 8:14 AM
To: Bell, Karen
Subject: RE: 'Top 20' intersections - estimates

Could you add a column for traffic control? I did not include this in my original budget.

From: Bell, Karen
Sent: Friday, October 04, 2013 7:40 AM
To: Wong, Phil
Subject: 'Top 20' intersections - estimates

Hi Phil,

Attached is a spreadsheet with estimates, fixture quantities, etc. for the "top 20" intersections. Estimates are based upon Vanmap info and TS as-builts, crews did not investigate each location.

Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca

Bell, Karen

From: Bell, Karen
Sent: Monday, October 07, 2013 7:21 AM
To: Russell, Scott
Subject: RE: LED orders

Lines 10 and 20 are fine.

Thanks,
Karen

From: Russell, Scott
Sent: Friday, October 04, 2013 3:13 PM
To: Bell, Karen; Amarkhanyan, Andrey
Subject: LED orders

Please review PO# 4500540304 before I send it to the vendor.

Karen: lines 10 and 20
Andrey: lines 30 – 70

<< File: 4500540304.pdf >>
Thank you.

Bell, Karen

From: Magbitang, June
Sent: Monday, October 07, 2013 7:31 AM
To: Wong, Phil
Cc: Bell, Karen
Subject: RE: 'Top 20' intersections - estimates

Hi, Phil ...

This " Top 20 Intersections " was assigned to Karen already

Karen, pls provide me the updated spreadsheet with estimates

*Thanks,
June*

From: Wong, Phil
Sent: Friday, October 04, 2013 9:36 AM
To: Magbitang, June
Cc: Bell, Karen
Subject: RE: 'Top 20' intersections - estimates

Perfect, this falls nicely within my available budget.

Please go ahead and buy what we need and assign to a design tech if not Karen.

Phil.

From: Bell, Karen
Sent: Friday, October 04, 2013 9:31 AM
To: Wong, Phil
Subject: RE: 'Top 20' intersections - estimates

Joyce & Kingsway fixtures costs added, Oak & 12th fixture costs added (Andrey's Granville project), traffic control split out.

From: Wong, Phil
Sent: Friday, October 04, 2013 8:14 AM
To: Bell, Karen
Subject: RE: 'Top 20' intersections - estimates

Could you add a column for traffic control? I did not include this in my original budget.

From: Bell, Karen
Sent: Friday, October 04, 2013 7:40 AM
To: Wong, Phil
Subject: 'Top 20' intersections - estimates

Hi Phil,

Attached is a spreadsheet with estimates, fixture quantities, etc. for the “top 20” intersections. Estimates are based upon Vanmap info and TS as-builts, crews did not investigate each location.

Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca

Bell, Karen

From: Marom, Ofer
Sent: Monday, October 07, 2013 9:18 AM
To: Bell, Karen
Subject: RE: Intersection lighting upgrades
Attachments: Karen TS pole numbers.xlsx

There it is
New asset numbers were created for the location that new base will be poured

Ofer

From: Bell, Karen
Sent: Friday, October 04, 2013 1:27 PM
To: Marom, Ofer
Subject: Intersection lighting upgrades

Ofer,

Please provide asset numbers for all TS poles.

Thanks,
Karen

-----Original Message-----

From: Electrical Office
Sent: Thursday, October 03, 2013 3:24 PM
To: Bell, Karen
Subject: FW: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Hi Karen,

Spoke with Kim, and it would be best for the SL upgrades to be attached to each individual pole asset at the intersection instead of the intersection assets themselves. Since the upgrade is technically only an upgrade to each Street Light and not upgrading the intersection asset per se, it doesn't make sense to capitalize the intersection asset for the new fixtures.

Can you send me a list of the pole #s and Assets for the poles at the intersections only getting the fixtures?

Thanks!

Tyler Fahmi

Streets, Traffic & Electrical Operations | National Yard City of Vancouver | Direct: 604-871-6674 | Office: 604-829-4299

-----Original Message-----

From: Bell, Karen
Sent: Wednesday, October 02, 2013 11:56 AM
To: Electrical Office
Subject: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Please create a work order per the attached Subactivities form. At this time, I only require a network number for purchasing materials. The civil and electrical scope of work may be revised for Fraser & Broadway (pending site investigation).

Thanks,
Karen

-----< HP TRIM Record Information >-----

Record Number : DOC/2013/221972

Title : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Bell, Karen

From: Bell, Karen
Sent: Monday, October 07, 2013 10:28 AM
To: Fahmi, Tyler
Subject: FW: Intersection lighting upgrades
Attachments: Karen TS pole numbers.xlsx

Hi Tyler,

Here's the list of assets. I'll update the sub-activities form and resubmit to the Electrical Office.

Thanks,
Karen

From: Marom, Ofer
Sent: Monday, October 07, 2013 9:19 AM
To: Bell, Karen
Subject: RE: Intersection lighting upgrades

There it is
New asset numbers were created for the location that new base will be poured

Ofer

From: Bell, Karen
Sent: Friday, October 04, 2013 1:27 PM
To: Marom, Ofer
Subject: Intersection lighting upgrades

Ofer,

Please provide asset numbers for all TS poles.

Thanks,
Karen

-----Original Message-----

From: Electrical Office
Sent: Thursday, October 03, 2013 3:24 PM
To: Bell, Karen
Subject: FW: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Hi Karen,

Spoke with Kim, and it would be best for the SL upgrades to be attached to each individual pole asset at the intersection instead of the intersection assets themselves. Since the upgrade is technically only an upgrade to each Street Light and not upgrading the intersection asset per se, it doesn't make sense to capitalize the intersection asset for the new fixtures.

Can you send me a list of the pole #s and Assets for the poles at the intersections only getting the fixtures?

Thanks!

Tyler Fahmi

Streets, Traffic & Electrical Operations | National Yard City of Vancouver | Direct: 604-871-6674 | Office: 604-829-4299

-----Original Message-----

From: Bell, Karen

Sent: Wednesday, October 02, 2013 11:56 AM

To: Electrical Office

Subject: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Please create a work order per the attached Subactivities form. At this time, I only require a network number for purchasing materials. The civil and electrical scope of work may be revised for Fraser & Broadway (pending site investigation).

Thanks,
Karen

-----< HP TRIM Record Information >-----

Record Number : DOC/2013/221972

Title : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Bell, Karen

From: Bell, Karen
Sent: Friday, October 11, 2013 2:22 PM
To: Electrical Office
Subject: RE: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Hi Tyler,

I've added the street names next to the pole numbers on the Subactivities form.

Karen

-----Original Message-----

From: Electrical Office
Sent: Thursday, October 03, 2013 3:24 PM
To: Bell, Karen
Subject: FW: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Hi Karen,

Spoke with Kim, and it would be best for the SL upgrades to be attached to each individual pole asset at the intersection instead of the intersection assets themselves. Since the upgrade is technically only an upgrade to each Street Light and not upgrading the intersection asset per se, it doesn't make sense to capitalize the intersection asset for the new fixtures.

Can you send me a list of the pole #s and Assets for the poles at the intersections only getting the fixtures?

Thanks!

Tyler Fahmi

Streets, Traffic & Electrical Operations | National Yard City of Vancouver | Direct: 604-871-6674 | Office: 604-829-4299

-----Original Message-----

From: Bell, Karen
Sent: Wednesday, October 02, 2013 11:56 AM
To: Electrical Office
Subject: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Please create a work order per the attached Subactivities form. At this time, I only require a network number for purchasing materials. The civil and electrical scope of work may be revised for Fraser & Broadway (pending site investigation).

Thanks,
Karen

-----< HP TRIM Record Information >-----

Record Number: DOC/2013/221972

Title : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Bell, Karen

From: Electrical Office
Sent: Friday, October 18, 2013 9:38 AM
To: Bell, Karen
Cc: Antoniazzi, Rob
Subject: FW: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form
Attachments: ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form.tr5

Hi Karen,

Project and Vandocs created.

Cheers,

Tyler Fahmi

Streets, Traffic & Electrical Operations | National Yard City of Vancouver | Direct: 604-871-6674 | Office: 604-829-4299

-----Original Message-----

From: Bell, Karen
Sent: Wednesday, October 02, 2013 11:56 AM
To: Electrical Office
Subject: HP TRIM Document : DOC/2013/221972 : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Please create a work order per the attached Subactivities form. At this time, I only require a network number for purchasing materials. The civil and electrical scope of work may be revised for Fraser & Broadway (pending site investigation).

Thanks,
Karen

-----< HP TRIM Record Information >-----

Record Number: DOC/2013/221972
Title : ENG - SED - C13-xxxx - TS - Intersection lighting upgrades - Subactivities Form

Bell, Karen

From: Wong, Phil
Sent: Thursday, September 05, 2013 7:27 AM
To: Asselin, Lynn (lynn.asselin@holophane.com)
Cc: Blagojevic, Gruja; Magbitang, June; Bell, Karen
Subject: RE: Emailing: CoV intersections - AGi files.zip

Hi Lynn,

I wanted to mention that for LLF, we used a very aggressive factor for tender selection purposes only. We were not intending to use it for design purposes. Please advise us on the appropriate LLF for your product line and please use it for your lighting calculations. Hopefully you still have the files that you did for the RFP to substitute the LLF.

Also, if there are some intersections which are going to be difficult due to the number of poles, would you also advise us? I have a small budget set aside to add poles if required.

Phil.

-----Original Message-----

From: Magbitang, June
Sent: Friday, August 23, 2013 8:38 AM
To: Asselin, Lynn (lynn.asselin@holophane.com); Bell, Karen
Cc: Wong, Phil; Blagojevic, Gruja
Subject: Emailing: CoV intersections - AGi files.zip

Hi, Lynn ...

We would like to request for a photometric calculation of the 10 intersection locations as per attachment. These 10 will be the remaining top 20 intersections that we have to replace from HPS to LED (you've provided the photometric calc for the other 8 locations already from your RFP LED submission) and the other 2 intersection locations was replaced already.

Today is my last day (I'll be away for 2 weeks) and returning Monday, 9 Sept. In my absence, pls contact Karen or Phil

Pls phone me on my cell phone at 604 603-2394 if you need to discuss and have some questions

Thanks,
June

The message is ready to be sent with the following file or link attachments:

CoV intersections - AGi files.zip

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

Bell, Karen

From: Asselin, Lynn <lynn.asselin@holophane.com>
Sent: Monday, September 09, 2013 9:49 PM
To: Magbitang, June; Bell, Karen
Cc: Wong, Phil; Blagojevic, Gruja
Subject: RE: Emailing: CoV intersections - AGi files.zip
Attachments: Abbott & Pender.pdf; Burrard & Davie - 525mA.pdf; Burrard & Davie.pdf; Burrard & Nelson.pdf; Burrard & Smithe.pdf; Commercial & Broadway.pdf; Granville & Davie 525mA.pdf; Granville & Davie.pdf; Howe & Davie.pdf; Joyce & Kingsway.pdf; Knight & E 49 - 525mA.pdf; Knight & E 49.pdf; Nanaimo & Kingsway.pdf; Photometric Calculation Result Matrix INTERSECTION- HOLOPHANE.xlsx

Hi June

Here are the PDF of the Intersections.

I have used the EXCEL MATRIX to summarize the levels.

I have used .78 LLF for the ATB2 80 LED 700mA

I have used .82 LLF for the ATB2 80 LED 525mA

There are 3 intersections that can use the 525mA version; same price.

I will email to you and Karen the AGI files.

Thanks

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane
an Acuity Brands Company
Vancouver & province of British Columbia Office Phone: 1-604-815-0866 (Brackendale #) Cell Phone: 604-787-9087
Fax: 1-604-815-0840
E-Mail: lynn.asselin@Holophane.com
Website - <http://www.holophane.com>

-----Original Message-----

From: Magbitang, June [mailto:june.magbitang@vancouver.ca]
Sent: Friday, August 23, 2013 8:38 AM
To: Asselin, Lynn; Bell, Karen
Cc: Wong, Phil; Blagojevic, Gruja
Subject: Emailing: CoV intersections - AGi files.zip

Hi, Lynn ...

We would like to request for a photometric calculation of the 10 intersection locations as per attachment. These 10 will be the remaining top 20 intersections that we have to replace from HPS to LED (you've provided the photometric calc for the other 8 locations already from your RFP LED submission) and the other 2 intersection locations was replaced already.

Today is my last day (I'll be away for 2 weeks) and returning Monday, 9 Sept. In my absence, pls contact Karen or Phil

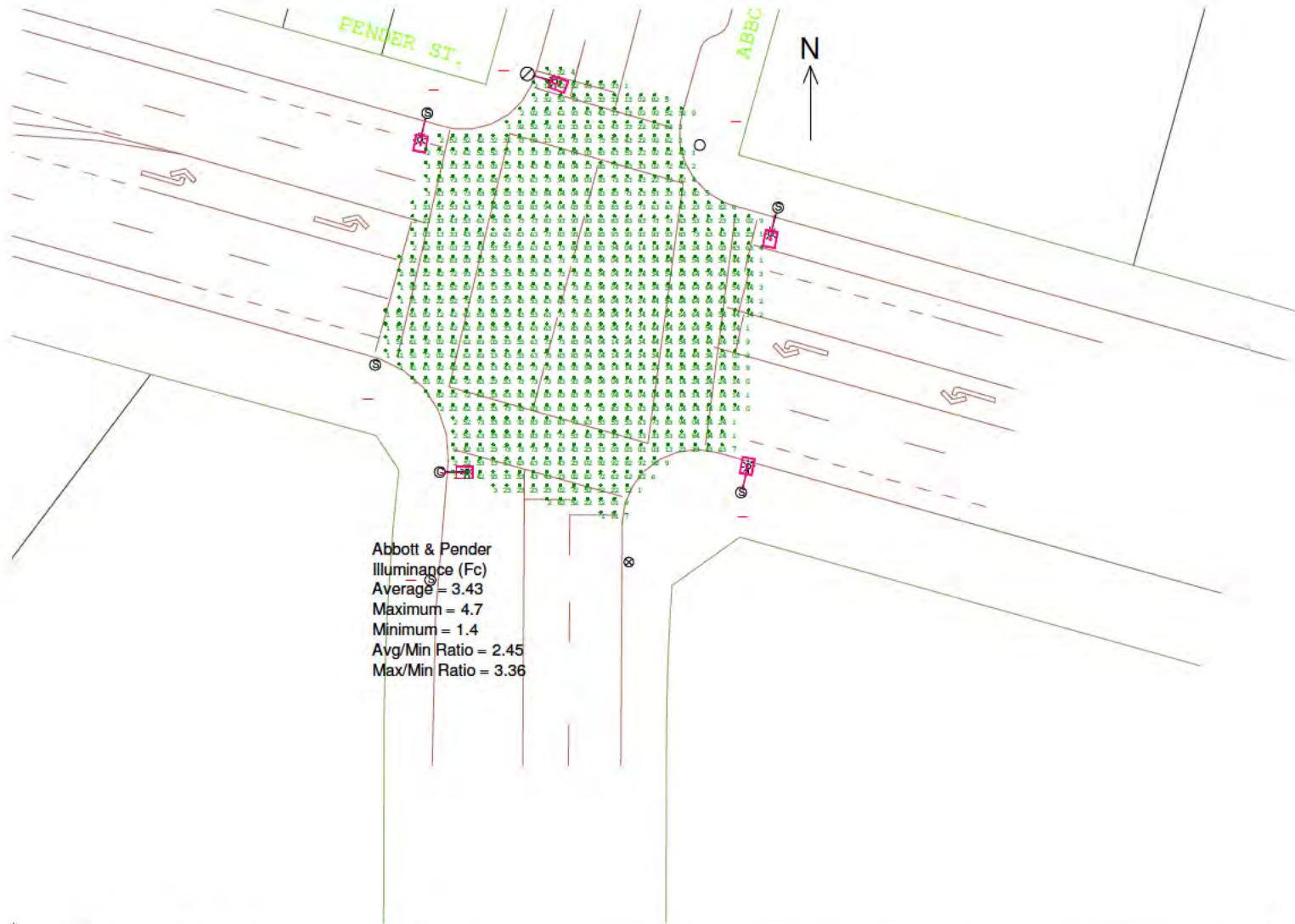
Pls phone me on my cell phone at 604 603-2394 if you need to discuss and have some questions

Thanks,
June

The message is ready to be sent with the following file or link attachments:

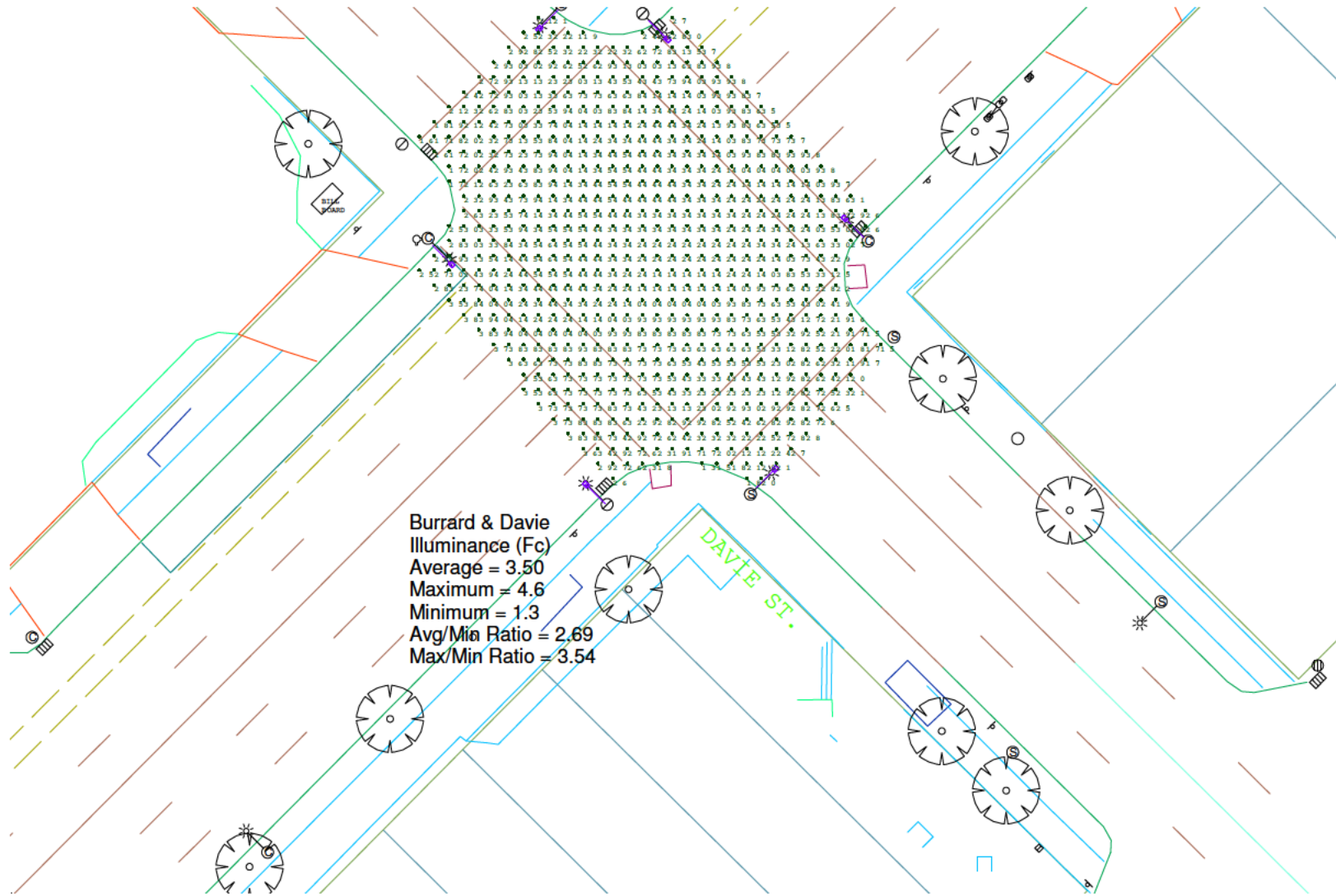
CoV intersections - AGi files.zip

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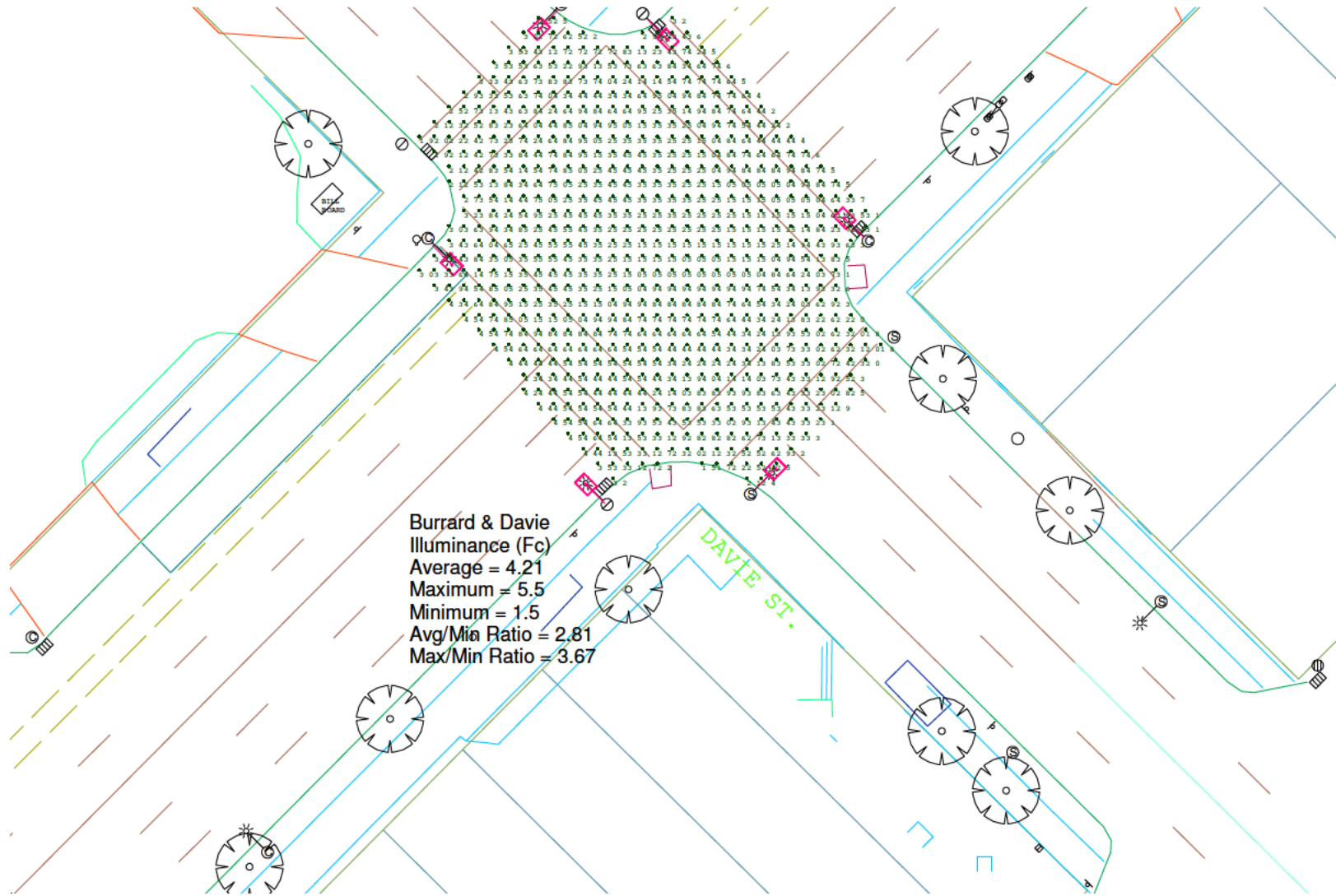
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Abbott & Pender	Illuminance	Fc	3.43	4.7	1.4	2.45	3.36

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	5	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3



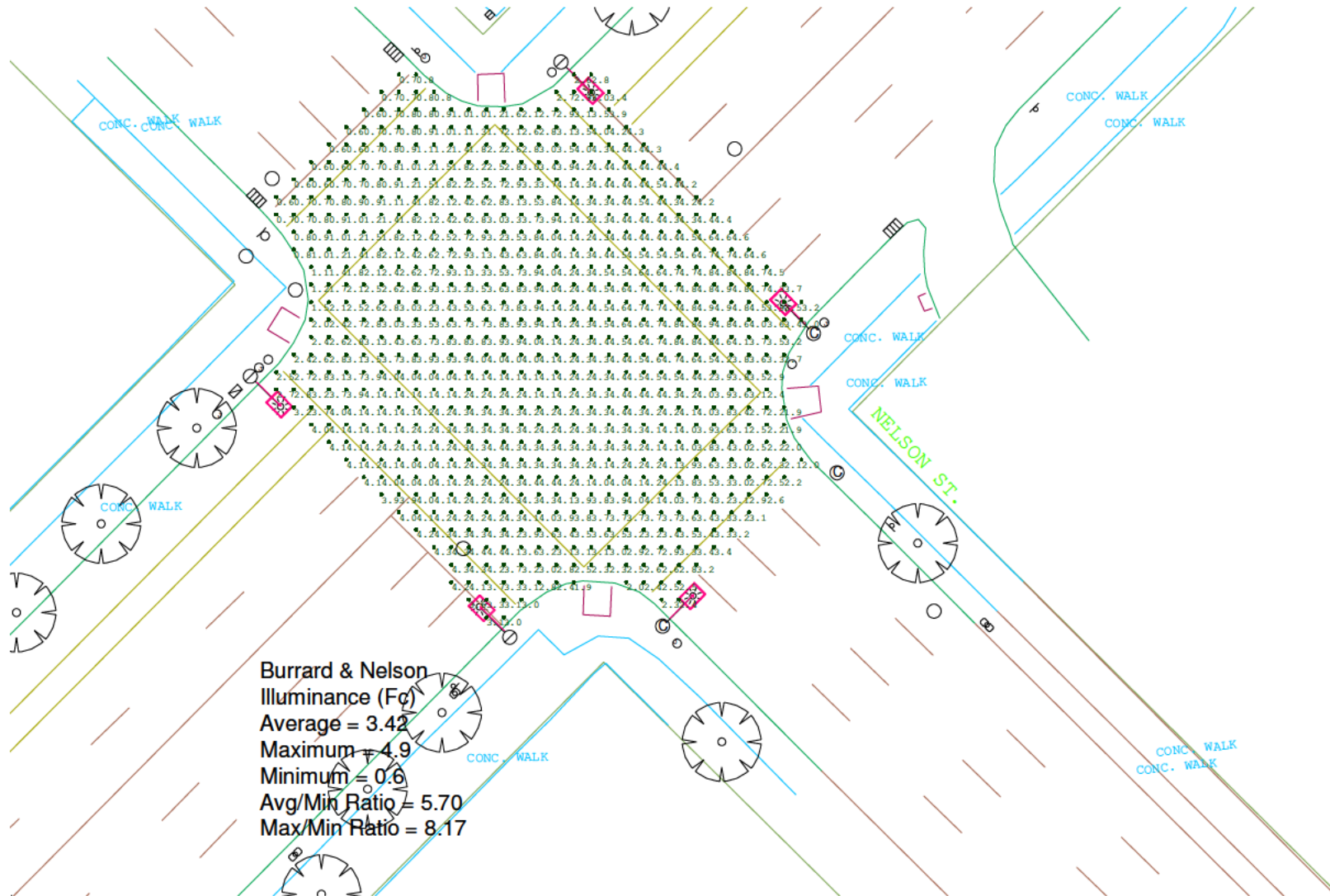
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Burrard & Davie	Illuminance	Fc	3.50	4.6	1.3	2.69	3.54

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	6	ATB2_80B_LED_E53_XXXXX_R	SINGLE	N.A.	0.820	ATB2 80B LED E53 XXXXX R3



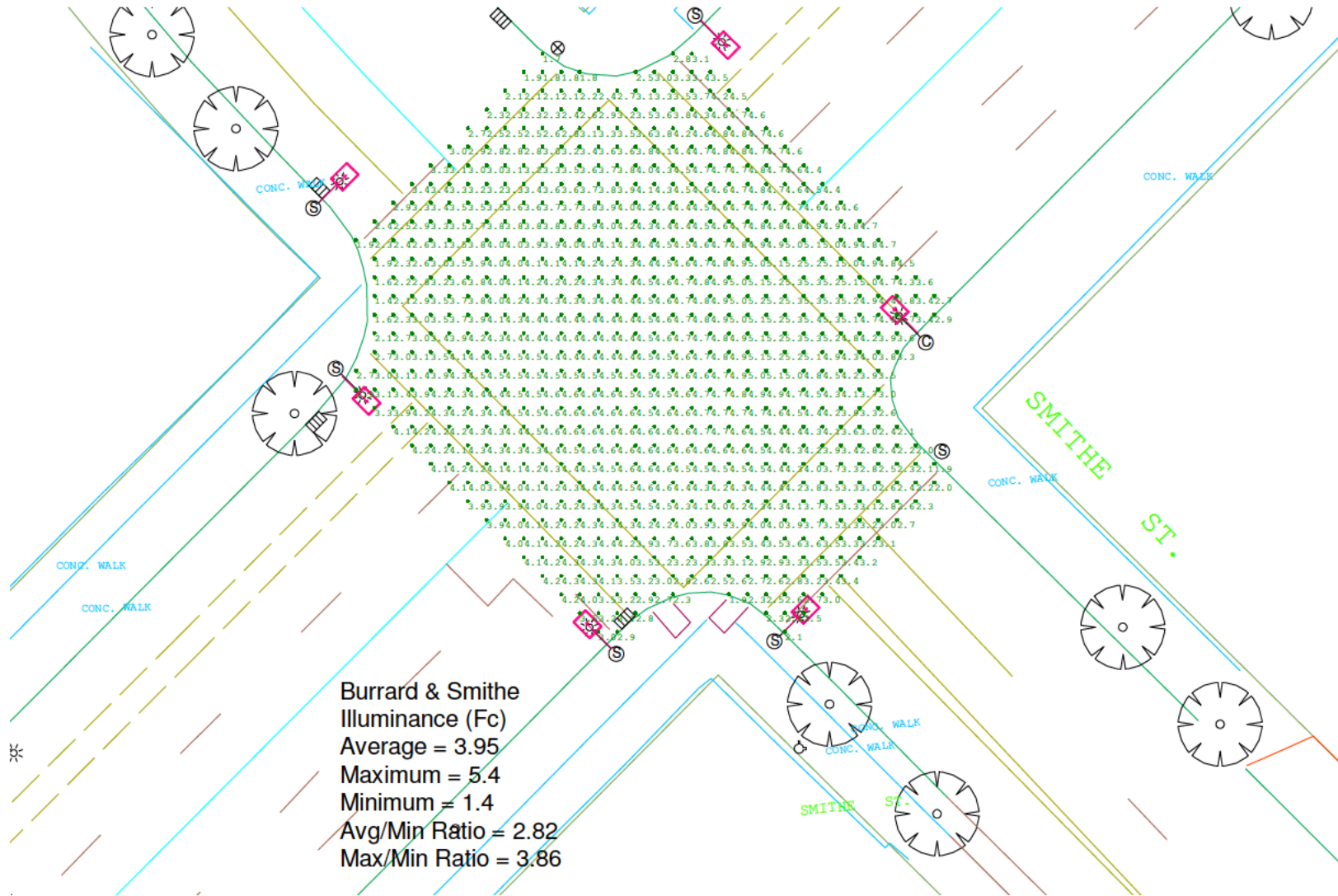
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Burrard & Davie	Illuminance	Fc	4.21	5.5	1.5	2.81	3.67

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	6	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3



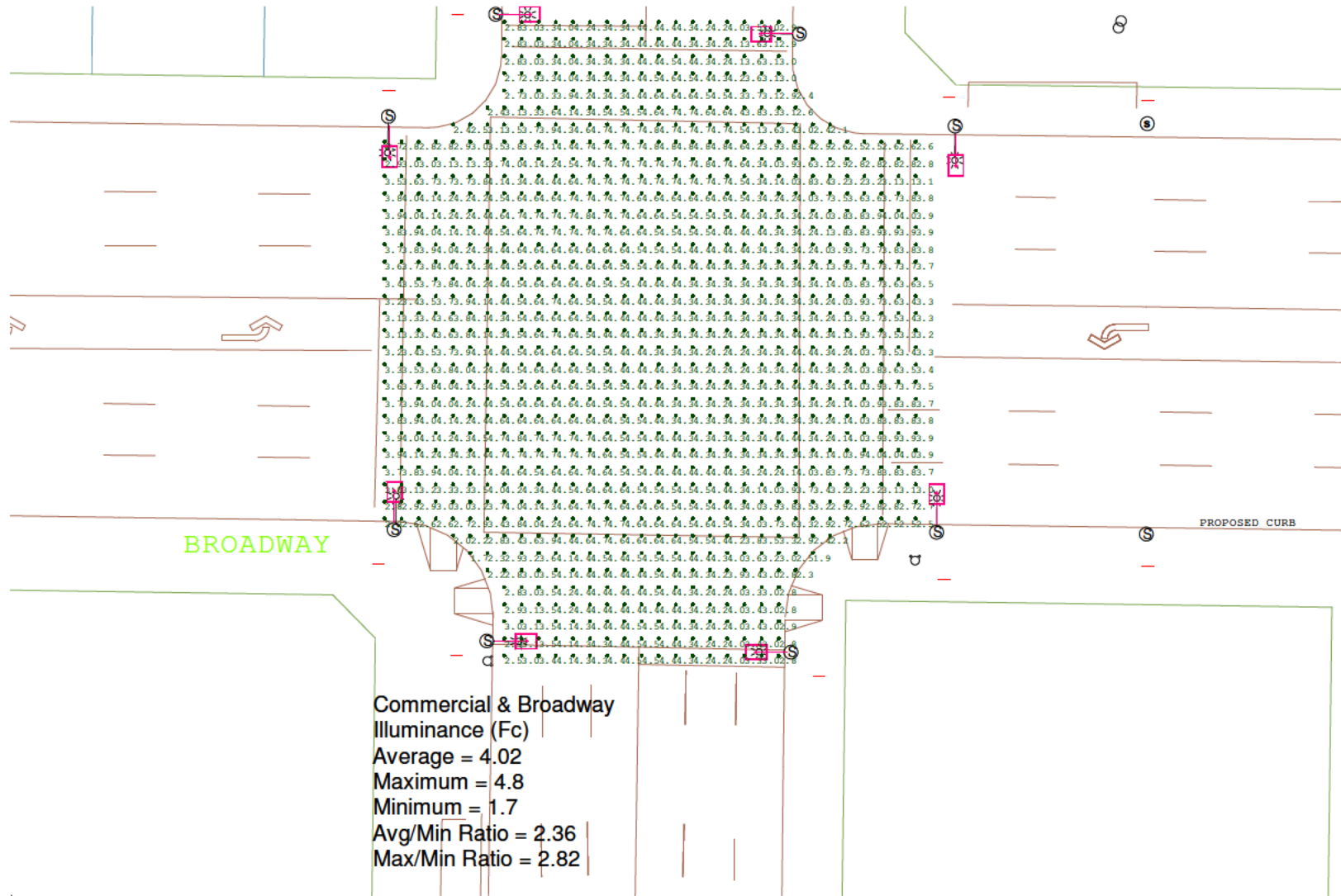
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Burrard & Nelson	Illuminance	Fc	3.42	4.9	0.6	5.70	8.17

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	
	5	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3	



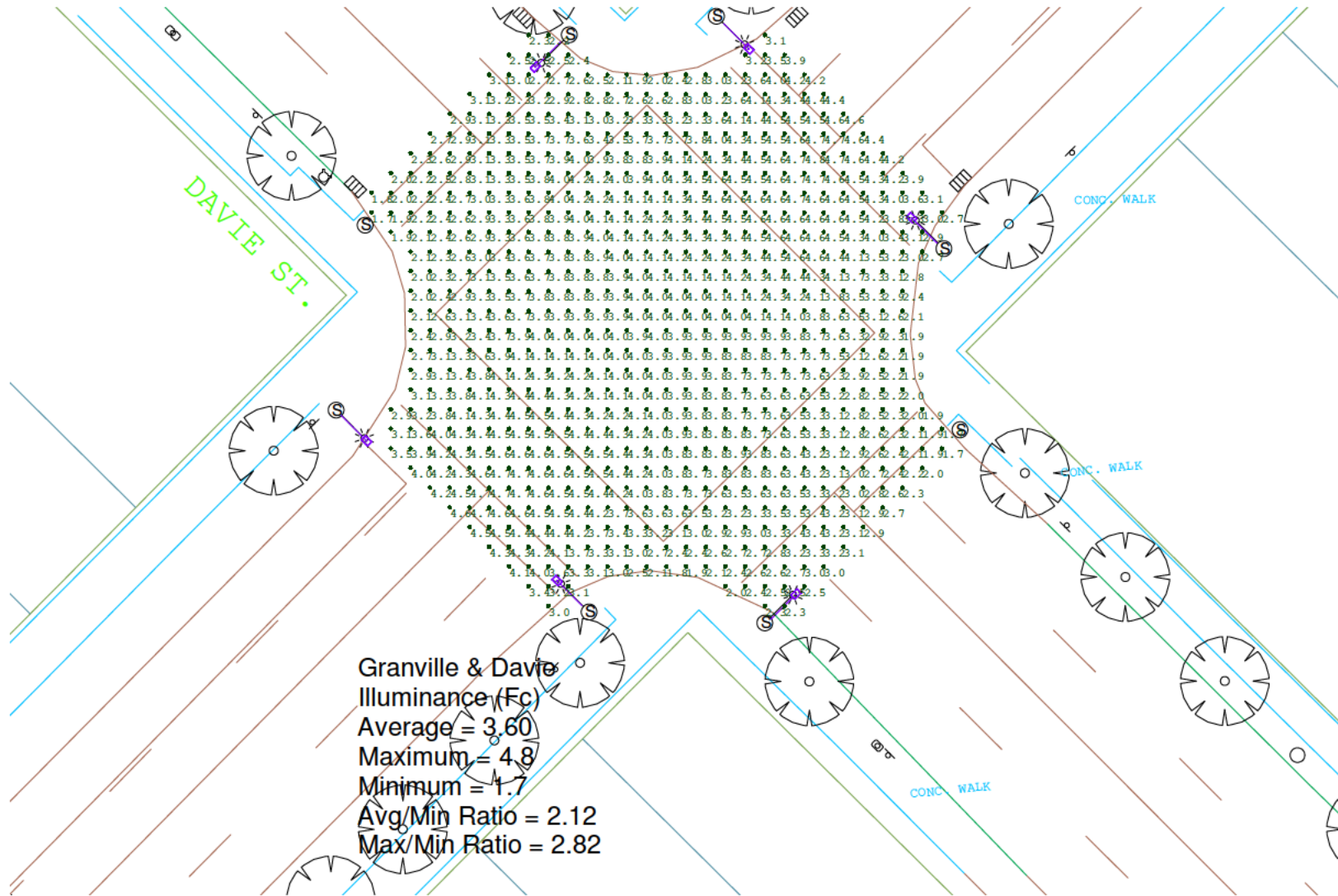
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Burrard & Smithe	Illuminance	Fc	3.95	5.4	1.4	2.82	3.86

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	
	6	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3	



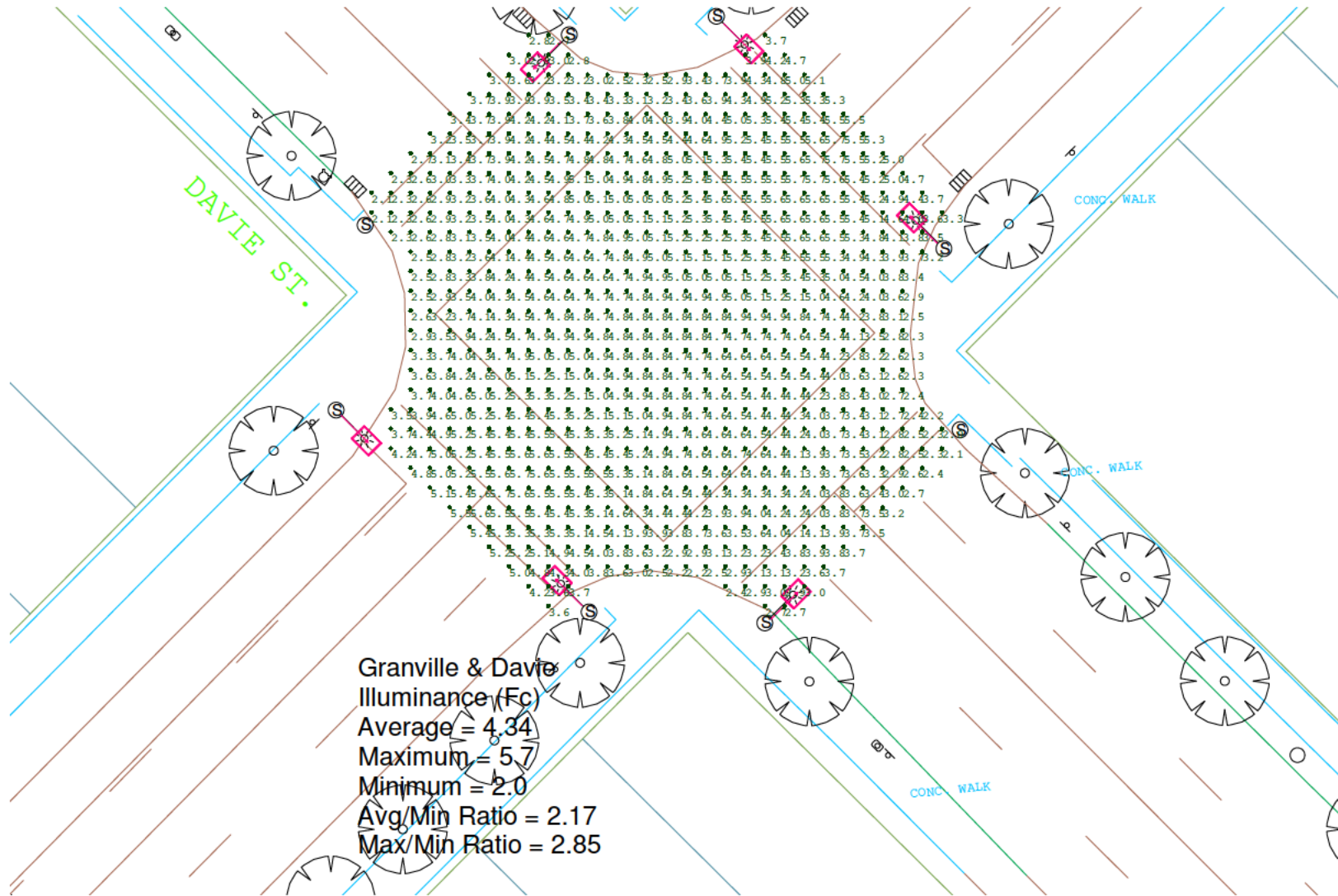
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Commercial & Broadway	Illuminance	Fc	4.02	4.8	1.7	2.36	2.82

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	
	8	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3	



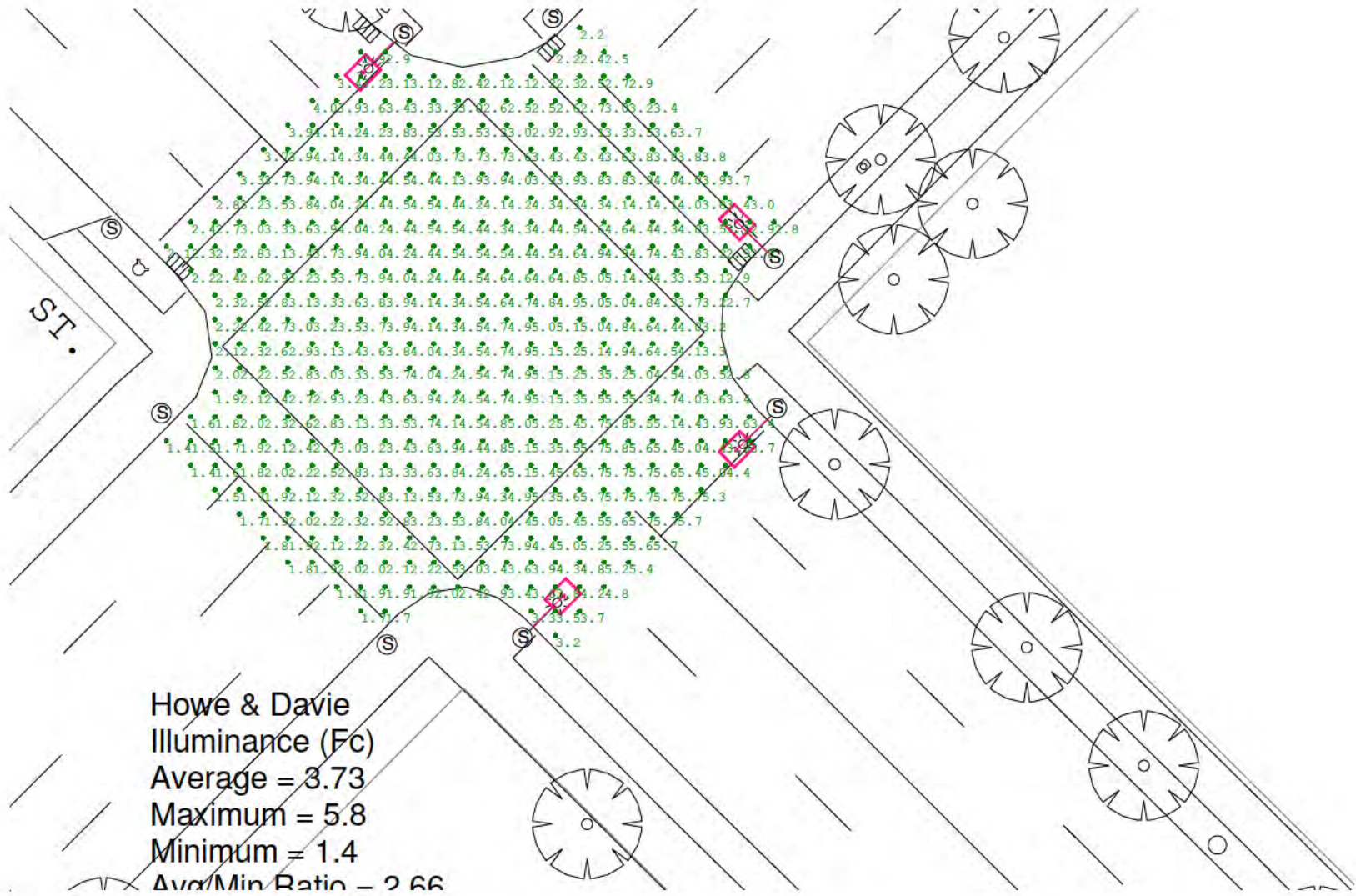
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Granville & Davie	Illuminance	Fc	3.60	4.8	1.7	2.12	2.82

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	
	6	ATB2_80B_LED_E53_XXXXX_R	SINGLE	N.A.	0.820	ATB2 80B LED E53 XXXXX R3	



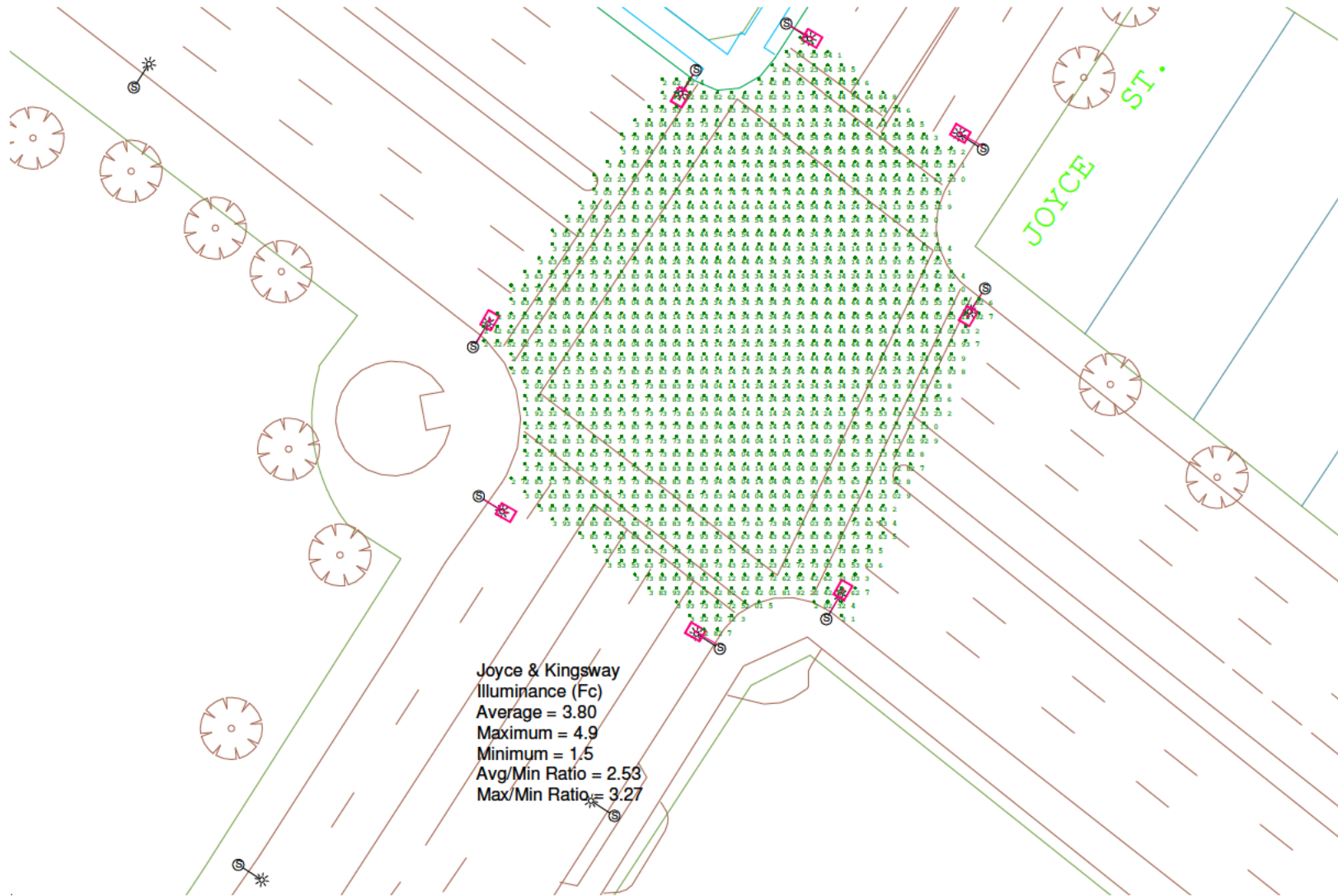
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Granville & Davie	Illuminance	Fc	4.34	5.7	2.0	2.17	2.85

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	
	6	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3	



Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Howe & Davie	Illuminance	Fc	3.73	5.8	1.4	2.66	4.14

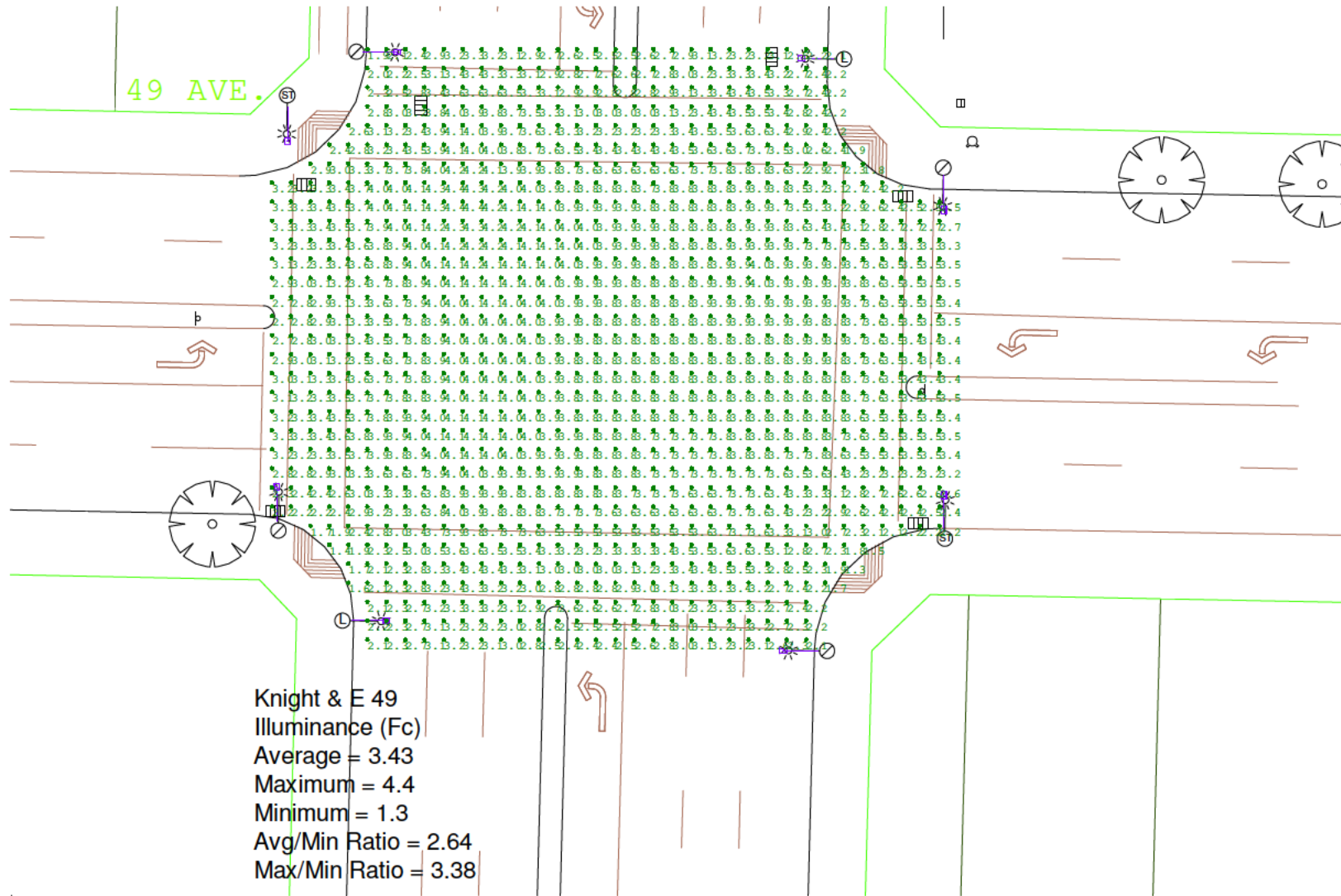
Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	
	4	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3	



Joyce & Kingsway
 Illuminance (Fc)
 Average = 3.80
 Maximum = 4.9
 Minimum = 1.5
 Avg/Min Ratio = 2.53
 Max/Min Ratio = 3.27

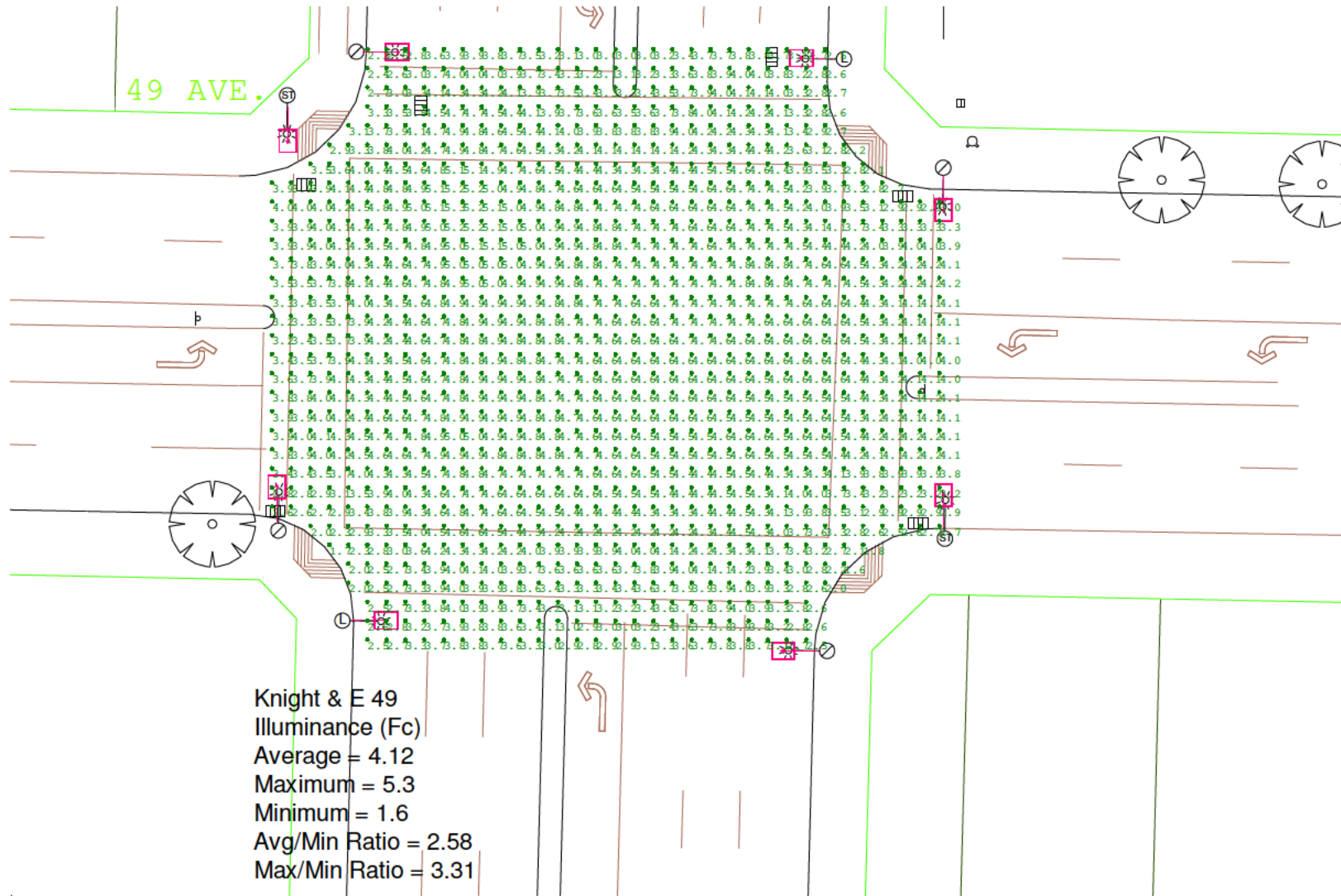
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Joyce & Kingsway	Illuminance	Fc	3.80	4.9	1.5	2.53	3.27

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	
	8	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3	



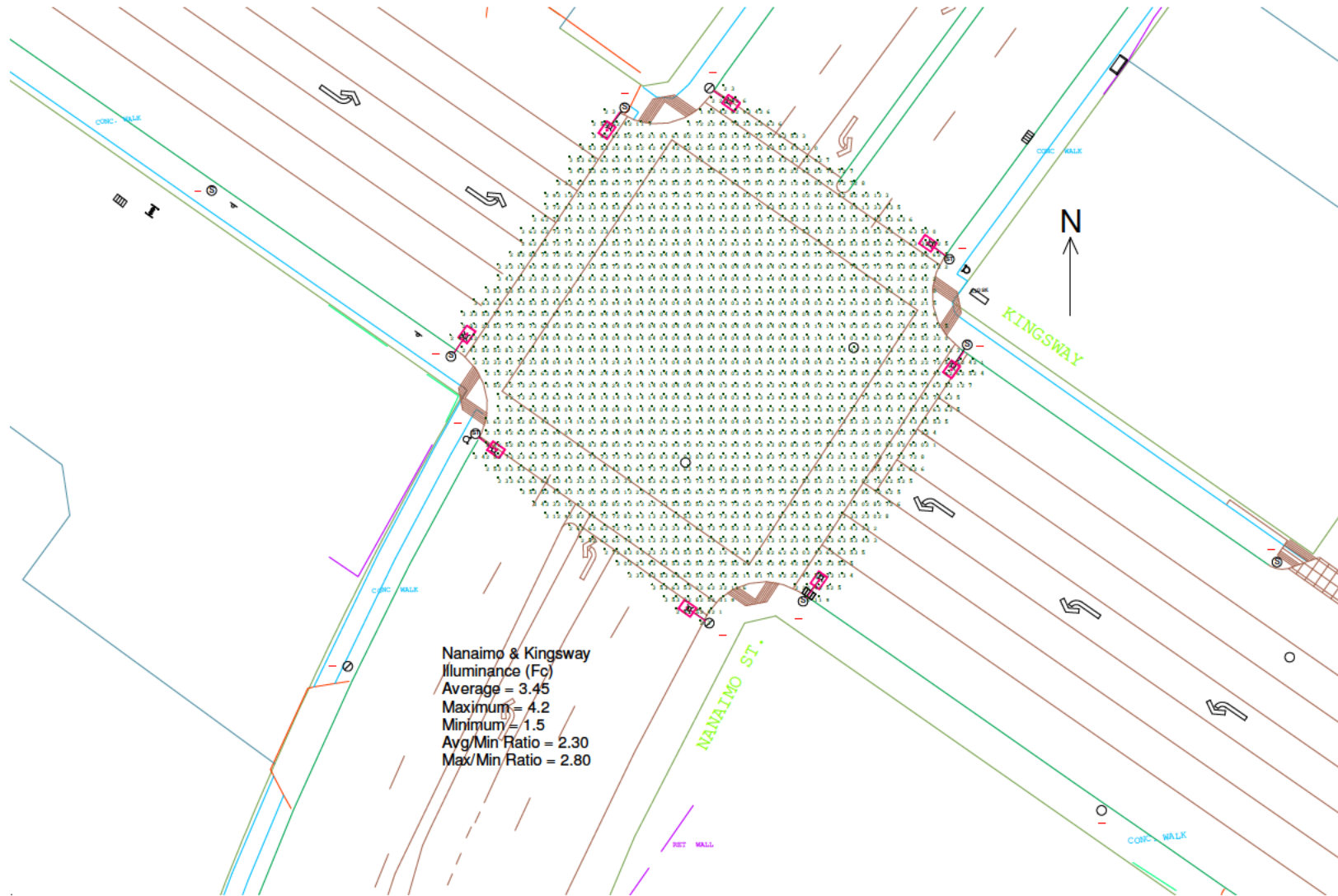
Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Knight & E 49	Illuminance	Fc	3.43	4.4	1.3	2.64	3.38

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
—□	8	ATB2_80B_LED_E53_XXXXX_R	SINGLE	N.A.	0.820	ATB2 80B LED E53 XXXXX R3



Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Knight & E 49	Illuminance	Fc	4.12	5.3	1.6	2.58	3.31

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	8	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3



Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Nanaimo & Kingsway	Illuminance	Fc	3.45	4.2	1.5	2.30	2.80

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	8	ATB2_80B_LED_E70_XXXXX_R	SINGLE	N.A.	0.780	ATB2 80B LED E70 XXXXX R3

Bell, Karen

From: Asselin, Lynn <lynn.asselin@holophane.com>
Sent: Monday, September 09, 2013 9:52 PM
To: Magbitang, June
Cc: Bell, Karen
Subject: RE: Emailing: CoV intersections - AGi files.zip
Attachments: Abbott and Pender.AGI; Burrard & Davie.AGI; Burrard & Nelson.AGI; Burrard & Smithe.AGI; Commercial & Broadway.AGI; Granville & Davie.AGI; Howe & Davie-Copy-75815.AGI; Joyce & Kingsway.AGI; Knight & E 49.AGI; Nanaimo & Kingsway.AGI

There you go

thanks

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane
an Acuity Brands Company
Vancouver & province of British Columbia Office Phone: 1-604-815-0866 (Brackendale #) Cell Phone: 604-787-9087
Fax: 1-604-815-0840
E-Mail: lynn.asselin@Holophane.com
Website - <http://www.holophane.com>

-----Original Message-----

From: Magbitang, June [mailto:june.magbitang@vancouver.ca]
Sent: Friday, August 23, 2013 8:38 AM
To: Asselin, Lynn; Bell, Karen
Cc: Wong, Phil; Blagojevic, Gruja
Subject: Emailing: CoV intersections - AGi files.zip

Hi, Lynn ...

We would like to request for a photometric calculation of the 10 intersection locations as per attachment. These 10 will be the remaining top 20 intersections that we have to replace from HPS to LED (you've provided the photometric calc for the other 8 locations already from your RFP LED submission) and the other 2 intersection locations was replaced already.

Today is my last day (I'll be away for 2 weeks) and returning Monday, 9 Sept. In my absence, pls contact Karen or Phil

Pls phone me on my cell phone at 604 603-2394 if you need to discuss and have some questions

Thanks,
June

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CoV intersections - AGi files.zip

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Bell, Karen

From: Bell, Karen
Sent: Thursday, September 26, 2013 12:48 PM
To: Magbitang, June
Subject: FW: Emailing: CoV intersections - AGi files.zip

Hi June,

Did you ask Lynn to reassess the 10 'RFP' intersections? I cannot locate any AGi files for them.

Following is the list of AGi files I have received from Lynn:

Burrard & Davie
Commercial & Broadway
Granville & Davie
Nanaimo & Kingsway
Burrard & Nelson
Knight & 49
Abbott & Pender
Howe & Davie
Burrard & Smithe
Joyce & Kingsway

-----Original Message-----

From: Wong, Phil
Sent: Thursday, September 26, 2013 7:49 AM
To: Magbitang, June; Bell, Karen
Cc: Blagojevic, Gruja
Subject: RE: Emailing: CoV intersections - AGi files.zip

Did you request the re-assessment of the 10 intersections that were part of the tender? The tender calculations were for selection purposes only. Now that we have a contract, we should double check to ensure this is still the proper design and not over-designed.

-----Original Message-----

From: Asselin, Lynn [mailto:lynn.asselin@holophane.com]
Sent: Monday, September 09, 2013 9:49 PM
To: Magbitang, June; Bell, Karen
Cc: Wong, Phil; Blagojevic, Gruja
Subject: RE: Emailing: CoV intersections - AGi files.zip

Hi June

Here are the PDF of the Intersections.

I have used the EXCEL MATRIX to summarize the levels.

I have used .78 LLF for the ATB2 80 LED 700mA

I have used .82 LLF for the ATB2 80 LED 525mA

There are 3 intersections that can use the 525mA version; same price.

I will email to you and Karen the AGI files.

Thanks

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane
an Acuity Brands Company
Vancouver & province of British Columbia Office Phone: 1-604-815-0866 (Brackendale #) Cell Phone: 604-787-9087
Fax: 1-604-815-0840
E-Mail: lynn.asselin@Holophane.com
Website - <http://www.holophane.com>

-----Original Message-----

From: Magbitang, June [mailto:june.magbitang@vancouver.ca]
Sent: Friday, August 23, 2013 8:38 AM
To: Asselin, Lynn; Bell, Karen
Cc: Wong, Phil; Blagojevic, Gruja
Subject: Emailing: CoV intersections - AGi files.zip

Hi, Lynn ...

We would like to request for a photometric calculation of the 10 intersection locations as per attachment. These 10 will be the remaining top 20 intersections that we have to replace from HPS to LED (you've provided the photometric calc for the other 8 locations already from your RFP LED submission) and the other 2 intersection locations was replaced already.

Today is my last day (I'll be away for 2 weeks) and returning Monday, 9 Sept. In my absence, pls contact Karen or Phil

Pls phone me on my cell phone at 604 603-2394 if you need to discuss and have some questions

Thanks,
June

The message is ready to be sent with the following file or link attachments:

CoV intersections - AGi files.zip

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

Bell, Karen

From: Antoniazzi, Rob
Sent: Friday, September 27, 2013 2:16 PM
To: Bell, Karen
Cc: Wong, Phil; Magbitang, June
Subject: ICBC LED Intersection lighting Project

I have afternoon Mel Miller commitment to complete all 16 intersections before year end.

Start the ordering process.

Rob

Bell, Karen

From: Wong, Phil
Sent: Monday, September 30, 2013 7:35 AM
To: Antoniazzi, Rob; Magbitang, June; Bell, Karen
Subject: RE: ICBC LED Intersection lighting Project

We haven't decided on the poles yet. We should route them through TM in case they want to take advantage of a pole upgrade for future plans.

From: Antoniazzi, Rob
Sent: Monday, September 30, 2013 7:25 AM
To: Wong, Phil; Magbitang, June; Bell, Karen
Subject: RE: ICBC LED Intersection lighting Project

Meaning davit arms or 30' poles?

From: Wong, Phil
Sent: Monday, September 30, 2013 7:18 AM
To: Magbitang, June; Antoniazzi, Rob; Bell, Karen
Subject: RE: ICBC LED Intersection lighting Project

Several require added poles.

From: Magbitang, June
Sent: Friday, September 27, 2013 2:39 PM
To: Antoniazzi, Rob; Bell, Karen
Cc: Wong, Phil
Subject: RE: ICBC LED Intersection lighting Project

Thanks ...

From: Antoniazzi, Rob
Sent: Friday, September 27, 2013 2:16 PM
To: Bell, Karen
Cc: Wong, Phil; Magbitang, June
Subject: ICBC LED Intersection lighting Project

I have afternoon Mel Miller commitment to complete all 16 intersections before year end.

Start the ordering process.

Rob

Bell, Karen

From: Bell, Karen
Sent: Monday, September 30, 2013 10:56 AM
To: Wong, Phil
Subject: Top 20 intersections - estimates

Hi Phil,

I have ten estimates completed for the 'Top 20' intersections:

Intersection	Estimate	Notes
Burrard & Nelson	\$29,970	6 LED fixtures, new 30' davit pole, concrete base, conduit, conductors, sidewalk re&re, traffic control, etc. Toby confirmed that the proposed 30ft davit pole at the SW corner is acceptable (TDM does not require any new TS equipment at that corner)
Howe & Davie	\$6,720	4 LED fixtures, wiring, traffic control
Nanaimo & Kingsway	\$10,980	8 LED fixtures, wiring, traffic control
Knight & E 49 th	\$10,980	8 LED fixtures, wiring, traffic control
Joyce & Kingsway	\$10,980	8 LED fixtures, wiring, traffic control
Commercial & Broadway	\$10,980	8 LED fixtures, wiring, traffic control
Granville & Davie	\$8,850	6 LED fixtures, wiring, traffic control
Burrard & Davie	\$8,850	6 LED fixtures, wiring, traffic control
Burrard & Smithe	\$8,850	6 LED fixtures, wiring, traffic control
Abbott & Pender	\$7,780	5 LED fixtures, wiring, traffic control

All intersections use the same Autobahn fixture: ATB2 80LED E70 R3 - \$655.00/each

I'll model the remaining intersections with the same fixture (except Main & Hastings, I'll model the Cooper Ventus from Andrey's project).

Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca

Bell, Karen

From: Magbitang, June
Sent: Monday, September 30, 2013 11:45 AM
To: Bell, Karen
Cc: Wong, Phil; Antoniazzi, Rob
Subject: FW: Top 20 intersections - estimates

Hi, Karen ...

I'm assigning you to order the Autobahn LED luminaires (ATB2 80LED E70 R3) and other materials (extra poles & luminaire arms) for this project

*Thanks,
June*

From: Wong, Phil
Sent: Monday, September 30, 2013 11:14 AM
To: Magbitang, June
Cc: Antoniazzi, Rob
Subject: FW: Top 20 intersections - estimates

Can you assign someone to arrange to install all of these except for Joyce & Kingsway which is already been done by Armando.

Phil.

From: Bell, Karen
Sent: Monday, September 30, 2013 10:56 AM
To: Wong, Phil
Subject: Top 20 intersections - estimates

Hi Phil,

I have ten estimates completed for the 'Top 20' intersections:

Intersection	Estimate	Notes
Burrard & Nelson	\$29,970	6 LED fixtures, new 30' davit pole, concrete base, conduit, conductors, sidewalk re&re, traffic control, etc. Toby confirmed that the proposed 30ft davit pole at the SW corner is acceptable (TDM does not require any new TS equipment at that corner)
Howe & Davie	\$6,720	4 LED fixtures, wiring, traffic control
Nanaimo & Kingsway	\$10,980	8 LED fixtures, wiring, traffic control
Knight & E 49 th	\$10,980	8 LED fixtures, wiring, traffic control
Joyce & Kingsway	\$10,980	8 LED fixtures, wiring, traffic control

Commercial & Broadway	\$10,980	8 LED fixtures, wiring, traffic control
Granville & Davie	\$8,850	6 LED fixtures, wiring, traffic control
Burrard & Davie	\$8,850	6 LED fixtures, wiring, traffic control
Burrard & Smithe	\$8,850	6 LED fixtures, wiring, traffic control
Abbott & Pender	\$7,780	5 LED fixtures, wiring, traffic control

All intersections use the same Autobahn fixture: ATB2 80LED E70 R3 - \$655.00/each

I'll model the remaining intersections with the same fixture (except Main & Hastings, I'll model the Cooper Ventus from Andrey's project).

Karen

Karen Bell, ASCT
 Electrical Design Technician
 City of Vancouver
 Electrical Design Branch
 Tel: 604-871-6823
 Fax: 604-871-6290
 Email: karen.bell@vancouver.ca

Bell, Karen

From: Rockey, Barb
Sent: Tuesday, January 07, 2014 1:02 PM
To: Bell, Karen
Cc: Curry, Brian; McSorley, Thomas; Mazza, Saverio; Page, Steve; Russell, Scott; Wong, David (Eng)
Subject: 7-Jan-14 J5 -D1 SKU#128622 LUMINAIRE, LED, INTXN, ATB2 80B E53 R2 8 only/1 pallet CELD45227/PO#4500541504 S/L UPGRADE LOCATION UNKNOW
Karen Bell

FYI

The following material has arrived at stores;

7-Jan-14	J5 - D1	SKU#128622 LUMINAIRE, LED, INTXN, ATB2 80B E53 R2	8 only/1 pallet	CELD45227/PO#4500541504	S/ UI
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GR#50933157

Thanks

Barb

Intersection	Pole #	Asset #	Notes
Burrard & Davie	8/9	4039	
	1/10	23541	
	9/11	36872	
	10/11	26833	
	1/12	43591	
	2/12	3692	
Burrard & Georgia	10/6	4117	
	15/6	26215	
	2/7	3714	
	5/9	3071	
	6/9	17508	
	1/10	3975	
	2/10	18553	
Clark & Broadway	7/24	36566	
	8/24	21330	
	1/25	12363	
	0.6/25	1245457	Remove existing 10' pole (0.6/25 Clark), break down base; install new 7 3/4" base and 30' davit
	17/61	23207	
	18/61	2942	
	1/63	28199	
	2/63	26675	
Commercial & Broadway	5/24	25823	
	6/24	3701	
	1/25	3028	
	2/25	28331	
	17/65	52033	
	18/65	51952	
	1/67	52322	
	2/67	26913	

Granville & Davie	8/6	25958	
	1/7	25088	
	31/11	19053	
	32/11	19069	
	1/12	19126	
	2/12	19149	
Fraser & Broadway	3/24	1245454	Remove existing 10' pole (3/24 Fraser), break down base; install new 7 3/4" base and 30' davit
	1/25	3058	
	2/25	29669	
	9/56	27802	
	10/56	25339	
	1/57	26453	
	2/57	29439	
Burrard & Nelson	6/9	22356	
	11/9	29020	
	12/9	34163	
	0.6/10	1245451	Remove existing 10' pole (0.6/10 Nelson), break down base; install new 7 3/4" base and 30' davit
	1/10	22803	
	2/10	28086	
Nanaimo & Broadway	8/24	25731	
	1/25	25897	
	2/25	24439	
	7/73	28772	
	8/73	23257	
	1/74	28915	
	2/74	27738	
Knight & E 49th	7/63	12884	
	8/63	22013	
	15/63	21496	
	16/63	22026	

	0.5/64	9294
	2/64	36845
	1/65	53561
	2/65	54594
Abbott & Pender	16/0	3417
	17/0	2921
	1/1	4128
	11/4	11108
	0.5/5	14254
Knight & E 41st	15/55	55357
	16/55	53111
	0.6/57	20716
	1/57	37458
	11/63	27643
	12/63	27749
	1/64	24314
	2/64	26266
Howe & Davie	7/7	24928
	8/7	4356
	1/8	3632
	12/11	27259
Oak & W 12th	8/9	49123
	9/9	45090
	1/10	41313
	2/10	34230
	7/27	23707
	8/27	24409
	1/28	29575
	2/28	29311

Burrard & Smithe	9/8	26383	
	10/8	36750	
	1/9	27530	
	2/9	27408	
	6/9	2846	
	2/10	26544	
Main & Hastings	7/3	2899	
	8/3	3023	
	1/4	4006	
	2/4	25406	
	11/51	3347	
	12/51	3318	
	1/52	3408	
	2/52	4353	
Main & Terminal	15/11	2881	
	16/11	25748	
	1/14	24300	
	2/14	29118	
	1/52	33582	
	2/52	532875	
	5/51	532859	
	8/51	7894	

Photometric Calculation Summary

Item no.	LLF	Location / Intersection	ATB - Suggested	Watts	ATB - Alternative	Watts	Cost per unit	Cost/unit DIM ROAM	Application	Classification	Pole Height	Pole offset	Luminaire Arm Length	IES RP-8				INTERSECTION							
														Average Illuminance (FC)	Average Luminance (cd/m ²)	Uniformity (Ave: Min)	Veiling Luminance	Average Illuminance (FC)	Minimum Illuminance (FC)	Maximum Illuminance (FC)	Average Luminance (cd/m ²)	Uniformity (Ave: Min)	Uniformity (Max: Min)	Veiling Luminance	Veiling Max Lv Ratio
1	0.78	Abbott and Pender	ATB2 80LED E70 R3	183			\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	3.43	1.4	4.7	-	2.45	3.36		
2	0.78	Nanaimo and Kingsway	ATB2 80LED E70 R3	183			\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	3.45	1.5	4.2		2.3	2.8		
3	0.78	Knight & 49th Ave	ATB2 80LED E70 R3	183	ATB2 80LED E53 R3	137	\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	4.12	1.6	5.3		2.58	3.31		
4	0.78	Burrard & Nelson	ATB2 80LED E70 R3	183			\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	3.42	0.6	4.9		5.7	8.17		
5	0.78	Burrard and Smithe	ATB2 80LED E70 R3	183			\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	3.95	1.4	5.4		2.82	3.86		
6	0.78	Commercial and Broadway	ATB2 80LED E70 R3	183			\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	4.02	1.7	4.8		2.36	2.82		
7	0.78	Burrard & Davie	ATB2 80LED E70 R3	183	ATB2 80LED E53 R3	137	\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	4.21	1.5	5.5		2.81	3.67		
8	0.78	Granville and Davie	ATB2 80LED E70 R3	183	ATB2 80LED E53 R3	137	\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	4.34	2	5.7		2.17	2.85		
9	0.78	Howe and Davie	ATB2 80LED E70 R3	183			\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	3.73	1.4	5.8		2.66	4.14		
10	0.78	Joyce and Kingsway	ATB2 80LED E70 R3	183			\$ 655.00	\$ 705.00	Intersection Street	Major / Major / High	30ft (9.1 m)	1ft	6ft	3.4		3:1	0.3	3.8	1.5	4.9		2.53	3.27		

NOTE
average is high because of no lights on 2 corners

"Top 20" Intersections - lighting upgrades

North-South Street	East-West Street	Estimate	Details	Fixture specs	Estimated traffic control costs
BURRARD ST	DAVIE ST	\$8,850	6 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
BURRARD ST	W GEORGIA ST	\$9,925	7 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
CLARK DR	E BROADWAY	\$23,700	8 LED fixtures, new 30' davit pole, concrete base, conduit, conductors, exposed aggregate re&re, traffic control	80BLEDE10R3	\$1,280
COMMERCIAL DR	E BROADWAY	\$10,980	8 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
GRANVILLE ST	DAVIE ST	\$8,850	6 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
COMMERCIAL DR	EAST 12TH AVE	\$7,780	5 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
THURLOW ST	NELSON ST	\$24,000	4 LED fixtures, new 30' davit pole, concrete base, conduit, trenching, conductors, traffic control, etc. Toby confirmed that the proposed 30ft davit pole at the NW corner is acceptable (TDM does not require any new TS equipment at that corner)	80BLEDE70R3	\$1,280
NANAIMO ST	E BROADWAY	\$9,925	7 LED fixtures, wiring, traffic control	80BLEDE10R3	\$640
KNIGHT ST	E 49TH AVE	\$10,980	8 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
ABBOTT ST	W PENDER ST	\$7,780	5 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
KNIGHT ST	E 41ST AVE	\$10,980	8 LED fixtures, wiring, traffic control	80BLEDE10R3	\$640
HOWE ST	DAVIE ST	\$6,720	4 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
OAK ST	W 12TH AVE	\$10,980	8 LED fixtures, wiring, traffic control	Cooper Ventus	\$640
BURRARD ST	SMITHE ST	\$8,850	6 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
MAIN ST	E HASTINGS ST	\$21,960	16 LED fixtures, wiring, traffic control (extra flagging costs, etc due to location)	80BLEDE10R3	\$1,280
MAIN ST	TERMINAL AVE	\$13,430	8 LED fixtures, wiring, traffic control (2 days TC due to location)	80BLEDE10R3	\$1,280
RENFREW ST	E HASTINGS ST	N/A	Holophane LEDgend		
JOYCE ST	KINGSWAY	\$7,000 (fixtures only)	Cooper Ventus (has been ordered by Armando)		
NANAIMO ST	KINGSWAY	N/A	King Luminaire		
KNIGHT ST	E 57TH AVE	N/A	Cooper Lighting		

Updated: November 5, 2013

"Top 20" Intersections - lighting upgrades

North-South Street	East-West Street	Estimate	Details	Fixture specs	Estimated traffic control costs
BURRARD ST	DAVIE ST	\$8,850	6 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
BURRARD ST	W GEORGIA ST	\$9,925	7 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
CLARK DR	E BROADWAY	\$23,700	8 LED fixtures, new 30' davit pole, concrete base, conduit, conductors, exposed aggregate re&re, traffic control	80BLEDE10R3	\$1,280
COMMERCIAL DR	E BROADWAY	\$10,980	8 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
GRANVILLE ST	DAVIE ST	\$8,850	6 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
FRASER ST	E BROADWAY	\$23,800	7 LED fixtures, new 30' davit pole, concrete base, conduit, conductors, exposed aggregate re&re, traffic control	80BLEDE70R3	\$640
BURRARD ST	NELSON ST	\$29,970	6 LED fixtures, new 30' davit pole, concrete base, conduit, conductors, sidewalk re&re, traffic control, etc. Toby confirmed that the proposed 30ft davit pole at the SW corner is acceptable (TDM does not require any new TS equipment at that corner)	80BLEDE70R3	\$1,280
NANAIMO ST	E BROADWAY	\$9,925	7 LED fixtures, wiring, traffic control	80BLEDE10R3	\$640
KNIGHT ST	E 49TH AVE	\$10,980	8 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
ABBOTT ST	W PENDER ST	\$7,780	5 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
KNIGHT ST	E 41ST AVE	\$10,980	8 LED fixtures, wiring, traffic control	80BLEDE10R3	\$640
HOWE ST	DAVIE ST	\$6,720	4 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
OAK ST	W 12TH AVE	\$10,980	8 LED fixtures, wiring, traffic control	Cooper Ventus	\$640
BURRARD ST	SMITHE ST	\$8,850	6 LED fixtures, wiring, traffic control	80BLEDE70R3	\$640
MAIN ST	E HASTINGS ST	\$21,960	16 LED fixtures, wiring, traffic control (extra flagging costs, etc due to location)	80BLEDE10R3	\$1,280
MAIN ST	TERMINAL AVE	\$13,430	8 LED fixtures, wiring, traffic control (2 days TC due to location)	80BLEDE10R3	\$1,280
RENFREW ST	E HASTINGS ST	N/A	Holophane LEDgend		
JOYCE ST	KINGSWAY	\$7,000 (fixtures only)	Cooper Ventus (has been ordered by Armando)		
NANAIMO ST	KINGSWAY	N/A	King Luminaire		
KNIGHT ST	E 57TH AVE	N/A	Cooper Lighting		

Updated: October 4, 2013

Intersection	Pole #	Asset #	Notes
Burrard & Davie	8/9		
	1/10		
	9/11		
	10/11		
	1/12		
	2/12		
Burrard & Georgia	10/6		
	15/6		
	2/7		
	5/9		
	6/9		
	1/10		
	2/10		
Clark & Broadway	7/24		
	8/24		
	1/25		
	0.6/25		Remove existing 10' pole (0.6/25 Clark), break down base; install new 7 3/4" base and 30' davit
	17/61		
	8/61		
	1/63		
	2/63		
Commercial & Broadway	5/24		
	6/24		
	1/25		
	2/25		
	17/65		
	18/65		
	1/67		
	2/67		

Granville & Davie	8/6		
	1/7		
	31/11		
	32/11		
	1/12		
	2/12		
Fraser & Broadway	3/24		Remove existing 10' pole (3/24 Fraser), break down base; install new 7 3/4" base and 30' davit
	1/25		
	2/25		
	9/56		
	10/56		
	1/57		
	2/57		
Burrard & Nelson	6/9		
	11/9		
	12/9		
	0.6/10		Remove existing 10' pole (0.6/10 Nelson), break down base; install new 7 3/4" base and 30' davit
	1/10		
	2/10		
Nanaimo & Broadway	8/24		
	1/25		
	2/25		
	7/73		
	8/73		
	1/74		
	2/74		
Knight & E 49th	7/63		
	8/63		
	15/63		
	16/63		

	0.5/64		
	2/64		
	1/65		
	2/65		
Abbott & Pender	16/0		
	17/0		
	1/1		
	11/4		
	0.5/5		
Knight & E 41st	15/55		
	16/55		
	0.6/57		
	1/57		
	11/63		
	12/63		
	1/64		
	2/64		
Howe & Davie	7/7		
	8/7		
	1/8		
	12/11		
Oak & W 12th	8/9		
	9/9		
	1/10		
	2/10		
	7/27		
	8/27		
	1/28		
	2/28		

Burrard & Smithe	9/8		
	10/8		
	1/9		
	2/9		
	6/9		
	2/10		
Main & Hastings	7/3		
	8/3		
	1/4		
	2/4		
	11/51		
	12/51		
	1/52		
	2/52		
Main & Terminal	15/11		
	16/11		
	1/14		
	2/14		
	1/52		
	2/52		
	5/51		
	8/51		

Goodwyne, Annie

From: Magbitang, June <June.MagbitangJr@vancouver.ca>
Sent: Tuesday, January 07, 2014 8:48 AM
To: Pulgar, Armando; Bell, Karen
Cc: Sevilla, Erwin; Amarkhanyan, Andrey; Wong, Phil
Subject: FW: Emailing: 2013 Capital Projects.xlsx
Attachments: Copy of 2013 Capital Projects.xlsx; Copy of 2012 Capital Projects Nov 25 Rev 3.xlsx

Happy New Year to all

Pls update the 2013 Capital Projects at your earliest convenience

Thanks,
June

-----Original Message-----

From: Sevilla, Erwin
Sent: Thursday, January 02, 2014 2:57 PM
To: Magbitang, June; Pulgar, Armando; Amarkhanyan, Andrey; Bell, Karen; Stewart, Kurt (eng)
Subject: RE: Emailing: 2013 Capital Projects.xlsx

Hi All,

Happy New Year.

I updated the status of 2013 and 2012 Capital Project. See attached.

Erwin Sevilla
Electrical Design Branch
Cell# 604-690-5248
Office# 604-673-8333
E-mail erwin.sevilla@vancouver.ca

-----Original Message-----

From: Magbitang, June
Sent: Wednesday, November 27, 2013 1:05 PM
To: Sevilla, Erwin; Pulgar, Armando; Amarkhanyan, Andrey; Bell, Karen; Stewart, Kurt (eng)
Subject: Emailing: 2013 Capital Projects.xlsx

Team,

Pls populate & update the spreadsheet at your earliest convenience

Pls see 2012 Capital Projects for your reference and record

Thanks,
June

The message is ready to be sent with the following file or link attachments:

2013 Capital Projects.xlsx

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

2013 Capital Projects

as of Nov. 22, 2013

Revision: 0

Item no.	File Number	Location	Designer	Is All Construction Completed including all Deficiencies?	List of Outstanding Deficiencies
1	TS C13-1025	Wessex and Kingsway			
2	TS-C13-1004	Main and 2nd			
3	TS-C13-1008	Fir and 4th			
4	TS-C13-1009	Collingwood and 4th			
5	TS-C13-1010	Bayswater and 4th			
6	TS-C13-1012	Arbutus and 4th			
7	TS-C13-1013	MacDonald and 4th			
8	TS-C13-1015	Denman and Pendrell	Erwin	Complete	
9	TS-C13-1016	Burrard and Nelson			
10	TS-C13-1020	Clark and Hastings TS and TL	Erwin	Complete	
11	TS-C13-1021	Clark and Powell TS and TL	Arman / Erwin	Complete	
12	TS-C13-1022	Union Bikeway			
13	TS-C13-1024	Tyne and Kingsway			
14	TS-C13-1027	Eco Nike Counters various locations			
15	TS-C13-1028	Joyce and Kingsway			
16	TS-C13-1029	GSM Eco Counters	Erwin		Check Ops status
17	TS-C13-1030	Willow and 41st			
18	TS-C13-1031	Main and 28th	Andrey	Complete	
19	TS-C13-1035	Richards and Robson TS and TL	Erwin	Complete	
20	TS-C13-1036	Richards and Smithe TS and TL	Erwin	Complete	
21	TS-C13-1037	Richards and Nelson	Erwin	Complete	
22	TS-C13-1038	Richards and Helmcken TS and TL	Erwin	Complete	
23	TS-C13-1039	Richards and Davie TS and TL	Erwin	Complete	
24	TS-C13-1040	Richards and Drake TS and TL	Erwin	Complete	
25	TS-C13-1041	Clark and Hastings Camera	Erwin	Complete	
26	TS-C13-1042	Cambie and 59th	Andrey		Waiting for Wheel Chair activation
27	TS-C13-1044	Granville and 69th	Andrey	Incomplete	
28	TS-C13-1046	Thurlow and Alberni			
29	TS-C13-1049	Burrard and Davie	Brian Kennett		
30	TS-C13-1052	Victoria and 34th	Erwin		Waiting for Switch On
31	TS-C13-1053	4th/6th Diversion and 6th			
32	TS-C13-1054	Robson and Bidwell			
33	TS-C13-1055	Quebec and Union			
34	TS-C13-1056	Main and Union			
35	TS-C13-1057	Quebec and Pacific			
36	TS-C13-1058	Brant and Vanness	Erwin	Complete	

37	TS-C13-1059	Cornish and 70th	Andrey	Incomplete	
38	TS-C13-1060	Foley and Great Northern Way	Erwin		To install bikeloop and eco-counter GSM units
39	TS-C13-1061	Seaside and Creekside	Erwin	Complete	
40	TS-C13-1062	Seawall and Morton	Erwin	Complete	
41	TS-C13-1063	Stanley Park Seawall west of HMCS Discovery	Erwin	Complete	
42	TS-C13-1064	Seawall and David Lam Park	Erwin	Complete	
43	TS-C13-1065	Stanley Park Seawall east of Lumberman's Arch	Erwin	Complete	
44	TS-C13-1066	Seawall and Harbour	Erwin	Complete	
45	TS-C13-1067	Stanley Park Seawall north of Second Beach	Erwin	Complete	
46	TS-C13-1069	Heather and King Edward	Erwin	Complete	
47	TS-C13-1070	Clarendon and 33rd			
48	TS-C13-1071	Ontario and 41st			
49	TS-C13-1073	Cambie Bridge Bike Lane TS and TL			
50	TS-C13-1074	Jervis and Davie			
51	TS-C13-1075	Bute and Davie			
52	TS-C13-1076	Denman and Davie			
53	TS-C13-1077	Nicola and Robson			
54	TS-C13-1078	Jervis and Robson			
55	TS-C13-1079	Granville and 37th			
56	TS-C13-1081	Granville and 45th			
57	TS-C13-1082	Smithe and Beatty			
58	TS-C13-1083	Hamilton and Dunsmuir			
59	TS-C13-1086	Carrall between Cordova and Hastings			
60	TS-C13-1088	Granville and 70th	Andrey	Incomplete	
61	TS-C13-1090	Burrard and Cornwall			
62	TS-C13-1094	Thurlow and Haro			
63	TS-C13-1095	Burrard and Davie Camera	Erwin		For Design
64	TS-C13-1096	Burrard and Georgia Camera	Erwin		For Design
65	TS-C13-1097	Nanaimo and Grandview Camera	Erwin		For Design
66	TS-C13-1098	Nanaimo and Hastings Camera	Erwin		For Design
67	TS-C13-1099	Burrard and Nelson Camera	Erwin		For Design
68	TS-C13-1102	MacDonald and 4th			
69	TS-C13-1104	MacDonald and 3rd			
70	TS-C13-1106	Burrard and 1st			
71	TS-C13-1107	Cypress and Cornwall			
72	TS-C13-1109	1351 Continental TS and TL			

2012 Capital Projects

as of Nov. 25, 2013

Revision: 3

File Number	Location	Designer	Is All Construction Completed including all Deficiencies?	List of Outstanding Deficiencies
TS-12-1034	Gladstone and Kingsway	Arman	complete	
TS-12-1035	Fraser and Kingsway	Erwin	complete	
TS-12-1036	Spruce and Broadway	Erwin	complete	
TS-12-1037	St George and Kingsway	Erwin	complete	
TS-12-1039	Victoria and 47th Av	Erwin	complete	
TS-12-1047	Earles and Kingsway	Arman	complete	
TS-12-1070	Slocan and Kingsway	Arman	complete	
TS-12-1071	Midlothian and Clancy Lorenger Way	Erwin	complete	
TS-12-1074	Kingsway and E34th Av	Arman	complete	
TS-12-1075	Boundary and Central Valley Greenway	June / Erwin	Complete	
TS-12-1077	Hastings Midblock	Karen	complete	
TS-12-1080	Nanaimo and Kingsway	Arman	complete	
TS-12-1081	Howe and Georgia	Brian K	complete	
TS-12-1082	Columbia and Powell	Erwin	complete	
TS-12-1083	Columbia and 1st Av			
TS-12-1084	Granville and 59th Av/Park	June / Erwin	incomplete	3 - Acorn to install
TS-12-1088	McGill and Commissioner	Erwin	complete	
TS-12-1089	Rupert and Trans Canada/1st Av	Erwin	complete	
TS-12-1090	Matheson and Marine	Erwin	complete	
TS-12-1091	Knight St Bridge	Erwin	complete	
TL-12-1093	Dunbar Bus Loops	June / Aljerou	complete	
TS-12-1093	Rhodes and Kingsway	Arman	complete	
TS-12-1098	Knight and 61st Av	Erwin	complete	
TS-12-1102	Killarney and 49th Av	Erwin	complete	
TS-12-1103	Nanaimo and 33rd Av	Arman	incomplete	bases & poles not rcvd yet, moved to 2014
TS-12-1108	Homer and Dunsmuir	Erwin	complete	
TS-12-1109	Dunsmuir and Beatty	Erwin	complete	
TS-12-1110	W/S Burrard Bridge			
TS-12-1111	E/S Burrard Bridge	Erwin	complete	
TS-12-1112	Science World	Erwin	complete	
TS-12-1119	Cambie and 16th Av	Brian K	complete	
TS-12-1120	Windsor and Kingsway	Erwin	complete	
TS-12-1127	Fleming and 57th Av	June / Arman	complete	
TS-12-1129	Hornby and Robson	Arman	complete	
TS-12-1136	Oak and Douglas/19th Av	Brian K	complete	
TS-12-1143	Fraser and 46th Av	Karen	incomplete	fixture to be installed
TS-12-1146	Rupert and 45th Av	Andrey	complete	
TS-12-1147	Campbell and Prior	Brian K	complete	
TS-12-1149	Trans Canada Hwy and 1st Av	Erwin	complete	
TS-12-1155	Brunswick and Great Northern Way	June	complete	
TS-12-1159	Vine and Broadway	Erwin	complete	
TS-12-1162	Cambie and 59th Av	June / Erwin	incomplete	acknowledgement beep sound to install , replace 1 existing cobrahead with flat glass
TS-12-1163	Denman and Comox	Karen	complete	
TS-12-1164	Thurlow and Comox	Karen	complete	
TS-12-1165	Burrard and Comox/Helmcken	Karen	complete	
TS-12-1166	Hornby and Helmcken	Karen	incomplete	2 fixtures to be installed in 2014 follow completion of on-site construction at SE corner
TS-12-1168	Seymour and Georgia	Brian K	complete	

Goodwyne, Annie

From: Quintero, Liliana <liliana.quintero@vancouver.ca>
Sent: Friday, January 29, 2016 4:20 PM
To: Kolbuch, Kathryn; Cheng, Alina
Subject: FW: HP Records Manager Document : DOC/2013/221972 : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form
Attachments: ENG - SED - C13-1105 - TS TL - Various Intersections - Lighting Upgrade - Subactivities Form.tr5

Hi Kathryn

This is the only document I have about that.

Liliana

-----Original Message-----

From: Bell, Karen
Sent: Tuesday, December 22, 2015 7:47 AM
To: Quintero, Liliana
Subject: HP Records Manager Document : DOC/2013/221972 : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form

Hi Liliana,

Here is the Vandocs link to the 2013 Intersection Lighting Upgrades sub-activities form, where you'll find the numerous work orders for each location.

Karen

-----< HP Records Manager Record Information >-----

Record Number : DOC/2013/221972
Title : ENG - SED - C13-1105 - TS/TL - Various Intersections - Lighting Upgrade - Subactivities Form

Project: Various Intersections - Lighting Upgrades
 Designer: Karen Bell
 Drawing #: Various
 EA Verification: Ofer Marom

Capital Construction Project

C13-1105

Civil								Work to be charged to: CEL-00012-13-NN
	Date	Problem	Asset	Description	Type	SAP Network	Work Order	Work Required
1	October 9, 2013	Install	1693	Fraser & Broadway CANCELLED	TS	CER437236	437236	1. Pour new CoV standard 7 3/4" base for 30' davit pole 2. Break down existing base (pole #3/24) 3. Install and hook-up TS/SL/Comm conduits and junction box, as per drawing 4. Provide as-built drawing, as per field revisions Refer to drawing # TBA
2	October 9, 2013	Install	1713	Burrard & Nelson CANCELLED	TS	CER437238	437238	1. Pour new CoV standard 7 3/4" base for 30' davit pole 2. Break down existing base (pole #0.6/10) 3. Install and hook-up TS/SL/Comm conduits and junction box, as per drawing 4. Provide as-built drawing, as per field revisions Refer to drawing # TBA
3	October 9, 2013	Install	1956	Clark & Broadway	TS	CER437240	437240	1. Pour new CoV standard 7 3/4" base for 30' davit pole 2. Break down existing base (pole # 0.6/25) 3. Install and hook-up TS/SL/Comm conduits and junction box, as per drawing 4. Provide as-built drawing, as per field revisions Refer to drawing # HHE-534
4	November 6, 2013	Install	1329	Thurlow & Nelson	TS	CER442544	442544	1. Pour new CoV standard 7 3/4" base for 30' davit pole 2. Overbuild existing base (pole # 0.5/11) with Type 4 (1324) junction box 3. Install and hook-up TS/SL/Comm conduits and junction box, as per drawing 4. Provide as-built drawing, as per field revisions Refer to drawing # HHE-836

Electrical								Work to be charged to: CEL-00012-13-NN
	Date	Problem	Asset	Description	Type	SAP Network	Work Order	Work Required
1	October 9, 2013	Install	1693	Fraser & Broadway CANCELLED	TS	CET437237	437237	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required <u>Traffic Signal Field (Pole # 3/24)</u> 1. Install new TS equipment: secondary and pedestrian heads 2. Install and terminate TS field wires and cable 3. Provide as-built drawing, as per field revisions Refer to drawing # TBA
2	October 9, 2013	Install	1713	Burrard & Nelson CANCELLED	TS	CET437239	437239	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required <u>Traffic Signal Field</u> 1. Install new TS equipment: secondary and pedestrian heads 2. Install LED luminaires 3. Install and terminate TS field wires and cable 4. Provide as-built drawing, as per field revisions Refer to drawing # TBA

3	October 9, 2013	Install	1956	Clark & Broadway	TS	CET437241	437241	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required <u>Traffic Signal Field (Pole # 0.6/25)</u> 1. Install new TS equipment: secondary and pedestrian heads 2. Install and terminate TS field wires and cable 3. Provide as-built drawing, as per field revisions Refer to drawing # HHE-534
4	November 6, 2013	Install	1329	Thurlow & Nelson	TS	CET442545	442545	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required <u>Traffic Signal Field (Pole # 0.5/11)</u> 1. Install new TS equipment: secondary and pedestrian head 2. Install and terminate TS field wires and cable 3. Provide as-built drawing, as per field revisions Refer to drawing # HHE-836
5	October 9, 2013	Install	4039 23541 36872 26833 43591 3692	Pole # 8/9 Davie Pole # 1/10 Davie Pole # 9/11 Burrard Pole # 10/11 Burrard Pole # 1/12 Burrard Pole # 2/12 Burrard	SL (at Burrard & Davie)	CELD45227	437312 437313 437314 437315 437316 437317	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
6	October 9, 2013	Install	4117 26215 3714 3071 17508 3975 18553	Pole # 10/6 Burrard Pole # 15/6 Burrard Pole # 2/7 Burrard Pole # 5/9 Georgia Pole # 6/9 Georgia Pole # 1/10 Georgia Pole # 2/10 Georgia	SL (at Burrard & Georgia)	CELD45227	437318 437319 437320 437321 437322 437323 437324	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
7	October 9, 2013	Install	25823 3701 3028 28331 52033 51952 52322 26913	Pole # 5/24 Commercial Pole # 6/24 Commercial Pole # 1/25 Commercial Pole # 2/25 Commercial Pole # 17/65 Broadway Pole # 18/65 Broadway Pole # 1/67 Broadway Pole # 2/67 Broadway	SL (at Commercial & Broadway)	CELD45227	437325 437326 437327 437328 437329 437330 437331 437332	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
8	October 9, 2013	Install	25958 25088 19053 19069 19126 19149	Pole # 8/6 Davie Pole # 1/7 Davie Pole # 31/11 Granville Pole # 32/11 Granville Pole # 1/12 Granville Pole # 2/12 Granville	SL (at Granville & Davie)	CELD45227	437333 437334 437335 437336 437337 437338	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
9	October 9, 2013	Install	25731 25897 24439 28772 23257 28915 27738	Pole # 8/24 Nanaimo Pole # 1/25 Nanaimo Pole # 2/25 Nanaimo Pole # 7/73 Broadway Pole # 8/73 Broadway Pole # 1/74 Broadway Pole # 2/74 Broadway	SL (at Nanaimo & Broadway)	CELD45227	437339 437340 437341 437342 437343 437344 437345	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required

10	October 9, 2013	Install	12884 22013 21496 22026 9294 36845 53561 54594	Pole # 7/63 E 49th Pole # 8/63 E 49th Pole # 15/63 Knight Pole # 16/63 Knight Pole # 0.5/64 E 49th Pole # 2/64 E 49th Pole # 1/65 Knight Pole # 2/65 Knight	SL (at Knight & E 49th)	CELD45227	437346 437347 437348 437349 437350 437351 437352 437353	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
11	October 9, 2013	Install	3417 2921 4128 11108 14254	Pole # 16/0 Pender Pole # 17/0 Pender Pole # 1/1 Pender Pole # 11/4 Abbott Pole # 0.5/5 Abbott	SL (at Abbott & Pender)	CELD45227	437354 437355 437356 437357 437358	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
12	October 9, 2013	Install	55357 53111 20716 37458 27643 27749 24314 26266	Pole # 15/55 Knight Pole # 16/55 Knight Pole # 0.6/57 Knight Pole # 1/57 Knight Pole # 11/63 E 41st Pole # 12/63 E 41st Pole # 1/64 E 41st Pole #2/64 E 41st	SL (at Knight & E 41st)	CELD45227	437359 437360 437361 437362 437363 437364 437365 437366	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
13	October 9, 2013	Install	24928 4356 3632 27259	Pole # 7/7 Davie (cancelled) Pole # 8/7 Davie Pole # 1/8 Davie Pole # 12/11 Howe	SL (at Howe & Davie)	CELD45227	437367 (cancelled - see WO) 437368 437369 437370	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
14	October 9, 2013	Install	49123 45090 41313 34230 23707 24409 29575 29311	Pole # 8/9 W 12th Pole # 9/9 W 12th Pole # 1/10 W 12th Pole # 2/10 W 12th Pole # 7/27 Oak Pole # 8/27 Oak Pole # 1/28 Oak Pole # 2/28 Oak	SL (at Oak & W 12th)	CELD45227	437371 437372 437373 437374 437375 437376 437377 437378	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
15	October 9, 2013	Install	26383 36750 27530 27408 2846 26544	Pole # 9/8 Burrard Pole # 10/8 Burrard Pole # 1/9 Burrard Pole # 2/9 Burrard Pole # 6/9 Smithe Pole # 2/10 Smithe	SL (at Burrard & Smithe)	CELD45227	437379 437380 437381 437382 437383 437384	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
16	October 9, 2013	Install	2899 3023 4006 25406 3347 3318 3408 4353 4353	Pole # 7/3 Main Pole # 8/3 Main Pole # 1/4 Main Pole # 2/4 Main Pole # 11/51 Hastings Pole # 12/51 Hastings Pole # 1/52 Hastings Pole # 2/52 Hastings	SL (at Main & Hastings)	CELD45227	437385 437386 437387 437388 437389 437390 437391 437392	<u>Street Lighting</u> 1. Remove existing HPS luminaires (16 in total) 2. Install LED luminaires (16 in total) and rewire as required
17	October 9, 2013	Install	2881 25748 24300 29118 33582 532875 532859 7894	Pole # 15/11 Main Pole # 16/11 Main Pole # 1/14 Main Pole # 2/14 Main Pole # 1/52 Terminal Pole # 2/52 Terminal Pole # 5/51 Terminal Pole # 8/51 Terminal	SL (at Main & Terminal)	CELD45227	437393 437394 437404 437405 437395 437396 437397 437398	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required

18	November 6, 2013	Install	4099 19229 25421 19594 1241085	Pole # 7/27 Commercial Pole # 8/27 Commercial Pole # 1/28 Commercial Pole # 2/67 E 12th Ave Pole # 7/65 E 12th Ave	SL (at Commercial & 12th)	CELD45227	442716 442717 442718 442719 442720	<u>Street Lighting</u> 1. Remove existing HPS luminaires 2. Install LED luminaires and rewire as required
----	------------------	---------	--------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------	------------------------------	------------------	------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------

From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Kolbuch, Kathryn" <kathryn.kolbuch@vancouver.ca>](mailto:kathryn.kolbuch@vancouver.ca)
["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

Date: 9/13/2013 9:31:44 AM

Subject: Debate on White LEDs Challenges Symposium | Philips Lighting

<http://www.lumec.com/blog/index.php/2013/02/05/debate-on-white-leds-challenges-symposium/>

from the article:

Road safety remains an utmost priority. Through white LED lighting, drivers will be able to react 3 to 6 times faster to obstacles (according to their age). It has been shown that the aging population greatly benefits from the blue hues in LED road lights, which help reduce the reaction time.

Obstacles that suddenly appear on the road, such as a deer or a child crossing the street, will be seen faster when lit in LED lights.

From: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>
To: "[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>
Date: 11/28/2012 10:36:08 AM
Subject: FW: Intersection lighting levels - Pass
Attachments: Intersection lighting levels - Pass.pdf

5 of the first batch of 10 has passed. I am reviewing the other 5 assessment. We have asked for the 2nd batch of 10 so we can start on them as soon as we get them.

From: ell, aren
Sent: Tuesday, November 27, 2012 2:53 PM
To: Wong, Phil
Subject: Intersection lighting levels Pass

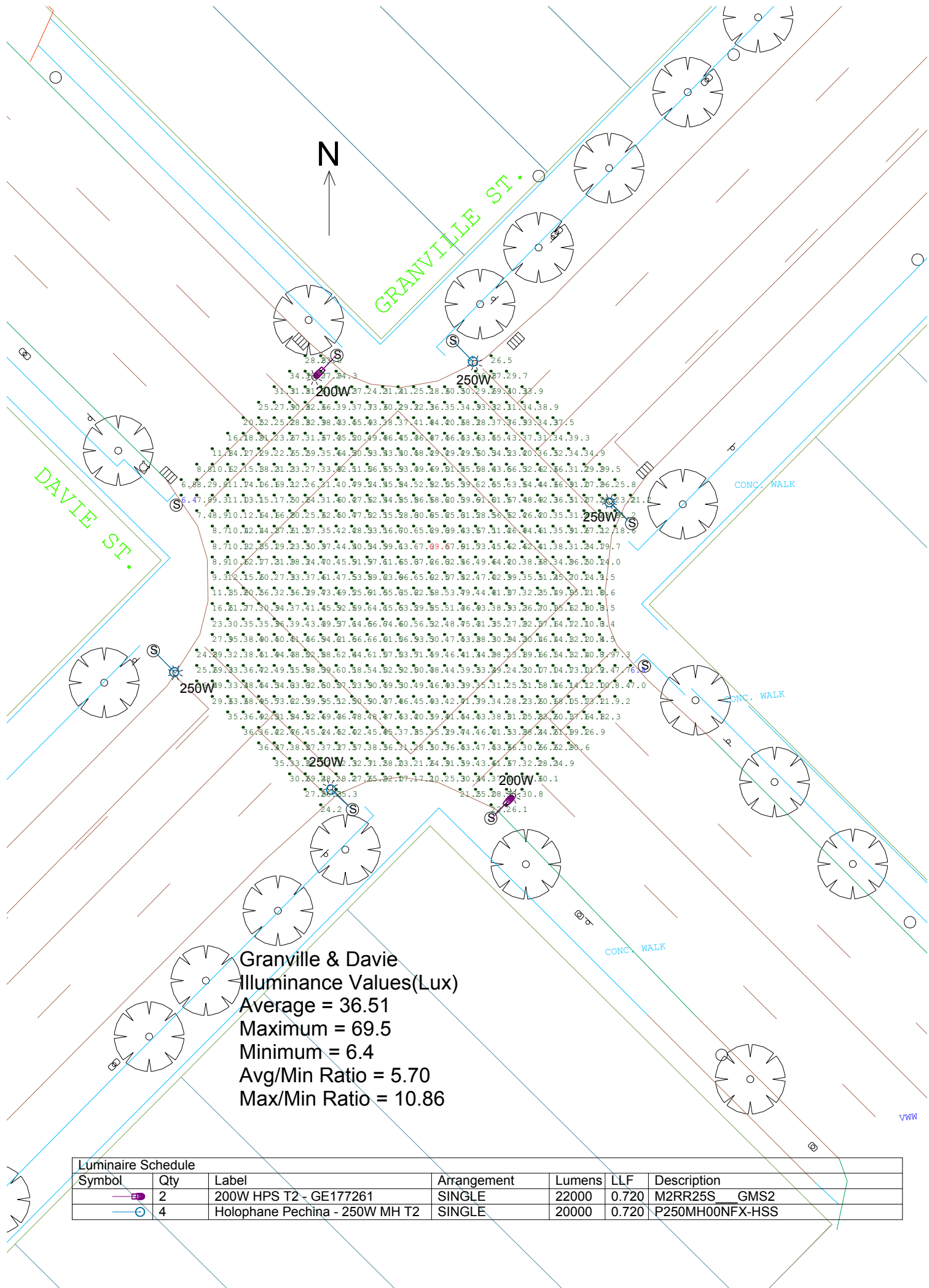
Phil,

Based on RP8 - Major/Major w/high pedestrian conflict (34 lux average, 3:1 avg/min), the attached intersections meet* recommended levels.

Granville & Davie (*avg/min is 5.7:1)
Burrard & Davie
Burrard & Georgia
Commercial & Broadway
Nanaimo & Kingsway

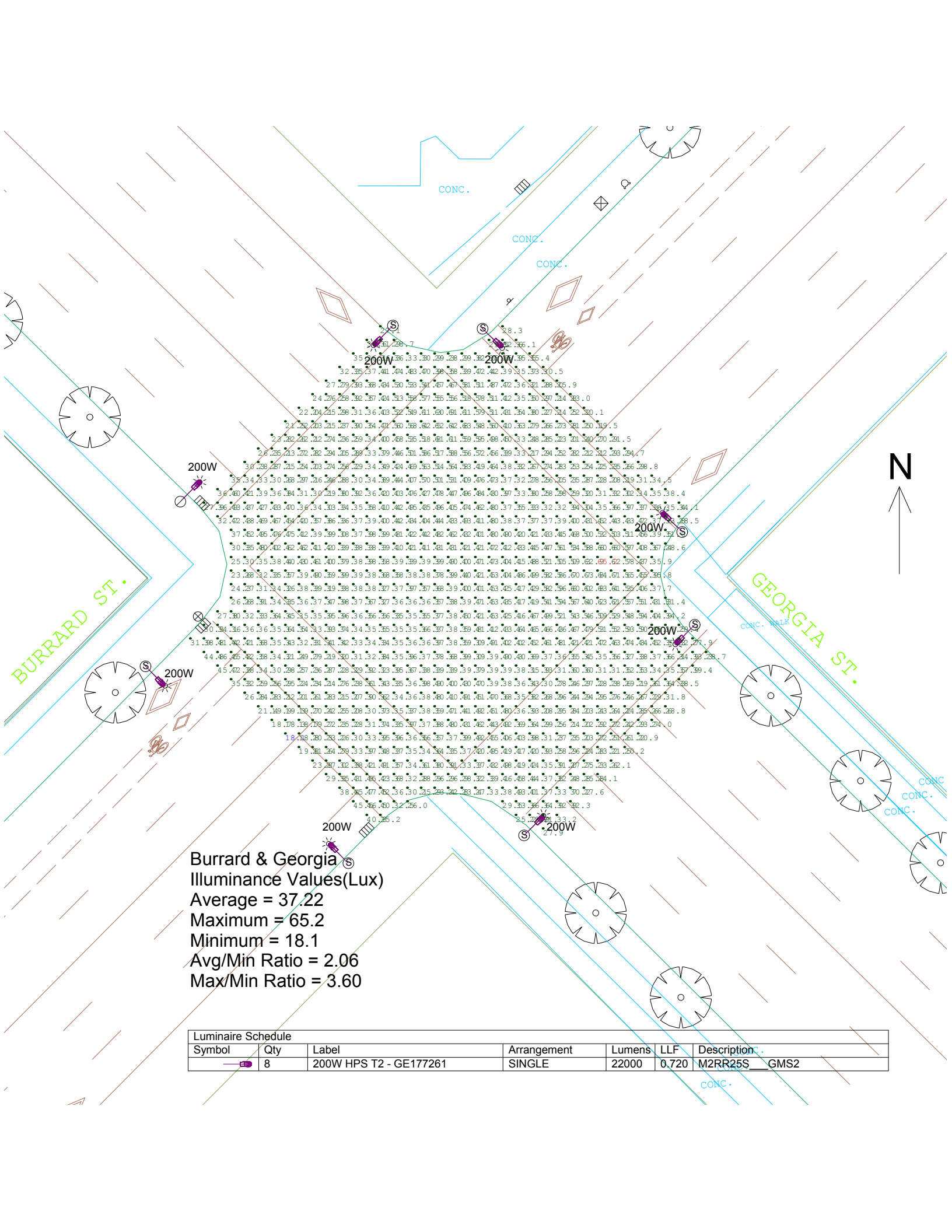
Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823
Fax: 604-871-6290
Email: karen.bell@vancouver.ca



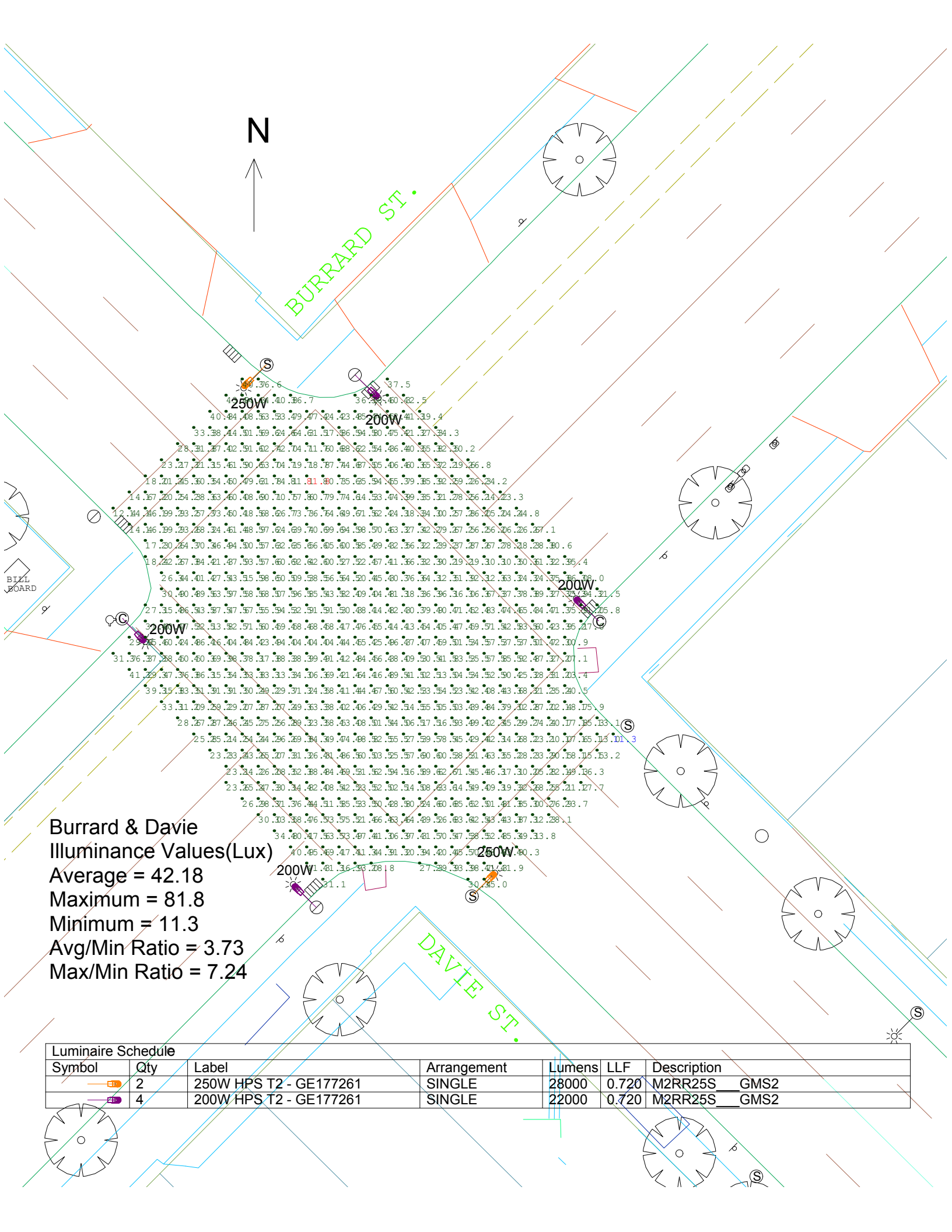
Granville & Davie
Illuminance Values(Lux)
 Average = 36.51
 Maximum = 69.5
 Minimum = 6.4
 Avg/Min Ratio = 5.70
 Max/Min Ratio = 10.86

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	2	200W HPS T2 - GE177261	SINGLE	22000	0.720	M2RR25S_GMS2
	4	Holophane Pechina - 250W MH T2	SINGLE	20000	0.720	P250MH00NFX-HSS



Burrard & Georgia
Illuminance Values(Lux)
 Average = 37.22
 Maximum = 65.2
 Minimum = 18.1
 Avg/Min Ratio = 2.06
 Max/Min Ratio = 3.60

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	8	200W HPS T2 - GE177261	SINGLE	22000	0.720	M2RR25S GMS2



**Burrard & Davie
Illuminance Values(Lux)**

Average = 42.18
 Maximum = 81.8
 Minimum = 11.3
 Avg/Min Ratio = 3.73
 Max/Min Ratio = 7.24

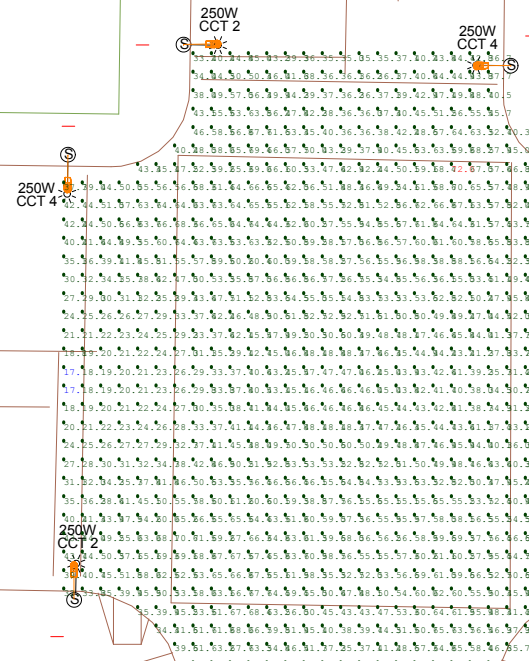
Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	2	250W HPS T2 - GE177261	SINGLE	28000	0.720	M2RR25S GMS2
	4	200W HPS T2 - GE177261	SINGLE	22000	0.720	M2RR25S GMS2



COMMERCIAL DR.

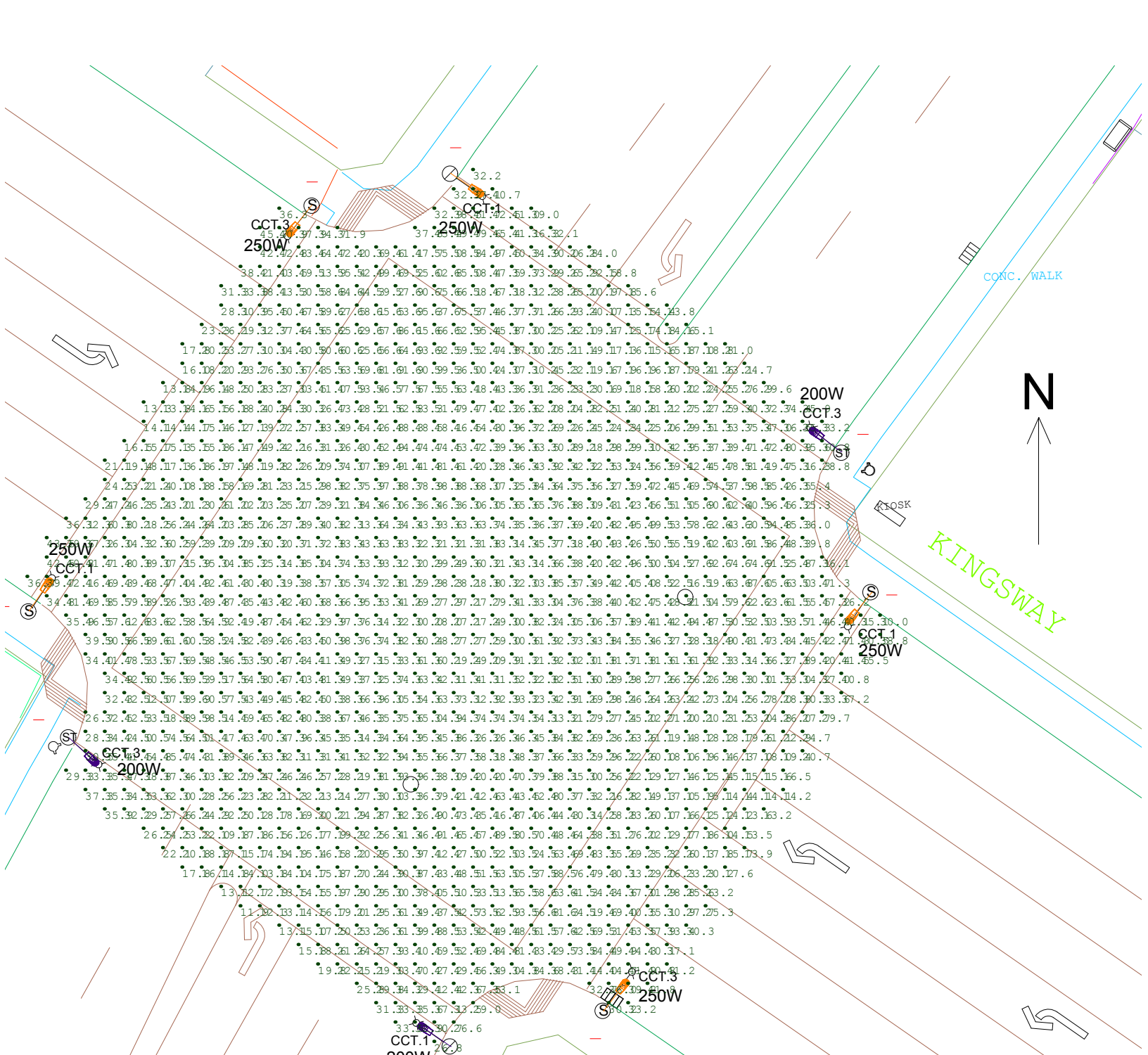
BROADWAY

BUS SHELTER



**Commercial & Broadway
Illuminance Values(Lux)**
 Average = 46.58
 Maximum = 72.0
 Minimum = 17.6
 Avg/Min Ratio = 2.65
 Max/Min Ratio = 4.09

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	8	250W HPS T2 - GE17726	SINGLE	28000	0.720	M2RR25S_GMS2



Nanaimo & Kingsway
Illuminance Values(Lux)
 Average = 36.10
 Maximum = 69.5
 Minimum = 11.9
 Avg/Min Ratio = 3.03
 Max/Min Ratio = 5.84

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	5	250W HPS T2 - GE17726	SINGLE	28000	0.720	M2RR25S_GMS2
	3	200W HPS T2 - GE17726	SINGLE	22000	0.720	M2RR25S_GMS2

RET. WALL

C


From: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>
To: "[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>
Date: 12/9/2013 8:59:55 AM
Subject: FW: LED lighting projects

Fyi

Tracking spreadsheet updated.

From: Miller, Mel
Sent: Friday, December 06, 2013 4:00 PM
To: Wong, Phil; Antonia, Rob
Subject: LE lighting projects

Hey Guys
Broadway @ Nanaimo is now complete
Thanks

Mel Miller
Trades Supervisor, Afternoon Shift
Electrical Operations Branch, Engineering Services
[Tel:604-871-6785](tel:604-871-6785)
Cell ^{s.15(1)(l)} 
Fax:604-871-6290

From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

Date: 12/5/2012 12:13:37 PM

Subject: HP TRIM Document : DOC/2012/288275 : ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong

Attachments: ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong.tr5

Added the total LED solution/estimate

Note that at Main & Hastings, we have double headed poles so this one has 16 light fixtures.

-----< HP TRIM Record Information >-----

Record Number : DOC/2012/288275

Title : ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong

North-South Street	East-West Street	# Ped Collisions 2005-2010		% After Dark	Comments	Simulation Results	Upgrade Plan	Options:						
		After Dark	Total					HPS only estimate	Top 5 LED estimate	Total LED estimate	10 LED per year estimate			
Overall		1005	2689	37%										\$ 6,800
														per intersection
BURRARD ST	DAVIE ST	15	25	60%	completed Dec 11, 2013	passed Major/Major/High								\$ 6,800
BURRARD ST	W GEORGIA ST	11	17	65%	almost completed Dec 13, 2013; one pole has problems and needs to be repaired first	passed Major/Major/High								\$ 6,800
CLARK DR	E BROADWAY	11	18	61%	almost completed January 8, 2014; one pole needs to be installed	passed Major/Major/Low	convert to 250 Watts and Add 1 light	\$ 7,240	\$ 11,800	\$ 11,800				
COMMERCIAL DR	E BROADWAY	11	22	50%	completed Dec 19, 2013	passed Major/Major/High								\$ 6,800
GRANVILLE ST	DAVIE ST	8	10	80%	completed Dec 16, 2013	passed Major/Major/High								\$ 6,800
KNIGHT ST	E 57TH AVE	8	12	67%	Changed to LED in 2011	passed Major/Major/High								\$ -
FRASER ST	E BROADWAY	8	14	57%	waterworks conflict; deferred	passed Major/Major/Medium	convert to 250 Watts and Add 3 lights	\$ 16,280	\$ 21,800	\$ 21,800				
NANAIMO ST	KINGSWAY	7	8	88%	completed as part of Norquay project	passed Major/Major/High								\$ 6,800
BURRARD ST	NELSON ST	7	9	78%	conflict with CMBC deferred	passed Major/Major/Medium	convert existing to 250 Watts	\$ 1,600	\$ 6,800	\$ 6,800				
NANAIMO ST	E BROADWAY	7	9	78%	Completed on Dec 6, 2013	passed Major/Major/Low	convert to 250 Watts and Add 2 lights	\$ 11,280	\$ 16,800	\$ 16,800				
KNIGHT ST	E 49TH AVE	6	7	86%	Completed on Dec 10, 2013	passed Major/Major/High								\$ 6,800
ABBOTT ST	W PENDER ST	6	9	67%	completed Dec 11, 2013	passed Major/Major/Medium	convert existing to 250 Watts	\$ 1,600	\$ 6,800	\$ 6,800				
KNIGHT ST	E 41ST AVE	6	10	60%	completed Dec 5, 2013	passed Major/Major/High								\$ 6,800
HOWE ST	DAVIE ST	6	10	60%	partially completed Dec 13, 2013; needs fixture arm	passed Major/Major/High								\$ 6,800
RENFREW ST	E HASTINGS ST	6	12	50%	Changed to LED in 2012	passed Major/Major/High								\$ -
OAK ST	W 12TH AVE	6	13	46%	completed Jan 7, 2014	passed Major/Major/High								\$ 6,800
BURRARD ST	SMITHE ST	5	5	100%	completed dec 18, 2013	passed Major/Major/High								\$ 6,800
JOYCE ST	KINGSWAY	4	20	20%	mostly completed Jan 8, 2014; one trolley arm needs to be installed first to complete last light	passed Major/Major/High								\$ 6,800
KINGSWAY	E 12TH AVE	9	12	75%	Added to list on Feb 4/13; deferred									
Commercial	E 12TH AVE				completed Dec 20, 2013									
Thurlow	Nelson				almost completed Dec 19, 2013. Waiting for a pole to be changed first									
MAIN ST	Terminal				completed Dec 11, 2013 in lieu of Kingsway & 12th.									
<i>Other locations with high numbers of collisions in the dark but not necessarily because of lighting</i>														
MAIN ST	E HASTINGS ST	14	39	36%	completed Dec 19, 2013	passed Major/Major/High								\$ 13,600

NOTES

*estimate \$5000 per added light which includes pole/base/light

*each HPS light is \$320 estimate

*each LED light is \$850 estimate

*does not include any service panel upgrades

* Total LED project converts the intersection to 100% LED and adds poles/base as required

Subtotal	\$ 38,000	\$ 64,000	\$ 152,400	\$ 68,000
20% Capital Overhead	\$ 7,600	\$ 12,800	\$ 30,480	\$ 13,600
Grand Total	\$ 45,600	\$ 76,800	\$ 182,880	\$ 81,600
Budget Requested	\$ 50,000	\$ 80,000	\$ 200,000	\$ 90,000

From: "[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>

To: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>

Date: 12/7/2012 12:13:13 PM

Subject: RE: estimate to upgrade Top Pedestrian Collision Locations

FYI, I will print and bring copies of the spreadsheet to today's meeting.

Cheers,
Alina

-----Original Message-----

From: Wong, Phil

Sent: Thursday, December 06, 2012 7:30 AM

To: Cheng, Alina; Ballard, Elizabeth; Williams, Rhys

Subject: RE: estimate to upgrade Top Pedestrian Collision Locations

I should have checked the spreadsheet. Never mind about my comment about the 2 locations. I see it has already adjusted for LED.

-----Original Message-----

From: Cheng, Alina

Sent: Wednesday, December 05, 2012 2:19 PM

To: Wong, Phil; Ballard, Elizabeth; Williams, Rhys

Subject: FW: estimate to upgrade Top Pedestrian Collision Locations

Excellent, thanks Phil!

I've also added a couple columns for the scenarios of upgrading the 5 locations to LED, and of upgrading 10 locations to LED each year.

The estimated budgets are as follows:

Scenario A - Upgrade HPS at the 5 highlighted locations: \$50,000

Scenario B - Upgrade the 5 locations to LED: \$80,000

Scenario C - Upgrade all of the top 20 locations to LED: \$200,000

Scenario D - Upgrade 10 locations to LED each year: \$90,000 per year

Next step: Discuss with Neal and Jerry on Friday.

Cheers,
Alina

-----Original Message-----

From: Wong, Phil

Sent: Wednesday, December 05, 2012 12:14 PM

To: Cheng, Alina

Subject: HP TRIM Document : DOC/2012/288275 : ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong

Added the total LED solution/estimate

Note that at Main & Hastings, we have double headed poles so this one has 16 light fixtures.

-----< HP TRIM Record Information >-----

Record Number : DOC/2012/288275

Title : ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong

From: Cheng, Alina <Alina.Cheng@vancouver.ca>
Sent: Friday, January 29, 2016 9:33 PM
To: Kolbuch, Kathryn; Quintero, Liliana
Subject: RE: FOI Request: Our File No. 2016-029 - Request for Records (fee paid)
Attachments: FW: LED lighting projects (3.96 KB); RE: white lights and visibility (1.73 KB); Debate on White LEDs Challenges Symposium | Philips Lighting (1.07 KB); white light vs hps (745 bytes); RE: LED Lighting and Wet Roads (34.7 KB); White Light and Reflections (3.66 KB); RE: LED Intersection Lighting (7.82 KB); RE: LED Streetlights at the top 20 ped crash locations during hours of d... (8.69 KB); RE: LED Streetlights at the top 20 ped crash locations during hours of d... (12.2 KB); RE: estimate to upgrade Top Pedestrian Collision Locations (1.93 KB); HP TRIM Document : DOC/2012/288275 : ENG - SED - estimate to upgrade Top... (1.53 KB); FW: Intersection lighting levels - Pass (238 KB); RE: Potential Lighting Improvements for Pedestrian Safety (17.0 KB); ENG - TDM - Pedestrian Safety Study & Action Plan - Pedestrian Collision Database & Analysis - 2005-2010.xlsx.tr5

Hi Kathryn,

Here are a bunch of records that led to the installation of LED lighting at the intersection of Burrard and Davie. This work all flowed from the Pedestrian Safety Study that was completed in 2012 <http://vancouver.ca/files/cov/pedestrian-safety-study-2012-final-report.pdf>.

The study highlighted that a higher number of crashes between vehicles and pedestrians occurred after dark. Upon further examination of the data, Burrard and Davie had the highest number of such crashes. In an effort to improve pedestrian safety, it was recommended that lighting be improved at Burrard and Davie, along with approximately 20 other locations.

Cheers,
Alina

From: Kolbuch, Kathryn
Sent: Friday, January 29, 2016 4:06 PM
To: Quintero, Liliana; Cheng, Alina
Subject: RE: FOI Request: Our File No. 2016-029 - Request for Records (fee paid)

Thanks Liliana – can you please send me all of those records per the FOI request?

From: Quintero, Liliana
Sent: Friday, January 29, 2016 4:02 PM
To: Kolbuch, Kathryn; Cheng, Alina
Subject: RE: FOI Request: Our File No. 2016-029 - Request for Records (fee paid)

Yes, it was upgraded to LED in 2013 according to my records.

From: Kolbuch, Kathryn
Sent: Friday, January 29, 2016 3:38 PM
To: Cheng, Alina
Cc: Quintero, Liliana
Subject: RE: FOI Request: Our File No. 2016-029 - Request for Records (fee paid)

I believe it was one of the 2013 intersections we converted, in our first group of 20.

Thanks!

From: Cheng, Alina
Sent: Friday, January 29, 2016 3:37 PM
To: Kolbuch, Kathryn
Cc: Quintero, Liliana
Subject: RE: FOI Request: Our File No. 2016-029 - Request for Records (fee paid)

Hi Kathryn,

Thanks for sharing this. I'll check my records to see if Davie/Burrard was part of the 20 intersections we did a few years ago, or not. Liliana, please check your files as well.

Cheers,
Alina

From: Kolbuch, Kathryn
Sent: Friday, January 29, 2016 1:53 PM
To: Cheng, Alina
Subject: FW: FOI Request: Our File No. 2016-029 - Request for Records (fee paid)

Hi Alina, do you have any records – email or otherwise – related to this intersection? If so, please provide by Feb 5. Please let me know if there is anyone else who would have been part of the correspondence (Lilianna?) who we should be asking to pull their records as well.

Thanks,
Kathryn

From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

Date:

Subject: FW: LED lighting projects

Fyi

Tracking spreadsheet updated.

From: Miller, Mel

Sent: Friday, December 06, 2013 4:00 PM

To: Wong, Phil; Antoniazzi, Rob

Subject: LED lighting projects

Hey Guys

Broadway @ Nanaimo is now complete

Thanks

Mel Miller

Trades Supervisor, Afternoon Shift

Electrical Operations Branch, Engineering Services

Tel: 604-871-6785

Cell: s.15(1)(l)

Fax: 604-871-6290

From: "[Kolbuch, Kathryn](mailto:kathryn.kolbuch@vancouver.ca)" <kathryn.kolbuch@vancouver.ca>

To: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>

"[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>

Date:

Subject: RE: white lights and visibility

Thanks - though I'm not sure this speaks to the rain issue at hand...and I'm a bit hesitant to use Wiki data as our source... :)

-----Original Message-----

From: Wong, Phil

Sent: Friday, September 13, 2013 10:18 AM

To: Kolbuch, Kathryn; Cheng, Alina

Subject: white lights and visibility

http://en.wikipedia.org/wiki/Street_light

from the link:

Today, street lighting commonly uses high-intensity discharge lamps, often HPS high pressure sodium lamps.[11] Such lamps provide the greatest amount of photopic illumination for the least consumption of electricity. However, when scotopic/photopic light calculations are used, it can be seen how inappropriate HPS lamps are for night lighting. White light sources have been shown to double driver peripheral vision and improve driver brake reaction time by at least 25%. When S/P light calculations are used, HPS lamp performance needs to be reduced by a minimum value of 75%. This is now a standard design criteria for Australian roads.

A study comparing metal halide and high-pressure sodium lamps showed that at equal photopic light levels, a street scene illuminated at night by a metal halide lighting system was reliably seen as brighter and safer than the same scene illuminated by a high pressure sodium system.[12]

From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Kolbuch, Kathryn" <kathryn.kolbuch@vancouver.ca>](mailto:kathryn.kolbuch@vancouver.ca)
["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

Date:

Subject: Debate on White LEDs Challenges Symposium | Philips Lighting

<http://www.lumec.com/blog/index.php/2013/02/05/debate-on-white-leds-challenges-symposium/>

from the article:

Road safety remains an utmost priority. Through white LED lighting, drivers will be able to react 3 to 6 times faster to obstacles (according to their age). It has been shown that the aging population greatly benefits from the blue hues in LED road lights, which help reduce the reaction time.

Obstacles that suddenly appear on the road, such as a deer or a child crossing the street, will be seen faster when lit in LED lights.

From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Kolbuch, Kathryn" <kathryn.kolbuch@vancouver.ca>](mailto:kathryn.kolbuch@vancouver.ca)

["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

Date:

Subject: white light vs hps

http://www.darksksociety.org/handouts/white_paper--mh_vs_hps.pdf

here is an article against white light vs hps

From: "[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>
To: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>
Date:
Subject: RE: LED Lighting and Wet Roads

Great, thanks Phil!

Here is some data on ped collisions for Knight/57th and Renfrew/Hastings. I have requested data for 2013 but have not yet heard back from ICBC.

Knight & 57th:

- 2005-2010: Average of 2 ped collisions per year, ranging from 1-4 per year
- 2011: Changes made to lighting, signal and intersection geometry, 0 ped collisions
- 2012: 1 ped collision

Renfrew/Hastings:

- 2005-2011: Average of 2 ped collisions per year, ranging from 1-4 per year
- 2012: Changes made to lighting, 0 ped collisions

Cheers,

Alina

From: Wong, Phil
Sent: Friday, September 13, 2013 9:33 AM
To: Cheng, Alina
Subject: FW: LED Lighting and Wet Roads

Sorry, I forgot to copy you on this.

From: Wong, Phil
Sent: Friday, September 13, 2013 7:17 AM
To: Kolbuch, Kathryn
Subject: Fw: LED Lighting and Wet Roads

FYI

Sent from my BlackBerry Wireless Handheld
please reply to phil.wong@vancouver.ca

From: Asselin, Lynn [mailto:lynn.asselin@holophane.com]
Sent: Friday, September 13, 2013 06:28 AM Pacific Standard Time
To: Wong, Phil
Subject: RE: LED Lighting and Wet Roads

Hi Phil

After speaking with Don McLean, Bill Smelser, and Ron Gibbons (who is doing research on this – will have data next spring), have a consensus that it will be a little more glary; but if uniformity of fixtures are good and levels not too high (or over criteria) , this can minimize the glare on wet roads.

There are many metrics involved in intersections; being in the INTERSECTION committee, we have analyzed new ways to light them; I can share this with you but the document is not out yet.

Metrics involve; vehicular speed; how much spill light from stores or other areas; and how the light design is done with Pole placement and how many poles ; pole height ;eye adaptation levels entering intersection and the list goes on.

I am doing a chapter with our design guide with a new way to design intersections to improve eye adaptation for vehicle to see pedestrians better entering an intersection. We can speak about that.

However, real data is coming next year and Seattle did not do many intersections.

My opinion is to keep light close to criteria as much as possible. Add that extra pole to keep the average close to criteria to avoid higher light levels; even (uniformity) the light out throughout the intersection will lower glare values and veiling values.

Studying each Intersection independent of the calculations is added value as each intersection is different; relying on criteria alone will not manage glare properly; we need to look at many metrics to minimize your glare values; UNDERSTAND the HPS glare first before the retrofit can be effective on managing glare with LED retrofits.

Call me if you want to discuss; I can see you next week to go over any of these comments.

I wish I had more real data but next year there will be some.

Thanks for the call,

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane
an Acuity Brands Company
Vancouver & province of British Columbia
Office Phone: 1-604-815-0866 (Brackendale #)
Cell Phone: 604-787-9087

Fax: 1-604-815-0840
E-Mail: lynn.asselin@Holophane.com
Website - <http://www.holophane.com> <<http://www.holophane.com/>>

Description: logo-bar2

From: Wong, Phil [mailto:phil.wong@vancouver.ca]
Sent: Wednesday, September 11, 2013 10:53 AM
To: Asselin, Lynn
Subject: RE: LED Lighting and Wet Roads

604 871 6686

From: Asselin, Lynn [mailto:lynn.asselin@holophane.com]
Sent: Wednesday, September 11, 2013 10:35 AM
To: Wong, Phil
Subject: RE: LED Lighting and Wet Roads

Hi Phil

Can you share your phone number?

thanks

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane
an Acuity Brands Company
Vancouver & province of British Columbia
Office Phone: 1-604-815-0866 (Brackendale #)
Cell Phone: 604-787-9087

Fax: 1-604-815-0840
E-Mail: lynn.asselin@Holophane.com
Website - <http://www.holophane.com> <<http://www.holophane.com/>>

Description: logo-bar2

From: Wong, Phil [mailto:phil.wong@vancouver.ca]
Sent: Wednesday, September 11, 2013 10:33 AM
To: Asselin, Lynn
Subject: LED Lighting and Wet Roads

Hi Lynn,

I came back from a meeting where I was providing an update on our project to convert about 20 intersections from HPS to LED and to add extra lights if required to meet the current IESNA recommendations.

A question came up about the impact of white light on wet roads and snow. I was asked to report back by this Friday on what other cities have done on this. I mentioned that white light might generate more glare than HPS due to the physical properties of white light.

I believe Seattle has converted some lights to LED. I am not 100% sure but I think they used your consultant for their project. I was wondering if you or your consultant have some info (even anecdotal) on LED and their performance with wet pavement. We would like to know what other Cities have done about wet pavement (or snow) and what they decided to do about this during their feasibility assessment of moving to LED.

Sorry for the last minute request.

Are you able to help?

Phil.



From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Kolbuch, Kathryn" <kathryn.kolbuch@vancouver.ca>](mailto:kathryn.kolbuch@vancouver.ca)
["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

Date:

Subject: White Light and Reflections

I managed to get in touch with our LED supplier who happens to be at a conference discussing the impact of LED light at intersections. The speaker is Dr. Ron Gibbons who is speaking on this topic and would be knowledgeable about the concern over reflected light

Our supplier is going to ask him a bunch of questions related to this and get back to us. Hopefully we will get some info by this Friday.

She thinks Dr. Gibbons was involved with Seattle LED but will confirm. From her discussions with different people on white light and reflection, her assessment is that any studies are not complete. She hasn't heard of any problems related to white light and reflections. Cities are going ahead. She also mentioned that roadway lighting is not the only source of glare. Buildings, vehicles and HPS lights all contribute to reflections.

She is also arranging for a seminar to be held in Vancouver with Dr. Gibbons. This will be scheduled tentatively for Nov 5th and she will make sure we are invited.

Phil.

From: "[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>

To: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>

Date:

Subject: RE: LED Intersection Lighting

Attachments: ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong.tr5

Ok, thanks for the update.

As you start to install them, you can update the status on the attached spreadsheet. Moving forward, I will check the spreadsheet for the latest info.

Thanks!

Alina

From: Wong, Phil
Sent: Friday, June 21, 2013 12:24 PM
To: Cheng, Alina
Subject: RE: LED Intersection Lighting

Our plans were to upgrade closer to the end of the year when we had a City LED contract in place. We are in the final stages of having the contract signed so we will be able to quickly convert to LED once we have a standing offer.

If you send me your current spreadsheet, I can update on a location basis.

Joyce and Kingsway is next up and we are procuring in parallel; we have a procurement underway for this specific location in addition to the City wide LED contract that has been underway.

From: Cheng, Alina
Sent: Friday, June 21, 2013 9:56 AM
To: Wong, Phil
Subject: LED Intersection Lighting
Importance: High

Hi Phil,

I've been tasked with updating some numbers for our branch's scorecard, and one of the items is about the LED lighting that we are installing at the intersections with high pedestrian collisions at night.

Can you tell me which intersections have been completed?

I know it's a short timeline, but it would be great if you could provide this to me by the end of day today.

Thanks!
Alina

From: ["Cooper, Kirsty" <Kirsty.Cooper@vancouver.ca>](mailto:Kirsty.Cooper@vancouver.ca)

To: ["Williams, Rhys" <Rhys.Williams@vancouver.ca>](mailto:Rhys.Williams@vancouver.ca)

["Ballard, Elizabeth" <elizabeth.ballard@vancouver.ca>](mailto:elizabeth.ballard@vancouver.ca)

Date:

Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

Hi there,

We are requesting a budget adjustment on Friday at our Q4 review with Peter J and Patrice. We will hopefully get an answer on whether we can do it on Friday but be aware that the adjustment won't be officially approved until Q4 goes to council. I understand Peter J knows about this project and I am sure he will push it forward.

I will let you know Friday afternoon what was said.

Kirsty

From: Williams, Rhys

Sent: Wednesday, February 13, 2013 12:29 PM

To: Ballard, Elizabeth

Cc: Wong, Phil; Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray; Cooper, Kirsty

Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

We are asking for \$220k from surplus as part of the 2012 Q4 report. Kirsty can you let us know timing on approval of funds.

Phil can you let us know status of rfp for LEDs and timing of installations.

Thanks

From: Ballard, Elizabeth

Sent: Wednesday, February 13, 2013 11:14 AM

To: Williams, Rhys

Cc: Wong, Phil; Dobrovoly, Jerry; Cheng, Alina; Wightman, Murray

Subject: LED Streetlights at the top 20 ped crash locations during hours of darkness

Hi Rhys,

Yesterday you mentioned that there is \$220 proposed to be allocated for this project in the Q4 report and approval is expected Friday. Have I got that correct?

If so what are the next steps and when are they going to happen?

e.g. does this have to go for an rfp? If so, when is it expected that it will be awarded? Following that what is the schedule for getting the lights installed. I think we are at 2/20 with a commitment to get them all done by the fall. Some details on that are appreciated.

Please note that the info you provide is going to be shared with Communications and Sadhu. They are requesting an update to progress made on implementing the Pedestrian Safety Study recommendations. As you are aware the street lighting is a key initiative in that study.

Thanks for your assistance.

Elizabeth

From: ["Ballard, Elizabeth" <elizabeth.ballard@vancouver.ca>](mailto:elizabeth.ballard@vancouver.ca)

To: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

["Williams, Rhys" <Rhys.Williams@vancouver.ca>](mailto:Rhys.Williams@vancouver.ca)

Date:

Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

Thank you Phil

Jerry, you need to message this to Sadhu and Peter please.

Elizabeth

From: Wong, Phil

Sent: Wednesday, February 13, 2013 1:01 PM

To: Ballard, Elizabeth; Williams, Rhys

Cc: Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray

Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

To clarify, we plan to start the upgrades some time after mid June for locations that only require a direct exchange of HPS fixtures to LED fixtures. The contract should be in place by mid June so we need to include delivery times after receipt of order. I am expecting 6 weeks delivery but will need to follow the terms of the contract.

I expect the balance of the 20 locations to be completed by year end.

From: Ballard, Elizabeth

Sent: Wednesday, February 13, 2013 12:49 PM

To: Wong, Phil; Williams, Rhys

Cc: Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray

Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

Does this mean you will start replacing/upgrading the remaining 18

intersections starting in June? Pls clarify start and end dates for construction.

From: Wong, Phil
Sent: Wednesday, February 13, 2013 12:47 PM
To: Ballard, Elizabeth; Williams, Rhys
Cc: Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray
Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

From what I know, the \$220K will be funded from unspent capital from the previous plan. My understanding is that the info is based on Q4 reports and approval is expected Friday. Once we have the budget, we can proceed to ordering lights, poles and arms as required per intersection.

In the meantime, I have already started the process with Procurement to establish a multi year standing offer to supply LED fixtures on an as required basis. This will allow us to upgrade intersections and replace failed fixtures by drawing from our electrical stores. The goal is to have these as stock items. We expect to have the standing offer by mid June.

Replacing existing HPS to LED fixtures is routine. We can convert to LED within 1-2 days. Additional time will be required to install additional bases and poles if required. This is subject to procurement timelines and crew capacity.

Phil.

From: Ballard, Elizabeth
Sent: Wednesday, February 13, 2013 11:14 AM
To: Williams, Rhys
Cc: Wong, Phil; Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray
Subject: LED Streetlights at the top 20 ped crash locations during hours

of darkness

Hi Rhys,

Yesterday you mentioned that there is \$220 proposed to be allocated for this project in the Q4 report and approval is expected Friday. Have I got that correct?

If so what are the next steps and when are they going to happen?

e.g. does this have to go for an rfp? If so, when is it expected that it will be awarded? Following that what is the schedule for getting the lights installed. I think we are at 2/20 with a commitment to get them all done by the fall. Some details on that are appreciated.

Please note that the info you provide is going to be shared with Communications and Sadhu. They are requesting an update to progress made on implementing the Pedestrian Safety Study recommendations. As you are aware the street lighting is a key initiative in that study.

Thanks for your assistance.

Elizabeth

From: "[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>

To: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>

Date:

Subject: RE: estimate to upgrade Top Pedestrian Collision Locations

FYI, I will print and bring copies of the spreadsheet to today's meeting.

Cheers,
Alina

-----Original Message-----

From: Wong, Phil

Sent: Thursday, December 06, 2012 7:30 AM

To: Cheng, Alina; Ballard, Elizabeth; Williams, Rhys

Subject: RE: estimate to upgrade Top Pedestrian Collision Locations

I should have checked the spreadsheet. Never mind about my comment about the 2 locations. I see it has already adjusted for LED.

-----Original Message-----

From: Cheng, Alina

Sent: Wednesday, December 05, 2012 2:19 PM

To: Wong, Phil; Ballard, Elizabeth; Williams, Rhys

Subject: FW: estimate to upgrade Top Pedestrian Collision Locations

Excellent, thanks Phil!

I've also added a couple columns for the scenarios of upgrading the 5 locations to LED, and of upgrading 10 locations to LED each year.

The estimated budgets are as follows:

Scenario A - Upgrade HPS at the 5 highlighted locations: \$50,000

Scenario B - Upgrade the 5 locations to LED: \$80,000

Scenario C - Upgrade all of the top 20 locations to LED: \$200,000

Scenario D - Upgrade 10 locations to LED each year: \$90,000 per year

Next step: Discuss with Neal and Jerry on Friday.

Cheers,
Alina

-----Original Message-----

From: Wong, Phil

Sent: Wednesday, December 05, 2012 12:14 PM

To: Cheng, Alina

Subject: HP TRIM Document : DOC/2012/288275 : ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong

Added the total LED solution/estimate

Note that at Main & Hastings, we have double headed poles so this one has 16 light fixtures.

-----< HP TRIM Record Information >-----

Record Number : DOC/2012/288275

Title : ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong

From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

Date:

Subject: HP TRIM Document : DOC/2012/288275 : ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong

Attachments: ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong.tr5

Added the total LED solution/estimate

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-----< HP TRIM Record Information >-----

Record Number : DOC/2012/288275

Title : ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong

From: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>
To: "[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>
Date:
Subject: FW: Intersection lighting levels - Pass
Attachments: Intersection lighting levels - Pass.pdf

5 of the first batch of 10 has passed. I am reviewing the other 5 assessment. We have asked for the 2nd batch of 10 so we can start on them as soon as we get them.

From: Bell, Karen
Sent: Tuesday, November 27, 2012 2:53 PM
To: Wong, Phil
Subject: Intersection lighting levels - Pass

Phil,

Based on RP8 - Major/Major w/high pedestrian conflict (34 lux average, 3:1 avg/min), the attached intersections meet* recommended levels.

Granville & Davie (*avg/min is 5.7:1)

Burrard & Davie

Burrard & Georgia

Commercial & Broadway

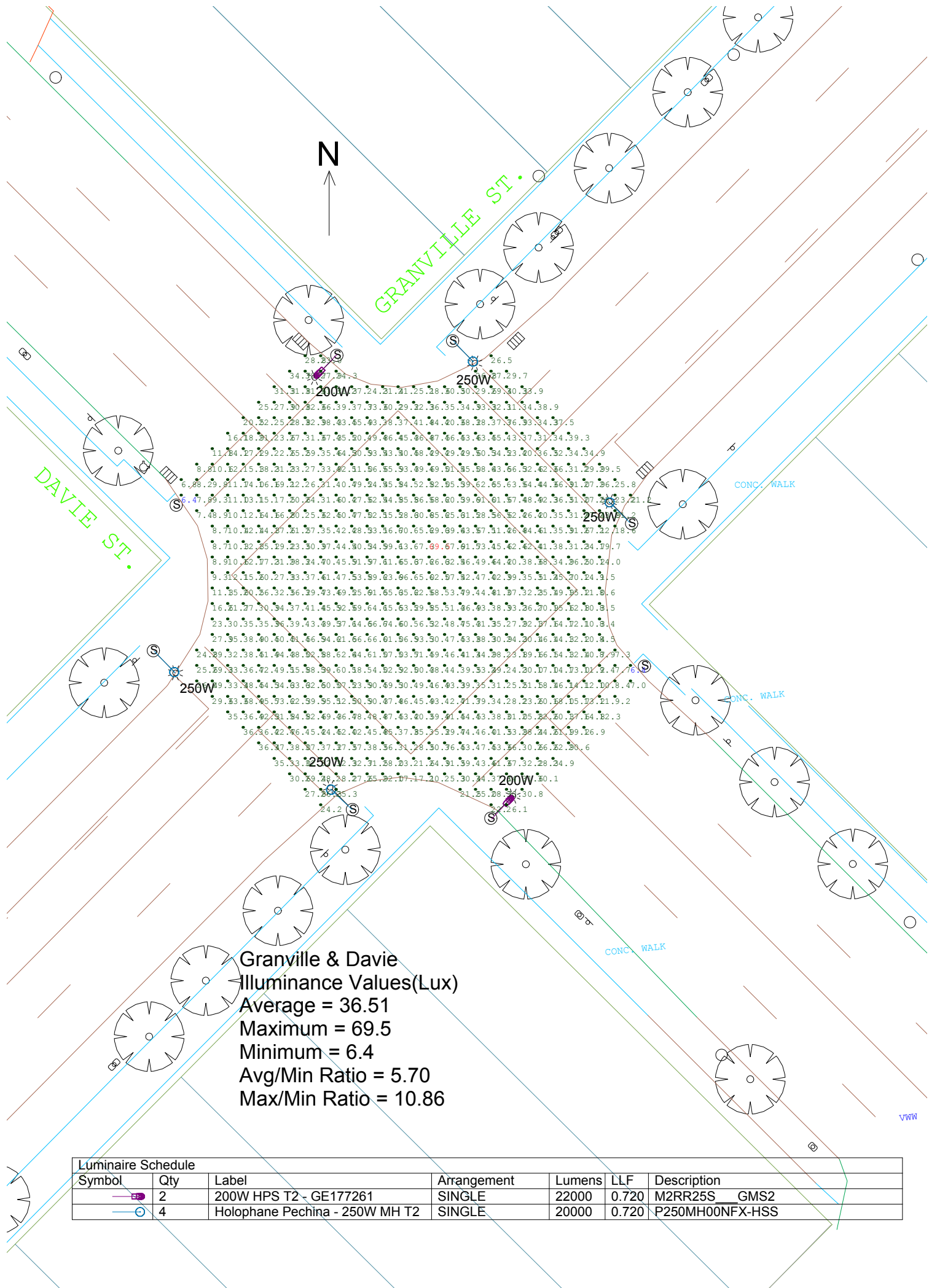
Nanaimo & Kingsway

Karen

Karen Bell, ASCT
Electrical Design Technician
City of Vancouver
Electrical Design Branch
Tel: 604-871-6823

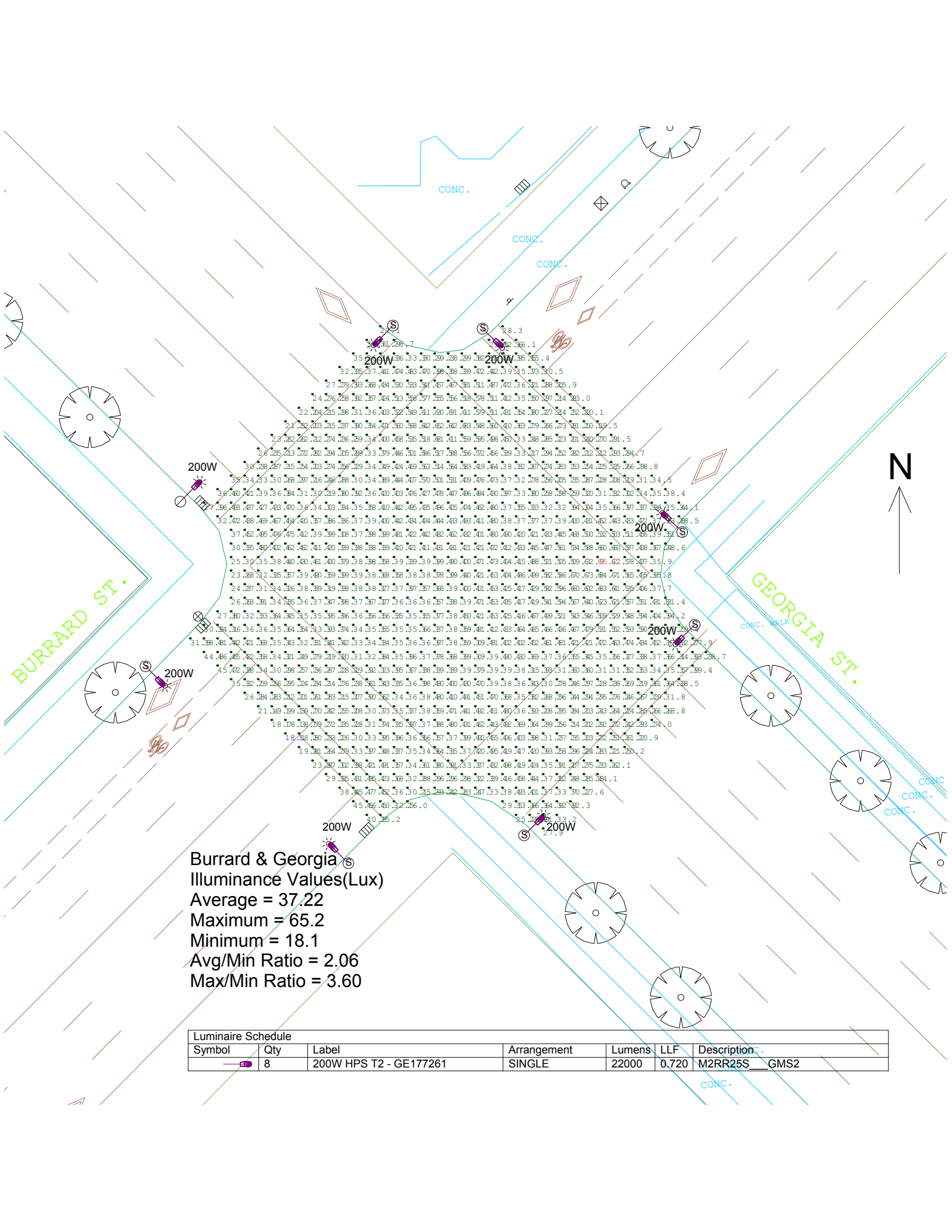
Fax: 604-871-6290

Email: karen.bell@vancouver.ca



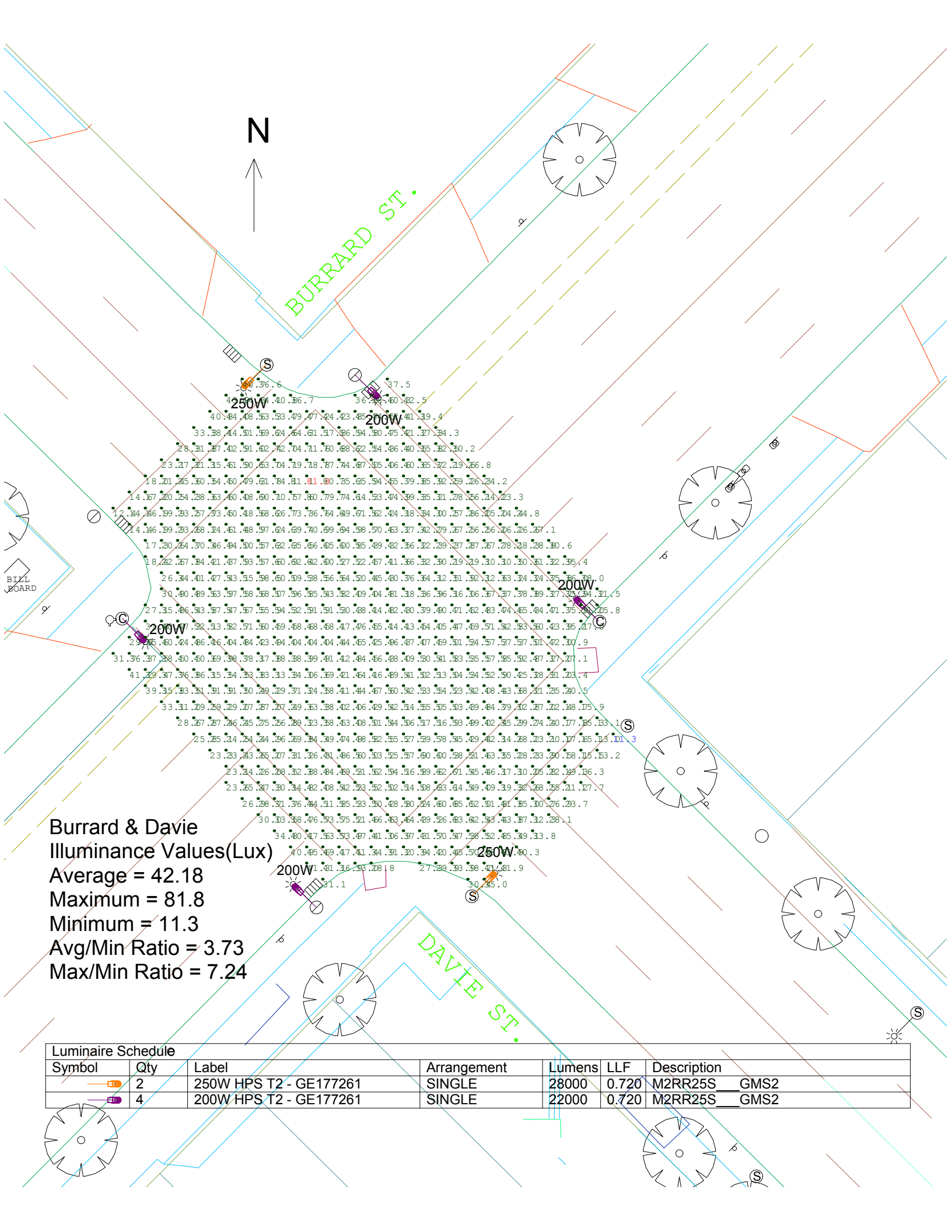
Granville & Davie
Illuminance Values(Lux)
 Average = 36.51
 Maximum = 69.5
 Minimum = 6.4
 Avg/Min Ratio = 5.70
 Max/Min Ratio = 10.86

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	2	200W HPS T2 - GE177261	SINGLE	22000	0.720	M2RR25S_GMS2
	4	Holophane Pechina - 250W MH T2	SINGLE	20000	0.720	P250MH00NFX-HSS





Burrard & Georgia
Illuminance Values(Lux)
 Average = 37.22
 Maximum = 65.2
 Minimum = 18.1
 Avg/Min Ratio = 2.06
 Max/Min Ratio = 3.60

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	8	200W HPS T2 - GE177261	SINGLE	22000	0.720	M2RR25S GMS2



**Burrard & Davie
Illuminance Values(Lux)**

Average = 42.18
 Maximum = 81.8
 Minimum = 11.3
 Avg/Min Ratio = 3.73
 Max/Min Ratio = 7.24

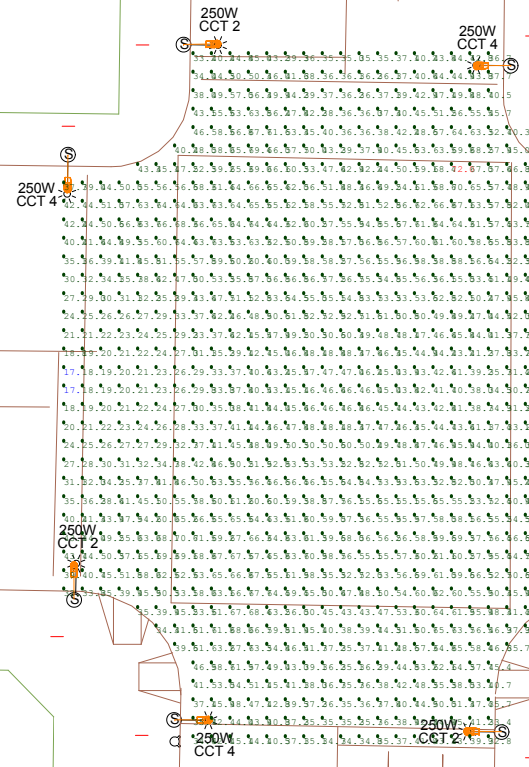
Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	2	250W HPS T2 - GE177261	SINGLE	28000	0.720	M2RR25S GMS2
	4	200W HPS T2 - GE177261	SINGLE	22000	0.720	M2RR25S GMS2




COMMERCIAL DR.

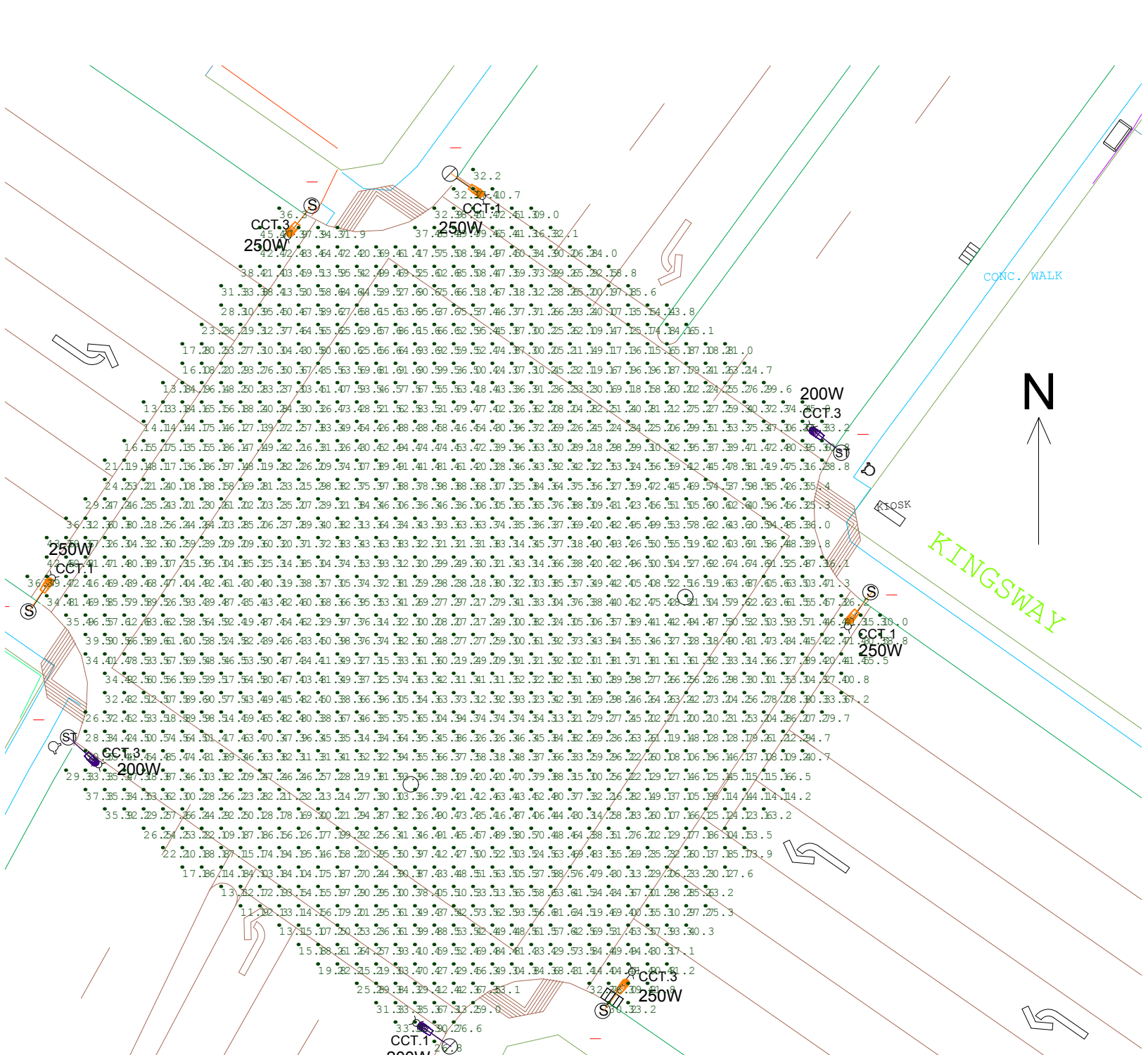
BROADWAY

BUS SHELTER



**Commercial & Broadway
Illuminance Values(Lux)**
 Average = 46.58
 Maximum = 72.0
 Minimum = 17.6
 Avg/Min Ratio = 2.65
 Max/Min Ratio = 4.09

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	8	250W HPS T2 - GE17726	SINGLE	28000	0.720	M2RR25S_GMS2



Nanaimo & Kingsway
Illuminance Values(Lux)
 Average = 36.10
 Maximum = 69.5
 Minimum = 11.9
 Avg/Min Ratio = 3.03
 Max/Min Ratio = 5.84

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	5	250W HPS T2 - GE17726	SINGLE	28000	0.720	M2RR25S_GMS2
	3	200W HPS T2 - GE17726	SINGLE	22000	0.720	M2RR25S_GMS2

RET. WALL

C

From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

["Ballard, Elizabeth" <elizabeth.ballard@vancouver.ca>](mailto:elizabeth.ballard@vancouver.ca)

["Chou, Winston" <winston.chou@vancouver.ca>](mailto:winston.chou@vancouver.ca)

Date:

Subject: RE: Potential Lighting Improvements for Pedestrian Safety

I have been working with procurement on this for so long to get the paperwork just right that I think we have reached the point that we will not be able to get this done by year end.

I am going to pull the plug on this one and see if I have some funds to do this next year – no promises though. I had some cancelled projects this year and was using the unallocated funds for this.

Please note that the lighting improvements don't change the light levels, it merely converts from HPS to LED which are more reliable. We are not changing light levels. I sensed that there may be some confusion here with the assumption that the light levels were too low – they are OK.

Phil.

From: Wong, Phil

Sent: Monday, October 01, 2012 7:32 AM

To: Cheng, Alina

Subject: RE: Potential Lighting Improvements for Pedestrian Safety

The following are in procurement at the moment:

broadway & clark design and supply led

Davie & Burrard design and supply led

Kingsway & Joyce design & supply LED

Broadway & Commercial design and supply

Hastings & Main design and supply LED

From: Cheng, Alina

Sent: Friday, September 28, 2012 11:21 AM

To: Wong, Phil

Subject: RE: Potential Lighting Improvements for Pedestrian Safety

Hi Phil,

I'm just following up with you to see if any of the locations on the attached list are being considered for lighting improvements.

You also mentioned that you may be installing LED lighting at up to 5 locations – have you determined the locations yet? If yes, which ones?

Thanks,

Alina

From: Cheng, Alina

Sent: Thursday, June 28, 2012 10:49 AM

To: Wong, Phil

Subject: RE: Renfrew & Hastings

Hi Phil,

Please find attached a list of locations, in rough order of priority, where lighting could potentially be upgraded to improve pedestrian safety. Note that this is based on data from 2005 to 2010, so some locations may already have lighting improvements.

Let me know if you have any questions. Also, what was the exact install date for Renfrew & Hastings?

Cheers,

Alina

From: Wong, Phil
Sent: Tuesday, June 19, 2012 5:03 PM
To: Cheng, Alina
Subject: RE: Renfrew & Hastings

definitely more energy efficient as expected. Not cheaper though to implement!

From: Cheng, Alina
Sent: Tuesday, June 19, 2012 9:36 AM
To: Wong, Phil
Subject: RE: Renfrew & Hastings

Yes, thanks Phil! Are you finding that the LEDs are more energy efficient?

I'm also taking a closer look at the collision data for locations with high numbers of collisions at night. I should be able to provide this to you before the end of the week.

Cheers,

Alina

From: Wong, Phil
Sent: Monday, June 18, 2012 10:38 AM
To: Cheng, Alina
Subject: Renfrew & Hastings

Did we tell you we changed all the lights at this location to LED? This was one of your worst accident locations. The lighting was already OK but we wanted to change intersections to LED so it is coincidence that this is one from your list. It still meets current lighting level guidelines with LED.

BTW, we are going to use your list to find 5 more easier locations. I'll update you on the specific 5 locations. They are not in priority order, but rather, the easier ones to switch to LED. These 5, if they are below current guidelines, will be upgraded.

Phil.

From: "[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>

To: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>

Date: 6/21/2013 12:32:40 PM

Subject: RE: LED Intersection Lighting

Attachments: ENG - SED - estimate to upgrade Top Pedestrian Collision Locations - Phil Wong.tr5

Ok, thanks for the update.

As you start to install them, you can update the status on the attached spreadsheet. Moving forward, I will check the spreadsheet for the latest info.

Thanks!
Alina

From: Wong, Phil
Sent: Friday, June 21, 2013 12:24 PM
To: Cheng, Alina
Subject: RE: LE Intersection Lighting

Our plans were to upgrade closer to the end of the year when we had a City LED contract in place. We are in the final stages of having the contract signed so we will be able to quickly convert to LED once we have a standing offer.

If you send me your current spreadsheet, I can update on a location basis.

Joyce and Kingsway is next up and we are procuring in parallel; we have a procurement underway for this specific location in addition to the City wide LED contract that has been underway.

From: Cheng, Alina
Sent: Friday, June 21, 2013 9:56 AM
To: Wong, Phil
Subject: LE Intersection Lighting
Importance: High

Hi Phil,
I've been tasked with updating some numbers for our branch's scorecard, and one of the items is about the LED lighting that we are installing at the intersections with high pedestrian collisions at night.

Can you tell me which intersections have been completed?

I know it's a short timeline, but it would be great if you could provide this to me by the **end of day today**.

Thanks!
Alina

From: Cheng, Alina <Alina.Cheng@vancouver.ca>
Sent: Friday, September 13, 2013 10:18 AM
To: Wong, Phil
Cc: Kolbuch, Kathryn
Subject: RE: LED Lighting and Wet Roads

Great, thanks Phil!

Here is some data on ped collisions for Knight/57th and Renfrew/Hastings. I have requested data for 2013 but have not yet heard back from ICBC.

Knight & 57th:

- 2005-2010: Average of 2 ped collisions per year, ranging from 1-4 per year
- 2011: Changes made to lighting, signal and intersection geometry, 0 ped collisions
- 2012: 1 ped collision

Renfrew/Hastings:

- 2005-2011: Average of 2 ped collisions per year, ranging from 1-4 per year
- 2012: Changes made to lighting, 0 ped collisions

Cheers,
Alina

From: Wong, Phil
Sent: Friday, September 13, 2013 9:33 AM
To: Cheng, Alina
Subject: FW: LED Lighting and Wet Roads

Sorry, I forgot to copy you on this.

From: Wong, Phil
Sent: Friday, September 13, 2013 7:17 AM
To: Kolbuch, Kathryn
Subject: Fw: LED Lighting and Wet Roads

FYI

Sent from my BlackBerry Wireless Handheld
please reply to phil.wong@vancouver.ca

From: Asselin, Lynn [<mailto:lynn.asselin@holophane.com>]
Sent: Friday, September 13, 2013 06:28 AM Pacific Standard Time
To: Wong, Phil
Subject: RE: LED Lighting and Wet Roads

Hi Phil

After speaking with Don McLean, Bill Smelser ,and Ron Gibbons (who is doing research on this – will have data next spring), have a consensus that it will be a little more glary; but if uniformity of fixtures are good and levels not too high (or over criteria) , this can minimize the glare on wet roads.

There are many metrics involved in intersections; being in the INTERSECTION committee, we have analyzed new ways to light them; I can share this with you but the document is not out yet.

Metrics involve; vehicular speed; how much spill light from stores or other areas; and how the light design is done with Pole placement and how many poles ; pole height ;eye adaptation levels entering intersection and the list goes on.

I am doing a chapter with our design guide with a new way to design intersections to improve eye adaptation for vehicle to see pedestrians better entering an intersection. We can speak about that.

However, real data is coming next year and Seattle did not do many intersections.

My opinion is to keep light close to criteria as much as possible. Add that extra pole to keep the average close to criteria to avoid higher light levels; even (uniformity) the light out throughout the intersection will lower glare values and veiling values.

Studying each Intersection independent of the calculations is added value as each intersection is different; relying on criteria alone will not manage glare properly; we need to look at many metrics to minimize your glare values; UNDERSTAND the HPS glare first before the retrofit can be effective on managing glare with LED retrofits.

Call me if you want to discuss; I can see you next week to go over any of these comments.

I wish I had more real data but next year there will be some.

Thanks for the call,

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane

an Acuity Brands Company

Vancouver & province of British Columbia

Office Phone: 1-604-815-0866 (Brackendale #)

Cell Phone: 604-787-9087

Fax: 1-604-815-0840

E-Mail: lynn.asselin@Holophane.com

Website - <http://www.holophane.com>



From: Wong, Phil [<mailto:phil.wong@vancouver.ca>]

Sent: Wednesday, September 11, 2013 10:53 AM

To: Asselin, Lynn

Subject: RE: LED Lighting and Wet Roads

604 871 6686

From: Asselin, Lynn [<mailto:lynn.asselin@holophane.com>]

Sent: Wednesday, September 11, 2013 10:35 AM

To: Wong, Phil
Subject: RE: LED Lighting and Wet Roads

Hi Phil

Can you share your phone number?

thanks

Lynn Asselin, LC, BSc, MIES
Lighting Specialist

Holophane

an Acuity Brands Company

Vancouver & province of British Columbia

Office Phone: 1-604-815-0866 (Brackendale #)

Cell Phone: 604-787-9087

Fax: 1-604-815-0840

E-Mail: lynn.asselin@Holophane.com

Website - <http://www.holophane.com>



From: Wong, Phil [<mailto:phil.wong@vancouver.ca>]

Sent: Wednesday, September 11, 2013 10:33 AM

To: Asselin, Lynn

Subject: LED Lighting and Wet Roads

Hi Lynn,

I came back from a meeting where I was providing an update on our project to convert about 20 intersections from HPS to LED and to add extra lights if required to meet the current IESNA recommendations.

A question came up about the impact of white light on wet roads and snow. I was asked to report back by this Friday on what other cities have done on this. I mentioned that white light might generate more glare than HPS due to the physical properties of white light.

I believe Seattle has converted some lights to LED. I am not 100% sure but I think they used your consultant for their project. I was wondering if you or your consultant have some info (even anecdotal) on LED and their performance with wet pavement. We would like to know what other Cities have done about wet pavement (or snow) and what they decided to do about this during their feasibility assessment of moving to LED.

Sorry for the last minute request.

Are you able to help?

Phil.

From: Ballard, Elizabeth <elizabeth.ballard@vancouver.ca>
Sent: Wednesday, February 13, 2013 1:27 PM
To: Wong, Phil; Williams, Rhys
Cc: Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray
Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

Thank you Phil
Jerry, you need to message this to Sadhu and Peter please.
Elizabeth

From: Wong, Phil
Sent: Wednesday, February 13, 2013 1:01 PM
To: Ballard, Elizabeth; Williams, Rhys
Cc: Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray
Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

To clarify, we plan to start the upgrades some time after mid June for locations that only require a direct exchange of HPS fixtures to LED fixtures. The contract should be in place by mid June so we need to include delivery times after receipt of order. I am expecting 6 weeks delivery but will need to follow the terms of the contract.

I expect the balance of the 20 locations to be completed by year end.

From: Ballard, Elizabeth
Sent: Wednesday, February 13, 2013 12:49 PM
To: Wong, Phil; Williams, Rhys
Cc: Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray
Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

Does this mean you will start replacing/upgrading the remaining 18 intersections starting in June? Pls clarify start and end dates for construction.

From: Wong, Phil
Sent: Wednesday, February 13, 2013 12:47 PM
To: Ballard, Elizabeth; Williams, Rhys
Cc: Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray
Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

From what I know, the \$220K will be funded from unspent capital from the previous plan. My understanding is that the info is based on Q4 reports and approval is expected Friday. Once we have the budget, we can proceed to ordering lights, poles and arms as required per intersection.

In the meantime, I have already started the process with Procurement to establish a multi year standing offer to supply LED fixtures on an as required basis. This will allow us to upgrade intersections and replace failed fixtures by drawing from our electrical stores. The goal is to have these as stock items. We expect to have the standing offer by mid June.

Replacing existing HPS to LED fixtures is routine. We can convert to LED within 1-2 days. Additional time will be required to install additional bases and poles if required. This is subject to procurement timelines and crew capacity.

Phil.

From: Ballard, Elizabeth

Sent: Wednesday, February 13, 2013 11:14 AM

To: Williams, Rhys

Cc: Wong, Phil; Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray

Subject: LED Streetlights at the top 20 ped crash locations during hours of darkness

Hi Rhys,

Yesterday you mentioned that there is \$220 proposed to be allocated for this project in the Q4 report and approval is expected Friday. Have I got that correct?

If so what are the next steps and when are they going to happen?

e.g. does this have to go for an rfp? If so, when is it expected that it will be awarded? Following that what is the schedule for getting the lights installed. I think we are at 2/20 with a commitment to get them all done by the fall. Some details on that are appreciated.

Please note that the info you provide is going to be shared with Communications and Sadhu. They are requesting an update to progress made on implementing the Pedestrian Safety Study recommendations. As you are aware the street lighting is a key initiative in that study.

Thanks for your assistance.

Elizabeth

From: Cooper, Kirsty <Kirsty.Cooper@vancouver.ca>
Sent: Wednesday, February 13, 2013 1:39 PM
To: Williams, Rhys; Ballard, Elizabeth
Cc: Wong, Phil; Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray
Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

Hi there,

We are requesting a budget adjustment on Friday at our Q4 review with Peter J and Patrice. We will hopefully get an answer on whether we can do it on Friday but be aware that the adjustment won't be officially approved until Q4 goes to council. I understand Peter J knows about this project and I am sure he will push it forward.

I will let you know Friday afternoon what was said.

Kirsty

From: Williams, Rhys
Sent: Wednesday, February 13, 2013 12:29 PM
To: Ballard, Elizabeth
Cc: Wong, Phil; Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray; Cooper, Kirsty
Subject: RE: LED Streetlights at the top 20 ped crash locations during hours of darkness

We are asking for \$220k from surplus as part of the 2012 Q4 report. Kirsty can you let us know timing on approval of funds.

Phil can you let us know status of rfp for LEDs and timing of installations.

Thanks

From: Ballard, Elizabeth
Sent: Wednesday, February 13, 2013 11:14 AM
To: Williams, Rhys
Cc: Wong, Phil; Dobrovolny, Jerry; Cheng, Alina; Wightman, Murray
Subject: LED Streetlights at the top 20 ped crash locations during hours of darkness

Hi Rhys,

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Thanks for your assistance.

Elizabeth

From: McCuaig, Amanda <amanda.mccuaig@vancouver.ca>
Sent: Monday, January 06, 2014 4:14 PM
To: Wong, Phil
Subject: RE: Main & Hastings lighting

Thanks!

Amanda McCuaig | Communications Coordinator
Corporate Communications | City of Vancouver
t. 604.871.8185 | fax 604.873.7884
amanda.mccuaig@vancouver.ca

From: Wong, Phil
Sent: Monday, January 06, 2014 4:11 PM
To: McCuaig, Amanda
Subject: RE: Main & Hastings lighting

Alina just answered.

From: McCuaig, Amanda
Sent: Monday, January 06, 2014 4:08 PM
To: Wong, Phil
Subject: RE: Main & Hastings lighting

Do you know who does do speed limits? (I'm only 3 weeks in, still figuring out the lay of the land here) Thanks!

Amanda McCuaig | Communications Coordinator
Corporate Communications | City of Vancouver
t. 604.871.8185 | fax 604.873.7884
amanda.mccuaig@vancouver.ca

From: Wong, Phil
Sent: Monday, January 06, 2014 4:08 PM
To: McCuaig, Amanda
Subject: RE: Main & Hastings lighting

I'm afraid I don't know. I am not involved with the speed limits, only lighting.

From: McCuaig, Amanda
Sent: Monday, January 06, 2014 4:07 PM
To: Wong, Phil
Subject: RE: Main & Hastings lighting

Quick question: When did we change the speed limit there? That's the only one that seems to have been missed.

Thanks Phil!

Amanda McCuaig | Communications Coordinator
Corporate Communications | City of Vancouver

From: Wong, Phil
Sent: Monday, January 06, 2014 4:05 PM
To: Dobrovolny, Jerry; McCuaig, Amanda; McGregor, Marnie; Cheng, Alina; Ballard, Elizabeth; Thomas, Robin; Scollard, Taryn
Subject: RE: Main & Hastings lighting

Please see my info in yellow. I need to get someone to run two reports tomorrow since they are gone for the day. I've added comments which hopefully will be enough to respond.

From: Dobrovolny, Jerry
Sent: Monday, January 06, 2014 2:59 PM
To: McCuaig, Amanda; McGregor, Marnie; Cheng, Alina; Ballard, Elizabeth; Thomas, Robin; Scollard, Taryn; Wong, Phil
Subject: RE: Main & Hastings lighting
Importance: High

Hi gang

Well I called him back and stuck to my key messages but he asked a number of specific questions I couldn't answer. Sorry, but I said we'd look into them and send him the answers by email.

Amanda, could you please send them to him, once you get them from those involved and copied on this email. I think the answers are readily available. If not, then we should pass.

The questions were:

When were the LED lights installed at Main and Hastings? December 19, 2013 When did we change the speed limit there?

How much have we spent overall at Main and Hastings? I need to have a clerk run the report tomorrow but we had roughly estimated \$14,000

What other locations have we installed LED lights – both intersections and mid-block? We have to run a report tomorrow when the GIS tech is in. We have installed quite a few locations over the years. Some notable locations are: Comox/Helmcken, Yaletown, Fraser/37th, Knight Street at 33rd, Boundary Rd and Grandview Hwy and Gastown. How much less electricity do LED lights use vs HPS? This number varies depending on the LED lights. Typically 10% to 60% depending on the LED fixture chosen.

When did we first install HPS? What type of lights did they replace and was it for electricity savings? These were installed in the 1990's and they replaced mercury vapour to save energy as part of the Power Smart initiative by BCHydro How much does an LED light cost vs an HPS? Average \$440 for LED vs \$155 for HPS but this varies depending on tendering and make/model chosen

What is the life expectancy of an LED light vs HPS? LED can be up to 25 years vs 17 years for HPS

I also told him that while the cost of LED continues to decrease, with our low electricity costs, the business case is still not there for a wide-spread change out. We're using other factors such as safety or Active Transportation Corridors as reasons.

Thanks all. If we can get this info back to him by the end of day that would be great.

Jerry

From: McCuaig, Amanda
Sent: Monday, January 06, 2014 2:19 PM
To: Dobrovolny, Jerry; McGregor, Marnie; Cheng, Alina; Ballard, Elizabeth; Thomas, Robin
Subject: RE: Main & Hastings lighting

Thanks for the help folks,

Frank has been emailed the background with your edits and Alina's additions, and a note to anticipate your call.

Amanda McCuaig | Communications Coordinator
Corporate Communications | City of Vancouver
t. 604.871.8185 | fax 604.873.7884
amanda.mccuaig@vancouver.ca

From: McCuaig, Amanda
Sent: Monday, January 06, 2014 12:24 PM
To: Dobrovolny, Jerry; McGregor, Marnie
Subject: Main & Hastings lighting

Hey Jerry and Marnie,

Below is my proposed info to send to Frank Luba (Province). He will still want to speak with someone to get a quote, probably before 2:30pm (he has to have it written by 4:30 I believe). Jerry, to contact him it's:

Frank Luba, s.22(1)

Please let me know if this is ok to send.

Hello Frank!

Thanks for your inquiry. The "extra bright" streetlights at Main and Hastings is part of a series of intersections being updated in response to a 2012 Pedestrian Safety Study.

In the study (found here: <http://vancouver.ca/files/cov/pedestrian-safety-study-2012-summary.pdf>) collisions involving pedestrians in the City of Vancouver between 2005 and 2010 were reviewed, including where they took place, when they took place, who was involved, and how the collision occurred.

Following the study, staff identified 44 priority locations for pedestrian safety improvements across the city, including four intersections with 20 or more pedestrian collisions between 2005 and 2010 that are outlined on the attached map (Frequency of Pedestrian Collisions in Vancouver 2005 to 2010). The four locations are getting (or have already received) countdown timers and brighter LED lighting.

- Main & Hastings
- Davie & Burrard
- Commercial & Broadway
- Joyce & Kingsway

Over the past year, pedestrian safety improvements have also been made at intersections across the city during the course of routine street maintenance work. This is an efficient and effective way to make pedestrian safety improvements across the city.

Generally the number of pedestrian collisions and fatalities have been declining. Recent pedestrian fatality statistics from the Vancouver Police Department are provided here (<http://mediareleases.vpd.ca/2013/11/19/police-focus-on-pedestrian-safety/>). The collision data for 2013 is not yet available, so it's too soon to be able to evaluate the effectiveness of the improvements completed in the past year. However, the City will do so when the data is available.

Next steps include completing improvements at the 44 priority locations, installing new signals and countdown timers, and adjusting walk times to accommodate slower pedestrians. We also continue to work with partners to encourage safe and considerate road user behavior throughout the year, collect and monitor data to meet our short and long term pedestrian safety goals, as well as aspire to our zero traffic-related fatality target.

From: "Wong, Phil" <phil.wong@vancouver.ca>

To: "Cheng, Alina" <Alina.Cheng@vancouver.ca>

"Ballard, Elizabeth" <elizabeth.ballard@vancouver.ca>

"Chou, Winston" <winston.chou@vancouver.ca>

Date: 10/24/2012 11:02:43 AM

Subject: RE: Potential Lighting Improvements for Pedestrian Safety

I have been working with procurement on this for so long to get the paperwork just right that I think we have reached the point that we will not be able to get this done by year end.

I am going to pull the plug on this one and see if I have some funds to do this next year – no promises though. I had some cancelled projects this year and was using the unallocated funds for this.

Please note that the lighting improvements don't change the light levels, it merely converts from HPS to LED which are more reliable. We are not changing light levels. I sensed that there may be some confusion here with the assumption that the light levels were too low – they are OK.

Phil.

From: Wong, Phil

Sent: Monday, October 01, 2012 7:32 AM

To: Cheng, Alina

Subject: RE: Potential Lighting Improvements for Pedestrian Safety

The following are in procurement at the moment:

broadway & clark design and supply led

Davie & Burrard design and supply led

Kingsway & Joyce design & supply LED

Broadway & Commercial design and supply

Hastings & Main design and supply LED

From: Cheng, Alina

Sent: Friday, September 28, 2012 11:21 AM

To: Wong, Phil

Subject: RE: Potential Lighting Improvements for Pedestrian Safety

Hi Phil,

I'm just following up with you to see if any of the locations on the attached list are being considered for lighting improvements.

You also mentioned that you may be installing LED lighting at up to 5 locations - have you determined the locations yet? If yes, which ones?

Thanks,
Alina

From: Cheng, Alina

Sent: Thursday, June 28, 2012 10:49 AM

To: Wong, Phil

Subject: RE: Renfrew & Hastings

Hi Phil,

Please find attached a list of locations, in rough order of priority, where lighting could potentially be upgraded to

improve pedestrian safety. Note that this is based on data from 2005 to 2010, so some locations may already have lighting improvements.

Let me know if you have any questions. Also, what was the exact install date for Renfrew & Hastings?

Cheers,
Alina

From: Wong, Phil
Sent: Tuesday, June 19, 2012 5:03 PM
To: Cheng, Alina
Subject: RE: Renfrew & Hastings

definitely more energy efficient as expected. Not cheaper though to implement!

From: Cheng, Alina
Sent: Tuesday, June 19, 2012 9:36 AM
To: Wong, Phil
Subject: RE: Renfrew & Hastings

Yes, thanks Phil! Are you finding that the LEDs are more energy efficient?

I'm also taking a closer look at the collision data for locations with high numbers of collisions at night. I should be able to provide this to you before the end of the week.

Cheers,
Alina

From: Wong, Phil
Sent: Monday, June 18, 2012 10:38 AM
To: Cheng, Alina
Subject: Renfrew & Hastings

Did we tell you we changed all the lights at this location to LED? This was one of your worst accident locations. The lighting was already OK but we wanted to change intersections to LED so it is coincidence that this is one from your list. It still meets current lighting level guidelines with LED.

BTW, we are going to use your list to find 5 more easier locations. I'll update you on the specific 5 locations. They are not in priority order, but rather, the easier ones to switch to LED. These 5, if they are below current guidelines, will be upgraded.

Phil.

From: "[Kolbuch, Kathryn](mailto:kathryn.kolbuch@vancouver.ca)" <kathryn.kolbuch@vancouver.ca>

To: "[Wong, Phil](mailto:phil.wong@vancouver.ca)" <phil.wong@vancouver.ca>

"[Cheng, Alina](mailto:Alina.Cheng@vancouver.ca)" <Alina.Cheng@vancouver.ca>

Date: 9/13/2013 1:18:13 PM

Subject: RE: white lights and visibility

Thanks - though I'm not sure this speaks to the rain issue at hand...and I'm a bit hesitant to use Wiki data as our source... :)

-----Original Message-----

From: Wong, Phil

Sent: Friday, September 13, 2013 10:18 AM

To: Kolbuch, Kathryn; Cheng, Alina

Subject: white lights and visibility

http://en.wikipedia.org/wiki/Street_light

from the link:

Today, street lighting commonly uses high-intensity discharge lamps, often HPS high pressure sodium lamps.[11] Such lamps provide the greatest amount of photopic illumination for the least consumption of electricity. However, when scotopic/photopic light calculations are used, it can be seen how inappropriate HPS lamps are for night lighting. White light sources have been shown to double driver peripheral vision and improve driver brake reaction time by at least 25%. When S/P light calculations are used, HPS lamp performance needs to be reduced by a minimum value of 75%. This is now a standard design criteria for Australian roads.

A study comparing metal halide and high-pressure sodium lamps showed that at equal photopic light levels, a street scene illuminated at night by a metal halide lighting system was reliably seen as brighter and safer than the same scene illuminated by a high pressure sodium system.[12]

From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Kolbuch, Kathryn" <kathryn.kolbuch@vancouver.ca>](mailto:kathryn.kolbuch@vancouver.ca)
["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

Date: 9/11/2013 12:33:23 PM

Subject: White Light and Reflections

I managed to get in touch with our LED supplier who happens to be at a conference discussing the impact of LED light at intersections. The speaker is Dr. Ron Gibbons who is speaking on this topic and would be knowledgeable about the concern over reflected light

Our supplier is going to ask him a bunch of questions related to this and get back to us. Hopefully we will get some info by this Friday.

She thinks Dr. Gibbons was involved with Seattle LED but will confirm. From her discussions with different people on white light and reflection, her assessment is that any studies are not complete. She hasn't heard of any problems related to white light and reflections. Cities are going ahead. She also mentioned that roadway lighting is not the only source of glare. Buildings, vehicles and HPS lights all contribute to reflections.

She is also arranging for a seminar to be held in Vancouver with Dr. Gibbons. This will be scheduled tentatively for Nov 5th and she will make sure we are invited.

Phil.

From: ["Wong, Phil" <phil.wong@vancouver.ca>](mailto:phil.wong@vancouver.ca)

To: ["Kolbuch, Kathryn" <kathryn.kolbuch@vancouver.ca>](mailto:kathryn.kolbuch@vancouver.ca)

["Cheng, Alina" <Alina.Cheng@vancouver.ca>](mailto:Alina.Cheng@vancouver.ca)

Date: 9/13/2013 9:22:01 AM

Subject: white light vs hps

http://www.darkskysociety.org/handouts/white_paper--mh_vs_hps.pdf

here is an article against white light vs hps