



TENDER NUMBER: **NWIT-21-18**

PROJECT TITLE: **Tennis Court Lighting**

PROJECT LOCATION: Queen's Park Tennis Courts
Queen's Park
New Westminster, BC

BID DUE: **3:00 PM (Local Time) on Wednesday, August 4, 2021**

MANDATORY
BIDDERS MEETING: **9:30 AM (Local Time) on Tuesday July 20, 2021**
Queen's Park Tennis Court
Queen's Park, First Street and Third Avenue
New Westminster, BC
See Park Map for Location

DATE: July 8, 2021

CITY OF NEW WESTMINSTER
511 Royal Avenue
New Westminster, BC
V3L 1H9

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SPECIFICATIONS

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Queen’s Park Tennis	3 Pages
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1.0 Scope Of Work

- 1.1 Provide all labour, materials, plant, and equipment necessary to erect the sport lights and applicable control system, as specified in the Tender Documents, General Requirements, Specifications, and Drawings.

2.0 Owner

- 2.1 The owner is the City of New Westminister, 511 Royal Avenue, New Westminister, BC, V3L 1H9, herein after referred to as the “City”.

3.0 Submission Of Tender

- 3.1 Bidders shall submit the Tender on the enclosed Bid Form.
- 3.2 The completed Tender shall be submitted by email with **NWIT-21-18 Tennis Court Lighting** in the subject line to:
City of New Westminister Purchasing Department at nwpurchasing@newwestcity.ca
- 3.3 The City shall receive Tenders at the location specified in 3.2 above, prior to **3:00 PM (Local Time) on Wednesday, August 4, 2021.**
- 3.4 Bidders shall submit the Bid Form with all blank spaces filled in. Alterations, qualifications, or omissions to the Bid Form may render the Bid liable for rejection by the City. The Bidder shall initial any erasures or corrections to the entries on the Bid Form.
- 3.5 The City does not accept facsimile, or other unsealed Bids. For this Invitation to Tender, the City will accept electronic mail submissions to the email address in 3.2 above.
- 3.6 The City **will not** accept late submissions.
- 3.7 The City will not open this Tender in public.

4.0 Addenda

- 4.1 Should addenda to the Bid Documents be required for any reason, it is the City’s intention not to issue addenda during a period three (3) days prior to the Bid Closing date and time.
- 4.2 Bidders are responsible for checking the City’s website for any addenda or other information relating to this Invitation to Tender.
- 4.3 All Addenda become part of the Contract Documents. Bidders should include adjustment costs in the Bid Price.
- 4.4 Failure to acknowledge any Addendum may result in the disqualification of the Bidder.

5.0 Living Wage Policy

- 5.1 Effective January 1, 2011, the City of New Westminster became a “Living Wage Employer”. As such, the City has established a [Living Wage Policy](#) that requires all firms that are contracted by the City to provide services on City premises, to pay their employees, who perform said service on City property, a Living Wage as calculated by the Living Wage for Families Campaign. The current living wage rate for Metro Vancouver is \$19.50 per hour, assuming the employer provides no benefits.
- 5.2 In order to determine an employee’s hourly rate with benefits the Living Wage for Families has created a Living Wage Calculator to assist with this determination. Please access the following website to determine your compatibility http://www.livingwageforfamilies.ca/living_wage_calculator
- 5.3 The City includes in all its competitive bid documents a Declaration referencing the City’s expectations with regards to compliance of the Policy. **Completion and submission of the Declaration is required prior to Contract award.**
- 5.4 In evaluating submissions, the City intends to rely on the Declaration provided by a Respondent and shall have no obligation or duty to investigate the truthfulness of the Declaration.
- 5.5 Please review the City’s [Living Wage Page](#) for further information.

6.0 Good Neighbour Protocol

- 6.1 This policy is for City-led construction projects and works. The [Good Neighbour Protocol](#) (GNP) provides guidelines to minimize construction related impacts to residents and businesses.
- 6.2 The successful contractor will be required to adhere to the Good Neighbour Protocol.
- 6.3 Please review the City’s Good Neighbour Protocol for further information.

7.0 Acceptance Of Bid

- 7.1 The City is not obligated to accept the lowest or any tender and may reject all tenders. The lowest or any or all Bid(s) may not be accepted if the City determines, in its sole discretion and after appropriate investigation and evaluation, that:
- a) the comparable work references are, in the opinion of the City, unsatisfactory; **OR**
 - b) information becomes available after Closing Time which significantly changes the scope or extent of the project; **OR**
 - c) the Bid, or all of the Bids, exceeds the available budget funds; **OR**
 - d) less than three (3) Bids are received.
- 7.2 The City may waive any non-compliance with the Bid Documents.

- 7.3 The City may, prior to contract award, negotiate changes to the scope of work with the lowest qualified bidder to meet budgetary limitations without having any duty or obligation to advise any other bidders or to allow them to vary their bid prices due to changes to the scope of work.
- 7.4 Bids shall remain open for acceptance by the City for a period of sixty (60) days from the closing date.

8.0 Revision Of Bid

- 8.1 A Bid Form already delivered to the City may only be revised in the manner described below and, to qualify, the revision must be actually received by the City at the address given herein prior to the time and date specified for the closing of this Tender.
- 8.2 Bidders shall submit written Bid Revisions only by email to nwpurchasing@newwestcity.ca .
- 8.3 The City **will not** accept revisions of Bids by facsimile.

9.0 Evaluation Of Bids

- 9.1 The City will review and evaluate all valid submitted bids. The City will evaluate Bids based on the Offer Price and References.

10.0 Knowledge Of Site And Work

- 10.1 Bidders shall visit the site of the work and make allowances in their bids for such conditions as in the sole opinion of the bidder are warranted. The City makes no representation or warranty as to the conditions of the site.

11.0 Documents Required Of The Successful Tenderer

- 11.1 Within seven (7) days of acceptance of the Bid by the City and prior to the work starting, the Contractor shall provide some or all of the following documents and/or requirements to the City:
- a) Certificate of Good Standing from WorkSafe BC;
 - b) Proof of Insurance as required under the CCDC Contract General Conditions, the CCDC -41, and the Supplementary General Conditions of this tender OR
 - c) Names of all Subcontractors and description of the work to be performed by them, or confirmation that no Subcontractor will be involved in this project;
 - d) Written assurance of sufficient manpower in your employ to fulfil satisfactorily this Contract;
 - e) Proof of a valid City of New Westminster or MetroWest Inter-Municipal Business License;
 - f) A Construction Schedule as required under the CCDC Contract General Conditions;
 - g) Performance Security and Labour and Material Payment Security as called for on page 5 of 6 of the Instructions to Bidders.

12.0 Permits

- 12.1 All non-road diesel powered equipment that is 25 hp (19 kw) or greater must comply with Metro Vancouver's Non-Road Diesel Engine Emissions Regulation Bylaw No. 1161, 2012 (the Bylaw). The Bylaw requires owners or operators of Tier 0 and Tier 1 non-road diesel engines to register, label, and pay fees in order to operate within Metro Vancouver. Please advise what Engine Tier your proposed equipment meets and if it complies with Metro Vancouver's Bylaw. Provide the engine registration number issued by Metro Vancouver if applicable. The City, at its discretion, may give preference to equipment that meets higher emission standards. To register your equipment call Metro Vancouver for assistance at 604-451-6655 or visit www.metrovancouver.org/nonroaddiesel
- 12.2 If requested, the Contractor shall apply and pay for all permits required, by authorities having jurisdiction, to carry out the work. The City will apply for and pay for the building permit.
- 12.3 The contractor must protect all trees in accordance with City policy. Requirements for tree protection are available on the City's website. The contractor is required to make application and obtain a tree protection permit prior to the start of the work. Final location of the tree protection is to be reviewed with, and approved by the City Arborist.

13.0 Pricing Requirements

- 13.1 All prices shall be firm and shall include the cost of labour, materials, equipment, permits, transportation, services, fuel charges, and all Federal and Provincial taxes in force as of the date of submission of the offer, except that the Goods and Services Tax (GST) shall be excluded from the price.

14.0 Queries

- 14.1 The City requests Bidders to advise the City of any errors, conflicts, or omissions in the Bid Documents, prior to Tender closing, so the City may issue an addendum.
- 14.2 After the Bid is accepted, bidders shall abide by the City's decision in the correction of previously unidentified obvious errors, conflicts, or omissions.
- 14.3 Address all queries or requests for additional information to:
Heather Rossi, Purchasing Department
City of New Westminster,
E-mail: nwpurchasing@newwestcity.ca
- 14.4 The City cautions Bidders that information obtained from any other source is not official and may be inaccurate.
- 14.5 The City accepts no responsibility for any information provided by its employees or agents that is not in writing in accordance with this section.

15.0 Mandatory Bidders' Meeting

- 15.1 The City has arranged a Mandatory Bidders' Meeting on **Tuesday July 20, 2021** starting at **9:30 AM** at Queen's Park Tennis Court, Queen's Park, First Street and Third Avenue, New Westminster.
- 15.2 To be eligible to submit a Bid for this Tender, Bidders must attend the **Mandatory Bidders' Meeting**. Failure to attend the Mandatory Bidders Meetings will result in disqualification of the Bidder.
- 15.3 If requested, the City will provide the company name and phone number of the attendees at the Mandatory Bidders Meeting, by posting an attendance list on the City's website.

16.0 Bid Security, Performance Bonding and Guarantees

- 16.1 All Bidders are required to provide with their Bid, Bid Security in a form acceptable to and payable to the City of New Westminster. The amount of the Bid Security must be equal to ten percent (10%) of the Bid Price (excluding GST), and one of the following types:
- a) Bid Bond;
 - b) Certified Cheque;
 - c) Irrevocable Letter of Credit; or
 - d) Bank Draft.
- 16.2 If, after Award of Contract, the Bidder refuses to enter into the Contract, the Bid Security (if any) may be forfeited to the City of New Westminster because of its damages, without prejudice to the City's remedies for the Bidder's breach of contract.
- 16.3 **Failure to provide Bid Security (when required) will result in disqualification of the Bidder.**
- 16.4 The Successful Bidder will be required to provide to the City of New Westminster, in a form acceptable to the City, Performance Security in an amount equal to fifty percent (50%) of the Contract Price, and in one of the following types:
- a) Certified Cheque;
 - b) Irrevocable Letter of Credit;
 - c) Bank Draft; or
 - d) A Performance Bond.
- 16.5 The Successful Bidder will be required to provide to the City of New Westminster, in a form acceptable to the City, Labour and Material Payment Security in an amount equal to fifty percent (50%) of the Contract Price, and in one of the following types:
- a) Certified Cheque;
 - b) Irrevocable Letter of Credit;
 - c) Bank Draft; or
 - d) A Labour and Material Payment Bond, the Bond must be a Broad Form bond protecting all companies with a direct contract with the Principal or any Sub-Contractor of the Principal.

17.0 Form Of Contract

- 17.1 Any contract arising from this Invitation to Tender will use the CCDC 2 – 2008 Stipulated Price Contract (not bound in the tender documents) and the Supplementary Conditions included in the Tender Documents.

18.0 Ownership Of Tenders And Freedom Of Information

- 18.1 All documents submitted to the City of New Westminster become the property of the City, and as such, the City advises Bidders that parts, or all, of their bids may be subject to the provisions of *British Columbia's Freedom of Information and Privacy Protection Act (FOIPPA)* and *Community Charter*. Bidders who wish to protect particular parts of their bids from disclosure under the FOIPPA Act should specifically identify any information or records with their bids that constitute trade secrets and that are supplied in confidence, and the release of which could significantly harm their competitive position. Information that does not meet all three of the foregoing categories may be subject to disclosure to third parties. Please refer to the *Freedom of Information and Protection of Privacy Act* for further information. The City, as owner of the documents submitted, retains the right to copy the documents.

19.0 COVID 19 Pandemic

- 19.1 The City expects the successful contractor to follow the Guidance to construction sites operating during COVID-19 issued by the Provincial Health Officer of BC refer to this link
<http://www.bccassn.com/media/Guidance%20to%20Construction%20Sites%20Operating%20During%20COVID19.pdf>
- 19.2 Due to the COVID 19 global pandemic, the City may be required or decide to not proceed with the Work or to terminate any contract prior to the Work commencing. If this occurs, the City will only pay for actual costs incurred by the contractor (i.e. bonds, insurance, mobilization).

End of Instructions to Bidder

1.0 PROJECT

Title: **Tennis Court Lighting**

Location: Queen's Park Tennis Courts, Queen's Park, New Westminister, BC

2.0 BIDDER

Name: _____
(Hereinafter referred to as the "Bidder")

Address: _____
(including postal code)

Contact Name: _____

Telephone No: _____

Facsimile No: _____

Email Address: _____

3.0 OWNER

The Owner is the City of New Westminister, 511 Royal Avenue, New Westminister, BC, V3L 1H9, hereinafter referred to as the "City".

4.0 OFFER

4.1 The Bidder, having examined the Bid Documents and having gained full knowledge of the scope, character and location of the work and having become familiar with the local conditions, hereby offers to the City to execute the Work for the above named project in accordance with the Bid Documents for the amount of:

_____ dollars

(\$ _____), the contract price, which price shall be subject to adjustments as may be provided in the Tender Documents. The contract price **excludes** the Goods and Services Tax (GST).

4.2 The Bidder acknowledges that the City may, prior to contract award, negotiate changes to the scope of work with the lowest qualified bidder to meet budgetary limitations without having any duty or obligation to advise any other bidders or to allow them to vary their bid prices due to changes to the scope of work.

4.3 The Bidder acknowledges the consequences and impacts "Known Impacts" of the COVID-19 Pandemic existing as of the date of this Invitation to Tender including, without restriction:

a) orders, directives and recommendations of any Government Authority issued up to and including the date of this Agreement, and respecting public health or other

- requirements related to response to and prevention of infection by the COVID-19 virus;
- b) impacts to availability of labour or materials required in order to carry out the Work, arising from the COVID-19 Pandemic;
 - c) any the impacts of self-isolation/quarantine or regulated quarantine as regulated by the Province;
- the “Known Impacts”, are known to the Bidder and to the Owner, have been accounted for by the Bidder within the Construction Schedule, as well as the Offer Price(s).

5.0 FORCE ACCOUNT LABOUR AND EQUIPMENT RATES

- 5.1 The Bidder offers to provide the following equipment and labour for additional work as authorized by the City for the following unit rates:
- 5.2 These rates shall be all found and shall include all profit and overhead.

	Equipment Type		Rate (all found)
.1	Pickup Truck	\$	/hour
.2	Tandem Axle Dump	\$	/hour
.3	Tandem & Trailer	\$	/hour
.4	Single Axle Dump	\$	/hour
.5	Rubber Tire Backhoe	\$	/hour
.6	Bobcat	\$	/hour
	Labour Classification		Rate per Hour (all found)
.7	Foreman	\$	/hour
.8	Equipment Operator	\$	/hour
.9	Labourer	\$	/hour
.10	Flag person	\$	/hour
.11	Grade person	\$	/hour
.12	Concrete Finisher	\$	/hour
.13	Carpenter	\$	/hour
.14	Other (detail):	\$	/hour
.15	Other (detail)	\$	/hour

6.0 ADJUSTMENTS TO CONTRACT PRICE

- 6.1 The Contractor further offers to carry out any changes to the work authorized by the City and to be compensated as provided in the General Conditions.

7.0 SCHEDULE

- 7.1 The City requires the Work to be substantially complete, a manner acceptable to the City, by Friday October 15, 2021.
- 7.2 Failure to commence or complete the Work within the time stated may result in cancellation of the contract and completion of the Work by others.

8.0 ADDENDA

- 8.1 Any addenda issued by the City shall become part of the Bid Documents.
- 8.2 The Contractor acknowledges receipt of the following addenda and confirms that the Bid has been prepared in accordance therewith:

<u>Addendum No.</u>	<u>Dated</u>	<u>No. of Pages</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9.0 SUBCONTRACTORS

- 9.1 The Contractor confirms that following is a list of all the subcontractors who will be employed for the Work. No other subcontractors will be employed unless prior written approval is received from the City.

<u>Name of Subcontractor</u>	<u>Item of Work</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

10.0 COMPARABLE WORK EXPERIENCE REFERENCES

Note: Failure to complete this section may result in disqualification.

10.1 Bidders shall provide sources for three (3) comparable work experience references (companies for whom work of a comparable scope and magnitude were done in the past five (5) years, which may include the City of New Westminster).

1 Company Name: _____

Contact Person: _____ Phone: _____

Description of Work: _____

Project Date: _____ Approximate Value: _____

2 Company Name: _____

Contact Person: _____ Phone: _____

Description of Work: _____

Project Date: _____ Approximate Value: _____

3 Company Name: _____

Contact Person: _____ Phone: _____

Description of Work: _____

Project Date: _____ Approximate Value: _____

11.0 ACCEPTANCE

11.1 Acceptance of this offer by the City will be made by the issuance of a Letter of Award.

12.0 SIGNATURES

SIGNED, SEALED, AND DELIVERED by the Contractor:

(Contractor's Name)

(Legal Signing Authority)

(Corporate Seal)

(Print Name and Title)

(Date)

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The Supplementary Conditions revise the General Conditions in the CCDC 2-2008 Stipulated Price Contract as follows:

ARTICLE A-5 PAYMENT

Paragraph 5.3 Interest –

Paragraph 5.3.1 (1) – Delete “.2%.” and substitute “.0%.”

Paragraph 5.3.1 (2) – Delete “.4%.” and substitute “.0%.”

GENERAL CONDITIONS OF THE STIPULATED PRICE CONTRACT

PART 1 GENERAL PROVISIONS

GC 1.1 CONTRACT DOCUMENTS,

1.1.7.1 Between “the Agreement between the *Owner* and the *Contractor*” and “Definitions” –
Insert “Addenda”

PART 2 ADMINISTRATION OF THE CONTRACT

GC 2.2 ROLE OF THE CONSULTANT

2.2.5 *Delete in its entirety and replace with the following*

“2.2.5 Based on the *Consultant's* observations and evaluation of the *Contractor's* applications for payment, the *Consultant* will, in consultation with the *Owner*, determine the amounts owing to the *Contractor* under the *Contract* and will issue certificates for payment as provided in Article A-5 of the Agreement - PAYMENT, GC 5.3 - PROGRESS PAYMENT and GC 5.7 - FINAL PAYMENT.”

PART 4 ALLOWANCES

GC 4.2 CONTINGENCY ALLOWANCE

Delete in its entirety.

PART 5 PAYMENT

GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

Delete in its entirety.

GC 5.3 PROGRESS PAYMENT

5.3.1.3 Delete “20 calendar days” and substitute with “thirty (30) calendar days”

GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK

5.4.2 Delete “20 calendar days after receipt” and substitute with “ten (10) calendar days”

GC 5.7 FINAL PAYMENT

5.7.4 Delete “5 calendar days” and substitute with “twenty (20) calendar days”

PART 6 CHANGES IN THE WORK

GC 6.2 CHANGE ORDER

Add

“6.2.3: The allowance for overhead and profit charged by the *Contractor* and subcontractors shall be as follows:

- .1 Cost of materials and labour plus 10% mark-up by the *Contractor* for changes in the work performed by the *Contractor*.
- .2 Cost of labour and materials plus 10% mark-up by the *Contractor* on changes in the work performed by the subcontractors.
- .3 Cost of labour and materials plus 10% mark-up by the subcontractors for changes in the work performed by the subcontractors.
- .4 The overhead and profit for changes in the work shall include supervision, administrative costs, small tools, miscellaneous materials, layout, and recording of the changes on the record drawings.

GC 6.5 DELAYS

Add

“6.5.3.5 Global Pandemic,”

Add

“6.5.6 In the event of any delay, the *Contractor* shall take all reasonable measures to minimize the effects and costs of the delay and this obligation shall be taken into account in the determination of the *Contractor's* entitlement to an extension of the *Contract Time* and reimbursement of delay costs.”

Add

6.5.7 The parties acknowledge that the *Contract* has been entered into during the on-going COVID-19 Pandemic (the “Pandemic”). The *Contractor* advises that it is able to proceed with the *Work* under the Pandemic conditions and *Restrictions* (collectively the “Pandemic Restrictions”) as they exist as of the date of this *Contract*. The parties acknowledge that Pandemic Restrictions may change so as to cause unavoidable interruptions or interference to the *Contractor's* performance of the *Work*.

The parties confirm:

- (a) notwithstanding the known existence of the *Pandemic*, GC 6.5.3.5 will apply to new Pandemic Restrictions, which arise after the date of this *Contract*, whether anticipated or not, that reasonably interfere with the *Contractor's* performance of the *Work*, such that upon giving required notice the *Contractor* shall be entitled to an extension of the *Contract Time*, but shall not be entitled to reimbursement of any costs;
- (b) notwithstanding any such new Pandemic Restrictions, the *Contract* will remain valid and in force, subject to the terms of the *Contract* including, without limitation, GC 6.5.6 and GC 9.4;
- (c) if new Pandemic Restrictions occur that cause or threaten *Work* interruptions the *Contractor* will, as required by GC 6.5.4 give the *Consultant* and *Owner* immediate notice, and a written plan of the interim steps the *Contractor* will take, if any, during the *Work* interruption, and when Pandemic Restrictions permit, provide the *Owner* with a written plan for the resumption of the *Work*.

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PART 11 INSURANCE AND CONTRACT SECURITY

GC 11.1 INSURANCE

11.1.1.1 *Delete in its entirety and replace with the following:*

“1 General liability insurance in the name of the *Contractor* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner*, the *Consultant*, sub-consultants and special consultants as identified by the *Owner* as insureds but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the *Contractor* with regard to the *Work*. General liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Substantial Performance of the Work*. Liability coverage shall be provided for completed operations hazards from the date of *Substantial Performance of the Work*, as set out in the certificate of *Substantial Performance of the Work*, on an ongoing basis for a period of not less than twenty-four months following *Substantial Performance of the Work*.”

11.1.1.4 In line 1, after “*Owner and the Consultant*” insert “, sub-consultants and special consultants as identified by the *Owner*,”

GC 11.2 CONTRACT SECURITY

11.2.2 *Delete in its entirety and replace with the following:*

“11.2.2 If the *Contract Documents* require surety bonds to be provided, such bonds shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the province or territory of the *Place of the Work* and shall be maintained in good standing until the fulfilment of the *Contract*. The form of Performance Bond shall be in accordance with the latest edition of the CCDC approved Performance Bond form. The Labour and Materials Payment Bond shall be a Broad Form bond, protecting all companies with a direct contract with the Principal or any Sub-Contractor of the Principal.”

CCDC 41 – CCDC INSURANCE REQUIREMENTS January 21, 2008

Delete paragraphs 3 and 5

Schedule A – Prime Contractor Designation

This Schedule forms part of the agreement between the Corporation of the City of New Westminster (the “City”) and _____ (the “Contractor) respecting **NWIT-21-18 Tennis Court Lighting** (the “Agreement”)

1. DEFINITIONS

1.1 In this Prime Contractor Designation schedule:

- (a) “**Agreement**” means the agreement entered into between the City and the Contractor on [date] in relation to [description of services] for the Project;
- (b) “**Hazardous Materials Report**” means a report prepared by a qualified person in accordance with s. 20.112 of the *OH&S Regulation*;
- (c) “**Owner**” means the City, which is the owner of the Project;
- (d) “**Project**” means NWIT-21-18 Tennis Court Lighting;
- (e) “**Project Manager**” means the City’s designate with responsibility to liaise with the Contractor for the purpose of managing, overseeing, coordinating or in any other way administering the Project

2. PRIME CONTRACTOR DESIGNATION

2.1 The Contractor agrees to assume the responsibilities of Prime Contractor for the Project, as set out in the *Workers Compensation Act* and the *OH&S Regulation*.

3. CONTRACTOR RESPONSIBILITIES AS PRIME CONTRACTOR

3.1 As Prime Contractor for the Project, the Contractor will:

- (a) ensure that the activities of employers, workers and other persons at the Project relating to occupational health and safety are coordinated; and
- (b) do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance at the Project with the *Workers Compensation Act* and the *OH&S Regulation*.

3.2 Without limiting the generality of the foregoing, the Contractor will:

- (a) prior to beginning demolition or construction work on the Project, meet with the Project Manager to review and complete the Pre-Job Meeting Form, to review and discuss the information in the City’s Known Hazards Form and the Contractor’s pre-work hazard identification documents, and to review and discuss the Hazardous Materials Report (if any);
- (b) conduct all necessary and appropriate inquiries of all relevant City staff and City records to ensure the Contractor is not missing any information from the City that is relevant to safety at the Project;
- (c) review, plan to address, and address all hazards identified in the City’s Known Hazards Form, the Contractor’s pre-work hazard identification documents, any

- Hazardous Materials Report, and any hazards or risk identified in the *Workers Compensation Act* or the *OH&S Regulation*;
- (d) maintain and make available the documents listed on the Pre-Job Meeting Form, as appropriate;
 - (e) inform all other employers working on the Project that the Contractor is designated as the Prime Contractor for the Project;
 - (f) establish and maintain a system or process that will ensure compliance with the *OH&S Regulation* when visitors (i.e. couriers, inspectors, suppliers, etc.) enter the Project, which shall include site orientation and hazard communication to such visitors by the Contractor or the Contractor's designate;
 - (g) maintain a current list of persons that each employer at the Project has designated to be responsible for that employer's health and safety activities at the Project;
 - (h) ensure appropriate first aid resources are available for workers at the Project at all times work is being performed, in accordance with and as required by the *OH&S Regulation*;
 - (i) if required by the *OH&S Regulation*, submit a Notice of Project to WorkSafeBC in accordance with the *OH&S Regulation*, and comply with all requirements of the *OH&S Regulation* concerning the Notice of Project;
 - (j) if required by the *OH&S Regulation*, the Contractor will appoint a Qualified Coordinator for the purpose of ensuring the coordination of health and safety activities for the Project, and the Contractor shall ensure that any Qualified Coordinator so appointed is qualified to perform the responsibilities of his or her position and carries out the roles and responsibilities of a Qualified Coordinator as set out in the *OH&S Regulation*;
 - (k) provide the following information, in an always updated form, in a readily available location at the Project;
 - i) the name of any Qualified Coordinator appointed to the Project;
 - ii) a site drawing, which must be posted, showing project layout, first aid location, emergency transportation provisions, and the evacuation marshalling station; and
 - iii) a set of construction procedures designed to protect the health and safety of workers at the Project, developed in accordance with the requirements of the *OH&S Regulation*;
 - (l) immediately notify the City of the identity of any Qualified Coordinator appointed by the Contractor at the Project, from time to time.

4. HAZARDOUS MATERIALS

- 4.1 If during demolition or construction work on the Project the Contractor discovers or has reason to believe that there are hazardous materials at the Project that were not set out in any Hazardous Materials Report, the Contractor will;
- (a) immediately notify the Project Manager;
 - (b) take all reasonably appropriate measures to ensure the safety of workers at the Project; and
 - (c) take all reasonably appropriate measures to ensure the safety of the general public.

- 4.2 Upon notification by the Contractor of additional hazardous materials or suspected hazardous materials at the Project not set out in any Hazardous Materials Report, the City, in accordance with the *OH&S Regulation*, will obtain an updated Hazardous Materials Report, and will share such updated report with the Contractor. If the scope of work of the Project is changed as a result of the updated Hazardous Materials Report, the Project Manager will meet with the Contractor to discuss how the Project may be completed in a safe and cost effective manner.

5. GENERAL

- 5.1 In the event of a conflict between the Agreement and the *Workers Compensation Act* or the *OH&S Regulation*, the legislative requirement(s) will apply.
- 5.2 If any part of this schedule is held to be unenforceable by a court or tribunal of competent jurisdiction, that part shall be severed and the remaining parts of this schedule shall remain in full force and effect.
- 5.3 If the Contractor violates any of the requirements of this schedule or of the *Workers Compensation Act* or the *OH&S Regulation*, the City may treat such violation as a breach of the Agreement resulting in possible termination or suspension of the Agreement and/or any other actions deemed appropriate at the discretion of the City.
- 5.4 No failure or delay by either party to this schedule in exercising any power, right or privilege provided in this schedule will operate as a waiver, nor will any single or partial exercise of such rights, powers or privileges preclude any further exercise of them or the exercise of any other right, power or privilege provided in this schedule.
- 5.5 This schedule may be terminated in accordance with the terms of the Agreement.



DECLARATION – LIVING WAGE EMPLOYER

I, _____ as a duly authorized signing officer of

Company: _____

Address: _____

_____, confirm that all employees and sub-contractors under our contract with the City as outlined below, are paid not less than the “Living Wage” as calculated by the Living Wage for Families Campaign.

I understand that this requirement extends only to those employees and sub-contractors’ employees that perform work while on City premises and property for durations in excess of one continuous hour per occasion.

I understand that the City will conduct audits if and when notification of breach of this compliance is received by the City. I understand that in the event any breach of this declaration is found to be true, the City reserves the right to cancel its contract without penalty at any time once said authentication of the breach is made.

Contract Name: _____

Authorized Signatory:

Dated:

1.0 Summary Of Work

- 1.1 The Contractor shall provide all labour, materials, products, equipment, services, and incidentals required to complete the Contract Work as indicated in the Contract Documents and amendments.

2.0 Coordination

- 2.1 The Contractor shall coordinate and direct the execution of the work including directing the subcontractors.

3.0 Cutting and Patching

- 3.1 As it is necessary to carry out the Contract Work, areas of cutting, removal, or opening up of existing ground, fences, poles, or other existing site areas shall be fully restored to match the previously existing conditions or adjacent existing conditions in construction and finish. Obtain written approval from the structural engineer, retained and paid for by the Contractor, prior to cutting, coring, and/or drilling into building structural elements.

4.0 Submittals

4.1 Shop Drawings & Samples

- .1 Shall be provided to the City Representative in a timely manner prior to ordering of the material and equipment.

4.2 Submittals For Substantial Performance

- .1 The following submittals shall be provided by the Contractor for the City Representative's review upon the Contractor's request for Certificate of Completion of the Contract:
- a) Final inspection certificates from the authorities having jurisdiction;
 - b) Deficiency list, complete with a cost estimate of the value of remaining deficiencies;
 - c) Record Set Drawings - one set of white print working drawings neatly marked up in red indicating any as-built conditions that vary from the original drawings;
 - d) Data Manuals - 2 copies, typed 8.5" x 11" format, submitted in 3 ring hard cover binders including the following:
 - i) List of Sub-trades;
 - ii) Shop drawings;
 - iii) Operation and maintenance information;
 - iv) Warranties.

5.0 Traffic Management Plan

- 5.1 The Contractor to submit, fourteen (14) calendar days prior to the start of construction, a Traffic Management Plan (TMP) provided by a qualified traffic management company, and prepared in accordance with the "Traffic Control Manual for Work in Roadways". Road closures will not be allowed without prior approval from the City of New Westminister. The cost of the TMP will be incidental to payment of work described in other sections.

- 5.2 The Contractor shall ensure that single lane traffic movement is available in each direction at all times and shall minimize impact to on-street parking and pedestrian access to commercial and residential properties during working hours.
- 5.3 The Contractor shall carry out the work such that access to commercial and residential properties is maintained at all times. The Contractor shall provide a minimum one week advance written notice to all property owners prior to construction, and shall also provide a minimum two (2) working days' notice to individual property owners prior to commencing work affecting individual property access.
- 5.4 The Contractor shall give due notice to local police and fire department prior to beginning construction and shall comply in all respects with their requirements.
- 5.5 The Contractor shall comply with the requirements of the appropriate authority concerned with closure of streets or highways and shall post proper notices and/or signals, and provide necessary barriers, guards, lights, flagmen or watchmen as may be necessary for proper maintenance of traffic and protection of persons and property from injury or damage. All costs involved in respect of the above requirements will be deemed to be included in the Contract Price.
- 5.6 Where existing streets or roads are not available as detours, all traffic shall be permitted to pass through the Work with as little inconvenience and delay as possible unless otherwise provided or authorized. If half the street only is under improvement, the other half shall be conditioned and maintained as detour.
- 5.7 Where construction is to be carried out on highways or properties other than those of the Owner it shall be the responsibility of the Contractor to familiarize himself with the requirements of the owners or controllers of these properties which pertain to traffic safety or control of the construction operation and to carry out his work in accordance with these requirements.

6.0 Maintenance Manuals

- 6.1 At the time of application for Substantial Performance, provide the City with maintenance manuals as specified in the Contract Documents.

7.0 Utilities And Services

- 7.1 The City shall provide, at no cost to the Contractor for the related work, cold water.
- 7.2 The Contractor may use washrooms as designated by the City.
- 7.3 All other utilities and/or services required by the Contractor shall be the responsibility of the Contractor.

8.0 Security

8.1 The Contractor shall be responsible for the security of the job site building as related to the Work. Comply with all fire regulations during the period of construction.

9.0 Access

9.1 Coordinate with City staff prior to commencing work. Parking is available on site.

10.0 Dangerous Materials

10.1 No gasoline or other dangerous materials shall be stored on the site.

10.2 The Contractor shall separate any dangerous or hazardous materials removed from the site and take to the appropriate recycling or disposal station(s).

11.0 Site Control And Organization

11.1 The Contractor shall at all times keep the site orderly and, as work allows, generally clean. Remove all trash and debris daily. Sweep clean all floor areas in, and adjacent to, the work area on a daily basis.

12.0 Site Meetings

12.1 The Contractor shall coordinate and attend regular site meetings at such intervals as may be deemed necessary for the purpose of coordinating and expediting the progress of the work.

12.2 An authorized representative of the City will attend these meetings, as and when required. The Contractor agrees to attend in person or send an authorized representative to any such meetings that the City may call. The Contractor's subcontractors shall attend meetings as required to expedite the Work.

12.3 The City Representative shall record and distribute the minutes of any such meetings.

13.0 Pre-Construction Conference

13.1 The City shall advise the Contractor of the time and location of a pre-construction meeting that representatives of the Contractor and his trades shall attend prior to the start of any construction of this contract. The purpose of the meeting is to review site conditions, scheduling and other contractual items.

14.0 Rectify Damages

14.1 The Contractor shall make good any damage or spillage to adjacent facilities and/or City assets, areas, grounds, or vehicles at no cost to the City and leave the site in the same state as it was prior to commencement of the contract and to the satisfaction of the City. The Contractor shall perform all work in a manner that ensures the minimum interference with normal use of public spaces and facilities.

15.0 Rejected Work

15.1 Defective work whether the result of poor workmanship, use of defective products or damage through carelessness or other act or omission of the Contractor, shall be removed from the site by the Contractor and replaced and/or re-examined promptly in accordance with the Contract Documents, all at the Contractor's expense.

16.0 Quality Of Work

16.1 Workmanship shall be of the highest quality. When not specified elsewhere, the Contractor shall perform work in accordance with recognized trade standards and according to product manufacturer's recommendations.

17.0 Temporary Supports

17.1 The Contractor shall be responsible for all temporary supports, bracing, or similar structural work as may be required during the carrying out of the Contract Work.

18.0 Consultation With Owner

18.1 The Contractor shall contact the City immediately:

- .1 For clarification regarding the Contract Work for information in addition to what is provided in the Contract Documents;
- .2 If any conflicts or inaccuracies are discovered in the Contract Documents;
- .3 If any site conditions become apparent that require revisions to the project design and Contract Documents.

19.0 Protection Of The Public And Others

19.1 The Contractor shall take adequate measures to protect the public, City of New Westminister staff, and others on site from injury, damage, or other loss resulting from construction and related activities. Included within the Contractor's work are hoarding, signage, and similar items appropriate for construction conditions and the progress of the job. The City shall have complete jurisdiction over entry of Contractor's workers and vehicle access to site and existing buildings. The Contractor shall make building access arrangements in consultation with applicable staff.

19.2 The Contractor will be required to meet with the City's Representative on site to review and accept responsibilities as identified in the City's Prime Contractor Designation, Risk Assessment, and Pre-Job Meeting forms.

20.0 Hours Of Work

20.1 The Contractor may carry out the Work as per the applicable Bylaws of the Owner, or as instructed by the Owner in the Contract Documents.

20.2 The Contractor shall coordinate schedule with the applicable City staff. City staff must approve the schedule prior to the commencement of work. **No workers can be on site outside of pre-approved hours.**

21.0 Contractor Closeout

21.1 Final Accounting

- .1 Final statement of account - submit to Owner reflecting all adjustments and the following:
 - a) Original Contract Sum;
 - b) Additions and deductions resulting from:
 - i) Change Orders;
 - ii) Unit Prices;
 - iii) Other adjustments;
 - iv) Deductions for uncorrected work;
 - c) Total Contract sum as adjusted;
 - d) Previous payments;
 - e) Sum remaining due.

- .2 The City retains the right to obtain proof of payment, in the form of a signed and sealed CCDC 9A-2001 Statutory Declaration, of all sub-trades and material suppliers from the Contractor prior to making final payment.

21.2 Project Closeout

- .1 Flush clear all drains affected by the work;
- .2 Clean site of materials and debris created by the Construction;
- .3 Submit written acceptance that utility companies have inspected services to their satisfaction;
- .4 Provide City Representative with all Warranty and Bond Certificates with:
 - a) The proper name and address of the Owner and of the Project;
 - b) The date the warranty commences, which corresponds to the date of Substantial Performance;
 - c) A clear statement of what is being warranted as referenced in the Specifications;
 - d) The signature and seal of the company issuing the warranty, countersigned by the Contractor;
- .5 Attend a final walk-through with the City Representative to identify any final deficiencies;
- .6 Make good all known deficiencies in the work and notify the City Representative of readiness for final inspection only after completion of these items;
- .7 The City Representative will review completion of deficiencies during one review only. Additional reviews required to check un-rectified deficiencies or incomplete work will be back-charged by the Owner on the Contractor's progress payments and paid from those funds.

22.0 Special Instructions

22.1 The City does not permit smoking in or on the premises at any time.

23.0 Waste Management

23.1 The Contractor shall remove all waste from the site within forty-eight (48) hours after demolition.

23.2 The waste bins shall be located in an area that does not interfere with the normal operations of the building.

23.3 The City does not permit the use of existing on site waste receptacles by the Contractor.

23.4 Unless otherwise specified, all materials removed become the property of the Contractor, and must be disposed of in conformance with municipal, provincial, federal and WorkSafe BC requirements.

23.5 Separate recyclable and toxic waste materials from the waste stream. Deliver to a local waste management facility.

End of General Requirements

Section	Subsection	Title	Supplementary Specifications
26 56 01	1.0	General	.1 Any reference to Roadway Lighting shall include Sports Lighting .2 The work shall include the supply and installation of sports field lighting as shown on drawings 6701-19 -01 to 03.
26 56 01	1.10	Inspection and Testing	.1 Refer to Specifications 16500 and 16470 for specific testing and inspection requirements. .2 Contractor shall contact DMD & Associates Electrical Consultants Ltd at substantial completion for field review. .3 Contractor shall provide photos to DMD for conduit and JB prior to closing the trench. .4 Contractor shall contact Lighting supplier's Structural & Geotech Engineer for inspection of pole foundations, refer to hold point note on drawings for more information.
26 56 01	1.11 (NEW)	Submittals	.1 Contractor shall prepare a set of prints marked-up to show the "as constructed" installation upon the completion of the installation. These mark-ups shall be submitted to DMD. .2 Submit information as noted in Specifications Sections 16470 and 16500.
26 56 01	1.12 (NEW)	Contractor Qualifications	.1 All work must be installed by a qualified electrical contractor, who is required to obtain a permit from the City/Provincial Electrical Inspector. .2 The Contractor shall be a Registered Electrical Contractor under the provisions of the Electrical Safety Act.
26 56 01	1.13 (NEW)	Material or key pattern supplied by City	.1 Puck lock. The Contractor shall obtain pucklock or patterns (for puck locks) from the City for the electrical cabinet.
26 56 01	1.14 (NEW)	Warranty	.1 The Contractor shall for a period of one (1) year after the total performance date, replace or repair all deficiencies or failures to the installation free of all charges.
26 56 01	1.15 (NEW)	City of New Westminster	.1 Contractor shall locate nearby existing underground utilities prior to trenching from the

		Electrical (Service)	<p>proposed kiosk location to the existing PMT per IFC drawings.</p> <p>.2 Contractor to submit a traffic management plan and get approval from the City prior to doing works on the access road. Coordinate with the City to temporarily closing the road for trenching.</p> <p>.3 The contractor shall bring conduits to the existing PMT as shown on IFC drawings.</p> <p>.4 The Contractor to install secondary service conductors from the service cabinet up to the PMT. Termination at service cabinet by Electrical Contractors. Termination at PMT by the City of New Westminster Electrical.</p> <p>.5 Service conductors shall be coiled for CNW PMT termination. Contractor to coordinate with the City of New Westminster Electrical for energization and PMT termination.</p> <p>.6 City of New Westminster Electrical to install revenue meter inside to the service cabinet.</p> <p>.7 Contractors will pay all City costs for drawings, materials supplied and installations by City of New West Electrical forces.</p>
26 56 01	2.1	General	.6 All products are indicated on Drawings.
	3.1	Execution	<p>.5 No MMCD drawings shall apply for the installation of sports lighting poles and bases.</p> <p>.6 The contractor shall use suitable equipment to excavate the holes for the pre-cast foundations. Cost for dewatering and sleeving of foundation shall be borne by the contractor.</p> <p>.7 The contractor shall employ a BC Land Surveyor to layout the poles and equipment. Use the dimensions shown on the construction drawings. Any digital files that are provided by DMD are for coordination only, and shall not be used for surveying.</p> <p>.8 Box and conduit locations shall be staked out by the contractor and reviewed by DMD prior to any excavation.</p> <p>.9 It is the responsibility of the contractor to set-up and test the Sports Lighting Controls system prior to final inspection.</p> <p>.10 The contractor shall protect all surfaces from damage caused by equipment and vehicles. No vehicles on Tennis court surfaces.</p>

			<p>.11 Contractors to coordinate with the City to obtain the existing sports field poles are located on site. Contractors to install existing poles onto proposed concrete bases, complete with new electrical cabinet enclosure mounted on poles, new security luminaire, new top fitter, LED drivers, and LED luminaires. The contractor may choose to separate the poles for ease of transportation and storage, install new wire harnesses as supplied by lighting manufacturer.</p> <p>.12 Contractors to coordinate with the City to obtain the existing Skylogix control system from the City of New Westminster. Skylogix control system to be couriered to the kiosk supplier for installation and wiring. Skylogix control system to be re-used in new kiosk.</p> <p>.13 Contractors to ensure construction area is safe by the end of the day. Any debris on the field to be removed by the end of work day.</p>
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END OF SECTION

16470 ELECTRICAL CABINETS

PART 1 – GENERAL

1.01 GENERAL

- A. This specification shall apply to the design and supply of electrical cabinets which shall include:
 - 1. Lighting Control Cabinet
- B. Cabinets shall include all required equipment, not limited to the main breaker, meter, pull box, distribution panel(s), transformer, contactors, lighting controls, etc as shown on the drawings. The cabinet shall be designed to accommodate the Musco Control Link controller.
- C. The final cabinet complete with all electrical components shall bear the label of the CSA.
- D. The supplier shall design and produce the lighting control cabinet to meet the criteria noted in this document. The supplier shall be capable of producing a premium grade product, which meets the quality, fit and finish noted in this document. The use of CNC equipment is mandatory. The supplier's shop shall be approved to produce CSA listed products.
- E. The cabinet and internal components shall be designed to meet the approval of the local electrical utility and shall be designed for easy maintenance.
- F. The lighting control system (schematic) and power distribution system (one-line diagram) shall be as noted on the contract electrical drawings.
- G. All equipment produced shall meet the requirements of the Canadian Electrical Code.

1.02 ALTERNATE SUBMITTALS

- A. Alternate lighting control cabinet suppliers must submit the following for review:
 - 1. Detailed cabinet and door shop drawings showing all fabrication and the layout of all internal components. Drawings shall be produced using computer drafting format.
 - 2. List of components (by manufacturer and number) and product sheets for each item
 - 3. Cabinet ventilation drawings (sealed by PEng)
- B. Approval of alternates shall be granted if the submittal information listed above is complete and meets the approval of the engineer. To be accepted an alternate submittal must meet or exceed the Valid Manufacturing product in quality, performance, durability, warranty and shall meet the requirements of this specification. Where an alternate submittal is not accepted it shall be returned with a list of deficiencies. Alternates will be reviewed up to two week after award. Where deficiencies are noted the supplier will have 3 days to resolve the deficiencies to the satisfaction of the engineer.
- C. Acceptance of an alternate does not negate the contractor and suppliers responsibility to meet the requirements of these specifications.

1.03 QUALITY CONTROL

- A. The supplier shall have and maintain a suitable quality control program throughout the contract. The purpose of the quality control program is to ensure that the product meets the quality requirements of these qualifications, is delivered on time, and is produced in a cost-effective manner. The supplier's quality control program shall apply to all stages of the design, procurement, manufacturing, testing and delivery of the product.

1.04 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
1. One year parts and labor on all materials from the date of substantial performance

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, that may be incorporated in the Work include the following products:
1. Valid Manufacturing Ltd. Lighting Control Cabinet (ph 1-250-832-6477), or Approved Equal
 2. Engineer approved alternate (see 1.02 above)

2.02 GENERAL MATERIAL REQUIREMENTS

- A. All materials shall be new.
- B. Unless otherwise noted, the cabinet shall be fabricated from 5052-H32 sheet aluminum of at least 1/8-inch thick.
- C. All materials shall be corrosion resistant for extended life

2.03 FABRICATION PROCESS

- A. The cabinet and door shall be fabricated using CNC controlled equipment.
- B. The cabinet and doors shall be fabricated to plus or minus 10 thousands of an inch tolerance for proper fit.
- C. All bending shall be done using a suitable break press.

2.04 CONNECTING HARDWARE

- A. All screws, bolts, washers, nuts, etc. shall be stainless steel.
- B. All screws shall be stainless steel pan-head machine screw type.

- C. Any bolts that are 1/4-20 or larger shall be stainless steel hex head type.
- D. No sheet metal or self tapping screws shall be used.

2.05 WELDING

- A. All exterior seams shall be of continuously welded construction. All welds shall be free of slag and spatter. All exterior welds shall be ground smooth.
- B. The supplier shall have suitable credentials to weld aluminum and shall adhere to all applicable ANSI standards.
- C. The supplier shall use a suitable welding process and materials.

2.06 DOORS AND HINGES

- A. Doors shall be designed for maximum strength and snug fit. Refer to Figures 1 to 5A, which illustrate the standard required. It is the supplier's responsibility to design and fabricate the doors to the fit and finish required in this specification.
- B. Doors shall be fabricated out of a single sheet of aluminum and have wrap around return for strength and fit.
- C. Doors shall also have an inner skin for additional strength. The bottom of each door shall have ventilation holes.
- D. Doors shall be fully gasketed against the cabinet.
- E. Door hinges shall be positioned so they are hidden behind the door and cannot be accessed with the door closed. Door hinges are Valid Manufacturing Ltd Model No. HALZF, HALZM, HALZML, or Approved Equal). A minimum of 4 hinges are required per door.
- F. Each door shall have a pneumatic return device (see Figure 4) to control the rate of door open and close and prevent opening beyond 90 degrees (Faucher Models 777-7727.).
- G. Door handles shall be recessed and 3 point contact stainless steel construction (Faucher Industries No 617-5076 for the handle and 700-5463 for the latch or Approved Equal). The handles shall latch to the cabinet 16 gauge stainless steel rails and rollers which shall be fabricated to provide a secure and well sealed attachment to the cabinet (see Figure 3).
- H. The exterior of the doors shall have continuous welds.
- I. All exterior corners shall be rounded to a minimum radius of 1/8 of an inch. All sharp edges shall be de-burred to a minimum radius of 1/64 inch in order to reduce hazards to service personnel.



Figure 1



Figure 2

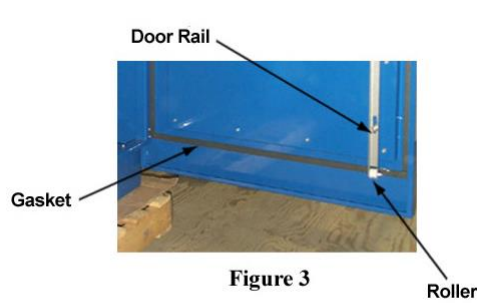


Figure 3

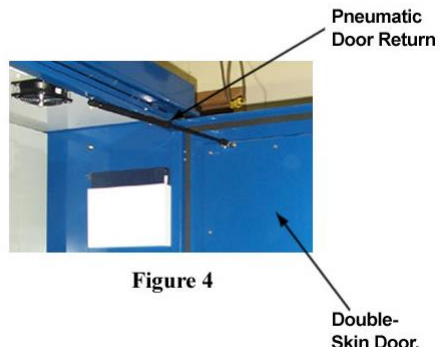


Figure 4



Figure 5

2.07 CABINET

- A. The cabinet and door shall be constructed to meet NEMA 3R standards. The cabinet shall be made up of the main body, roof section and inner wall. These components shall be welded together. The cabinet shall be designed for maximum strength and proper fit to the door.

- B. Refer to Figures 6 to 11, which illustrate the standard required. It is the supplier's responsibility to design and fabricate the cabinet to the fit and finish required in this specification.
- C. The cabinet shall be designed to attach to concrete pad via Hilti style drop-in anchors, which shall be supplied with the cabinet. Supplier shall provide Hilti anchors.
- D. The exterior of the cabinet shall have continuous welds.
- E. The cabinet main body shall have a wrap around return to accept the door (see Figure 10).
- F. The cabinet shall contain 2 internal motion controlled lights (Guard 59-310-Cord C90, or Approved Equal), a thermostatically controlled fan (ETRI 148 DK-0282-030, 253 CFM), or Approved Equal), thermostatically controlled 500W heater (Stelpro Heating No. RWF-SA-W and RWF-501-W, or Approved Equal) and 120V spec grade ground fault duplex receptacle.
- G. The cabinet shall be equipped with lifting brackets, which shall be removed after the installation. The bolts to attach the lifting brackets are shown in Figure 9).
- H. All exterior corners shall be rounded to a minimum radius of 1/8 of an inch. All sharp edges shall be de-burred to a minimum radius of 1/64 inch in order to reduce hazards to service personnel.
- I. User Access and Key as shown in Figure 7 are not required.
- J. Door handle cover shall be hinged and secured with a puck lock (see Figure 5A). Puck lock supplied by contractor, pattern by the City.



Figure 5A

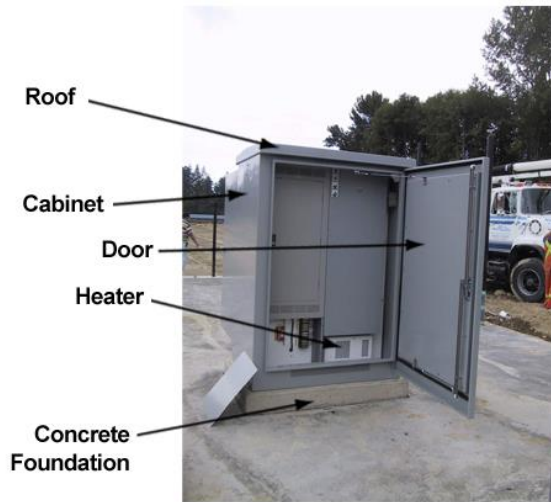


Figure 6

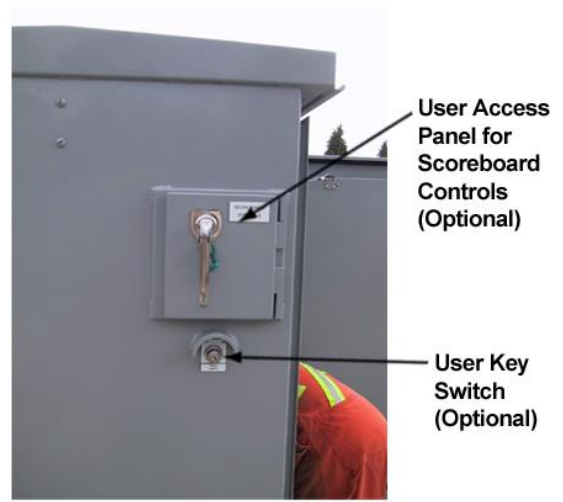


Figure 7

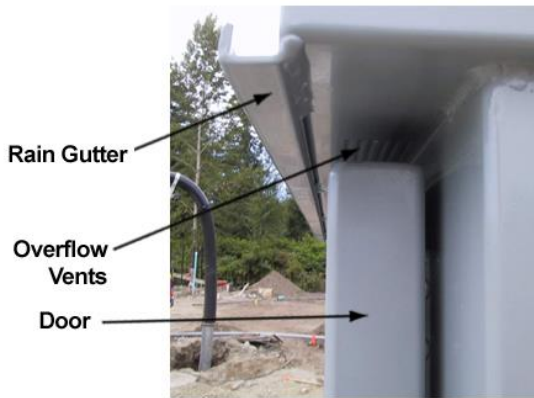


Figure 8

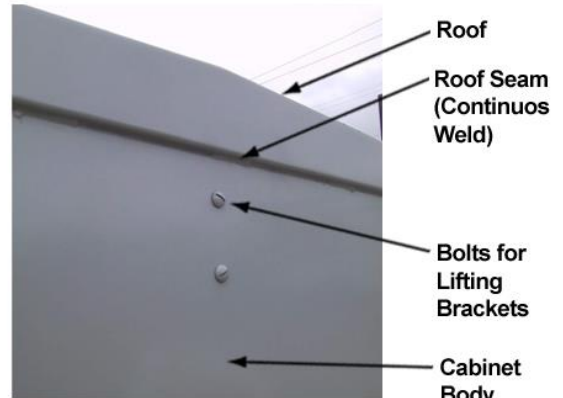


Figure 9

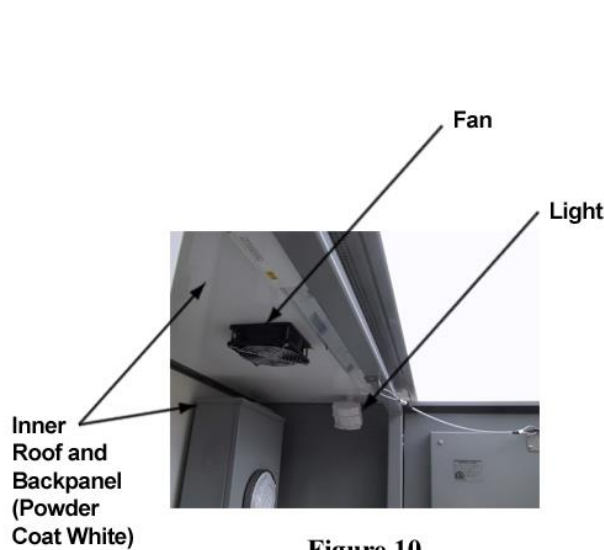


Figure 10

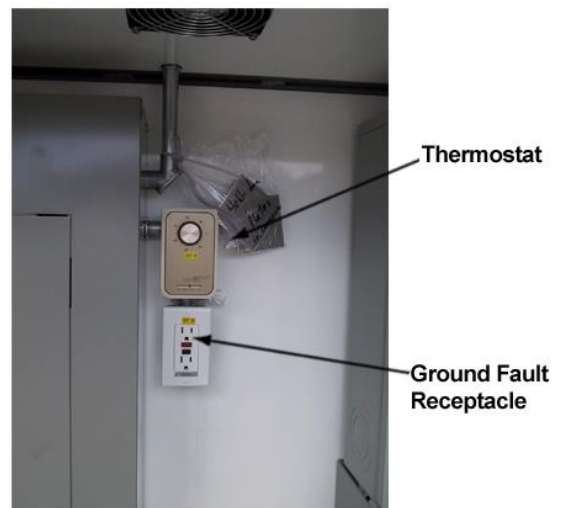


Figure 11

2.08 CABINET VENTILATION

- A. The cabinet and doors shall be provided with an engineered ventilation system designed to move filtered air in through the bottom of the cabinet and out through the top. The internal air temperature shall be thermostatically controlled to allow the internal equipment to operate within their recommended operation temperatures and to reduce condensation. The supplier shall produce details of the ventilation system, how it works, and evidence that the system has been engineered.
- B. The cabinet shall have intake vents in the lower portion of each door and exhaust vents on the cabinet above the door (see Figures 5, 8 and 12).
- C. Ventilation holes shall not be larger than 1/8” diameter to prevent the entry of foreign particles into the cabinet.
- D. Both intake and exhaust vent shall be filtered.



Figure 12

2.09 EQUIPMENT MOUNTING INNER WALL

- A. Equipment shall be mounted on an inner panel.

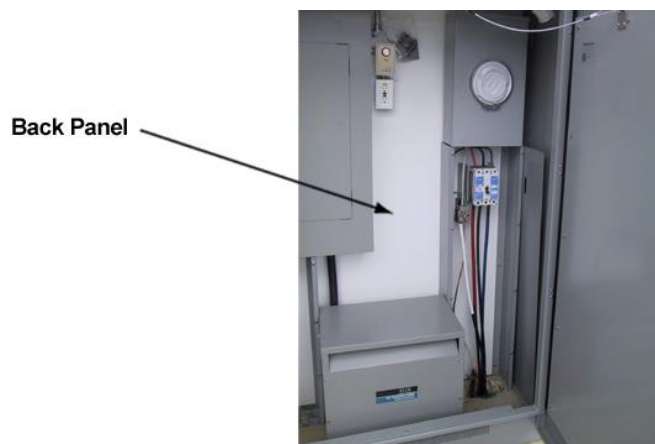


Figure 13

- B. Equipment mounting panels shall be constructed from 5052-H32 sheet aluminum at least 1/8 thick.

2.10 FINISH

- A. Upon completion of fabrication the cabinet, door and inner wall shall be finished as follows:
1. The surface shall be thoroughly cleaned and degreased using alkaline cleaner and then rinsed.
 2. The surfaces shall be brush blasted to a 1.5 to 2 mil profile.
 3. The surfaces shall then be pre-baked and a prime coat shall be electrostatically applied (DuraCoat zinc epoxy powder primer E-2024-2Z) 2 to 3 mils in thickness.
 4. After the prime coat has set, the top coat shall be electrostatically applied (DuraCoat polyester urethane anti-graffiti type resin for cabinet and doors) 3 to 5mils in thickness. Color shall be **ANSI 61 Grey** for the cabinet and door and white for the internal back plane.
 5. An independent testing agency shall test and verify the final powder adhesion and finish is suitable for a long life in an outdoor environment.
 6. The final product shall be free of dents, scratches, weld burns and abrasions harmful to its strength and general appearance.

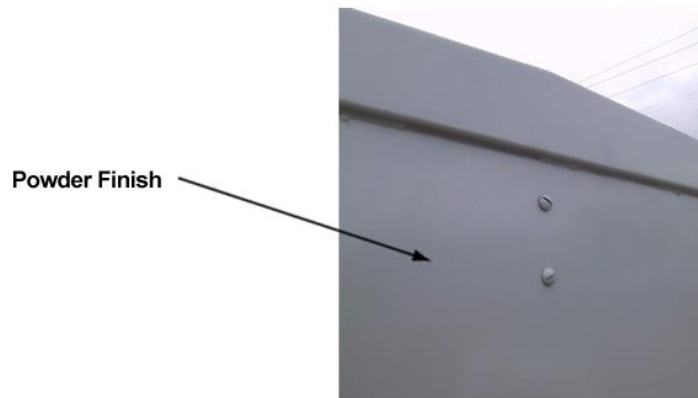


Figure 14

2.11 GENERAL ELECTRICAL

- A. The supplier shall provide equipment layout details with the shop drawings.
- B. An inner mask shall be installed to protect personnel from electrical hazard. The mask shall have cut-outs for circuit breaker toggle mechanisms. Knock outs in the mask shall be provided for all spare breaker spaces.
- C. All equipment shall be mounted on stand-off back panels and shall be secured using 8-32 inserts.

- D. All equipment shall be labeled using Lamicoid or vinyl adhesive labels with ½-inch high black characters on a white background.
- E. All panels shall be supplied with the breakers installed.

2.12 METERING

- A. Meter shall be located on the interior of the lighting control cabinet, per Figure 15 c/w metering window.
- B. CT's shall be to local utility standards. CT's and metering cabinets shall be sized and laid out to meet utility standards.

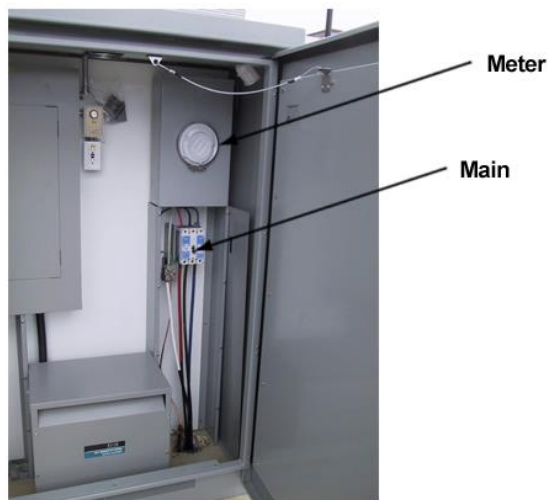


Figure 15

2.13 PANELBOARDS

- A. The main panel boards shall be supplied based on the panel schedule on the contract drawings.
- B. A load center shall also be supplied to feed internal lighting, heater, fan, receptacle, etc in the lighting control cabinet. This panel may also feed some external devices noted on the contract drawings.
- C. The panel boards and load centers shall be Square D, or approved equal.
- D. Panel boards and load centers shall be securely attached to the cabinet back plane and shall be located for easy access and servicing (see Figure 16).

2.14 CIRCUIT BREAKERS

- A. The main breaker shall be electronic trip, molded-case, and clamp-on type (Square D, or Approved Equal).



Figure 16

- B. Branch circuit breakers shall be thermal magnetic trip, molded-case, clamp-on type (Square D QO, or Approved Equal) to suit the main panel board.
- C. The minimum fault current shall be as noted on the contract drawings.

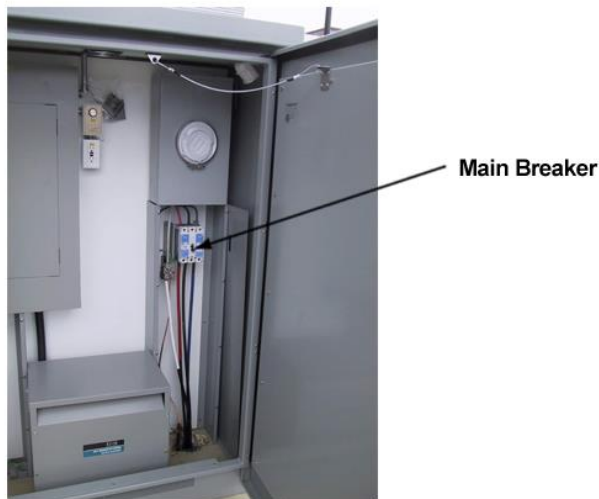


Figure 17

2.15 TRANSFORMERS

- A. Transformers shall be dry type (Delta ET series, or Hammond Power Solutions, or Approved Equal). Transformer size and voltage shall be as noted on the contract drawings.
- B. Transformer shall be mounted and attached in a suitable location for easy access.



Figure 18

2.16 GROUNDING

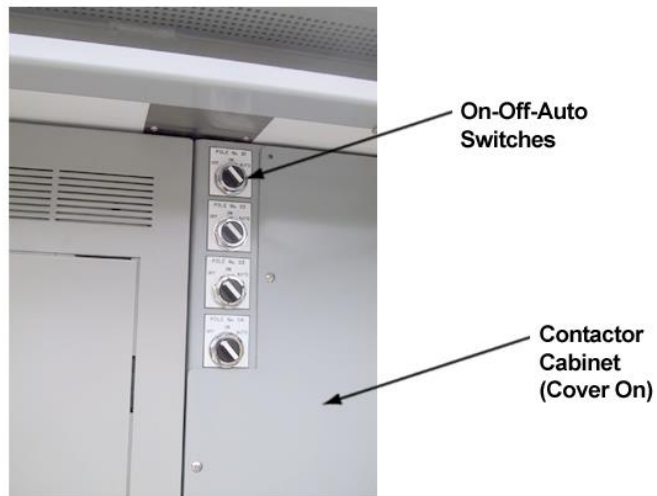
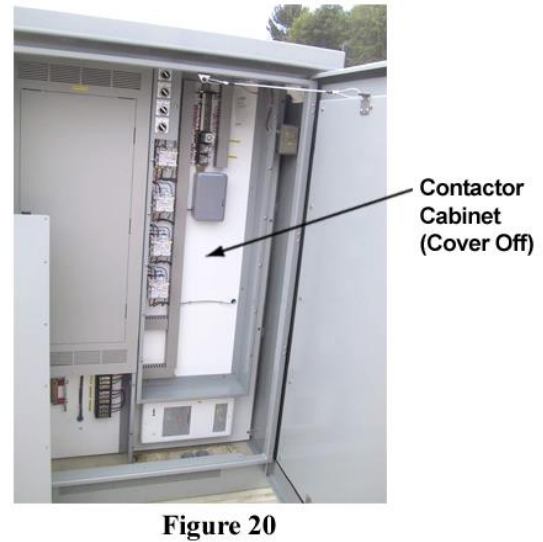
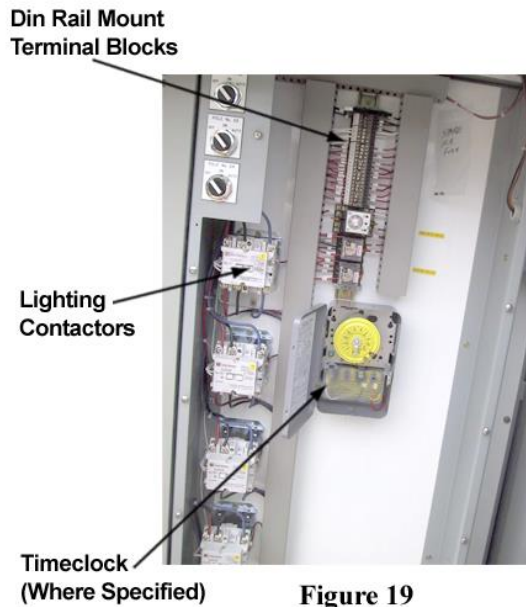
- A. The grounding system shall be designed to meet all CSA standards and any codes and local utility standards.
- B. The grounding system shall be designed as part of the power distribution system.

2.17 SURGE PROTECTION

- A. The surge protective device (SPD) shall be Type 1 with a minimum of 40kA nominal discharge current rating in accordance with ANSI/UL 1449 and IEEE C62.
- B. Surge protective device shall be Schneider QO plug-on, Mersen STP DIN-rail mounted or Approved Equal. Voltage and number of poles shall be as noted on the contract drawings.
- C. Shall contain a built-in LED indicator that notifies when replacement of the module is needed.

2.18 LIGHTING CONTROL CABINET

- A. The lighting controls shall be Musco Control Link systems.



2.19 PULL BOXES AND WIREWAYS

- A. Pull boxes and wire ways shall be provided for easy field wiring and trouble shooting. Pull box size and locations shall meet utility standards and be located on the inside of the cabinet.
- B. All wire ways and pull boxes shall have removable covers.

2.20 WIRING

- A. All wiring shall be neatly grouped bundled and ty-rapped as shown below.

- B. All conductors shall be stranded copper RW90 insulation.
- C. Provide 8-32 inserts and ty-rap mounts for the attachment of wiring.
- D. Wiring and terminal blocks shall be labeled according to the conventions shown in Figures 22 and 23.

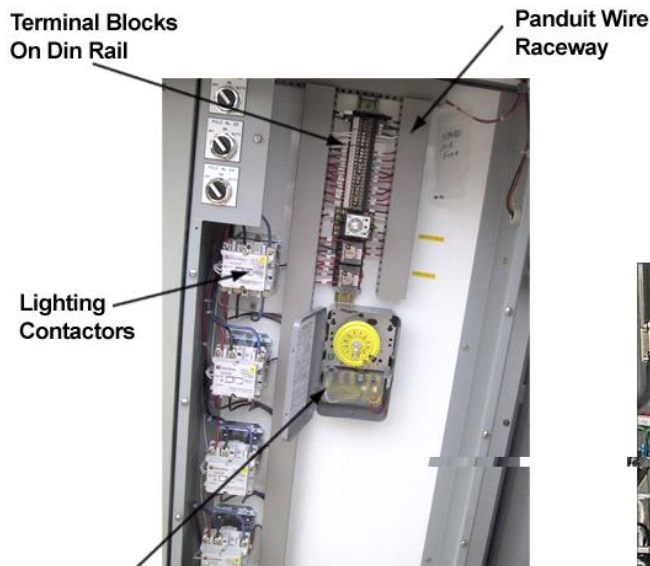


Figure 22

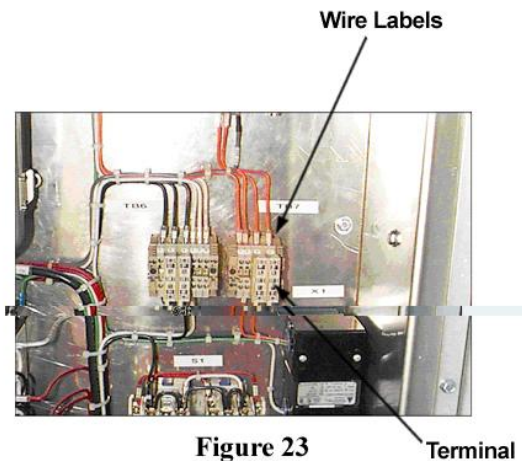


Figure 23

- E. All wiring shall meet CEC standards.

2.21 TERMINAL BLOCKS

- A. Terminal blocks in the contactor cabinet shall be din rail mounted as shown in figure 22 above.
- B. Output wiring shall be connected via terminal blocks to accept aluminum or copper field wiring.
- C. Terminals for bonding conductors will also be required.
- D. Terminal blocks shall be rated for minimum of 75 degrees Celsius.

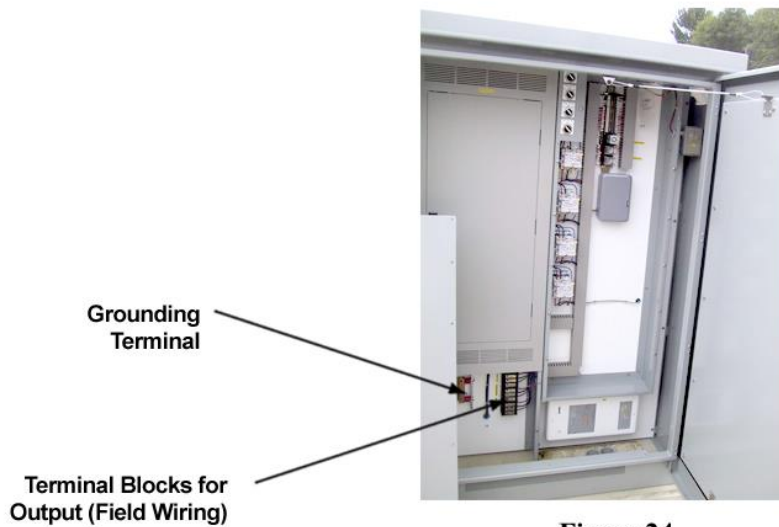


Figure 24

2.22 LABELING

- A. All products shall be labeled (inside) with the supplier's company name, model number, panel rating and the date of manufacture.
- B. The supplier shall also provide adhesive Lamacoid or vinyl labels on the inside of each cabinet for each component. Each contactor and output circuit shall also be labeled in accordance with the suppliers lighting design.
- C. All ID labels shall have ¼" to ½" high black characters on a white background.
- D. All wiring shall be labeled with computer generated sleeve type wire markers.
- E. Refer to drawings for push button Lamacoid labels.

2.23 TESTING AND INSPECTION

- A. The supplier shall test all equipment circuits and lighting controls prior to shipment. Test results shall be provided upon request.
- B. The owner reserves the right to inspect the completed product prior to packaging and shipping. The supplier shall advise the engineer a minimum of 5 working days prior to shipping for inspection.

2.24 PACKAGING

- A. Each cabinet shall each be lag bolted to two 4" x 4" posts along the shorter sides of the cabinet to be used for support when kiosk is being lifted or moved.
- B. Any product damaged in shipping shall be repaired or replaced at no extra cost to the Owner.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Set units on concrete foundation and attach with drop in anchors supplied with cabinet. Seal cabinet to concrete with suitable sealant.
- B. Conduits shall be located as shown on the supplier's conduit layout drawing.
- C. Concrete Foundations:
 - 1. Size as noted on the contract drawings
 - 2. Concrete shall have a minimum compressive strength of 28Mpa at 28 days.
 - 3. Comply with details on the contract drawings for reinforcing, attachment, etc.
 - 4. Trowel finish and rub smooth parts exposed to view. Top of concrete shall be level. Chamfer all exposed edges.
 - 5. Conduits shall be as noted on the contract drawings. Supplier to provide template locating conduits to suit the cabinet

3.02 GROUNDING

- A. Install all grounding and bonding in accordance with CEC and the contract drawings.

3.03 FIELD QUALITY CONTROL

- A. Inspect each installed unit for damage. Replace damaged components.
- B. Give advance notice of dates and times for field tests.
- C. Provide instruments to make and record test results.
- D. Tests and Observations: Supplier shall test all circuits and controls prior to shipping.
- E. Replace or repair damaged and malfunctioning units, make necessary adjustments, and retest. Repeat procedure until all units operate properly.

END OF SECTION

16500 SPORTS LIGHTING

PART 1 – GENERAL

1.01 GENERAL

- A. These specifications cover the supply and installation of the sports lighting system which includes:
1. Galvanized steel poles (not required) and fixture mounting cross arms
 2. Fixtures including external glare shields
 3. Electrical cabinets
 4. Wiring from cabinets to fixtures
 5. Brackets for security luminaires
 6. Foundations and related engineered design drawings and letters of assurance for structural and geotechnical (schedules B and C forms)
 7. Future provisions for PA system (Brackets) -Not required
 8. Security Features – Poles foundations shall have tamper proof hand-holes with stainless steel banding, pole mounted electrical cabinets shall be heavy duty lock brackets
- B. The sports lighting equipment shall meet the requirements of these specifications and the DMD contract drawings.
- C. Abbreviations:
1. ANSI American National Standards Institute
 2. CEC Canadian Electrical Code
 3. NEMA National Electrical Manufacturers Association
 4. IES Illuminating Engineering Society
 5. CSA Canadian Standards Association
 6. UBC Uniform Building Code
- D. Alternate lighting systems may be considered and shall be quoted as an alternate. No alternate approvals will be granted prior to bid close

1.02 CSA

- A. All equipment shall be CSA approved and/or cUL Listed.

1.03 DESIGN CRITERIA

- A. The sports lighting system shall meet the following criteria:
1. **Fixtures:** max 600W LED.
 2. **Maximum Load:** 7.0 kW. Higher loads will require electrical redesign and larger wire which shall be factored into the cost
 3. **Voltage:** System voltages are to be ***120/208V, 3 phase.***
 4. **Pole Sizes:** Shall be as shown on DMD electrical drawings.
 5. **Pole Locations:** Are shown on DMD electrical drawings.

6. Off Field Lighting Impact: Off field lighting shall meet IDA-Criteria for Community-Friendly Outdoor Sports Lighting v1.0 for forested sides. All other sides shall be designed to minimize spill lighting and glare.
7. **Light Loss Factor (LED):** Average maintained horizontal illuminance light levels shall be lumen depreciation via IES TM-21 tests, dirt factor (0.95), and ambient temperature factor. If light loss factor is achieved via changing driver current the supplier must submit data to prove light levels can be maintained.
8. **Minimum Maintained Average Horizontal Illuminance:**
 - a) Soccer shall not be less than **300 Lux**
9. **Maximum to Minimum Uniformity (on field):**
 - a) soccer shall not exceed **3.0:1**
10. **Grid Spacing** – As per IESNA RP-6 (current edition) or 6.1m x 6.1m.
11. **Foundations:** Shall be such that their excavation has a minimum impact on the surrounding areas.

B. The above lighting criteria shall be read in conjunction with the contract drawings.

1.04 WARRANTY

- A. The equipment shall include the following warranty:
1. A full written parts and labor warranty for a period of 25 years. The supplier will exercise all reasonable efforts to perform service under this Contract, in an expeditious manner, as laid out in the written warranty, but will not be responsible for delays or failure in performing such services caused by conditions, acts, or other causes beyond its control. The warranty period shall start from the date of shipment from the factory.
 2. Average constant light levels shall be guaranteed to +/- 10% of the design criteria for the warranty period.

1.05 PERFORMANCE GUARANTEE

- A. The lighting supplier shall provide a written guarantee for the performance of the lighting system relative to the information provided. The supplier must also commit in writing to making any repairs and/or modifications to the components supplied if they don't meet the performance requirements noted in these specifications.

1.06 SUBMITTALS AFTER AWARD

- A. Prior to production the supplier shall submit the following information to DMD for review:
1. Light level calculations on the fields and off the fields (spill lighting in vertical Lux and Candle-power);
 2. Aiming diagram;
 3. Lighting control system operations and diagrams and cabinet details specific to this project;
 4. Foundation design drawing (complete with engineer's seal, registered in the province of BC);
 5. Warranty information;

6. Installation instructions and O&M information;
 7. Production schedule.
- B. DMD shall review and provide comments. Supplier shall make revisions prior to production.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated in the work include:
1. **Musco Lighting LED and the 25 year service plan**
- B. Alternate lighting systems may be considered and shall be quoted as an alternate. No alternate approvals will be granted prior to bid close

2.02 POLES (NOT REQUIRED AS EXISTING POLES ARE USED)

- A. Poles shall be:
1. Multi-section round tapered steel to ASTM-A595.
 2. Each section shall slip fit together over the lower section by at least 1.5 times the diameter
 3. Slip-fit over pre-cast concrete or galvanized steel foundation
 4. Include all couplings, brackets, wire ways and fittings as required
 5. All welding shall be to the highest standard and shall be performed by AWS Certified welders
 6. Hot dip galvanized after fabrication and welding in accordance with ASTM-A123
 7. Designed to CSA standards (CAN/CSA S6-06) for the required mean 50 year return wind pressure of **470 Pascals** for the **New Westminster** area. Pole shop drawings shall be sealed by a P.Eng and shall be supplied upon request.

2.03 CROSS ARMS AND FIXTURES

- A. Fixtures shall be mounted on cross arms. The fixture and cross arm assembly shall be designed to CSA standards for a required mean wind pressure of **470 Pascals**.
- B. Cross arms shall be as follows:
1. Designed to support the required fixtures and attach to the poles
 2. Include all couplings, brackets, wire ways and fittings as required
 3. All welding shall be to the highest standard and shall be performed by AWS or CWB Certified welders
 4. Hot dip galvanized after fabrication and welding in accordance with ASTM-A123
 5. Designed to accept wiring harness
- C. Fixtures shall attach to cross arms. Fixtures shall be as follows:

1. Designed specifically for sports lighting.
2. Fixtures shall be LED.
3. Attach to the cross arm with an adjustable bracket. This bracket shall be set at the factory to the required fixture aiming. The bracket shall lock in and retain the factory aiming position.
4. The lens, seal and reflector shall prevent water entry into the reflector
5. All attachment hardware, nuts, bolts and washers shall be stainless steel
6. Have external visor, which wraps around the fixture to minimize light trespass.

2.04 ELECTRICAL CABINETS

- A. The electrical cabinet shall attach to the pole at approximately 3m above finished grade. The electrical cabinet shall be galvanized steel or powder coated aluminum finish. The cabinet shall be a NEMA 3R rated enclosure, which shall securely attach to the pole with stainless steel hardware. The cabinet shall have corrosion-resistant hinges, be of vandal resistant and shall be designed to accept a padlock. The cabinet shall have a suitable wire way into the pole. The cabinet shall house the following:
 1. Driver
 2. Surge protection
 3. Terminal blocks- For wiring from the breaker to the individual fuses
 4. Wiring- Shall have suitable temperature rating and shall be color coded
 5. Disconnect Device- To accept incoming circuits. The breaker shall be the landing point for the incoming circuits and shall act as a local disconnect device.
 6. Fuses- Each fixture shall have individual fusing
- B. Nuts, bolts and internal hardware shall be corrosion resistant
- C. All equipment shall be fully assembled, neatly arranged and wired. All wiring shall be labeled for easy field tracing. Components shall be mounted for easy removal and replacement.

2.05 WIRING

- A. Wiring from the electrical cabinet to the fixtures shall be supplied as a pre-wired harness with CSA recognized plug in connectors. All wiring shall be labeled for easy trouble-shooting.
- B. Wiring harness shall have abrasion bumpers or wrapping to prevent chaffing against the pole.
- C. Wiring shall attach to a suitable strain reducing device at the top of the pole.

2.06 MOUNTING HARDWARE

- A. All external mounting hardware shall be aluminum, stainless steel or galvanized steel. Internal mounting hardware shall be stainless steel or cad plated.

2.07 FOUNDATIONS

- A. Foundation shall be design by supplier based on soils report (attached). All foundations including rebar and backfill shall be designed and signed and sealed by the supplier's professional engineers to suit the soils conditions and pole loading.
- B. Pre-cast concrete foundations shall be designed to support the pole when installed in the excavation and backfilled with concrete. The foundation shall have suitable conduit entrance holes and wiring access hand holes and shall have a suitable wire way into the pole.
- C. Signed and sealed Schedule B and C-B letters of assurance shall be provided by geotechnical and structural engineers for pole foundations at the supplier's expense.

PART 3 – EXECUTION

3.01 STORAGE

- A. If required the contractor shall store luminaires, cross arms, wiring and electrical enclosures off-site until they are ready for assembly and erection. Under no circumstances shall any of these items be stored on site when the contractor is not present.
- B. Poles may be stored on-site (for a short time period) if they do not impact the day-to-day operation of the facility. The contractor is responsible for any damage or theft to any materials left on-site. Pole shall be placed on suitable supports off the ground.

3.02 INSTALLATION

- A. The sports lighting equipment shall be installed in accordance with supplier's installation instructions.
- B. Equipment shall be off loaded and installed in accordance with the supplier's installation instructions.
- C. All pole shall be installed plumb.
- D. Upon acceptance from the owners geotechnical engineer the foundation shall be backfilled with concrete. Contractor shall arrange for and coordinate geotechnical inspections.
- E. Foundations shall be installed as noted on supplier's foundation design drawings.

3.03 FIELD QUALITY CONTROL

- A. Inspect each installed unit for damage. Replace damaged fixtures and components prior to installation.
- B. Give advance notice of dates and times for field tests.

- C. Tests and Observations:
 - 1. Prior to pole erection all sports lights shall be checked by energizing circuits with suitable power source.
 - 2. After installation and connection of sports lights to their permanent power supply the contractor shall verify supply voltages and current at the disconnect switch in the electrical enclosure and at the main breaker. Measurements shall be taken phase to phase and phase to neutral (as required).

3.04 INDEPENDENT TESTING AND OBSERVATIONS

- A. DMD will field measure and document the on-field illumination levels and uniformities in accordance with IESNA LM-5. Off-site spill light levels will also be measured along the defined boundary line.
- B. If the field survey results do not meet the specified illumination requirements. The supplier shall rectify the problem at no cost to the client. In the event that local residents have complaints about the spill and glare from the lights even though the supplier has met the intent of the specification the supplier will provide re-aiming services to reduce the spill and glare to the best of their abilities with no guarantee that it will appease the local residents and meet the field illumination requirements. This additional service will be at no cost to the client if no additional equipment is required.
- C. Following installation DMD will undertake a detailed review of the lighting installation and will note all deficiencies to be corrected. Where deficiencies are noted as a result of inaccurate or improper installation the installing contractor will be required to correct all noted deficiencies, in an expeditious manner. Where the noted deficiencies are related to the materials and workmanship of the lighting equipment itself the supplier will correct the deficiencies as per the warranty agreement.
- D. Sports light pole foundation installation monitored by the contractor's geotechnical engineer. All installations shall meet the satisfaction of the geotechnical engineer. Schedule B and C forms shall be provided for structural and geotechnical.

END OF SECTION