Part 1 GENERAL

1.1 GENERAL REQUIREMENTS

1. Conform to Sections of Division 1 as applicable.

1.2 RELATED WORK

1. Section 03 30 00: Cast-In-Place Concrete
2. Section 03 39 00: Concrete Curing
3. Section 06 41 00: Carpentry and Millwork
4. Section 09 30 00: Porcelain and Ceramic Tile
5. Section 09 64 29: Wood Strip Flooring

1.3 REFERENCES

ASTM F 1066-95a	-	Vinyl Composition Floor Tile
ASTM F 1344-93	-	Rubber Floor Tile
ASTM F 1066-95a	-	Resilient Wall Base
CSA O121-M78	-	Douglas Fir Plywood
CAN/ULC-S102.2-M88	-	Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies

1.4 SUBMITTALS

1. Samples: Submit for the Consultant's approval, duplicate full size (7.00" width) samples of tile material and in accordance with Section 01 33 00, Submittals before ordering.

2. Maintenance Data and Operating Instructions: Supply to Section 01 33 00, Submittals 3 copies of detailed instructions for maintaining, preserving and keeping resilient (vinyl) tile/plank clean and give adequate warning of maintenance practices or materials detrimental to resilient (vinyl) flooring.

1.5 QUALITY ASSURANCE

1. Surface Burning Characteristics: CAN/ULC-S102.2-M.

2. Work shall be executed by company approved by manufacturer and experienced in this type of installation, having successful history of similar installations.

1.6 DELIVERY, STORAGE AND HANDLING

1. Deliver products in accordance with manufacturers written recommendations. Label containers to clearly identify contents by product description, manufacturer, lot number, size, colour and pattern.

2. Prevent freezing of product.

3. Deliver products to area of work minimum 24 hours prior to installation.

4. Remove them from containers to allow them to become fully acclimatized.

1.7 PROJECT CONDITIONS

1. Environmental Requirements

2. Ensure temperature of room floor surface and materials is not less than 21 deg C (70 deg F) for 24 hours before, during and for 7 days minimum after installation.

3. Room temperature shall be at least 13 deg C (56 deg F) and not more than 30 deg C (86 deg F), 48 hours prior to, during and after installation.

4. Perform moisture and excessive alkalnity tests on substrate. If moisture registers over 15% or if PH registers over 10.8, do not proceed with Work. Concrete floor substrate shall have cured properly for minimum of 28 days and moisture content of slab must be 5% or lower.

    1. Ensure humidity levels of spaces to receive tile are maintained at design levels for minimum 24 hours before installation.

    2. Avoid high humidity, cold drafts and abrupt temperature change.

1.8 WARRANTY

1. Warrant work of this Section against defects and deficiencies in accordance with General Conditions of the Contract. Promptly correct any defects or deficiencies which become evident during warranty period including, but not be limited to, buckling, opening of seams, bond failure and extensive colour fading, to satisfaction of the Consultant and at no expense to Owner.

1.9 MAINTENANCE

1. Extra Materials: Supply 5% extra tiles for future repairs in suitable boxes properly identified. Colour selection to be in proportion to amounts supplied. Store where directed on Site.

Part 2 PRODUCTS

2.1 MATERIALS

1. **Luxury Vinyl Tile Floor (LVT):** Glue-down Style C0009, Colour Secoya / 148 Atwell Mill by Mohawk Group, 5mm thickness, 59" x 9", brick ashlar, at Programming Support Space 221. Note colors to be confirmed with Architect prior to ordering for installation. Located at Programming Support Space 221.

2. **Safety Sheet Flooring (SF):** Altro Classic 25, R11 slip resistance, 2.5mm thickness, full length sheets, 3.1kg/m^2. Colour Pewter Grey X2539. Note colors to be confirmed with Architect prior to ordering for installation. Complete waterproof system installation including bonding agent/screed, waterproofing membrane with

adhesive or self-adhesive waterproofing membrane, primer, skim coat, adhesive. Waterproofing system as recommended by flooring manufacturer. To be installed in Prep Kitchen and Storage 015, Kitchen 114, Cafeteria 105, Mechanical Attic 220.

3. **Adhesive:** Acrylic or latex base adhesive as approved by manufacturer.

4. **Rubber Cove Base**: ASTM F 1344-93, Class I, B , 3 mm (1/8") thick x 100 mm (4") high, vulcanized, in coil lengths. Complete with pre-moulded corners, by Johnsonite. Colour selected from manufacturer's standard range.

5. **Thresholds, Carpet Edge Guards, Adapters to Tile, Cove Caps, Reducer Strips**: 1 piece stainless steel, or extruded aluminum colour selected from manufacturer's standard range.

6. **Underlay:** 6 mm (1/4") Douglas fir plywood, CSA O121-M; solid 1 side, sanded both sides.

7. **Levelling Materials**: Latax Filler, S-180 by Armstrong World Industries Canada Ltd or Ultra/Plan by Mapei Canada Inc or if acceptable to product manufacturer Sureflo, hydraulic cement based self-levelling floor underlayment manufactured by Gemite Products Inc.

8. **Wax and Sealer:** Commercial quality as recommended by tile manufacturer and acceptable to the Consultant.

9. **SubFloor Filler:** Adrex SD-F Feather Finish TL 1000, TL Patch portland cement based filler by Ardex Engineered Cements and distributed by Brolain Distributors Ltd. (519-740-9311). Levelrock brand Super Smooth Patching Compound by C.G.C or Novoplan, Ultraplan 1 Plus, Ultraplan Easy are approved alternative products.

10. **Sub-floor Filler and Leveller:** White premix latex requiring water only to produce cementitious paste 2 part latex-type filler requiring no water as recommended by flooring manufacturer for use with their product.

11. **Rubber Base:** 1/8" (3.2 mm) thick, 4" (100 mm) as indicated, rubber cove base at resilient locations by Johnsonite. Colours as selected by Architect (max. 3 colours per school project). Use continuous coil rubber base not 4'-0" (1220 mm) lengths. Approved alternate manufacturers are Amtico and Roppe.

12. **Cleaner:** Neutral chemical compound as approved by tile manufacturers that will not damage tile or affect its colour.

13. **Reducing Strip:** strips in thickness as required. Colour as selected by Architect.

14. **Metal Edge Trim:** Aluminum or brass alloy with lip of edge extending under and with shoulder finishing flush with top of resilient flooring.

15. **Concrete Floor Sealer:** to C.G.S.B. 25-GP-20m Type 1.

16. **Tactile Walking Surface Indicator (TWSI) Polymer Tile:** 12" x 12" x 1/8" (300mm x

300mm x 3mm (5mm where required to match the same thickness as adjacent adjoining flooring) eON tile by Kinesik Engineered Products (905-330-9233). Tile to have truncated domes conforming to latest OBC requirements. Colour to be Ivory, Vogue Black, Smoke Grey, HiVis Yellow, to be determined upon shop drawing review by architect prior to ordering.

17. **Tactile Walking Surface Indicator (TWSI) Rubber Tile:** 12" x 12" x 1/8" (300mm x 300mm x 3mm (5mm where required to match the same thickness as adjacent adjoining flooring) rubber tile by Kinesik Engineered Products (905-330-9233). Tile to have truncated domes conforming to latest OBC requirements. Colour to be Ivory, Vogue Black, Smoke Grey, HiVis Yellow, to be determined upon shop drawing review by architect prior to ordering. Approved alternate is Johnsonite Tarkett.

18. **Reducers / Transitions:** One-piece homogeneous polyvinyl chloride, installed using materials and methods per Manufacturer's written installation instructions. Colour: from Manufacturer's complete line. Style: SSR-XX-B by Johnsonite Inc..

Part 3 EXECUTION

3.1 INSPECTION

1. Ensure that substrate is dry and smooth. Report to the Consultant any irregularities detrimental to flooring application.

3.2 PREPARATION

1. Clean and vacuum floor free of dirt, grease or other deleterious matter that will affect adhesion of flooring.

2. Nail any loose or springy board or subfloor securely with 75 mm (3") ardox spiral nails.

3. Remove irregularities and fill depressions with non-shrinking latex compound.

4. Where existing tile floor occurs, remove tile. If sub-surface is satisfactory sand and prepare it to receive new tile floor. If not, provide new plywood underlay or apply cement based levelling underlay as specified hereinafter.

5. Clean concrete slab of any substance deleterious to bond before applying tile.

3.3 INSTALLATION

1. Underlay

    1. Install underlay over existing wood flooring and new wood flooring.

    2. Lay underlay lengthwise at right angles to joists and staggering subfloor joints. Minimize joints by using full size sheets. Butt sheets flush, to moderate contact and nail into place. Stagger end joints in adjacent

sheets. Cut and fit neatly around fixed obstructions. Leave space for expansion at perimeter.

3. Use ring type annular nails or divergent point staples. Nails shall be 38 mm (1-1/2") long. Drive nail heads flush with underlay surface. Space nails 100 mm (4") oc, in perimeter of sheet, 38 mm (1-1/2") from edge and stagger in adjacent sheets. Space nails 150 mm (6") oc, both ways in field of sheet. Staples shall be 19 mm (3/4") long, power driven. Space staples 75 mm (3") oc in perimeter of sheet, 25 mm (1") from edge and stagger in adjacent sheets. Space staples 100 mm (4") oc, both ways in field of sheet.

4. Fill joints in underlay with non-shrinking, latex cement filler. Force filler carefully into joints. Sand smooth when set. Seal underlay with sealer.

5. Clean underlay of any substance deleterious to bond before applying tile.

6. Apply levelling coat over existing floors receiving new tile floors where required. Prepare and prime existing surfaces, mix levelling compound, apply and finish levelling compound in strict accordance with manufacturer's printed instructions.

2. Adhesive and Tile

1. Commence by laying tiles loosely on floor. Cut and fit snugly before applying adhesive. Reject tiles having undue variations in colour, shade or texture.

2. Apply adhesive uniformly with approved notch-tooth spreader at manufacturer's recommended rate. Use waterproof adhesive on concrete slabs on grade/subgrade.

3. Lay out each area to be tiled symmetrically from its axis. Adjust starting line so width of border tile will be at least 1/2 tile. Distribute tiles having varying tones or texture evenly over entire floor area to avoid patches or streaks and to produce homogeneous blend. Reject tiles having undue variations, in colour, shade or texture.

4. Lay tile with joints flush, uniform, in moderate contact, in straight lines and as inconspicuous as possible. Lay tile with patterns of adjacent tiles parallel.

5. Roll tile with 68 kg (150 lb) roller in both directions immediately after laying.

6. Cut tile around excessively heavy or fixed objects.

7. Install approved edging where floor tile terminates adjacent to dissimilar flooring material or at different finished floor height. Install thresholds at door ways.

3. Bases

1. Fill cracks and level irregularities of surface to which base is applied with filler approved by adhesive manufacturer to provide solid backing over entire area behind base.

    1. Cement cove base to vertical surfaces so that gaps do not occur behind base, so that front lip of base cove bears firmly and uniformly on floor surfaces and so that good and permanent bond is produced between base and surface to which it is applied.

    2. Apply bases as shown complete with stops. Use premoulded external and internal corners; mitre internal corners.

    3. Use full length pieces where practicable, accumulated short lengths not permitted.

    4. Butt joints and keep flush without gaps.

3.4 CLEANING

1. Remove surplus adhesive from face of tiles and base as work progresses.

2. As soon as possible after adhesive has set, clean tile and base surfaces in accordance with manufacturer's directions.

3. Apply 1 coat of wax to floor tile and polish with mechanical buffers.

4. After installation, wash rubber tile flooring with non-phosphate detergent. Follow manufacturer's recommendations for cleaning.

5. Do not allow traffic in area for at least 24 hours after flooring installation. Protect laid flooring from construction traffic for at least 4 to 7 days

End of Section 09 65 00