

ELECTRICAL SPECIFICATION

Electrical installation shall be in accordance with the current edition of The Canadian Electrical Code, Provincial, Municipal and other codes, rules and regulations.

The Contract shall include the furnishing of labor, new material, equipment and services necessary and reasonably implied and/or incidental to the complete installation of the electrical Work as shown on the plans and specifications. Supply and install all devices required for the complete approved system, operating to the complete satisfaction of the Contract Administrator.

Prepare and submit to the proper authorities all necessary permits and pay all fees.

Upon completion and before final payment is made, present to Contract Administrator a Certificate of Approval for all electrical Work from the inspection department having jurisdiction.

Electrical installation including electrical equipment supplied, installed or connected shall be tested in the presence of the Contract Administrator on completion of the Work.

The Contractor shall visit the site and ascertain that all Work indicated can be carried out without additional cost to the Contract Administrator.

The Contractor shall guarantee the satisfactory operation of all Work and apparatus included and installed under this section of the specification for a period of twelve (12) calendar months after the final acceptance of the complete building.

The Contractor shall be responsible for any damage caused the Contract Administrator or their Subcontractors by improperly carrying out this Contract.

The Contractor shall carefully examine all drawings and specifications relating to the Work to be certain that the Work under this Contract can be satisfactorily carried out and prior to the submission of his Bid, report at once to the Contract Administrator any defect, discrepancy, omission or interference affecting the Work of this section or the guarantee of same.

Submit one set of corrected "as-built" copies and one electronic copy 100% AutoCAD 2010 compatible to the Contract Administrator.

Grounding shall be in accordance with the latest edition of The Canadian Electrical Code.

Panelboards, motor starters, disconnect switches, etc., shall be properly identified by means of engraved lamacold nameplates.

Supply and install all motor controls unless noted otherwise on the drawings. Refer to Mechanical drawings for exact location of motors and mechanical equipment. Unless otherwise specified and/or shown on the drawings, supply and install the following motor control equipment:

- Manual motor starters.
- Magnetic motor starters which are not part of package equipment (refer to Mechanical drawings and specs).
- Pushbutton stations.
- Hand-off-auto selector switches.
- Motor disconnect switches.
- Interlock contacts as required for starters.
- Enclosures.
- Starter heater elements as required for starters.
- Contactors.
- Time clocks, time switches and photoelectric relays.
- Pilot lights for all starters, switches and pushbutton stations.

Conduits shall be electric metallic tubing unless otherwise noted on drawings or unless prohibited by regulations. Conduits in direct contact with earth or in concrete shall be rigid PVC. Conduits shall be concealed unless otherwise noted on the drawings. Conduits shall not be exposed in any area where concealed Work is required without prior written approval.

Outlet, junction and switch boxes shall be galvanized pressed steel of size and type to suit the requirements of each outlet. Outlet boxes shall be accessible.

All wiring shall be in conduit, except that armoured cable may be used in stud partitions and for drops to recessed luminaires (max. 4 luminaires per drop).

Wire and cable shall be copper of standard AWG sizes with 600V (90 Degree C) insulation. Insulation shall be X-Link Polyethylene unless otherwise noted on drawings or prohibited by regulations. Aluminum conductors will not be accepted. Minimum wire size shall be # 12 AWG.

Panelboards shall be factory-assembled custom made of size, type and arrangement as shown on drawing. Circuit breakers shall be bolt-in, moulded-case, thermal and magnetic trip, and shall match existing. Trip values as shown on drawing. Two or three pole breakers shall have common trip units. Mount a typewritten directory behind a plastic shield on the inside of panelboard doors. All distribution equipment to be sprinkler-proof. Minimum fault rating of circuit breakers shall be 22KA S.C.I.C.

Wall-mounted flush switches shall be specification grade 15A,125VAC. White handle, side or back wiring. Mount switches 1200mm above finished floor unless otherwise noted on the drawings.

Duplex receptacles shall be specification grade 15A,125VAC, parallel slot, U-ground, white, side and back wiring. Mount receptacles 305mm above finished floor or 150mm above counter tops unless otherwise noted on the drawings.

Cover plates for flush-mounted receptacles and switches on concealed conduit system shall be stainless steel.

Telephone raceway system shall be in separate and independent conduit system. Empty conduits shall be complete with a #12 AWG pull wire. Install as shown on drawings. Complete entire installation to local telephone utility requirements and satisfaction.

Mount surface-mounted equipment such as panelboards, telephone cabinets and other electrical equipment on plywood mounting boards, c/w gray enamel finish.

Any cutting and patching in existing walls or floors required for the addition or relocation of electrical equipment shall be the responsibility of the Contractor.

Existing Work:
The Contractor shall take into account items which he is responsible for due to the changes and alterations to the existing building and allow for such items that may occur in his tendered price.

The Contractor is to notify the supply utility of all load increases to existing service.

Provide code conforming emergency lighting and exit system. Min. wire size for this system as per manufacturers recommendations.

Provide code conforming fire alarm system extension. Provide a verification inspection report for all fire alarm system devices added/modified.

The electrical contractor shall relocate outlets at no additional charge if requested prior to roughing in. The electrical contractor shall relocate outlets at no additional charge if requested by the local authority having jurisdiction.

Electrical installation shall be installed in conformance with the barrier free requirements applicable in the Building Code.

Where luminaires are recessed into insulated ceilings, the electrical contractor is responsible for providing luminaires suitable for that use.

Supply and install all indicated electric heaters, standard watt density to be Chromalox, Outlet or approved equal in accordance with B6. Thermostats to be calibrated in degrees Celsius.

Equipment and material shall be installed as specified. Requests for equal status shall be submitted to Contract Administrator in accordance with B6.

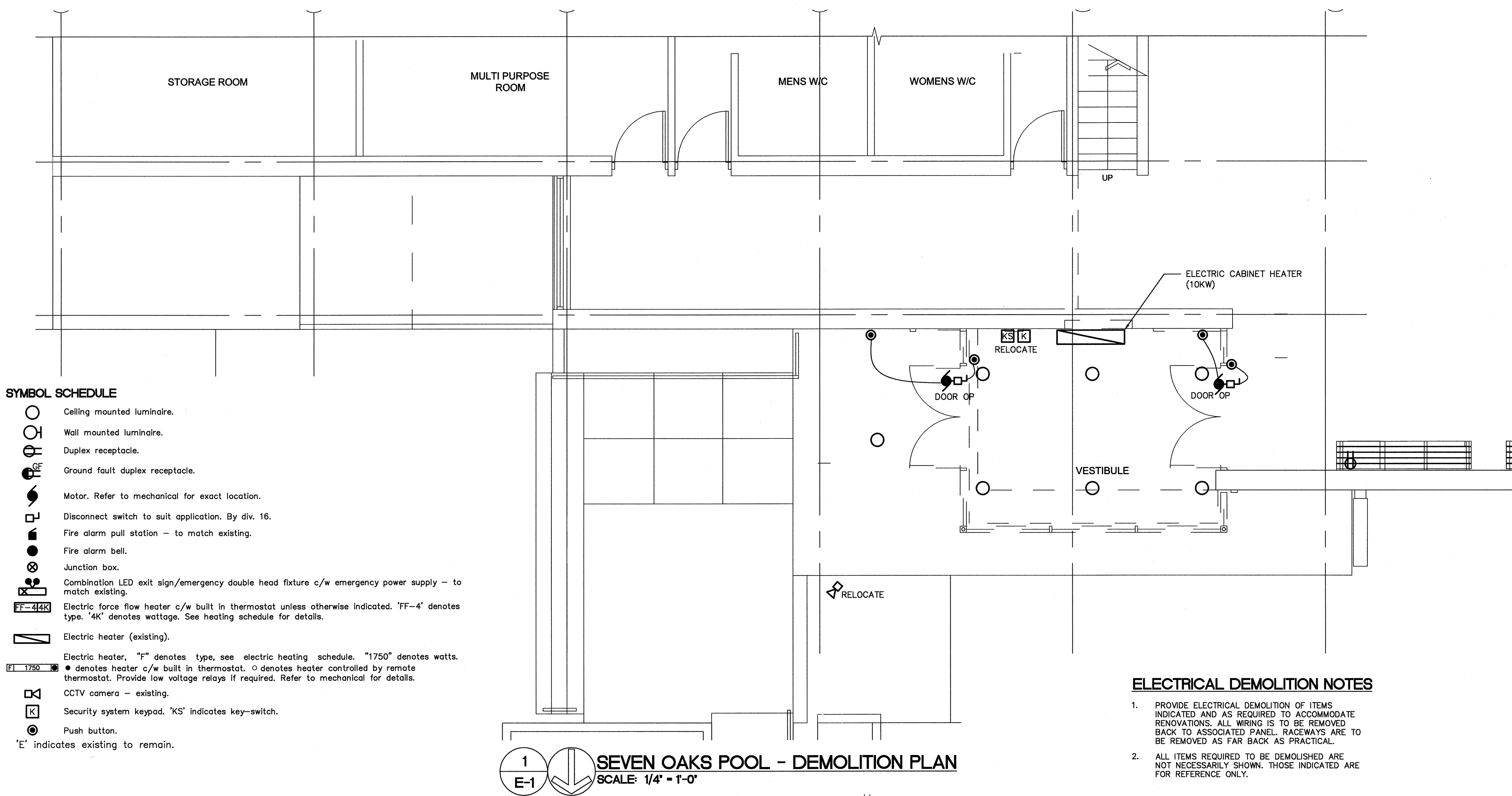
Contractor shall submit shop drawings to Contract Administrator for review prior to ordering equipment.

Supply and install, wire and connect all luminaires (to be complete with lamps) as indicated.

Final connection to all mechanical equipment to be flexible. Obtain and refer to mechanical shop drawings of mechanical equipment for circuit breaker and wire size. Adjust circuit breaker and wire size without additional cost to The City.

All existing and new Contract Administrators equipment is to be wired and connected. Supply and install, wire and connect matching receptacle for portable equipment complete with cord and cap. Refer to equipment name plate rating for electrical characteristics prior to rough-in. All Contract Administrators equipment which is non-portable, shall be directly connected via cable cord matching electrical characteristics as determined by nameplate ratings of equipment. Confirm nameplate characteristics prior to rough-in.

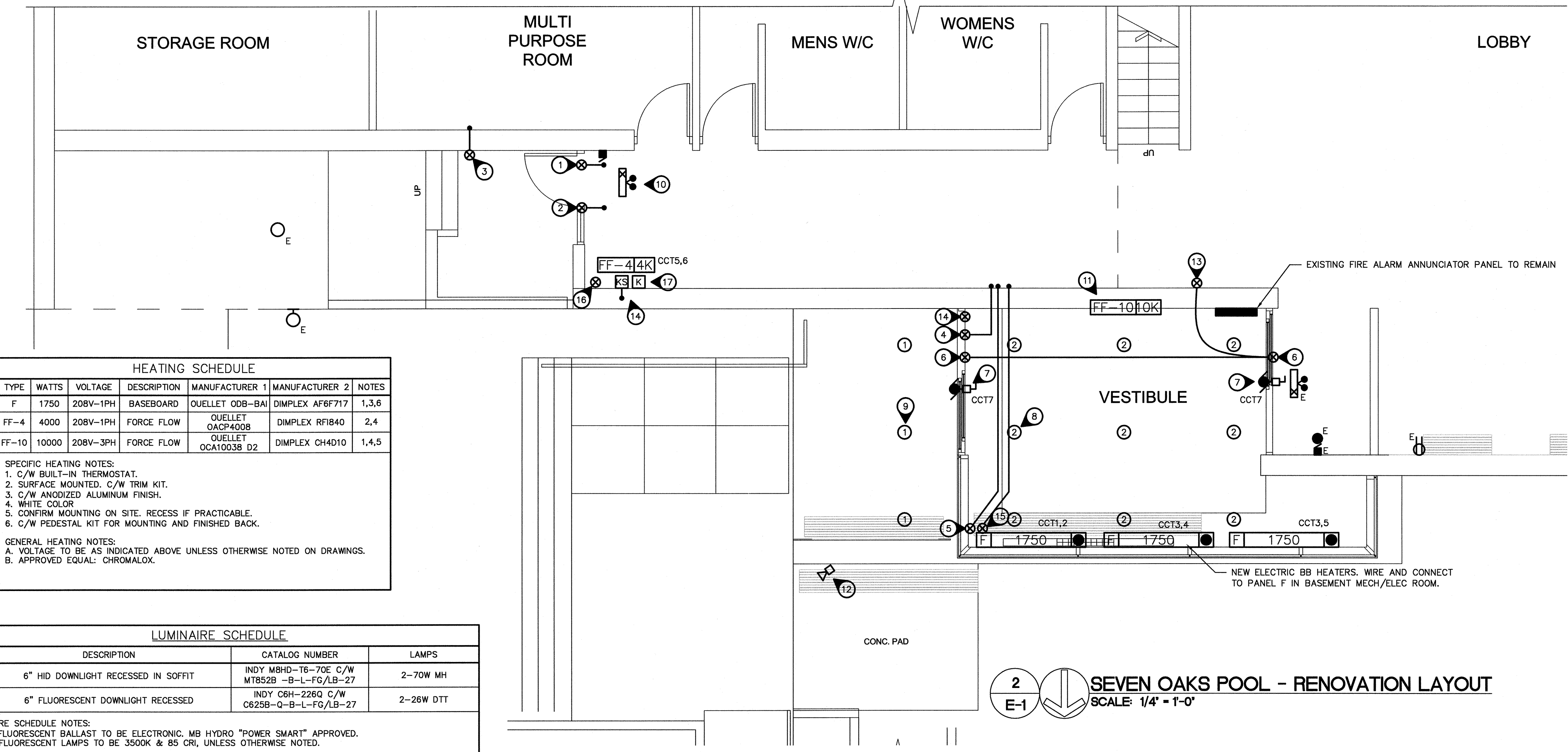
Contract Administrator is responsible for the supply & installation of all communication wiring, unless otherwise noted.



SYMBOL SCHEDULE

- Ceiling mounted luminaire.
- Wall mounted luminaire.
- Duplex receptacle.
- Ground fault duplex receptacle.
- Motor. Refer to mechanical for exact location.
- Disconnect switch to suit application. By div. 16.
- Fire alarm pull station - to match existing.
- Fire alarm bell.
- Junction box.
- Combination LED exit sign/emergency double head fixture c/w emergency power supply - to match existing.
- Electric force flow heater c/w built in thermostat unless otherwise indicated. 'FF-4' denotes type. '4K' denotes wattage. See heating schedule for details.
- Electric heater (existing).
- Electric heater, "F" denotes type, see electric heating schedule. "1750" denotes watts. • denotes heater c/w built in thermostat. ○ denotes heater controlled by remote thermostat. Provide low voltage relays if required. Refer to mechanical for details.
- CCTV camera - existing.
- Security system keypad. 'KS' indicates key-switch.
- Push button.
- 'E' indicates existing to remain.

SEVEN OAKS POOL - DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



HEATING SCHEDULE

TYPE	WATTS	VOLTAGE	DESCRIPTION	MANUFACTURER 1	MANUFACTURER 2	NOTES
F	1750	208V-1PH	BASEBOARD	QUELLET ODB-BAI	DIMPLEX AF6717	1,3,6
FF-4	4000	208V-1PH	FORCE FLOW	QUELLET OACF400B	DIMPLEX RF1840	2,4
FF-10	10000	208V-3PH	FORCE FLOW	QUELLET OCA1003B D2	DIMPLEX CH4D10	1,4,5

- SPECIFIC HEATING NOTES:**
- C/W BUILT-IN THERMOSTAT.
 - SURFACE MOUNTED, C/W TRIM KIT.
 - C/W ANODIZED ALUMINUM FINISH.
 - WHITE COLOR.
 - CONFIRM MOUNTING ON SITE. RECESS IF PRACTICABLE.
 - C/W PEDESTAL KIT FOR MOUNTING AND FINISHED BACK.

- GENERAL HEATING NOTES:**
- VOLTAGE TO BE AS INDICATED ABOVE UNLESS OTHERWISE NOTED ON DRAWINGS.
 - APPROVED EQUAL: CHROMALOX.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	CATALOG NUMBER	LAMPS
1	6" HID DOWNLIGHT RECESSED IN SOFFIT	INDY M8HD-T6-70E C/W MT852B -B-L-FG/LB-27	2-70W MH
2	6" FLUORESCENT DOWNLIGHT RECESSED	INDY C6H-226Q C/W C625B-Q-B-L-FG/LB-27	2-26W DTT

LUMINAIRE SCHEDULE NOTES:

- ALL FLUORESCENT BALLAST TO BE ELECTRONIC, MB HYDRO "POWER SMART" APPROVED.
- ALL FLUORESCENT LAMPS TO BE 3500K & 85 CRI, UNLESS OTHERWISE NOTED.

GENERAL ELECTRICAL NOTES

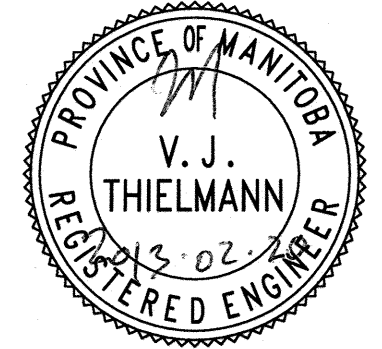
- CONCEAL ALL CONDUIT UNLESS OTHERWISE INSTRUCTED IN WRITING.
- 'CCT1,2' INDICATES TO PROVIDE A NEW MATCHING 15A-2P C.B. IN PANEL F IN BASEMENT MECH/ELEC ROOM. 'CCT3,4' AND 'CCT5,6' INDICATE TO PROVIDE A NEW MATCHING 30A-2P C.B. IN PANEL F IN BASEMENT MECH/ELEC ROOM. 'CCT7' INDICATES TO PROVIDE A NEW MATCHING 15A-1P C.B. IN PANEL F IN BASEMENT MECH/ELEC ROOM.

SPECIFIC ELECTRICAL NOTES

- RUN 1/2" EMT FROM RIGHT HAND SIDE OF TOP OF DOOR FRAME (FOR REQUEST TO EXIT DEVICE) INTO 2ND FLOOR MECH. ROOM. PRE-DRILL AND TAP FRAME FOR REX MOUNT.
- RUN 3/4" EMT DOWN THE INSIDE ON LOCK SIDE OF DOOR FRAME (FOR ELECTRIC STRIKE & INTRUSION CONTACT & CARD ACCESS CONTACTS) INTO SECOND FLOOR MECHANICAL ROOM.
- PROVIDE DIE-CAST SINGLE GANG WEATHER-PROOF JUNCTION BOX SURFACE MOUNTED ON OUTSIDE WALL 36" A.F.F. (FOR CARD ACCESS READER). RUN 1/2" EMT FROM J.B. SURFACE MOUNTED (ON INTERIOR WALL) TO 2ND FLOOR MECH. ROOM.
- RUN 3/4" EMT FROM DOOR OPENER INTO MECHANICAL ROOM LOCATED ON 2ND FLOOR ABOVE EMPLOYEE ENTRANCE (FOR INTRUSION CONTACT AND BREAKOUT DETECTOR).
- RUN 1/2" EMT IN CEILING FROM NE CORNER OF VESTIBULE TO MECHANICAL ROOM LOCATED ON SECOND FLOOR ABOVE EMPLOYEE ENTRANCE (FOR MOTION DETECTOR).
- RUN 1/2" EMT FROM OUTSIDE DOOR OPENER TO INSIDE DOOR OPENER.
- WIRE AND CONNECT AUTOMATIC DOOR OPENER AND ALL ASSOCIATED CONTROLS.
- WIRE TO EXISTING VESTIBULE LIGHTING CIRCUIT AND CONTROLS. (TYPICAL OF 9)
- WIRE TO EXISTING EXTERIOR LIGHTING CIRCUIT C/W PHOTOCELL/TIMECLOCK CONTROL. (TYPICAL OF 3)
- WIRE AND CONNECT TO CORRIDOR LIGHTING CIRCUIT.
- WIRE AND CONNECT TO EXISTING HEATER CIRCUIT. CONFIRM MOUNTING PRIOR TO ORDERING RECESS OR SEMI-RECESS.
- REINSTALL.
- (FOR DOOR BREAKOUT ANNUNCIATOR) PROVIDE SURFACE MOUNTED DIE-CAST JUNCTION BOX ON WALL @ 7" A.F.F. RUN 1/2" EMT IN CEILING SPACE TO DOOR OPENER.
- PROVIDE 2 GANG SURFACE MOUNTED, DIE-CAST JUNCTION BOX ON EXISTING MASONRY BLOCK. 36" A.F.F. (FOR TEMP CONSTRUCT KEY-SWITCH & PERMANENT READER). RUN 3/4" EMT UP INTO SECOND FLOOR MECH. ROOM - SURFACE MOUNTED.
- RUN 3/4" EMT TO 2ND FLOOR MECH. ROOM FOR FUTURE CAMERA.
- RUN 1/2" EMT IN CEILING FROM S.E. CORNER OF VESTIBULE TO 2ND FLOOR (FOR MOTION DETECTOR).
- SURFACE MOUNTED SECURITY SYSTEM KEYPAD UNDER TSTAT HSG FED THROUGH 2 GANG BOX 36" A.F.F. AT MAIN FLOOR.

ELECTRICAL DEMOLITION NOTES

- PROVIDE ELECTRICAL DEMOLITION OF ITEMS INDICATED AND AS REQUIRED TO ACCOMMODATE RENOVATIONS. ALL WIRING IS TO BE REMOVED BACK TO ASSOCIATED PANEL. RACEWAYS ARE TO BE REMOVED AS FAR BACK AS PRACTICAL.
- ALL ITEMS REQUIRED TO BE DEMOLISHED ARE NOT NECESSARILY SHOWN. THOSE INDICATED ARE FOR REFERENCE ONLY.



APEN
Certificate of Authorization
Nova 3 Engineering Ltd.
No. 962 Date: 2013-03-20

No.	DATE	REVISION / ISSUANCE
0	2013.02.21	ISSUED FOR CONSTRUCTION

NOVA 3 ENGINEERING LTD.
CONSULTING ENGINEERS
201-120 FORT STREET TEL: (204) 943-6142
WINNIPEG, MANITOBA FAX: (204) 942-1276
R3C 1C7 IN: 31-269

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF NOVA 3 ENGINEERING LTD. AND MAY ONLY BE REPRODUCED WITH THE WRITTEN PERMISSION OF NOVA 3 ENGINEERING LTD. THE CONCEPT AND DESIGN INCORPORATED INTO THIS DRAWING ARE BASED ON INFORMATION PROVIDED BY THE CLIENT AND OTHER RELATED SOURCES. PROFESSIONAL ENGINEER ACCEPTS NO RESPONSIBILITY FOR DRAWING AND DESIGN UNLESS DRAWING IS ACCOMPANIED BY ORIGINAL, SEALED AND SIGNED LETTER OF INTENT AND CERTIFICATE OF INSPECTION.

Project: BID OPPORTUNITY 931-2012
SEVEN OAKS POOL
FRONT ENTRANCE UPGRADE
444 ADSUM DRIVE

MAIN FLOOR ELECTRICAL LAYOUT

Sheet No. 1125
Date: 2013.02.21
E-1