

SPECIFICATIONS CONT'D

HVAC

10. Duct Work:

1. Tape and seal all new supply air ductwork ductwork and comply with ASHRAE (low pressure standards), SMACNA and ICGH details and recommended practices. Ductwork shall be handled and installed in accordance with SMACNA's Duct Cleanliness for New Construction Guidelines (Advanced Level).
2. All Supply, Return and Exhaust ductwork:
 - (a) Provide radius elbows (unless turning vanes are provided) and take-offs ($r/D=1$ min)
 - (b) Bull head fittings, short and zero inside radius elbows (except where turning vanes are used) are entirely unacceptable and shall be replaced at the Contractor's expense.
 - (c) Install the ductwork free of pulsation and chatter and make any repairs required when system is commissioned. Provide exhaust fan as shown on the drawings. Provide manual balancing dampers on all new branch duct take-offs as required for balancing.

11. Flexible Connections:

1. Frame: galvanized sheet metal frame with fabric clenched by means of double locked seams.
2. Material: Fire resistant, self extinguishing, neoprene coated glass fabric, temperature rated at minus 40 C to 90 C, density of 1.3 kg/m².
3. Length of connection: 100mm with min 75 mm installed clearance between frames.

12. Flexible Ducts:

1. Factory fabricated spiral wound flexible aluminum.
2. Factory installed 12mm insulation with plastic jacket.
3. Minimum working pressure 2.5 kPa.
4. Maximum length in a branch run to a diffuser not to exceed 2 meters.
5. Provide nylon tie wrap around flex at connection to branch duct and sectional elbow at ceiling diffusers.

13. Duct Insulation:

1. Acoustic Lining:
 - (a) Increase duct dimensions to provide unobstructed sizes shown
 - (b) Natural cotton fibre or rigid board glass fibre duct liner acoustic/thermal (R-2) duct liner with air side factory coated with black fire resistant and abrasion resistant liner over 100% of the exposed surface.
 - (c) Microbial resistant (complying with ASTM G21 and G22) and moisture resistant (ASTM C1104) with a flame spread and smoke development rating not exceeding 25/50 respectively without emitting toxic fumes (complying with UL 181 and NFPA90A)
 - (d) Thickness: 25mm (1") thick insulation on interior of supply and return ducts within 3m (10 ft) of fans and as indicated.
 - (e) Std: Titus Envirolok, Fibreglass Canada "Line Acoustic-R"
2. Thermal:
 - (a) 38mm thick flexible fiberglass blanket insulation with all service jacket secured to round metal ductwork without bagging or sagging, taped and sealed
 - (b) Application: all new supply ductwork except downstream of VAV boxes.
 - (c) Std: Owens Corning Duct Wrap Type 75
3. Adhesive & Sealer: to requirements of ANSI/NFPA 90A with same flame spread and smoke ratings as insulation.
4. Fasteners: Weld or adhesive plated pins 2.0mm diameter, length to suit insulation with metal retaining clips, 32mm square.
5. Joint Tape: Poly-vinyl treated open weave fibreglass membrane 50mm wide.

14. Provide new diffusers as follows:

1. Type "A"
 - (a) Four way throw steel diffuser with balancing damper to set in tee bar or drywall ceiling
 - (b) Std: E.H.Price SCDA
2. Type "B"
 - (a) Similar to "A" but panel style for smaller diffusers in grid ceilings
3. Type "C"
 - (a) Round metal grille with white powder coat and screw in core flow adjustment.
 - (b) Std: Fantech Model MCE or Imperial Manufacturing DR
4. Type "D"
 - (a) c" aluminum grid suit tee bar ceiling or with border for drywall
 - (b) E.H.Price CRE
5. Type "E" Gym Return
 - (a) 14 gauge steel, 20mm blades, zero deflection with white enamel finish designed for gyms
 - (b) Std: E.H.Price series 95

15. Dome Exhaust Fan EF-1

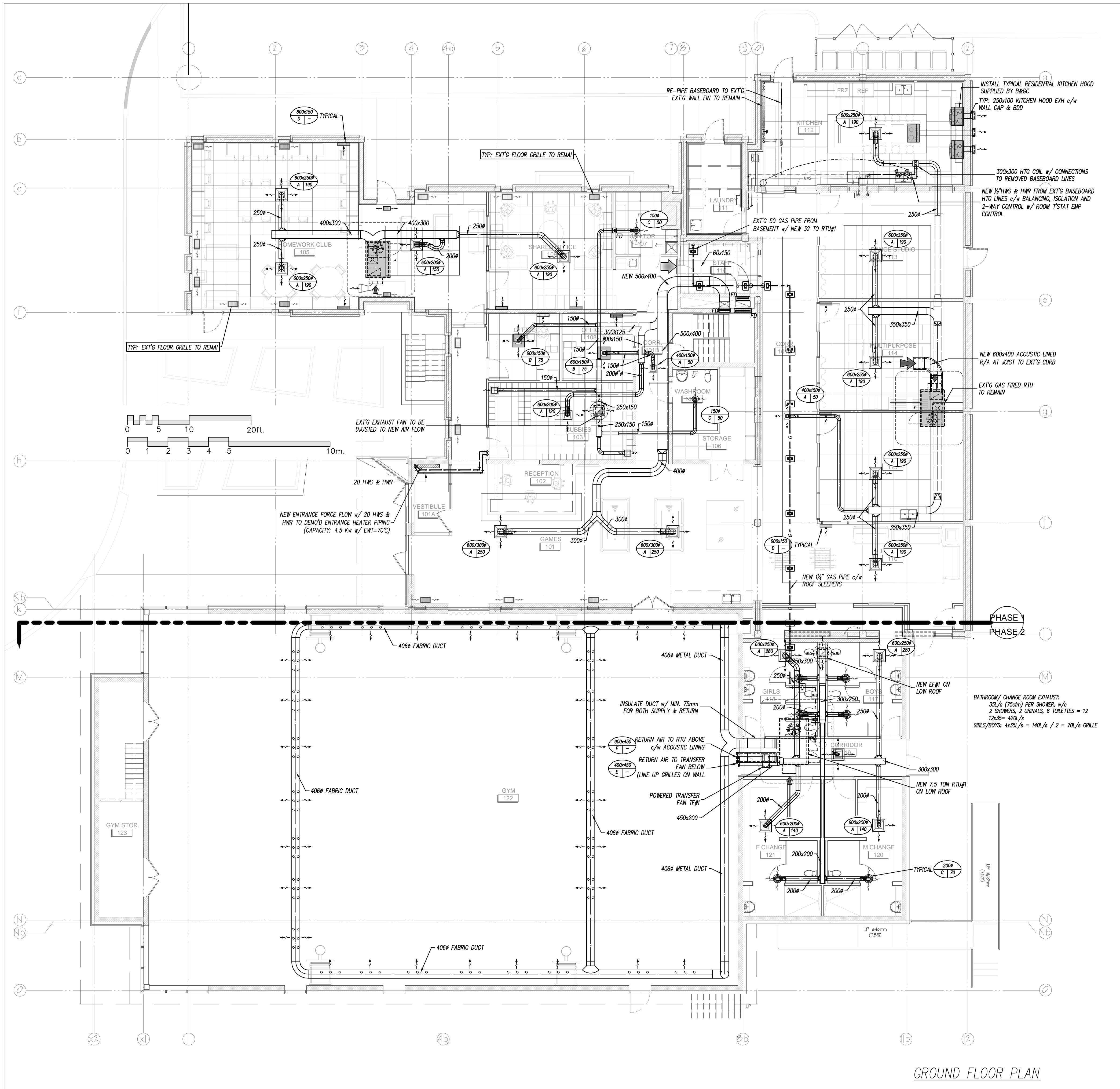
1. Direct drive, spun aluminum, inverted dome, backward inclined exhaust fan c/w roof curb, backdraft damper, weatherproof disconnect and programmable time clock control
2. Capacity: 425 L/s @ 125 Pa (900 CFM @ 0.5)
3. Electrical: 1/6 HP 1140 RPM, 110V/1/60
4. Std: Greenheck G-130

16. Washroom transfer Fan TF-1

1. In-line cabinet exhaust fan interlocked with light switches
2. Capacity: 330 L/s @ 90 with 375W, 110V motor
3. Std: Greenheck CSP-260

17. RTU#1: Packaged, gas fired rooftop air conditioning units complete with:

1. One year warranty on entire unit, 5 year compressor warranty and 10 year heat exchanger warranty
 2. Electrical:
 - (a) Service with CSA approved through the base wiring. Include weatherproof disconnect for wiring by Div. 16.
 - (b) Voltage: 575, fused at 20 amps
 - (c) Compressors shall be direct drive, hermetic, scroll type with gear type oil pump, suction gas cooled, overload protection, vibration isolation.
 - (d) Natural gas connection with line thro' the base from below
 - (e) Pleated 50mm throwaway filters equal to Farr 30-30.
 3. Accessories:
 - (a) Programmable thermostat
 - (b) Economizer
 - (c) Insulated roof curb
 - (d) Condensate drain & trap
 - (e) Concrete in-fill where indicated
 4. Capacity: ARI nominal 7.5 tons
 5. Std: Lennox or equivalent by Trane, Carrier or York
18. Include the services of an Air Balancing Company to verify and adjust the air quantities for the equipment shown. Provide air balancing report.



GROUND FLOOR PLAN

NO.	REVISIONS	DATE
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2.	ISSUED FOR PHASE II PERMIT	27-OCT-2017
1.	ISSUED FOR PERMIT (CITY PERMIT NUMBER: ??)	30-OCT-17

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PROJECT: **BOYS & GIRLS CLUB RENOVATION Prince of Wales**

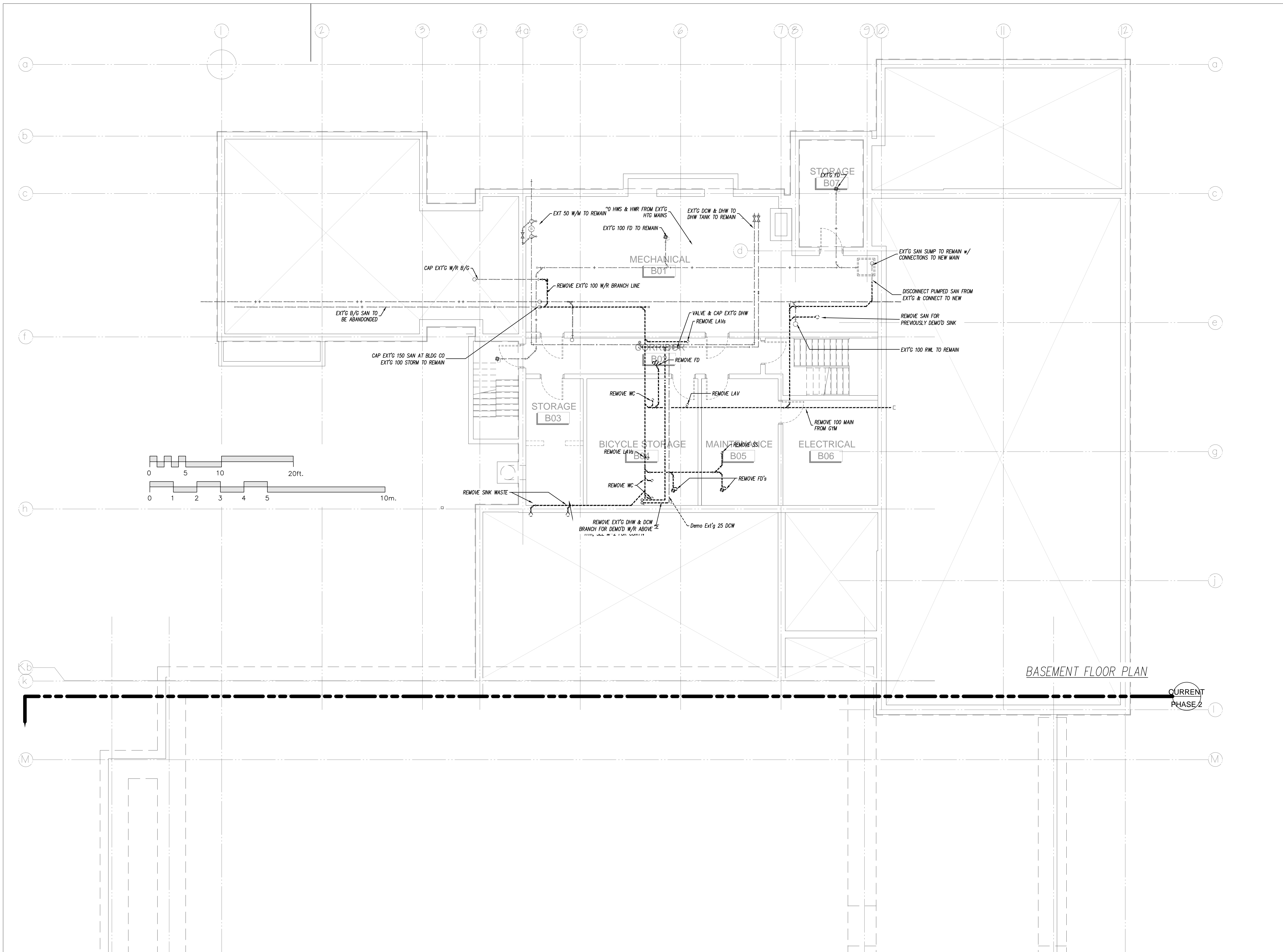
DRAWING: **GROUND FLOOR HVAC MODIFICATIONS**

DATE: ### SCALE: 1:100

DRAWN BY: Staff DESIGNED BY: JRB

JOB NO.: 2017-17 CHECKED BY: JRB

DRAWING NO.: M-2 of 6



BASEMENT FLOOR PLAN

CURRENT PHASE 2

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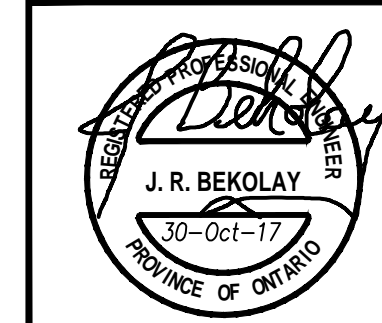
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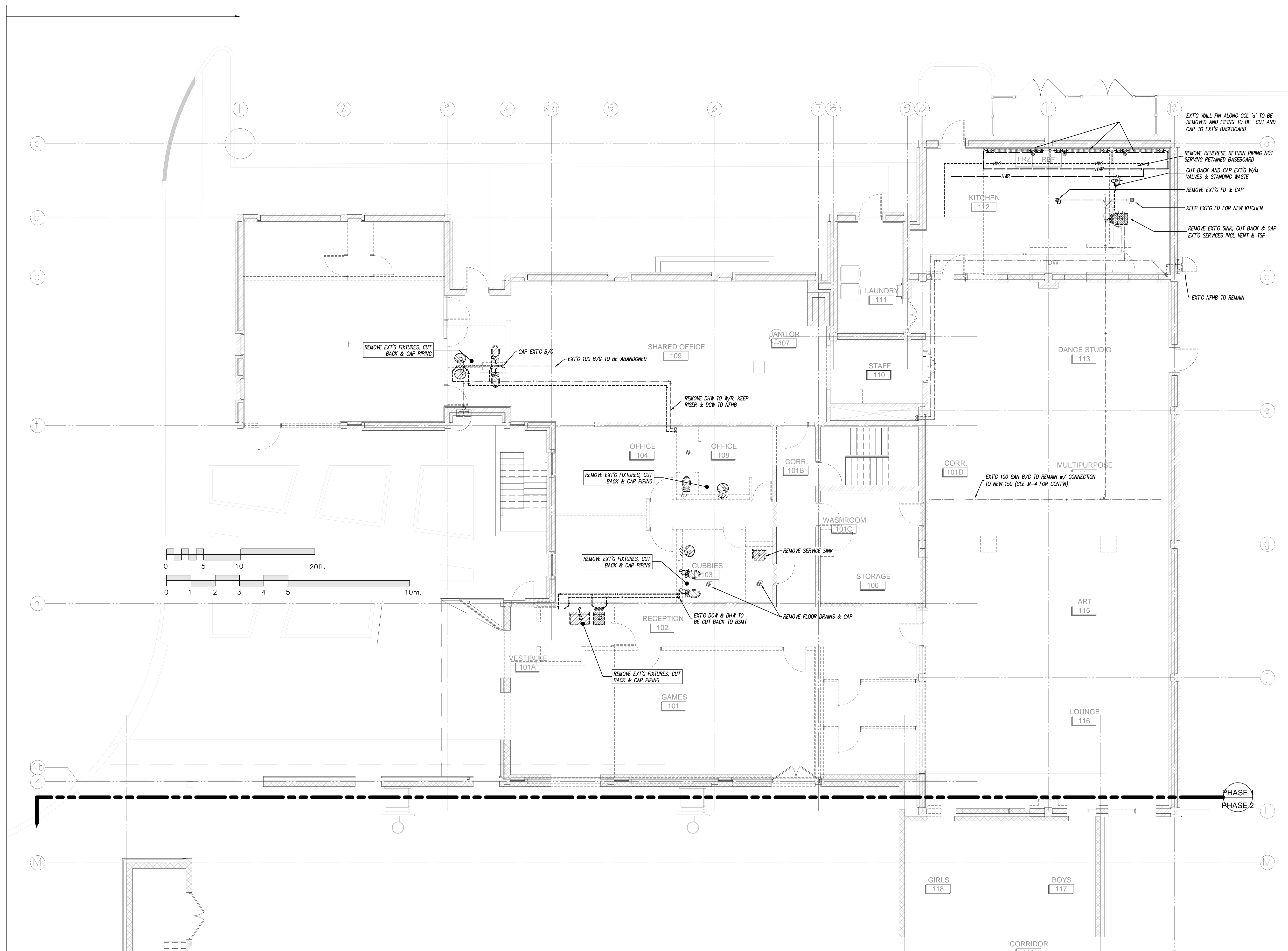


7-Oct-14

PROJECT: BOYS & GIRLS CLUB RENOVATION
Prince of Wales
DRAWING: BASEMENT
PLUMBING DEMOLITION

DATE	###	SCALE	1:75
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JOB NO.	2017-17	CHECKED BY	
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7-Oct-14

PROJECT **BOYS & GIRLS CLUB RENOVATION**
 Prince of Wales

DRAWING **GROUND PLUMBING DEMOLITION**

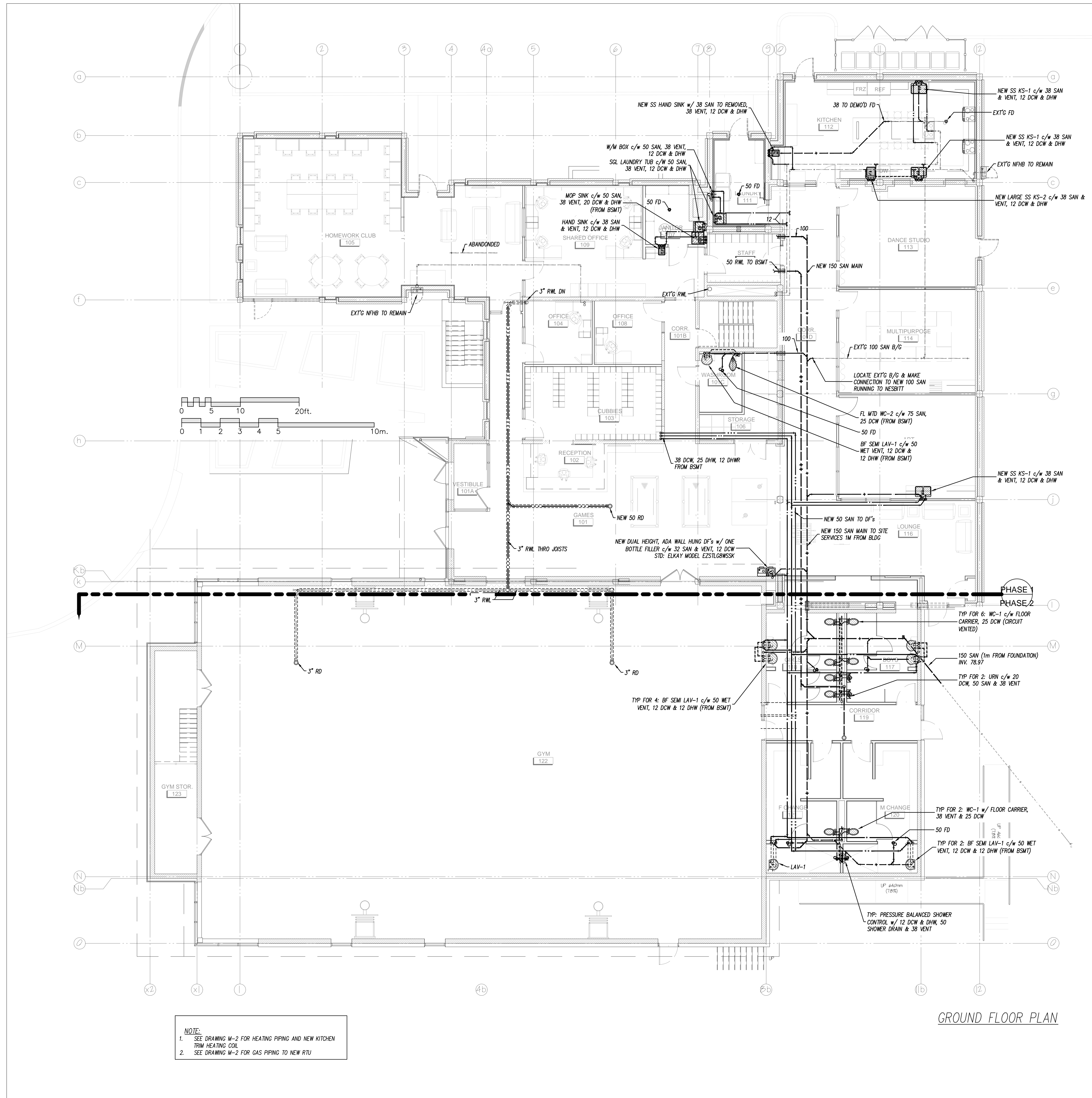
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DRAWING NO.			



SPECIFICATIONS CONT'D.

Plumbing & Piping:

23. Plumbing Fixtures:
- .1 Lavatories L-1:
 - (a) Semi-counter vitreous china, universal design, wall-hung sink meeting the requirements for barrier free design c/w insulated trap or knee guard.
 - i Std: American Std. Mezzo
 - (b) Trim: 1.8 L/min chrome plated, battery operated electronic faucet, single faucet, adjustable sensor set point, 90 second max run time and aerator. Provide chrome plated waste strainer, trap with cleanout.
 - i Std: Delta Model HDF commercial DEMD 111F Series or Wallec Moen equivalents
 - .2 SS Sinks
 - (a) KS-1
 - i Double bowl 18-8 stainless steel, 840x560x180mm (33"x22 1/2"x7"), ledge back, kitchen sink with overflow partition, 380x430 (15x17) bowls, basket strainers, rim seal, brass trap with cleanout
 - ii Std: Kindred, Steel Queen EDL2233
 - (b) KS-2
 - i Single bowl, 400x350x180mm (16"x14"x7") stainless steel, ledge back, kitchen sinks with strainer, trap and single lever kitchen faucet
 - ii Std: Kindred, Steel Queen LBS4607
 - (c) Hand Sink:
 - i Single bowl (bar sink) 285x235x152mm (11.625x9.25"x6") stainless steel, ledge back, kitchen sinks complete with strainer, trap
 - ii Std: Kindred, Steel Queen LBS9106 with Chicago Faucet 2300-8 Trim
 - (d) Trim: Single lever (barrier free compliant), stainless steel and brass construction chrome finish, pressure balanced replaceable cartridge with integral pull out spray head, high arching spout equal to Delta model 472
 - .3 Water closets
 - (a) Seat: white, open front, molded plastic (with slow close cover for handicapped) and stainless steel check hinge and insert post. Centoco 500 (or 820) or equivalent.
 - (b) 1/2" Chrome plated angle ball valve with chrome nipple & wall escutcheon, braided stainless steel flexible supply.
 - (c) WC-1:
 - i ADA compliant wall hung vitreous china elongated bowl with 4.2 Lpf, with floor carrier
 - ii Std: American Std: AfaWall "Flowise"
 - (d) WC-2
 - i ADA compliant floor mounted vitreous china elongated bowl with 4.2 Lpf
 - ii Std: American Std.
 - (e) Flush Valve:
 - i 4.2 Lpf hard wired A/C powered dual flush with hands free sensor & electronics and manual flush c/w 120 V transformer, wall flange, angle stop w/ BFP, vandal resistant covers, chrome finish
 - ii Std: American Std: Electronic Flowise Exposed
 - .4 Service Sink:
 - (a) Crane 6-296 enamelled steel single compartment Laundry Tub
 - (b) Baked enamel stand
 - (c) C-5040 rough brass trim and trap
 - .5 Map Sink:
 - (a) Moulded stone, 550x450x300mm deep complete with cast brass outlet strainer, stainless steel rim guard, continuous on three sides, bolted to the rim
 - (b) Std: American Std. AB-7692-0230, Crane 7-525, Fiat TSB-100
 - (c) Trim:
 - i Built-in elevated vacuum breaker, cast brass spout, 400mm long rubber hose, indexed cross handles, escutcheons, union inlets, heavy cast brass spout with pall hook, broced to the wall, integral stop valves
 - ii Std: Cambridge Brass S314333, Crane CH-8560, Emco 390 XGBE, Fiat 830 AA, Chicago Faucet
 - .6 Floor drains:
 - (a) General duty, round cast iron body, adjustable head and nickel bronze strainer.
 - (b) Std: Ancon FD-100 or equal
24. DHW Re-Circulation Pump
- .1 Stainless steel body, cartridge type pump with, built in check
 - .2 Capacity: 5 GPM @ 20ft
 - .3 Electrical: 120V/1/60 w/ 24 hour timer/aquastat combination, and plug in cord.
 - .4 Std: Taco 009-IFC w/ Timer Aquastat.
25. Natural Gas Piping
- .1 Provide natural gas piping from Enbridge meter to building gas fired equipment.
 - .2 Conform to Ontario gas Utilization Code B149. (current version) including installation and testing.
- .3 Piping:
- (a) Schedule 40 black iron
 - i complete with lubricated isolating valves and malleable iron fittings for exposed installation and welded fittings for ceiling or concealed installation.
 - ii Painting: Clean and epoxy prime paint bare piping followed by two coats of enamel.
- .4 Roof pipe supports:
- (a) UV resistant injection moulded polypropylene impact copolymer shell and type 3 extruded polystyrene non-narring base pipe supports.
 - (b) Clear gravel below support and securely fasten pipe with non ferrous hardware.
 - (c) Std: E-2 Sleeper/Quick Block
26. Heating:
- .1 Piping: Sch. 40 black with MI screwed fittings
 - .2 Coil:
 - (a) 2 row copper tube, aluminum fin
 - (b) Cap. = 75F, LAT = 125 F, APD = 0.15" Wg
20 MBH, EWT = 175F, LWT = 155F
 - .3 Control: low voltage wall mounted 1stat with 2-way control valve
27. Fire Extinguishers
- .1 Recessed, prime coated steel cabinet with 25mm return, glass window in the latched door at each fire exit.
 - .2 Extinguisher ABC-5
 - .3 Std: National Fire Equipment Ltd. Model 102



NOTE:
 1. SEE DRAWING M-2 FOR HEATING PIPING AND NEW KITCHEN TRIM HEATING COIL
 2. SEE DRAWING M-2 FOR GAS PIPING TO NEW RTU

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