Appendix P

Summaries for Section 7 of the General Specification for Civil Engineering Works

Table P1 - Summary of Current British Standard References and Replacement Eurocodes

BS Status	Relevant Updated Code	ID No.	Page	Existing Content of Technical Guidance Document	General Comments to define Scope of Updating /	Scope of
b3 Status	for Citation	ID NO.	no.	Existing Content of Technical Guidance Document	Specific Clauses in EN (s) / UK NA(s)	Updating
Tashaisal Clause			1101		Specific clauses in Err (5) / Six (4)(5)	- Charme
Technical Clause		ings fittings	alaa flawibla	weath anised injusts for the collectivity study as the study of the collective states and fittings		
4. BS 65:1991 S Confirmed,	BS 65:1991	GS:65-2	1	mechanical joints for use solely with surface water pipes and fittings	1001. Normative CCCC 2. The reference is surrent. No shape required	1
Current	B2 02:1331	G3:65-2	7.66	7.197: (1) Filter pipes shall comply with the following: Precast concrete pipes: BS 5911 Vitrified clay pipes: BS 65 DI pipes: BS 4772 Steel pipes: BS 534 Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 5911 Pitch fibre pipes: BS 2760	1991; Normative; GS:65-2; The reference is current. No change required.	1
				uPVC pipes: BS 4660 or BS 3506		
				Corrugated polyethylene tubing: AASHTO Designation M252		
	Specification for test sieves	100 110 0	T = 00	Troc (4) 6 11	Loos N Company of the company o	41
Revised, Withdrawn	BS 410-1:2000, ISO 3310-1:2	(GS:410-2	7.33	 7.86: (1) Soil-cement shall consist of PC, sand and inorganic soil in the proportions 1:3:12 by mass unless otherwise stated. The mix proportion of soil-cement is 1:3:40 by mass when it is applied to the top layer (maximum 300 mm thick) or other areas as directed or agreed by the Engineer. (2) PC shall comply with BS EN 197-1. (3) Sand shall comply with BS 1200. (4) Inorganic soil shall be free of organic matter and shall contain not more than 30% of soil particles passing a 63 μm BS test sieve. 	1986a; Normative; GS:410-2; The standard for the test sieve is not stated. Amend the text to make reference to BS 410-1. The reference in Section 1 requires updating to BS 410-1:2000, ISO 3310-1:2000.	4b
Revised, Withdrawn	BS 410-1:2000, ISO 3310- 1:2000	GS:410-3	7.56	7.160: (2) Sand for grout shall be clean dry sand complying with BS 1200 and shall have a particle size distribution such that 100% passes a 2 mm BS test sieve and not more than 30% passes a 0.2 mm BS test sieve.	1986a; Normative; GS:410-3; The standard for the test sieve is not stated. Amend the text to make reference to BS 410-1. The reference in Section 1 requires updating to BS 410-1:2000, ISO 3310-1:2000.	4b
Revised, Withdrawn	BS 410-1:2000, ISO 3310- 1:2000	GS:410-4	7.56	7.160: (2) Sand for grout shall be clean dry sand complying with BS 1200 and shall have a particle size distribution such that 100% passes a 2 mm BS test sieve and not more than 30% passes a 0.2 mm BS test sieve.	1986a; Normative; GS:410-4; The standard for the test sieve is not stated. Amend the text to make reference to BS 410-1. The reference in Section 1 requires updating to BS 410-1:2000, ISO 3310-1:2000.	4b
Revised, Withdrawn	BS 410-1:2000, ISO 3310- 1:2000	GS:410-5	7.67	7.200: (2) Fill material passing a 425µm BS test sieve shall be non-plastic.	1986a; Normative; GS:410-5; The standard for the test sieve is not stated. Amend the text to make reference to BS 410-1. The reference in Section 1 requires updating to BS 410-1:2000, ISO 3310-1:2000.	4b
Revised, Withdrawn	BS 410-1:2000, ISO 3310- 1:2000	GS:410-6	7.67	In Table 7.2: Percentage by mass passing BS test sieve	1986a; Normative; GS:410-6; The standard for the test sieve is not stated. Amend the text to make reference to BS 410-1. The reference in Section 1 requires updating to BS 410-1:2000, ISO 3310-1:2000.	4b
Revised, Withdrawn	BS 410-1:2000, ISO 3310- 1:2000	GS:410-7	7.79		1986a; Normative; GS:410-7; The standard for the test sieve is not stated. Amend the text to make reference to BS 410-1. The reference in Section 1 requires updating to BS 410-1:2000, ISO 3310-1:2000.	4b
	Specification for steel pipes,	-	1	·		
Superseded, Withdrawn	BS EN 10311:2005 BS EN 10224:2002	GS:534-2	7.66	7.197: (1) Filter pipes shall comply with the following: Precast concrete pipes: BS 5911 Vitrified clay pipes: BS 65 DI pipes: BS 4772 Steel pipes: BS 534 Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 5911 Pitch fibre pipes: BS 2760 uPVC pipes: BS 4660 or BS 3506 Corrugated polyethylene tubing: AASHTO Designation M252	1990d; Normative; GS:534-2; The reference has been superseded. The citation should be updated to BS EN 10311 and BS EN 10224. The reference in Section 1 should be amended to BS EN 10311:2005 and BS EN 10224:2002.	4b
19. BS 812-102:	1989 Methods for sampling	•		· · · · · · · · · · · · · · · · · · ·		
Superseded, Withdrawn	BS EN 932-1:1997	GS:812-2	7.78	7.242: (3) The size of each sample taken as stated in Clause 7.242(1) shall be 10 kg. The method of sampling shall be in accordance with BS 812: Part 102.	1989; Normative; GS:812-2; The reference has been superseded in UK practice be BS EN 932-1. In HK practice, however, the specification of aggregates has been set out in Construction Standard 3, published under the authority of the Standing Committee on Concrete Technology in May 2013. Consequently it is appropriate to change the reference to CS3. The reference in Section 1 will also require amendment.	4a

Table P1 - Summary of Current British Standard References and Replacement Eurocodes

BS Status	Relevant Updated Code for Citation	ID No.	Page no.	Existing Content of Technical Guidance Document	General Comments to define Scope of Updating / Specific Clauses in EN (s) / UK NA(s)	Scope of Updating
22 PC 10E2:100		wire for genera		ng purposes (actual year is 1980)	Specific clauses in En (5) y On to (5)	Opadimg
Confirmed,	BS 1052:1980	GS:1052-2	7.33	7.89: (1) Protective mesh for slopes shall be PVC coated galvanized steel wire woven into a double twist hexagonal	1999b; Normative; GS:1052-2; The reference is current, however the date is	3a
Current	B3 1032.1300	G3.1032 2	7.55	mesh. Each hexagon shall be 80 mm x 60 mm. The steel wire shall be at least 2.2 mm diameter and the PVC coating	incorrect. The current standard, BS 1052:1980, should be placed in Section 1	Ju
Current				shall be at least 0.4 mm thick. PVC coating on steel wire shall comply with BS 4102:1990 or equivalent. The colour of	and the date removed from the citation.	
				PVC coating is to be approved by the Engineer. Wire for protective mesh shall comply with BS 1052: (1999).	and the date removed from the citation.	
				Galvanized coating on wires shall comply with BS EN 10244-2:2001. The tolerance on the opening of mesh shall		
				comply with BS EN 10223-2:1998.		
33. BS 1200:197	6 Specification for building sa	ands from natu	ral sources (Should be BS 1199 and 2000:1976)		<u> </u>
Current,	BS 1199 and 1200:1976	GS:1200-2	7.33	7.84: (1) Cement mortar for in-filling joints in rock faces, for bedding rock for masonry infilling and for surfacing	1976a; Normative; GS:1200-2; The reference is current, however the citation	3a
Obsolescent,				slopes shall consist of Portland Cement (PC) and sand in the proportions 1:3 by volume.	is incomplete. Amend the citation to read 'BS 1199 and 1200'.	
Superseded				(2) PC shall comply with BS EN 197-1.	'	
•				(3) Sand shall be natural sand or crushed natural stone complying with BS 1200.		
Current,	BS 1199 and 1200:1976	GS:1200-3	7.33	7.86: (1) Soil-cement shall consist of PC, sand and inorganic soil in the proportions 1:3:12 by mass unless otherwise	1976a; Normative; GS:1200-3; The reference is current, however the citation	3a
Obsolescent,				stated. The mix proportion of soil-cement is 1:3:40 by mass when it is applied to the top layer (maximum 300 mm	is incomplete. Amend the citation to read 'BS 1199 and 1200'.	
Superseded				thick) or other areas as directed or agreed by the Engineer.		
•				(2) PC shall comply with BS EN 197-1.		
				(3) Sand shall comply with BS 1200.		
				(4) Inorganic soil shall be free of organic matter and shall contain not more than 30% of soil particles passing a 63 µm		
				BS test sieve.		
Current,	BS 1199 and 1200:1976	GS:1200-4	7.56	7.160: (2) Sand for grout shall be clean dry sand complying with BS 1200 and shall have a particle size distribution	1976a; Normative; GS:1200-4; The reference is current, however the citation	3a
Obsolescent,				such that 100% passes a 2 mm BS test sieve and not more than 30% passes a 0.2 mm BS test sieve.	is incomplete. Amend the citation to read 'BS 1199 and 1200'.	
Superseded						
44. BS 1377:199	0 Methods of test for soils fo	r civil engineeri	ing purpose:	S		
Confirmed,	BS EN ISO 22476-	GS:1377-2	7.24	7.68: (1) The apparatus and procedure for standard penetration tests shall comply with BS 1377:1990 (Part 9, Test	1990a; Normative; GS:1377-2; The reference has been superseded. The	4a
Current,	3:2005+A1:2011			3.3), amended by this Clause as necessary. The drive hammer shall be a type incorporating an automatic trip	citation should be updated to BS EN ISO 22476-3. The reference in Section 1	
Partially				mechanism to ensure free fall. The steel anvil of the drive assembly shall have a diameter of 145 \pm 5 mm. The guide	should be amended to BS EN ISO 22476-3:2005+A1:2011. It should be noted,	
replaced				rod arrangement that permits the hammer to drop with minimal resistance shall have an outer diameter of at least 3	however, that Geoguide 2 introduces local modifications to the published	
				mm smaller than the diameter of the central hole of the hammer.	standard and these should be included in the General Specification.	
Confirmed,	BS 1377-9:1990	GS:1377-3	7.26	7.70: (1) Vane shear tests shall be carried out as specified in BS 1377:1990 (Part 9, Test No. 4.4), amended by this	1990a; Normative; GS:1377-3; The reference is current, however the date	3a
Current,				Clause.	should be removed from the citation.	
Partially						
		1	T	d tubulars and for plain end steel tubes suitable for welding or for screwing to BS 21 pipe threads (actual year is 198		
Superseded,	BS EN 10255:2004	GS:1387-2	7.57	7.161: Unless otherwise approved by the Engineer standpipes for grouting shall be standard black metal pipe	1990b; Normative; GS:1387-2; The reference has been superseded. The	4a
Withdrawn				complying with BS 1387. With the permission of the Engineer, non-metallic grout pipe may be used for grouting rock		
				dowels, rock bolts and soil nails. Where metal standpipes are used for grouting rock dowels, rock bolts and soil nails,	be amended to BS EN 10255:2004.	
				they shall be extracted from drillholes as grouting proceeds.		
	00 Stabilized materials for civi					T
Superseded,	BS 1377-4:1990	GS:1924-2	7.53	7.142: The maximum dry density and optimum moisture content of soil-cement fill shall be as stated in Section 6	1990c; Normative; GS:1924-2; The reference was recently withdrawn by BSI	4b
Withdrawn				except that the method of testing shall be the Vibrating Hammer Test Method in accordance with BS 1924.	with no replacement standard yet issued. BS1924 contains two methods of	
					testing using the Vibrating Hammer Test Method i) the definitive method	
					using a special apparatus, and ii) a subsidiary method using a CBR mould.	
					BS1377-4 contains only one method, based on the use of a CBR mould and is	
					effectively the same test method as the subsidiary method in BS1924. Given	
					that BS1924 has been withdrawn, and in the context of the GS clause the test	
					method contained in BS1377-4:1990 is effectively the same the citation	
					shoulld be amended to BS 1377-4.	

 Table P1 - Summary of Current British Standard References and Replacement Eurocodes

BS Status	Relevant Updated Code	ID No.	Page	Existing Content of Technical Guidance Document	General Comments to define Scope of Updating /	Scope of
b3 Status	for Citation	ID No.	no.	Existing Content of Technical Guidance Document	Specific Clauses in EN (s) / UK NA(s)	Updating
66. BS 2760:197	13 Specification for pitch-imp	regnated fibre i	pipes and fit	tings for below and above ground drainage		
Withdrawn	No replacement	GS:2760-2	7.66	7.197: (1) Filter pipes shall comply with the following:	1973; Normative; GS:2760-2; The reference standard has been withdrawn and	5
				Precast concrete pipes: BS 5911	not replaced. It is recommended that the use of this product is reviewed and	
				Vitrified clay pipes: BS 65	the standard either replaced or removed as appropriate.	
				DI pipes: BS 4772		
				Steel pipes: BS 534		
				Porous concrete pipes: BS 1194		
				Perforated concrete pipes: BS 5911		
				Pitch fibre pipes: BS 2760		
				uPVC pipes: BS 4660 or BS 3506		
				Corrugated polyethylene tubing: AASHTO Designation M252		
83. BS 3506:196	9 Specification for unplastici	zed PVC pipe fo	r industrial			•
Confirmed,	BS 3506:1969	GS:3506-2	7.66	7.197: (1) Filter pipes shall comply with the following:	1969b; Normative; GS:3506-2; The reference is current. No change required.	1
Current				Precast concrete pipes: BS 5911		
				Vitrified clay pipes: BS 65		
				DI pipes: BS 4772		
				Steel pipes: BS 534		
				Porous concrete pipes: BS 1194		
				Perforated concrete pipes: BS 5911		
				Pitch fibre pipes: BS 2760		
				uPVC pipes: BS 4660 or BS 3506		
				Corrugated polyethylene tubing: AASHTO Designation M252		
96. BS 4019:199	33 Rotary core drilling equipn	nent				
Current	BS 4019-3:1993, ISO 3551-	GS:4019-2	7.34	7.94: (1) Soil nail bars shall be of high yield deformed bars and comply with CS2. Nuts shall be of Grade 4 steel and	1993; Normative; GS:4019-2; The reference is current, however the incorrect	3a
	1:1992			comply with BS 4190:2001. Connectors shall comply with Section 15. Bearing plates shall be of Grade 43A steel plate	date (1974) is stated with the citation. For general internal consistency of the	
	BS 4019-4:1993, ISO 3551-			and comply with BS 4360:1986. Permanent casings shall comply with BS4019:1974. Holes in steel plates for soil nail	General Specification, the date should be removed form the citation. The	
	2:1992			heads shall be drilled perpendicularly to the face of the steel plate and the centre of the hole shall be at a position of	present reference in Section 1 fails to state that the standard is actually two	
				within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plate shall	documents, both of which apply to this citation.	
-				not be more than 2 mm. All steel components for soil nails shall be galvanized to BS EN ISO 1461:1999.		
	990 Specification for steel wir		ncing purpo			•
Revised,	BS 4102:1998	GS:4102-2	7.33	7.89: (1) Protective mesh for slopes shall be PVC coated galvanized steel wire woven into a double twist hexagonal	1990e; Normative; GS:4102-2; The reference has been updated. The current	3a
Withdrawn				mesh. Each hexagon shall be 80 mm x 60 mm. The steel wire shall be at least 2.2 mm diameter and the PVC coating	standard, BS 4102:1998, should be placed in Section 1 and the date removed	
				shall be at least 0.4 mm thick. PVC coating on steel wire shall comply with BS 4102:1990 or equivalent. The colour of	from the citation.	
				PVC coating is to be approved by the Engineer. Wire for protective mesh shall comply with BS 1052: (1999).		
				Galvanized coating on wires shall comply with BS EN 10244-2:2001. The tolerance on the opening of mesh shall		
				comply with BS EN 10223-2:1998.		
	001 Specification for ISO met	_	n bolts, scr			
Confirmed,	BS 4190:2001	GS:4190-2	7.34	7.90: (3) Nuts for rock bolts shall be of grade 4 steel and comply with BS 4190:2001. Connectors shall comply with	2001b; Normative; GS:4190-2; The reference is current, however the date	3a
Current				Section 15 of this GS. Bearing plates shall be of grade 43A steel plate and comply with BS 4360. Holes in steel plates	should be removed from the citation.	
				for rock bolt heads shall be drilled perpendicular to the face of the steel plate and the centre of the hole shall be at a		
				position of within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel		
				plate shall not be more than 2 mm. All nuts, connectors and bearing plates shall be galvanized to BS EN ISO		
				1461:1999. Rock bolts shall have non-corrodible centralizers capable of ensuring an even annulus of grout as		
				approved by the Engineer. Grease shall comply with Table 1 of Geospec 1.		
Confirmed,	BS 4190:2001	GS:4190-3	7.34	7.94: (1) Soil nail bars shall be of high yield deformed bars and comply with CS2. Nuts shall be of Grade 4 steel and	2001b; Normative; GS:4190-3; The reference is current, however the date	3a
Current				comply with BS 4190:2001. Connectors shall comply with Section 15. Bearing plates shall be of Grade 43A steel plate	should be removed from the citation.	
				and comply with BS 4360:1986. Permanent casings shall comply with BS4019:1974. Holes in steel plates for soil nail		
				heads shall be drilled perpendicularly to the face of the steel plate and the centre of the hole shall be at a position of		
				within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plate shall		
			1	not be more than 2 mm. All steel components for soil nails shall be galvanized to BS EN ISO 1461:1999.		1

 Table P1 - Summary of Current British Standard References and Replacement Eurocodes

3.4 8549-398 Specification for weighble intractival neels— Suppresended, 10 of \$1.0025-12004	BS Status	Relevant Updated Code	ID No.	Page	Existing Content of Technical Guidance Document	General Comments to define Scope of Updating /	Scope of
Superseded, 85 8H 10025 1-2004 (55480-2) T. 24 (7.50) (31 Nuts for rock both shall be of prace 4 steed and comply with 65.430-0.00 with 10025 and the grade of postton of the first for the Scholar State place and the centre of the fine behall be at purposes of this clause the user should refer to 50 km 10025 and the grade of postton of white 7 mm. All must, connectors and boaring plates shall be graded as see plate and the centre of the fine behall be at purposes of this clause the user should refer to 50 km 10025 and the grade of postton of white 7 mm. Fine the terror of the fine behall be at purposes of this clause the user should refer to 50 km 10025 and the grade of postton of white 7 mm. Fine the centre of the plate shall be graded and the centre of the fine behall be at purposes of this clause the user should refer to 50 km 10025 and the grade of postton of white 7 mm. Fine the centre of the plate shall be graded and the centre of the fine behall be at purposes of this clause the user should refer to 50 km 10025 and the grade of postton of white 7 mm. Fine the centre of the fine shall be at purposes of this clause the user should refer to 50 km 10025 and the grade of postton of year as approved by the implication of the postton of the post of the first the shall be at purpose of the first shall be at purposes of the shall be at purposes of the first shall be at purpose of the first shall be		for Citation		no.		Specific Clauses in EN (s) / UK NA(s)	Updating
Section 1s of this CS, Bearing plates shall be of grade 31A seel plate and comply with \$5.1900, Holes in steel plates as purposed. This CS is the steel plate in the form of the centroid of the plate. The clearance between the steel bar and the hole of the set as purposed. This CS is the steel plate in the plate of the plate in the steel plate in the plate of the set and the hole of the set as purposed. This CS is the steel plate in the plate. The clearance between the steel bar and the hole of the set as purposed. This CS is the steel plate in the steel plat		<u> </u>	_				
SEN 10025-3-2004 SEN 10	•		GS:4360-2	7.34	1 , ,	·	5
position of within 2 mm from the centroid of the plate. The clearance between the steel but and the hole of the steel plate shall not be more than 2 mm. All insiges shall be plate shall not be more than 2 mm. All insiges shall be plate shall be p	Withdrawn						
plate shall not be more than 2 mm. All nuts, connectors and bearing plates shall be galvanized to 85 RN 1002 Superraded, BS EN 10025-12004 GS:4380-3 7,34 7,34 7,34 (1) Similar base nor condition of the finite personal comply with 1508 (1 of Geospee). Withdrawn 85 RN 10025-12004 GS:4380-3 7,34 7,34 (1) Similar base restant bille of they five deformed bars and comply with 52 GS:0036 (1) Secretary and com						II	
Labit 11999, Rock boilts shall have enco-corrodible centural pare vanious of grout as approved by the Engineer, Crases shall comply with 18 st 1902-512004 SS 180025 12004		BS EN 10025-4:2004			· ·	-	
Approved by the Engineer, Grease shall comply with Table 1 of Goospee 1. Spersoded, BS EN 10025-1:2004 (Sc.4360-3) 7.34 (Pt.) (1) Sin fail and by the Bad 190 2001. Connectors shall comply with 152. Nuts shall be of life or only with 152. Nuts shall be of life or only by the ST 190 2001. Connectors shall comply with 854 190 2001. Connectors shall connectors sh					i,	to cover all parts of BS EN 10025:2004.	
Superceded,							
SE SEN 10025-22004 SE No 10025	Superseded	BS FN 10025-1:2004	GS:4360-3	7 3/1		1986h: Normative: GS://360-3: The reference has been superseded. The	5
B SFM 10025-3-2004 should be and comply with BS 4360-1986. Permanent casings shall comply with be shall be at pastional or within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plates shall be at pastional or within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plates shall be at pastional or within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plates shall be at pastional or within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plates shall be at pastional or within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plates of the clause the user should refer to BS EN 10025:2004. 321. BS 483:1998 Excellitation for steel fabric for the reinforcement of concrete plates in the concrete plate and the concrete plates and the hole of the steel plates of the hole of the steel plates of the hole of the steel plates of the charge of the plate of the steel plates of the hole of the steel plate and the hole of the steel plates of the hole of the steel plate shall be galvanized to BS EN 100 1461-1998. 321. BS 483:1998 Excellitation for steel fabric for the reinforcement including A393 and A252 for sprayed the steel plates and A252 for sprayed and A252	•		d3.4300-3	7.54	1		
heads shall be drilled perpendicularly to the face of the steel plate and the centre of the hole shall be at a position of within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plate shall not be more than 2 mm. All steel components for soil nails shall be galvanized to 85 EN ISO 1461:1999. 121. 85 4483:1998 Specification for steel fabric for the reinforcement including A393 and A252 for sprayed concrete shall comply with to 85 4483 except that the 50 mm x 2.7 mm (wire diameter) hot-dip galvanized is steel welded mesh shall have tensile strength not hot less than 275M/mm? 136. 85 4660:2000 Specification for thermoplastics ancillary fittings of norminal sizes 110 and 160 for below ground gravity drainage and sewerage 136. 4660:2000 Specification for thermoplastics ancillary fittings of norminal sizes 110 and 160 for below ground gravity drainage and sewerage 137. 685 4660:2000 Specification for thermoplastics ancillary fittings of norminal sizes 110 and 160 for below ground gravity drainage and sewerage 138. 4660:2000 Specification for thermoplastics ancillary fittings of norminal sizes 110 and 160 for below ground gravity drainage and sewerage 139. 4660:2000 Specification for thermoplastics ancillary fittings of norminal sizes 110 and 160 for below ground gravity drainage and sewerage 140. 4660:2000 Specification for the specif	vviciiaiavvii						
Set 1985 Section S						· ·	
In the more than 2 mm, All steel components for soil nails shall be galvanized to BS EN ISO 1461:1999.		35 211 10023 11200 1				-	
321. 85 4483:1998 Specification for steel fabric for the reinforcement of concrete						10 00 10 1 0 1 part to 0 1 50 Et 1 200 E0 1 200 E0 1 1	
Withdrawn state of the state of	121. BS 4483:19	998 Specification for steel fab	ric for the reinfo	rcement of			
Steel welded mesh shall have tensile strength not less than 275N/mm². 4483.2005 in Section 1. 4883.2005 in Section 1.	Revised,	BS 4483:2005	GS:4483-2	7.33	7.88: Unless otherwise approved by the Engineer fabric reinforcement including A393 and A252 for sprayed	1998b; Normative; GS:4483-2; The citation is undated and therefore does not	1
358, 45602000 Specification for thermopiastics ancillary fittings of nominal sizes 110 and 160 for below ground gravity drainage and sewerage (Confirmed, Current, Partially replaced Six 4660-2000 Six 4660-2 7.66 7.197; (1) Filter pipes shall comply with the following:	Withdrawn				concrete shall comply with to BS 4483 except that the 50 mm x 50 mm x 2.7 mm (wire diameter) hot-dip galvanized	require amendment, however the reference requires updating to BS	
Confirmed, BS 4660:2000 GS:4660-2 7.66 7.197: (1) Filter pipes shall comply with the following: Precast concrete pipes: BS 5911 Vitrified clay pipes: BS 5772 Steel pipes: BS 5772 Superseded BS EN 598:2007+A1:2009 (SS:4772-2; The reference has been superseded. The citation with the following: Precast concrete pipes: BS 591 Vitrified clay pipes: BS 65 DI pipes: BS 2772 Steel pipes: BS 2760 uPVC pipes: BS 4660 or BS 3506 Corrugated polyethylene tubing: AASHTO Designation M252 142. BS 4772:1988 Ductile piping and fittings Superseded, Withdrawn Withdraw					steel welded mesh shall have tensile strength not less than 275N/mm ² .	4483:2005 in Section 1.	
Current, Partially Precast concrete pipes: BS 5911 Vitrified clay pipes: BS 554 Porous concrete pipes: BS 514 Porous concrete pipes: BS 51194 Perforated concrete pipes: BS 51194 Perforated concrete pipes: BS 51194 Perforated concrete pipes: BS 52760 uPVC pipes: BS 52760 uPVC pipes: BS 5366 or BS 3506 Corrugated polyethylene tubing: AASHTO Designation M252 142. BS 4772:1988 Duttle piping and fittings Superseded, Withdrawn	136. BS 4660:20	000 Specification for thermop	lastics ancillary f	fittings of n	ominal sizes 110 and 160 for below ground gravity drainage and sewerage		
Partially replaced Partially Rep	Confirmed,	BS 4660:2000	GS:4660-2	7.66	7.197: (1) Filter pipes shall comply with the following:	2000b; Normative; GS:4660-2; The reference is current. No change required.	1
Perforated concrete pipes: BS 53472 Steel pipes: BS 5349 Porous concrete pipes: BS 1914 Perforated concrete pipes: BS 5911 Pitch fibre pipes: BS 2760 UPVC pipes: BS 4660 or BS 3506 Corrugated polyethylene tubing: AASHTO Designation M252 142. BS 4772:1988 Ductile piping and fittings Superseded, Withdrawn Withdraw	Current,						
Steel pipes: BS 534 Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 1194 Perforated concrete pipes: BS 1914 Perforated concrete pipes: BS 2760 uPVC pipes: BS 4660 or BS 3506 Corrugated polyethylene tubing: AASHTO Designation M252 142. BS 4772:1988 Ductile piping and fittings Superseded, Withdrawn BS EN 598:2007+A1:2009 is the standard for DI pipes for sewerage. Porous concrete pipes: BS 5119 Perforated concrete pipes: BS 5911 BS EN 598:2007+A1:2009 is relevant to drainage.) BS EN 598:2007+A1:2009 is relevant to drainage.)	Partially						
Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 51194 Pitch fibre pipes: BS 52760 uPVC pipes: BS 4660 or BS 3506 Corrugated polyethylene tubing: AASHTO Designation M252 142. BS 4772:1988 Ductile piping and fittings Superseded, Withdrawn Withdrawn Withdrawn Withdrawn BS EN 598:2007+A1:2009 is the standard for DI pipes for saverage. Porous concrete pipes: BS 534 Porous concrete pipes: BS 5911 Pitch fibre pipes: BS 5911 Pitch fibre pipes: BS 2760 BS EN 598:2007+A1:2009 is relevant to drainage.) BS EN 598:2007+A1:2009 is relevant to drainage.)	replaced						
Perforated concrete pipes: BS 5911 Pitch fibre pipes: BS 2760 uPVC pipes: BS 2760 uPVC pipes: BS 4660 or BS 3506 corrugated polyethylene tubing: AASHTO Designation M252 142. BS 4772:1988 Ductile piping and fittings Superseded, Withdrawn BS EN 598:2007+A1:2009 SS-4772-2 T.66 SS-4772-2 The reference has been superseded. The citation Should be updated to BS EN 598. The reference in Section 1 should be amended to BS EN 598.2007+A1:2009 (NB The GS clause which cites BS DI pipes: BS 4772 Steel pipes: BS 4772 Steel pipes: BS 534 Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 5911 SS EN 598:2007+A1:2009 is the standard for DI pipes for sweerage. BS EN 545:2010 is the standard for DI pipes for gas supply. Of these three standards, only BS Pitch fibre pipes: BS 2760 EN 598:2007+A1:2009 is relevant to drainage.)							
Pitch fibre pipes: BS 2760 uPVC pipes: BS 4660 or BS 3506 Corrugated polyethylene tubing: AASHTO Designation M252 142. BS 4772:1988 Ductile piping and fittings Superseded, Withdrawn Superseded, Withdrawn Withdrawn Withdrawn Superseded, Withdrawn							
Laz. BS 4772:1988 Ductile piping and fittings Superseded, Withdrawn Withdrawn BS EN 598:2007+A1:2009 BS EN 598:2007+A1:200							
Corrugated polyethylene tubing: AASHTO Designation M252 142. BS 4772:1988 Ductile piping and fittings							
Superseded, Withdrawn With							
Superseded, Withdrawn BS EN 598:2007+A1:2009 GS:4772-2 7.66 7.197: (1) Filter pipes shall comply with the following: Precast concrete pipes: BS 5911 should be updated to BS EN 598:2007+A1:2009. (NB The GS clause which cites BS DI pipes: BS 4772 4772:1988 is in the 'Materials' section of Part 5: Groundwater Drainage and Steel pipes: BS 534 Porous concrete pipes: BS 1194 Porous concrete pipes: BS 5911 is the standard for DI pipes for gas supply. Of these three standards, only BS Pitch fibre pipes: BS 2760 7.197: (1) Filter pipes shall comply with the following: Precast concrete pipes: BS 5911 should be updated to BS EN 598:2007+A1:2009. (NB The GS clause which cites BS AFT) A772:1988 is in the 'Materials' section of Part 5: Groundwater Drainage and Control. BS EN 598:2007+A1:2009 is the standard for DI pipes for sewerage. Porous concrete pipes: BS 1194 BS EN 545:2010 is the standard for DI pipes for gas supply. Of these three standards, only BS Pitch fibre pipes: BS 2760 EN 598:2007+A1:2009 is relevant to drainage.)	142 DC 4772-10	NOO Dustile nining and fittings			Corrugated polyethylene tubing: AASHTO Designation M252		
Withdrawn Precast concrete pipes: BS 5911 Should be updated to BS EN 598. The reference in Section 1 should be Vitrified clay pipes: BS 65 DI pipes: BS 4772 Steel pipes: BS 534 Porous concrete pipes: BS 1194 Precast concrete pipes: BS 5911 BS EN 598:2007+A1:2009 is the standard for DI pipes for water supply. BS EN 969:2009 Perforated concrete pipes: BS 5911 is the standard for DI pipes for gas supply. Of these three standards, only BS Pitch fibre pipes: BS 2760 Precast concrete pipes: BS 5911 should be updated to BS EN 598.2007+A1:2009. (NB The GS clause which cites BS amended to BS EN 598:2007+A1:2009. (NB The GS clause which cites BS 4772:1988 is in the 'Materials' section of Part 5: Groundwater Drainage and Control. BS EN 598:2007+A1:2009 is the standard for DI pipes for sewerage. BS EN 545:2010 is the standard for DI pipes for water supply. BS EN 969:2009 Perforated concrete pipes: BS 5911 is the standard for DI pipes for gas supply. Of these three standards, only BS EN 598:2007+A1:2009 is relevant to drainage.)			7	7.66	7 107: (1) Filter pines shall comply with the following:	1000: Normative: 65:4772 2: The reference has been superceded. The citation	42
Vitrified clay pipes: BS 65 DI pipes: BS 4772 4772:1988 is in the 'Materials' section of Part 5: Groundwater Drainage and Control. BS EN 598:2007+A1:2009 is the standard for DI pipes for sewerage. Porous concrete pipes: BS 1194 BS EN 545:2010 is the standard for DI pipes for water supply. BS EN 969:2009 Perforated concrete pipes: BS 5911 pitch fibre pipes: BS 2760 EN 598:2007+A1:2009 is relevant to drainage.)	•	B3 EN 398.2007+A1.2009	G3.4772-2	7.00		•	4a
DI pipes: BS 4772 Steel pipes: BS 534 Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 5911 Pitch fibre pipes: BS 2760 DI pipes: BS 4772 4772:1988 is in the 'Materials' section of Part 5: Groundwater Drainage and Control. BS EN 598:2007+A1:2009 is the standard for DI pipes for sewerage. BS EN 545:2010 is the standard for DI pipes for water supply. BS EN 969:2009 is the standard for DI pipes for gas supply. Of these three standards, only BS EN 598:2007+A1:2009 is relevant to drainage.)	vvitilaiawii					· ·	
Steel pipes: BS 534 Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 591 Pitch fibre pipes: BS 2760 Steel pipes: BS 534 Control. BS EN 598:2007+A1:2009 is the standard for DI pipes for sewerage. BS EN 545:2010 is the standard for DI pipes for water supply. BS EN 969:2009 is the standard for DI pipes for gas supply. Of these three standards, only BS EN 598:2007+A1:2009 is relevant to drainage.)					, , ,	·	
Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 5911 Pitch fibre pipes: BS 2760 BS EN 545:2010 is the standard for DI pipes for water supply. BS EN 969:2009 is the standard for DI pipes for gas supply. Of these three standards, only BS EN 598:2007+A1:2009 is relevant to drainage.)						-	
Perforated concrete pipes: BS 5911 is the standard for DI pipes for gas supply. Of these three standards, only BS Pitch fibre pipes: BS 2760 EN 598:2007+A1:2009 is relevant to drainage.)							
Pitch fibre pipes: BS 2760 EN 598:2007+A1:2009 is relevant to drainage.)							
					• •		
1 I IUTYC DIDES, D3 4000 UI D3 3300					uPVC pipes: BS 4660 or BS 3506	and the second of the second o	
Corrugated polyethylene tubing: AASHTO Designation M252							
160. BS 5252F:1976 Framework for colour co-ordination for building purpose: colour matching fan	160. BS 5252F:1	1976 Framework for colour co	-ordination for k	ouilding pu			
						1976b; Normative; GS:5252F-2; The reference is current, however the date is	3a
Current for the Engineer's approval prior to painting. The colour of paint shall be "Antique" to BS 5252F:2004 colour code incorrect. The current standard, BS 5252F:1976, should be placed in Section 1	Current				for the Engineer's approval prior to painting. The colour of paint shall be "Antique" to BS 5252F:2004 colour code	incorrect. The current standard, BS 5252F:1976, should be placed in Section 1	
10B25 or other colour as directed by the Engineer. and the date removed from the citation.					10B25 or other colour as directed by the Engineer.	and the date removed from the citation.	

Table P1 - Summary of Current British Standard References and Replacement Eurocodes

BS Status	Relevant Updated Code	ID No.	Page	Existing Content of Technical Guidance Document	General Comments to define Scope of Updating /	Scope of
DJ Status	for Citation	ID NO.	no.	Existing Content of Technical Guidance Document	Specific Clauses in EN (s) / UK NA(s)	Updating
183. BS 5911 P		and ancillary p	roducts			
	:1982 Specification for inspec			gullies		
	:1982 Specification for pipes		_			
	14:1992 Specification for por					
			products. Sp	ecification for unreinforced and reinforced concrete pipes (including jacking pipes) and fittings with flexible joints		
				ecification for unreinforced and reinforced concrete manholes and soakaways		
Withdrawn	BS 5911-1:2002+A2:2010	GS:5911-2	7.66	7.197: (1) Filter pipes shall comply with the following:	1992; Normative; GS:5911-2; The citation fails to identify which part of BS	4b
	BS EN 1916:2002			Precast concrete pipes: BS 5911	5911 is relevant. It is therefore assumed that the general standard for	
				Vitrified clay pipes: BS 65	concrete pipes, BS EN 1916:2002, and its supplementary standard, BS 5911-	
				DI pipes: BS 4772	1:2002+A2:2010, are appropriate for pre-cast concrete pipes to be used in	
				Steel pipes: BS 534	geotechnical drainage. BS EN 1916:2002 is not listed as a reference in the	
				Porous concrete pipes: BS 1194	General Specification, although BS 5911-1:2002 is. BS 5911-1:2002 has been	
				Perforated concrete pipes: BS 5911	revised and the reference should be updated to BS 5911-1:2002+A2:2010.	
				Pitch fibre pipes: BS 2760		
				uPVC pipes: BS 4660 or BS 3506		
		1		Corrugated polyethylene tubing: AASHTO Designation M252		
Withdrawn	BS 5911-1:2002+A2:2010	GS:5911-3	7.66	7.197: (1) Filter pipes shall comply with the following:	1992; Normative; GS:5911-3; The citation fails to identify which part of BS	4b
	BS EN 1916:2002			Precast concrete pipes: BS 5911	5911 is relevant. There is no specific part of BS 5911 related to perforated	
				Vitrified clay pipes: BS 65	pipes. It is therefore assumed that the general standard for concrete pipes, BS	
				DI pipes: BS 4772	EN 1916:2002, and its supplementary standard, BS 5911-1:2002+A2:2010, are	
				Steel pipes: BS 534	appropriate for concrete pipes to be used in geotechnical drainage. BS EN	
				Porous concrete pipes: BS 1194	1916:2002 is not listed as a reference in the General Specification, although BS	
				Perforated concrete pipes: BS 5911	5911-1:2002 is. BS 5911-1:2002 has been revised and the reference should be	
				Pitch fibre pipes: BS 2760	updated to BS 5911-1:2002+A2:2010.	
				uPVC pipes: BS 4660 or BS 3506		
196 PC E020-10	 1981 Code of practice for site in			Corrugated polyethylene tubing: AASHTO Designation M252		
Revised,	BS EN 1997-2:2007	GS:5930-2	7.4	7.18: An Undisturbed Soil Sample is a sample complying with Class 1 or Class 2 of BS 5930.	1981a; Normative; GS:5930-2; The reference has been superseded. The	4a
Withdrawn	D3 EN 1337 2.2007	03.3330 2	/	77.10. All official sumple is a sumple complying with class 2 of class 2 of b5 5550.	citation should be updated to BS EN 1997-2. The reference in Section 1 should	-Tu
Witharawii					be amended to BS EN 1997-2:2007.	
Revised,	BS EN ISO 22282-3:2012	GS:5930-3	7.63	7.183: (4) Packer tests shall be carried out in accordance with BS 5930, Chapter 21.5 and Clause 7.183(5) to (8)	1981a; Normative; GS:5930-3; The reference has been superseded. The	4a
Withdrawn				(-),	citation should be updated to BS EN ISO 22282-3. The reference in Section 1	
					should be amended to BS EN ISO 22282-3:2012.	
192. BS 6089:19	981 Guide to assessment of co	oncrete strengtl	h in existing	structures		
Superseded,	BS 6089:2010	GS:6089-2	7.54	7.146: The results of tests for compressive strength of concrete cores shall be interpreted in accordance with BS	1981b; Normative; GS:6089-2; The reference has been superseded. The	4b
Withdrawn	BS EN 13791:2007			6089. Adjustments to the measured strength in respect of the age of the core when tested shall not be made unless	citation should be updated to BS 6089 and BS EN 13791. The reference in	
				permitted by the Engineer. The minimum compressive strength of concrete cores, converted to the estimated in-situ	Section 1 should be amended to BS 6089:2010 and BS EN 13791:2007.	
				cube strength in accordance with BS 6089, shall be the specified grade strength at 28 days.		
Superseded,	BS 6089:2010	GS:6089-3	7.54	7.146: The results of tests for compressive strength of concrete cores shall be interpreted in accordance with BS	1981b; Normative; GS:6089-3; The reference has been superseded. The	4b
Withdrawn	BS EN 13791:2007			6089. Adjustments to the measured strength in respect of the age of the core when tested shall not be made unless	citation should be updated to BS 6089 and BS EN 13791. The reference in	
				permitted by the Engineer. The minimum compressive strength of concrete cores, converted to the estimated in-situ	Section 1 should be amended to BS 6089:2010 and BS EN 13791:2007.	
				cube strength in accordance with BS 6089, shall be the specified grade strength at 28 days.		
3. BS EN 197-1:		-	ations and co	onformity criteria for common cements		
Revised,	BS EN 197-1:2011	GS:197-2	7.33	7.84: (1) Cement mortar for in-filling joints in rock faces, for bedding rock for masonry infilling and for surfacing	2000a; Normative; GS:197-2; The citation is undated and therefore does not	1
Withdrawn				slopes shall consist of Portland Cement (PC) and sand in the proportions 1:3 by volume.	require amendment, however the reference requires updating to BS EN 197-	
				(2) PC shall comply with BS EN 197-1.	1:2011 in Section 1.	
		1		(3) Sand shall be natural sand or crushed natural stone complying with BS 1200.		
Revised,	BS EN 197-1:2011	GS:197-3	7.33	7.86: (1) Soil-cement shall consist of PC, sand and inorganic soil in the proportions 1:3:12 by mass unless otherwise	2000a; Normative; GS:197-3; The citation is undated and therefore does not	1
Withdrawn				stated. The mix proportion of soil-cement is 1:3:40 by mass when it is applied to the top layer (maximum 300 mm	require amendment, however the reference requires updating to BS EN 197-	
		1		thick) or other areas as directed or agreed by the Engineer.	1:2011 in Section 1.	
		1		(2) PC shall comply with BS EN 197-1.		
		1		(3) Sand shall comply with BS 1200.		
		1		(4) Inorganic soil shall be free of organic matter and shall contain not more than 30% of soil particles passing a 63 μm		
	1			BS test sieve.		

Table P1 - Summary of Current British Standard References and Replacement Eurocodes

BS Status	Relevant Updated Code	ID No.	Page	Existing Content of Technical Guidance Document	General Comments to define Scope of Updating /	Scope of
	for Citation		no.		Specific Clauses in EN (s) / UK NA(s)	Updating
42. BS EN 10223	3-2:1998 Steel wire and wire p	oroducts for fen	ices			
Revised, Withdrawn	BS EN 10223-2:2012	GS:10223-2	7.33	7.89: (1) Protective mesh for slopes shall be PVC coated galvanized steel wire woven into a double twist hexagonal mesh. Each hexagon shall be 80 mm x 60 mm. The steel wire shall be at least 2.2 mm diameter and the PVC coating shall be at least 0.4 mm thick. PVC coating on steel wire shall comply with BS 4102:1990 or equivalent. The colour of PVC coating is to be approved by the Engineer. Wire for protective mesh shall comply with BS 1052: (1999). Galvanized coating on wires shall comply with BS EN 10244-2:2001. The tolerance on the opening of mesh shall comply with BS EN 10223-2:1998.	1998a; Normative; GS:10223-2; The reference has been updated. The current standard, BS EN 10223-2:2012, should be placed in Section 1 and the date removed from the citation.	За
43. BS EN 1024	1-2:2001 Steel wire and wire r	oroducts. Non-fo	errous meta	allic coatings on steel wire. Zinc or zinc alloy coatings		<u> </u>
Revised,	BS EN 10244-2:2009	GS:10244-2	7.33	7.89: (1) Protective mesh for slopes shall be PVC coated galvanized steel wire woven into a double twist hexagonal	2001a; Normative; GS:10244-2; The reference has been updated. The current	3a
Withdrawn				mesh. Each hexagon shall be 80 mm x 60 mm. The steel wire shall be at least 2.2 mm diameter and the PVC coating shall be at least 0.4 mm thick. PVC coating on steel wire shall comply with BS 4102:1990 or equivalent. The colour of PVC coating is to be approved by the Engineer. Wire for protective mesh shall comply with BS 1052: (1999). Galvanized coating on wires shall comply with BS EN 10244-2:2001. The tolerance on the opening of mesh shall comply with BS EN 10223-2:1998.	standard, BS EN 10244-2:2009, should be placed in Section 1 and the date removed from the citation.	
Revised,	BS EN 10244-2:2009	GS:10244-3	7.37	7.99: Wire mesh for erosion control shall comply with Clause 7.89(1). Unless otherwise specified in the Drawings, the	2001a; Normative; GS:10244-3; The reference has been updated. The current	3a
Withdrawn				wire mesh shall be fixed onto the slope surface by means of anchor bolts and/or fixing pins. The fixing pins, steel plates and washers for fixing the wire mesh to slope face shall comply with Clause 7.89. Galvanized coating on wires shall comply with BS EN 10244-2:2001. The anchor bolts, nuts and washers for fixing the wire mesh to soil nail heads shall be stainless steel complying with Section 5. Details of the anchor bolts and fixing pins shall be submitted to the Engineer for approval. Anchor bolts and accessories shall have the following properties:	standard, BS EN 10244-2:2009, should be placed in Section 1 and the date removed from the citation.	
2. BS EN ISO 14	61:1999 Hot dip galvanized co	oatings on fabrio	cated iron a	nd steel articles. Specifications and test methods		
Revised, Withdrawn	BS EN ISO 1461:2009	GS:1461-2	7.33	7.89: (5) Hooks, fixing pins, steel plates and washers for fixing the protective mesh to slope face shall be as shown on the Drawings and shall be galvanized to BS EN ISO 1461:1999.	1999a; Normative; GS:1461-2; The reference has been updated. The current standard, BS EN ISO 1461:2009, should be placed in Section 1 and the date removed from the citation.	3a
Revised, Withdrawn	BS EN ISO 1461:2009	GS:1461-3	7.34	7.89: (6) Galvanizing shall comply with BS EN ISO 1461:1999.	1999a; Normative; GS:1461-3; The reference has been updated. The current standard, BS EN ISO 1461:2009, should be placed in Section 1 and the date removed from the citation.	3a
Revised, Withdrawn	BS EN ISO 1461:2009	GS:1461-4	7.34	7.90: (1) Rock bolts shall be a proprietary type approved by the Engineer. Rock bolts shall comply with CS 2 and shall be mild steel or high yield deformed steel as stated in the Contract. Rock bolts shall be galvanized to BS EN ISO 1461:1999. Rock bolts shall have non-corrodible centralizers capable of ensuring an even annulus of grout as approved by the Engineer.	1999a; Normative; GS:1461-4; The reference has been updated. The current standard, BS EN ISO 1461:2009, should be placed in Section 1 and the date removed from the citation.	3a
Revised, Withdrawn	BS EN ISO 1461:2009	GS:1461-5	7.34	7.90: (3) Nuts for rock bolts shall be of grade 4 steel and comply with BS 4190:2001. Connectors shall comply with Section 15 of this GS. Bearing plates shall be of grade 43A steel plate and comply with BS 4360. Holes in steel plates for rock bolt heads shall be drilled perpendicular to the face of the steel plate and the centre of the hole shall be at a position of within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plate shall not be more than 2 mm. All nuts, connectors and bearing plates shall be galvanized to BS EN ISO 1461:1999. Rock bolts shall have non-corrodible centralizers capable of ensuring an even annulus of grout as approved by the Engineer. Grease shall comply with Table 1 of Geospec 1.		3a
Revised, Withdrawn	BS EN ISO 1461:2009	GS:1461-6	7.34	7.92: Rock dowels shall comply with CS 2 and shall be galvanized to BS EN ISO 1461:1999. Rock dowels shall have non-corrodible centralizers capable of ensuring an even annulus of grout around the steel bar as approved by the Engineer.	1999a; Normative; GS:1461-6; The reference has been updated. The current standard, BS EN ISO 1461:2009, should be placed in Section 1 and the date removed from the citation.	3a
Revised, Withdrawn	BS EN ISO 1461:2009	GS:1461-7	7.34	7.94: (1) Soil nail bars shall be of high yield deformed bars and comply with CS2. Nuts shall be of Grade 4 steel and comply with BS 4190:2001. Connectors shall comply with Section 15. Bearing plates shall be of Grade 43A steel plate and comply with BS 4360:1986. Permanent casings shall comply with BS4019:1974. Holes in steel plates for soil nail heads shall be drilled perpendicularly to the face of the steel plate and the centre of the hole shall be at a position of within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plate shall not be more than 2 mm. All steel components for soil nails shall be galvanized to BS EN ISO 1461:1999.	1999a; Normative; GS:1461-7; The reference has been updated. The current standard, BS EN ISO 1461:2009, should be placed in Section 1 and the date removed from the citation.	3a

Table P1 - Summary of Current British Standard References and Replacement Eurocodes

BS Status	Relevant Updated Code	ID No.	Page	Existing Content of Technical Guidance Document	General Comments to define Scope of Updating /	Scope of
	for Citation		no.		Specific Clauses in EN (s) / UK NA(s)	Updating
BS 1194 [Not lis	l ted][BS 1194:1969,Specificat	ion for concrete	e porous pir	pes for under-drainage		
Withdrawn	N/A	GS:1194-2	7.66	7.197: (1) Filter pipes shall comply with the following:	1969a; Normative; GS:1194-2; The cited reference has been withdrawn, as has	1
				Precast concrete pipes: BS 5911	its replacement BS 5911:Part 114:1992. The cited reference is not listed in the	
				Vitrified clay pipes: BS 65	reference section of the General Specification, although the replacement is. In	
				DI pipes: BS 4772	UK practice porous concrete pipes are no longer used or supported, having	
				Steel pipes: BS 534	been replaced by plastic pipes. However, in the event that porous concrete	
				Porous concrete pipes: BS 1194	pipes are required the historical reference to BS 1194 is retained.	
				Perforated concrete pipes: BS 5911	pipes are required the historical reference to 55 115 his retained.	
				Pitch fibre pipes: BS 2760		
				uPVC pipes: BS 4660 or BS 3506		
				Corrugated polyethylene tubing: AASHTO Designation M252		
Reference Secti	on of Donout					
Confirmed,	BS 65:1991	GS:65-1	1.28	4. BS 65:1991 (2003) Specification for vitrified clay pipes, fittings, also flexible mechanical joints for use solely with	1991; Reference; GS:65-1; The reference has one normative citation. The	3a
Current	55 03.1331	65.05 1	1.20	surface water pipes and fittings	reference is current however the incorrect year is shown in the General	Ju
Carrent				Salitate Nater pipes and Intilings	Specification. The entry should be corrected to BS 65:1991.	
Revised,	BS 410-1:2000, ISO 3310-	GS:410-1	1.28	9. BS 410:1986 Specification for test sieves	1986a; Reference; GS:410-1; The reference has six normative citations. The	3b
Withdrawn	1:2000	3323	1.20	5-55 125-125-05 Spesimous (051-5)-15-15-15-15-15-15-15-15-15-15-15-15-15-	reference has been revised, and should be updated to BS 410-1:2000, ISO	0.0
					3310-1:2000.	
Superseded,	BS EN 10311:2005	GS:534-1	1.28	15. BS 534:1990 Specification for steel pipes, joints and specials for water and sewage	1990d; Reference; GS:534-1; The reference has one normative citation. The	4b
Withdrawn	BS EN 10224:2002			φ, το	reference has been superseded, and should be replaced by BS EN 10311:2005	
					and BS EN 10224:2002.	
Superseded,	BS EN 932-1:1997	GS:812-1	1.29	19. BS 812-102:1989 Methods for sampling	1989; Reference; GS:812-1; The reference has one normative citation. The	4b
Withdrawn					reference has been superseded, and should be replaced by Construction	
					Standard 3.	
Confirmed,	BS 1052:1980	GS:1052-1	1.31	32. BS 1052:1999 Specification for mild steel wire for general engineering purposes (actual year is 1980)	1999b; Reference; GS:1052-1; The reference has one normative citation. The	3a
Current					reference is current however the incorrect year is shown in the General	
					Specification. The entry should be corrected to BS 1052:1980.	
Current,	BS 1199 and 1200:1976	GS:1200-1	1.31	33. BS 1200:1976 Specification for building sands from natural sources (Should be BS 1199 and 1200:1976)	1976a; Reference; GS:1200-1; The reference has three normative citations.	3a
Obsolescent,					The reference is current and no update is required. The citations to this	
Superseded					reference should be corrected.	
Confirmed,	BS 1377-9:1990	GS:1377-1	1.32	44. BS 1377:1990 Methods of test for soils for civil engineering purposes	1990a; Reference; GS:1377-1; The reference has two normative citations. The	4b
Current,	BS EN ISO 22476-				reference is current, partially replaced, and should be updated to BS 1377-	
Partially	3:2005+A1:2011				9:1990 and BS EN ISO 22476-3:2005+A1:2011. (NB There is a note with the	
replaced					reference which calls-up a non-existent clause and refers to BS 1377:1975.	
Company	BS EN 10255:2004	CC:4307.4	1 22	45. BS 1387:1990 Specification for screwed and socketed steel tubes and tubulars and for plain end steel tubes	This note should either be clarified or deleted.)	4b
Superseded,	BS EN 10255:2004	GS:1387-1	1.32	suitable for welding or for screwing to BS 21 pipe threads (actual year is 1985)	1990b; Reference; GS:1387-1; The reference has one normative citation. The reference has been superseded, and should be replaced by BS EN 10255:2004.	40
Withdrawn Superseded,	BS 1377-4:1990	GS:1924-1	1.32	55. BS 1924:1990 Stabilized materials for civil engineering purposes (actual standard is in two parts)	1990c; Reference; GS:1924-1; The reference has one normative citation. The	4b
Withdrawn	B3 1377-4.1330	G3.1324-1	1.52	33. B3 1324.1330 Stabilized Materials for civil engineering purposes (actual standard is in two parts)	reference was recently withdrawn by BSI with no repalcement standard yet	40
vvicinaravvii					issued. However, in the context of the citation the relevant test method is	
					contained in BS1377-4:1990.	
Withdrawn	No replacement	GS:2760-1	1.33	66. BS 2760:1973 Specification for pitch-impregnated fibre pipes and fittings for below and above ground drainage	1973; Reference; GS:2760-1; The reference has one normative citation. The	5
					reference is withdrawn, and there is no replacement.	
Confirmed,	BS 3506:1969	GS:3506-1	1.35	83. BS 3506:1969 Specification for unplasticized PVC pipe for industrial uses	1969b; Reference; GS:3506-1; The reference has one normative citation. The	1
Current					reference is current and no update is required.	
Current	BS 4019-3:1993, ISO 3551-	GS:4019-1	1.36	96. BS 4019:1993 Rotary core drilling equipment	1993; Reference; GS:4019-1; The reference has one normative citation. The	3b
	1:1992				reference is current but not given in full. It should be presented as BS 4019-	
	BS 4019-4:1993, ISO 3551-				3:1993, ISO 3551-1:1992 and BS 4019-4:1993, ISO 3551-2:1992.	
	2:1992	1	1			
Revised,	BS 4102:1998	GS:4102-1	1.36	102. BS 4102:1990 Specification for steel wire for general fencing purposes	1990e; Reference; GS:4102-1; The reference has one normative citation. The	3a
Withdrawn	DS 4400 2004	00.4400.5		100 00 400 0004 0 10 11 1 1 1 1 1 1 1 1	reference has been revised, and should be updated to BS 4102:1998.	
Confirmed,	BS 4190:2001	GS:4190-1	1.36	105. BS 4190:2001 Specification for ISO metric black hexagon bolts, screws and nuts	2001b; Reference; GS:4190-1; The reference has two normative citations. The	1
Current	l				reference is current, and no update is required.	

Table P1 - Summary of Current British Standard References and Replacement Eurocodes

BS Status	Relevant Updated Code for Citation	ID No.	Page no.	Existing Content of Technical Guidance Document	General Comments to define Scope of Updating / Specific Clauses in EN (s) / UK NA(s)	Scope of Updating
Superseded, Withdrawn	BS 7668:2004 BS EN 10025-1:2004 BS EN 10025-2:2004 BS EN 10025-3:2004 BS EN 10025-4:2004 BS EN 10029:2010 BS EN 10210-1:2006 BS EN ISO 18286:2010	GS:4360-1	1.37	114. BS 4360:1986 Specification for weldable structural steels	1986b; Reference; GS:4360-1; The reference has two normative citations. The reference has been superseded, and should be updated to BS EN 10025:2004.	4b
Revised, Withdrawn	BS 4483:2005	GS:4483-1	1.37	121. BS 4483:1998 Specification for steel fabric for the reinforcement of concrete	1998b; Reference; GS:4483-1; The reference has one normative citation. The reference has been revised, and should be updated to BS 4483:2005.	3a
Confirmed, Current, Partially	BS 4660:2000	GS:4660-1		136. BS 4660:2000 Specification for thermoplastics ancillary fittings of nominal sizes 110 and 160 for below ground gravity drainage and sewerage	2000b; Reference; GS:4660-1; The reference has one normative citation. The reference is current and no update is required.	1
Superseded, Withdrawn	BS EN 598:2007+A1:2009 BS EN 545:2010 BS EN 969:2009	GS:4772-1	1.39	142. BS 4772:1988 Ductile piping and fittings 1988; Reference; GS:4772-1; The reference has one normal reference has been superseded, and should be updated to 598:2007+A1:2009.		4b
Confirmed, Current	BS 5252F:1976	GS:5252F-1	1.40	160. BS 5252F:1976 (2004) Framework for colour co-ordination for building purpose: colour matching fan	1976b; Reference; GS:5252F-1; The reference has one normative citation. The reference is current but is ambiguously presented as BS 5252F:1976(2004). The entry should be revised to BS 5252F:1976.	3a
Withdrawn	BS 5911-1:2002+A2:2010 BS EN 1916:2002	GS:5911-1	1.41	183. BS 5911-114:1992 Precast concrete pipes, fittings and ancillary products or, 184. BS 5911-1:2002 Concrete pipes and ancillary concrete products. Specification for unreinforced and reinforced concrete pipes (including jacking pipes) and fittings with flexible joints	1992; Reference; GS:5911-1; The reference has two normative citations. The reference is withdrawn but its entry is ambiguous. For the occurrences in Section 7, the citations should be referenced to BS 5911-1:2002+A2:2010 and BS EN 1916:2002.	4b
Revised, Withdrawn	BS EN 1997-2:2007 BS EN ISO 22282-3:2012	GS:5930-1	1.41	186. BS 5930:1981 Code of practice for site investigations	1981a; Reference; GS:5930-1; The reference has two normative citations. The reference has been superseded in relation to the citations in Section 7 and should be replaced by BS EN 1997-2:2007 and BS EN ISO 22282-3:2012.	4b
Superseded, Withdrawn	BS 6089:2010 BS EN 13791:2007	GS:6089-1	1.42	192. BS 6089:1981 Guide to assessment of concrete strength in existing structures	1981b; Reference; GS:6089-1; The reference has two normative citations. The reference has been superseded, and should be updated to BS 6089:2010 and BS EN 13791:2007.	4b
Revised, Withdrawn	BS EN 197-1:2011	GS:197-1	1.48	3. BS EN 197-1:2000 Cement – Part 1: Composition, specifications and conformity criteria for common cements	2000a; Reference; GS:197-1; The reference has two normative citations. The reference has been revised, and should be updated to BS EN 197-1:2011.	3a
Revised, Withdrawn	BS EN 10223-2:2012	GS:10223-1	1.52	42. BS EN 10223-2:1998 Steel wire and wire products for fences	1998a; Reference; GS:10223-1; The reference has one normative citation. The reference has been revised, and should be updated to BS EN 10223-2:2012.	3b
Revised, Withdrawn	BS EN 10244-2:2009	GS:10244-1		43. BS EN 10244-2:2001 Steel wire and wire products. Non-ferrous metallic coatings on steel wire. Zinc or zinc alloy coatings	2001a; Reference; GS:10244-1; The reference has two normative citations. The reference has been revised, and should be updated to BS EN 10244-2:2009.	3a
Revised, Withdrawn	BS EN ISO 1461:2009	GS:1461-1	1.53	2. BS EN ISO 1461:1999 Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods	1999a; Reference; GS:1461-1; The reference has six normative citations. The reference has been revised, and should be updated to BS EN ISO 1461:2009.	3a
Withdrawn	N/A	GS:1194-1		. BS 1194 [Not listed][BS 1194:1969,Specification for concrete porous pipes for under-drainage]	1969a; Reference; GS:1194-1; The related citation has no reference. The cited standard has been withdrawn with no replacement, however an interim standard (BS 5911:Part 114:1992) was listed in the references. This interim reference has itself been replaced, however, the citation to BS1194 is retained as an historical reference.	1

Table P2 - Extracts of Relevant Sections or Clauses of the British Standards and Eurocodes / National Annexes

Relevant Updated Code for	ID No.	Page	Scope of	Extracts of Relevant Sections or Clauses	Extracts of Relevant Sections or Clauses
Citation	ID No.	no.	Updating	of the superseded British Standard(s)	of the replacement British/European Standards
Technical Clauses in Report					
				panical joints for use solely with surface water pipes and fittings	
BS 65:1991	GS:65-2	7.66	1	Whole document.	No change
9. BS 410:1986 Specification for	or test sieves	•			
BS 410-1:2000, ISO 3310-	GS:410-2	7.33	4b	Standard not cited as a refernce.	Whole document.
1:2000 BS 410-1:2000, ISO 3310-				Standard not cited as a refernce.	Whole document.
1:2000	GS:410-3	7.56	4b	Standard not cited as a referrice.	whole document.
BS 410-1:2000, ISO 3310-	CC: 440. 4	7.50	41-	Standard not cited as a refernce.	Whole document.
1:2000	GS:410-4	7.56	4b		
BS 410-1:2000, ISO 3310-	CC-410 F	7.67	41-	Standard not cited as a refernce.	Whole document.
1:2000	GS:410-5	7.67	4b		
BS 410-1:2000, ISO 3310-	GS:410-6	7.67	4b	Standard not cited as a refernce.	Whole document.
1:2000	G3.410-0	7.07	40		
BS 410-1:2000, ISO 3310-	GS:410-7	7.79	4b	Standard not cited as a refernce.	Whole document.
1:2000	G3.410-7	7.73	40		
15. BS 534:1990 Specification	for steel pipes, joint	s and speci	als for water an	d sewage	
BS EN 10311:2005	GS:534-2	7.66	4b	Whole document.	Whole document.
BS EN 10224:2002	G3.334-2	7.00	40		
19. BS 812-102:1989 Methods					
BS EN 932-1:1997	GS:812-2	7.78	4a	Whole document.	Section 8 - Methods of Sampling
32. BS 1052:1999 Specification					
BS 1052:1980	GS:1052-2	7.33	3a	Whole document.	No change
33. BS 1200:1976 Specification		7			
BS 1199 and 1200:1976	GS:1200-2	7.33	3a	Whole document.	No change
BS 1199 and 1200:1976	GS:1200-3	7.33	3a	Whole document.	No change
BS 1199 and 1200:1976	GS:1200-4	7.56	3a	Whole document.	No change
44. BS 1377:1990 Methods of	1	T			T
BS EN ISO 22476-	GS:1377-2	7.24		BS 1377-9:1990 cl 3.3	Whole document.
BS 1377-9:1990	GS:1377-3	7.26		BS 1377-9:1990 cl 4.4	No change
		1		oulars and for plain end steel tubes suitable for welding or for screwing to BS 21 pipe th	
BS EN 10255:2004	GS:1387-2	7.57		Whole document.	Whole document.
55. BS 1924:1990 Stabilized ma		1			Costion 2.7 Method using Vibrating Hammer
BS 1377-4:1990	GS:1924-2	7.53		BS 1924-2:1990 cl 2.1.5	Section 3.7. Method using Vibrating Hammer
No replacement	GS:2760-2	7.66	pes and rittings	for below and above ground drainage	N/A
83. BS 3506:1969 Specification			industrial uses	Whole document.	IN/A
	GS:3506-2	7.66	1	Whole document.	No change
96. BS 4019:1993 Rotary core	<u> </u>	7.00	1	whole document.	INO CHANGE
BS 4019-3:1993, ISO 3551-				Whole document.	No change
1:1992	GS:4019-2	7.34	3a	whole document.	Two change
102. BS 4102:1990 Specification	on for steel wire for	general fen	cing purposes		
BS 4102:1998	GS:4102-2	7.33	3a	Whole document.	No change
105. BS 4190:2001 Specification	on for ISO metric bla	ck hexagor	bolts, screws a	nd nuts	
BS 4190:2001	GS:4190-2	7.34	3a	Whole document.	No change
BS 4190:2001	GS:4190-3	7.34	3a	Whole document.	No change
_ ·=- · · = · · · = ·					1 0-

Table P2 - Extracts of Relevant Sections or Clauses of the British Standards and Eurocodes / National Annexes

Relevant Updated Code for	ID No.	Page	Scope of	Extracts of Relevant Sections or Clauses	Extracts of Relevant Sections or Clauses		
Citation	ID NO.	no.	Updating	of the superseded British Standard(s)	of the replacement British/European Standards		
114. BS 4360:1986 Specification	n for weldable struc	tural steel	S				
BS EN 10025-1:2004				Whole document.	Whole document.		
BS EN 10025-2:2004	GS:4360-2	7.34	5				
BS EN 10025-3:2004	G3.4300-2	7.54					
BS EN 10025-4:2004							
BS EN 10025-1:2004				Whole document.	Whole document.		
BS EN 10025-2:2004	GS:4360-3	7.34	5				
BS EN 10025-3:2004	d3.4300-3	7.54					
BS EN 10025-4:2004							
121. BS 4483:1998 Specification		the reinfo	rcement of con-	crete			
BS 4483:2005	GS:4483-2	7.33	1	Whole document.	Whole document.		
136. BS 4660:2000 Specification	n for thermoplastic	s ancillary	fittings of nomin	nal sizes 110 and 160 for below ground gravity drainage and sewerage			
	GS:4660-2	7.66	1	Whole document.	No change		
142. BS 4772:1988 Ductile pipin							
BS EN 598:2007+A1:2009	GS:4772-2	7.66	4a	Whole document.	Whole document.		
160. BS 5252F:1976 Framework							
BS 5252F:1976	GS:5252F-2	7.87	3a	Whole document.	No change		
183. BS 5911 Precast concrete	pipes, fittings and a	ancillary pr	oducts				
BS 5911: Part 2:1982 Specificat	tion for inspection o	chambers a	and street gullie	s			
BS 5911-1:2002+A2:2010	GS:5911-2	7.66	4b	Whole document.	Whole document.		
BS EN 1916:2002	G3.5911-2	7.00	40				
BS 5911-1:2002+A2:2010	GS:5911-3	7.66	4b	Whole document.	Whole document.		
BS EN 1916:2002	G3 .5911-5	7.00	40				
186. BS 5930:1981 Code of prac	ctice for site investi	gations					
BS EN 1997-2:2007	GS:5930-2	7.4	4a	BS 5930:1981 cl 19.2	BS EN 1997-2:2007 cl 3.4.1		
BS EN ISO 22282-3:2012	GS:5930-3	7.63	4a	BS 5930:1981 cl 21.5	Whole document.		
192. BS 6089:1981 Guide to ass	sessment of concret	e strength	in existing struc	ctures			
BS 6089:2010	GS:6089-2	7.54	4b	Whole document.	Whole document.		
BS EN 13791:2007	G3.0003 Z	7.54	40				
BS 6089:2010	GS:6089-3	7.54	4b	Whole document.	Whole document.		
BS EN 13791:2007	d3.0089-3	7.54	40				
		, specifica	tions and confo	mity criteria for common cements			
BS EN 197-1:2011	GS:197-2	7.33	1	Whole document.	Whole document.		
BS EN 197-1:2011	GS:197-3	7.33	1	Whole document.	Whole document.		
42. BS EN 10223-2:1998 Steel w	•	cts for fen					
<u>. </u>	GS:10223-2	7.33		Whole document.	Whole document.		
		cts. Non-fe	errous metallic o	oatings on steel wire. Zinc or zinc alloy coatings			
BS EN 10244-2:2009	GS:10244-2	7.33	3a	Whole document.	Whole document.		
BS EN 10244-2:2009	GS:10244-3	7.37	3a	Whole document.	Whole document.		
. BS EN ISO 1461:1999 Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods							
	GS:1461-2	7.33	3a	Whole document.	Whole document.		
BS EN ISO 1461:2009		1		Whole document.	Whole document.		
	GS:1461-3	7.34	3a	Whole document.			
BS EN ISO 1461:2009	GS:1461-3 GS:1461-4	7.34 7.34	3a 3a	Whole document.	Whole document.		
BS EN ISO 1461:2009 BS EN ISO 1461:2009							
BS EN ISO 1461:2009 BS EN ISO 1461:2009 BS EN ISO 1461:2009	GS:1461-4	7.34	3a	Whole document.	Whole document.		

Table P2 - Extracts of Relevant Sections or Clauses of the British Standards and Eurocodes / National Annexes

Relevant Updated Code for Citation	ID No.	Page no.	Scope of Updating	Extracts of Relevant Sections or Clauses of the superseded British Standard(s)	Extracts of Relevant Sections or Clauses of the replacement British/European Standards					
BS 1194 [Not listed][BS 1194:1	BS 1194 [Not listed][BS 1194:1969,Specification for concrete porous pipes for under-drainage]									
N/A	GS:1194-2	7.66	1	Whole document - historical reference.	No equivalent.					

Table P3 - Description of Standards, Differences and Recommended Amendments

	Page	Scope of	Description of Design, Specif	fication and/or Testing Required	Effects of differences in Adopting	
ID No.	no.	Updating	Quoted Standard(s)	Up-to-date Standard(s)	Up-to-date Standard(s)	Recommended Amendments
Technical Claus	ses in Repo	ort				
4. BS 65:1991 Sp	pecification	for vitrified cla	y pipes, fittings, also flexible mechanical joints for	use solely with surface water pipes and fittings		
GS:65-2	7.66	1	Material specification.	N/A	No change.	No change.
9. BS 410:1986 S	Specification	n for test sieves	5			
GS:410-2	7.33	4b	Material specification.	Material specification.	No change.	Citation of standard to be added to text and
						reference to be updated to give full title.
GS:410-3	7.56	4b	Material specification.	Material specification.	No change.	Citation of standard to be added to text and
						reference to be updated to give full title.
GS:410-4	7.56	4b	Material specification.	Material specification.	No change.	Citation of standard to be added to text and
						reference to be updated to give full title.
GS:410-5	7.67	4b	Material specification.	Material specification.	No change.	Citation of standard to be added to text and
						reference to be updated to give full title.
GS:410-6	7.67	4b	Material specification.	Material specification.	No change.	Citation of standard to be added to text and
						reference to be updated to give full title.
GS:410-7	7.79	4b	Material specification.	Material specification.	No change.	Citation of standard to be added to text and
						reference to be updated to give full title.
15. BS 534:1990	Specification 1	on for steel pip	es, joints and specials for water and sewage			
GS:534-2	7.66	4b	Material specification.	Material specification.	No change.	Reference to be updated. Citation unchanged.
19. BS 812-102:1		ds for sampling				
GS:812-2	7.78	4a	Method of sampling.	Method of sampling.	No change.	Change citation and reference.
			eel wire for general engineering purposes (actual y			1
GS:1052-2	7.33	3a	M aterial specification.	Material specification.	No change.	Date to be removed from citation.
	· ·	ion for building	s sands from natural sources (Should be BS 1199 a			1
GS:1200-2	7.33	3a	Material specification.	Material specification.	No change.	Amend citation to 'BS 1199 and 1200'.
GS:1200-3	7.33	3a	Material specification.	Material specification.	No change.	Amend citation to 'BS 1199 and 1200'.
GS:1200-4	7.56	3a	Material specification.	Material specification.	No change.	Amend citation to 'BS 1199 and 1200'.
		of test for soils	for civil engineering purposes			
GS:1377-2	7.24	4a	Test method.	Test method.	No change.	Change citation and reference. Include reference
						to Geoguide 2.
GS:1377-3	7.26	3a	Test method.	Test method.	No change.	Date to be removed from citation.
				ain end steel tubes suitable for welding or for screwi	T and the second	Terminal to the second
GS:1387-2	7.57	4a	Material specification.	Material specification.	No change.	Change citation and reference.
			civil engineering purposes (actual standard is in two		The state of the s	Tel 1 c
GS:1924-2	7.53	4b	Test method.	Test method - comprising two potential methods;	No change to the requirements of the GS, except	Change citation and reference.
				Definitive using a special apparatus, and	that BS 1377-4 only contains one test method	
				subsidiary using a CBR mould.	usinga CBR mould (equivalent to the subsidiary	
					method in BS 1924).	
		· ·	npregnated fibre pipes and fittings for below and a		T	T
GS:2760-2	7.66	5	M aterial specification.	No direct replacement.	Specified item may have to be discontinued.	Delete the citation and reference. Product no longer to be used.
83. BS 3506:196		ion for unplast	icized PVC pipe for industrial uses			
GS:3506-2	7.66	1	Material specification.	N/A	No change.	No change.
96. BS 4019:199	3 Rotary co	re drilling equi	pment			
GS:4019-2	7.34	3a	Equipment standard.	N/A	No change.	Update reference to give full designation.

Table P3 - Description of Standards, Differences and Recommended Amendments

	Page	Scope of Updating	Description of Design, Specif	ication and/or Testing Required	Effects of differences in Adopting	
ID No.	no.		Quoted Standard(s)	Up-to-date Standard(s)	Up-to-date Standard(s)	Recommended Amendments
102. BS 4102:19	90 Specifica	tion for steel w	vire for general fencing purposes			
GS:4102-2	7.33	3a	Material specification.	Material specification.	No change.	Change citation and reference.
105. BS 4190:200	01 Specificat	tion for ISO me	etric black hexagon bolts, screws and nuts			
GS:4190-2	7.34	3a	Material specification.	Material specification.	No change.	Date to be removed from citation.
GS:4190-3	7.34	3a	Material specification.	Material specification.	No change.	Date to be removed from citation.
14. BS 4360:198	36 Specificat	tion for weldal	ole structural steels			
GS:4360-2	7.34	5	Material specification.	Material specification.	No change.	Material designation to be changed to S275JR. Change citation and reference.
GS:4360-3	7.34	5	Material specification.	Material specification.	No change.	Material designation to be changed to S275JR. Change citation and reference.
121. BS 4483:199	98 Specificat	tion for steel fa	abric for the reinforcement of concrete		•	
GS:4483-2	7.33	1	Material specification.	Material specification.	No change.	No change.
136. BS 4660:200	00 Specifica	tion for therm	oplastics ancillary fittings of nominal sizes 110 and	·	•	
GS:4660-2	7.66	1	Material specification.	Material specification.	No change.	No change.
142. BS 4772:198	88 Ductile p	iping and fittin	gs			
GS:4772-2	7.66	4a	Material specification.	Material specification.	No change.	Change citation and reference.
160. BS 5252F:19	76 Framew	ork for colour	co-ordination for building purpose: colour matchin	ng fan		
GS:5252F-2	7.87	3a	Colour standard.	Colour standard.	No change.	Date to be removed from citation.
			gs and ancillary products		-	
			pection chambers and street gullies			
GS:5911-2	7.66	4b	Material specification.	Material specification.	No change.	Change citation and reference.
GS:5911-3	7.66	4b	Material specification.	Material specification.	No change.	Change citation and reference.
186. BS 5930:198		practice for site			1	
GS:5930-2	7.4	4a	Test method.	Test method.	No change.	Change citation and reference.
GS:5930-3	7.63	4a	Test method.	Test method.	No change.	Change citation and reference.
	1	assessment of	concrete strength in existing structures			
GS:6089-2	7.54	4b	Test method.	Test method.	No change.	Change citation and reference.
GS:6089-3	7.54	4b	Test method.	Test method.	No change.	Change citation and reference.
3. BS EN 197-1:2	000 Cement	t – Part 1: Com	position, specifications and conformity criteria for	common cements		
GS:197-2	7.33	1	Material specification.	Material specification.	No change.	No change.
GS:197-3	7.33	1	Material specification.	Material specification.	No change.	No change.
42. BS EN 10223-	-2:1998 Stee	el wire and wir	e products for fences			
GS:10223-2	7.33	3a	Material specification.	Material specification.	No change.	Change citation and reference.
43. BS EN 10244	2:2001 Stee	el wire and wir	e products. Non-ferrous metallic coatings on steel	wire. Zinc or zinc alloy coatings		
GS:10244-2	7.33	3a	Material specification.	Material specification.	No change.	Change citation and reference.
GS:10244-3	7.37	3a	Material specification.	Material specification.	No change.	Change citation and reference.
2. BS EN ISO 146	T T	dip galvanized	coatings on fabricated iron and steel articles. Spe	cifications and test methods		
GS:1461-2	7.33	3a	Material specification.	Material specification.	No change.	Change citation and reference.
GS:1461-3	7.34	3a	Material specification.	Material specification.	No change.	Change citation and reference.
GS:1461-4	7.34	3a	Material specification.	Material specification.	No change.	Change citation and reference.
GS:1461-5	7.34	3a	Material specification.	Material specification.	No change.	Change citation and reference.
GS:1461-6	7.34	3a	Material specification.	Material specification.	No change.	Change citation and reference.
GS:1461-7	7.34	3a	Material specification.	Material specification.	No change.	Change citation and reference.

Table P3 - Description of Standards, Differences and Recommended Amendments

	Page	Scope of	Description of Design, Specific	cation and/or Testing Required	Effects of differences in Adopting		
ID No.	no.	Updating	Quoted Standard(s)	Up-to-date Standard(s)	Up-to-date Standard(s)	Recommended Amendments	
BS 1194 [Not list	ed][BS 119	4:1969,Specific	cation for concrete porous pipes for under-drainage				
GS:1194-2	7.66	1	Material specification.	N/A	N/A	This historical reference is retained in the event that porous concrete pipes are used.	
Reference Sectio	n of Report	t	_				
GS:65-1	1.28	3a	·	The current document(s) is (are): BS 65:1991		Remove erroneous date.	
GS:410-1	1.28	3b		The current document(s) is (are): BS 410-1:2000, ISO 3310-1:2000		Update reference.	
GS:534-1	1.28	4b	This reference document is: Superseded,	The current document(s) is (are): BS EN		Replace reference.	
-			Withdrawn.	10311:2005			
GS:812-1	1.29	4b	This reference document is: Superseded,	The current document(s) is (are): BS EN 932-		Reference to BS should be replaced by reference	
			Withdrawn.	1:1997		to Construction Standard 3.	
GS:1052-1	1.31	3a	This reference document is: Confirmed, Current.	The current document(s) is (are): BS 1052:1980		Remove erroneous date.	
GS:1200-1	1.31	3a	This reference document is: Current, Obsolescent, Superseded.	The current document(s) is (are): BS 1199 and 1200:1976		No change.	
GS:1377-1	1.32	4b		The current document(s) is (are): BS 1377-9:1990 BS EN ISO 22476-3:2005+A1:2011		Amend reference to BS 1377-9:1990 for first citation and BS EN ISO 22476-3:2005+A1:2011 for the second citation.	
GS:1387-1	1.32	4b	This reference document is: Superseded, Withdrawn.	The current document(s) is (are): BS EN 10255:2004		Replace reference.	
GS:1924-1	1.32	4b	This reference document is: Superseded, Withdrawn.	The current document(s) is (are): BS 1377-4:1990		Amend reference to BS 1377-4:1990.	
GS:2760-1	1.33	5	This reference document is: Withdrawn.	The current document(s) is (are): No replacement		Delete the reference.	
GS:3506-1	1.35	1	This reference document is: Confirmed, Current.	The current document(s) is (are): BS 3506:1969		No change.	
GS:4019-1	1.36	3b		The current document(s) is (are): BS 4019-3:1993, ISO 3551-1:1992 BS 4019-4:1993, ISO 3551-2:1992		Amend reference to give full current title.	
GS:4102-1	1.36	3a	This reference document is: Revised, Withdrawn.	The current document(s) is (are): BS 4102:1998		Update reference.	
GS:4190-1	1.36	1	This reference document is: Confirmed, Current.	The current document(s) is (are): BS 4190:2001		No change.	
GS:4360-1	1.37	4b	Withdrawn.	The current document(s) is (are): BS 7668:2004 BS EN 10025-1:2004 BS EN 10025-2:2004 BS EN 10025-3:2004 BS EN 10025-4:2004 BS EN 10029:2010 BS EN 10210-1:2006 BS EN ISO 18286:2010		For the purposes of Section 7, the replacement references are limited to BS EN 10025-1:2004, BS EN 10025-2:2004, BS EN 10025-3:2004 and BS EN 10025-4:2004.	
GS:4483-1	1.37	3a	This reference document is: Revised, Withdrawn.	The current document(s) is (are): BS 4483:2005		Update reference.	
GS:4660-1	1.38	1	This reference document is: Confirmed, Current, Partially replaced .	The current document(s) is (are): BS 4660:2000		No change.	
GS:4772-1	1.39	4b		The current document(s) is (are): BS EN 598:2007+A1:2009 BS EN 545:2010 BS EN 969:2009		For the purposes of Section 7, the replacement reference is limited to BS EN 598:2007+A1:2009.	
GS:5252F-1	1.4	3a	This reference document is: Confirmed, Current.	The current document(s) is (are): BS 5252F:1976		Remove erroneous date.	

Table P3 - Description of Standards, Differences and Recommended Amendments

	Dogo	Seeme of	Description of Design, Specifi	cation and/or Testing Required	Effects of differences in Adopting	
ID No.	Page no.	Scope of Updating	Quoted Standard(s)	Up-to-date Standard(s) Up-to-date Standard(s)		Recommended Amendments
GS:5911-1	1.41	4b	This reference document is: Withdrawn.	The current document(s) is (are): BS 5911- 1:2002+A2:2010		Delete the reference to BS 5911-114:1992. Update the reference to BS 5911-1. Add a reference to BS
				BS EN 1916:2002		EN 1916:2002.
GS:5930-1	1.41	4b	This reference document is: Revised, Withdrawn.	The current document(s) is (are): BS EN 1997- 2:2007		For the purposes of Section 7, replace the reference with references to BS EN 1997-2:2007
				BS EN ISO 22282-3:2012		for the first citation and BS EN ISO 22282-3:2012 for the second citation.
GS:6089-1	1.42	4b	This reference document is: Superseded, Withdrawn .	The current document(s) is (are): BS 6089:2010 BS EN 13791:2007		Replace reference.
GS:197-1	1.48	3a	This reference document is: Revised, Withdrawn.	The current document(s) is (are): BS EN 197-		Update reference.
GS:10223-1	1.52	3b	This reference document is: Revised, Withdrawn.	The current document(s) is (are): BS EN 10223-		Update reference.
GS:10244-1	1.52	3a	This reference document is: Revised, Withdrawn.	The current document(s) is (are): BS EN 10244-		Update reference.
GS:1461-1	1.53	3a	This reference document is: Revised, Withdrawn.	The current document(s) is (are): BS EN ISO 1461:2009		Update reference.
GS:1194-1	Not listed	1	This reference document is: Withdrawn.	The current document(s) is (are): N/A		Replace reference to BS 5911-114:1992, which itself replaced BS1194 with reference to BS EN 1916:2002 and BS 5911-1:2002+A2:2010.

Table P4 - Recommended Revisions to Existing Clauses referring to British Standards

Page no.	BS Referenced in Technical Guidance Document	Scope of Updating	ID No.	Existing Content of Technical Guidance Document	Recommended Content for Updated Technical Guidance Document
1.28	BS 65:1991	3a	GS:65-1	4. BS 65:1991 (2003) Specification for vitrified clay pipes, fittings, also flexible mechanical joints for use solely with surface water pipes and fittings	4. BS 65:1991 Specification for vitrified clay pipes, fittings, also flexible mechanical joints for use solely with surface water pipes and fittings
1.28	BS 410:1986	3b	GS:410-1	9. BS 410:1986 Specification for test sieves	9 BS 410-1:2000, ISO 3310-1:2000, Test sieves. Technical requirements and testing. Test sieves of metal wire cloth
1.28	BS 534:1990	4b	GS:534-1	15. BS 534:1990 Specification for steel pipes, joints and specials for water and sewage	BS EN 10311:2005, Joints for the connection of steel tubes and fittings for the conveyance of water and other aqueous liquids BS EN 10224:2002, Non-alloy steel tubes and fittings for the conveyance of water and other aqueous liquids. Technical delivery conditions
1.29	BS 812-102:1989	4b	GS:812-1	19. BS 812-102:1989 Methods for sampling	Construction Standard 3:2013, Aggregates for Concrete
1.31	BS 1052:1999	3a	GS:1052-1	32. BS 1052:1999 Specification for mild steel wire for general engineering purposes	32. BS 1052:1980, Specification for mild steel wire for general engineering purposes
1.31	BS 1200:1976	3a	GS:1200-1	33. BS 1200:1976 Specification for building sands from natural sources	33. BS 1199 and 1200:1976 Specification for building sands from natural sources
1.32	BS 1377:1990	4b	GS:1377-1	44. BS 1377:1990 Methods of test for soils for civil engineering purposes	44. BS 1377-9:1990, Methods for test for soils for civil engineering purposes. In-situ tests
	Additional reference	required.			BS EN ISO 22476-3:2005+A1:2011, Geotechnical investigation and testing. Field testing. Standard penetration test
1.32	BS 1387:1990	4b	GS:1387-1	45. BS 1387:1990 ¹ Specification for screwed and socketed steel tubes and tubulars and for plain end steel tubes suitable for welding or for screwing to BS 21 pipe threads	BS EN 10255:2004, Non-alloy steel tubes suitable for welding and threading. Technical delivery conditions
1.32	BS 1924:1990	4b	GS:1924-1	55. BS 1924:1990 Stabilized materials for civil engineering purposes	BS 1377-4:1990, Methods of test for Soils for civil engineering purposes - Part 4: Compaction-related tests
1.33	BS 2760:1973	5	GS:2760-1	66. BS 2760:1973 Specification for pitch-impregnated fibre pipes and fittings for below and above ground drainage	[Delete reference]
1.35	BS 3506:1969	1	GS:3506-1	83. BS 3506:1969 Specification for unplasticized PVC pipe for industrial uses	[No change]
1.36	BS 4019:1993	3b	GS:4019-1	96. BS 4019:1993 Rotary core drilling equipment	BS 4019-3:1993, ISO 3551-1:1992, Rotary core drilling equipment. Specification for System A. Metric units BS 4019-4:1993, ISO 3551-2:1992, Rotary core drilling equipment. Specification for System A. Inch units
1.36	BS 4102:1990	3a	GS:4102-1	102. BS 4102:1990 Specification for steel wire for general fencing purposes	102. BS 4102:1998 Specification for steel wire for general fencing purposes
1.36	BS 4190:2001	1	GS:4190-1	105. BS 4190:2001 Specification for ISO metric black hexagon bolts, screws and nuts	[No change]
1.37	BS 4360:1986	46	GS:4360-1	114. BS 4360:1986 Specification for weldable structural steels	BS EN 10025-1:2004, Hot rolled products of structural steels. General technical delivery conditions BS EN 10025-2:2004, Hot rolled products of structural steels. Technical delivery conditions for non-alloy structural steels BS EN 10025-3:2004, Hot rolled products of structural steels. Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels BS EN 10025-4:2004, Hot rolled products of structural steels. Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels
1.37	BS 4483:1998	3a	GS:4483-1	121. BS 4483:1998 Specification for steel fabric for the reinforcement of concrete	121. BS 4483:2005 Specification for steel fabric for the reinforcement of concrete
1.38	BS 4660:2000	1	GS:4660-1	136. BS 4660:2000 Specification for thermoplastics ancillary fittings of nominal sizes 110 and 160 for below ground gravity drainage and sewerage	[No change]
1.39	BS 4772:1988	4b	GS:4772-1	142. BS 4772:1988 Ductile piping and fittings	BS EN 598:2007+A1:2009, Ductile iron pipes, fittings, accessories and their joints for sewerage applications. Requirements and test methods
1.40	BS 5252F:1976 (2004)	3a	GS:5252F-1	160. BS 5252F:1976 (2004) Framework for colour co-ordination for building purpose: colour matching fan	160. BS 5252F:1976 Framework for colour co-ordination for building purposes: colour matching fan

¹ Actual date for this reference is 1985.

Table P4 - Recommended Revisions to Existing Clauses referring to British Standards

Page no.	BS Referenced in Technical Guidance Document	Scope of Updating	ID No.	Existing Content of Technical Guidance Document	Recommended Content for Updated Technical Guidance Document
1.41	BS 5911:Part 144:1992	5	GS:1149-1	BS 5911:Part 114:1992 Precast concrete pipes, fittings and ancillary products, Specification for porous pipes	[No citation in text. Delete reference.]
1.41	BS 5911	4b	GS:5911-1	184. BS 5911-1:2002 Concrete pipes and ancillary concrete products. Specification for unreinforced and reinforced concrete pipes (including jacking pipes) and fittings with flexible joints	BS 5911-1:2002+A2:2010, Concrete pipes and ancillary concrete products. Specification for unreinforced and reinforced concrete pipes (including jacking pipes) and fittings with flexible joints (complementary to BS EN 1916:2002) BS EN 1916:2002, Concrete pipes and fittings, unreinforced, steel fibre and reinforced
1.41	BS 5930:1981	4b	GS:5930-1	186. BS 5930:1981 Code of practice for site investigations	BS EN 1997-2:2007, Eurocode 7. Geotechnical design. Ground investigation and testing
	Additional reference	required.			BS EN ISO 22282-3:2012, Geotechnical investigation and testing. Geohydraulic testing. Water pressure tests in rock
1.42	BS 6089:1981	4b	GS:6089-1	192. BS 6089:1981 Guide to assessment of concrete strength in existing structures	BS EN 13791:2007, Assessment of in-situ compressive strength in structures and pre-cast concrete components BS 6089:2010, Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791
1.48	BS EN 197-1:2000	3a	GS:197-1	3. BS EN 197-1:2000 Cement – Part 1: Composition, specifications and conformity criteria for common cements	3. BS EN 197-1:2011, Cement. Composition, specifications and conformity criteria for common cements
1.52	BS EN 10223- 2:1998	3b	GS:10223-1	42. BS EN 10223-2:1998 Steel wire and wire products for fences	42. BS EN 10223-2:2012, Steel wire and wire products for fencing and netting. Hexagonal steel wire netting for agricultural, insulation and fencing purposes
1.52	BS EN 10244- 2:2001	3a	GS:10244-1	43. BS EN 10244-2:2001 Steel wire and wire products. Non-ferrous metallic coatings on steel wire. Zinc or zinc alloy coatings	43. BS EN 10244-2:2009 Steel wire and wire products. Non-ferrous metallic coatings on steel wire. Zinc or zinc alloy coatings
1.53	BS EN ISO 1461:1999	3a	GS:1461-1	2. BS EN ISO 1461:1999 Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods	2. BS EN ISO 1461:2009 Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods
Not listed	No reference.	1	GS:1194-1	BS 1194 [Not listed][BS 1194:1969,Specification for concrete porous pipes for under-drainage]	[Historical reference to be retained.]
7.04	BS 5930:1981	4a	GS:5930-2	7.18: An Undisturbed Soil Sample is a sample complying with Class 1 or Class 2 of BS 5930.	7.18: An Undisturbed Soil Sample is a sample complying with Class 1 or Class 2 of BS EN 1997-2.
7.24	BS 1377:1990	4b	GS:1377-2	7.68: (1) The apparatus and procedure for standard penetration tests shall comply with BS 1377:1990 (Part 9, Test 3.3), amended by this Clause as necessary. The drive hammer shall be a type incorporating an automatic trip mechanism to ensure free fall. The steel anvil of the drive assembly shall have a diameter of 145 ± 5 mm. The guide rod arrangement that permits the hammer to drop with minimal resistance shall have an outer diameter of at least 3 mm smaller than the diameter of the central hole of the hammer.	7.68: (1) The apparatus and procedure for standard penetration tests shall comply with BS 22476-3 and the recommendations in 'Geoguide 2' (as amended), amended by this Clause as necessary. The steel anvil of the drive assembly shall have a diameter of 145 ± 5 mm. The guide rod arrangement that permits the hammer to drop with minimal resistance shall have an outer diameter of at least 3 mm smaller than the diameter of the central hole of the hammer.
7.26	BS 1377:1990	3a	GS:1377-3	7.70: (1) Vane shear tests shall be carried out as specified in BS 1377:1990 (Part 9, Test No. 4.4), amended by this Clause.	7.70: (1) Vane shear tests shall be carried out as specified in BS 1377- 9 (Test No. 4.4), amended by this Clause.
7.33	BS EN 197-1:2000 BS 1200:1976	1 3a	GS:197-2 GS:1200-2	 7.84: (1) Cement mortar for in-filling joints in rock faces, for bedding rock for masonry infilling and for surfacing slopes shall consist of Portland Cement (PC) and sand in the proportions 1:3 by volume. (2) PC shall comply with BS EN 197-1. (3) Sand shall be natural sand or crushed natural stone complying with BS 1200. 	 7.84: (1) Cement mortar for in-filling joints in rock faces, for bedding rock for masonry infilling and for surfacing slopes shall consist of Portland Cement (PC) and sand in the proportions 1:3 by volume. (2) PC shall comply with BS EN 197-1. (3) Sand shall be natural sand or crushed natural stone complying with BS 1199 and 1200.

Table P4 - Recommended Revisions to Existing Clauses referring to British Standards

Page no.	BS Referenced in Technical Guidance Document	Scope of Updating	ID No.	Existing Content of Technical Guidance Document	Recommended Content for Updated Technical Guidance Document
7.33	BS EN 197-1:2000 BS 1200:1976 BS 410:1986	1 3a 4b	GS:197-3 GS:1200-3 GS:410-2	 7.86: (1) Soil-cement shall consist of PC, sand and inorganic soil in the proportions 1:3:12 by mass unless otherwise stated. The mix proportion of soil-cement is 1:3:40 by mass when it is applied to the top layer (maximum 300 mm thick) or other areas as directed or agreed by the Engineer. (2) PC shall comply with BS EN 197-1. (3) Sand shall comply with BS 1200. (4) Inorganic soil shall be free of organic matter and shall contain not more than 30% of soil particles passing a 63 μm BS test sieve. 	 7.86: (1) Soil-cement shall consist of PC, sand and inorganic soil in the proportions 1:3:12 by mass unless otherwise stated. The mix proportion of soil-cement is 1:3:40 by mass when it is applied to the top layer (maximum 300 mm thick) or other areas as directed or agreed by the Engineer. (2) PC shall comply with BS EN 197-1. (3) Sand shall comply with BS 1199 and 1200. (4) Inorganic soil shall be free of organic matter and shall contain not more than 30% of soil particles passing a 63 μm BS test sieve (BS 410-1, ISO 3110-1).
7.33	BS 4483:1998	1	GS:4483-2	7.88: Unless otherwise approved by the Engineer fabric reinforcement including A393 and A252 for sprayed concrete shall comply with to BS 4483 except that the 50 mm x 50 mm x 2.7 mm (wire diameter) hot-dip galvanized steel welded mesh shall have tensile strength not less than 275N/mm ² .	[No change]
7.33	BS 4102:1990 BS 1052:1999 BS EN 10244- 2:2001 BS EN 10223- 2:1998	3a 3a 3a 3a	GS:4102-2 GS:1052-2 GS:10244-2 GS:10223-2	7.89: (1) Protective mesh for slopes shall be PVC coated galvanized steel wire woven into a double twist hexagonal mesh. Each hexagon shall be 80 mm x 60 mm. The steel wire shall be at least 2.2 mm diameter and the PVC coating shall be at least 0.4 mm thick. PVC coating on steel wire shall comply with BS 4102:1990 or equivalent. The colour of PVC coating is to be approved by the Engineer. Wire for protective mesh shall comply with BS 1052: (1999). Galvanized coating on wires shall comply with BS EN 10244-2:2001. The tolerance on the opening of mesh shall comply with BS EN 10223-2:1998.	7.89: (1) Protective mesh for slopes shall be PVC coated galvanized steel wire woven into a double twist hexagonal mesh. Each hexagon shall be 80 mm x 60 mm. The steel wire shall be at least 2.2 mm diameter and the PVC coating shall be at least 0.4 mm thick. PVC coating on steel wire shall comply with BS 4102 or equivalent. The colour of PVC coating is to be approved by the Engineer. Wire for protective mesh shall comply with BS 1052. Galvanized coating on wires shall comply with BS EN 10244-2. The tolerance on the opening of mesh shall comply with BS EN 10223-2.
7.33	BS EN ISO 1461:1999	3a	GS:1461-2	7.89: (5) Hooks, fixing pins, steel plates and washers for fixing the protective mesh to slope face shall be as shown on the Drawings and shall be galvanized to BS EN ISO 1461:1999.	7.89: (5) Hooks, fixing pins, steel plates and washers for fixing the protective mesh to slope face shall be as shown on the Drawings and shall be galvanized to BS EN ISO 1461.
7.34	BS EN ISO 1461:1999	3a	GS:1461-3	7.89: (6) Galvanizing shall comply with BS EN ISO 1461:1999.	7.89: (6) Galvanizing shall comply with BS EN ISO 1461.
7.34	BS EN ISO 1461:1999	3a	GS:1461-4	7.90: (1) Rock bolts shall be a proprietary type approved by the Engineer. Rock bolts shall comply with CS 2 and shall be mild steel or high yield deformed steel as stated in the Contract. Rock bolts shall be galvanized to BS EN ISO 1461:1999. Rock bolts shall have non-corrodible centralizers capable of ensuring an even annulus of grout as approved by the Engineer.	7.90: (1) Rock bolts shall be a proprietary type approved by the Engineer. Rock bolts shall comply with CS 2 and shall be mild steel or high yield deformed steel as stated in the Contract. Rock bolts shall be galvanized to BS EN ISO 1461. Rock bolts shall have non-corrodible centralizers capable of ensuring an even annulus of grout as approved by the Engineer.
7.34	BS 4190:2001 BS 4360:1986 BS EN ISO 1461:1999	3a 5 3a	GS:4190-2 GS:4360-2 GS:1461-5	7.90: (3) Nuts for rock bolts shall be of grade 4 steel and comply with BS 4190:2001. Connectors shall comply with Section 15 of this GS. Bearing plates shall be of grade 43A steel plate and comply with BS 4360. Holes in steel plates for rock bolt heads shall be drilled perpendicular to the face of the steel plate and the centre of the hole shall be at a position of within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plate shall not be more than 2 mm. All nuts, connectors and bearing plates shall be galvanized to BS EN ISO 1461:1999. Rock bolts shall have non-corrodible centralizers capable of ensuring an even annulus of grout as approved by the Engineer. Grease shall comply with Table 1 of Geospec 1.	7.90: (3) Nuts for rock bolts shall be of grade 4 steel and comply with BS 4190. Connectors shall comply with Section 15 of this GS. Bearing plates shall be of grade S275JR steel plate and comply with BS EN 10025. Holes in steel plates for rock bolt heads shall be drilled perpendicular to the face of the steel plate and the centre of the hole shall be at a position of within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plate shall not be more than 2 mm. All nuts, connectors and bearing plates shall be galvanized to BS EN ISO 1461. Rock bolts shall have non-corrodible centralizers capable of ensuring an even annulus of grout as approved by the Engineer. Grease shall comply with Table 1 of Geospec 1.
7.34	BS EN ISO 1461:1999	3a	GS:1461-6	7.92: Rock dowels shall comply with CS 2 and shall be galvanized to BS EN ISO 1461:1999. Rock dowels shall have non-corrodible centralizers capable of ensuring an even annulus of grout around the steel bar as approved by the Engineer.	7.92: Rock dowels shall comply with CS 2 and shall be galvanized to BS EN ISO 1461. Rock dowels shall have non-corrodible centralizers capable of ensuring an even annulus of grout around the steel bar as approved by the Engineer.

Table P4 - Recommended Revisions to Existing Clauses referring to British Standards

S Referenced in echnical uidance ocument	Scope of Updating	ID No.	Existing Content of Technical Guidance Document	Recommended Content for Updated Technical Guidance Document
S 4190:2001 S 4360:1986 S 4019:1974 S EN ISO 461:1999	3a 5 3a 3a	GS:4190-3 GS:4360-3 GS:4019-2 GS:1461-7	7.94: (1) Soil nail bars shall be of high yield deformed bars and comply with CS2. Nuts shall be of Grade 4 steel and comply with BS 4190:2001. Connectors shall comply with Section 15. Bearing plates shall be of Grade 43A steel plate and comply with BS 4360:1986. Permanent casings shall comply with BS4019:1974. Holes in steel plates for soil nail heads shall be drilled perpendicularly to the face of the steel plate and the centre of the hole shall be at a position of within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plate shall not be more than 2 mm. All steel components for soil nails shall be galvanized to BS EN ISO 1461:1999.	7.94: (1) Soil nail bars shall be of high yield deformed bars and comply with CS2. Nuts shall be of Grade 4 steel and comply with BS 4190. Connectors shall comply with Section 15. Bearing plates shall be of Grade S275JR steel plate and comply with BS EN 10025. Permanent casings shall comply with BS4019-3, ISO 3551-1 or BS 4019-4, ISO 3551-2. Holes in steel plates for soil nail heads shall be drilled perpendicularly to the face of the steel plate and the centre of the hole shall be at a position of within 2 mm from the centroid of the plate. The clearance between the steel bar and the hole of the steel plate shall not be more than 2 mm. All steel components for soil nails shall be galvanized to BS EN ISO 1461.
S EN 10244- :2001	3a	GS:10244-3	7.99: Wire mesh for erosion control shall comply with Clause 7.89(1). Unless otherwise specified in the Drawings, the wire mesh shall be fixed onto the slope surface by means of anchor bolts and/or fixing pins. The fixing pins, steel plates and washers for fixing the wire mesh to slope face shall comply with Clause 7.89. Galvanized coating on wires shall comply with BS EN 10244-2:2001. The anchor bolts, nuts and washers for fixing the wire mesh to soil nail heads shall be stainless steel complying with Section 5. Details of the anchor bolts and fixing pins shall be submitted to the Engineer for approval. Anchor bolts and accessories shall have the following properties:	7.99: Wire mesh for erosion control shall comply with Clause 7.89(1). Unless otherwise specified in the Drawings, the wire mesh shall be fixed onto the slope surface by means of anchor bolts and/or fixing pins. The fixing pins, steel plates and washers for fixing the wire mesh to slope face shall comply with Clause 7.89. Galvanized coating on wires shall comply with BS EN 10244-2. The anchor bolts, nuts and washers for fixing the wire mesh to soil nail heads shall be stainless steel complying with Section 5. Details of the anchor bolts and fixing pins shall be submitted to the Engineer for approval. Anchor bolts and accessories shall have the following properties:
S 1924:1990	4b	GS:1924-2	7.142: The maximum dry density and optimum moisture content of soil-cement fill shall be as stated in Section 6 except that the method of testing shall be the Vibrating Hammer Test Method in accordance with BS 1924.	7.142: The maximum dry density and optimum moisture content of soil-cement fill shall be as stated in Section 6 except that the method of testing shall be the Vibrating Hammer Test Method in accordance with the test method given in BS1377-4:1990.
S 6089:1981 S 6089:1981	4b 4b	GS:6089-2 GS:6089-3	7.146: The results of tests for compressive strength of concrete cores shall be interpreted in accordance with BS 6089. Adjustments to the measured strength in respect of the age of the core when tested shall not be made unless permitted by the Engineer. The minimum compressive strength of concrete cores, converted to the estimated in-situ cube strength in accordance with BS 6089, shall be the specified grade strength at 28 days.	7.146: The results of tests for compressive strength of concrete cores shall be interpreted in accordance with BS 6089 and BS EN 13791. Adjustments to the measured strength in respect of the age of the core when tested shall not be made unless permitted by the Engineer. The minimum compressive strength of concrete cores, converted to the estimated in-situ cube strength in accordance with BS 6089 and BS EN 13791, shall be the specified grade strength at 28 days.
S 1200:1976 S 410:1986 S 410:1986	3a 4b 4b	GS:1200-4 GS:410-3 GS:410-4	7.160: (2) Sand for grout shall be clean dry sand complying with BS 1200 and shall have a particle size distribution such that 100% passes a 2 mm BS test sieve and not more than 30% passes a 0.2 mm BS test sieve.	7.160: (2) Sand for grout shall be clean dry sand complying with BS 1199 and 1200 and shall have a particle size distribution such that 100% passes a 2 mm BS test sieve (BS 410-1, ISO 3310-1) and not more than 30% passes a 0.2 mm BS test sieve (BS 410-1, ISO 3310-1).
S 1387:1990	4a	GS:1387-2	7.161: Unless otherwise approved by the Engineer standpipes for grouting shall be standard black metal pipe complying with BS 1387. With the permission of the Engineer, non-metallic grout pipe may be used for grouting rock dowels, rock bolts and soil nails. Where metal standpipes are used for grouting rock dowels, rock bolts and soil nails, they shall be extracted from drillholes as grouting proceeds.	7.161: Unless otherwise approved by the Engineer standpipes for grouting shall be standard black metal pipe complying with BS EN 10255. With the permission of the Engineer, non-metallic grout pipe may be used for grouting rock dowels, rock bolts and soil nails. Where metal standpipes are used for grouting rock dowels, rock bolts and soil nails, they shall be extracted from drillholes as grouting proceeds.
S 5930:1981	4a	GS:5930-3	7.183: (4) Packer tests shall be carried out in accordance with BS 5930, Chapter 21.5 and Clause 7.183(5) to (8)	7.183: (4) Packer tests shall be carried out in accordance with BS EN ISO 22282-3 and Clause 7.183(5) to (8)
S 5911 S 65:1991 S 4772:1988 S 534:1990 To reference S 5911 S 2760:1973 S 4660:2000	4b 1 4a 4b 1 4b 5	GS:5911-2 GS:65-2 GS:4772-2 GS:534-2 GS:1194-1 GS:5911-3 No replacement GS:4660-2	7.197: (1) Filter pipes shall comply with the following: Precast concrete pipes: Vitrified clay pipes: BS 65 DI pipes: Steel pipes: BS 534 Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 5911 Pitch fibre pipes: BS 2760	7.197: (1) Filter pipes shall comply with the following: Precast concrete pipes: Vitrified clay pipes: BS 5911-1 and BS EN 1916 Vitrified clay pipes: BS EN 598 Steel pipes: BS EN 10311 and BS EN 10224 Porous concrete pipes: BS 1194 Perforated concrete pipes: BS 5911 and BS EN 1916 BS 5911 and BS EN 1916 BS 4660 or BS 3506 Corrugated polyethylene tubing: AASHTO Designation M252
S 65:199 S 4772:1 S 534:19 To referent S 5911 S 2760:1	1988 1990 nice 1973 2000	1 1 4a 4a 4b 1973 5 2000 1 1	1 GS:65-2 4a GS:4772-2 4b GS:534-2 1 GS:1194-1 4b GS:5911-3 No replacement 2000 1 GS:4660-2	1

Table P4 - Recommended Revisions to Existing Clauses referring to British Standards

Page	BS Referenced in	Scope of	ID No.	Existing Content of	Recommended Content for
no.	Technical	Updating		Technical Guidance Document	Updated Technical Guidance Document
	Guidance	(1)			
	Document				
7.67	BS 410:1986	4b	GS:410-5	7.200: (2) Fill material passing a 425µm BS test sieve shall be non-plastic.	7.200: (2) Fill material passing a 425µm BS test sieve (BS 410-1, ISO 3310-1) shall
					be non-plastic.
7.67	BS 410:1986	4b	GS:410-6	In Table 7.2: Percentage by mass passing BS test sieve	In Table 7.2: Percentage by mass passing BS test sieve (BS 410-1, ISO 3310-1)
7.78	BS 812-102:1989	4a	GS:812-2	7.242: (3) The size of each sample taken as stated in Clause 7.242(1) shall be 10 kg.	7.242: (3) The size of each sample taken as stated in Clause 7.242(1) shall be 10 kg.
				The method of sampling shall be in accordance with BS 812: Part 102.	The method of sampling shall be in accordance with Construction Standard 3.
7.79	BS 410:1986	4b	GS:410-7	7.247: (1) Each sample of fill material for trench drains shall be tested to determine	7.247: (1) Each sample of fill material for trench drains shall be tested to determine
				the particle size distribution. Fill material passing a 425 µm BS test sieve shall also	the particle size distribution. Fill material passing a 425 µm BS test sieve (BS 410-1,
				be tested to determine the plasticity index.	ISO 3310-1) shall also be tested to determine the plasticity index.
7.87	BS 5252F:1976	3a	GS:5252F-2	7.269: Details of paint products (e.g. specification and colour samples etc.) and	7.269: Details of paint products (e.g. specification and colour samples etc.) and
	(2004)			method statement shall be submitted for the Engineer's approval prior to painting.	method statement shall be submitted for the Engineer's approval prior to painting.
				The colour of paint shall be "Antique" to BS 5252F:2004 colour code 10B25 or	The colour of paint shall be "Antique" to BS 5252F colour code 10B25 or other
				other colour as directed by the Engineer.	colour as directed by the Engineer.