Facility: 25 Grosvenor
25 Grosvenor
Toronto, Ontario

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Date of Last Inspection: May 7, 2003

Type of Building: Offices

Type of Neighborhood:

List of Roof Sections

Photo	Section/ Name/ Year installed	Sq. Ft.	Height	System Type	Condition Index	Estimated Replacement Value
	MAIN Main 1990	15,000	200 ft.	Conventional Mod Bit - Hot applied	4	$262,500
		15,000				**$262,500**

Recommendations - Summary

Section	Budget Year	Type of Activity	Action Item?	Allocation	Urgency	Budget $
MAIN	2003	Replacement				$250,000
						$250,000

Total Budgets										
Section	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
MAIN	$250,000									
	$250,000	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Designation: MAIN

Roof Name: Main

Roof Size: 15,000 sq. ft.

Est. Replacement Cost: $262,500

Existing System Type: Conventional Mod Bit - Hot applied

Year Installed: 1990 (Estimated)

Height: 200 feet

Slope:

Interior Sensitivity:

Condition Index: 4

Drainage: Inadequate

Currently Leaking? Yes

History of Leaking? Yes

Roof Condition Summary

phenolic insulation used in roof assembly
roof system saturated
flashing details used at window washing supports probable source of water penetration
reglet detail at interior wall and parapet wall probable source of water penetration.

Existing Roof System Construction

Layer Type	Description	Method of Attachment
Deck	Concrete	
Vapor retarder	2 ply hot	
Insulation	4" Phenolic	
Membrane	Modified bitumen	

Overall Core Condition

Phenolic insulation saturated.

Core photos

Photo	Date	Description
	May 7, 2003	Core cut #1

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector Name
May 7, 2003	Roof Survey	Aegis Building Sciences	Alistair Wilson B.Sc.

Inspector Comments:

A roof survey of this roof system was executed May 7, 2003. The purpose of this survey was to determine the present condition of the roof systems on this facility. The following diagnostic procedures were employed to determine the condition of the roof system:

1) Visual inspection of the interior of the facility to determine areas of leakage
2) Visual inspection of the roof surface to ascertain membrane anomalies
3) Core cut testing to determine roof system composition
4) Electrical capacitance testing of the roof system to determine areas of wet roof system
5) Probe tests of roof system to determine moisture content of roof system.

The facility has one main roof area and four mechanical penthouse roof system. All of the roof systems appeared to have identical modified bitumen membrane roof systems with the exception that the roof decks for the mechanical penthouse are installed on metal decks.

The roof system on the main roof area was determined to consist of a concrete deck, vapour barrier four inches of phenolic insulation, one half inch fibreboard coverboard and a modified bitumen membrane system. There was no report of the exact age of this roof system however it is probable that the roof system is in excess of ten years of age. The roof system was observed to be leaking at the time of inspection and it was reported that there is an extensive history of reported roof leaks from the main roof area. It was evident that this roof system has not received sufficient repairs and maintenance procedures during its service life. It was observed that occurances of mechanical damage has been left unrepaired and maintenance procedures such as caulking replacement and refilling pitch pockets have not been performed. This lack of maintenance has resulted in the failure of these design details and are a probable source of water entry into the roof system.

The results of the core cut test revealed that the roof system is completely saturated with water. This failure of the roof system has several probable sources of water penetration. The roof design incorporates a window washing track set onto concrete supports. These supports utilize caulking to seal the detail to the roof system. It is evident that the caulking details have failed and allowed water into the roof sytem. The track supports are in numerous locations throughout the main roof area and are a probable source of water penetration into the roof system.

Overall Roof Inspection Assessments continued...

Date	Inspection Type	Inspecting Company	Inspector Name
	It has widely been reported that phenolic insulation will release corrosive materials when exposed to water. It is probable that the leachate from this phenolic insulation has not significantly affected the concrete deck. Conclusions The roof system on the main roof area is in a state of failure as evidenced by the saturated roof system. The roof has not received sufficient maintenance/ repairs and the design details used in the construction have not been properly maintained and allowed water to penetrate into the roof system.		

Recommendations - Details

Budget Year	Type of Activity	Action Item?	Allocation	Urgency	Budget $
	Details				
2003	Replacement				$250,000
	The roof system on the main roof area is in a state of failure and there are no repair procedures that will return this roof to a reliable state of service. The flashing details used in the original installation have not been properly maintained and are a probable source of water penetration into the roof system. It is the recommendation of this report that the roof system on the main roof area be removed and replaced. The replacement roof system would consist of first, the complete removal of the existing roof system down to the concrete deck. The replacment roof system must necessarily include a functional roof design that would ensure a watertight detail at the track supports. In additon it is recommended that the parapet wall be clad to provide a reliable roof system.				
					$250,000