

District of Elkford

Addendum #2

Contract Title	Elkford Downtown Core Design	Ref # <u>2441-001278-00</u>
Author	Kevin Mohr, P.Eng	Date May 9, 2022

Item #	Section		Description		
1	Form of Tender – Appendix A – Schedule of Quantities and Prices	Re-issue and replace Division 26 – Electrical of the Form of Tender Appendix A - Schedule of Quantiles and Prices with the attached.			
2	Form of Agreement – Schedule 3 List of Contract	Add:			
	Documents	Sheet #	Sheet Title		
		E100	Pathway Lighting Electrical Site Plan		
		E101	Pathway Lighting Electrical Site Plan		
		E102	Pathway Lighting Electrical Site Plan		
		E103	Pathway Lighting Specifications & Details		
Question	ns and Answers				
Questioi	is and Answers	N/A			
		,			

List of attachments:

- 1. Rev 2 Division 26 Electrical Form of Tender Appendix A Schedule of Quantities and Prices
- 2. Drawings E100-103 Pathway Lighting Site Plans and Specifications & Details

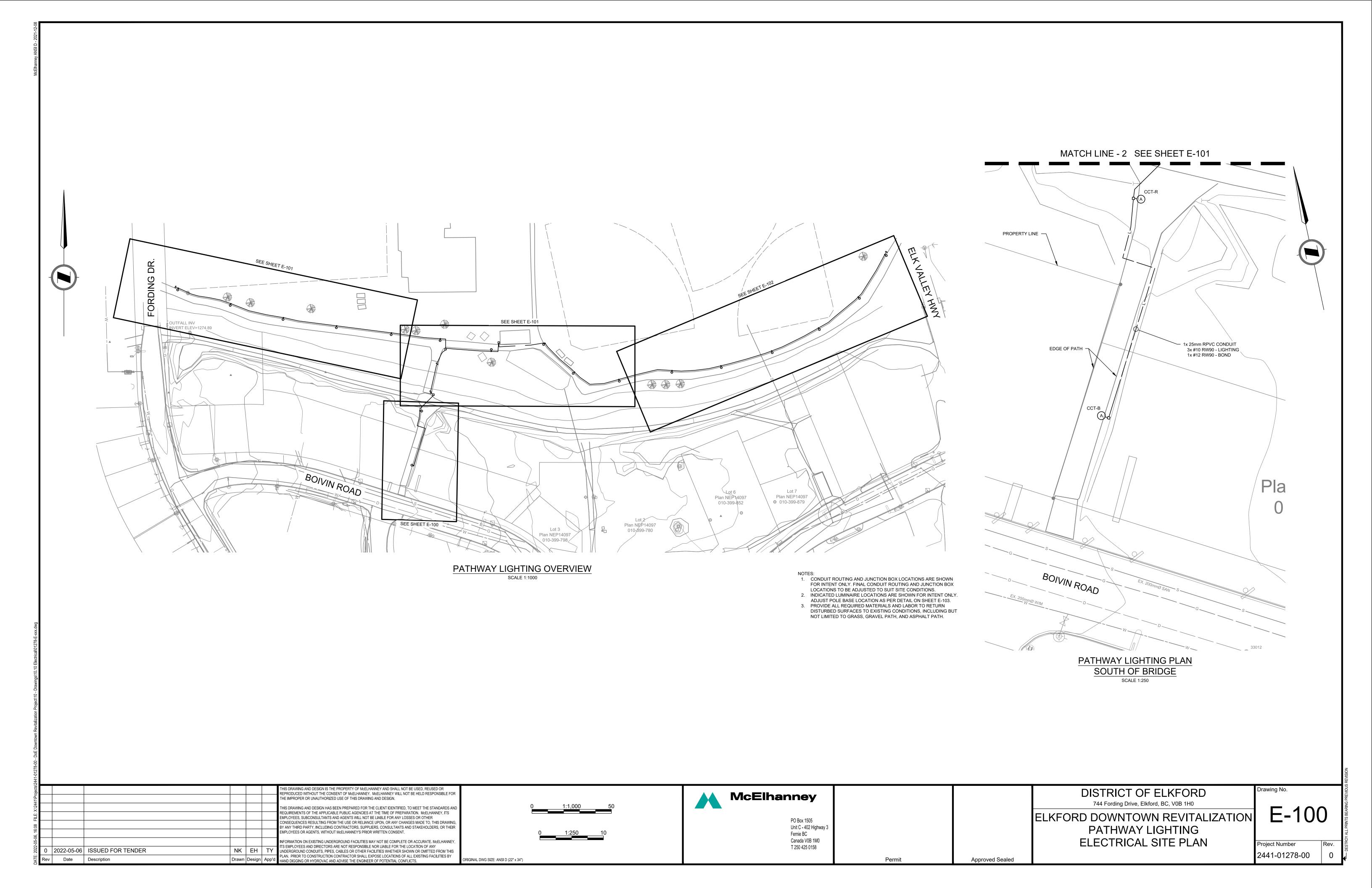
Tenderer's Signature		

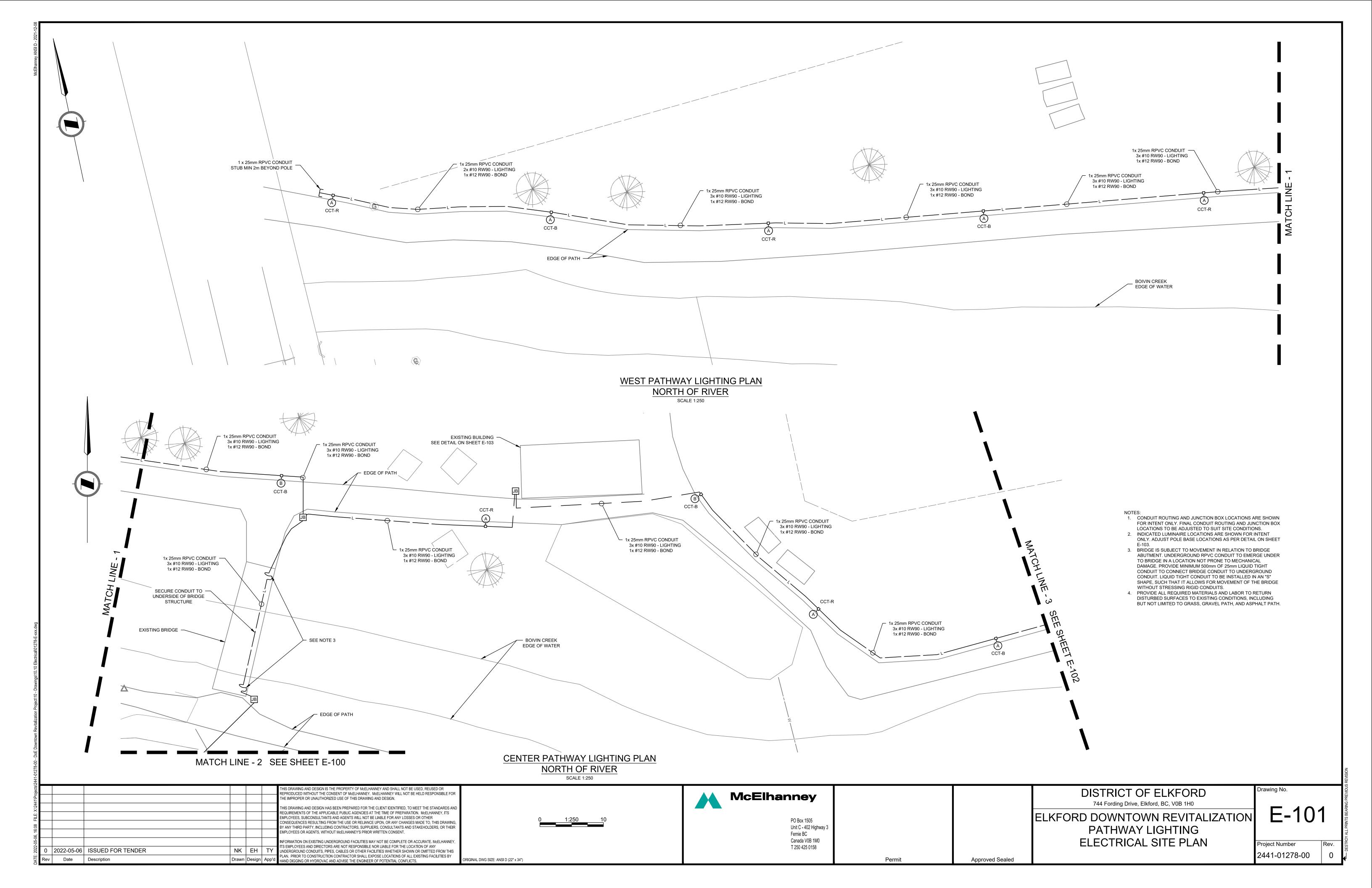
Div 26 -	Electi	rical				
Section	Para	Specification Title	Unit	Quantity	Unit Price	Amount
26 56 01		Roadway Lighting (DWGs E001-002)				
26.1	1.9.1	Streetlight Base - Type C	ea.	25		
26.2		Streetlight Base - Type C1	ea.	3		
26.3		9m Streetlight Pole	ea.	25		
26.4		8.1m Streetlight Pole	ea.	3		
26.5		Streetlight cobra head luminaire	ea.	28		
26.6		Streetlight service base c/w distribution panel	ea.	3		
26.7		Service connection to existing	LS	1		
26.8		50mm RPVC conduit c/w 3c #10 RW90	lm	1096		
26.9	•	Trenching and Backfill	lm	1096		

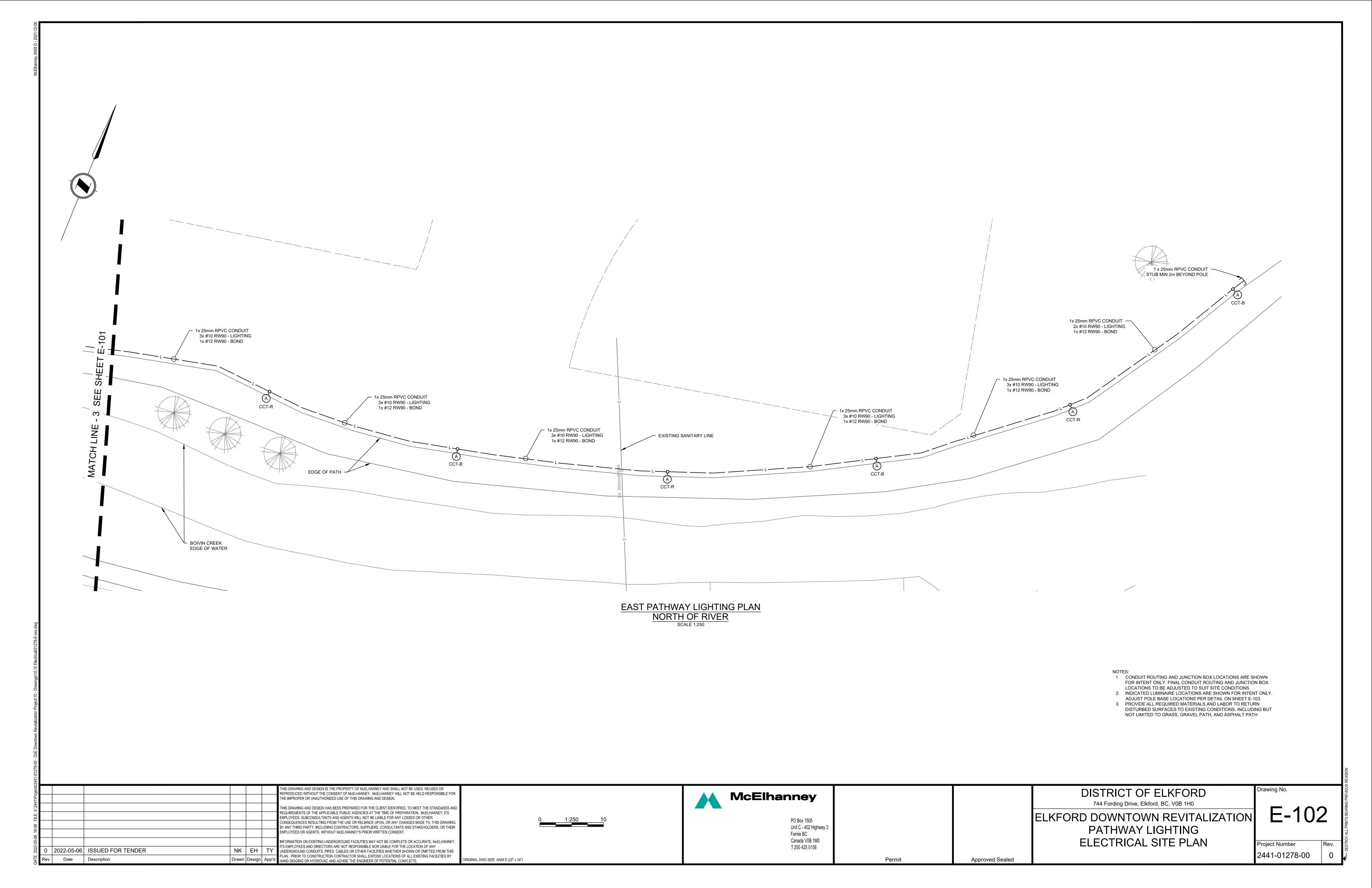
26 56 01	Pathway Lighting (DWGs E100-103)			
26.10	Pathway concrete base - Type B	EA	18	
26.11	5m Pathway Pole	EA	18	
26.12	Decorative pathway luminaire	EA	18	
26.13	In grade junction box	EA	3	
26.14	Service connection to existing	LS	1	
26.15	25mm RPVC conduit c/w 3c #10 RW90	EA	585	
26.16	Trenching and backfill	EA	585	

SUBTOTAL:

Div 26 -	Div 26 - Electrical OPTIONAL WORK							
Section	Para	Specification Title	Unit	Quantity	Unit Price	Amount		
		BC Hydro Infrastructure Relocation	Lump Sum	1				







DRAWINGS AND AS SPECIFIED. 1.2. PROVIDE ALL NECESSARY LABOUR, MATERIALS, EQUIPMENT, DEVICES AND APPARATUS NOT MENTIONED IN THE SPECIFICATIONS, OR SHOWN ON THE DRAWINGS AS REQUIRED FOR THE COMPLETE ELECTRICAL INSTALLATION.

2. <u>CODE, RULES AND REGULATIONS</u>
2.1. <u>ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE</u> CANADIAN ELECTRICAL CODE, NATIONAL BUILDING CODE, AND APPLICABLE MUNICIPAL AND PROVINCIAL CODES, RULES AND REGULATIONS.

PROVIDE ALL NECESSARY MATERIAL AND LABOUR REQUIRED TO MEET THE REQUIREMENTS OF THESE CODES, RULES AND REGULATIONS EVEN THOUGH THE WORK MAY NOT BE SHOWN ON THE DRAWINGS OR MENTIONED IN THE SPECIFICATIONS.

OBTAIN ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE ELECTRICAL INSTALLATION AND

4. CO-OPERATION WITH OTHER TRADES
4.1. CHECK WITH OTHER TRADES TO AVOID DELAYS.

5.1. ELECTRICAL EQUIPMENT SHALL BE NEW AND OF THE TYPE AND QUALITY SPECIFIED.

6. <u>CERTIFICATION OF INSPECTION</u>
6.1. OBTAIN A CERTIFICATE OF INSPECTION AND APPROVAL FROM THE ELECTRICAL INSPECTION DEPARTMENT HAVING JURISDICTION OVER THE WORK. CERTIFICATE OF INSPECTION SHALL BE SUBMITTED TO THE ARCHITECT ON COMPLETION OF THE WORK.

REMOVE ALL DEBRIS FROM THE SITE AS IT OCCURS, AND DO NOT ALLOW TO ACCUMULATE. 7.2. TOUCH UP WITH MATCHING PAINT ANY EQUIPMENT THAT HAS BEEN DAMAGED DURING CONSTRUCTION.

THE SATISFACTORY OPERATION OF ALL WORK AND APPARATUS INCLUDED AND INSTALLED UNDER THIS SECTION OF THE SPECIFICATION SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR 8.2. REPLACE FORTHWITH, AT NO ADDITIONAL COST TO THE OWNER, ANY PART WHICH MAY PROVE TO

BE DEFECTIVE WITHIN A PERIOD OF TWELVE MONTHS AFTER THE FINAL ACCEPTANCE OF THE

COMPLETE BUILDING, PROVIDED THAT SUCH FAILURE IS NOT DUE TO ANY IMPROPER USAGE OR ORDINARY WEAR AND TEAR 8.3. NO CERTIFICATE GIVEN, PAYMENT MADE, PARTIAL OR ENTIRE USE OF THE EQUIPMENT BY THE OWNER, SHALL BE CONSTRUED AS ACCEPTANCE OF DEFECTIVE WORK.

9.1. RIGID STEEL CONDUIT: FOR ALL EXPOSED AND UNDERGROUND CONDUIT EXPOSED TO

MECHANICAL DAMAGE. (MINIMUM SIZE: 3/4" (19mm))

9.2. CONDUIT IN DIRECT CONTACT WITH EARTH TO BE RIGID PVC TYPE.

EXPOSED CONDUIT INDOORS SHALL BE EMT TYPE. 9.4. CONDUITS SHALL BE TIGHTLY COVERED AND WELL PROTECTED DURING CONSTRUCTION USING

METALLIC BUSHINGS AND BUSHING "PENNIES" TO SEAL OPEN END 9.5. IN ALL EMPTY CONDUITS OR DUCTS, INSTALL A 200 lb (90 kg) TENSILE STRENGTH POLYETHYLENE PULLING ROPE

9.6. CONDUIT SYSTEMS SHALL BE ELECTRICALLY CONTINUOUS THROUGHOUT. INSTALL CODE SIZED, INSULATED, COPPER, GREEN GROUNDING CONDUCTOR IN ALL CONDUIT RUNS PULLED WITH

PHASE AND/OR NEUTRAL CONDUCTORS 9.7. CONDUITS SHALL BE SECURELY FASTENED TO CABINETS, BOXES, AND GUTTERS USING TWO LOCKNUTS AND AN INSULATING BUSHING OR SPECIFIED INSULATING CONNECTORS. INSTALL GROUNDING BUSHINGS OR BONDING JUMPERS ON ALL CONDUITS TERMINATING AT CONCENTRIC

9.8. CONDUIT SYSTEM SHALL BE CONCEALED UNLESS EXPOSED WORK IS CLEARLY CALLED FOR ON DRAWINGS.

10. <u>CABLE AND WIRE</u>
10.1. CONDUCTORS SHALL NOT BE INSTALLED IN CONDUIT UNTIL ALL WORK OF ANY NATURE THAT MAY CAUSE DAMAGE IS COMPLETED. CARE SHALL BE TAKEN IN PULLING CONDUCTORS THAT INSULATION IS NOT DAMAGED. U.L. AND C.S.A. APPROVED NON-PETROLEUM BASE AND INSULATING TYPE PULLING COMPOUND SHALL BE USED AS NEEDED.

10.2. CONCEALED WIRING WITHIN THE BUILDING SHALL BE ARMORED CABLE TYPE AC90. 10.3. MAKE UP ALL SPLICES IN OUTLET BOXES WITH CONNECTORS AS SPECIFIED HEREIN WITH SEPARATE TAILS OF CORRECT COLOR TO BE MADE UP TO SPLICE. PROVIDE AT LEAST 6" (150mm) OF TAILS PACKED IN BOX AFTER SPLICE IS MADE UP.

10.4. ALL WIRE AND CABLE IN PANELS, TERMINAL CABINETS AND EQUIPMENT ENCLOSURES SHALL BE BUNDLED AND CLAMPED.

10.5. ALL CABLES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH MANUFACTURERS

REQUIREMENTS AND WARRANTY. 10.6. ALL ASPECTS OF SPLICING AND TERMINATING SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURES PUBLISHED PROCEDURES.

10.7. SPLICING OF CABLES BELOW GRADE SHALL BE AVOIDED UNLESS OTHERWISE IMPRACTICAL. UNDERGROUND SPLICES SHALL BE MADE UP WITH CONNECTORS RATED FOR UNDERGROUND

10.8. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RW90 COPPER.

11. <u>LUMINAIRE POLES</u>
11.1. <u>SUBMIT SHOP DRAWINGS FOR APPROVAL/REVIEW PRIOR TO ORDERING.</u>

11.2. ALL LUMINARE POLES ARE TO BE AS SHOWN ON DRAWING.

12. <u>POLE BASES</u>
12.1. SUBMIT SHOP DRAWINGS FOR APPROVAL/REVIEW PRIOR TO ORDERING. 12.2. ALL POLE BASES ARE TO BE AS SHOWN ON DRAWINGS.

12.3. TOP OF POLE BASE TO BE 70mm ABOVE SURROUNDING GRADE. CONFIRM FINAL GRADE WITH CIVIL WORKS TO ENSURE PROPER BURIAL DEPTH.

13.1. ENCLOSURES OF EQUIPMENT, RACEWAYS, AND FIXTURES SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDED. PROVIDE CODE-SIZED (UNLESS OTHERWISE INDICATED) COPPER. INSULATED GREEN EQUIPMENT GROUND WITH ALL BRANCH AND FEEDER CIRCUIT RUNS. EQUIPMENT GROUND SHALL ORIGINATE AT PANEL BOARD GROUND BUS AND SHALL BE BONDED

14. <u>LIGHTING FIXTURES</u>
14.1. SUBMIT SHOP DRAWINGS PRIOR TO ORDERING.

14.2. ALL FIXTURES ARE TO BE AS PER LUMINAIRE SCHEDULE.

LED FIXTURES SHALL BE 3000 DEGREE K UNLESS SPECIFIED OTHERWISE. 14.3.2. LUMEN OUTPUTS SHALL BE AS PER LUMINAIRE SCHEDULES. MINIMUM LUMENS PER WATT FOR

TO ALL POLES, JUNCTION BOX LIDS AND ELECTRICAL EQUIPMENT ENCLOSURES.

ALL LED FIXTURES SHALL BE MINIMUM 90 LPW. 14.3.3. LED FIXTURE ARE TO HAVE A LP70 OF 50,000 HOURS OR GREATER.

14.4. <u>FIXTURE INSTALLATION</u>

CONTRACTOR SHALL BE RESPONSIBLE FOR HANDLING AND STORAGE. FIXTURES SHALL BE INSTALLED PLUMB, LEVEL, IN STRAIGHT LINES WITHOUT DISTORTION AND CLEAN. INSTALL EACH FIXTURE IN A MANNER RECOMMENDED BY THE FIXTURE MANUFACTURER AND APPROVED BY THE OWNER'S REPRESENTATIVE. UNDER THIS SECTION OF THE WORK, FURNISH AND INSTALL ALL ADDITIONAL CEILING BRACING. HANGER SUPPORTS AND OTHER STRUCTURAL REINFORCEMENTS TO THE BUILDING REQUIRED TO PROPERLY AND SAFELY SUSPEND FIXTURES, ALL AS APPROVED BY THE ENGINEER.

15.2.3.

15.1. ELECTRICAL CONTRACTOR TO PROVIDE AS-BUILT MARKUPS TO ENGINEER FOR RECORD DRAWINGS

15.2. AS-BUILT MARKUPS ARE TO INDICATE THE FOLLOWING ITEMS: ALL REVISIONS TO DRAWINGS FROM SITE INSTRUCTIONS AND CHANGE ORDERS ARE TO BE

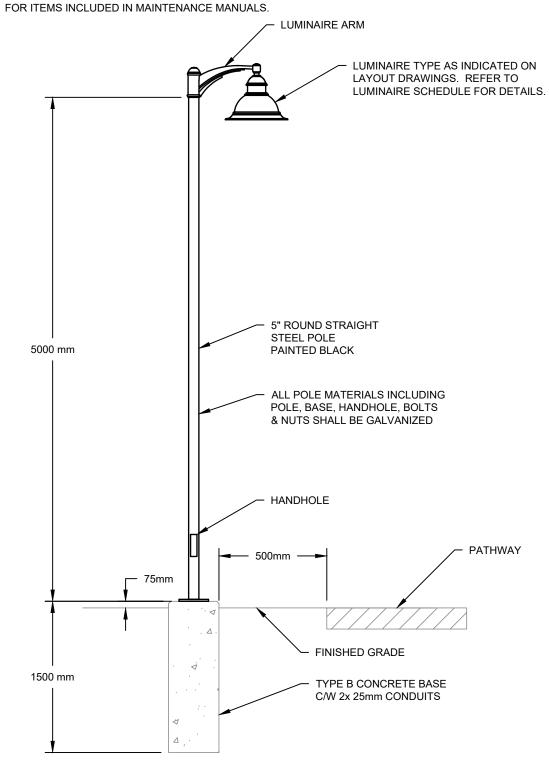
DEVICE LOCATION AND CIRCUITING WHERE DIFFERS FROM ORIGINAL DRAWINGS. LUMINAIRE TYPE, LOCATION, CIRCUITING AND CONTROL WHERE DIFFERS FROM ORIGINAL

ALL ABANDONED JUNCTION BOXES AND CONDUITS.

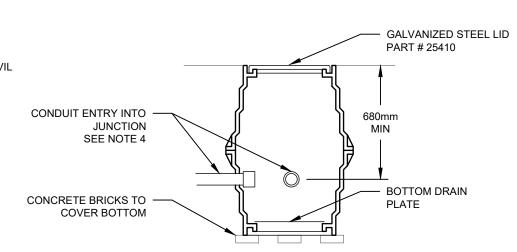
16.1. PROVIDE OPERATION AND MAINTENANCE DATA FOR INCORPORATION INTO MAINTENANCE MANUALS AS FOLLOWS IN HARD COVER 3 RING BINDER C/W INDEX TAB SEPARATORS. PROVIDE THREE (3) HARD COPIES AND ONE (1) PDF SOFTCOPY. SOFTCOPY MAY BE SUBMITTED USING COMPACT DISC. USB FLASH DRIVE OR EMAIL.

16.2. TECHNICAL DATA, PRODUCT DATA, SUPPLEMENTED BY BULLETINS COMPONENT ILLUSTRATIONS, EXPLODED VIEWS, TECHNICAL DESCRIPTIONS OF ITEMS AND PARTS LISTS. (ADVERTISING OR SALES LITERATURE IS NOT ACCEPTABLE)

16.3. WIRING AND SCHEMATIC DIAGRAMS NAMES AND ADDRESSES OF LOCAL SUPPLIERS



PATHWAY POLE ELEVATION



JUNCTION BOX NOTES:

1. TWO ROUND JUNCTION BOXES INSTALLED WITH ONE

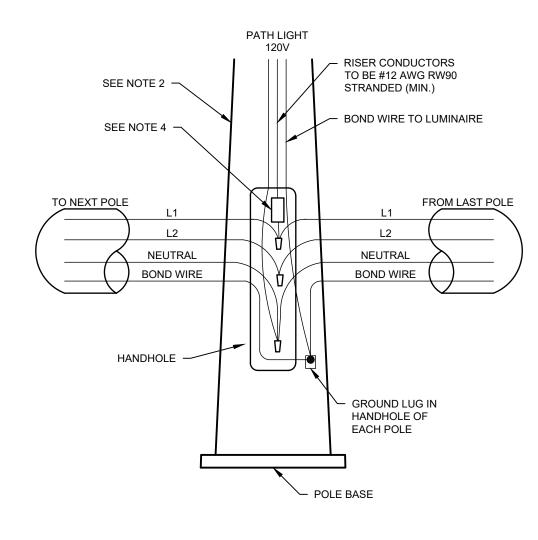
INVERTED UNDER THE OTHER.

2. PROVIDE BONDING FOR STEEL LID.

3. JUNCTION BOX IS TO BE WEST COAST ENGINEERING 25020 OR

4. CONDUIT IS TO BE RUN AT A DEPTH OF 900mm AND HAVE A GENTLE RISE UP FOR ENTRY INTO JUNCTION BOX.

JUNCTION BOX DETAIL



POLE WIRING DETAIL

ALL LUMINAIRES ARE TO OPERATE AT 120V, WITH LUMINAIRES

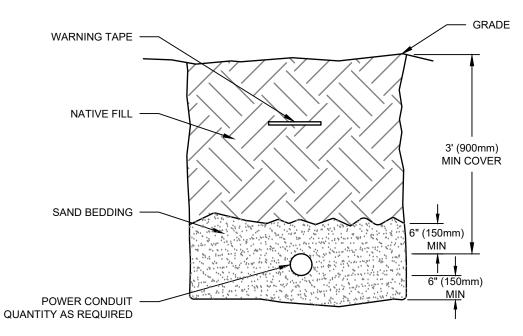
ALTERNATELY WIRED. REFER TO LAYOUT DRAWINGS FOR LUMINAIRE CIRCUIT DESIGNATION. 2. 120/240V MUST BE AVAILABLE AT BASE OF POLE.

3. MINIMUM CONDUCTOR SIZE #10 AWG, RW90 STRANDED; COLOURED: 3.1. CCT- B - BLACK 3.2. CCT- R - RED

3.3. NEUTRAL - WHITE

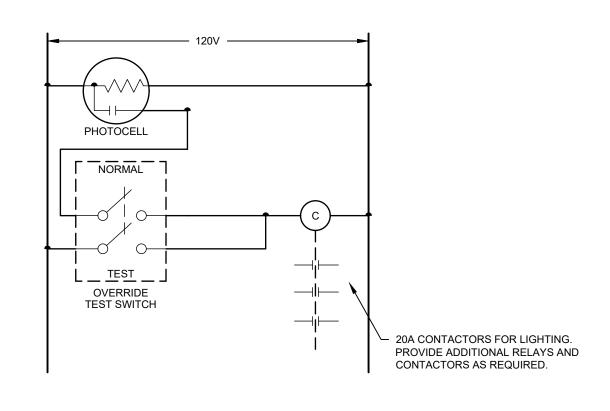
FUSE.

3.4. BOND - GREEN 4. EACH STREET LIGHT TO BE FUSED AT 15A, 1 POLE FOR 120V AT BASE OF POLE. FUSE HOLDER TO BE T&B #65U COMPLETE WITH 3A

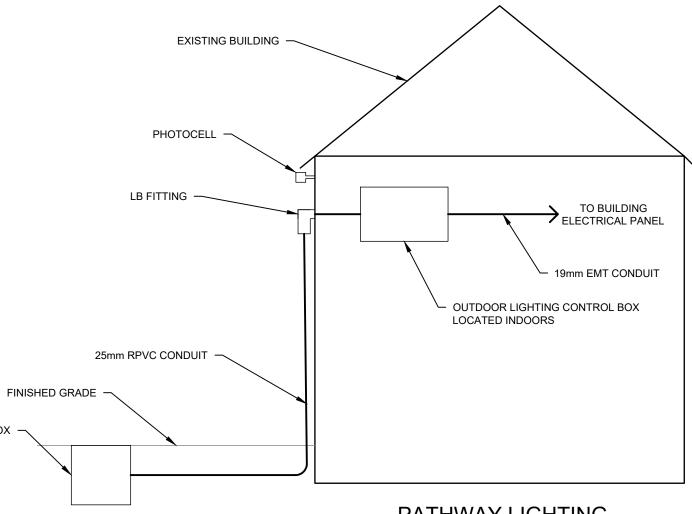


NOTE:
UNLESS OTHERWISE NOTED MAINTAIN A MINIMUM SPACING OF 300mm FROM ALL OTHER BURIED UTILITIES

TYPICAL TRENCH DETAIL - SINGLE



WIRING SCHEMATIC SCALE: NTS



PATHWAY LIGHTING SERVICING DETAIL

SCALE: NTS

PATHWAY LIGHTING SERVICING DETAIL NOTES:

1. PATHWAY LIGHTING TO BE FED FROM EXISTING BUILDING ELECTRICAL PANEL. 2. PROVIDE TWO DEDICATED 15A 1P BREAKERS FOR PATHWAY LIGHTING IN

EXISTING DISTRIBUTION PANEL. 3. NEW WIRING IN EXISTING BUILDING TO BE CONCEALED IF PRACTICAL. IF SURFACE WIRING IS REQUIRED, ALL SURFACE MOUNT INTERIOR WIRING TO BE IN EMT

4. ORIENT PHOTOCELL AWAY FROM LIGHT SOURCES.

CALCULATED LIGHT LEVELS							
PATHWAYS LEVELS HORIZONTAL ILLUMINATION							
ZONE TARGET ACHIEVED TARGET ACHIEVED AVE / MIN NOTES							
PATHWAY - NORTH OF RIVER	>2 lux	6.8 lux	<10.0:1	7.6:1	PEDESTRIAN: LOW		
PATHWAY - SOUTH OF RIVER >2 lux 6.9 lux <10.0:1 8.6:1 PEDESTRIAN: LOW							
NOTES: TARGET LIGHT LEVELS ARE AS PER IESNA RP-8-18 FOR OFF-ROADWAY FACILITIES. LIGHT LOSS FACTOR FOR LED LUMINAIRES 0.85.							

LIGHTING SYMBOL SCHEDULE						
SYMBOL DESCRIPTION NOTES						
□-(A)	POLE MOUNT LUMINAIRE OF TYPE 'A' REFER TO LUMINAIRE SCHEDULE FOR	R DETAILS				
JB	IN GRADE JUNCTION BOX SEE DETAIL ON SHEET E-103					
PC - PHOTOCELL TC - TIMECLOCK DS - DAYLIGHT SENSOR 3 - 3-WAY SWITCHING		LUMINAIRE TAG SCHEMI	PANEL - Y CIRCUIT - ## SWITCH - B			

	LUMIN	NAIRE S	SCHED	<u>ULE</u>
TYPE	DESCRIPTION	LAMPING	MOUNTING	REMARKS
Α	LED PATHWAY LIGHT - TYPE 2 DISTRIBUTION	LED 2,200 lm 3000K	POLE 5m AFG	LUMEC DOS-24W16LED3K-T-LE2F-120-DBC-1A-BKTX
В	LED PATHWAY LIGHT - TYPE 4 DISTRIBUTION	LED 2,100 lm 3000K	POLE 5m AFG	LUMEC DOS-24W16LED3K-T-LE4F-120-DBC-1A-BKTX

OUTDOOR LIGHTING CONTROL

24							
rojects\							THIS DRAWING AND DESIGN IS THE PROPERTY OF MCELHANNEY AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF MCELHANNEY. MCELHANNEY WILL NOT BE HELD RESPONSIBLE FOR
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Ë							REQUIREMENTS OF THE APPLICABLE PUBLIC AGENCIES AT THE TIME OF PREPARATION. McELHANNEY, ITS EMPLOYEES, SUBCONSULTANTS AND AGENTS WILL NOT BE LIABLE FOR ANY LOSSES OR OTHER
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06, 16							EMPLOYEES OR AGENTS, WITHOUT McELHANNEY'S PRIOR WRITTEN CONSENT.
02-0							INFORMATION ON EXISTING UNDERGROUND FACILITIES MAY NOT BE COMPLETE OR ACCURATE. McELHANNEY,
5052	0	2022-05-06	ISSUED FOR TENDER	NK	EH	TY	ITS EMPLOYEES AND DIRECTORS ARE NOT RESPONSIBLE NOR LIABLE FOR THE LOCATION OF ANY UNDERGROUND CONDUITS, PIPES, CABLES OR OTHER FACILITIES WHETHER SHOWN OR OMITTED FROM THIS
ATE	Rev	Date	Description	Drawn	Design	App'd	PLAN. PRIOR TO CONSTRUCTION CONTRACTOR SHALL EXPOSE LOCATIONS OF ALL EXISTING FACILITIES BY HAND DIGGING OR HYDROVAC AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney PO Box 1505 Unit C - 402 Highway 3

Fernie BC

Canada V0B 1M0

T 250 425 0158

Approved Sealed

IN GRADE JUNCTION BOX -

DISTRICT OF ELKFORD 744 Fording Drive, Elkford, BC, V0B 1H0 ELKFORD DOWNTOWN REVITALIZATION PATHWAY LIGHTING SPECIFICATIONS & DETAILS

Drawing No. E-103

roject Number 2441-01278-00