EQUIPMENT SCHEDULE:
The design is based on the equipment listed here. Refer to Section 21 05 01 Article 1.24 for responsibilities when utilizing equipment that differs from the basis of design but still meets the design intent and the process to apply to use equipment that alters the design intent.

DOMESTIC WATER SERVICE REDUCED PRESSURE BACKFLOW ASSEMBLY: Watts Series LF909 lead free line size reduced pressure testable double check valve assembly complete with quarter turn shut-off valves and bronze wye strainer.

DOMESTIC HOT WATER HEATER (DWH-1): Bradford White, Model UDH-50T-45FR-3N, direct vent, commercial gas water heater. Efficiency to meet or exceed ASHRAE 90.1b. 48 gallons (182 litres) tank size, 45.0 MBH (13.8 kW) gas input, 88 U.S. gallon/hour recovery at 100 deg.F (333 litres/hour recovery at 56 deg.C) temperature rise. Electrical 120V/60/1 phase plug-in connection. Unit to be mounted on concrete housekeeping pad by structural. Unit to be supplied with factory installed temperature and pressure relief valve and automatic thermostat. Unit to be installed with drain pan piped to floor drain.

DOMESTIC HOT WATER EXPANSION TANK (ET-1): Taco Model PAX30, suitable for domestic hot water, 30 litre (8 gallon) total volume, 19 litre (5.0 gallon) acceptance volume, 356 mm (14") diameter x 648 mm (25-1/2") height. Unit to be mounted suspended from structure. Installation to be complete with isolation valve and drain valve piped to floor drain.

SUMP PUMP (SP-1): Myers Model SSM33, submersible pump, oil filled with overload protection, cast iron housing, cast iron seal plate, mechanical seal, cast iron impeller, complete with automatic level control. Provide sump alarm with pump, design based on Myers Model SA-1 indoor liquid level alarm system, matched to pump with audible alarm horn, visual alarm light, and mounted in a NEMA-1 panel. Provide and install alarm float switch, compatible with alarm panel. Ensure float is properly secured in pit to engage alarm. Alarm panel to have back-up battery in the event of a power failure.
Capacity - 1.58 l/s (25 GPM) at 44.8 kPa (15') head.
Motor: 248 Watt, 115V/60/1 phase complete with 4.5 meter cord and plug.
Alarm: 120 V / 1 phase with 9V backup battery.

FURNACE (F-1): Armstrong variable speed modulating gas furnace Model A97MV, down-flow furnace, unit housing shall be 838mm H x 445mm W x 724mm D (33"H x 17.5"W x 28.5"D), ECM variable speed blower motor, blower assembly shall have a centrifugal-type blower wheel and a permanently lubricated motor, CSA certified. Primary heat exchanger to be 409 stainless steel with AL 29-4C stainless steel secondary heat exchanger. Furnace installation to be complete with matched 'A' coil, condensate pump kit, and external filter rack complete with 25mm (1") pleated filter. Unit to be complete with modulating 7 day programmable furnace thermostat. Venting to be category 4, sidewall, direct vent; provide concentric vent kit to manufacturers requirements.

Furnace Electrical: 120V/60/1 phase, Nominal F.L.A. 7.7, Breaker Size: 15 amp, ECM motor 373 Watts (1/2 HP),

Blower: 454 l/s at 125 Pa (963 CFM at 0.5" W.G.) maximum heating airflow, 454 l/s at 200 Pa (963 CFM at 0.8" W.G.) maximum cooling airflow.

Heating: 19.4 kW (66,000 BTU) input, 18.8 kW (64,000 BTU) output, unit to be able to heat mixed air temperature from 55 Deg.F.

Evaporator Coil: Cased evaporator coil matched to furnace, nominal 3 ton.

FURNACE (F-2): Armstrong variable speed modulating gas furnace Model A97MV, up-flow furnace, unit housing shall be 838mm H x 445mm W x 724mm D (33"H x 17.5"W x 28.5"D), ECM variable speed blower motor, blower assembly shall have a centrifugal-type blower wheel and a permanently lubricated motor, CSA certified. Primary heat exchanger to be 409 stainless steel with AL 29-4C stainless steel secondary heat exchanger. Furnace installation to be complete with matched 'A' coil, condensate pump kit, and external filter rack complete with 25mm (1") pleated filter. Unit to be complete with modulating 7 day programmable furnace thermostat. Venting to be category 4, sidewall, direct vent; provide concentric vent kit to manufacturers requirements.

Furnace Electrical: 120V/60/1 phase, Nominal F.L.A. 7.7, Breaker Size: 15 amp, ECM motor 373 Watts (1/2 HP),

Blower: 456 l/s at 125 Pa (967 CFM at 0.5" W.G.) maximum heating airflow, 454 l/s at 200 Pa (962 CFM at 0.8" W.G.) maximum cooling airflow.

Heating: 19.4 kW (66,000 BTU) input, 18.8 kW (64,000 BTU) output, unit to be able to heat mixed air temperature from 55 Deg.F.

Evaporator Coil: Cased evaporator coil matched to furnace, nominal 3 ton.

CONDENSING UNIT CU-1 AND CU-2: Armstrong Model 4SCU16LS, two-stage air conditioner, 16-SEER, Nominal 3 ton, R-410A refrigerant. Scroll compressor is hermetically sealed and incorporates internal high temperature motor overload protection, insulation on motor windings, externally mounted on rubber grommets, compressors to have internal pressure relief assembly to protect against excessive pressure differential, refrigerant connections on exterior of unit close to ground, cabinet is constructed of powder painted galvanized steel, full wrap-around louvered grille to protect coil from damage, compressor sound blanket, copper tube - aluminum fin coils, control box located on top corner of cabinet, service valves, unit to be factory charged and run-tested, separate compressor compartment, drawn painted base pan, hard start kits, control box cover, liquid line filter drier, factory installed low and high pressure controls, time delay control, 8-pole motor with 3-blade outdoor fan, and factory supplied winter cover.

Electrical: 208-230V/60/1 phase, Compressor: RLA - 19 LRA - 82 Fan Motor: 1.1 RLA, Minimum Circuit Ampacity: 21.9, Max Overrcurrent: 35 amps.

HEAT RECOVERY VENTILATOR (HRV-1): Aldes, or approved equal Model H650A-Ri multi-speed heat recovery ventilator with aluminum counterflow core, washable filters in exhaust and supply air streams and interupt defrost. Unit to supply 325 l/s at 125 Pa. (700 cfm at .2") E.S.P. Blower Motors: 2 @ 1/4 HP. Electrical: 120V/60/1 phase, 11.3 MCA, 15 MOP. Unit to be complete with integrated microprocessor circuit board with interlocks; interlock unit to furnace. Run two 12mm PVC condensate drain lines to floor drain. Unit to be suspended from structure with spring vibration isolation.

ELECTRIC BASEBOARD: Oullet commercial, commercial heavy-duty baseboard slope top heater, cabinet constructed of 18 gauge steel with 16 gauge steel front with punched pencil proof air intake and exhaust vents. Heating element: steel tubular heating element with aluminum fins on 2 high temperature nylon bishings to eliminate expansion noises. Finish: hybrid polyester epoxy powder coat process, white. Unit to be complete with factory wired and installed 24V transformer for remote low voltage thermostat control; provide wall mounted thermostat matched to unit. Units sized on Low Average Density -250W/ft.

BB-1: Model OPR0752, 750 Watts (2,559 BTU) at listed voltage, 901mm (35.5") length, 120V/60/1 phase.

ELECTRIC FAN FORCED HEATER: Oullet commercial, fan forced heater, front panel constructed of 18 gauge steel, white polyester epoxy powder coat painted finish, tubular heating element with fins, totally enclosed and factory lubricated motor. Unit to be complete with factory wired and installed 24V transformer for remote low voltage thermostat control; provide wall mounted thermostat matched to unit.

FF-1, FF-2, FF-3: Model OCAU04008, wall recessed, 4,000 Watts (13,648 BTU), 118 l/s (250 CFM), 208V/60/1 phase.

FF-4: Model OCAU04008, hung from structure, 4,000 Watts (13,648 BTU), 118 l/s (250 CFM), 208V/60/1 phase.

MOTORIZED DAMPERS: Tamco Series 9000 BF, thermally broken extruded aluminum dampers. Damper frame shall be no less than 4" deep and insulated with polystyrene on all four sides. Entire frame shall be thermally broken. Blades shall be extruded aluminum less than 8" width, internally insulated with expanded polyurethane foam, thermally broken, and mounted in opposed blade action. Blade and frame seals to be extruded silicone secured in an integral slot. Dampers to be rated to operate in temperatures between -72 deg.F and 185 deg.F. Pressure drop of dampers, when fully open, to not exceed 0.03" at 1000 fpm. Dampers to be flanged to duct and installed in strict accordance with manufacturer's installation guidelines. Intermediate or tubular steel structural support is required for all dampers that consist of two or more sections in either height or width or both. Actuators to be supplied and installed by the controls contractor.

LOUVRE: Price Model DE635, stationary extruded 152mm (6") deep aluminum drainable blades positioned at 35 degrees, extruded aluminum frame and supports, all welded construction, integral perimeter caulking stop, 12mm x 12mm (1/2" x 1/2") 16 gauge expanded aluminum bird screen without frame, finish to be baked enamel with colour as selected by Architect.

DIFFUSERS AND GRILLES:

S-1: E.H. Price, Model 520D, louvered supply grille, surface mount, front blades parallel to long dimension, F-border with countersunk screwholes, white powder coat finish.

S-2: E.H. Price, Model SPD, 300x300, square plaque diffuser complete with equalizing grid, T-bar installation, white powder coat finish.

S-3: E.H. Price, Model SPD, 600x600, square plaque diffuser complete with equalizing grid, T-bar installation, white powder coat finish.

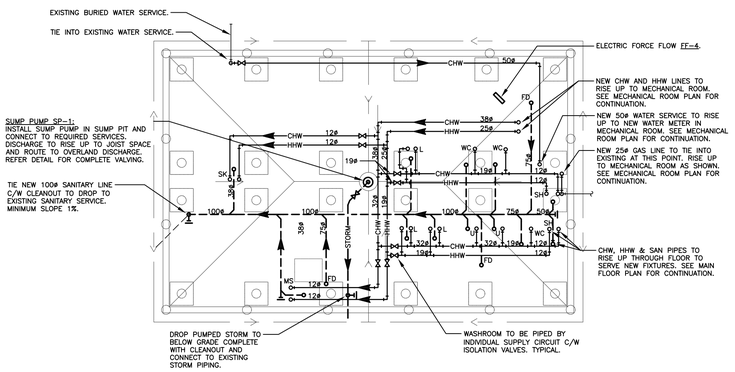
E-1 and R-1: E.H. Price, Model 530, louvered exhaust grille, surface mount, front blades parallel to long dimension, F-border with countersunk screwholes, white powder coat finish.

E-2 and R-2: E.H. Price, Model 80, eggcrate grille, T-bar installation, white powder coat finish.

FIRE DAMPERS: ULC listed types as noted on drawings. Dampers to be installed in strict accordance with manufacturer's recommendations and authority having jurisdiction.

FIRE EXTINGUISHER CABINET FEC-1: National Fire Equipment Ltd. Model 102RS-SS semi-recessed stainless steel cabinet with glass in door, complete with ABC dry chemical fire extinguisher with 2-A: 10-B:C rating.

WALL HUNG FIRE EXTINGUISHER: 4.5 kg (10 lb) ABC dry chemical fire extinguisher with 4-A: 60-B:C rating c/w wall bracket.



NORTH

1 CRAWLSPACE PLAN
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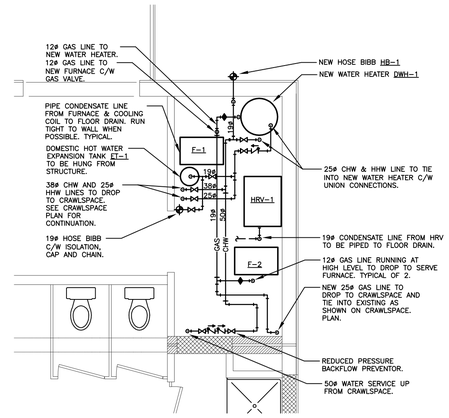

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3 MECHANICAL ROOM PLUMBING
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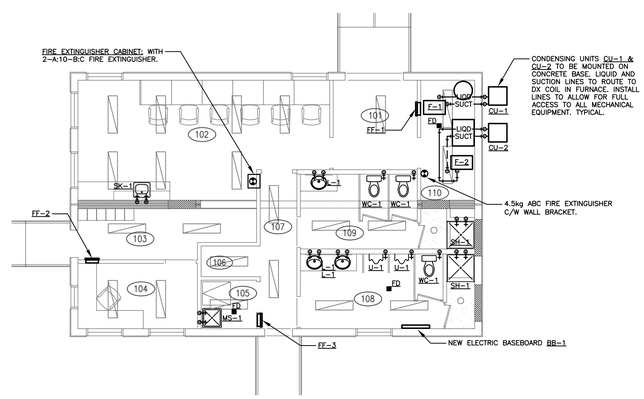

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2 MAIN FLOOR PLAN
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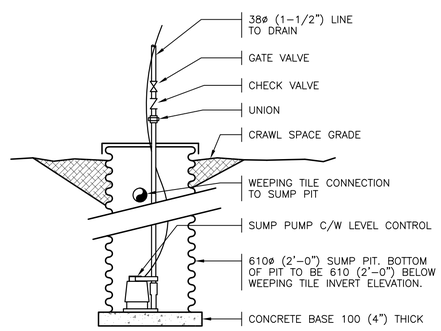

CRAWL SPACE SUMP DETAIL n.t.s.

PLUMBING GENERAL NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- COORDINATE ALL WORK WITH OTHER TRADES AND SITE CONDITIONS.
- RUN WATER PIPING AS HIGH AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCE IN ALL AREAS.
- ALL PLUMBING BRANCH LINES ARE 12ø UNLESS NOTED OTHERWISE.
- BOILER ROOM SANITARY PIPING AND EXPOSED PIPING SHALL BE CAST IRON.
- ALL SHOWER DRAINS AND FLOOR DRAINS TO BE 75ø.
- VENTING AS PER LOCAL CODES AND REQUIREMENTS.
- PROVIDE ISOLATION GAS VALVE ON GAS LINE TO ALL EQUIPMENT.
- MAKE ALL CONNECTIONS FOR EQUIPMENT SUPPLIED BY OTHERS. REFER TO DETAILS FOR CONNECTIONS.

SEPW Architecture Inc.
109 - 3725 Pasqua Street, Regina, SK, S4S 6W8 ph: (306) 569-2255
102 - 3718 Kinnear Place, Saskatoon SK, S7P 0A6 ph: (306) 652-6457
website: www.sepw.ca

HDA ENGINEERING LTD.
Mechanical Engineering Consultants
1580 Angus Street Regina, Saskatchewan S4T 1Z1
P:306-525-9815 F: 306-525-6369 E: hda@hdaeng.com

PROFESSIONAL ENGINEER
E. K. COOKE
MEMBER 11372
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YR. MN. DAY
SASKATCHEWAN

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REGINA, SASKATCHEWAN

RTM TRANSPORT STAFF BUILDING RENOVATION PACKAGE

Approved by/Approuve par

Designed by/Concept par
TCK

Drawn by/Dessine par

Project Manager/Administrateur de Projets

Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'ingénierie

Client/client

Drawing title/Titre du dessin
MECHANICAL EQUIPMENT SCHEDULE CRAWLSPACE, MAIN FLOOR PLAN & MECHANICAL ROOM PLUMBING

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
25/2015	M1.1	0

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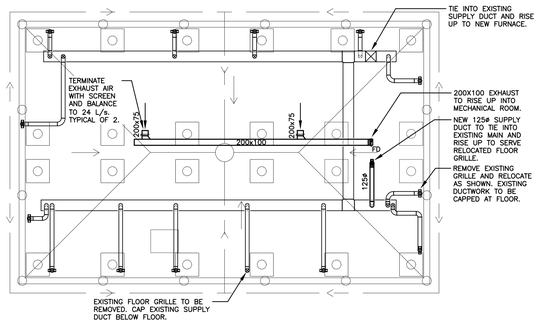

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1 CRAWLSPACE PLAN
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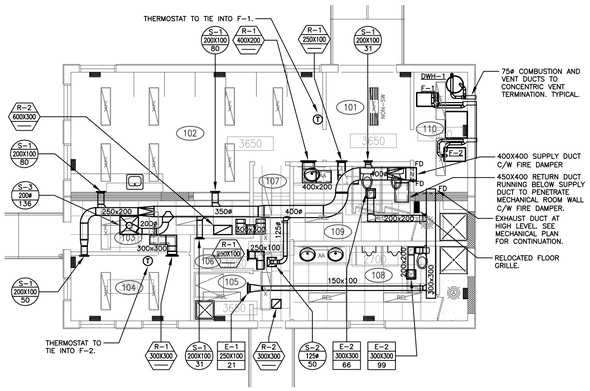

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2 MAIN FLOOR PLAN
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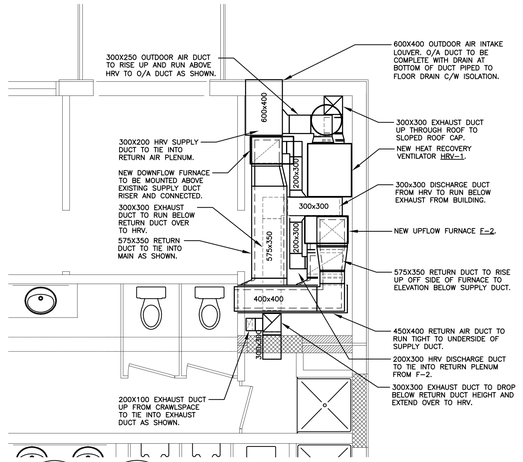

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3 MECHANICAL ROOM VENTILATION
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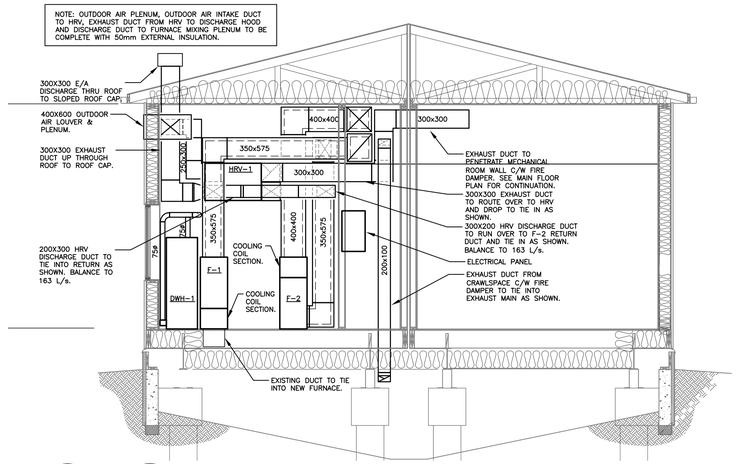

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4 MECHANICAL ROOM VENTILATION SECTION
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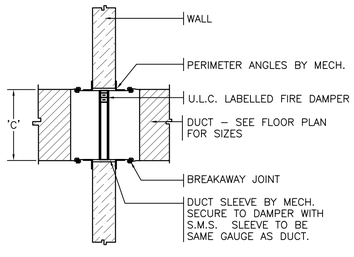
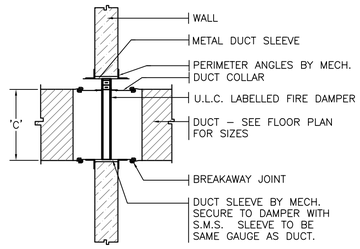


FOR DUCTS WITH 'C' DIMENSION 300 (12") AND LARGER.

TYPE 'A' FIRE DAMPER - n.t.s.



FOR DUCTS WITH 'C' DIMENSION SMALLER THAN 300 (12")

TYPE 'B' FIRE DAMPER - n.t.s.

VENTILATION GENERAL NOTES

– ALL DUCTWORK SHOWN DOUBLE LINE INSIDE PERIMETER OF DUCT IS TO BE COMPLETE WITH 1" INTERNAL INSULATION. ALL OTHER DUCTWORK IS TO BE C/W 1" EXTERNAL INSULATION. SIZES INCLUDE INTERNAL INSULATION WHERE APPLICABLE.

– ALL FITTINGS ON INTERNALLY INSULATED DUCTWORK ARE TO BE C/W INTERNAL INSULATION. ALL OTHERS ARE TO BE EXTERNALLY INSULATED.

– ALL SUPPLY AIR AND EXHAUST AIR BRANCH DUCTS TO GRILLES AND DIFFUSERS ARE TO BE C/W BALANCE DAMPERS IN BRANCH DUCT NEAR MAIN, UNLESS BALANCE DAMPERS ARE PROVIDED IN GRILLE OR DIFFUSER.

– ALL RADIUSED ELBOWS TO BE WITH CENTERLINE RADIUS OF 1.5 TIMES DUCT DIAMETER (ROUND DUCTS) OR DUCT WIDTH (RECTANGULAR). ALL MITERED ELBOWS TO BE COMPLETE WITH AIRFOIL TURNING VANES. ALL RECTANGULAR BRANCHES TO BE WITH RADIUS ON BRANCH 1.5 TIMES WIDTH OF DUCT. ALL ROUND BRANCHES TO ENTER MAIN DUCT AT 45 DEGREES WITH CONICAL CONNECTION.

– PROVIDE ACCESS DOORS FOR ACCESS TO ALL MOTORIZED DAMPERS, FIRE DAMPERS, HUMIDIFIERS AND CONTROL DEVICES, AND TO FACILITATE DUCT CLEANING.

– COORDINATE ALL WORK WITH OTHER TRADES.

– RUN DUCTS AS HIGH AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCE.

SEPW Architecture Inc.
109 - 3725 Pasqua Street, Regina, SK, S4S 6W8 ph: (306) 569-2255
102 - 3718 Kinnear Place, Saskatoon SK, S7P 0A6 ph: (306) 652-6457
website: www.sepw.ca

HDA ENGINEERING LTD.
Mechanical Engineering Consultants
1580 Angus Street Regina, Saskatchewan S4T 1Z1
P:306-525-9815 F: 306-525-6369 E: hda@hdaeng.com

PROFESSIONAL ENGINEER
E. K. COOKE
MEMBER 11372
2016 01 15
YR. MN. DAY
SASKATCHEWAN

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CRAWLSPACE, MAIN FLOOR PLAN & MECHANICAL ROOM VENTILATION

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
25/2015	M2.1	0

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