

Hazel Leys Primary School Design Statement

Justification for the Scheme

By way of explanation, the Hot School Meal Plan is an NCC initiative to introduce into the Schools of Northamptonshire the opportunity to provide a hot school meal to all students/pupils in the county. There is an ambitious programme of works to target approx. 226 Schools over a 3 year programme that began in 2010. We are currently concentrating on Year 2 Schools in 2011, of which there are approx. 104 Schools being considered.

The internal Kitchen provision for this School consists of refurbishing a room currently designated as a staff Kitchen. New catering equipment and appliances will be provided for the Kitchen, improvements will be made to the overall working environment and the design will ensure that a new ventilation system meets current legislation guidance.

Design

The proposed supply air ventilation plant (AHU) location will be positioned on a flat roof area adjacent to the Kitchen as shown on drawing NTQS1267/2221/ 05 and NTQS1267/2221/ 07. An existing metal grille installed within the wall at high level will be re-used to extract cooking odours and smells to the outside. Due to the topography of the site and surrounding areas it may be possible for residential property past the School site boundary to see these from a distance, particularly as they are situated on a higher ground. Despite this, the nearest residential site boundary is approx 56m away making the visual, noise and small impact less onerous.

The kitchen ventilation systems have been designed to comply with current Health and Safety legislation and Building Regulations Approved Document Part F requirements.

Current legislation requires the safe removal of fumes and other gases/vapours that may pose a health issue to the operatives or be harmful to the building and its contents with regards to moisture etc.

The size of the ventilation equipment is dependent on the equipment being used within the kitchen and is closely controlled.

Associated plant also has to comply with noise limitation for the operatives (Noise at Work Act) and the efficiencies of the plant have to comply with Approved Document Part L of the Building Regulations legislation to ensure that fan energy is optimised to reduce lifetime running costs.

The plant is weather proof where fitted externally and the normal finish is powder coated grey with galvanised steel ductwork. In front of the AHU plant on the roof edge will be counter balanced Kee-Klump guardrails approximately 1.1m high with a metal galvanised finish. See drawing NTQS1267/2221/05 and NTQS1267/2221/07.

Relevant Planning Policies

The proposals for the external AHU plant feeding the new Kitchen ventilation comply with Local Planning Policy guidance and in particular with **Policy 13 of the Core Spatial Strategy Plan** for North Northamptonshire in the following ways:

- The AHU plant is situated at high level to deter vandalism and avoid noise and smells coming into contact with people.
- The AHU plant is specified as one of the most energy efficient and quieter models on the market. The data for the noise generation can be seen within section 10 of the Ventilation and Extract Statement document supplied. This is aimed to comply with **PPG24** to minimise the adverse impact of noise.
- Material finishes of the roof AHU plant is powder coated grey. Associated ductwork and Kee Klamp guardrails will be a metal galvanised finish.
- The AHU plant has been designed and specified to meet current Regulations and improve the kitchen working environment for staff.

Smells

With regards to odours, we would assume that the catering loads producing odours leaving the kitchen should be minimal.

We advise that the new plant designed will be effective at removing the building up of fumes and odours and these will inevitably create a smell. The distance and prevailing wind will carry these to any adjacent location.

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Nov 2011**

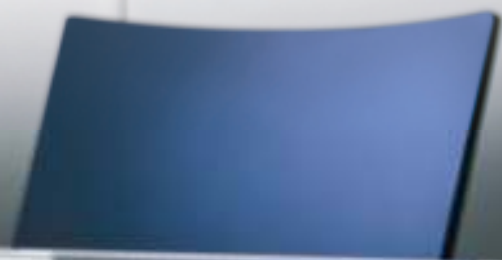


Building Services Design
Consulting Engineers

Ventilation & Extraction Statement

Refurbishment Kitchen

**Hazel Leys Nursery & Primary School, Gainsborough
Road, Corby NN18 0QF**



Food for thought

A sustainable building starts with a healthy core

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ISSUE & REVISION RECORD

Issue	Document prepared			Document checked		
	Name	Signature	Date	Name	Signature	Date
1	Daniel Williams		25.11.11	Shaun Gregory		28.11.11

Edition	Date	Page No's	Details	Approved by

Section 1 – Information on Premises

Number of meals per day: 57

Methods of preparation & cooking: Only reheating of pre-prepared food

Types of meal served: Reheating pre-prepared food

Proposed hours of operation: 1000 – 1400hrs

Section 2 – Plans & drawings

See attached for plans and elevations of proposed kitchen services.

Section 3 – Pre Filters

Not applicable to this site

Section 4 – Electrostatic Precipitators

Not applicable to this site

Section 5 – Carbon Filters

Not applicable to this site

Section 6 - Odour Counteractant or Neutralising System

Due to the kitchen being a Regeneration type, the meals will be delivered pre-prepared and reheated only on the premises. Therefore no food odours will be created because of food cooking.

Section 7 – Cooker hood

A cooker hood is not applicable in this application

Section 8 – System Operation

Extract rate: $0.326\text{m}^3/\text{s}$

Supply: $0.261\text{m}^3/\text{s}$

Section 9 - Flue Design

The kitchen exhaust is via a wall mounted extract fan.

Section 10 – Noise

Extract Fan

ELECTRICAL & SOUND						
Code	Noise/Sound levels (dBA @ 3m)				Input power (watts)	
	Extract	Extract economy	Supply	Supply economy	Standard	Economy
XS6PR/FR	42	31	45	34	38	38
XS9PR/FR	41	30	43	32	50	37
XS12PR/FR	49	38	48	37	100	70

Supply fan

Sound Data

Fan Voltage	Sound Spectrum dB re 10 ⁻¹² w PWL Centre Frequency Hz								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
140V	58	58	55	51	44	43	49	27	NR25	NR20	29dB	23dB
175V	65	64	58	57	50	48	54	42	NR30	NR25	33dB	27dB
200V	64	64	59	59	52	50	53	48	NR30	NR25	34dB	28dB
230V	65	66	61	59	53	51	53	51	NR30	NR25	35dB	29dB

Section 11 – Maintenance

Filters for the AHU will be cleaned/replaced in accordance with the manufacturers' recommendations.

Section 12 – Additional Information

The make up air for the kitchen will be supplied via a ceiling void AHU. This will be directly supplied to the kitchen via a 4-way blow grille.