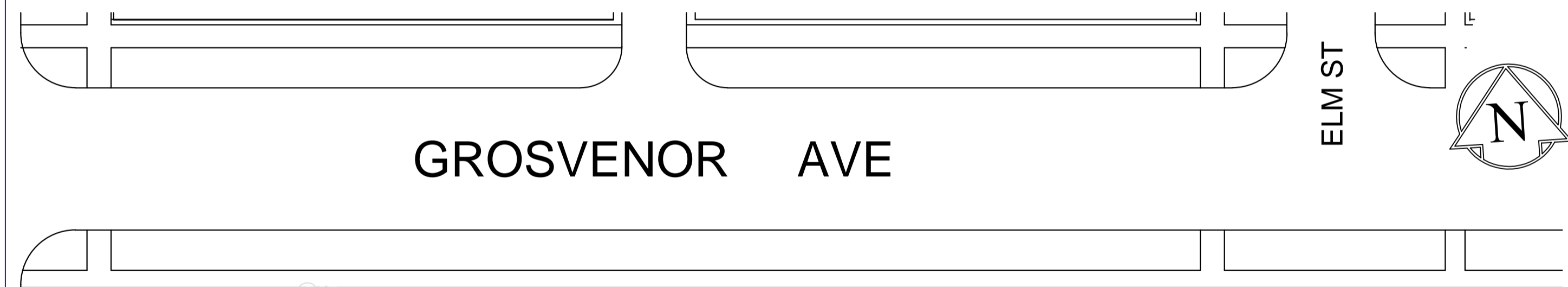
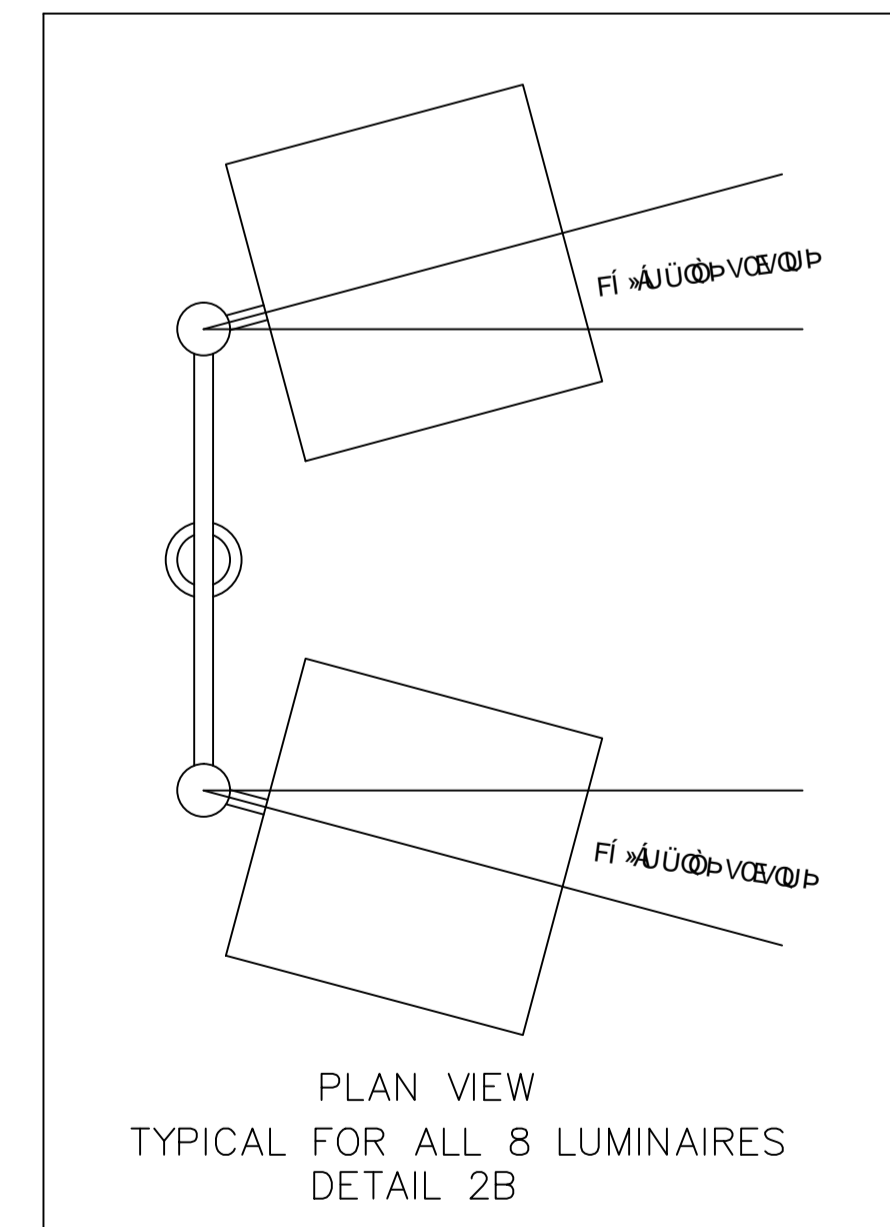
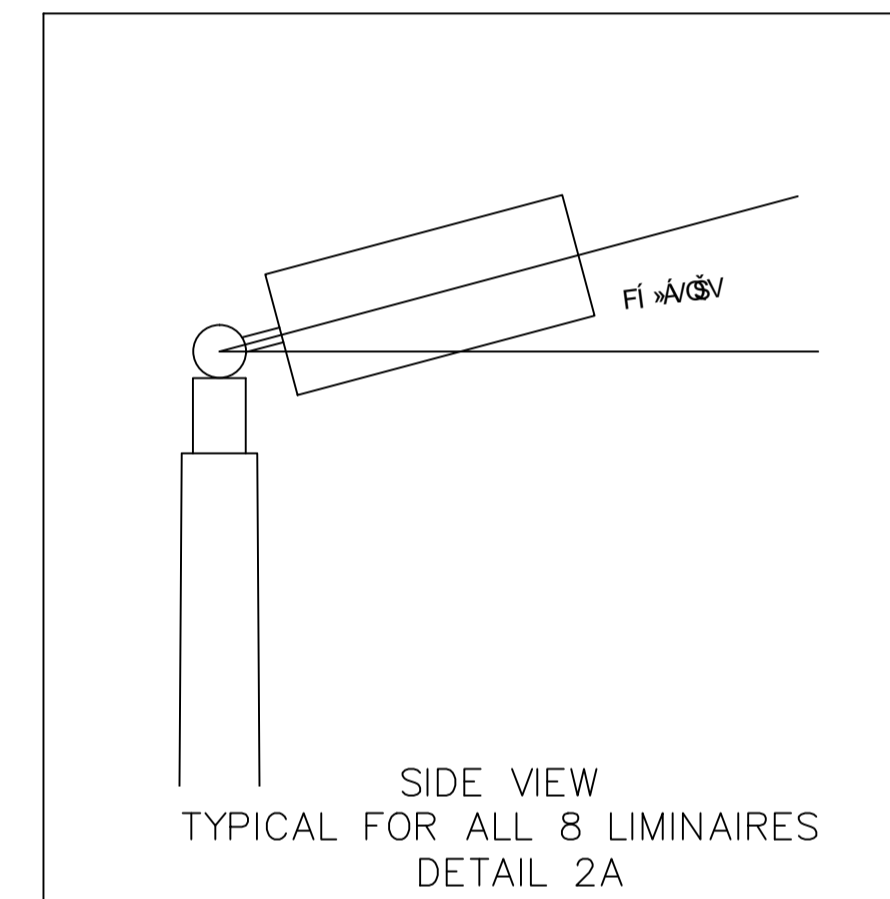
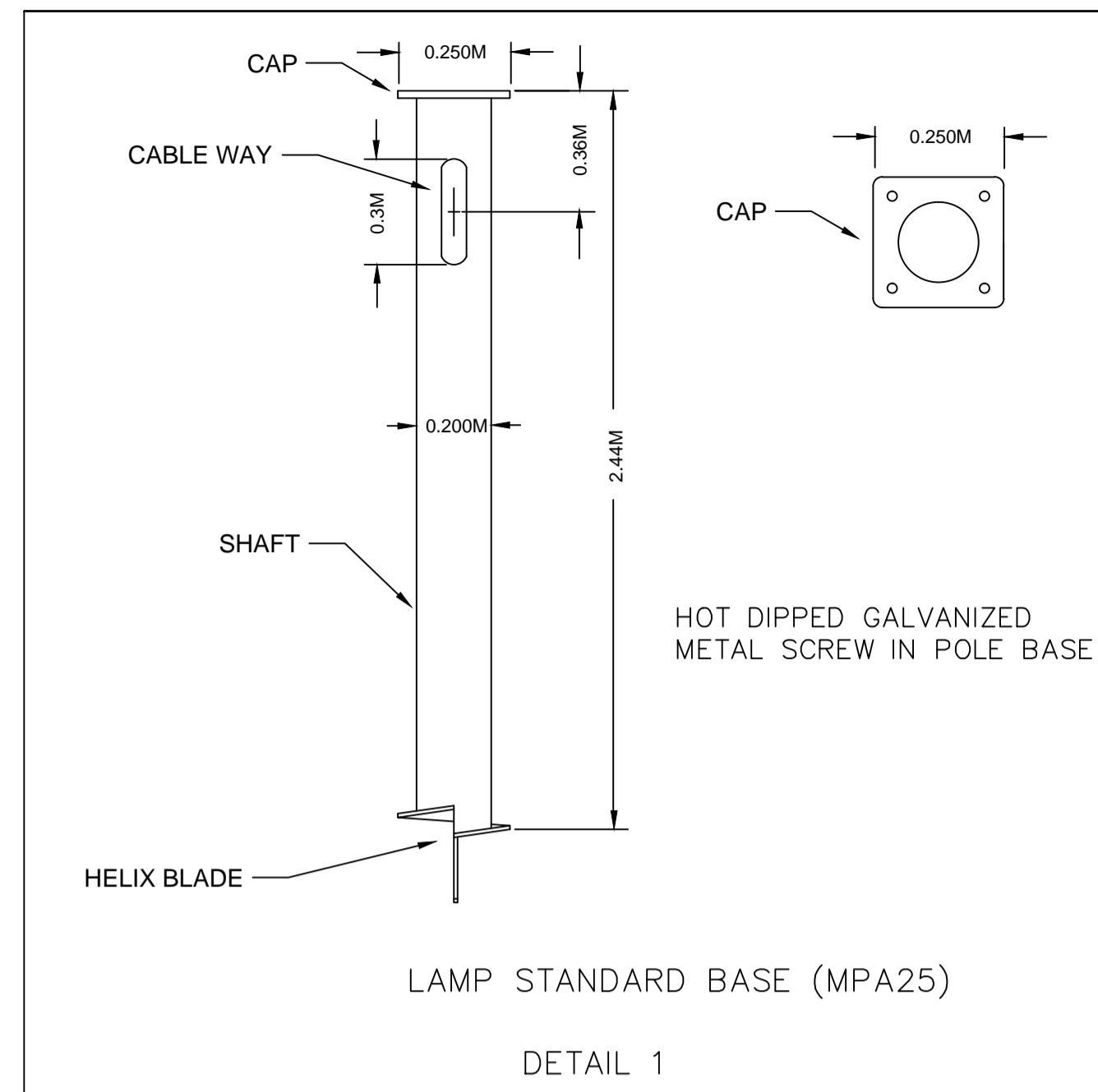


REMOVALS



INSTALLATIONS



- GENERAL**
1. THE ELECTRICAL SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE (CEC) AND WITH ALL PROVINCIAL AND MUNICIPAL LAWS, RULES AND ORDINANCES.
 2. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOUR AND EQUIPMENT NECESSARY FOR INSTALLING, TESTING AND PLACING IN INITIAL OPERATION THE COMPLETE ELECTRICAL SYSTEM.
 3. EXAMINE ALL PLANS AND SPECIFICATIONS PERTAINING TO THIS CONTRACT. NOTIFY CONTRACT ADMINISTRATOR OF ERRORS OR OMISSIONS BEFORE SUBMITTING THE PRICE. FAILING SUCH NOTIFICATION, THIS CONTRACTOR SHALL MEET ALL SUCH REQUIREMENTS WITHOUT EXTRA COST TO THE CITY.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, PAY ALL NECESSARY FEES AND GIVE ALL NECESSARY NOTICES.
 5. ALL WORK COMPLETED SHALL BE ACCOMPLISHED IN A FIRST CLASS & WORKMAN LIKE STYLE
 6. ALL EQUIPMENT SUPPLIED UNDER THIS CONTRACT SHALL BE NEW AND SHALL BE CSA AND LOCALLY APPROVED.
 7. ALL WORK SHALL BE LAID OUT IN ITS MECHANICAL APPEARANCE. IT SHALL BE LOGICALLY ARRANGED FOR SIMPLICITY OF ACCESSIBILITY AND ELECTRICAL EFFICIENCY.
 8. THE CONTRACTOR SHALL PROVIDE LAMACOID NAMEPLATES FOR ALL ELECTRICAL DISTRIBUTION EQUIPMENT/DEVICES AND SHALL MOUNT THE NAMEPLATES ON ALL EQUIPMENT TO INDICATE FUNCTION, VOLTAGE AND POWER OF DEVICES.
 9. THIS SPECIFICATION IS NOT INTENDED TO RESTATE THE APPLICABLE CODES. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ALL GROUNDING, ETC. AND FOLLOWING ALL WIRING METHODS.
 10. THE CONTRACTOR SHALL EXAMINE THE CONDITIONS OF THE SITE AND SHALL BE RESPONSIBLE FOR ALL EQUIPMENT, MATERIAL, AND LABOUR NECESSARY FOR THE WORK REQUIRED FOR THIS PROJECT.
 11. PRIOR TO SCHEDULING FINAL INSPECTION, THE CONTRACTOR SHALL ENSURE THAT ALL WORK IS COMPLETED AND IN PARTICULAR THAT OPERATION AND MAINTENANCE MANUALS ARE COMPLETED, ALL NAMEPLATES INSTALLED, VERIFICATION TESTS HAVE BEEN DONE AND CERTIFICATES HAVE BEEN RECEIVED THAT INDICATE WORK INSTALLED CONFORMS TO ALL REQUIREMENTS.
 12. THE ENTIRE INSTALLATION SHALL BE GROUNDED IN CONFORMANCE WITH THE LATEST EDITION OF THE CEC.
 13. ALL TREES WITHIN THE CONSTRUCTION AREA MUST BE PROTECTED FOR THE DURATION OF THE CONSTRUCTION PERIOD IN ACCORDANCE WITH SECTION 3.19 (CW 1130 SITE REQUIREMENTS) CITY OF WINNIPEG STANDARD CONSTRUCTION SPECIFICATIONS.
 14. LAWN BOWLING GREENS TO BE PROTECTED BY 20mm PLYWOOD WHEN EQUIPMENT IS CROSSING OR OPERATING FROM THE GREENS.
 15. ANY DRAINAGE OR IRRIGATION SYSTEM MUST BE PROTECTED. ANY DAMAGE MUST BE REPAIRED TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR AND PAID FOR BY THE CONTRACTOR.

- DELIVERABLES**
1. THE CONTRACTOR SHALL MAINTAIN ONE SET OF PLANS AT JOB SITE WHICH HE SHALL CLEARLY NOTE ALL CHANGES OR DEVIATIONS FROM THE CONTRACT DOCUMENT AS THE JOB PROGRESSES. THE CONTRACTOR SHALL SUBMIT THREE SETS OF AS-BUILT DRAWINGS TO THE CONTRACT ADMINISTRATOR ON COMPLETION OF THE JOB.
 2. THE CONTRACTOR SHALL PROVIDE THREE COPIES OF OPERATIONS & MAINTENANCE (O & M) MANUALS. THE O & M MANUALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF TECHNICAL BULLETIN #15 ISSUED BY THE JOINT MAA/WCA COMMITTEE AND THE CONTRACT GENERAL CONDITIONS. THE CONTRACTOR SHALL SUBMIT ONE PRELIMINARY COPY PRIOR TO THE COMPLETION OF WORK, REVISE AS DIRECTED AND SUBMIT FINAL COPIES TO THE CONTRACT ADMINISTRATOR.

- LAYOUT**
1. THE CONTRACTOR SHALL LAYOUT ALL WORK, ESTABLISHING ALL LINES, LEVELS AND CENTRES AND SHALL ASSUME RESPONSIBILITY FOR ANY ERRORS RESULTING FROM FAILURE TO USE ADEQUATE CAUTION.

- POLES**
1. POLES TO BE 7.32 METERS (24') HIGH, STEEL, AND TO BE PRIMED AND POWDER-COATED BRONZE.
 2. BASES TO BE HOT DIPPED GALVANIZED METAL SCREW IN POLE BASE AS PER DETAIL 1.

- LIGHTING**
1. LIGHTING SHALL CONSIST OF EIGHT (8) 400W 120V AREA CUTOFF LUMINAIRES C/W 330W CDM LAMP MOUNTED ON 7.32 METER STEEL POLES. LIGHTING TO MEET THE FOLLOWING LIGHTING CRITERIA:
 - (A) 60.0 LUX AVERAGE ILLUMINANCE
 - (B) ≤ 2.0 AVERAGE/MIN
 - (C) < 5 MAX/MIN
 - (D) LDD FACTOR = 0.9 NOTE THAT MEAN LUMENS USED IN LIEU OF LLD
 - (E) COEFFICIENT OF VARIATION ≤ 0.45
 2. POST TOP LUMINAIRES SHALL MEET THE FOLLOWING CRITERIA:
 - (A) CSA APPROVED OR ULC LISTED
 - (B) SUITABLE FOR WET LOCATION
 - (C) DIE-CAST ALUMINUM HOUSING
 - (D) CORROSION RESISTANT HARDWARE
 - (E) HIGH IMPACT CLEAR TEMPERED GLASS LENS
 - (F) LAMP SHALL BE 330W CDM PHILLIPS ALLSTART

- AIMING AND ACCEPTANCE TESTING**
1. THE CONTRACTOR SHALL MEET THE CONTRACT ADMINISTRATOR ON SITE TO VERIFY/AIM LUMINAIRES AND TO MEASURE LIGHTING LEVELS ON COMPLETION OF THE WORK. NOTE THAT SITE VISIT WILL BE REQUIRED AFTER DARK.

- NOTES:**
1. PROVIDE SURFACE MOUNT 2-GANG SWITCH FOR CONTROLLING LAWN BOWLING LIGHTS. LABEL SWITCHES "NORTH LIGHTS" AND "SOUTH LIGHTS"
 2. EXISTING PANELBOARD IS A OUTLER HAMMER OPM 240 SERIES C. PROVIDE 2 NEW 20A-1P BREAKERS TO MATCH EXISTING MANUFACTURER AND KAIC RATINGS. UPDATE PANEL DIRECTORY.
 3. WIRING TO BE RW90 RUN IN RIGID PVC CONDUIT OUTDOORS AND EMT INDOORS. ALL PVC CONNECTIONS TO BE WATER TIGHT COMPLETE WITH FS BOXES. NO UNDERGROUND SPLICES WILL BE PERMITTED.
 4. PATCH AND SEAL ALL NEW FLOOR/WALL PENETRATIONS (BOTH SIDES) WITH APPROVED WEATHERPROOF SEALANT. RESTORE BUILDING TO ORIGINAL CONDITION. REPAIR VAPOUR BARRIER WHERE REQUIRED WITH APPROVED MATERIAL.
 5. 4 POLES TO BE VALMONT 4SS-24-2.0-07 -BRONZE C/W BULLHORN BH2-180. COORDINATE TENON OF POLE TO BULLHORN AND TENON OF BULLHORN TO LUMINAIRES.
 6. TYPE AA LUMINAIRES TO BE RUUD AC3640-T-120-15 DEGREE TILT OR APPROVED EQUAL LAMP TO BE PHILLIPS 330 WATT ALLSTART. EQUALS WILL BE JUDGED USING LATEST VERSION OF AGI32 LIGHTING SOFTWARE. AVERAGE LEVELS TO BE 60 LUX, AVG:MIN=2.0, MAX:MIN<5.0 AND Cv<=4.5. LLF = 0.9 AND DOES NOT INCLUDE LUMEN DEPRECIATION.
 7. ALL LIGHTING LOCATIONS MUST BE REVIEWED BY CONTACT ADMINISTRATOR PRIOR TO COMMENCING WORK.
 8. THE CONTRACTOR TO COORDINATE ALL LOCKS WITH THE PARKS & OPEN SPACE DIVISION ELECTRICIAN. PROVIDE THREE (3) SETS OF KEYS FOR THE LOCKABLE DEVICES.

- TRENCHING:**
1. CONTRACTOR TO PROVIDE TRENCHING REQUIRED TO POWER ALL LUMINAIRES. DEPTH TO BE MINIMUM 600MM AS PER CODE. PROVIDE MINIMUM 4" SAND ABOVE AND BELOW WIRING. PROVIDE WEATHERPROOF PLANKING ABOVE SAND. MAINTAIN ACCURATE LOCATIONS OF TRENCHING FOR INCLUSION ON AS-BUILT DRAWINGS.
 2. THE CONTRACTOR TO COORDINATE TRENCHING WITH CONTRACT ADMINISTRATOR. CONTRACTOR TO PROVIDE SOIL COMPACTION TO 95% STANDARD PROCTOR DENSITY. RE-SOD AS REQUIRED TO RETURN AREA TO ORIGINAL CONDITION.
 3. THE CONTRACTOR SHALL INFORM THE CONTRACT ADMINISTRATOR AT LEAST FIVE DAYS IN ADVANCE OF INSTALLING THE BASES TO ALLOW THE CONTRACT ADMINISTRATOR TO VERIFY LOCATIONS AND WITNESS PROCESSES. THE CONTRACTOR TO ALSO INFORM THE CONTRACT ADMINISTRATOR AT LEAST FIVE DAYS IN ADVANCE OF THE TRENCHING TO ALLOW THE CONTRACT ADMINISTRATOR TO WITNESS THE PROCESS.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

WARNING
IF POWER EQUIPMENT OR EXPLOSIVES ARE TO BE USED FOR EXCAVATION ON THIS PROJECT THE CONTRACTOR MUST:
1) NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
2) TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS.
SEE PROVINCIAL REGULATION 210/72 FOR DETAILS

200 WM	WATERMAIN	200 WM	SL, HYDRO	150 WM	WATERMAIN	150 WM
⊕	HYDRANT	⊕	MTS	+	HYDRANT	+
⊗	VALVE	⊗	TRAFFIC SIGNALS	X	VALVE	X
525 LDS	LAND DRAINAGE SEWER	525 LDS	GAS	300 LDS	LAND DRAINAGE SEWER	300 LDS
375 WWS	WASTEWATER SEWER	375 WWS	SURVEY BAR	250 WWS	WASTEWATER SEWER	250 WWS
○	MANHOLE	⊙	POLE TOP LUMINAIRES	-X-	TOP OF ASPHALT	00.000
□	CATCH BASIN	⊙	EXIST. POLE TOP LUMINAIRES	---	TOP OF LIMESTONE BASE	00.000
▽	CURB INLET	⊙	PROP. POLE & LUMINARE	---		
∇	REDUCER	⊙	PROP. BASE, POLE & LUMINARE	---		
X	COUPLER	X	BURIED LIGHT CABLE	---		
⊕	ANODE	⊕	TREE	---		
EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING
				LEGEND-PROFILE	PROPOSED	

LOCATION APPROVED
UNDERGROUND STRUCTURES

SUPV. UG STRUCTURES COMMITTEE DATE

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.

B.M. ELEV.	FIELD BOOK #:
POSTED TO LBIS	
2 FOR TENDER	9/7/12 TB
1 FOR REVIEW	29/6/12 TB
NO. REVISIONS	DATE BY

CITY OF WINNIPEG
URBAN DESIGN
PARKS AND PUBLIC SPACES

DESIGNED BY GA/lwb/TB CHECKED BY G.A.
DRAWN BY lwb APPROVED BY G.A.

HOR. SCALE 1:300. N.A.
VERTICAL

RELEASED FOR CONSTRUCTION
DATE JULY 9, 2012 DATE JULY 9, 2012

THE CITY OF WINNIPEG
Planning, Property and Development Depart.
Urban Design
Parks and Public Spaces
Unit 15-30 Fort Street

Winnipeg

RIVER HEIGHTS LAWN BOWLING GREEN
1360 GROSVENOR AVE
PROPOSED LIGHTING

399-2012
FILENAME: RIVER HEIGHTS LAWN BOWLING GREEN LIGHTING

SHEET 1 OF 1
CITY DRAWING NUMBER
R.16-G