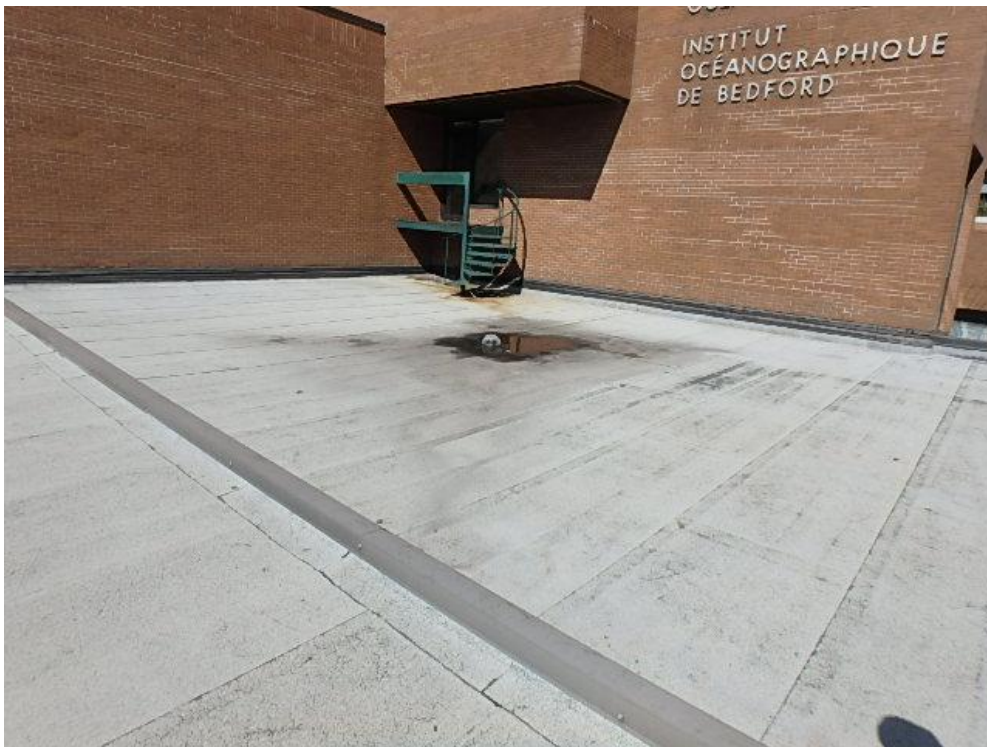




Photograph 1: Overall view of Murray building Roof Area 1.1 looking south towards Halifax. This is a 2 ply modified bitumen roof that is approximately 15 years old



Photograph 2: Roof Area 1.1 – Overall view of portion of roof area 1.1 showing ponding, expansion joint, and metal stairway and landing to adjacent building.



Photograph 3: Roof area 1.1 View of typical parapet along roof edge.



Photograph 4: Roof Area 1.1 – Roof drain with debris and severe blistering.



Photograph 5: Roof Area 1.1 – Ridging of membrane at seam.



Photograph 6: Roof Area 1.1 – debris and vegetation growth at corner and showing poorly sealed reglet detail along wall transition



Photograph 7: Roof Area 1.1 – delamination of membrane cap sheet flashing that occurs in multiple locations along parapet.



Photograph 8: Roof Area 1.1 – Typical parapet around open skylight.



Photograph 9: Roof Area 1.1 – delamination of membrane cap sheet flashing that occurs in multiple locations along south east parapet.



Photograph 10: Roof Area 1.1 – HVAC units on pavers with insulation membrane protection and conduits running to adjacent doghouse penetration.



Photograph 11: Roof Area 1.1 – Doghouse penetration detail and HVAC units on sleepers that do not have membrane protection underneath.



Photograph 12: Roof Area 1.1 – unused pavers sitting directly on membrane



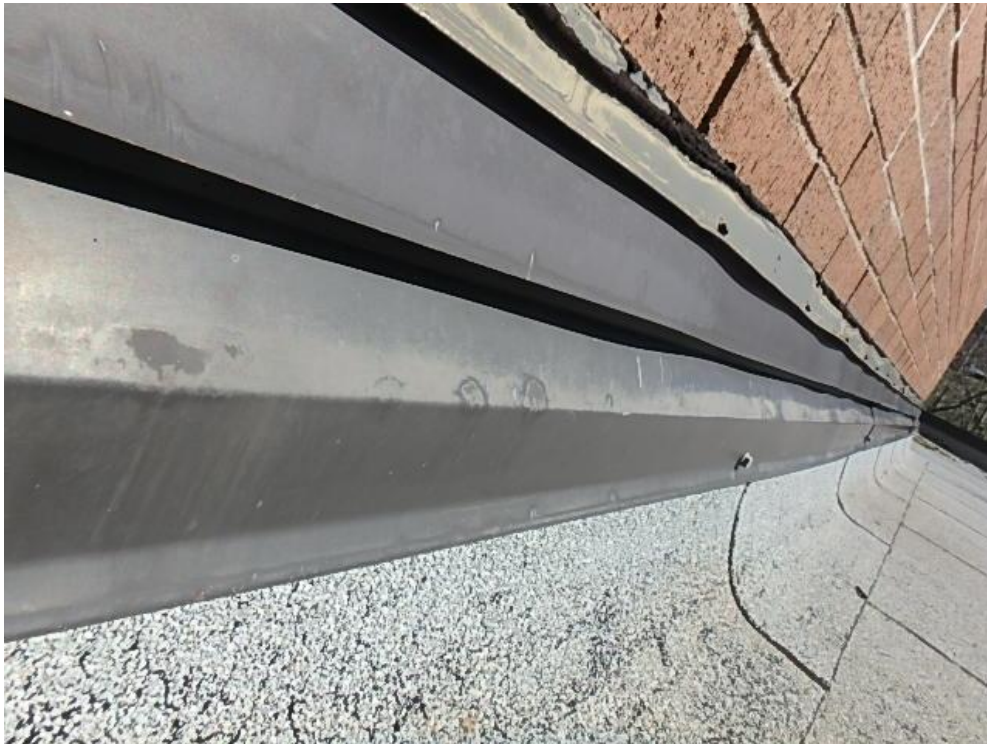
Photograph 13: Roof Area 1.1 – Typical cracking on cap sheet membrane along parapet.



Photograph 14: Roof Area 1.1 – Ridging and blistering of roof membrane.



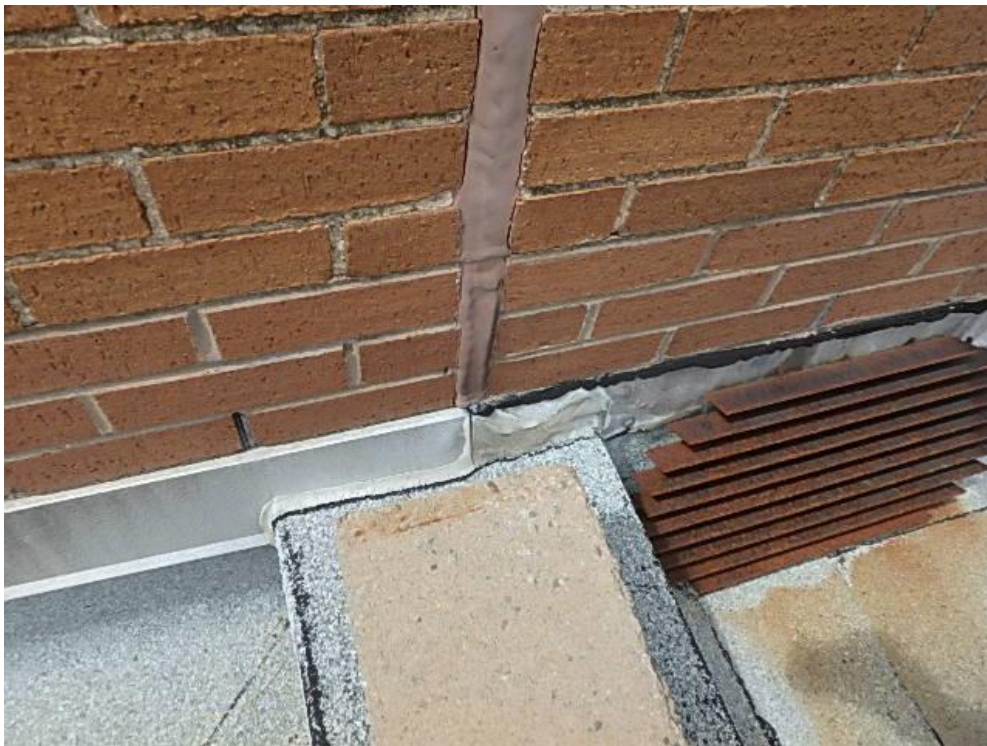
Photograph 15: Roof Area 1.1. Metal stairs and landing with rust staining of unprotected membrane below.



Photograph 16: Roof Area 1.1 – Poorly sealed reglet/expansion joint detail along with cracking of cap sheet flashing.



Photograph 17: Roof Area 1.1 – Cracked cap sheet flashing and damaged metal flashing.



Photograph 18: Roof Area 2.1 – Unprotected roof divider, debris, and poorly sealed reglet detail.



Photograph 19: Roof Area 2.1 – Roof drain with surrounding blisters and improper cap sheet detail around drain.



Photograph 20: Roof Area 2.1 –damaged metal flashing at doorway and worn membrane due to lack of membrane protection in front of door.



Photograph 21: Roof Area 2.1 – Membrane tenting at reglet detail along wall.



Photograph 22: Roof Area 2.1 – Ridging and blistering of roofing membrane and plumbing stacking penetration



Photograph 23: Roof Area 2.1 – Typical unprotected parapet with worn edges.



Photograph 24: Roof Area 2.1 – Damaged and poorly sealed flashing along wall at reglet and parapet intersection.



Photograph 25: Roof Area 2.1 – Overall view of roof area 2.1 facing north east.



Photograph 26: Roof Area 2.1 – Overall view facing south west showing debris along wall, poorly sealed reglet detail, and ridging and blistering on roofing membrane.



Photograph 27: Roof Area 2.1 – drain and plumbing stack detail with improper cap sheet membrane detail around drain, poorly sealed plumbing stack, cracking in membrane and vegetation growth.



Photograph 28: Roof Area 2.1 – Debris and vegetation growth in corner along with stack penetration.



Photograph 29: Roof Area 2.2– Rust staining of unprotected membrane under ladder, HVAC on sleepers without membrane protection, and conduit gooseneck penetration.



Photograph 30: Roof Area 2.2 – Typical roof drain installation with improper cap sheet detail.



Photograph 31: Roof Area 2.2– Typical membrane delamination around HVAC sleeper.



Photograph 32: Roof Area 2.2 – Membrane blistering, HVAC units on sleepers, roof drain with improper cap sheet detail and vegetation growth, and piping from HVAC unit through wall.



Photograph 33: Roof Area 2.2—HVAC units on sleepers with no membrane protection and AC units on paver/concrete blocks also without membrane protection.



Photograph 34: Roof Area 2.2 – Membrane blistering and ridging, and unprotected membrane over roof divider.



Photograph 35: Roof Area 2.2 – Membrane delamination along seam.



Photograph 36: Roof Area 2.2 – Typical parapet detail around roof edge.



Photograph 37: Roof Area 2.3 – Overall view of roof area 2.3 facing south.



Photograph 38: Roof Area 2.3 – Showing typical, unprotected parapet membrane and ponding.



Photograph 39: Roof Area 2.3 – Roof drain blocked by vegetation growth.



Photograph 40: Roof Area 2.3 – Parapet with membrane tenting and vegetation growth.



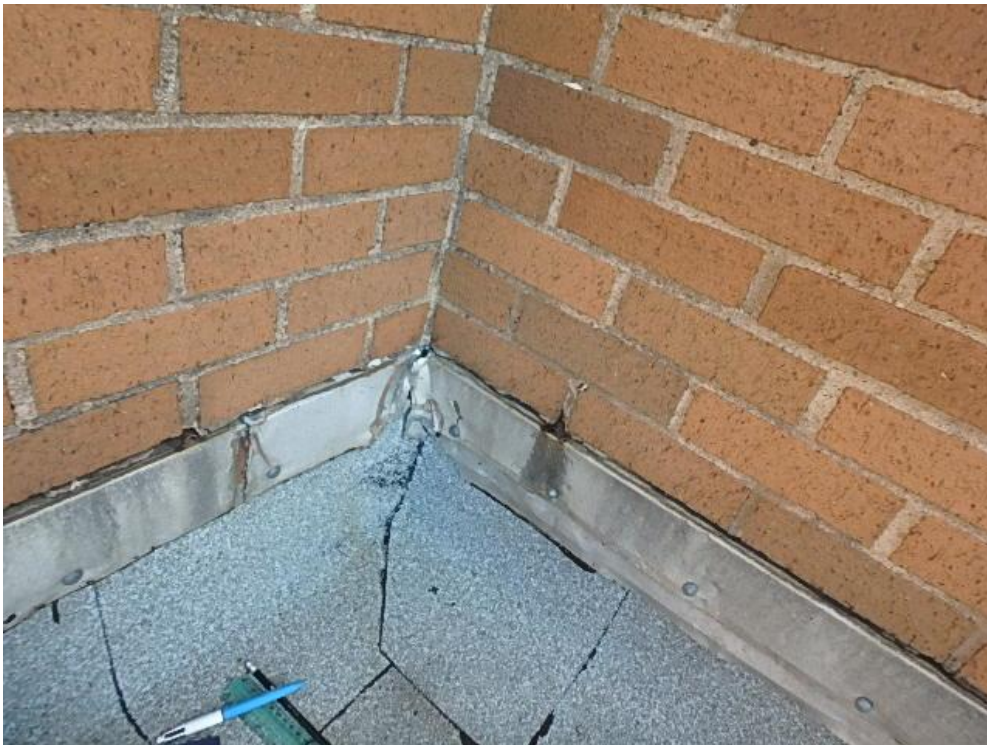
Photograph 41: Roof Area 2.3 – Parapet intersection at wall and reglet detail. Improperly sealed reglet over parapet.



Photograph 42: Roof Area 2.3 – sealant missing at reglet and improperly sealed between flashing and membrane.



Photograph 43 - Roof Area 2.3 – Staining of membrane and flashing under sill of access door.



Photograph 44: Roof Area 2.3 – Improper sealant/flashing along reglet.



Photograph 45: Roof Area 2.4 – Roof area above entrance with no access from building or by ladder. There is evidence of ponding and membrane cracking in multiple locations.



Photograph 46: Roof Area 3.1 – Overall view of roof area facing north west. The modified bitumen roof is approximately 12 years old.



Photograph 47: Roof Area 3.1 – Typical gravel stop along roof edge.



Photograph 48: Roof Area 3.1 – Typical roof anchor to be removed due to load testing failure. Poor flashing around anchor base is also typical.



Photograph 49: Roof Area 3.1 – Typical roof drain installation with improper cap flashing detail.



Photograph 50: Roof Area 3.1 – Exhaust fan and conduit gooseneck penetrations.



Photograph 51: Roof Area 3.1 – Skylight in good condition.



Photograph 52: Roof Area 3.1 – roof divider detail between roof area 3.1 & 3.2



Photograph 53: Roof Area 3.1 – Top of ladder at roof edge without membrane protection.



Photograph 54: Roof Area 3.1 –Typical flashing problem at plumbing stack.



Photograph 55: Roof Area 3.1 – Damaged skylight.



Photograph 56: Roof Area 3.1 – Blistering and ridging in membrane and flashing problems around unused roof anchor. Unused curbs also shown.



Photograph 57: Roof Area 3.2 – Evidence of ponding around exhaust fan curb. Membrane flashing problems also evident around curb.



Photograph 58: Roof Area 3.2 – Blistering on membrane around roof edge and improper corner flashing detail.



Photograph 59: Roof Area 3.3 – Overall view of roof area 3.3 with evidence of ponding along with ridging and blistering of membrane.



Photograph 60: Roof Area 3.3 – Membrane protection missing at top of ladder.



Photograph 61: Roof Area 3.3 – Flashing problem around plumbing stacks.



Photograph 62: Roof Area 3.3 –Debris and lack of membrane protection under metal supports and concrete blocks. Improper column support used.



Photograph 63: Roof Area 3.3 – Blistering on membrane along with minor debris.



Photograph 64: Roof Area 3.3 – Evidence of ponding, ridging and blistering, and flashing problems around penetrations.



Photograph 65: Roof Area 3.3 – Separation of membrane flashing from wall. Poor flashing detail at intersection of reglet at parapet.



Photograph 66: Roof Area 3.3 – Debonding of membrane flashing is evident in multiple locations.



Photograph 67: Murray Building roof area 1.1 Core cut



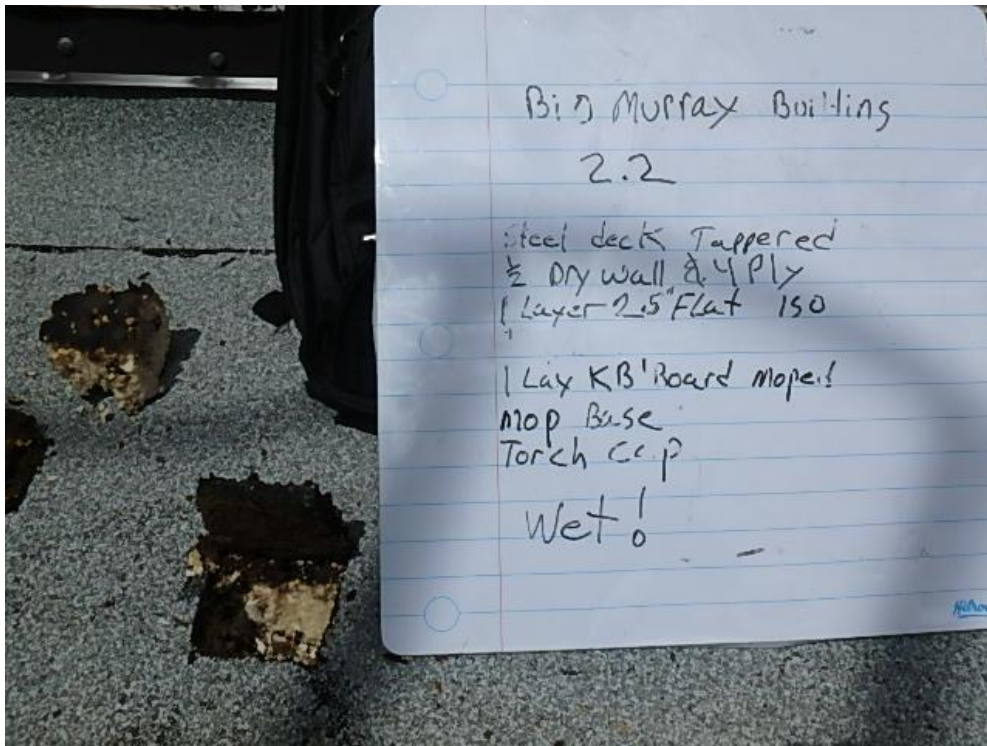
Photograph 68: Roof Area 1.1 –Roof insulation moisture test showing low levels of moisture.



Photograph 69: Murray Building roof area 2.1 Core cut



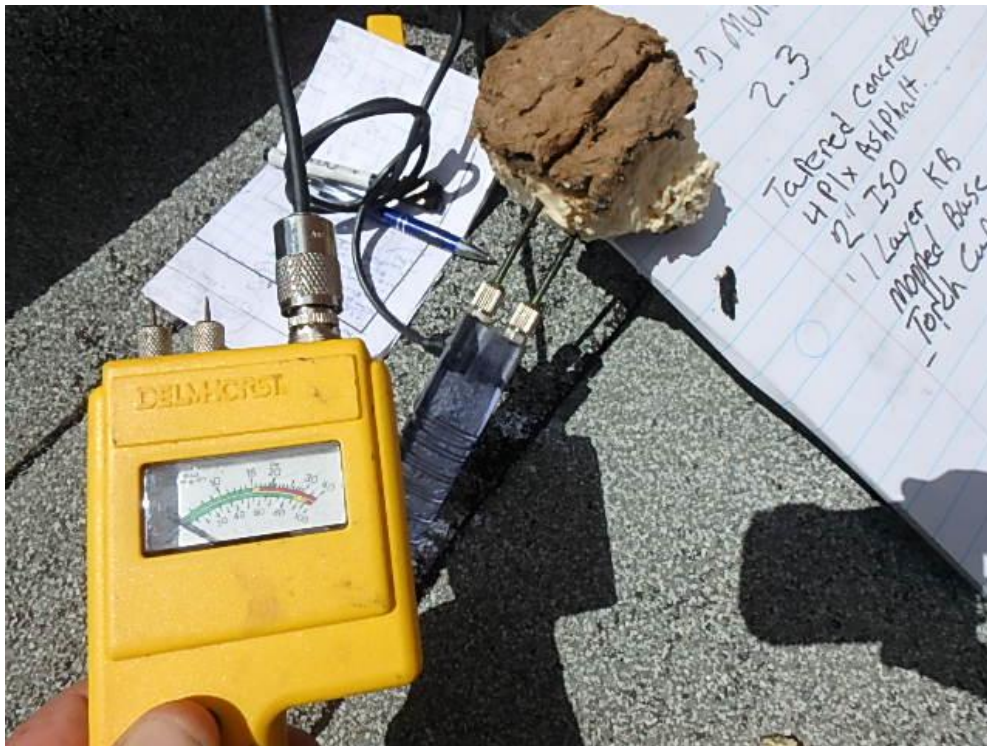
Photograph 70: Roof Area 2.1 – Roof insulation moisture test showing high levels of moisture.



Photograph 71: Murray Building roof area 2.2 Core cut



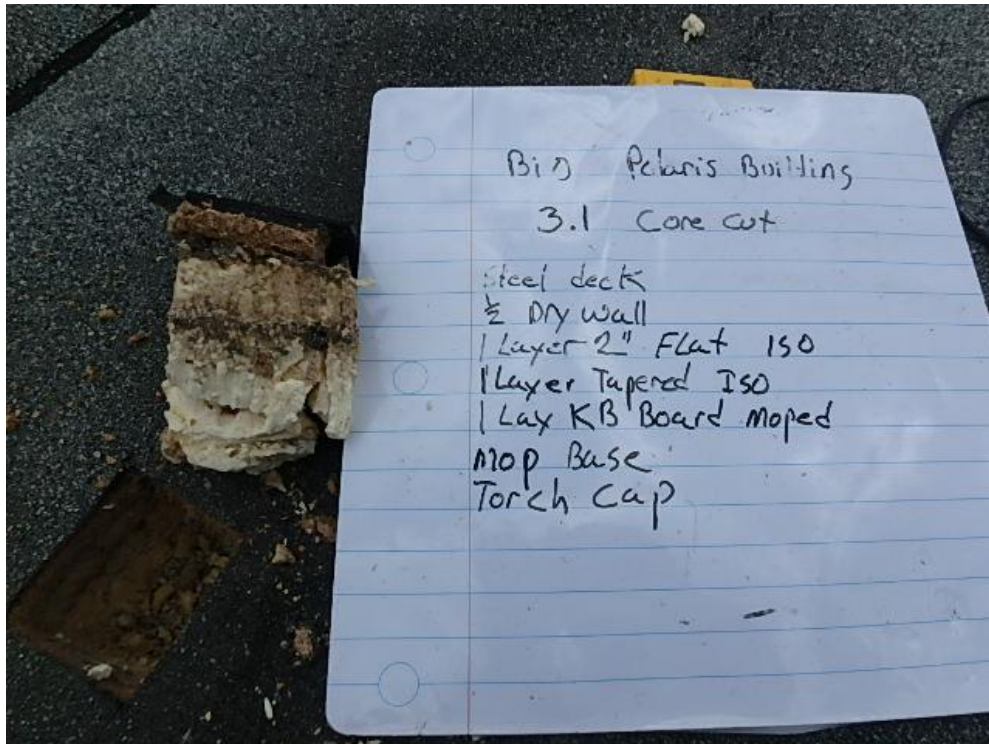
Photograph 72: Roof Area 2.2 – Roof insulation moisture test showing a completely saturated roofing system.



Photograph 73: Murray Building roof area 2.3 Core cut & moisture test showing dry insulation



Photograph 74: Roof Area 2.3 –Roof insulation moisture test showing low levels of moisture..



Photograph 75: Murray Building roof area 3.1 Core cut



Photograph 76: Roof Area 3.1 --Roof insulation moisture test showing low levels of moisture.



Photograph 77: Murray Building roof area 3.3 Core cut



Photograph 78: Roof Area 3.3 –Roof insulation moisture test showing low levels of moisture.