Part 1 General

1.1 Summary

.1 Unless otherwise indicated, follow the standards below when planning roofing work. These standards do not restrict or replace professional judgement.

.2 These guidelines should be read with the specific technical sections of McGill's Building Design and Technical Standards.

1.2 Design Requirements for Roofs

.1 Devices used to control animal populations (pigeons, squirrels, bats, etc.) must be approved by McGill Buildings, Grounds and Special Events unit.

.2 Roofing systems shall be chosen to reduce solar heat gain and heat island effect. Use roofing materials that have a three-year aged solar reflectance index (SRI) value equal to or greater than 64. If three-year aged value information is not available, use materials that have an initial SRI value equal to or greater than 82. A green roof is a preferred solution if structural and budgetary constraints permit. See section 32 50 00 Green Roofs

.3 Inspection of Occupied Spaces beneath Roofs

.1 Before undertaking a new re-roofing project in an existing building, consultants shall inspect the occupied spaces beneath the roof and discuss the implications of the roofing work with the occupants of the building.

.2 It is obligatory to have the roofing contractor, who is awarded the contract, also inspect and take note of the condition of the existing occupied spaces beneath the roof upon which his contract will be performed, in order to assess and appreciate the risk that potential roof leaks would pose to the occupied space.

.4 Roof Insulation Retrofit to Old Buildings

.1 Any contemplated installation of new insulation to retrofit old buildings envelopes must be approached with great care, especially if the building has never been insulated. In principle, nothing should be done to change the existing thermal gradient characteristics of the old roof-ceiling assembly or the pattern of air circulation or vapor migration across the roof-ceiling assembly, unless it can be demonstrated that by undertaking such changes, nothing is done that would create new problems such as new cold spots, new condensation possibilities in the roof-ceiling assembly.

.5 Drainage slopes should be unobstructed by above-roof building elements, equipment curbs, or similar objects. Where such obstructions are unavoidable, provide cants, saddles, or other means to restore positive pitch to drain.

.6 Parapets should be considered in all buildings to accommodate water retention and to protect the roof from predominant winds. Always run roofing materials up and over the top of parapets to the exterior edge (beneath coping caps).

.7 Noise and Vibration during building occupancy – Attachment of underlayment, insulation, and other roofing materials may cause noise and vibration problems. This is especially true for applications over concrete or steel roof structures where the structure may transmit noise throughout the building. Consult with the Project Manager to determine whether special requirements for evening or weekend work are necessary.

.8 Dust Protection – Specify dust protection over occupant's furnishings and lab equipment where appropriate. For example, specify protection for top floor areas that are occupied (not penthouses) and that do not have suspended ceilings. Where occupant's activities may be particularly sensitive to dust, specify protection regardless of presence of suspended ceiling. Note that dust protection should be installed and removed in coordination with occupant operations. Consult with the Project Manager for more guidance.

.9 Snow guards should be considered in all buildings where there is a risk of snow avalanches onto areas of public traffic. On very steep roofs, no snow guards are recommended. Proposals shall be presented to the McGill Design Review Committee (DRC) for feedback and approval.

1.3 Roofing Cutting and Patching

.1 Warranty Requirements

.1 Warranty patching work must be performed in a manner which will not void existing as well as manufacturer warranties. Installers shall provide proof of membership in the "Association des Maîtres Couvreurs du Québec" (AMCQ).

.2 Submittal Requirements

.1 Certification for the firm engaged to perform cutting and patching of roofing system is required.

.3 Quality Assurance Requirements

.1 Include the following Standards in the Quality Assurance article in cutting and patching specification:

.1 Perform cutting and patching work in compliance with the AMCQ Manual.

.2 Installer Qualification: Arrange for cutting and patching of roofing systems by a firm experienced in similar work, and licensed by the manufacturer of roofing system to perform required repair work.

.4 Other Provisions

.1 Use materials for patching identical or compatible with existing materials. Use materials for patching that result in equal-or-better performance characteristics.

.2 Before cutting and patching roofing materials, obtain the McGill Project Manager's approval to proceed.

1.4 Heat Island Effect Report

.1 The architect shall complete the following table to report on heat island effect changes following a roofing project. This table is to be submitted to the Project manager along with the certificate of substantial completion. This table is available in Excel format (see section 07 52 00 Table/ Ilots de chaleur: toitures (Fr)).

.2 Instructions: The orange portions of the table shall be completed by the architect, including general information about the project, the list of roofing types and the estimated areas of the existing as well as renovated surface areas. The green portions of the table shall be filled in by the general contractor.

07 52 00_Îlots de chaleur: Toitures- Université McGill

Ce formulaire doit être accompagné d'un plan avec les surfaces et les spécifications sommaires des différentes finitions.

IDENTIFICATION DU PROJET	RESPONSABLE-PHASE DE CONCEPTION	INFORMATION-PHASE DE CONSTRUCTION
Numéro du projet:	Nom des consultants:	Nom de la personne contact:
Titre du projet:		Nom de l'entreprise:
Nom du bâtiment:	Numéro Téléphone:	Rôle:
Date:	Superficie totale de la ou des toiture(s) en pieds carrés:	Numéro Téléphone:

	Existant			Nouveau			
Type de toiture (Liste à adapter aux besoins)	Quantité surface existante (m2)	Réflectance- Albedo (ex.: min. 0,3 et max. 0,8 env.)	(Surface) x (Albedo)	Quantité surface renouvellée (m2)	Réflectance- Albedo (ex.: min. 0,3 et max. 0,8 env.)	(Surface) x (Albedo)	Remarques
Toiture membranne standard			0			0	
Toiture membranne blanche			0			0	
Toiture fini en gravier			0			0	
passage "tread"			0			0	
toiture verte			0			0	
...			0			0	
			0			0	
			0			0	
			0			0	
			0			0	
Total	0	0	0	0	0	0	
	Réflectance moyenne des surfaces existante		#DIV/0!	Réflectance moyenne des nouvelles surfaces		#DIV/0!	

Augmentation de la Réflectance moyenne suite au projet	#DIV/0!

Titres	Signatures	Date
Consultant		

Part 2 **Related Technical Sections**

The technical sections of the McGill Building Design and Technical Standards should be consulted with the current document, most notably (but not limited to) the following:

Section Number	Title of Section
01 81 13	Sustainable Design Requirements
01 83 16	Exterior Enclosures Performance Requirements
07 52 00	Roofing
07 52 00	Table/ Ilots de chaleur: toitures (Fr)
32 50 00	Green Roofs
33 40 00	Rainwater Management

END OF SECTION