

**ELECTRICAL SPECIFICATIONS
SCOPE OF WORK**

THE SCOPE OF WORK FOR THIS PROJECT IS TO DISCONNECT, RELOCATE, SUPPLY AND INSTALL ALL REQUIRED ELECTRICAL ITEMS FOR A COMPLETE AND OPERATIONAL LIGHTING INSTALLATION IN ACCORDANCE WITH THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS AND ALL APPLICABLE CODES. THESE ITEMS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

CONSTRUCTION:

- PROVIDE CONDUIT INFRASTRUCTURE FOR POWER CABLING AND RECEPTACLES POWER AS INDICATED ON DRAWINGS.
- SUPPLY AND INSTALL NEW LIGHTING AND CONTROLS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER COORDINATION OF ALL ITEMS WITH OTHER TRADES TO ENSURE THAT ALL ITEMS REQUIRING ELECTRICAL ARE INSTALLED AS REQUIRED.
- PLAN FOR ONE NIGHT TIME SYSTEM COMMISSIONING ENSURE SYSTEM FUNCTIONING AS REQUIRED.

EXECUTION SPECIFICATION

THE CONTRACT INCLUDES THE FURNISHING OF LABOUR, MATERIAL, EQUIPMENT, AND SERVICES NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND OPERATING TO THE COMPLETE SATISFACTION OF THE CONTRACT ADMINISTRATOR.

ALL ELECTRICAL WORK AND MATERIAL SHALL CONFORM WITH THE CURRENT RELEVANT AND/OR APPLICABLE BUILDING CODE, ELECTRICAL CANADIAN CODE AND TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AND THE DESIGN PROFESSIONAL. FOR THE PURPOSE OF THIS SPECIFICATION INTERPRETATION OF THE WORD "CODE" SHALL MEAN ALL CODES, REGULATIONS AND REQUIREMENTS AS STATED ABOVE.

EXAMINE THE SITE, BUILDING AND LOCAL CONDITIONS AFFECTING WORK OF THIS CONTRACT. EXAMINE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL CONDITIONS TO ENSURE WORK CAN BE PERFORMED WITHOUT CHANGES, AS SHOWN ON CONTRACT DRAWINGS. NO ALLOWANCE WILL BE MADE LATER FOR NECESSARY CHANGES, UNLESS IT HAS BEEN BROUGHT TO CONTRACT ADMINISTRATOR'S ATTENTION IN WRITING, PRIOR TO CLOSING OF BID OPPORTUNITY.

APPLY FOR ALL PERMITS, SERVICES, FEES AND INSPECTIONS AND PAY FOR ALL FEES TO THE AUTHORITIES HAVING JURISDICTION. INCLUDE ALL COST IN BID OPPORTUNITY QUOTE.

OBTAIN APPROVALS FROM THE ELECTRICAL INSPECTION AUTHORITY AND NOTIFY THE CONTRACT ADMINISTRATOR OF ANY CHANGES REQUESTED BY THE INSPECTION AUTHORITY.

WHERE DOUBT EXISTS AS TO THE MEANING OF THE DRAWINGS OR SPECIFICATIONS, OBTAIN CLARIFICATION PRIOR TO BID.

ALL MATERIALS USED SHALL BE NEW, OF THE TYPE SPECIFIED, AND APPROVED BY CERTIFICATION AGENCY RECOGNIZED BY AUTHORITY BARING JURISDICTION, AND FREE FROM DEFECTS.

ALL ELECTRICAL EQUIPMENT INSTALLED OR CONNECTED SHALL BE IDENTIFIED BY MEANS OF BLACK LAMACOID LABELS C/W MINIMUM 3/8" WHITE LETTERING.

CLEAN ALL EQUIPMENT DURING CONSTRUCTION AND AGAIN ON COMPLETION OF THE CONTRACT.

REMOVE ALL SURPLUS MATERIALS, CUTTINGS, PACKAGING AND DEBRIS FROM THE SITE DURING THE PROGRESS AND AT FINAL COMPLETION OF THE WORK.

EXECUTE WORK IN A FIRST-CLASS AND WORKMANLIKE MANNER.

COORDINATE WITH ALL TRADES AND ARRANGE EQUIPMENT IN PROPER RELATION WITH OTHER APPARATUS, DUCTS, PIPES, ETC. AND WITH BUILDING CONSTRUCTION AND ARCHITECTURAL FINISHES.

ALL RECEPTACLE COVER PLATES AND SWITCH COVERS TO BE C/W DYMOTAPE LABELS INDICATING PANEL NAME AND CIRCUIT NUMBERS.

EXCAVATION AND FILL (TO BE PERFORMED OUTSIDE OF ELECTRICAL SCOPE OF WORK. SEE SECTION "EXCLUSIONS")

- WHERE REQUIRED THE CONTRACTOR SHALL PERFORM ALL EXCAVATION AND BACK-FILLING PERTAINING TO THIS PORTION OF THE CONTRACT. FILL MATERIAL SHALL BE EQUIVALENT TO THE SURROUNDING MATERIAL. CONTRACTOR SHALL COORDINATE ALL WORK REQUIRED.
- UNDER NO CIRCUMSTANCES SHALL A CONTRACTOR PROCEED WITH DIGGING WITHOUT CHECKING WITH PERTINENT PARTIES AND/OR AUTHORITIES REGARDING THE EXISTING UNDERGROUND SERVICES DUCTS, STRUCTURES ETC.
- WHEN UNDERGROUND SERVICE/INSTALLATION HAS TO BE CONNECTED TO SERVICES SUPPLIED AND INSTALLED BY OTHER PARTIES, CONTRACTOR SHALL FULLY COORDINATE WITH THE PARTIES THE EXACT POINT OF CONNECTION. THIS COORDINATION HAS TO BE PERFORMED BEFORE ANY EXCAVATION AND INSTALLATION.

BUILDING ENVELOPE PENETRATION OF ANY ELECTRICAL COMPONENT (I.E. CONDUIT, BOXES, CABLES, ETC.) SHALL BE EXECUTED SO INTEGRITY OF ASSEMBLY IS NOT COMPROMISED. PROVIDE FOR ADEQUATE SEALING, COVERS, GASKETS, CAPS, ETC. COORDINATE WORK AND REQUIREMENTS WITH ALL OTHER RELEVANT CONTRACTORS, ARCHITECT, ENVELOPE CONSULTANT AND OTHER RELEVANT CONSULTANTS AND CONTRACTORS.

THE ELECTRICAL SERIES DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS PERTAIN TO THE ELECTRICAL SCOPE OF WORK ONLY. TASKS WHICH ARE NOT PART OF THE ELECTRICAL SCOPE OF WORK EVEN IF MENTIONED IN THESE DOCUMENTS ARE INDICATED ONLY FOR REFERENCE AND COORDINATION PURPOSES ONLY.

DRAWING IS DIAGRAMMATIC ONLY, AND DOES NOT SHOW ALL DETAILS. INFORMATION INVOLVING ACCURATE MEASUREMENTS OF THE BUILDING, STRUCTURAL STEEL, EXISTING WALLS, ETC. ARE TO BE TAKEN IN THE FIELD. THE CONTRACTOR SHALL MAKE, WITHOUT ADDITIONAL EXPENSE TO THE CITY NECESSARY CHANGES OR ADDITIONS TO RUNS TO ACCOMMODATE STRUCTURAL CONDITIONS.

LOCATION OF DEVICES MAY BE ALTERED WITHOUT CHARGE TO THE CITY, PROVIDED THE CHANGE IS MADE BEFORE FINAL INSTALLATION, IT DOES NOT NECESSITATE ADDITIONAL MATERIALS, AND ALL SUCH CHANGES ARE RATIFIED BY THE CITY'S REPRESENTATIVE. RECORD CHANGES ON RECORD SET OF DRAWINGS.

DRAWING SHOWS GENERAL LOCATION FOR EQUIPMENT AND CIRCUITS; INSTALL THEM IN SUCH A WAY AS TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF SPACE THROUGH WHICH THEY PASS.

ALL PAINTING AND PATCHING SHALL BE DONE BY QUALIFIED LABOURERS.

ALL PENETRATIONS THROUGH FIRE SEPARATIONS SHALL BE RATED TO MATCH FIRE RATING.

1M SHALL BE KEPT CLEAR IN FRONT OF ALL PANELBOARDS AS PER CEC

**ELECTRICAL SPECIFICATIONS
SCOPE OF WORK (CONTINUED)**

INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS, THE CANADIAN ELECTRICAL CODE AND ALL OTHER AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO ENSURE PROPER INSTALLATION.

CONTRACTOR SHALL KEEP AN ONGOING SET OF 'RECORD' DRAWINGS ON SITE FOR REVIEW BY THE CITY OR CONTRACT ADMINISTRATOR AT ANY TIME. DRAWINGS TO BE TURNED OVER UPON COMPLETION OF PROJECT.

CONDUITS SHALL NOT HAVE MORE THAN ONE VOLTAGE LEVEL OF WIRING RUNNING WITHIN THEM.

SUBMITTALS

SUBMIT PRODUCT DATA FOR ALL EQUIPMENT. ACCEPTABLE MATERIALS SHALL BE AS SPECIFIED, CODE APPROVED OR APPROVED BY THE CITY. ALL MATERIAL SHALL BE NEW, UNLESS SPECIFIED OTHERWISE.

LIGHTING FIXTURES LISTED ARE PREFERRED. CONTRACTOR MAY, HOWEVER, SUBMIT ALTERNATES ONE WEEK PRIOR TO CLOSING OF BID OPPORTUNITY TO CONTRACT ADMINISTRATOR AS EQUIVALENT IN ACCORDANCE WITH B6.

SHOP DRAWINGS FOR ELECTRICAL EQUIPMENT/MATERIALS SHALL BE SUBMITTED FOR REVIEW BY THE CONTRACT ADMINISTRATOR BEFORE MANUFACTURING AND INSTALLATION CAN PROCEED.

SUBMIT TO THE CONTRACT ADMINISTRATOR UPON COMPLETION OF THE CONTRACT, TWO MARKED UP SETS OF RECORD DRAWINGS AND THREE SETS OF MAINTENANCE MANUALS FOR SERVICE, DISTRIBUTION, PANELS, LIGHT FIXTURES, AND LAMPS.

AFTER WORK IS COMPLETED, FURNISH TO THE CITY A WRITTEN GUARANTEE THAT FOR ONE YEAR FROM DATE OF ACCEPTANCE, ANY DEFECTS IN MATERIALS OR WORKMANSHIP WILL BE CORRECTED AT NO COST TO THE CITY. SUBMIT COPY OF GUARANTEE TO CONTRACT ADMINISTRATOR.

COORDINATION

THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE SCOPE OF THE WORK REQUIRED FOR EACH TRADE. WORK SHALL BE DONE BY THE APPROPRIATE SKILLED TRADE. ALL TRADES MUST COORDINATE WORK TO ENSURE THAT THE ENTIRE SCOPE OF THE PROJECT IS COVERED. THERE SHALL BE NO ALLOWANCES GIVEN FOR ITEMS WHICH RESULT AS A FAILURE OF CO-ORDINATION. THE CONTRACTOR WILL REVIEW THE DRAWINGS WITH ALL TRADES PRIOR TO BID OPPORTUNITY SUBMISSION TO RESOLVE ALL COORDINATION ISSUES.

RESPONSIBILITY TO DETERMINE WHICH DIVISION OR SECTION PROVIDES VARIOUS PRODUCTS AND WORK, RESTS WITH THE CONTRACTOR. ADDITIONAL COMPENSATION WILL NOT BE CONSIDERED BECAUSE OF DIFFERENCES IN INTERPRETATION OF TECHNICAL PROVISIONS.

THE CONTRACTOR SHALL COORDINATE WITH THE CITY DURING THE DEMOLITION AND CONSTRUCTION PHASES OF THE WORK FOR ALL TEMPORARY ELECTRICAL CONNECTIONS REQUIRED AND FOR THE REMOVAL OF EXISTING POWER SERVICES AND THE INSTALLATION OF NEW SERVICES. CONTRACTOR SHALL COMPLETE ALL PRELIMINARY WORK PRIOR TO ANY POWER OUTAGES.

CONTRACTOR SHALL COORDINATE, NOTIFY AND ARRANGE WITH THE CITY, GENERAL CONTRACTOR AND CONSULTANT ALL STAGING REQUIREMENTS TO MINIMIZE ALL POWER DISRUPTIONS AND ANY POWER OUTAGES NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST.

PRODUCT SPECIFICATIONS:

CONDUIT, WIRE AND CONNECTIONS

DRAWINGS ARE SCHEMATIC ONLY. CONDUIT RUNS SHOWN INDICATE POINTS TO BE JOINED. RUNS MAY BE ALTERED BY THE CONTRACTOR TO SUIT ACTUAL FIELD CONDITIONS. ELECTRICAL DRAWINGS ONLY GIVE INDICATION OF OTHER TRADES EQUIPMENT.

TEST SYSTEM AND RECORD SAME FOR THE CONTRACT ADMINISTRATOR'S APPROVAL:

- VOLTAGE DROP

ALL CONDUIT CONNECTIONS TO BE WATERTIGHT.

ALL WIRE AND CABLE SHALL BE COPPER, 98% CONDUCTIVITY, COLOUR CODED, NEW AND MARKED AS PER CODE REQUIREMENTS AND INSTALLED IN RACEWAYS. WIRES SHALL BE RATED MINIMUM 600V TYPE TWH OR R90X-LINK. RW90 SHALL BE USED FOR UNDERGROUND RACEWAY INSTALLATIONS.

ALL WIRING SHALL BE SIZED AS PER CODE MINIMUM ALLOWABLE WIRE SIZE IS #12 AWG. CONDUCTORS #8 AND LARGER TO BE STRANDED. ALL WIRES INSTALLED IN CONDUIT SHALL BE PULLED IN AT THE SAME TIME. ONLY APPROVED PULLING LUBRICANT SHALL BE USED. COLOUR CODE CONDUCTORS WITH DIFFERENT COLOURS FOR EACH PHASE, NEUTRAL, GROUND AND BOND WIRES AS REQUIRED BY CODE.

MAXIMUM VOLTAGE DROP SHALL BE AS PER CODE REQUIREMENTS.

ALL WIRE CONNECTIONS TO BE SECURELY FASTENED BY MEANS OF APPROVED CONNECTORS.

ALL NON-CURRENT CARRYING METAL PARTS SHALL BE GROUNDED AND/OR BONDED IN ACCORDANCE WITH THE CODE.

OPENINGS IN ALL ELECTRICAL METAL BOXES SHALL BE PUNCHED OR CUT. BURNING OF HOLES IS NOT PERMITTED.

INSTALL ALL CONDUITS, ETC. TO ACCOUNT FOR EXPANSION AND INSTALL APPROVED EXPANSION JOINTS WHERE REQUIRED.

RACEWAYS SHALL BE RIGID METAL CONDUITS, EMT OR FLEXIBLE CONDUIT AS SHOWN ON THE DRAWINGS, ALL CONDUIT INSTALLED IN CONCRETE FLOOR SHALL BE RIGID P.V.C. OR RIGID GALVANIZED STEEL CONDUIT C/W BOND CONDUCTOR.

EMT COUPLINGS AND CONNECTORS TO BE T & B STEEL, TAPE ALL JOINTS FOR ALL IN-SLAB INSTALLATIONS. STEEL SHALL BE USED ABOVE GRADE.

ALL CONDUITS MUST BE SECURELY FASTENED WITH APPROVED CLIPS AND SCREWS IN PARTITIONS AND CADDY CLIPS IN CEILING. NAILS ARE NOT ACCEPTED.

EXPOSED CONDUITS SHALL NOT BE ACCEPTED. WHERE CONDUITS ARE RUN EXPOSED ON EXISTING SURFACES PAINT TO MATCH WALL FINISH.

ALL CONDUIT, CONDUCTORS, WIRES, ETC. TO BE LABELED IN INDELIBLE INK AT PANEL AND JUNCTION BOXES INDICATING DEVICE FED, PANEL NAME AND CIRCUIT NUMBER.

PRIOR TO INSTALLATION OF ANY CONDUIT IN CONCRETE SLABS, CONTRACTOR SHALL COORDINATE LAYOUT AND REQUIREMENTS WITH STRUCTURAL CONTRACT ADMINISTRATOR.

LUMINAIRES, LAMPS AND BALLAST

LUMINAIRES SHALL BE AS DETAILED IN FIXTURE SCHEDULE AND INSTALLED AS INDICATED IN LOCATIONS SHOWN. INSTALL COMPLETE WITH LAMPS, BALLAST, DIFFUSERS, HANGERS, GASKETS, CANOPIES AND SUPPORTS FOR A COMPLETE AND FINISHED OPERATION. FINAL LAYOUT OF LUMINAIRES SHALL BE MADE AFTER DUCTING, PIPING, AND SHELVING LAYOUTS ARE FULLY COORDINATED WITH OTHER TRADES. ALL LUMINAIRES TO BE ADEQUATELY ATTACHED DIRECTLY TO THE BUILDING STRUCTURE OR BASE.

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**LOCATION APPROVED
UNDERGROUND STRUCTURES**

SUPV. U/G STRUCTURES DATE COMMITTEE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NO.	REVISIONS	DATE	BY
1	ISSUED FOR TENDER	13/01/04	AP
0	ISSUED FOR TENDER	12/12/04	AP

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DESIGNED BY	AP	CHECKED BY	LL
DRAWN BY	BGO	APPROVED BY	AP
SCALE:	AS NOTED	RELEASED FOR CONSTRUCTION:	
DATE	12/12/04	DATE	

ENGINEER'S SEAL

THE CITY OF WINNIPEG
PLANNING, PROPERTY & DEVELOPMENT DEPARTMENT
PROJECT TITLE: ST. VITAL PARK BOAT LAUNCH ELECTRICAL SPECIFICATIONS
SHEET OF: 12-0109-009_E03
COMPUTER FILE NAME: 12-0109-009_E03
CITY DRAWING NUMBER:

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

APEGM
Certificate of Authorization
KGS Group
No. 245