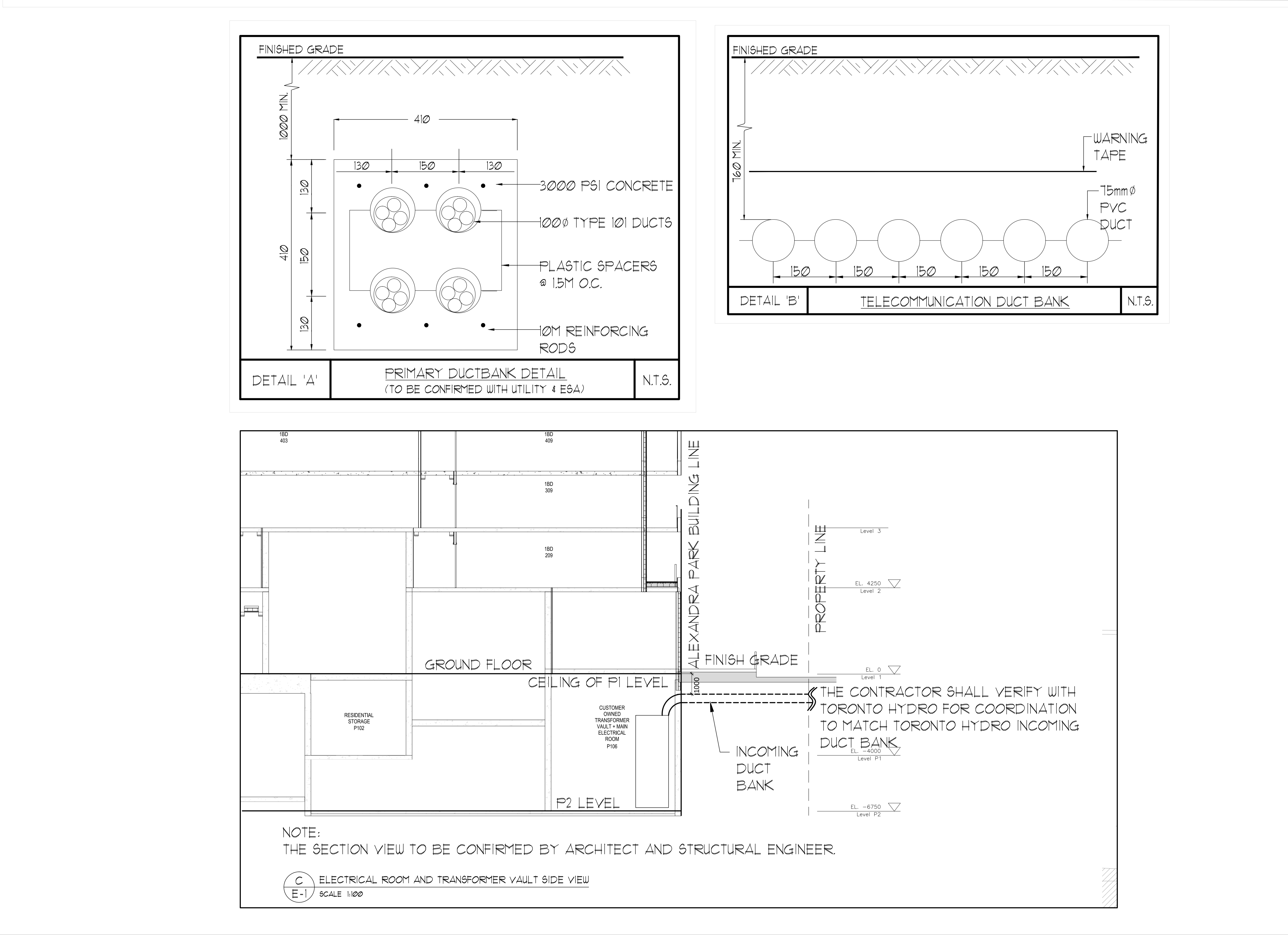




POWER TRANSFORMER LOCATED IN THE CUSTOMER OWNED SUBSTATION SHOULD BE SELECTED FOR LOW NOISE. TRANSFORMERS WITH COOLING FANS SHOULD BE AVOIDED. TRANSFORMER CORES SHOULD BE INTERNALLY ISOLATED WITH SPRINGS OR NEOPRENE-IN-SHEAR MOUNT. ISOLATED HOUSE KEEPING PAD OR FLOATING FLOOR SHALL BE INSTALLED BELOW THE TRANSFORMER AND ASSOCIATED SWITCHGEAR.

NOTWITHSTANDING THE TYPE OF TRANSFORMER SELECTED, THE UNIT MUST BE WELL ISOLATED. A 150mm THICK HOUSEKEEPING PAD POURED ON 50mm THICK UNDERLAY (1 LAYERS OF 180-SF6 HD OR 2 LAYERS OF DURACOUSTIC) SHOULD BE INCLUDED BELOW THE UNIT. THE INCOMING DUCT BANK MUST BE WELL ISOLATED AT ANY POINTS OF SUSPENSION FROM UNDERSIDE OF THE GROUND FLOOR SLAB OR ANY SHEAR WALLS, USING RUBBER COMPRESSION MOUNTS IN SERIES WITH THE RODS SUPPORTING THE UNISTRUT ASSEMBLIES TO WHICH THE CABLES OR CONDUITS ARE ATTACHED, OR RUBBER PADS OR SLEEVES IN CLAMPS. THIS ISOLATION LAYER SHALL BE INCLUDED BELOW THE HOUSE KEEPING PAD FOR THE SWITCHGEAR.

300kVA - 450kVA TRANSFORMERS WHICH ARE LOCATED BELOW SUITES SHOULD BE ISOLATED ON DOUBLE LAYER RUBBER PADS (25mm THICK, 50 DIAMETER MAXIMUM). ALL CONDUITS OR CABLES THAT ARE SUSPENDED FROM THE GROUND FLOOR SLAB ABOVE SHOULD BE VIBRATION ISOLATED AT ANY POINT OF SUSPENSION FROM THE STRUCTURE USING RUBBER COMPRESSION MOUNTS IN SERIES WITH THE RODS SUPPORTING THE UNISTRUT ASSEMBLIES TO WHICH THE CABLES OR CONDUITS ARE ATTACHED. IN A MANNER SIMILAR TO THAT DESCRIBED ABOVE, CONDUITS OR CABLES FOR THESE TRANSFORMERS SHOULD NOT BE BURIED IN THE GROUND FLOOR SLAB, BUT SURFACE MOUNTED TO FACILITATE ISOLATION.

AN ISOLATED HOUSEKEEPING PAD SHALL BE INSTALLED BELOW THE TRANSFORMERS (SIZED AT 300kVA OR ABOVE) AND ASSOCIATED SWITCHGEAR.

SMALL TO MEDIUM TRANSFORMERS (45kVA TO 75kVA) LOCATED IN PI AND ON THE ROOF, SHALL BE ISOLATED UNDER THE CABINET FRAME USING NEOPRENE ISOLATORS. CEILING MOUNTED UNITS SHALL BE HUNG WITH NEOPRENE IN SHEAR ISOLATORS.

ALL TRANSFORMERS ARE TO BE ISOLATED ON DOUBLE-LAYER RUBBER PADS (25mm THICK, 50 DIAMETER MAXIMUM).

TRANSFORMER HOUSE KEEPING PADS SHALL BE POURED ON 2 LAYERS OF DURACOUSTIC. TRANSFORMER CASING SHALL BE ISOLATED FROM THE HOUSE KEEPING PADS WITH DOUBLE-LAYER RUBBER PADS.

THE GENERATOR SHALL BE LOCATED ON A 100mm THICK HOUSEKEEPING CONCRETE PAD ABOVE THE FLOATING FLOOR. THE GENERATOR SUPPORTED FROM THIS HOUSEKEEPING PAD WITH SPRING ISOLATORS HAVING A NORMAL 25mm STATIC DEFLECTION, WITH RIBED RUBBER PADS UNDER THE SPRING BASE.

BACK TO BACK ELECTRICAL OUTLETS ARE TO BE AVOIDED IN SUITE DEMISING WALL. THEY SHOULD BE STAGGERED BY A MINIMUM OF 12" (IN CONCRETE WALLS) OR 1 STD SPACE (IN DRYWALL), TO PREVENT REDUCING THE SOUND INSULATION PERFORMANCE OF THOSE WALLS. THIS ALSO APPLIES TO COMMUNICATIONS OUTLETS AND SWITCHES.

CONDUITS SHOULD INCLUDE A LENGTH PREFERABLY A FULL TURN COIL, BETWEEN THE EQUIPMENT AND LOW VOLTAGE CONDUIT, PRIOR TO THE EAST-IN-SLAB FEED AND SHALL BE SUPPORTED VIA HANGERS WITH NEOPRENE PADS.

ALL-OUTDOOR RECEPTACLES SHALL BE WEATHERPROOF (LEGRANDE CAT# 3323TRWR-GRY FOR NON-GFCI AND CAT# 1595TRWR-GRY FOR GFCI) AND SHALL BE EQUIPPED WITH A WHILE IN USE CAST ALUMINUM COVER/PLATE (LEGRANDE CAT# 110UCAST1) COVER/PLATE.

KEY NOTES:

ELECTRICAL CONTRACTOR TO PROVIDE CONCRETE ENCASED DUCT BANKS AND TO VERIFY ON SITE EXACT LOCATION AND DEPTH OF HV CABLES FOR MATCH-UP WITH HV DUCTS AT PROPERTY LINE. INSTALLATION OF HV CABLES AND TERMINATION ARE DONE BY TORONTO HYDRO.

ELECTRICAL CONTRACTOR SHALL PROVIDE 6-3" DUCTS FOR TELECOMMUNICATION SERVICES FROM THE BUILDING UP TO PROPERTY LINE. INSTALLATION OF CABLES AND TERMINATION UP TO THE PROPERTY LINE ARE DONE BY THE ELECTRICAL CONTRACTOR. TELECOMMUNICATION SERVICE PROVIDERS ARE RESPONSIBLE FOR DUCTS AND CABLES BEYOND PROPERTY LINE. DUCTS SHALL CONTINUE AS SLEEVES AS THEY PENETRATE THE GARAGE WALL.

DIV. 16 CONTRACTOR SHALL PAINT RED WARNING SIGNS FOR HIGH VOLTAGE DUCT BANK IN ACCORDANCE WITH LATEST TORONTO HYDRO STANDARDS.

ALL UNDERGROUND INSTALLATION OF ELECTRICAL DUCTS/CONDUITS SHALL COMPLY WITH THE LATEST ESA CODE RULE 12-012 (BULLETIN 12-2-15) WHICH SPECIFIES "CONTINUOUS RED PLASTIC MARKER TAPES WITH BLACK LETTERS IDENTIFYING THE POWER LINE UNDERGROUND INSTALLATION.

(I) PLACED APPROXIMATELY HALF WAY BETWEEN THE INSTALLATION AND GRADE LEVEL.

(II) INSTALLED COVERING THE WIDTH OF THE INSTALLATION AND

(III) WHERE MULTIPLE MARKER TAPES ARE REQUIRED TO COVER THE WIDTH OF THE INSTALLATION MARKER TAPES SHALL BE PERMITTED TO BE PLACED A MAXIMUM OF 600mm APART.

RUN "I" CONDUIT TO GENERATOR CONTROL PANEL AND CACF ROOM FROM INCOMING GAS STATION CONTROL VALVE.

ELECTRICAL CONTRACTOR SHALL KEEP CLEARANCE 600mm HORIZONTAL AND 300mm VERTICAL BETWEEN SERVICES GAS LINE AND HYDRO DUCT BANK.

COMMUNICATION CONDUIT REQUIREMENTS:

a) PLACE 2"x4" PULL BOX ON BUILDING WALL WHERE ENTRANCE SUB DUCT ENTERS BUILDING 60 DUCT CAN BE SEALED AFTER ENTRANCE CABLE IS PLACED TO PREVENT WATER AND GASES SEEPING INTO BUILDING.

b) CONDUIT TERMINATION AT THE PROPERTY LINE TO BE MARKED WITH A 2"x4" STAKED INTO THE GROUND APPROXIMATELY 2' 3" HIGH MARKED "BELL".

c) INSIDE THE BUILDING CONDUIT MUST BE ENT. (FIRE RATED ELECTRICAL METALLIC TUBING) 29mm (3/5") OR 100mm (4") INSIDE DIAMETER TO ENSURE THE SUCCESSFUL PLACEMENT AND TO AVOID DAMAGING THE CABLE DURING THE PLACING OPERATION. "1" METERS" PULL BOXES ARE REQUIRED AT 30 DEGREE BENDS WITHIN THE BUILDING.

d) CONDUIT LENGTHS OVER 30m HAVE A PULL ROPE.

e) ALL CONDUITS TO BE FREE AND CLEAR OF OBSTRUCTIONS AS A BLOCKAGE AT THE TIME OF CABLE PLACEMENT WILL RESULT IN A DELAY OF SERVICE UNTIL THE PATH HAS BEEN CLEARED AT THE OWNER'S EXPENSE.

f) 4x6x3/4" FIRE RETARDANT PLYWOOD BACKBOARD FASTENED TO WALL IN AN AREA ACCESSIBLE WITHOUT THE USE OF A LADDER WHERE IT IS POSSIBLE FOR A TECHNICIAN TO WORK WITHOUT BLOCKING A PASSAGEWAY AND WHERE THE EQUIPMENT MOUNTED WILL NOT BE DAMAGED BY DOORS OR ANY MOVING OBJECTS.

THE CONTRACTOR SHALL VERIFY THE LOCATION OF TELECOMMUNICATION DUCT BANK WITH BELL/ROGERS.

REFER TO LANDSCAPE DRAWINGS FOR DETAILED LAYOUT. LANDSCAPE LIGHTS SHALL BE CONTROLLED BY A TIMER/CONTACTOR (TQ) LOCATED NEAR "ELP-E1" AND CONNECT TO "ELP-E2".

PROVIDE 1" CONDUIT C/W PULL STRIPS FROM IRRIGATION CONTROL PANEL TO IRRIGATION CONTROL POINT. FOR QUANTITY AND LOCATIONS OF IRRIGATION POINTS REFER TO IRRIGATION DRAWINGS.

RESERVED.

RESERVED.

FOR CIRCUITING REFER TO TABLE "I".

U2 LIGHT FIXTURES FOR GRADE SUITES TO BE CONNECTED TO SUITE ELECTRICAL PANEL. MOUNTING HEIGHT FOR U2 IS CENTERED 2350mm AFF. REFER TO ARCHITECTURAL/LANDSCAPE DRAWINGS FOR MOUNTING HEIGHT AND EXACT LOCATION OF LIGHT FIXTURE.

MOUNTING HEIGHT FOR U2 IS CENTERED 2350mm AFF. REFER TO ARCHITECTURAL/LANDSCAPE DRAWINGS FOR MOUNTING HEIGHT AND EXACT LOCATION OF LIGHT FIXTURE.

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