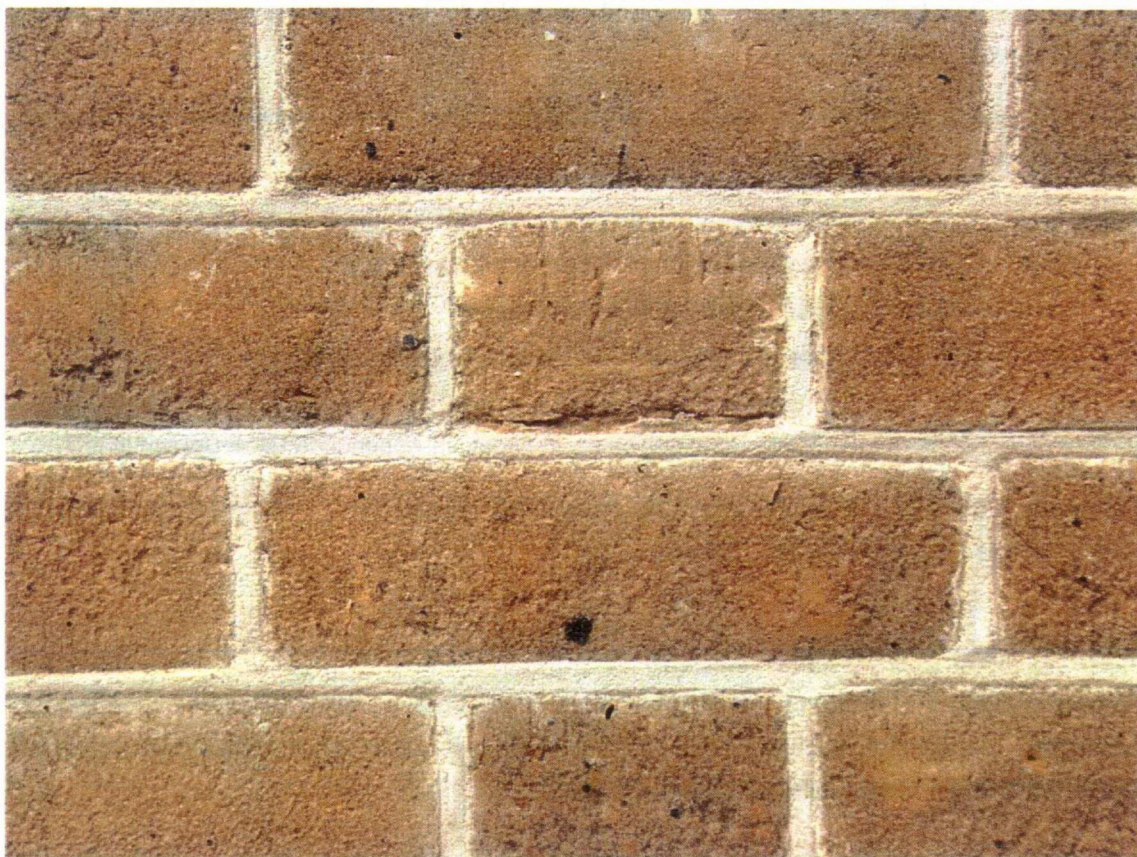

5.0 Proposed Materials

5.1 Brick

5.1.1 West Elevation

The Smeed Dean Belgrave was selected for its uniform arises compared to other more rustic samples, lower content of iron spots, brightness of yellow (compared to the Smeed Dean London), fine sand face and level of colour variation through the clay. See Appendix D Brick and Mortar Specification for brick data sheet.

As the construction of the Bomb Gap is to be a single skin cavity wall, open perps, corbelled window reveals and brick slip flat arches are required to replicate visually the original detailing whilst ensuring the wall complies with modern Building Regulations.



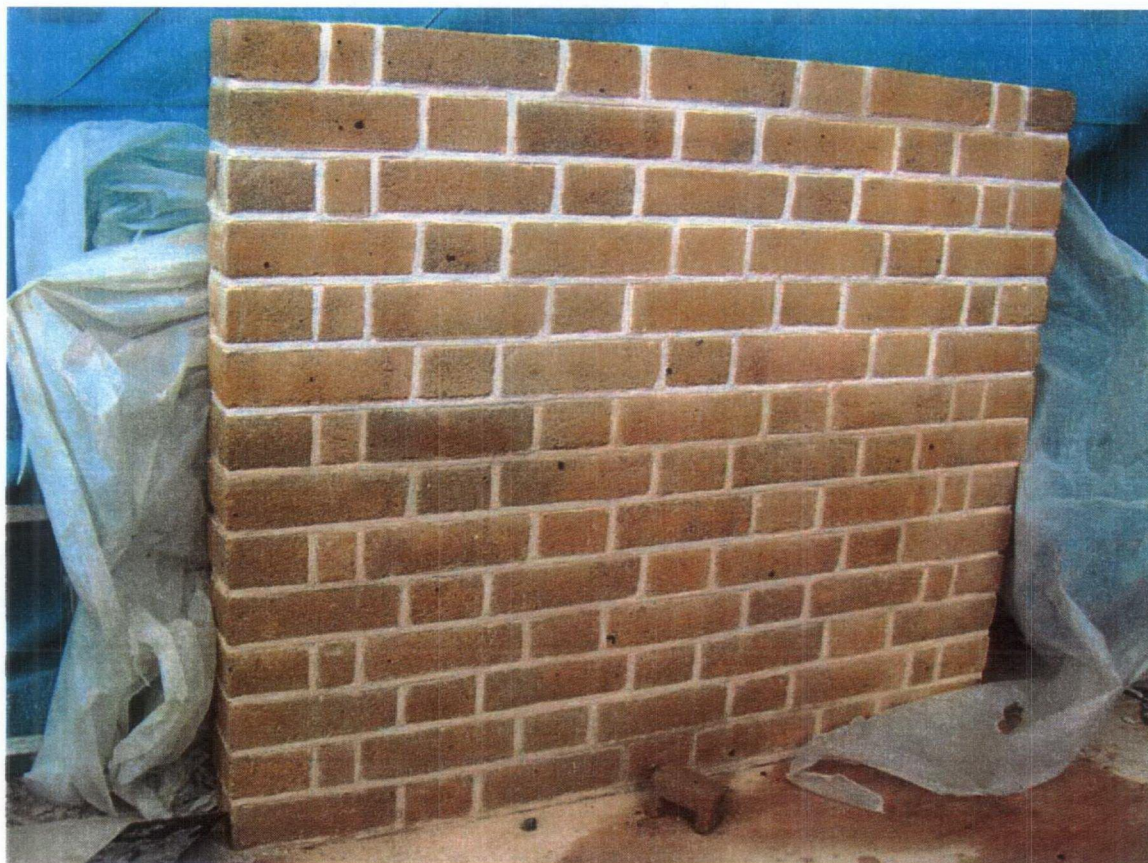
Photograph of the brick sample panel with Smeed Dean Belgrave bricks and Lime Green mortar with sand of which 33% is Mercaston sand, as agreed for use in the Bomb Gap.

5.1.2 East Elevation

The Smeed Dean Belgrave was again seen as the best match for the brick on the platform elevation following cleaning trials.

5.2 Mortar

The mortar mix proposed for the Bomb Gap works, and agreed on the sample panel, is 1:2 NHL 3.5: Sand and the sand is 2:1 (by weight 41.6:15) Silver sand: Mercaston sand. Fine sand (particle size 0-2mm) is proposed. See Appendix D Brick and Mortar Specification for Mortar Data Sheet.



Photograph of part of the brick sample panel with Smeed Dean Belgrave bricks with Lime Green Natural mortar with 1:2 Mercaston sand: Silver sand on the lower half and Lime Green Off White Mortar on the upper half (photo taken 15/07/09).

5.3 Stone

The petrographic analysis, carried out by Jefferson Consulting Ltd, confirms the stone type of the sills to be "a fine grained sandstone probably from the Silesian 'Coal Measures' of West Yorkshire." See Appendix E – Petrographic Analysis of Stone. The report recommends the use of selected Woodkirk stone as a replacement stone.

5.4 Render

The mortar analysis, carried out by Sandberg, identifies a lime render as the material one of the external cornices. See Appendix C – Mortar Analysis. Investigations will be made into the make-up of the other, larger cornices and matching trials will be carried out. The principle of a modern substrate has been agreed for the cornices of the Bomb Gap as it is essentially a modern structure. The final finish and profile will match the adjacent existing cornice and banding.



Photograph of the Northern Wing: painted sills and cornices are visible.



6.0 History of Meetings and Decisions

Date	Activity	Bricks reviewed	Outcome
16/04/09	23 brick samples presented to JMP.	1-23	Five bricks agreed with JMP for review with EH/LBoC
22/04/09	Five bricks presented to EH/LBoC	1, 6, 8, 13, 16	Smeed Dean London (no. 6) agreed as best but rather dull. TW to source 'brighter' brick.
02/06/09	Three pointed up panels reviewed with EH/LBoC	6, 25, 33	Smeed Dean Belgrave agreed and metric full size panel to be constructed.
17/06/09	Possible construction make-ups for the Bomb Gap cornice were presented to EH/LBoC		The principle of a modern substrate to the cornice was agreed. Details to follow.
24/06/09	Brick panel presented to EH/LBoC	33	Mortar (Lime Green Natural Mortar with 1:2 Mercaston sand: silver sand) agreed for repair works. EH/LBoC requested a further panel with lighter mortar (Lime Green Natural Mortar Off White).
02/07/09	Brick panel presented informally to LBoC	33	Mercaston sample preferred, EH to view and make final decision.
15/07/09	Brick panel presented to EH	33	Mortar (Lime Green Natural Mortar with 1:2 Mercaston sand: silver sand) agreed for Bomb Gap works.
12/08/09	Cleaned area of platform elevation and new brick presented to LBoC	33	It was agreed that the platform elevation was built with the same brick as the West elevation. Smeed Dean Belgrave was agreed for use on the platform elevation


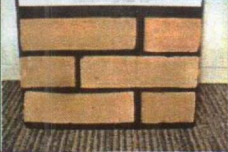

7.0 Appendices

7.1 Appendix A – Brick Spread Sheet

Brick samples					
Brick	Manufacturer/ Supplier	Description	Comments/ Decision	Photograph	Reason for review
London yellow (1)	lbstock /BEA	Sandy in colour and texture. Yellow multi with very creased face. Mixture of ochre, red and blackened face.	Colours represent multi colours within façade and texture close to existing.		Proposed by brick merchant.
Old marlow (2)	lbstock	Cream in colour - slightly peach. One colour throughout brick. Creased face to brick.	Colour is in no way similar to the existing brick work. Needs to be darker and more yellow in colour.		Proposed by brick merchant.
Stamford stone (3)	lbstock	Similar in texture to Old marlow above. Brick a mixture of ochre, brown with a blackened face.	Wrong colour brick. Too red in colour.		Proposed by brick merchant.
Multi cream (4)	lbstock	Sand faced brick, pale yellow stock through colour. Regular arises.	Looks too new and regular to match the existing brickwork.		Pale yellow stock - modern match to traditional stock.
Seven Oaks Yellow (5)	lbstock	Very yellow in colour with pink areas faced. Regular arise. Uniformity throughout brick in both colour and texture, sand.	Very good visual match to existing brickwork. Black grain is present in the existing brickwork.		Modern match to yellow stock. Commonly used. Proposed for the Eastern Range. Thought to be a possible match for the Western Range.
Smeed Dean London Yellow Stock (6)	lbstock	Ochre brown, sand faced with iron spots.	Very similar to the existing brick work in both colour and texture. Size can be matched to existing. May be too uniform in colour.		Proposed for use on the Eastern Range. Thought to be a possible match for the Western Range.
Leicester cream multi stock (7)	lbstock	Pale cream in colour with pink areas, smooth face, regular arises.	Colour does not match existing brick work. Too pale a cream.		Proposed brick for platform Y.
Mayfield yellow (8)	Hansons	Multi brick, sand faced, mixture of weathered yellow and pink. Regular arises with iron spots.	Fairly similar in colour to the existing brick work. Perhaps not ochre enough in colour.		Proposed by brick merchant.
Kentish Multi stock (9)	Hansons and Butterley	Cream brick with blue grey areas, some iron spots, regular size with sand face.	Fairly similar in colour to the existing brick work. Some bricks are too dark to match due to blue-grey areas.		Proposed by brick merchant.
Smoke yellow multi gilt stock (10)	Terca Baggingde	Light brown/ pink in colour with smoke face. Uniform in both colour and texture.	Bricks too uniform in colour and texture to match existing. Also wrong colour.		Proposed by brick merchant.

Cambridge gault (11)	lbstock/BEA	Pale cream in colour and creased texture with some areas of pink.	Too pale a colour.		Proposed for use on the Eastern Range. Thought to be a possible match for the Western Range. Cambridge are also willing to match the composition of brick to match existing.
Westminster yellow (12)	lbstock/BEA	Ochre in colour with red and blackened areas. Heavily creased texture with iron spots.	Similar to existing colour and texture. Stronger than number 13		Proposed by brick merchant.
Westminster Yellow (13)	lbstock/BEA	Sand faced, heavily creased, ochre in colour with smoked face.	Very similar to London Yellow and the existing brick work.		Proposed by brick merchant.
Chelmer valley brk sample 10FZ Reclaimed brick (14)	lbstock	Light yellow in colour, some pink. Very irregular surface, creased face.	Brick too light in colour.		Proposed by brick merchant.
Cambridge light weathered imperial (15)	lbstock/BEA	Pale cream/ peachy colour with some bricks slightly grey. Creased surface.	Wrong colour to match existing brickwork. Needs to be darker and more yellow.		Proposed by brick merchant.
Milton Hall Kentish multi (16)	Butterley	Grey and cream in colour, a few dark areas engrained in the surface. Texture is uniform across brick, iron spots.	Possibly too light in colour to match existing.		Proposed by brick merchant.
Coleridge yellow multi (17)	lbstock	Red through colour brick with yellowed sand face, heavy iron spotting and some blackening.	Too dark in colour to match existing. Red through brick.		Proposed by brick merchant.
Rudgewick yellow stock (18)	Baggeridge	Similar to 17 but with a light yellow face, heavily blackened with iron spots.	Too dark to match existing.		Proposed by brick merchant.
Arundel yellow multi stock (19)	lbstock	Similar to 17, yellow face but red brick, large iron spots.	Dark staining too large to match existing.		Proposed by brick merchant.
Greenwich yellow retro (20)	Terca Baggenigde	Completely varied in colour from brick to brick. One yellow, one cream, one red. Iron spots and some blackening, very irregular.	Wide range of colours does not match the existing brick work.		Proposed by brick merchant.

Terracotta coal flecked (21)	Ibstock	Very bright and orange in colour. Texture quite irregular.	Completely wrong colour to match existing.		Proposed by brick merchant.
Chailey stock (22)	Ibstock	Quite dark and red in colour. Black staining throughout. Texture quite rough.	Completely wrong colour to match existing.		Proposed by brick merchant.
Thames Valley mix (23)	Ibstock	One brick cream and one brick red. Colour varied. Creased surface and irregular.	Neither of the brick colours match the existing.		Proposed by brick merchant.
Cotswold Buff (24)	Coleford brick and tile	Uniform in colour. Small amounts of creasing to the surface.	Too dark and dull in colour to match existing.		Proposed by brick merchant.
University buff (25)	Chamwood forest brick limited	Golden brown in colour. Sand faced texture. Bricks regular in shape.	Sample panel made. Colour of sample panel was to be golden in colour than the smeed dean.		Proposed by brick merchant.
Funtun second hand (26)	Ibstock	Sand faced texture. Some iron spots. Colour is a mixture of yellow yellow, brown and grey.	Colour too varied throughout brick.		Proposed by brick merchant.
Mixed golden russet (27)	Mixed golden russet	A mixture of red, gold and brown in colour. Texture is sand faced.	Colour does not match existing.		Proposed by brick merchant.
Mixed light russet (28)	Chamwood forest brick limited	Red brick with some creasing. Texture regular throughout brick.	Colour does not match existing.		Proposed by brick merchant.
Grosvenor gold (29)	Ibstock	Large iron spots throughout. Golden in colour. Texture uneven with large creasing/pitting.			Proposed by brick merchant.
Coleford yellow (30)	Coleford brick and tile	Sand faced texture. Yellow in colour. Some bricks slightly darker than others.			Proposed by brick merchant.
Danehill yellow facings (31)	Freshfield lane brickworks Ltd	Large iron spots throughout. Red brick with yellow face.	Too many iron spots.		Proposed by brick merchant.

Stamford buff (32)	Chamwood forest brick limited	Quite rough in texture. Dull grey in colour with some creasing.	Too dull and dark in colour to match existing.		Proposed by brick merchant.
Smeed Dean Belgrave Yellow stock (33)	Wienerberger	Some small iron spots. Sand faced. Brighter version of Smeed Dean.	Sample panel made. Brick agreed by EH / LB&C 02/06/09		Proposed by brick merchant.
Reclaimed Yellow stock (34)	Architectural Salvage Source	Yellow stock. Similar age and type of brick. Irregular / rough shape and proportion of faces painted or carbon stained.	Too pale, brick too roughly shaped / overly creased.		Proposed by salvage merchant.

7.2 Appendix B – Brick Survey