



August 17, 2020

REQUEST FOR TENDERS
TOWN OF GRAND FALLS
TENDER **08-18-2020**

**CENTENNIAL PARK BALLFIELD LIGHTING
TERMS & CONDITIONS**

CLOSING: FRIDAY, SEPTEMBER 4, 2020
10:00 A.M. (local time)

1. DESCRIPTION: as attached specifications

Please check the site regularly in case of Addendum.

2. **TENDERS SHALL BE IN A SEALED ENVELOPE CLEARLY SHOWING THE TENDER NAME AND NUMBER, TENDER CLOSING DATE AND COMPANY'S NAME ON THE FRONT OF THE ENVELOPE.**

TENDERS MAY BE DELIVERED OR MAILED TO TOWN OF GRAND FALLS / OFFICE OF THE TOWN CLERK / 131 PLEASANT STREET, SUITE 200, GRAND FALLS, N.B. E3Z 1G6

3. Tenders must be received at the office of the Town clerk before FRIDAY, SEPTEMBER 4, 2020 - 10:00 A.M. (local time)

4. **PREFERENCE**

The Town of Grand Falls may grant a preference of 5% to local bidders for tender calls that are under the thresholds pre-determined by the *Procurement Act* up to a maximum difference of \$1,250 for goods or \$2,500 for services.

5. All bids shall be submitted on the forms supplied by the Town of Grand Falls.
6. Fax replies will not be accepted
7. All tender forms must be completed in their entirety. Submissions not entirely completed could be rejected without further consideration.

8. Tenders must be dated and signed by the appropriate official of the firm.
9. All terms and conditions of this tender are assumed to be accepted by the bidder by means of their signature on the submission, and that all the terms and conditions of this tender are incorporated in their submission.
10. The lowest / highest or any tender will not necessarily be accepted.
11. The Town of Grand Falls reserves the right to reject any or all bids, or to accept separate items in the bid unless the bidder denies this right.
12. Awarding of a Tender is subject to the approval of Town Council. The vendor or vendors selected will be chosen based on greatest benefit to the Town of Grand Falls, providing specifications are met and deviations are considered.
13. All costs in the preparation and presentation of the replies to this tender, shall be wholly absorbed by the bidder.
14. All prices include packing, packing cases, transport or carrier and loading charges, unless otherwise stated in the tender.
15. All submissions to this tender, and supporting documentation, shall become the property of the Town of Grand Falls.
16. Upon acceptance of the tender by the Town, the bid form and the documents referenced in it constitute a legally enforceable agreement and supersede all previous representations, negotiations, or discussions.
17. The Bidder acknowledges it is the Bidder's sole responsibility to ensure they have received all addenda prior to submitting their tender and that all Addenda are incorporated into this tender.
18. Unless otherwise stipulated, goods and materials are to be unused and of current production.
19. The vendor warrants that there are no patents, trademarks or other rights restricting use, repair or replacement of the material furnished or any part thereof and hereby agrees to indemnify and save harmless the Town of Grand Falls from and against all claims, demands, losses, costs, damages, suits or other proceedings by whomsoever made, filled or prosecuted in any manner by reason of such use, repair or replacement of the materials being a violation of any patent, trademark or other right.

20. **SUBSTITUTIONS**

Some terminology may be used in this tender that would imply or denote a particular vendor. Such usage is not to be construed as restrictive in any way. Comparable products should be substituted where appropriate unless a specific product is requested. Substitutions offered must be of equal quality and be clearly identified. Tenders offering substitutions must include with the submission, specifications, data, and literature. Bidders must be prepared to provide samples if

required.

21. All prices quoted to be in Canadian Dollars, including Canadian Custom Duties, Excise Taxes and to be net Prices.

22. All taxes are extra.

23. **DISPUTES-ARBITRATION**

Any claim which the Contractor or the Town of Grand Falls may have based on any dispute or difference of any kind whatsoever arising out of the Contract shall be referred by the Contractor or Town of Grand Falls in writing not later than ten (10) working days after the occurrence giving rise to such disputed difference. Correspondence shall contain a concise statement of the relevant facts.

The claim made to the Town of Grand Falls shall be settled by the Chief Operating Officer (CAO) who shall communicate the decision in writing within ten (10) days of the date of receiving written notification. The Contractor shall proceed with the contract with all due diligence in accordance with the Contract whether or not such claim shall be referred to arbitration as hereinafter provided.

Except in those circumstances where it is provided in the contract the decision of the CAO shall be final. Any dispute or difference persisting after delivery of the CAO's decision, shall be referred to arbitration in accordance with the Arbitration Act and action must be taken within thirty (30) days.

An application for arbitration shall be accompanied by security in the amount of One thousand Dollars (\$1,000.00) to apply to the cost of arbitration. The arbitration shall be by a Board of three (3) members. Either party shall notify the other party in writing of its desire to submit the dispute or difference to arbitration or a notice shall contain the name of the first party's appointee to the Arbitration Board. The recipient of the Notice shall, within seven (7) days, inform the other party of the name of its appointee to the Arbitration Board. The two members, so selected, shall within five (5) days of the appointment of the second of them appoint a third person who shall be Chairman.

The Arbitration Board shall determine responsibility for costs and shall include recommendation for payment in the award decision. The decision of the arbitration will be binding.

Reference to arbitration by the Contractor as herein provided shall be a condition precedent to any legal action with respect to any dispute or difference of any kind whatsoever which the Contractor may have with the Town arising out of the contract or work.

24. **PERMITS AND LICENSES**

The Contractor shall obtain and pay for all licenses and permits which may be required to comply fully with laws, ordinances, and regulations of the proper public authorities, in connection with this contract.

25. RESPONSIBILITY

The successful bidder shall be responsible for all damages and shall indemnify and save the Town harmless from and against all damages and liability, which may arise out of the failure of the Contractor to obtain and pay for such licenses and permits and to comply fully with any and all applicable laws, ordinances and regulations.

26. LAWS, ACTS, REGULATIONS, BYLAWS AND CODES

The Contractor shall be responsible for carrying out this contract in strict accordance with all Federal, Provincial and Municipal Laws, Acts, Regulations, Bylaws, Codes, etc.

27. IN CASE OF TIED BIDS

The Town will determine the successful bidder with a coin toss in case of tied bids.

28. UNREALISTIC BIDS

The Town of Grand Falls reserves the right to reject any bid that is unbalanced, unrealistic, or where the disproportionate component costs of equipment, purchase price, guaranteed maintenance/repair and/or guaranteed re-purchase amounts are deemed to be unrealistic or not truly reflective of current market levels.

29. QUERIES

For further details or technical information, please email the Grand Falls Public Works Department at michele.gagnon@grandsault.ca.



**TOWN OF GRAND FALLS
TENDER 08-18-2020**

**CENTENNIAL PARK BALLFIELD LIGHTING
SPECIFICATIONS**

1. SCOPE OF WORK

The Town of Grand Falls is requiring two separate prices for the supply and installation of the new Centennial Park Ballfield lighting system in accordance with the specifications in this tender and any other work as specified in the plans included in this tender package.

Price #1: Overhead wiring option as per the specifications in this tender

Price #2: Underground wiring option as per the specifications in this tender

2. REQUIREMENTS

- The new Centennial Park Ballfield lighting system shall be complete and ready to use upon completion as a turnkey operation
- The specifications in this tender describe the minimum requirements

3. WARRANTY

- Each manufacturer shall include the warranty information

4. COMPLETION DATE

- The new Centennial Park lighting system shall be completed and operational by **December 18, 2020.**



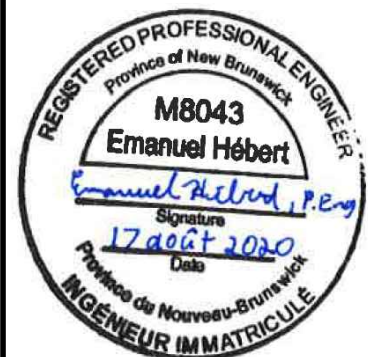
1. INSTALL AS PER NB POWER STANDARD
2. UNDERGROUND SERVICE CONDUIT SHALL BE SEaled AND INSTALLED AS PER CEC 6. PROVIDE SUITABLE DRAINAGE TO CONDUIT TO AVOID MOISTURE AND WATER BACKFLOW
3. CONDUITS SHALL RISE MINIMUM 600mm ABOVE GROUND. C/W CONDUIT GUARD. SEAL ALL CONDUIT ENTRIES TO PREVENT WATER ENTRY.



CONTRACTOR SHALL ENGAGE STRUCTURAL ENGINEER
FOR EXACT POLE BASE STRUCTURAL REQUIREMENTS
FORMING, REINFORCING AND POURING SHALL NOT
PROCEED UNTIL A CONCRETE POLE BASE DESIGN IS
STAMPED AND SIGNED BY A STRUCTURAL ENGINEER
LICENSED TO PRACTICE IN THE PROVINCE OF NEW
BRUNSWICK.

- DETAIL NOTES:**
1. 610mm SETBACK FROM CURB/ADJACENT WALKWAY TO CONCRETE BASE.
 2. REINFORCING STEEL, CONCRETE AND EXACT DIMENSIONS OF CONCRETE BASE SHALL BE CONFIRMED WITH STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN.
 3. COMPACTED FILL AS PER CIVIL SPECIFICATIONS.
 4. CONCRETE BASE CAN BE REPLACED BY ADEQUATE APPROVED HELICAL PILES.





PROJECT TITLE

LOCATION	GRAND FALLS, N.B.
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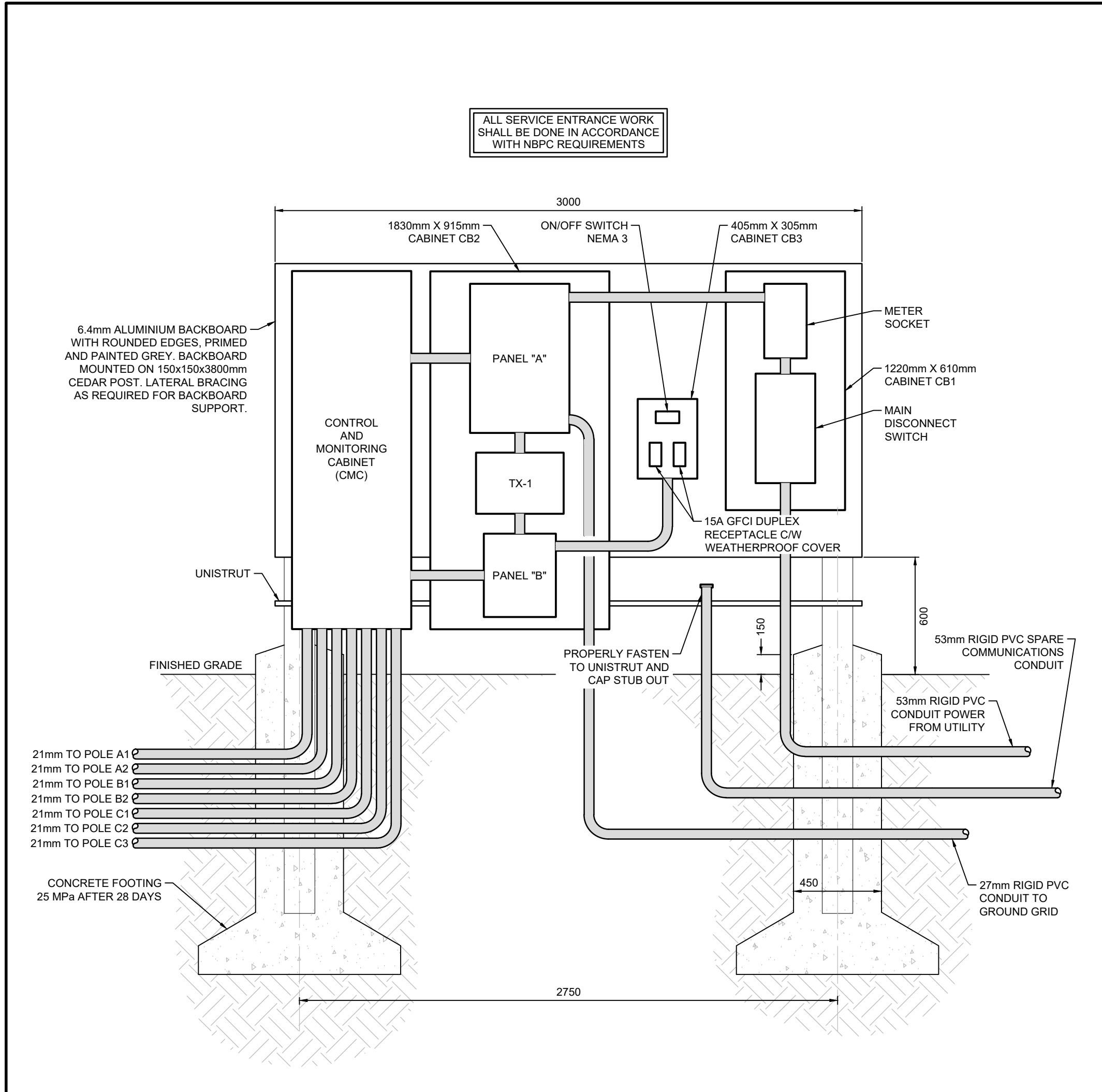
DRAWING TITLE

Scale AS NOTED	Drawn By	Design By	
	PA	EH	
	Checked By	Cadd Check	
	AC	JB	
Sheet 1 of 3			

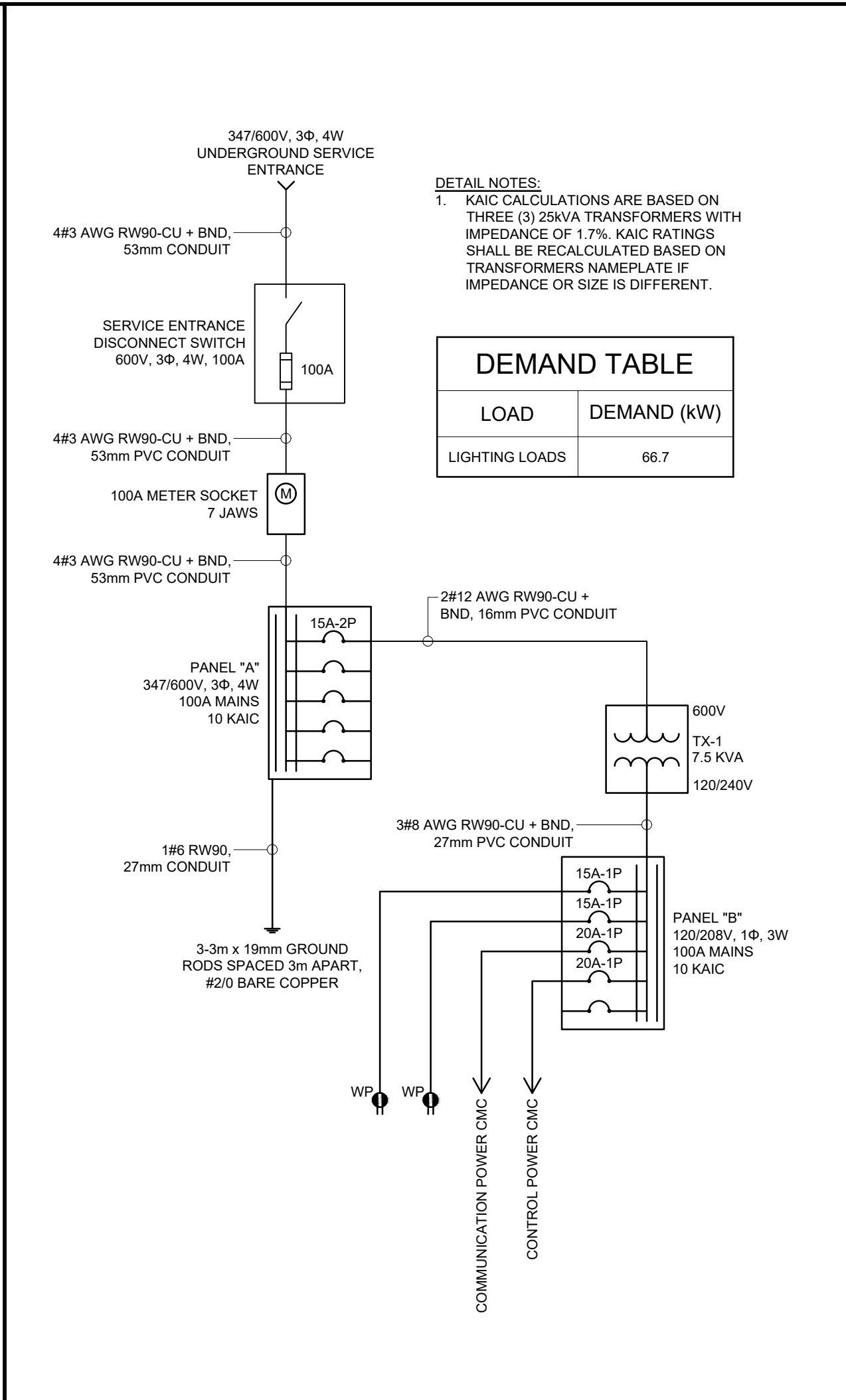
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Drawing No.

E101



1 BACKBOARD DETAIL

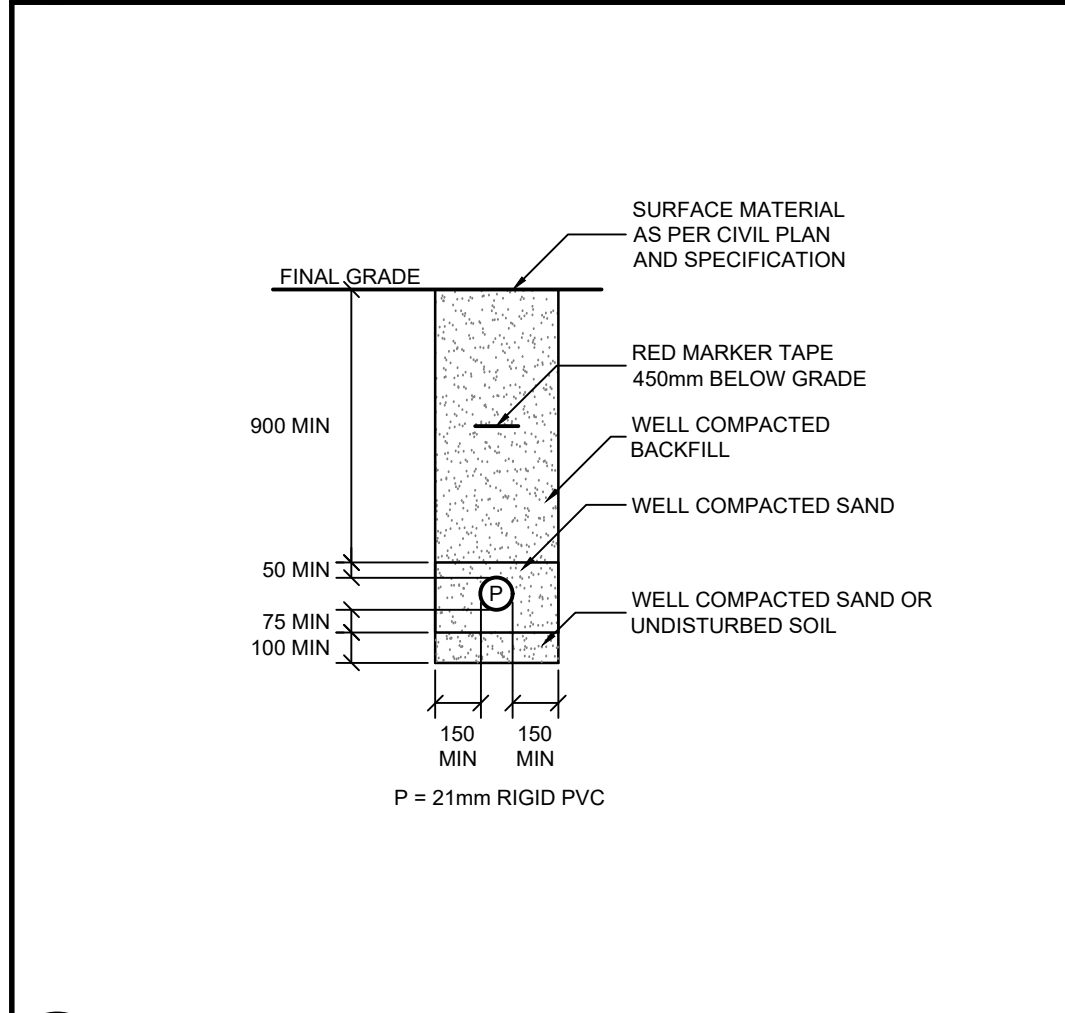


2 SINGLE LINE DIAGRAM

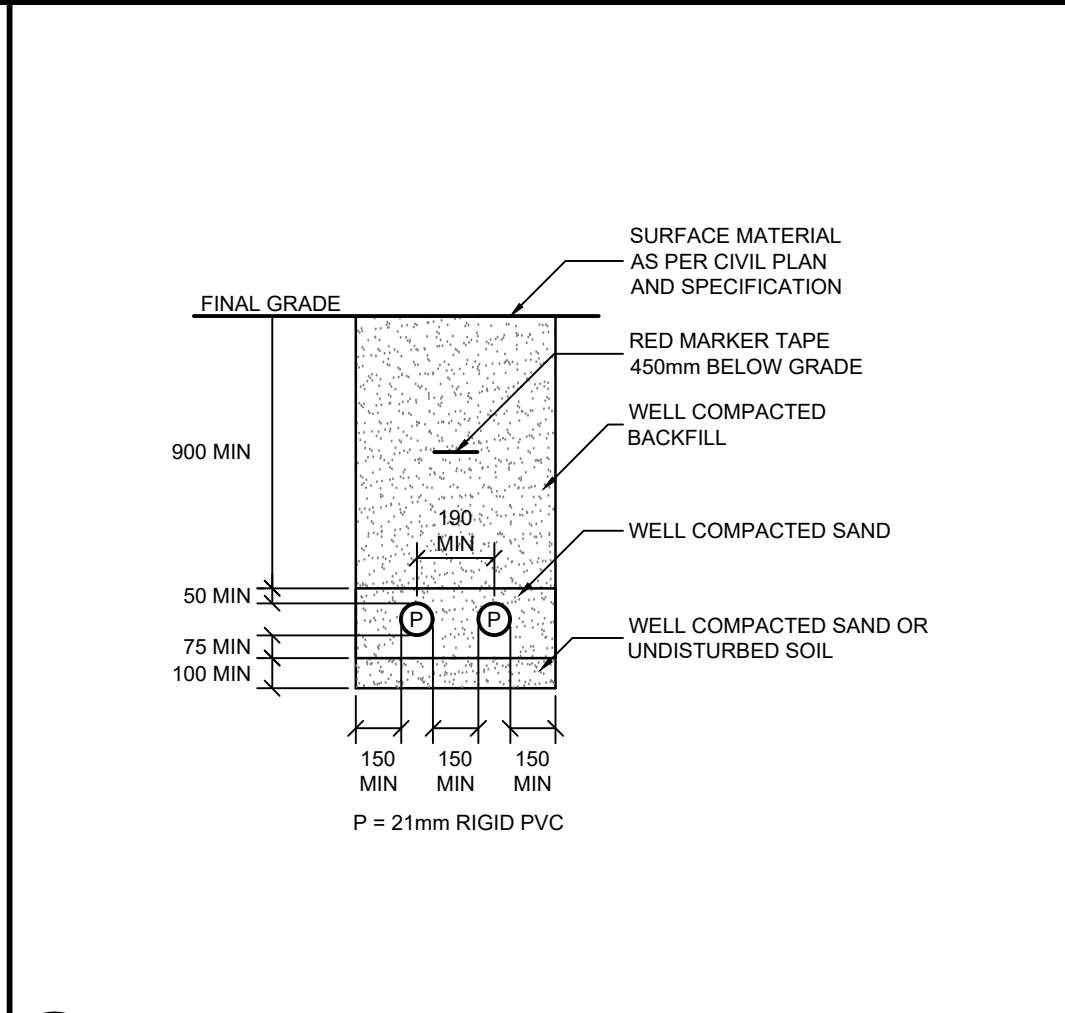
LUMINAIRE SCHEDULE						
LOCATION	DESCRIPTION	POLE	MOUNTING HEIGHT	QUANTITY	LAMP	WATTAGE/ VOLTAGE
A1, A2, C3	COMBINATION TOTAL OF 5 LUMINAIRES ON SINGLE 60' POLE	60'	60'	4	LED 5700K, 75 CRI, 136000 LUMENS	1170W / 347V
			16'	1	LED 5700K, 75 CRI, 52000 LUMENS	575W / 347V
B1, B2	COMBINATION TOTAL OF 7 LUMINAIRES ON SINGLE 70' POLE	70'	70'	6	LED 5700K, 75 CRI, 160000 LUMENS	1430W / 347V
			16'	1	LED 5700K, 75 CRI, 52000 LUMENS	575W / 347V
C1	COMBINATION TOTAL OF 4 LUMINAIRES ON SINGLE 70' POLE	70'	70'	3	LED 5700K, 75 CRI, 136000 LUMENS	1170W / 347V
			16'	1	LED 5700K, 75 CRI, 52000 LUMENS	575W / 347V
C2	COMBINATION TOTAL OF 5 LUMINAIRES ON SINGLE 70' POLE	70'	70'	4	LED 5700K, 75 CRI, 136000 LUMENS	1170W / 347V
			16'	1	LED 5700K, 75 CRI, 52000 LUMENS	575W / 347V

3 LUMINAIRE SCHEDULE

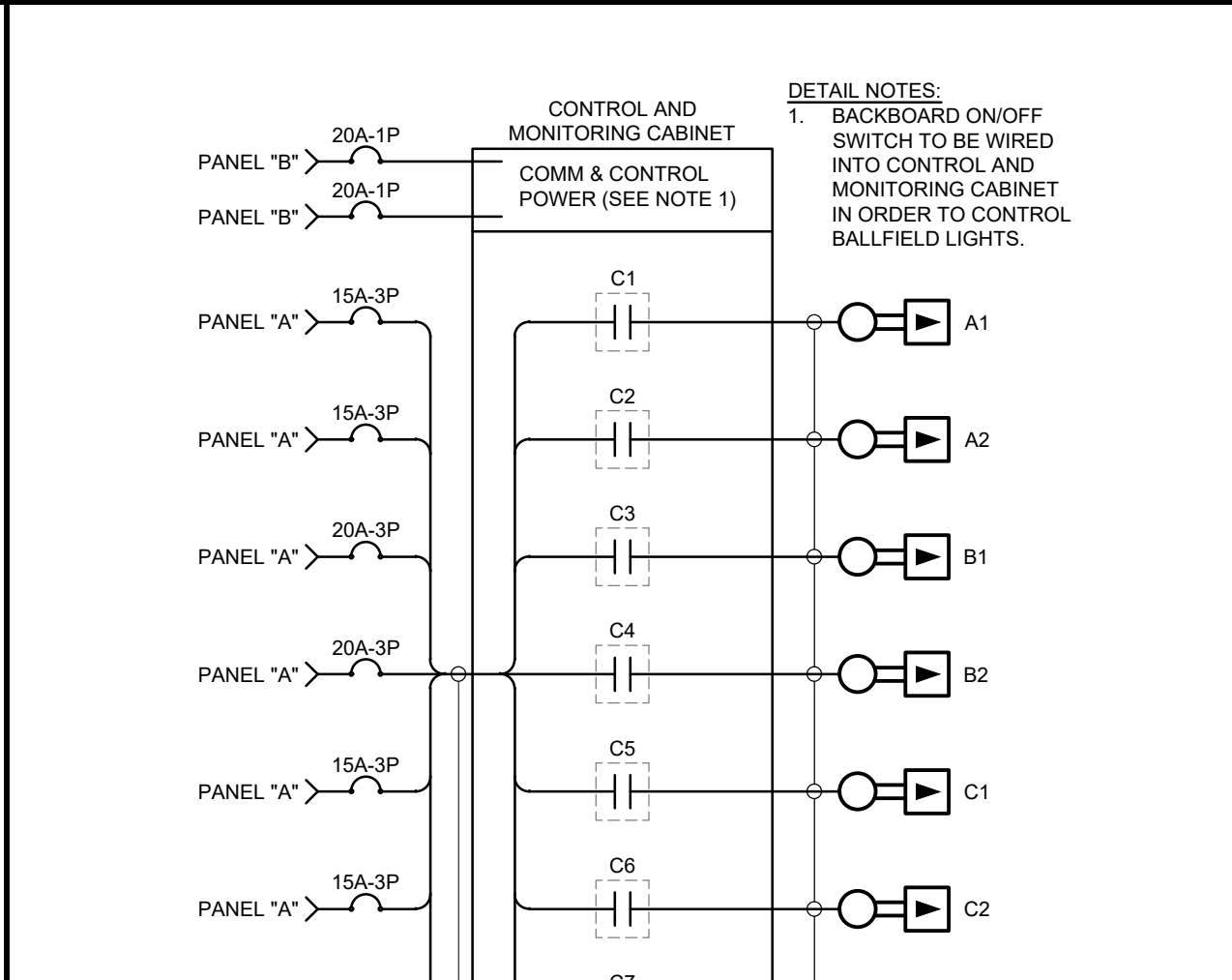
Panel Voltage: 600												
CCT	Description	Phase			P	Brkr. Amps	Brkr. Amps	P	Phase			CCT
		A	B	C					A	B	C	
1	Contactor C1	2910			3	15	15	3	2150			2
3										2150		4
5				2910							2150	
7	Contactor C2	2910			3	15	15	3	2910			8
9				2910						2910		10
11				2910							2910	
13	Contactor C3	4230			3	20	15	3	2910			14
15				4230						2910		16
17				4230							2910	
19	Contactor C4	4230			3	20	15	2	3750			20
21				4230						3750		22
23				4230								24
25												26
27												28
29												30
Phase Loads (VA)		14280	14280	14280					11720	11720	7970	
Total Phase Loads (VA)		26000			26000				22250			
Total Load (VA)		74250										
Total Amperage		71.45 amps										
									* *		C/W BREAKER LOCK	
											C/W GROUND FAULT	
LOADS SHOWN ARE "CONNECTED LOADS"												



4 TYPICAL TRENCH DETAIL



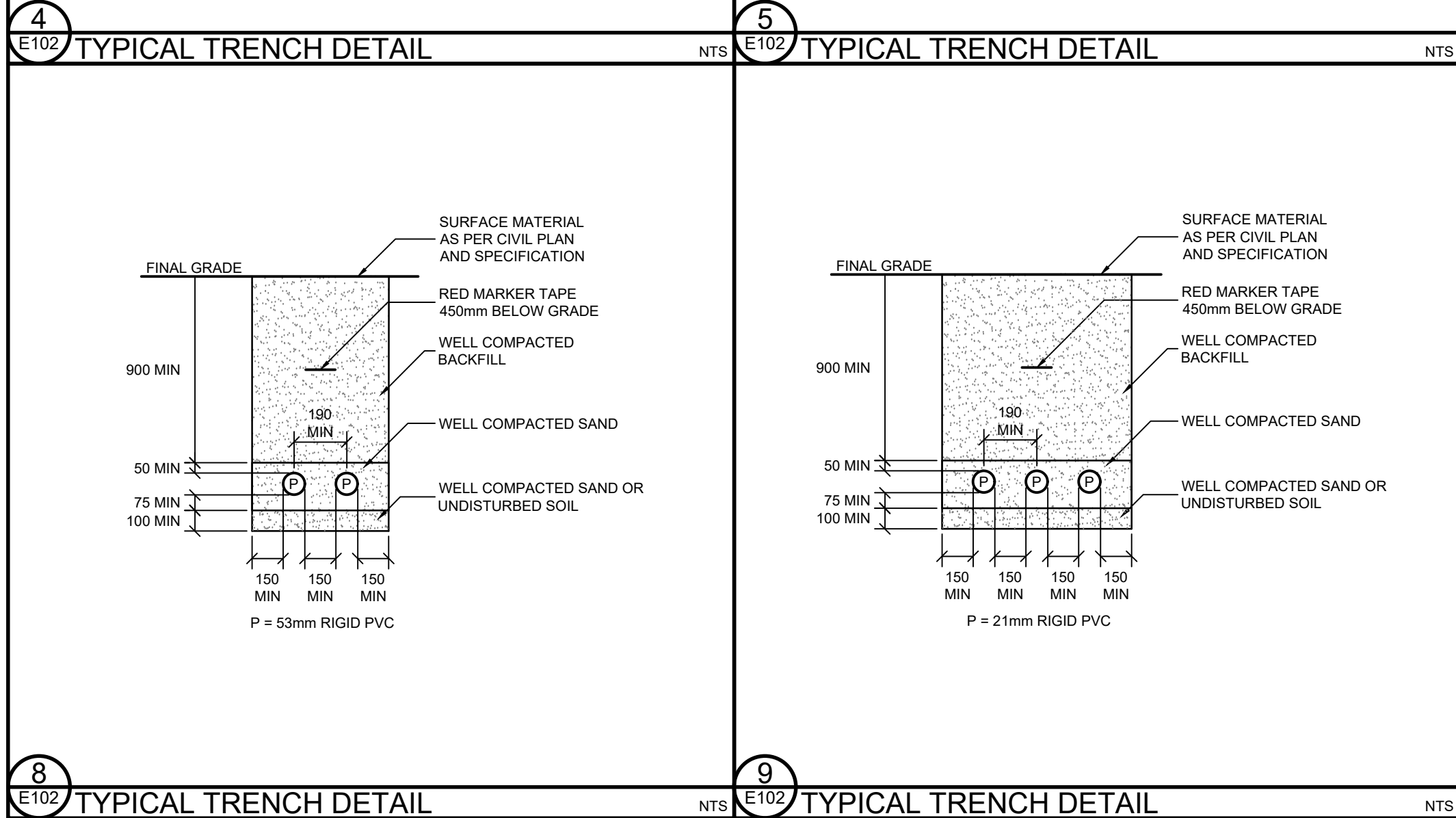
5 TYPICAL TRENCH DETAIL



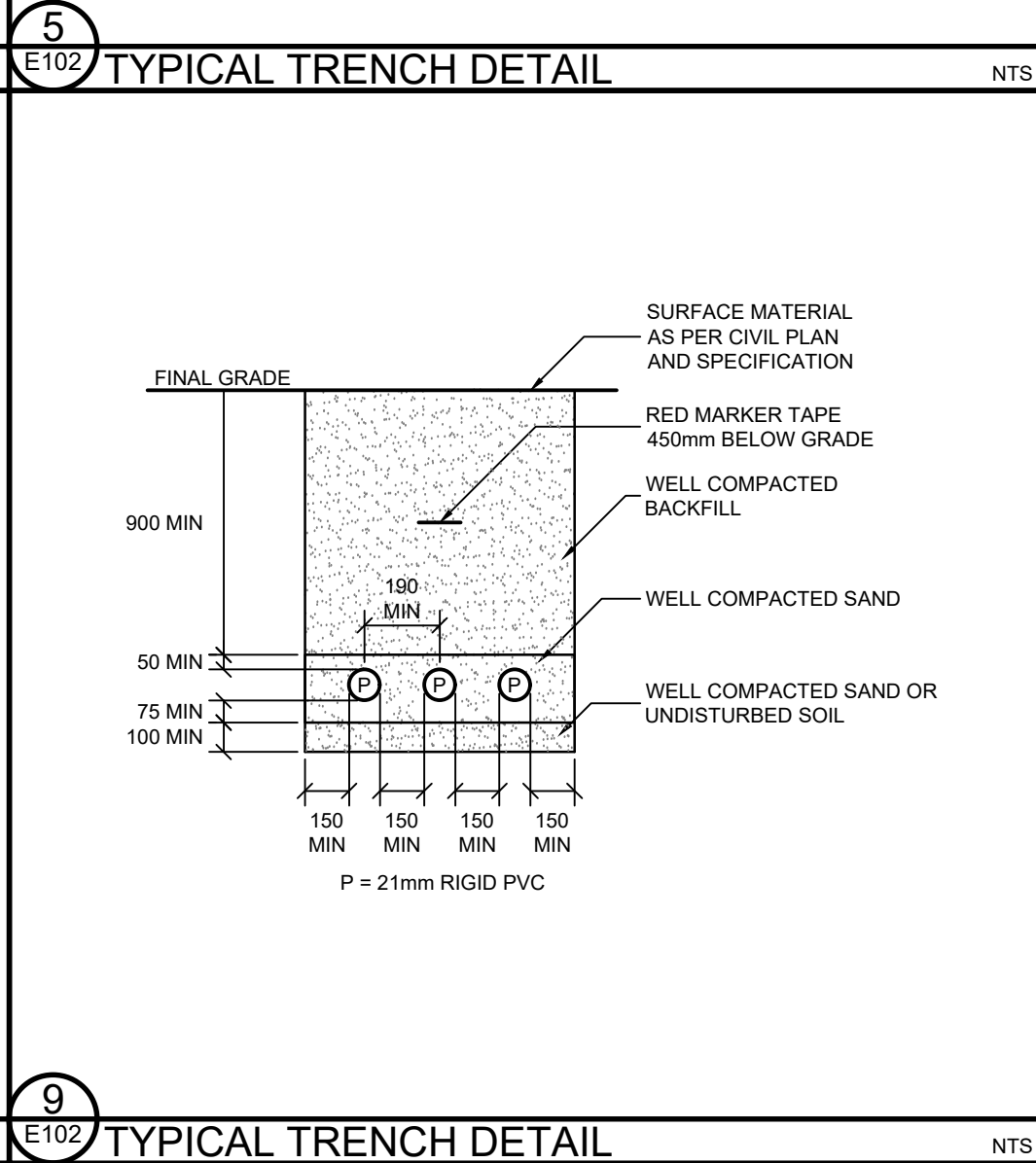
6 LIGHTING POWER DIAGRAM

Panel Voltage: 240											
CCT	Description	Phase		P	Brkr. Amps	Brkr. Amps	P	Phase		Panel B Description	CCT
		A	B					A	B		
1	Receptacle	200		1	15						2
3	Receptacle		200	1	15						4
5	Control & Monitoring Cabinet Comm	500		1	20						6
7	Control & Monitoring Cabinet		500	1	20						8
9											10
11											12
Phase Loads (VA)		700	700					0	0		
Total Phase Loads (VA)		700						700			
Total Load (VA)		1400									
Total Amperage		5.83 amps									
* C/W BREAKER LOCK											
** C/W GROUND FAULT											
LOADS SHOWN ARE "CONNECTED LOADS"											

7 PANEL SCHEDULES



8 TYPICAL TRENCH DETAIL



9 TYPICAL TRENCH DETAIL

NOTES

0	2020-08-17	ISSUED FOR TENDER	EH	EH
A	2020-07-13	ISSUED FOR 75% REVIEW	PA	EH
NO.	DATE	REVISIONS	BY	APPR.

PROJECT TITLE

GRAND FALLS CENTENNIAL PARK BALLFIELD LIGHTING

LOCATION

GRAND FALLS, N.B.

DRAWING TITLE

SPECIFICATION, SINGLE LINE DIAGRAM, LUMINAIRE SCHEDULE & DETAILS

Scale	Drawn By	Design By
AS NOTED	PA	EH
	Checked By	Cadd Check
	AC	JB
	Sheet	2 of 3

File Name

2002258 - E100 (SERIES).DWG

Drawing No.

E102

				NOTES			
<div><div><div><div><div>1. GENERAL SPECIFICATION</div><div>1.1. SCOPE OF WORK</div><div>1.1.1. THE WORK COVERED BY THIS SPECIFICATION WILL INCLUDE THE FURNISHING OF ALL LABOUR, MATERIALS, NOT LISTED AS SUPPLIED BY OTHERS, TOOLS AND SERVICES TO CONSTRUCT AND INSTALL A COMPLETE AND WORKING ELECTRICAL SYSTEM AS SHOWN ON THE ACCOMPANYING DRAWINGS, SPECIFIED HEREIN, OR BOTH.</div><div>1.1.2. WITHOUT IN ANY WAY LIMITING THE FOREGOING, THE WORK IN GENERAL WILL INCLUDE THE FOLLOWING:</div><div>1.1.2.1. UTILITY SERVICE, UNDERGROUND CONDUIT, SERVICE ENTRANCE, WIRING, AND POWER DISTRIBUTION HARDWARE.</div><div>1.1.2.2. LIGHTING AND ASSOCIATED ELECTRICAL CONDUITS AND WIRING OF FIXTURES, AND RECEPTABLES AS INDICATED.</div><div>1.1.2.3. INSTALLATION, TESTING AND CERTIFICATION OF LIGHTING CONTROLS SYSTEM.</div><div>1.1.2.4. GROUNDING AND BONDING.</div></div><div><div>1.2. CODES, PERMITS, CERTIFICATES, FEES & INSPECTION</div><div>1.2.1. THE WORK WILL BE TENDERED ON AND WILL BE CARRIED OUT IN ACCORDANCE WITH THESE DRAWINGS AND SPECIFICATIONS AND TO REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE C22.1-2018, ANY SPECIAL REQUIREMENTS OF THE PROVINCIAL, ELECTRIC POWER COMMISSION AND THE PROVINCIAL ELECTRICAL INSPECTION DEPARTMENT AND ANY OTHER APPLICABLE CODES. IN NO INSTANCE, HOWEVER, WILL THE STANDARD ESTABLISHED BY THE DRAWINGS AND SPECIFICATIONS BE REDUCED BY ANY OF THE CODES REFERRED TO ABOVE. IN NO INSTANCE WILL A STANDARD BE ACCEPTED LOWER THAN THAT ESTABLISHED BY THE ELECTRICAL CODE.</div><div>1.2.2. THE ELECTRICAL CONTRACTOR WILL OBTAIN AND PAY FOR ALL PERMITS IN ORDER THAT THE WORK HEREIN SPECIFIED WILL BE CARRIED OUT.</div><div>1.2.3. ON, OR BEFORE, THE COMPLETION OF THIS CONTRACT, THIS CONTRACTOR WILL OBTAIN, AT HIS OWN EXPENSE, THE NECESSARY CERTIFICATE OF INSPECTION FROM THE ELECTRICAL INSPECTION DEPARTMENT OF THE PROVINCE OF NEW BRUNSWICK AND WILL FORWARD SAME TO THE ENGINEER.</div><div>1.2.4. DURING FINAL OR INTERIM INSPECTIONS WHERE THE CONSULTANT OBTAINS A LIST OF DEFICIENCIES, THE CONSULTANT HAS THE RIGHT TO LEAVE THE SITE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR A \$500 FEE WHERE THE INSPECTION IS LOCATED GREATER THAN 10KM FROM THE CONSULTANTS OFFICE LOCATION. MILEAGE WILL BE ADDED TO THE FEE AT A RATE OF \$0.45/KM.</div></div><div><div>1.3. DRAWINGS</div><div>1.3.1. THE ELECTRICAL DRAWINGS, WHICH CONSTITUTE AN INTEGRAL PART OF THIS CONTRACT, WILL SERVE AS THE WORKING DRAWINGS, THEY INDICATE THE GENERAL LAYOUT OF THE COMPLETE ELECTRICAL SYSTEM, ARRANGEMENT OF FEEDERS, CIRCUITS, OUTLETS, SWITCHES, CONTROL S, PANEL BOARDS, SERVICE EQUIPMENT, LUMINAIRES AND OTHER WORK.</div><div>1.3.2. THE FIELD VERIFICATION OF SCALE DIMENSIONS ON PLANS IS DIRECTED SINCE ACTUAL LOCATIONS, DISTANCES AND LEVELS WILL BE GOVERNED BY ACTUAL FIELD CONDITIONS.</div><div>1.3.3. ELECTRICAL CONTRACTOR SHALL TOTALLY REVIEW ALL ADDENDUMS ASSOCIATED WITH ALL TRADES, AFTER REVIEW OF ALL DOCUMENTS ASSOCIATED WITH OTHER TRADES, FORWARD ANY QUESTIONS AND OBTAIN ANSWERS PRIOR TO TENDER SUBMISSION. SUBMISSION OF TENDER BY ELECTRICAL CONTRACTOR ACKNOWLEDGES COORDINATION WITH OTHER TRADES.</div><div>1.3.4. DISCREPANCIES SHOWN ON DIFFERENT DRAWINGS OR BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS, OR BETWEEN DRAWINGS AND SPECIFICATIONS WILL PROMPTLY BE BROUGHT TO THE ATTENTION OF THE ENGINEER, FOR CLARIFICATION.</div><div>1.3.5. THE DRAWINGS MAY BE SUPERSEDED BY LATER REVISED OR DETAILED DRAWINGS OR SPECIFICATIONS ADDENDA PROVIDED BY THE ENGINEER, AND THIS CONTRACTOR WILL CONFORM TO ALL REASONABLE CHANGES WITHOUT EXTRA COST TO THE OWNER. ALL ITEMS NOT SPECIFICALLY MENTIONED IN THE SPECIFICATION OR NOTED IN THE DRAWINGS BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE THE COMPLETE WORKING INSTALLATION SHALL BE INCLUDED.</div><div>1.3.6. ALL ITEMS NOT SPECIFICALLY MENTIONED IN THE SPECIFICATION OR NOTED IN THE DRAWINGS BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE THE COMPLETE WORKING INSTALLATION SHALL BE INCLUDED.</div></div><div><div>1.4. ALL SUBMISSIONS ARE TO BE MADE THROUGH THE GENERAL CONTRACTOR ONLY. THE ELECTRICAL CONTRACTOR WILL, THEREFORE, SUBMIT ALL INFORMATION, DRAWINGS, INQUIRIES, ETC., TO THE GENERAL CONTRACTOR FOR SUCH SUBMISSION.</div><div>1.5. ALL SYSTEMS AND EQUIPMENT COVERED BY THIS SPECIFICATION WILL BE THOROUGHLY TESTED IN THE PRESENCE OF AN AUTHORIZED REPRESENTATIVE OF THE ENGINEER BEFORE FINAL ACCEPTANCE OF THE WORK, SUCH TESTS TO BE TO THE COMPLETE SATISFACTION OF THE ENGINEER. ALL COSTS IN CONNECTION WITH THE TESTS ARE TO BE BORNE BY THIS CONTRACTOR, INCLUDING THE SUPPLYING OF ANY EQUIPMENT NECESSARY FOR SUCH TESTING AS IS REQUIRED.</div><div>1.6. BE RESPONSIBLE FOR THE COMPLETE AND PROPER PROTECTION OF ALL EQUIPMENT, APPARATUS AND LUMINAIRES DURING CONSTRUCTION AND WILL BE TURNED OVER FREE FROM DAMAGE.</div><div>1.7. FOR ANY EXTRA ELECTRICAL WORK THAT MAY BE PROPOSED, THE ELECTRICAL CONTRACTOR WILL FURNISH TO THE ENGINEER AN ESTIMATE OF THE COST OF SUCH WORK. THE ELECTRICAL CONTRACTOR WILL PROCEED ONLY AFTER RECEIVING WRITTEN PERMISSION FROM THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVE, ESTABLISHING THE AGREED PRICE AND DESCRIBING THE WORK TO BE DONE.</div><div>1.8. PROVIDE ADEQUATE SUPERVISION AND DIRECTION TO THE WORK AND WILL KEEP A COMPETENT FOREMAN IN CHARGE UNTIL THE JOB IS COMPLETED.</div><div>1.9. ANY SYSTEMS THAT HAVE VERIFICATION REPORTS INCLUDING BUT NOT LIMITED TO LIGHTING CONTROLS SHALL BE SUPPLIED TO THE ENGINEER AND ALSO INCLUDED WITHIN THE USER MANUAL.</div><div>1.10. REMOVE FROM HIS WORK ANY FOREMAN OR WORKMEN TO WHOM THE ENGINEER OR HIS REPRESENTATIVE MAY OBJECT, ON THE GROUND OF CARELESSNESS OR INCOMPETENCE.</div><div>1.11. ALL WORKMANSHIP WILL BE OF THE BEST QUALITY AND SUBJECT TO APPROVAL BY THE ENGINEER OR HIS REPRESENTATIVE. BEFORE FINAL PAYMENT IS MADE THE ELECTRICAL CONTRACTOR WILL GUARANTEE ALL MATERIALS AND WORKMANSHIP OF THIS CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE ENGINEER AND WILL REPLACE WITHIN THAT PERIOD OF TIME, WITHOUT EXTRA COST TO THE OWNER, ALL MATERIALS OR WORKMANSHIP PROVEN DEFECTIVE. HE WILL BEFORE FINAL PAYMENT IS MADE, TEST AND OPERATE ALL EQUIPMENT INSTALLED BY HIM, AND MAKE ALL NECESSARY ADJUSTMENTS AND REPLACEMENTS AND DEMONSTRATE TO THE ENGINEER THAT ALL EQUIPMENT IS OPERATING AS INTENDED.</div></div></div><div><div><div>1.12. PROVIDE SUFFICIENT, SAFE AND PROPER FACILITIES NECESSARY FOR INSPECTION OF THE WORK BY THE ENGINEER, THE OWNER, ANY LEGALLY AUTHORIZED GOVERNMENT, INSURANCE OR MUNICIPAL INSPECTOR, AND THE REPRESENTATIVE OF THE MANUFACTURER OR SUPPLIERS OF ANY SPECIAL DEVICE OR DEVICES USED. THIS CONTRACTOR WILL GIVE THE ENGINEER DUE AND REASONABLE NOTICE WHEN THE WORK IS READY FOR INSPECTION.</div><div>1.13. WORK IS TO BE STARTED AS SOON AS CONDITIONS WILL PERMIT AND WILL BE CARRIED ON CONTINUOUSLY AS NOT TO INTERFERE OR DELAY THE WORK OF OTHER CONTRACTORS OR COMPLETION OF THE PROJECT.</div><div>1.14. REMOVE ANY DISCARDED ELECTRICAL MATERIALS UPON COMPLETION OF THE WORK AND TURN OVER ANY SPARE PARTS TO THE OWNER.</div><div>1.15. UPON COMPLETION OF THE CONTRACT, THE ELECTRICAL CONTRACTOR WILL REMOVE ALL DEBRIS FROM THE CONSTRUCTION SITE CREATED BY HIS WORK, CLEAN AND POLISH ALL EQUIPMENT AND REPAIR ALL DAMAGES TO THE WORK, IN READINESS TO TURN THE BUILDING OVER TO THE OWNER.</div><div>1.16. GROUNDING WILL BE IN ACCORDANCE WITH THE LATEST REGULATIONS OF THE CANADIAN ELECTRICAL CODE AND PER THE DRAWINGS AND SPECIFICATIONS.</div><div>1.17. ALL EQUIPMENT SHALL BE RATED FOR THE ENVIRONMENT IN WHICH IT IS LOCATED.</div><div>1.18. ALL NON-CURRENT-CARRYING METAL PARTS, INCLUDING RACEWAYS, CABINETS, METAL SUPPORT FRAMES AND OTHER EQUIPMENT WHERE GROUNDING IS REQUIRED, SHALL BE COMPLETELY GROUNDED IN AN APPROVED MANNER AS PRESCRIBED BY THE UTILITY SERVICE ENTRANCE STANDARDS AND THE CANADIAN ELECTRICAL CODE. ALL NECESSARY CONDUIT, CONDUCTORS, CLAMPS, CONNECTORS, ETC. FOR THE GROUNDING SYSTEM SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE ELECTRICAL CONTRACTOR.</div><div>1.19. WHERE MANUFACTURERS' NAMES ARE USED, IT IS FOR THE PURPOSE OF ESTABLISHING A STANDARD, AND THAT EQUIPMENT SHALL BE USED IN PREPARING QUOTATIONS. PERMISSION TO USE ALTERNATIVES SHALL BE SECURED BY MEANS OF WRITTEN REQUEST NO LATER THAN 5 DAYS PRIOR TO TENDER CLOSING. ALL EQUIPMENT PART NUMBERS PROVIDED SHALL BE VERIFIED BY THE ELECTRICAL CONTRACTOR FOR ACCURACY.</div><div>1.20. ALL MATERIALS AND EQUIPMENT REMOVED UNDER WORK OF THIS SECTION BECOMES THE PROPERTY OF THE CONTRACTOR FOR DISPOSAL OFF OF THE PROPERTY, UNLESS DIRECTED FOR FUTURE USE BY OWNER.</div><div>1.21. ALL ELECTRICAL EQUIPMENT DETERMINED TO BE ENVIRONMENTALLY HAZARDOUS SHALL BE DISPOSED OF IN ACCORDANCE WITH N.B. DEPARTMENT OF ENVIRONMENT INSTRUCTIONS AND GUIDELINES. THESE GUIDELINES MUST BE STRICTLY ADHERED TO. CONTRACTORS MUST OBTAIN AND FAMILIARIZE THEMSELVES WITH PROPER DISPOSAL METHODS.</div><div>1.22. ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL OR BETTER CONDITIONS, INCLUDING, BUT NOT LIMITED TO, FENCING REPAIRS, BALL INFIELD AND OUTFIELD, PATHWAYS AND/OR ANY OTHER ITEM AFFECTED BY THE PROPOSED WORK. REINSTATE GRASS AREAS USING 150mm TOPSOIL AND MECHANICAL SEEDING. DAMAGED PATHWAYS TO BE REINSTATED USING 300mm GRANULAR SUB-BASE, 150mm GRANULAR BASE AND FINISHED SURFACE TO MATCH EXISTING MATERIAL. FOR ASPHALT PATHWAYS, FINISH MATERIAL TO BE 50mm THICK ASPHALT/ CONCRETE TYPE D (REAL) AS PER NB01 STANDARDS. BALL INFIELD SOIL TO BE EXCAVATED AND STOCKPILED PRIOR TO TRENCHING OPERATION. BACKFILL BALL INFIELD TRENCH USING STOCKPILED INFIELD SOIL.</div><div>1.23. CONTRACTOR SHALL SUBMIT HIS BID AS PER THESE DRAWINGS AND HE SHALL SUBMIT A SECOND PRICE THAT USE OVERHEAD WIRING BETWEEN LIGHT POLES INSTEAD OF UNDERGROUND WIRING. SEE FRONT END DOCUMENTS FOR SUBMISSION REQUIREMENTS.</div><div>2. SHOP DRAWINGS, MAINTENANCE MANUALS AND AS-BUILTS</div><div>2.1. ONCE TENDER HAS BEEN AWARDED, CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL SPECIFIED EQUIPMENT PRIOR TO ORDERING EQUIPMENT. PROVIDE ANY ADDITIONAL SHOP DRAWINGS AS REQUESTED BY ENGINEER.</div><div>2.2. PRESERVE ALL OPERATION, MAINTENANCE AND INSTALLATION INSTRUCTIONS SUPPLIED WITH EQUIPMENT AND WILL SECURE FURTHER INFORMATION ABOUT ALL OR ANY OF THE EQUIPMENT, IF DESIRED BY THE OWNERS. THE INSTRUCTIONS WILL BE NEATLY BOUND IN A BINDER AND PRESENTED TO THE OWNERS AT THE TIME OF SUBSTANTIAL COMPLETION OF THE WORK. IN ADDITION, THE ELECTRICAL CONTRACTOR WILL INSTRUCT THE CUSTOMER OR OTHER OWNER'S REPRESENTATIVE IN THE PROPER OPERATION AND MAINTENANCE OF THE VARIOUS PIECES OF EQUIPMENT INSTALLED BY HIM.</div><div>2.3. OBTAIN ONE SET OF WHITE PRINTS AND KEEP THEM ON THE JOB FOR THE EXCLUSIVE PURPOSE OF RECORDING CHANGES OF THE TRENCHES, CONDUIT, EQUIPMENT AND DEVICES, ETC. THESE DRAWINGS WILL BE KEPT UP TO DATE AND TURNED OVER TO THE ENGINEER AT THE COMPLETION OF THE CONTRACT. DRAWINGS SHALL BE STAMPED WITH THE CONTRACTORS, SIGNATURE AND BE LABELLED CLEARLY AS "AS-BUILTS".</div><div>3. LABELLING</div><div>3.0.1. EQUIPMENT SHALL BE IDENTIFIED WITH PLASTIC LAMINATE LAMACOID WITH WHITE FACE, BLACK CORE WITH 12mm HIGH LETTERS.</div><div>3.0.2. TRANSFORMERS: INDICATE CAPACITY AND SECONDARY VOLTAGE.</div><div>3.0.3. RECEPTABLES SHALL BE LABELLED WITH 6mm HIGH LETTERS, EMBOSSED PLASTIC LABELS.</div><div>3.0.4. UPON COMPLETION OF PROJECT, CONTRACTOR TO RELABEL / UPDATE ALL LAMICOID NAMEPLATES ON ALL PANELBOARDS, DISCONNECTS, TRANSFORMERS, ETC AND NEW TYPED PANEL DIRECTORIES TO REFLECT ALL CHANGES.</div><div>4. GENERAL MATERIALS</div><div>4.1. GROUNDING RODS / CONNECTIONS</div><div>4.1.1. GROUND RODS SHALL BE 19mm DIAMETER, 3.0 METERS LONG, AND COPPER CLAD STEEL.</div><div>4.1.2. GROUND ELECTRODE PLATES ARE NOT TO BE USED IN LIEU OF GROUND RODS UNLESS APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.</div><div>4.1.3. GROUNDINGS CONNECTIONS SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO BURIAL OR CONCEALMENT. ELECTRICAL CONTRACTOR SHALL MAKE ENGINEER AWARE, 2 BUSINESS DAYS BEFORE BEING REQUIRED ON-SITE. CONTRACTOR SHALL PROVIDE PHOTOS OF EACH CONNECTION.</div><div>4.1.4. GROUNDINGS CONNECTIONS SHALL BE MADE USING 'CADWELD' EXOTHERMIC WELDS OR COMPRESSION CONNECTIONS USING</div><div>4.1.5. SUITABLE HARDWARE WITH MATCHING DIE SETS. INSTALLATION SHALL FOLLOW BEST PRACTICES PER MANUFACTURERS INSTRUCTIONS; ACCEPTABLE MANUFACTURERS: T&B, BURNUDY, OR EQUIVALENT.</div><div>4.2. CONDUIT AND SHEATHED CABLE</div><div>4.2.1. ALL WIRING SHALL BE INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED.</div><div>4.2.2. ALL CONDUITS SHALL BE INSTALLED WITH NYLON BUSHINGS.</div><div>4.2.3. USE RIGID PVC CONDUIT IN TRENCHES (CONCRETE AND DIRECT BURIED).</div><div>4.2.4. SUPPORT CONDUITS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE. DO NOT USE WIRE LASHING OR PERFORATED STRAP TO SUPPORT OR SECURE CONDUITS.</div><div>4.2.5. INSTALL A GREEN INSULATED BONDING CONDUCTOR IN ALL CONDUITS USED FOR POWER WITH MINIMUM AMPACITY PER TABLE 16A OF THE CANADIAN ELECTRICAL CODE.</div><div>4.2.6. ALL EMPTY CONDUIT SHALL BE COMPLETE WITH NYLON PULL STRING.</div><div>4.3. OUTLET BOXES</div><div>4.3.1. USE SURFACE MOUNTED STEEL TYPE FS / FD BOXES WITH CONDUIT HUBS AS REQUIRED.</div><div>4.3.2. USE COVERPLATES SPECIFICALLY DESIGNED FOR FS/FD BOXES.</div><div>4.3.3. UTILITY BOXES FOR OUTLETS CONNECTED TO SURFACE-MOUNTED PVC CONDUIT SHALL BE NO LESS THAN 102 x 54 x 45mm.</div><div>4.4. JUNCTION AND PULL BOXES</div><div>4.4.1. USE BOXES OF WELDED STEEL CONSTRUCTION WITH SCREW-ON FLAT COVERS UNLESS INDICATED OTHERWISE.</div><div>4.4.2. ALL JUNCTION BOXES INSTALLED IN WET LOCATION SHALL BE RATED NEMA 3R4.</div><div>4.4.3. SHALL BE RECESSED IN WALL, UNLESS OTHERWISE NOTED. SUPPORT BOXES INDEPENDENTLY OF CONNECTING CONDUITS.</div><div>4.5. CONDUCTORS</div><div>4.5.1. USE COPPER CONDUCTORS WITH 600 V INSULATION OF CHEMICALLY CROSS-LINKED THERMOSETTING POLYETHYLENE MATERIAL RATED RW90 XLPE FOR ALL WIRING INSTALLED IN CONDUIT FOR POWER AND LIGHTING CIRCUITS.</div><div>4.5.2. #6 TRIPLEX FOR OVERHEAD WIRING BETWEEN LIGHT POLES (FOR CONDUIT).</div><div>4.5.3. ALL CONDUCTORS SHALL BE SIZED AS REQUIRED FOR THE AMPACITY OF THE BRANCH CIRCUIT AND IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE AND PER THE FOLLOWING SPECIFICATIONS.</div><div>4.5.4. USE STRANDED CONDUCTORS FOR 8 AWG AND LARGER.</div><div>4.5.5. USE STRANDED CONDUCTORS FOR 14 AWG CONTROL WIRING.</div><div>4.5.6. MINIMUM SIZE OF CONDUCTORS FOR LIGHTING AND POWER: 12 AWG.</div><div>4.5.7. MINIMUM SIZE OF CONDUCTORS FOR CONTROL: 18AWG STRANDED.</div><div>4.5.8. GROUNDING CONDUCTOR SHALL BE STRANDED, SOFT DRAWN BARE COPPER; 8 AWG.</div><div>4.5.9. CONTRACTOR SHALL ASSURE THAT ALL CONDUCTORS ARE SIZED FOR A MAXIMUM VOLTAGE DROP OF:</div><div>4.5.9.1. BRANCH CIRCUITS - MAX. 2%</div><div>4.5.9.2. PANEL FEEDERS - MAX. 2%</div><div>4.5.9.3. DISTRIBUTION - MAX. 1%</div><div>5. POWER DISTRIBUTION MATERIALS</div><div>5.1. RECEPTABLES</div><div>5.1.1. 15A/20A, 125V, DUPLEX RECEPTABLES WITH WHITE FACE.</div><div>5.1.2. EXTRA HEAVY DUTY SPECIFICATION GRADE.</div><div>5.1.3. SMOOTH HIGH IMPACT STEEL WALL PLATES FOR DEVICE BOXES.</div><div>5.1.4. UNBREAKABLE NYLON COVERPLATE, WHITE FINISH.</div><div>5.1.5. INSTALLED PVC WEATHERPROOF WHILE IN USE COVERS WITH GASKET OVER EACH RECEPTACLE FOR ALL INDICATED AND OUTDOOR RECEPTABLES.</div><div>5.1.6. WHILE IN USE COVER PLATES SHALL BE RATED 'EXTRA DUTY'.</div><div>5.1.7. ISOLATED GROUND RECEPTABLES TO BE ORANGE IN COLOR.</div><div>5.1.8. SHALL BE RECESSED IN WALL, UNLESS OTHERWISE NOTED.</div><div>5.1.9. ACCEPTABLE MATERIAL: HUBBEL HBL5262W, HBL5362, OR APPROVED EQUAL.</div><div>5.2. SERVICE ENTRANCE DISCONNECT SWITCH</div><div>5.2.1. SERVICE RATED HEAVY DUTY SINGLE THROW FUSIBLE DISCONNECT SWITCH.</div><div>5.2.2. SOLID NEUTRAL BLOCK WITH ADDITIONAL GROUND LUG FOR THE SERVICE ENTRANCE.</div><div>5.2.3. RATED AS INDICATED.</div><div>5.2.4. FUSE RATED AS INDICATED.</div><div>5.2.5. NEMA 1 ENCLOSURE.</div><div>5.2.6. COMPLETE WITH TYPE J-TD FUSES.</div><div>5.2.7. ACCEPTABLE MATERIAL: EATON, SCHNEIDER, SIEMENS, OR APPROVED EQUAL.</div><div>5.3. DISCONNECT SWITCHES</div><div>5.3.1. HEAVY DUTY SIDE THROW DISCONNECT SWITCH.</div><div>5.3.2. RATED AS INDICATED.</div><div>5.3.3. FUSE RATED AS INDICATED (IF APPLICABLE).</div><div>5.3.4. NEMA 1 ENCLOSURE.</div><div>5.3.5. NEMA OR ENCLOSURE FOR WET LOCATIONS.</div><div>5.3.6. COMPLETE WITH TYPE J-TD FUSES (IF APPLICABLE).</div><div>5.3.7. ACCEPTABLE MATERIAL: EATON, SCHNEIDER, SIEMENS, OR APPROVED EQUAL.</div><div>5.4. METER SOCKET</div><div>5.4.1. AS PER UTILITY POWER REQUIREMENTS.</div><div>5.4.2. NEMA 1 HEAVY DUTY ENCLOSURE.</div><div>5.4.3. ACCEPTABLE MATERIAL: HYDEL, SQUARED, MICRO ELECTRIC OR APPROVED EQUAL.</div><div>5.5. SERVICE CT CABINET</div><div>5.5.1. ENCLOSURE TO MEET NB POWER STANDARD REQUIREMENTS FOR SERVICE.</div><div>5.5.2. NEMA 1 ENCLOSURE.</div><div>5.5.3. ACCEPTABLE MATERIAL: BELL, OR APPROVED EQUAL.</div><div>5.6. CABINETS</div><div>5.6.1. CBI: NEMA 3, C/W LOCKABLE DOOR HANDLE, C/W PROVISION FOR NB POWER LOCK.</div><div>5.6.2. CB2: NEMA 3, C/W LOCKABLE DOOR HANDLE.</div><div>5.6.3. CB3: NEMA 3, C/W LOCKABLE DOOR HANDLE.</div><div>5.6.4. CBI AND CB2 TO BE LOCKABLE WITH SAME KEY SET.</div><div>5.6.5. CB3 KEY SET TO BE DIFFERENT FROM CBI AND CB2.</div><div>5.7. PANELBOARDS</div><div>5.7.1. ALUMINUM BUS OR COPPER BUS.</div><div>5.7.2. MAIN BREAKER REQUIRED ONLY IF INDICATED.</div><div>5.7.3. MOLDED CASE BRANCH CIRCUIT BREAKERS WITH INTERRUPTING RATING AS INDICATED.</div><div>5.7.4. SURFACE MOUNTED NEMA 1 ENCLOSURE WITH SPACE FOR DESIGNATED BRANCH CIRCUITS.</div><div>5.7.5. INTEGRAL 100KA SURGE PROTECTION DEVICE WITH LED STATUS INDICATION.</div><div>5.7.6. ACCEPTABLE MATERIAL: SCHNEIDER, EATON OR APPROVED EQUAL.</div><div>5.7.7. MOUNT SURFACE PANELBOARDS ON PLYWOOD BACKBOARD, PAINTED WITH FIRE RETARDANT PAINT, WITH SMOOTH EDGE, PAINTED WITH 3 COATS.</div><div>6. LIGHTING AND LIGHTING CONTROL MATERIALS</div><div>6.1. SUMMARY</div><div>6.1.1. THE PRIMARY GOALS OF THIS SPORTS LIGHTING PROJECT ARE:</div><div>6.1.1.1. ENVIRONMENTAL LIGHT CONTROL: IT IS THE PRIMARY GOAL OF THIS PROJECT TO MINIMIZE SPILL LIGHT TO ADJOINING PROPERTIES AND GLARE TO THE PLAYERS, SPECTATORS AND NEIGHBOURS.</div><div>6.1.1.2. COST OF OWNERSHIP: IN ORDER TO REDUCE THE OPERATING BUDGET, THE PREFERRED LIGHTING SYSTEM SHALL BE ENERGY EFFICIENT AND COST EFFECTIVE TO OPERATE. ALL MAINTENANCE COSTS SHALL BE ELIMINATED FOR THE DURATION OF THE WARRANTY.</div><div>6.2. LIGHTING PERFORMANCE</div><div>6.2.1. ILLUMINATION LEVELS AND DESIGN FACTORS: PLAYING SURFACES SHALL BE LIT TO AN AVERAGE TARGET ILLUMINATION LEVEL AND UNIFORMITY AS SPECIFIED IN THE CHART BELOW. LIGHTING CALCULATIONS SHALL BE DEVELOPED AND FIELD MEASUREMENTS TAKEN ON THE GRID SPACING WITH THE MINIMUM NUMBER OF GRID POINTS SPECIFIED BELOW. APPROPRIATE LIGHT LOSS FACTORS SHALL BE APPLIED AND SUBMITTED FOR THE BASIS OF DESIGN.</div><div>6.2.1.1. AVERAGE ILLUMINATION LEVEL SHALL BE MEASURED IN ACCORDANCE WITH THE IESNA LM-54-04 (IESNA GUIDE FOR PHOTOMETRIC MEASUREMENTS OF AREA AND SPORTS LIGHTING INSTALLATIONS). ILLUMINATION LEVELS SHALL NOT TO DROP BELOW DESIRED TARGET VALUES IN ACCORDANCE WITH THE IESNA LM-54-04. ILLUMINATION SHALL BE SIZED AS REQUIRED BY CEC-2015. THE GROUNDING ELECTRODE SHALL BE MINIMUM SIZE OF 5/8 INCH DIAMETER AND 10 FEET LONG, WITH A MINIMUM OF 10 FEET EMBEDMENT.</div><div>6.2.1.2. OUTFIELD ELECTRODE SHALL BE CONTROLLED BY THE STRUCTURE BY A GROUNDING ELECTRODE CONDUCTOR WITH A MINIMUM SIZE OF 2 AWG FOR POLES WITH 75 FEET ESTABLISHED HEIGHT OR OVER. DRIP SHIELDS FOR POLES WITH MORE THAN 75 FEET MOUNTING HEIGHT.</div><div>6.2.1.3. MAXIMUM TO MINIMUM UNIFORMITY RATIO: 2:1 INFIELD, 2.5:1 OUTFIELD.</div><div>6.2.1.4. GRID POINTS: 25 INFIELD, 89 OUTFIELD.</div><div>6.2.1.5. GRID SPACING: 30' X 30'.</div><div>6.2.2. COLOR: THE LIGHTING SYSTEM SHALL HAVE A MINIMUM COLOR TEMPERATURE OF 5700K AND A CRI OF 75.</div><div>6.2.3. MOUNTING HEIGHTS: TO ENSURE PROPER AIMING ANGLES FOR REDUCED GLARE AND TO PROVIDE BETTER PLAYABILITY, MINIMUM MOUNTING HEIGHTS SHALL BE 60 FEET. HIGHER MOUNTING HEIGHTS MAY BE REQUIRED BASED ON PHOTOMETRIC REPORT AND ABILITY TO ENSURE THE TOP OF THE FIELD ANGLE IS A MINIMUM OF 10 DEGREES BELOW HORIZONTAL.</div><div>6.3. ENVIRONMENTAL LIGHT CONTROL</div><div>6.3.1. LIGHT CONTROL LUMINAIRES: ALL LUMINAIRES SHALL UTILIZE SPILL LIGHT AND GLARE CONTROL DEVICES INCLUDING, BUT NOT LIMITED TO, INTERNAL SHIELDS, LOW VOLTAGE SHIELDS, NO SYMMETRICAL BEAM PATTERNS ARE ACCEPTED.</div><div>6.3.2. SPILL SCANS: SPILL SCANS MUST BE SUBMITTED INDICATING THE AMOUNT OF HORIZONTAL AND VERTICAL FOOTCANDLES ALONG THE SPECIFIED LINES. LIGHT LEVELS SHALL BE TAKEN AT 30-FOOT INTERVALS ALONG THE BOUNDARY LINE. READINGS SHALL BE TAKEN WITH THE METER ORIENTATION AT BOTH HORIZONTAL AND AIMED TOWARDS THE MOST INTENSE BANK OF LIGHTS. ILLUMINATION LEVEL SHALL BE MEASURED IN ACCORDANCE WITH THE IESNA LM-54-04 AFTER 1 HOUR WARM UP.</div><div>6.3.3. REPAIRS: A PHOTOMETRIC REPORT FOR ALL LUMINAIRE TYPES PROPOSED SHOWING HORIZONTAL AND VERTICAL AXIAL CANDLE POWER SHALL BE PROVIDED TO DEMONSTRATE THE CAPABILITY OF ACHIEVING THE SPECIFIED PERFORMANCE. REPORTS SHALL BE CERTIFIED BY A QUALIFIED TESTING LABORATORY WITH A MINIMUM OF FIVE YEARS EXPERIENCE OR BY A MANUFACTURER'S LABORATORY WITH A CURRENT ACCREDITATION UNDER THE NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM FOR ENERGY EFFICIENT LIGHTING PRODUCTS. A SUMMARY OF THE HORIZONTAL AND VERTICAL AIMING ANGLES FOR EACH LUMINAIRE SHALL BE INCLUDED WITH THE PHOTOMETRIC REPORT.</div><div>6.4. SPORTS LIGHTING SYSTEM CONSTRUCTION</div><div>6.4.1. MANUFACTURING REQUIREMENTS: ALL COMPONENTS SHALL BE DESIGNED AND MANUFACTURED AS A SYSTEM. ALL LUMINAIRES, WIRE HARNESSSES, DRIVERS AND OTHER ENCLOSURES SHALL BE FACTORY ASSEMBLED, AIMED, WIRED AND TESTED.</div><div>6.4.2. DURABILITY: ALL EXPOSED COMPONENTS SHALL BE CONSTRUCTED OF CORROSION RESISTANT MATERIAL AND/OR COATED TO HELP PREVENT CORROSION. ALL EXPOSED CARBON STEEL SHALL BE HOT DIP GALVANIZED PER ASTM A123. ALL EXPOSED ALUMINIUM SHALL BE POWDER COATED WITH HIGH PERFORMANCE POLYESTER OR ANODIZED. ALL EXTERIOR REFLECTIVE INSERTS SHALL BE ANODIZED, COATED, AND PROTECTED FROM DIRECT ENVIRONMENTAL EXPOSURE TO PREVENT REFLECTIVE DEGRADATION OR CORROSION. ALL EXPOSED HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL OF 18-8 GRADE OR BETTER, PASSIVATED AND COATED WITH ALUMINIUM-BASED THERMOSETTING EPOXY RESIN FOR PROTECTION AGAINST CORROSION AND STRESS CORROSION CRACKING. STRUCTURAL FASTENERS MAY BE CARBON STEEL AND GALVANIZED MEETING ASTM A153 AND ISOEN 1461 (FOR HOT DIPPED GALVANIZING), OR ASTM B695 (FOR MECHANICAL GALVANIZING). ALL WIRING SHALL BE ENCLOSED WITHIN THE CROSS-ARMS, POLE, OR ELECTRICAL COMPONENTS ENCLOSURE.</div><div>6.4.3. SYSTEM DESCRIPTION: LIGHTING SYSTEM SHALL CONSIST OF THE FOLLOWING:</div><div>6.4.3.1. GALVANIZED STEEL POLES AND CROSS-ARM ASSEMBLY.</div><div>6.4.3.2. NON-APPROVED POLE TECHNOLOGY:</div><div>6.4.3.2.1. SQUARE STATIC CAST CONCRETE POLES WILL NOT BE ACCEPTED.</div><div>6.4.3.2.2. DIRECT BURY STEEL POLES WHICH UTILIZE THE EXTENDED PORTION OF THE STEEL SHAFT FOR THEIR FOUNDATION WILL NOT BE ACCEPTED DUE TO POTENTIAL FOR INTERNAL AND EXTERNAL CORROSIVE REACTION TO THE SOILS AND LONG TERM PERFORMANCE CONCERNS.</div><div>6.4.3.3. LIGHTING SYSTEMS SHALL USE CONCRETE FOUNDATIONS. SEE ITEM 6.7 FOR DETAILS.</div><div>6.4.3.3.1. FOR A FOUNDATION USING A PRE-STRESSED CONCRETE BASE EMBEDDED IN CONCRETE BACKFILL, THE CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION.</div><div>6.4.3.3.2. ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL. FOR ANCHOR BOLT FOUNDATIONS OR FOUNDATIONS USING A PRE-STRESSED CONCRETE BASE IN A SUSPENDED PIER OR</div><div>6.5. CONTROL</div><div>6.5.1. INSTANT ON/OFF CAPABILITIES: SYSTEM SHALL PROVIDE FOR INSTANT ON/OFF OF LUMINAIRES USING ON-SITE SWITCH.</div><div>6.5.2. LIGHTING CONTACTOR CABINET(S) CONSTRUCTED OF NEMA TYPE 4 ALUMINUM. CABINET(S) SHALL BE SCHEDULED, THE COVER SHALL BE LABELLED TO MATCH FIELD DIAGRAMS AND ELECTRICAL DESIGN. MANUAL OFF-ON-AUTO SELECTOR SWITCHES SHALL BE PROVIDED.</div><div>6.5.3. MANUFACTURER SHALL PROVIDE AND MAINTAIN A TWO-WAY TCP/IP COMMUNICATION LINK. TRAINED STAFF SHALL BE AVAILABLE 24/7 TO PROVIDE SCHEDULING SUPPORT AND ASSIST WITH REPORTING NEEDS.</div><div>6.5.4. REMOTE MONITORING SYSTEM: SYSTEM SHALL MONITOR LIGHTING PERFORMANCE AND NOTIFY MANUFACTURER IF INDIVIDUAL LUMINAIRE OUTAGE IS DETECTED SO THAT APPROPRIATE ACTION BE TAKEN. IF THE OUTAGE IS NOT CORRECTED, THE MANUFACTURER SHALL DETERMINE SWITCH POSITION (MANUAL OR AUTO) AND CONTACTOR STATUS (OPEN OR CLOSED).</div><div>6.5.5. COMMUNICATION WITH LUMINAIRE DRIVERS: CONTROL SYSTEM SHALL INTERFACE WITH DRIVERS IN ELECTRICAL COMPONENTS ENCLOSURES BY MEANS OF POWERLINE COMMUNICATION.</div><div>6.6. STRUCTURAL PARAMETERS</div><div>6.6.1. WIND LOADS: WIND LOADS SHALL BE BASED ON THE 2015 NATIONAL BUILDING CODE (NBC) OF CANADA AND A DESIGN WIND PRESSURE OF 0.40 KPA.</div><div>6.6.2. POLE STRUCTURAL DESIGN: THE STRESS ANALYSIS AND SAFETY FACTOR OF THE POLES SHALL CONFORM TO THE 2015 NATIONAL BUILDING CODE (NBC) OF CANADA.</div><div>6.6.3. FOUNDATION DESIGN: THE FOUNDATION DESIGN SHALL BE BASED ON THOSE THAT MEET OR EXCEED THOSE OF A CLASS 5 MATERIAL AS DEFINED BY THE 2015 NATIONAL BUILDING CODE (NBC) OF CANADA.</div><div>6.6.4. FOUNDATION DRAWINGS: FOUNDATION DRAWINGS SHALL BE STAMPED BY A REGISTERED ENGINEER IN THE PROVINCE WHERE THE PROJECT IS LOCATED ARE REQUIRED. THE FOUNDATION DRAWINGS MUST LIST THE MOMENT, SHEAR (HORIZONTAL) FORCE, AND AXIAL FORCE (VERTICAL) AT GROUND LEVEL FOR EACH POLE. THESE DRAWINGS MUST BE SUBMITTED AT TIME OF BID TO ALLOW FOR ACCURATE PRICING.</div><div>6.7. FIELD QUALITY CONTROL</div><div>6.7.1. ILLUMINATION MEASUREMENTS: UPON SUBSTANTIAL COMPLETION OF THE PROJECT AND IN THE PRESENCE OF THE CONTRACTOR, PROJECT ENGINEER, OWNERS REPRESENTATIVE, AND MANUFACTURERS REPRESENTATIVE, ILLUMINATION MEASUREMENTS SHALL BE TAKEN AND VERIFIED. THE ILLUMINATION MEASUREMENTS SHALL BE CONDUCTED IN ACCORDANCE WITH IESNA LM-54-04.</div><div>6.7.2. FIELD LIGHT LEVEL ACCOUNTABILITY</div><div>6.7.2.1. LIGHT LEVELS ARE GUARANTEED NOT TO FALL BELOW THE TARGET MAINTAINED LIGHT LEVELS FOR THE ENTIRE WARRANTY PERIOD. THESE LEVELS WILL BE SPECIFICALLY STATED AS "GUARANTEED" ON THE ILLUMINATION SUMMARY PROVIDED BY THE MANUFACTURER.</div><div>6.7.2.2. THE CONTRACTOR/MANUFACTURER SHALL BE RESPONSIBLE FOR CONDUCTING INITIAL LIGHT LEVEL TESTING AND AN ADDITIONAL INSPECTION OF THE SYSTEM, IN THE PRESENCE OF THE OWNER, ONE YEAR FROM THE DATE OF COMMISSIONING OF THE LIGHTING.</div><div>6.7.2.3. THE CONTRACTOR/MANUFACTURER WILL BE HELD RESPONSIBLE FOR ANY AND ALL CHANGES NEEDED TO BRING THESE FIELDS BACK TO COMPLIANCE FOR LIGHT LEVELS AND UNIFORMITIES. CONTRACTOR/MANUFACTURER WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO THE FIELDS DURING THESE REPAIRS.</div><div>6.7.3. CORRECTING NON-CONFORMANCE: IF, IN THE OPINION OF THE OWNER OR HIS APPOINTED REPRESENTATIVE, THE ACTUAL PERFORMANCE LEVELS INCLUDING FOOTCANDLES AND UNIFORMITY RATIOS ARE NOT IN CONFORMANCE WITH THE REQUIREMENTS OF THE PERFORMANCE SPECIFICATIONS AND SUBMITTED INFORMATION, THE MANUFACTURER SHALL BE REQUIRED TO MAKE ADJUSTMENTS TO MEET SPECIFICATIONS AND SATISFY OWNER.</div><div>6.8. WARRANTY AND GUARANTEE</div><div>6.8.1. EACH MANUFACTURER SHALL SUPPLY A SIGNED WARRANTY COVERING THE ENTIRE SYSTEM. WARRANTY SHALL GUARANTEE SPECIFIED LIGHT LEVELS. MANUFACTURER SHALL MAINTAIN SPECIFICALLY-FUNDED FINANCIAL RESERVES TO ASSURE FULFILLMENT OF THE WARRANTY FOR THE FULL TERM. WARRANTY DOES NOT COVER WEATHER CONDITIONS EVENTS SUCH AS LIGHTNING OR HAIL DAMAGE, IMPROPER INSTALLATION, VANDALISM OR ABUSE, UNAUTHORIZED REPAIRS OR ALTERATIONS, OR PRODUCT</div></div></div><tr><td colspan="4"></td><td><div><div>6.9. DESIGN BASIS AND MANUFACTURERS' APPROVAL</div><div>6.9.1. DESIGN APPROVAL: THE OWNER/ENGINEER WILL REVIEW BID SUBMITTALS PER BELOW REQUIREMENTS FROM ALL THE MANUFACTURERS TO ENSURE COMPLIANCE TO THE SPECIFICATION AFTER THE TENDER CLOSING DATE.</div><div>6.9.1.1. DRAWING SHOWING FIELD LAYOUTS WITH POLE LOCATIONS.</div><div>6.9.1.2. ON FIELD LIGHTING DESIGN.</div><div>6.9.1.3. OFF FIELD LIGHTING DESIGN.</div><div>6.9.1.4. PHOTOMETRIC REPORT.</div><div>6.9.1.5. PERFORMANCE GUARANTEE.</div><div>6.9.1.6. CONTROL & MONITORING SYSTEM.</div><div>6.9.1.7. PAST PROJECTS REFERENCES.</div><div>6.9.1.8. PRODUCT INFORMATION.</div><div>6.9.1.9. DELIVERY TIMEFRAME.</div><div>6.9.2. THE SYSTEM WAS DESIGNED USING A 600V, </div></div></td></tr></div></div>					<div><div>6.9. DESIGN BASIS AND MANUFACTURERS' APPROVAL</div><div>6.9.1. DESIGN APPROVAL: THE OWNER/ENGINEER WILL REVIEW BID SUBMITTALS PER BELOW REQUIREMENTS FROM ALL THE MANUFACTURERS TO ENSURE COMPLIANCE TO THE SPECIFICATION AFTER THE TENDER CLOSING DATE.</div><div>6.9.1.1. DRAWING SHOWING FIELD LAYOUTS WITH POLE LOCATIONS.</div><div>6.9.1.2. ON FIELD LIGHTING DESIGN.</div><div>6.9.1.3. OFF FIELD LIGHTING DESIGN.</div><div>6.9.1.4. PHOTOMETRIC REPORT.</div><div>6.9.1.5. PERFORMANCE GUARANTEE.</div><div>6.9.1.6. CONTROL & MONITORING SYSTEM.</div><div>6.9.1.7. PAST PROJECTS REFERENCES.</div><div>6.9.1.8. PRODUCT INFORMATION.</div><div>6.9.1.9. DELIVERY TIMEFRAME.</div><div>6.9.2. THE SYSTEM WAS DESIGNED USING A 600V, </div></div>		
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TOWN OF GRAND FALLS
TENDER **08-18-2020**

CENTENNIAL PARK BALLFIELD LIGHTING
TENDER PRICE SHEET

Company Name: _____

Mailing Address: _____

Contact Person & Title: _____

Telephone Number: _____

Email Address: _____

ITEM	QUANTITY	PRICE
1.0 Supply and installation of the new Centennial Park Ballfield lighting system in accordance with the specifications in this tender Price #1: Overhead wiring option as per the specifications in this tender	1	\$ _____
	SUBTOTAL	
	HST	
	TOTAL CONTRACT PRICE	
(Total contract price must be typewritten, printed, or written in ink in words)		

ITEM	QUANTITY	PRICE
2.0 Supply and installation of the new Centennial Park Ballfield lighting system in accordance with the specifications in this tender Price #2: Underground wiring option as per the specifications in this tender	1	\$ _____
	SUBTOTAL	
HST		
TOTAL CONTRACT PRICE		
(Total contract price must be typewritten, printed, or written in ink in words)		

I/ WE HEREBY AGREE THAT this submission is made in accordance with and in consideration of requirements and instructions herein contained.

DATED this _____ day of _____, 2020.

Name (please print): _____

Authorized Signature: _____