

ELECTRICAL SPECIFICATIONS

ELECTRICAL DRAWING LIST

E001	ELECTRICAL SPECIFICATIONS, LEGEND, & DRAWING LIST
E100	SITE PLAN - PHOTOMETRIC
E101	SITE LIGHTING DETAILS
E110	SITE PLAN - ELECTRICAL
E400	SINGLE LINE DIAGRAM & SITE ELECTRICAL DETAILS

GENERAL

- CONFORM TO THE GENERAL CONDITIONS OF THE CONTRACT.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND PAY FOR NECESSARY INSPECTION PERTAINING TO THE INSTALLATION OF THEIR WORK.
- WORK MUST BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO ELECTRICAL SAFETY CODE, OCCUPATIONAL HEALTH AND SAFETY ACT, AND LOCAL CODES. MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE CANADIAN STANDARDS ASSOCIATION, AND LOCAL CODES.
- DO NOT REDUCE THE STANDARDS ESTABLISHED BY THE DRAWINGS AND SPECIFICATIONS BY APPLYING ANY OF THE CODES REFERRED TO HEREIN.
- PROVIDE ALL MATERIALS AND DEVICES, ALL LABOUR AND TOOLS, AS WELL AS ANY MISCELLANEOUS MATERIALS REQUIRED TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.
- ELECTRICAL EQUIPMENT IS SHOWN NOT TO SCALE (N.T.S.) ON DRAWINGS.
- ALL ELECTRICAL WORK SHALL BE PERFORMED BY LICENSED ELECTRICIANS HOLDING A VALID CERTIFICATE OF QUALIFICATION.
- CONTRACTOR SHALL MAKE A PERSONAL SITE VISIT TO CONFIRM ALL QUANTITIES, LOCATIONS, AND ARRANGEMENTS BEFORE PROCEEDING WITH THE WORK. CLAIMS FOR EXTRAS WILL NOT BE ACCEPTED FOR WORK RESULTING FROM CONDITIONS THAT WOULD HAVE BEEN EVIDENT UPON THOROUGH EXAMINATION OF THE SITE.
- REPAIR OR PAY FOR ALL DAMAGE TO THE BUILDING INCURRED BY THE WORK OF THIS DIVISION.
- THE OWNER'S PROPERTY MUST BE KEPT IN TIDY CONDITION, PROMPTLY REMOVE GARBAGE FROM THE SITE.
- COORDINATE THE INSTALLATION OF WORK WITH OTHER TRADES. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LAYOUT OF EQUIPMENT AND MATERIALS AND ENSURING THERE ARE NO INTERFERENCES WITH OTHER SYSTEMS.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATION AND BACK FILL REQUIRED FOR THE INSTALLATION OF UNDERGROUND WORK. BACK FILL MATERIAL MUST BE CLEAN AND PROPERLY COMPACTED.
- EQUIPMENT SHALL BE INSTALLED, TESTED, AND ADJUSTED AS PER THE MANUFACTURER'S INSTRUCTIONS, AND AS NECESSARY TO ENSURE OPTIMUM PERFORMANCE. EQUIPMENT SHALL BE INSTALLED TO ALLOW FOR EASY ACCESS AND MAINTENANCE.
- THE ELECTRICAL CONTRACTOR SHALL GUARANTEE WORK PERFORMED UNDER THIS CONTRACT FOR A PERIOD OF TWO (2) YEARS FROM THE DATE OF SUBSTANTIAL COMPLETION.
- MATERIALS AND EQUIPMENT SHALL BE NEW AND TOP QUALITY, EXCEPT WHERE NOTED OTHERWISE. THIS SPECIFICATION SHALL BE CONSIDERED TO BE THE BASE BID SPECIFICATION AND CONTRACTORS MUST CARRY THE BASE BID MANUFACTURER'S IN THEIR QUOTATION. ALTERNATE MANUFACTURER'S OF EQUIPMENT CAN ONLY BE OFFERED AS PROPOSED ALTERNATES WITH THE CORRESPONDING PRICE REDUCTIONS CLEARLY SHOWN ON A SEPARATE SHEET IF NECESSARY.
- THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM TO THE OWNER SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- ERRORS OR OMISSIONS IN THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACT ADMINISTRATOR IMMEDIATELY.
- ENSURE THAT ALL EQUIPMENT SUPPLIED IS SUITABLE FOR THE RESPECTIVE VOLTAGE.

TEMPORARY FACILITIES AND WASTE DISPOSAL

- PROVIDE TEMPORARY STORAGE AS REQUIRED FOR ELECTRICAL CONSTRUCTION EQUIPMENT AND MATERIALS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR STORAGE AND SECURITY OF MATERIALS AND EQUIPMENT ON THE JOB SITE.
- REMOVE ALL CONSTRUCTION WASTE FROM SITE.
- APPLY WASTE MANAGEMENT FOR REDUCTION, RECYCLING AND REUSE.

SUBMITTALS

- SUBMIT SHOP DRAWINGS OR PRODUCT DATA SHEETS, AS APPROPRIATE, TO CONTRACT ADMINISTRATOR FOR ALL ELECTRICAL EQUIPMENT AND DEVICES.
- CHANGES TO THE CONTRACT RESULTING FROM UNFORESEEN SITE CONDITIONS, OR CHANGES REQUIRED BY ANY AND ALL AUTHORITIES HAVING JURISDICTION SHALL BE SUBMITTED TO THE CONSULTANT.
- ONE (1) FULL SIZE SET OF AS-BUILT DRAWINGS AND SPECIFICATIONS SHALL BE MARKED AND SUBMITTED TO THE CONTRACT ADMINISTRATOR.
- CERTIFICATE OF INSPECTION AND APPROVAL FROM THE ELECTRICAL SAFETY AUTHORITY SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR.
- PROVIDE OPERATION AND MAINTENANCE (O&M) MANUALS, TEST RESULTS, CERTIFICATES, AND WARRANTIES. CONTRACTOR SHALL CREATE FIRST PAGE WITH CHART CLEARLY SHOWING REQUIRED MAINTENANCE ACTIVITIES AND ASSOCIATED SCHEDULE PER MANUFACTURER'S RECOMMENDATIONS.

GENERAL PRODUCT REQUIREMENTS

- ALL MATERIAL SHALL BE COMMERCIAL GRADE, NEW, WITHOUT DEFECT, AND C.S.A. APPROVED INCLUDING CONTROL PANEL AND COMPONENT ASSEMBLIES UNLESS NOTED OTHERWISE.
- PROVIDE APPROPRIATE ACCESSORIES TO COMPLETE THE INSTALLATION INCLUDING, BUT NOT LIMITED TO FASTENINGS, SUPPORTS, CONNECTORS, SEALANTS.
- ALL CONDUCTORS SHALL BE COPPER UNLESS NOTED OTHERWISE.
- REMOVE BURRS AND SHARP EDGES.
- PROVIDE SPARE PARTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

PAINT, FINISHES LABELING, AND SIGNAGE

- PROVIDE CERTIFICATION LABELS AND WARNING SIGNAGE IN ACCORDANCE WITH THE ELECTRICAL CODE.
- PROVIDE LABELS ON ELECTRICAL DISTRIBUTION EQUIPMENT TO WARN PERSONS OF POTENTIAL ELECTRIC SHOCK AND ARC FLASH HAZARDS. THE OWNER SHALL PROVIDE ARC FLASH RATINGS WHERE REQUIRED.
- CLEARLY IDENTIFY ALL DISTRIBUTION PANELS WITH LAMACOID LABELS.
- PROVIDE COMPLETE, CLEARLY LEGIBLE PANEL DIRECTORY MOUNTED INSIDE THE DOOR OF EACH DISTRIBUTION PANEL. DETERMINE ALL LOADS AND INCLUDE IN PANEL DIRECTORY.

ELECTRICAL EXECUTION REQUIREMENTS

- PROVIDE APPROPRIATE ACCESSORIES TO COMPLETE THE INSTALLATION INCLUDING, BUT NOT LIMITED TO FASTENINGS, SUPPORTS, CONNECTORS, SEALANTS.
- INSTALL ALL MATERIALS IN A NEAT WORKMAN LIKE MANNER, PLUMB, SQUARE AND STRAIGHT WITH RESPECT TO BUILDING LINES.
- MAINTAIN PHASE SEQUENCE AND COLOUR CODING.
- ENSURE THAT SLEEVES AND OPENINGS FOR THIS DIVISION ARE INSTALLED IN FOOTINGS, FOUNDATIONS, AND SLABS BEFORE CONCRETE IS POURED.
- BE PRESENT DURING EXCAVATING AND BACKFILLING WORK WHERE ELECTRICAL SERVICES ARE INSTALLED-ENSURE ROUTE, DEPTH, AND BACKFILL MATERIALS ARE AS SPECIFIED. PROVIDE MARKING TAPES, ARRANGE INSPECTIONS PRIOR TO BACKFILL.
- COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES IN CAST-IN-PLACE CONCRETE, MASONRY WALLS, AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.
- COORDINATE ARRANGEMENT, MOUNTING AND SUPPORT OF ELECTRICAL EQUIPMENT:
 - TO PROVIDE FOR EASE OF MAINTENANCE, OPERATION OF DOORS AND ACCESS POINTS OF THE EQUIPMENT WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS.
 - SUCH THAT RACEWAYS, CABLES, WIREWAYS WILL BE CLEAR OF OBSTRUCTIONS AND OF THE WORKING AND ACCESS SPACE OF OTHER EQUIPMENT.
 - SUCH THAT NAMEPLATES AND LABELS ARE VISIBLE.

RACEWAY, PULL BOXES, AND ENCLOSURES

- CLEAN CONDUIT OF OBSTRUCTIONS BEFORE PULLING WIRE.
- PROVIDE KNOCK-OUT PLUGS AND COVER PLATES TO COVER ALL REMAINING OPENINGS ON PANELS AND JUNCTION BOXES.
- ENSURE WEATHERPROOF ENCLOSURES ARE SEALED TIGHT EXCEPT FOR ANY APPROPRIATE DRAIN HOLES OR VENTS.
- PROVIDE BUSHINGS FOR PIPE SLEEVES TO PROTECT EMERGING CONDUCTORS.
- PROVIDE SLEEVES FOR PENETRATIONS UNLESS CORE-DRILLED HOLES OR FRAMED OPENINGS ARE USED.
- SEAL SPACE OUTSIDE OF SLEEVES WITH GROUT. PROMPTLY PACK GROUT SOLIDLY BETWEEN SLEEVE AND WALL SO NO VOIDS REMAIN. TOOL EXPOSED SURFACES SMOOTH; PROTECT GROUT WHILE CURING. PROVIDE WEATHERPROOF SEALS FOR EXTERIOR PENETRATIONS.
- TEMPORARILY SEAL CONDUIT ENDS WHERE EXPOSED TO DIRT, FIBERS OR FLYINGS, WATER, OR FALLING DEBRIS DURING CONSTRUCTION.
- USE FITTINGS WITH EQUAL PROTECTION TO ENCLOSURE TYPE TO SEAL OUT WATER/OIL.
- PROTECT ENCLOSURES WITH SEALS/COVERS WHERE EXPOSED TO DIRT, FIBERS OR FLYINGS, WATER, FALLING DEBRIS, OR OTHER CONTAMINANTS DURING CONSTRUCTION.

PANELBOARDS

- COVER EXPOSED PANELS TO PROTECT FROM DUST, PAINT AND OTHER CONTAMINANTS DURING CONSTRUCTION. CLEAN OUT DUST AND DEBRIS BEFORE ENERGIZING.

WIRES AND CABLES

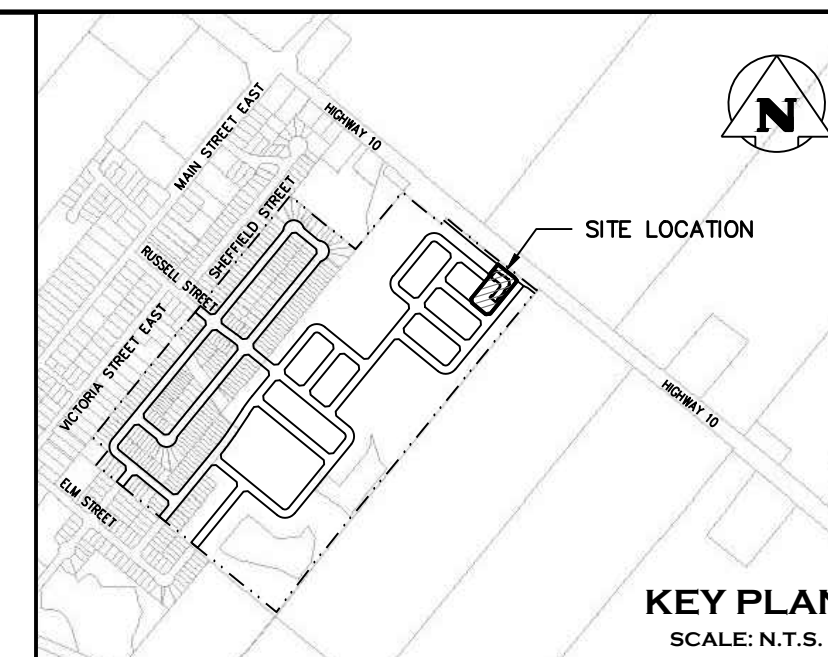
- DO NOT SPLICE.
- ALL CONDUCTORS: COPPER.
- CONDUCTORS #14AWG AND LARGER: STRANDED.
- PULL CABLE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, USING CABLE GRIPS AND LUBRICANT SUITABLE FOR THE TYPE OF CABLE.

GROUNDING AND BONDING

- GROUNDING REQUIREMENTS ARE GENERALLY NOT SHOWN ON THE DRAWINGS. PROVIDE ALL GROUNDING PER THE LATEST ONTARIO ELECTRIC SAFETY CODE (OESC), ELECTRICAL SAFETY AUTHORITY (ESA) OR ANY OTHER LOCAL AUTHORITY REGARDLESS OF WHETHER IT HAS BEEN SHOWN. THIS INCLUDES EQUIPMENT GROUNDING AS WELL AS SYSTEM (SERVICE) AND DISTRIBUTION GROUNDING. PROVIDE ADDITIONAL SPECIFIC PROVISIONS AS INDICATED, INCLUDING GROUND CONNECTIONS. PROVIDE THESE INSTALLATIONS TO ELECTRICAL SAFETY CODE REGULATIONS. COLLECT ALL GROUNDING CONNECTIONS AT A COMMON POINT WHICH IN TURN IS CONNECTED TO THE MAIN SERVICE GROUND.
- ARRANGE GROUNDS SUCH THAT UNDER NORMAL OPERATION CONDITIONS CURRENT FLOW IN ANY GROUND CONDUCTOR IS NOT OBJECTIONABLE AND WILL NOT HARM PERSONNEL OR EQUIPMENT. ARRANGE SERVICE GROUNDS AND DISTRIBUTIONS GROUND RESISTANCE READINGS WITHIN VALUES REQUIRED BY THE ELECTRICAL SAFETY CODE.

FIELD QUALITY CONTROL

- CAREFULLY CHECK WIRING FOR EACH SYSTEM TO ENSURE THAT THE SYSTEM WILL FUNCTION PROPERLY AS INDICATED BY WIRING AND SCHEMATIC DIAGRAMS AND DESCRIPTION OF OPERATION.
- TEST THE ELECTRICAL INSTALLATION FOR PROPER AND SAFE OPERATION IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
- REPLACE COMPONENTS DAMAGED DURING TESTING AT NO ADDITIONAL COST TO THE OWNER.
- MEGGER ALL POWER CIRCUITS 600V AND ABOVE.
- INSTRUCT OWNER OR OWNER'S REPRESENTATIVE IN OPERATION OF SYSTEMS.



ELECTRICAL LEGEND	
LIGHTING	
	PROPOSED POLE MOUNTED LIGHT FIXTURE
	PROPOSED POLE MOUNTED LIGHT FIXTURES MOUNTED AT 180°
	PROPOSED WALL PACK
	PROPOSED SUBDIVISION LIGHT FIXTURE
POWER & SYSTEMS	
	PAD-MOUNTED TRANSFORMER
	SWITCHGEAR
	GROUNDING RODS
	CONCRETE ENCASED DUCT BANK (X DENOTES NUMBER OF DUCTS)
	DUCT NUMBER
	CCTV CAMERA
	PROPOSED TEMPORARY SERVICE HYDRO POLE
LINETYPES	
	PROPERTY LINE
	PRIMARY CABLE RED, WHITE, & BLUE
	SECONDARY CABLE
	PROPOSED FENCE
ABBREVIATIONS	
D.B.	DIRECT BURIED
C.E.	CONCRETE ENCASED
MH	MOUNTING HEIGHT
I.G.	ISOLATED GROUNDING
I.T.	INFORMATION TECHNOLOGY
EX	EXISTING
EQ.	EQUAL

1. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

3. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.

4. DO NOT SCALE THE DRAWINGS.

5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

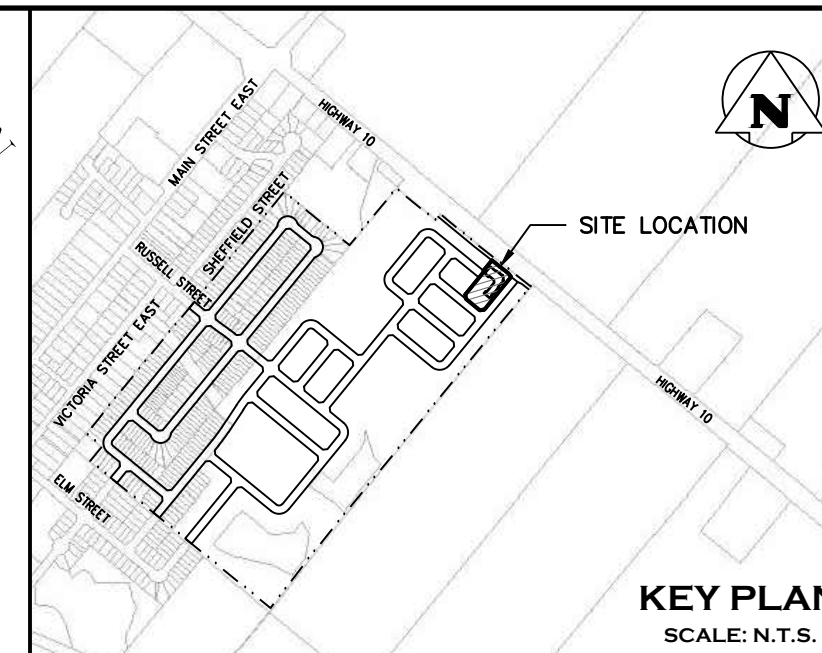
No.	ISSUE / REVISION	DATE: DD/MM/YYYY
1	DRAFT FOR REVIEW	13/01/2022
2	ISSUED FOR 3RD SUBMISSION	24/04/2023

Engineer

Project: DUNDALK COMMERCIAL BLOCK TOWNSHIP OF SOUTHGATE

Drawing: ELECTRICAL SPECIFICATIONS, LEGEND, & DRAWING LIST

Drawn By: B.A.O.	Design By: B.A.O./I.S.	Project: 1060-5384
Scale: N.T.S.	Check By: P.W.	Drawing: E001

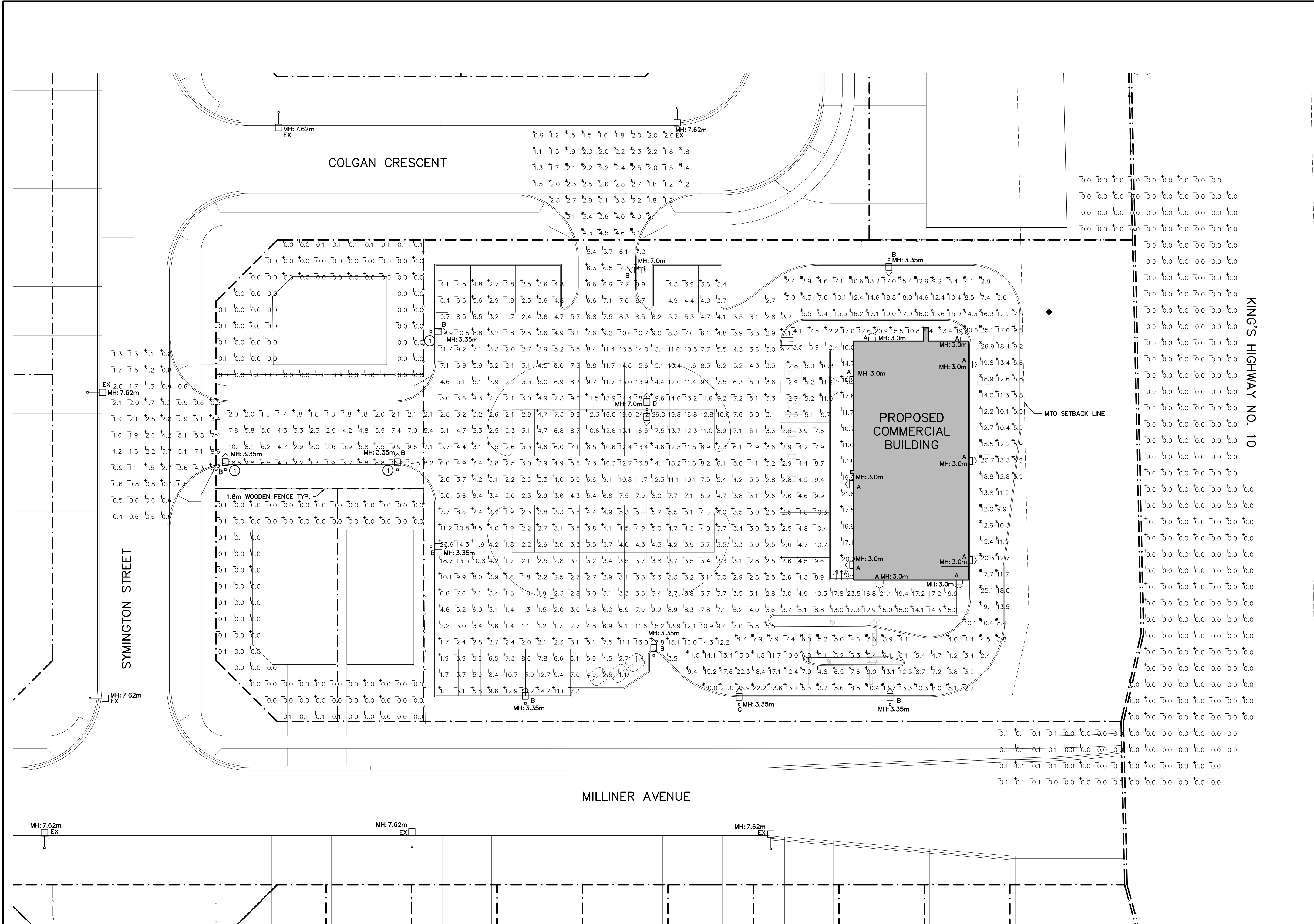


GENERAL NOTES:

- 1.8m WOODEN FENCE TO BE INSTALLED ALONG PROPERTY LINES CONTAINING A RESIDENTIAL UNIT.
- ALL FIXTURES ARE DARK SKY COMPLIANT.

DRAWING NOTE:

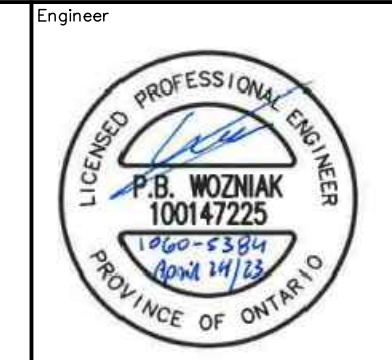
- LIGHTING FIXTURE TO BE DIMMED TO 72% NOMINAL LEVELS USING DIMMER. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH LIGHTING SUPPLIER PRIOR TO INSTALLATION.



SITE PLAN – PHOTOMETRIC
SCALE: 1:250

1. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.
3. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
4. DO NOT SCALE THE DRAWINGS.
5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

No.	ISSUE / REVISION	DATE: DD/MM/YYYY
1	DRAFT FOR REVIEW	13/01/2022
2	ISSUED FOR 3RD SUBMISSION	24/04/2023



Project: **DUNDALK COMMERCIAL BLOCK TOWNSHIP OF SOUTHGATE**

Drawing: **SITE PLAN – PHOTOMETRIC**

Drawn By: B.A.O. Design By: B.A.O./I.S. Project: **1060-5384**

Scale: 1:250 Check By: P.W. Drawing: **E100**

McGraw-Edison TYPE B,C,D

DESCRIPTION
The Galleone LED luminaire features advanced thermally conductive polymer heatinks and open frame endcaps for a sleek aesthetic with significant weight reduction. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL-listed. Refer to web locations.

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Open frame die-cast aluminum end caps provide structural support for the housing and heatinks. Thermally conductive polymer heatinks offer significant weight reduction while fully maintaining thermal management of the Light Squares. 3G vibration tested and rated. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics
Patented, high efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution, maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 270K) CCT 70 CRI. Optional 2700K, 3000K, 5000K, and 6000K CCT.

Electrical
LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard standard with Cooper Lighting Solutions proprietary circuit module designed to withstand 100% of transient line surge. The Galleone LED luminaire is suitable for operation in -40°C to 40°C ambient environments. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 600mA and 800mA drive currents (nominal).

Mounting
STANDARD ARM MOUNT: Extruded aluminum arm includes internal lock guides allowing for easy positioning of fixture during mounting. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to the arm mounting requirement table. Round pole adapter included. For wall mounting, specify wall mount bracket option. **QUICK MOUNT ARM:** Adapter is bolted directly to the pole. Quick mount arm slide into place on the adapter and is secured via two screws, facilitating quick and easy installation. The versatile, patent pending, quick mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the quick mount arm enables wiring of the fixture without having to access the driver compartment. A knock-out enables round pole mounting.

Finish
Housing finished in super durable TGIC polyester powder coat paint. 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is dark gray, non-paintable. Standard housing colors include black, snow, grey, white, dark platinum and graphite metallic.RAL and custom color matches available. Options to meet Bay Area and other domestic preference requirements.

Warranty
Five-year warranty.

GLNA GALLEONAIRE
1-10 Light Squares
Solid State LED
AREA/SITE LUMINAIRE

WaveLink

CERTIFICATION DATA
UL1881 Listed
IP66 Rated
LM79 / LM81 Compliant
UL1881 Location Listed
ELECTRICAL DATA
UL Power Factor
±20% Total Harmonic Distortion
120V/277V 50/60Hz
347V 480V 60Hz
40°C Max. Temperature
40°C Max. Temperature

COOPER Lighting Solutions

SSS series TYPE B,C,D
straight square steel

TECHNICAL DETAILS

POLE TOP FINISHING OPTIONS

TENON DETAIL
SPECIFY Q.D. AND LENGTH
SQUARE POLE PLATE C/W WIRE OPENING
POLE SHAFT

DRILLING DETAIL
REMOVABLE CAP
SPECIFY LUMINAIRE/ARM DRILLING REQUIREMENTS
POLE SHAFT

BASE DETAIL
GROUND SCREW
HAND HOLE W/ BASKETED COVER
POLE HEIGHT

BASE PLATE DETAIL
POLYURETHANE FINISH
BOLT CIRCLE (B/C)

BASE PLATE WELD DETAIL
POLE SHAFT
BASE COVER
GALVANIZED HEX NUT
BASE PLATE
LEVELLING NUT
ANCHOR BOLT
CONCRETE BASE

ELEVATION

DYNAPOLE
W W W . d y n a p o l e . c o m
2425 Luskow Drive, Mississauga, ON L5S 1K1 Canada
Tel: (905) 671-1507 Fax: (905) 671-4606 Toll-Free 1-877-DYNAPOLE

DRIVING STYLE
SSS4-8/20
POWER BY
CCT
06/28/04
DATE
NTS

NOTES:
MATERIAL: STEEL
SHAFT: 48-360 PSI MIN. YIELD
BASE PLATE: 44-500 PSI MIN. YIELD

TYPE A

Streetworks
GAW Galleon Wall
Wall Mount Luminaire

Product Features
Light Accessories
BAA

Product Certifications
DLC
UL
LM79
LM81
IP66
UL1881

Interactive Menu
Ordering Information page 2
Product Specifications page 3
Optical Distributions page 3
Energy and Performance Data page 4
Control Options page 6

Quick Facts
Choice of thirteen high-efficiency, patented AccuLED Optics
Downward and inverted wall mounting configurations
Eight lumen packages from 3215 up to 17,056
Efficacies up to 154 lumens per watt

Dimensional Details

GAW with CBP option installed
(Thru-Branch Box accessory MA105900)

GAW with accessory BB/GAWXX Back Box installed

COOPER Lighting Solutions

CONNECTED SYSTEMS
WaveLink
Enlighted

1 LIGHT POLE BASE DETAIL
E101 SCALE : N.T.S.

ELEVATION LAYOUT
N.T.S.

ELEVATION REINFORCEMENT
N.T.S.

PLAN OF BASE
N.T.S.

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
2. MINIMUM OF TWO SLEEVES REQUIRED FOR EACH CONCRETE FOOTING. THREE SLEEVES AS SPECIFIED.
3. SET TEMPLATE LEVEL. REMOVE TO FINISH CONCRETE AFTER INITIAL SET.
4. CONCRETE SHALL CONFORM TO CAN/CSA A23.1
5. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE NO LESS THAN 25MPa EXPOSURE CLASS C1.
6. ALL STEEL WORKS SHALL CONFORM TO CAN/CSA S16-01.
7. BEARING SURFACES SHALL BE REVIEWED AND APPROVED BY A GEOTECHNICAL ENGINEER.
8. COORDINATE ANCHOR BOLTS SIZE & EXACT LOCATIONS WITH LIGHT POLE MANUFACTURER PRIOR TO ROUGH-INS.

POLE HEIGHT	'x'	'y'
TO 6.1m	1.5m	405mm
OVER 6.1m	1.8m	508mm

LUMINAIRE SCHEDULE									
SYMBOL	LABEL	MANUFACTURER	CATALOG NUMBER	LIGHT LOSS FACTOR	DIMMING LIGHT LOSS FACTOR	MOUNTING HEIGHT	WATTAGE	DESCRIPTION	
☐	A	COOPER	GAW-SA2C-740-U-T3-BK-PR7	0.85	N/A	MOUNTED AT 3.0m (9.8')	113W	GAW GALLEON WALL PACK, 113W, WITH TYPE T3 DISTRIBUTION	
☐ >	B	COOPER	GLNA-AF-03-LED-E1-SL3-BK-PER7-HSS	0.85	0.612	MOUNTED ON 2.4m (8') OR 6.1m (20') POLE ON 0.9m (3') CONCRETE BASE. SEE SHEET E100 FOR MOUNTING HEIGHT	166W	GLNA GALLEONAIRE LED AREA FIXTURE, 166W, WITH TYPE SL3 DISTRIBUTION, C/W HOUSE SIDE SHIELD. MOUNTED ON A SQUARE STEEL POLE.	
☐ >	C	COOPER	GLNA-AF-06-LED-E1-SL4-BK-DIM-PER7-HSS	0.85	N/A	MOUNTED ON 2.4m (8') POLE ON 0.9m (3') CONCRETE BASE	333W	GLNA GALLEONAIRE LED AREA FIXTURE, 333W, WITH TYPE SL4 DISTRIBUTION, C/W HOUSE SIDE SHIELD. MOUNTED ON A SQUARE STEEL POLE.	
< ☐ >	D	COOPER	GLNA-AF-10-LED-E1-T4FT-BK-PER7	0.85	N/A	MOUNTED ON 6.1m (20') POLE ON 0.9m (3') CONCRETE BASE	2x558W	GLNA GALLEONAIRE LED AREA FIXTURE, 558W, WITH TYPE T4FT DISTRIBUTION. MOUNTED ON A SQUARE STEEL POLE BACK-TO-BACK AT 180°.	
☐ (EX)	EXISTING	PHILIPS	RFS-54W16LED-3K-G2-R2M-UNV-DMG-API-RC07-SP2-PH8-HS-GY3	0.86	N/A	MOUNTED ON 9.1m (30') USI POLE AT 7.62m (25') AND ON A 1.8m (6') ARM MAST	54W	RFS LED STREETLIGHT, SMALL, TYPE II MEDIUM, 54W, 3000K, C/W HOUSE SIDE SHIELD, LUMINAIRES MOUNTED AT 7.62m (25') ABOVE FINISHED GRADE ON 1.8m (6') ARM. INSTALLED DURING EDGEWOOD GREEN PHASE 11.	

THE FOLLOWING NOTATIONS APPLY TO ALL LUMINAIRES IN SCHEDULE, UNLESS OTHERWISE NOTED:

- ALL LUMINAIRES SHALL UTILIZE HIGH POWER FACTOR.
- ALL LED LUMINAIRES SHALL HAVE AT LEAST 50,000 HOURS WARRANTY INCLUDING DRIVERS. ALL LUMINAIRES COLOUR TEMPERATURE SHALL BE 4000K, UNLESS OTHERWISE NOTED.
- ALL LUMINAIRES SHALL BE DARK SKY COMPLIANT.

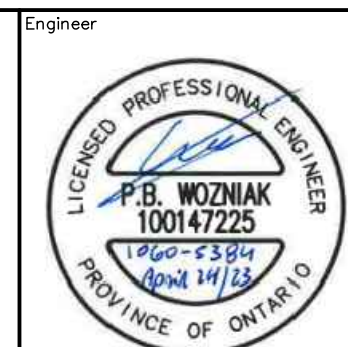
LABEL	LUMINAIRE STATISTICS				TARGET VALUES				
	SYMBOL	UNITS	AVG	MAX	MIN	AVG/MIN	ROADWAY TYPE CLASSIFICATION	AVG	AVG/MIN
ACCESSIBLE PARKING	*	Fc	6.1	11.2	2.5	2.5:1	N/A	6.0	5.0:1
BUILDING WALKWAY	+	Fc	14.2	21.8	3.5	4.1:1	N/A	10.0	5.0:1
DRIVE THRU	*	Fc	11.0	26.9	2.4	4.6:1	N/A	10.0	5.0:1
PARKING LOT	x	Fc	6.4	26.0	1.1	5.8:1*	N/A	6.0	5.0:1
SOUTH ENTRANCE	+	Fc	2.1	8.6	0.4	5.3:1	LOCAL/HIGH	1.7	6.0:1
WEST ENTRANCE	*	Fc	2.3	5.1	0.9	2.6:1	LOCAL/HIGH	1.7	6.0:1
PROPERTY LINE	+	Fc	0.0	0.1**	0.0	N/A	N/A	0.0	N/A

GENERAL NOTES:

- (* PLEASE NOTE THAT THE UNIFORMITY AVG/MIN IS EXCEEDING THE TARGET VALUES DUE TO LOW ILLUMINATION POINTS AT THE EXTREMITIES OF THE AREA, IN ORDER TO ELIMINATE LIGHT SPILL ONTO THE NEIGHBORING PROPERTIES.
- (** PLEASE NOTE THAT SPILL IS PRESENT AT SOME PROPERTY LINE EXTREMITIES AS A RESULT OF PROPOSED MUNICIPAL STREET LIGHTING.

- THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.
- THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
- DO NOT SCALE THE DRAWINGS.
- ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

No.	ISSUE / REVISION	DATE: DD/MM/YYYY	Engineer
1	DRAFT FOR REVIEW	13/01/2022	
2	ISSUED FOR 3RD SUBMISSION	24/04/2023	



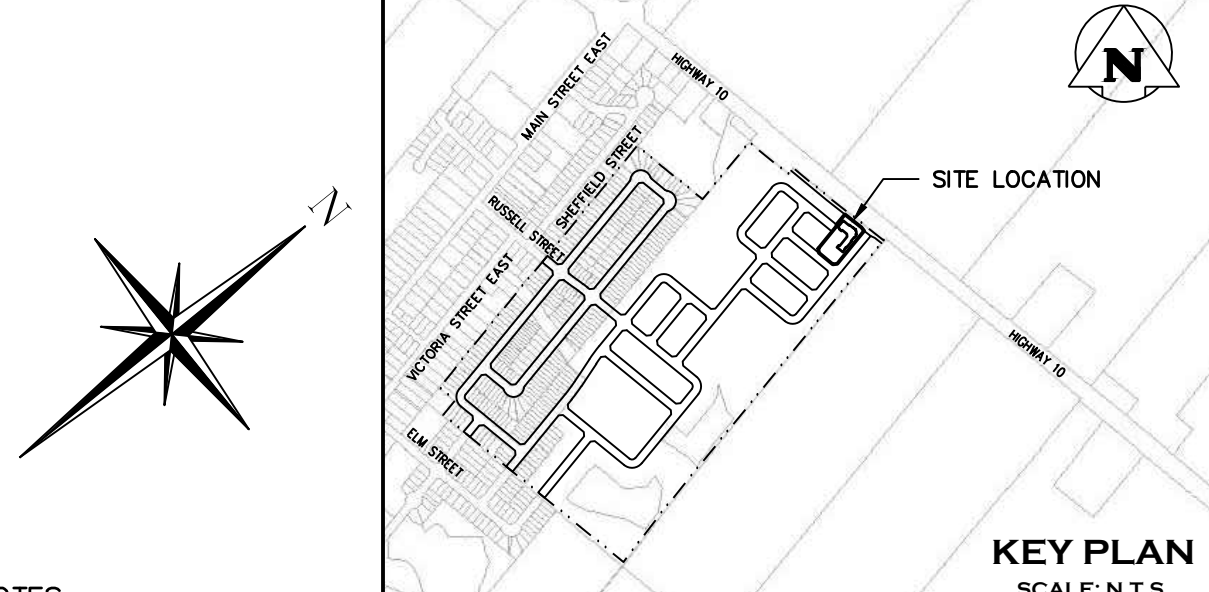
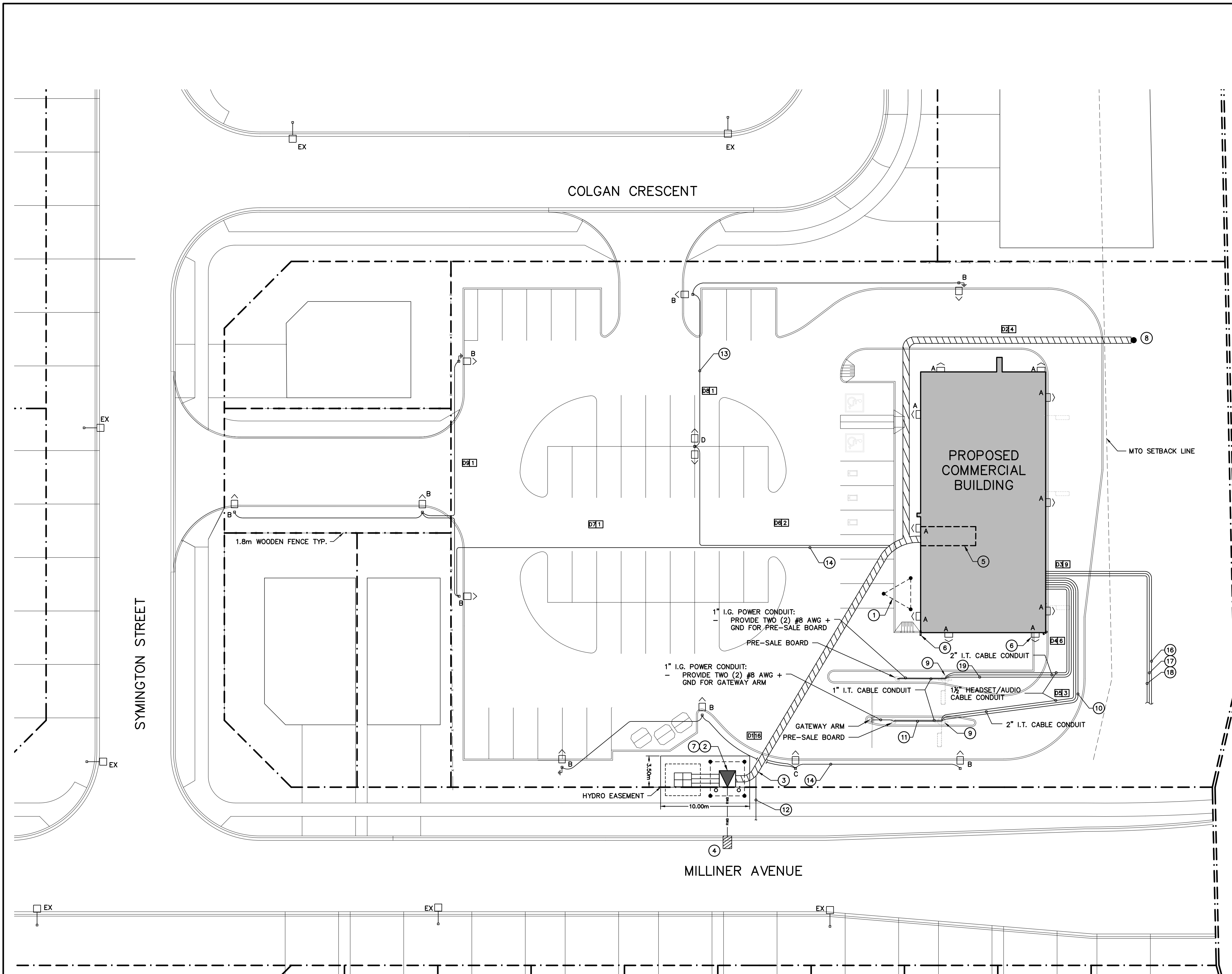
Project: **DUNDALK COMMERCIAL BLOCK TOWNSHIP OF SOUTHGATE**

Drawing: **SITE LIGHTING DETAILS**

CROZIER CONSULTING ENGINEERS

Drawn By: B.A.O. Design By: B.A.O./I.S. Project: **1060-5384**

Scale: N.T.S. Check By: P.W. Drawing: **E101**



- GENERAL NOTES:**
- SECONDARY FEEDS TO BE RUN UNDERGROUND THROUGH A SLEEVE INTO THE BUILDING TO THE POINT OF CONNECTION WITH 30 FEET COILED PER REQUIREMENTS
 - ELECTRICAL CONTRACTOR TO COORDINATE ELECTRICAL INSTALLATION INSPECTIONS AND PROVIDE ESA CERTIFICATE TO PROJECT OWNER UPON COMPLETION OF WORK.
 - ALL DATA CABLE RUNS MUST HAVE DEDICATED CONDUIT RUNS, NO SHARING WITH OTHER CABLING.
 - ALL I.T. DATA RUNS SHOULD BE FIBRE OPTICS AND SHOULD NOT TRANSITION OUT OF THE CONDUIT RUN ON THE INSIDE (BY OTHERS).
 - ALL HEADSET & SPEAKER LINE RUNS FROM OUTSIDE IN A 1.5" CONDUIT WILL ENTER INTO A PULL BOX INSIDE BUILDING. LINES WILL THEN BE RUN TO THEIR SPECIFIC HEADSET/SPEAKER LOCATIONS (BY OTHERS).
 - ALL I.G. POWER RUNS FROM OUTSIDE IN A 1" CONDUIT WILL ENTER INTO A PULL BOX INSIDE BUILDING. I.G. POWER THEN WILL BE RUN TO AND TERMINATED ABOVE THE I.G. PANEL (BY OTHERS).
 - ALL I.T. DATA RUNS FROM OUTSIDE WILL ENTER INTO A PULL BOX INSIDE BUILDING. DATA LINES WILL THEN BE RUN TO AND TERMINATED ABOVE THE I.T. RACK (BY OTHERS).
 - ALL CONSTRUCTION TO BE COMPLETED AND COORDINATED PER LATEST STANDARDS AND REQUIREMENTS.
 - CONTRACTOR TO SUBMIT ALL SHOP DRAWINGS TO ELECTRICAL ENGINEER ON RECORD.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR/SUB-CONTRACTOR TO IDENTIFY ANY ERRORS/CONTRADICTIONS/DISCREPANCIES BETWEEN DRAWINGS AND/OR SPECIFICATIONS DURING THE TENDER PERIOD. SHOULD CONTRACTOR/SUB-CONTRACTOR NOT IDENTIFY SAID ITEMS DURING THE TENDER PERIOD, THE OWNER/CONSULTANT SHALL ENFORCE SUCH DETAIL THAT IS MORE COSTLY OR ROBUST.
 - ELECTRICAL CONTRACTOR SHALL COORDINATE PRIOR TO THE DUCTBANK INSTALLATION WITH OTHER DISCIPLINES REQUIRING EMBEDDED SERVICES, SUCH AS SANITARY, DOMESTIC WATER, GAS, STORM, BELL, AND ROGERS.
 - ELECTRICAL CONTRACTOR TO INSTALL FOUR (4) VEHICLE DETECTION LOOPS AS SUPPLIED. COORDINATE EXACT REQUIREMENTS WITH PROJECT OWNER AND GENERAL CONTRACTOR.
 - ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL PROPOSED EXTERIOR WALL MOUNTED LUMINAIRE TYPE 'A'. CIRCUITING TO BE COMPLETED BY OTHERS.
 - PER OWNER'S REQUIREMENTS, SITE ELECTRICAL CONTRACTOR TO PROVIDE 3' CLEARANCE FROM PROPOSED FOUNDATION WALL AND CONDUIT ROUGH-INS PRIOR TO BUILDING CONSTRUCTION. EXACT REQUIREMENTS TO BE COORDINATED PRIOR TO ROUGH-INS.
 - HYDRO ONE TO PROVIDE 400A, 600V, 3Ø, 4W SERVICE TO THE PROPOSED COMMERCIAL DEVELOPMENT.
 - TEMPORARY SERVICE TO THE PROPOSED COMMERCIAL BUILDING WILL BE DONE THROUGH A TEMPORARY CUSTOMER OWNED HYDRO POLE INSTALLED AT THE NORTH SIDE OF THE BUILDING. PENDING INFORMATION FROM HYDRO ONE.
- DRAWING NOTES:**
- GROUNDING RODS (3) REFER TO MAIN GROUNDING SYSTEM IN DWG. E400 FOR DETAILS. PROVIDE A COMPLETE INSTALLATION IN ACCORDANCE WITH ALL APPLICABLE LATEST CODES. SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW.
 - PROPOSED PAD MOUNTED TRANSFORMER C/W GROUNDING GRID FOR PROPOSED RESTAURANT. ELECTRICAL CONTRACTOR TO PROVIDE HY-GRADE PRECAST TYPE TP-48-103D TRANSFORMER PAD COMPLETE WITH ALL ACCESSORIES FOR A COMPLETE INSTALLATION. COORDINATE REQUIREMENTS WITH HYDRO ONE. MAINTAIN MIN. 1m HORIZONTAL CLEARANCE FROM SECONDARY CABLES.
 - PROVIDE SECONDARY UNDERGROUND FEEDER FROM TRANSFORMER. PROVIDE TWO (2) SETS OF 3/250 MCM PHASE CONDUCTOR + 1/250 MCM NEUTRAL CONDUCTOR + GND IN 4" PVC CONDUIT SAND ENCASED SECONDARY DUCTBANK AS SHOWN ON DWG. E400 DETAIL. ALL CONDUCTORS SHALL BE COPPER. PROVIDE GROUNDING CONDUCTORS IN CONFORMANCE WITH THE LATEST ONTARIO ELECTRICAL SAFETY CODE.
 - PROPOSED HYDRO SERVICE LOCATION FOR PROPOSED COMMERCIAL BUILDING. PENDING CONFIRMATION FROM HYDRO ONE. ELECTRICAL CONTRACTOR TO PROVIDE PRIMARY SERVICE DUCTBANK AS REQUIRED BY HYDRO ONE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH HYDRO ONE PRIOR TO ROUGH-INS.
 - ESTIMATED LOCATION FOR ELECTRICAL ROOM FOR PROPOSED COMMERCIAL BUILDING. COORDINATE EXACT LOCATION WITH OWNER. COORDINATE REQUIREMENTS WITH HYDRO ONE.
 - ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOCATION AND REQUIREMENTS FOR CCTV CAMERAS WITH PROJECT OWNER PRIOR TO ROUGH-IN. DETAIL DESIGN BY OTHERS.
 - PROPOSED SWITCHGEAR LOCATION.
 - PROPOSED LOCATION FOR TEMPORARY INCOMING 100A, 120/208V, 3Ø SERVICE FROM DIP POLE. EXACT LOCATION AND REQUIREMENTS OF POLE TO BE COORDINATED. PENDING INFORMATION FROM HYDRO ONE.
 - MENU BOARD C/W VEHICLE DETECTOR LOOP (FED FROM BLDG. ELEC. ROOM):
- 1/2" CONDUIT REQUIRED FROM MENU BOARD BASE TO VEHICLE DETECTOR LOOP. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH PROJECT OWNER PRIOR TO ROUGH-IN.
 - I.G. POWER CONDUIT:
- PROVIDE TWO (2) #8 AWG + GND FOR MENU BOARD.
- PROVIDE TWO (2) #8 AWG + GND FOR PRE-SALE BOARD.
- PROVIDE TWO (2) #8 AWG + GND FOR GATEWAY ARM
 - I.G. POWER CONDUIT:
- PROVIDE TWO (2) #8 AWG + GND FOR GATEWAY ARM.
- PROVIDE TWO (2) #8 AWG + GND FOR PRE-SALE BOARD.
 - PROVIDE TWO (2) - FOUR (4") DIAMETER CONDUIT AND FISH WIRE FOR TELECOMMUNICATIONS SERVICE TERMINATED WITH PROPOSED BUILDING AT REQUIRED LOCATION. CAPPED ENDS OF TELECOMMUNICATION ROUGH-INS SHALL BE CLEARLY STAKED AND IDENTIFIED ON SITE TO TENANTS REPRESENTATIVE. WHEN BUILDING CONSTRUCTION COMMENCES. CONTRACTOR TO VERIFY EXACT REQUIREMENTS WITH LOCAL UTILITIES PRIOR TO ROUGH-INS. ALL FINAL CHANGES TO BE APPROVED BY ENGINEER OF RECORD AND PROJECT OWNER.
 - PROVIDE UNDERGROUND FEEDER FOR SITE LIGHTING. PROVIDE ONE (1) 20-AMP BREAKER ON PANEL FOR SITE LIGHTING. PROVIDE TWO (2) #6 AWG + GND IN 53mm (2") PVC CONDUIT. INSTALLATION TO BE IN CONFORMANCE WITH ALL APPLICABLE ONTARIO ELECTRICAL SAFETY CODES. PROVIDE UNDERGROUND FEEDER FROM PANEL IN COMMERCIAL BUILDING ELECTRICAL ROOM.
 - PROVIDE UNDERGROUND FEEDERS FOR SITE LIGHTING. PROVIDE TWO (2) 20-AMP BREAKER ON PANEL FOR SITE LIGHTING. PROVIDE TWO (2) #6 AWG + GND IN 53mm (2") PVC CONDUIT. INSTALLATION TO BE IN CONFORMANCE WITH ALL APPLICABLE ONTARIO ELECTRICAL SAFETY CODES. PROVIDE UNDERGROUND FEEDER FROM PANEL IN COMMERCIAL BUILDING ELECTRICAL ROOM.
 - RESERVED
 - PROVIDE 53mm (2") PVC CONDUIT FOR PYLON SIGNAGE. CONTRACTOR TO COORDINATE EXACT LOCATION AND REQUIREMENTS WITH PROJECT OWNER PRIOR TO ROUGH-IN.
 - PROVIDE 25mm (1") PVC DATA CONDUIT FOR PYLON SIGNAGE. CONTRACTOR TO COORDINATE EXACT LOCATION AND REQUIREMENTS WITH PROJECT OWNER PRIOR TO ROUGH-IN.
 - PROVIDE 25mm (1") PVC GROUND CONDUIT FOR PYLON SIGNAGE. CONTRACTOR TO COORDINATE EXACT LOCATION AND REQUIREMENTS WITH PROJECT OWNER PRIOR TO ROUGH-IN.
 - I.G. POWER CONDUIT:
- PROVIDE TWO (2) #8 AWG + GND FOR MENU BOARD.
- PROVIDE TWO (2) #8 AWG + GND FOR PRE-SALE BOARD.

SITE PLAN - ELECTRICAL
SCALE: 1:250



1. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

3. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.

4. DO NOT SCALE THE DRAWINGS.

5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

No.	ISSUE / REVISION	DATE: DD/MM/YYYY
1	DRAFT FOR REVIEW	13/01/2022
2	ISSUED FOR 3RD SUBMISSION	24/04/2023

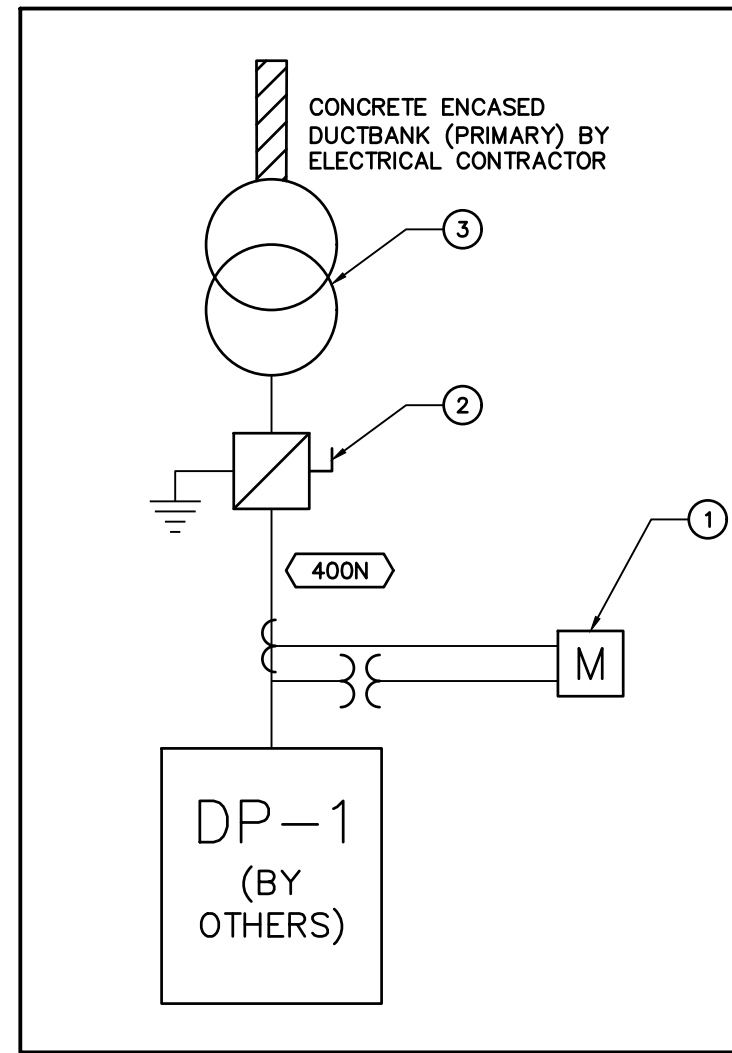


Project: **DUNDALK COMMERCIAL BLOCK TOWNSHIP OF SOUTHGATE**

Drawing: **SITE PLAN - ELECTRICAL**

Drawn By: B.A.O. Design By: B.A.O./J.S. Project: **1060-5384**

Scale: 1:250 Check By: P.W. Drawing: **E110**



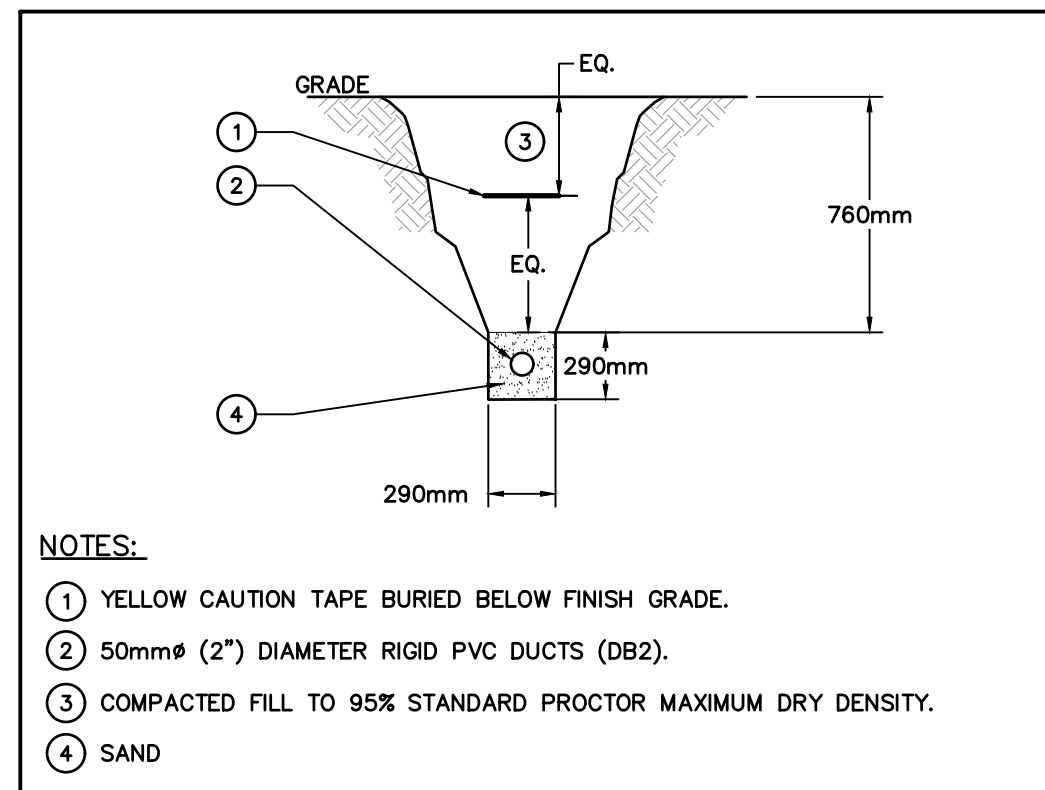
FEEDER SCHEDULE					
FEEDER	AMPACITY	SET(S)	PHASE CONDUCTOR	NEUTRAL	CONDUIT (INCH)
400N	400	2	3#250	1#250	103mm (4")

FEEDER SCHEDULE NOTE:
1. ALL CONDUCTORS SHALL BE COPPER.

- SINGLE LINE DIAGRAM NOTES:**
- ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL BULK METERING CABINET. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH HYDRO ONE.
 - 400A, 347/600V, 3φ, 4W, SERVICE RATED MAIN DISCONNECT SWITCH FUSED AT 400A WITH 50KAIC RATING.
 - HYDRO ONE PAD-MOUNTED TRANSFORMER. ELECTRICAL CONTRACTOR TO SUPPLY NEMA COMPRESSION SPADES FOR THE SECONDARY CONDUCTORS INSTALLED INTO THE TRANSFORMER VAULT, FOR INSTALLATION BY HYDRO ONE. COORDINATE EXACT LOCATION, REQUIREMENTS AND INSTALLATION WITH HYDRO ONE.

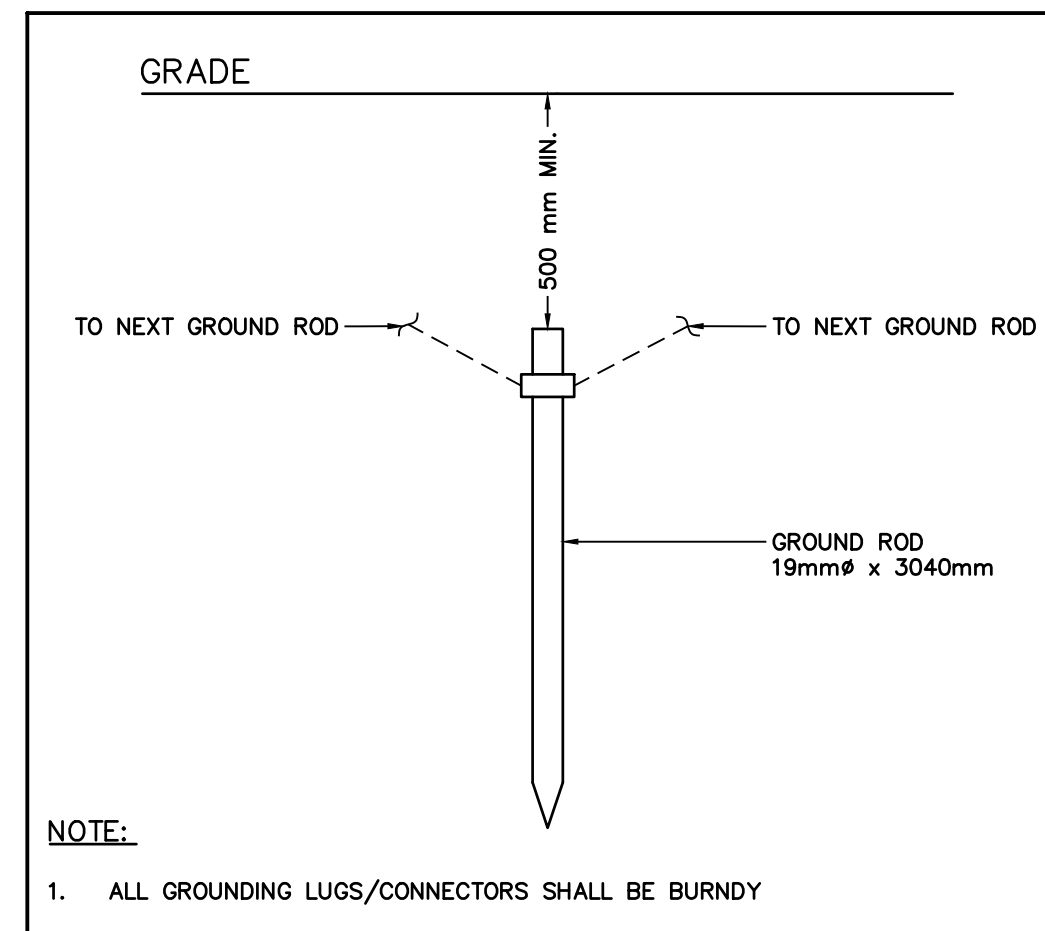
SINGLE LINE DIAGRAM

SCALE: N.T.S.



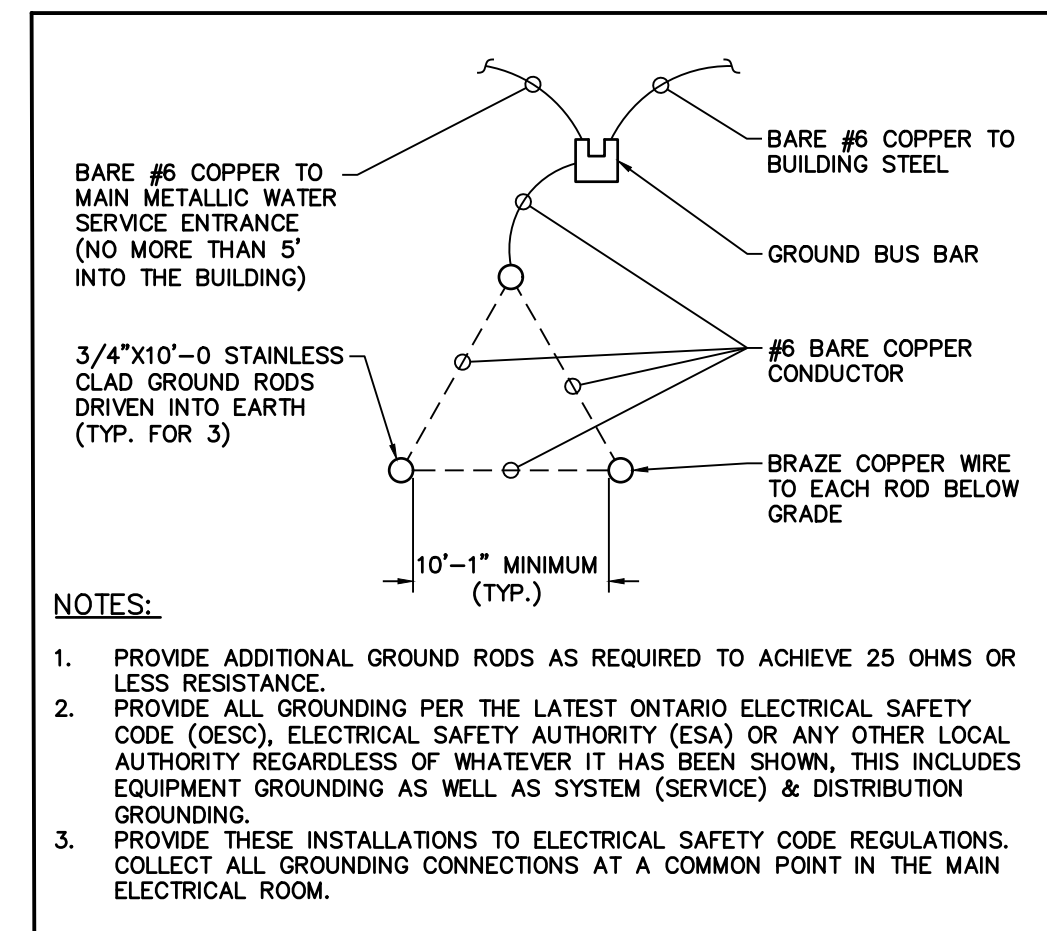
TYPICAL DUCT BANK DETAIL FOR LIGHTING CABLES

SCALE: N.T.S.



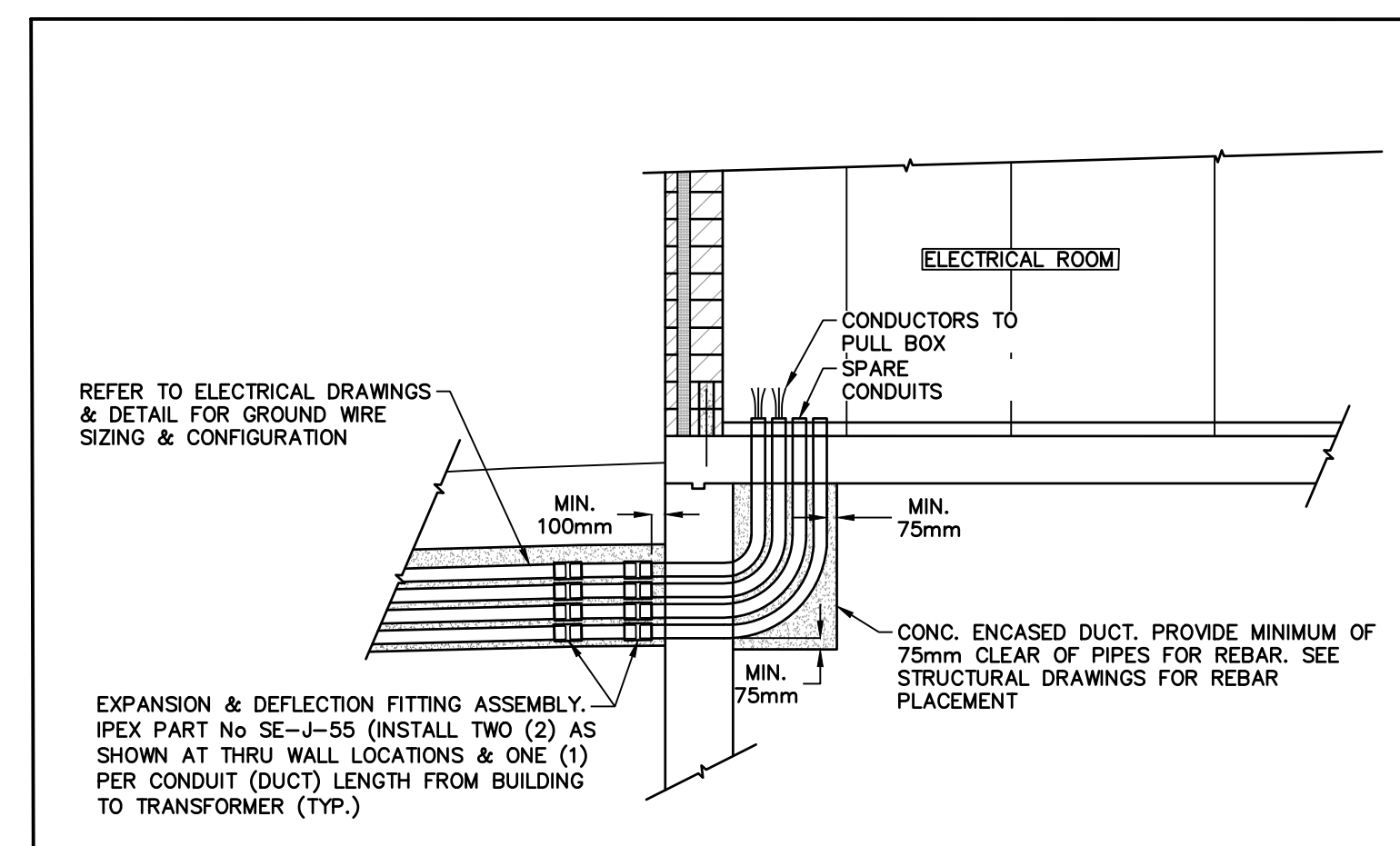
GROUND ROD DETAIL

SCALE: N.T.S.



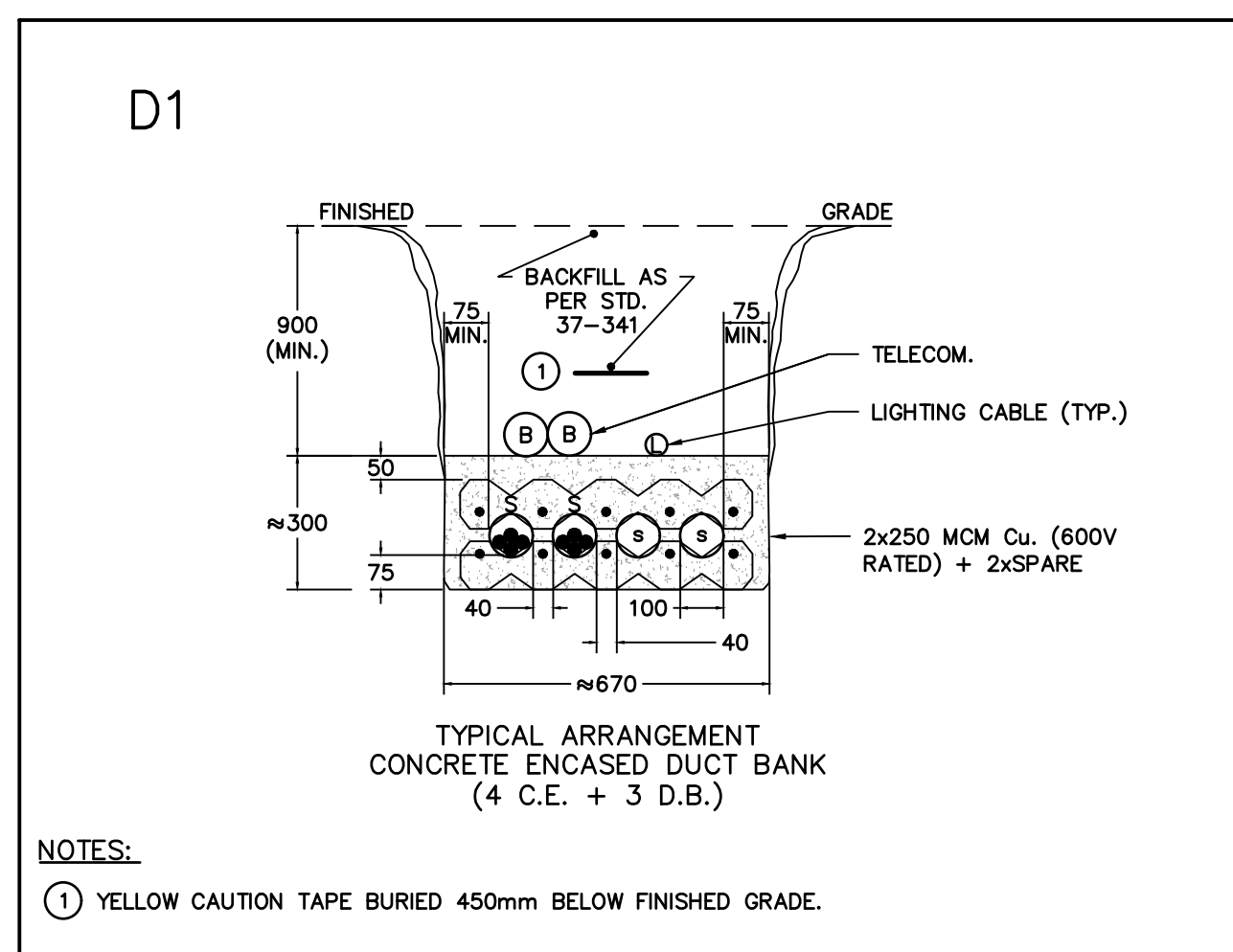
MAIN GROUNDING SYSTEM

SCALE: N.T.S.



ELECTRICAL DUCTS & BUILDING DETAIL

SCALE: N.T.S.

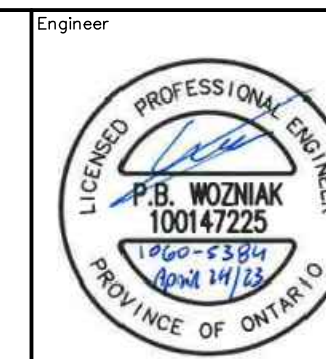


DUCT BANK DETAILS

SCALE: N.T.S.

- THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.
- THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
- DO NOT SCALE THE DRAWINGS.
- ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

No.	ISSUE / REVISION	DATE: DD/MM/YYYY
1	DRAFT FOR REVIEW	13/01/2022
2	ISSUED FOR 3RD SUBMISSION	24/04/2023



Project: **DUNDALK COMMERCIAL BLOCK TOWNSHIP OF SOUTHGATE**

Drawing: **SINGLE LINE DIAGRAM & SITE ELECTRICAL DETAILS**

Drawn By: B.A.O. Design By: B.A.O./I.S. Project: **1060-5384**

Scale: N.T.S. Check By: P.W. Drawing: **E400**