Supplementary Information

The following information is associated with Network Rail Standard:
NR CIV/SD/240 Rev A

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TABLE 1: GUIDANCE ON TIMING OF ECOLOGICAL SURVEYS AND MITIGATION

		NOTES	MONTH											
			J	F	M	A	M	J	J	A	S	O	N	D
HABITATS/ VEGETATION	SURVEYS	N	Mosses & lichens no other detailed plant surveys – Phase 1 surveys only (least suitable time)			Detailed habitat assessment surveys, surveys for higher plants & ferns						Mosses & lichens no other detailed plant surveys – Phase 1 surveys only (least suitable time)		
	MITIGATION	N	Planting and translocation		No mitigation for majority of species							Planting and translocation		
BIRDS	SURVEYS	1/N	Winter birds		Breeding birds / Migrant species			Breeding birds		Breeding birds / Migrant species			Winter birds	
	MITIGATION	1/N	Clearance works may be conducted at this time but must stop immediately if any nesting birds are found		No clearance or construction works that may affect nesting					Clearance works may be conducted at this time but must stop immediately if any nesting birds are found				
BADGERS	SURVEYS	2	All survey methods – best time in early autumn/winter											
	MITIGATION	3	Building of artificial setts No disturbance of existing setts							Stopping up or destruction of exsiting setts				See Jan to June
BATS	SURVEYS	2	Inspection of hibernation, tree and building roosts			Roost inspections Emergence and Activity surveys							Works on maternity roosts	
	MITIGATION	3	Works on maternity roosts		Works on maternity roosts until mid–May. Works on hibernation roosts from mid–March			Works on hibernation roosts only			Hibernation roosts until November. Maternity roosts from mid–September		Works on maternity roosts	
DORMICE	SURVEYS	2	Nut searches (sub–optimum time)				Cage traps, hair tube and nest box surveys to mid–October. Nut searches from September (optimum time from Sept–Dec). Nest searches (optimum time Sept–March)						Nut searches and nest searches (optimum time)	
	MITIGATION	3	No clearance works				Clearance works (sub–optimum)	No clearance works			Clearance works to early Oct (optimum time)		No clearance works	
WATER VOLES	SURVEYS	2	Reduced activity	Initial surveys possible	All surveys methods can be used in this period, though vegetation cover and weather conditions may limit timesat which survey can be carried out. (Optimum time Mar–Jun)								Initial surveys possible	Reduced activity
	MITIGATION	3, 4	Avoid all works in water vole habitat			Refer to notes	Avoid all works in water vole habitat			Refer to notes		Avoid all works in water vole habitat		
GREAT CRESTED NEWTS	SURVEYS	2	No survey – Newts in hibernation		Pond survey for adults: mid–March to mid_June. Surveys must include visits undertaken between mid–April and mid–May. Egg surveys April to mid–June Larvae surveys from mid–May Terrestrial habitat surveys.				Larvae surveys to mid–August Terrestrial habitat surveys.		Terrestrial habitat surveys.		No survey – Newts in hibernation	
	MITIGATION	3	No trapping of newts Pond management only		Newt trapping programmes in ponds and on land				Newt trapping on land only				No trapping of newts Pond management only	
OTTERS	SURVEYS	2	Survey for otters can potentially be conducted all year round, though vegetation cover and weather conditions may limit the times at which surveys can be carried out.											
	MITIGATION	3	Mitigation can potentially be conducted in any month, but is likely to be restricted where otters are found to be breeding											
WHITE–CLAWED CRAYFISH	SURVEYS	2	Reduced activity			Surveys can be undertaken	Avoid surveys, females are releasing young		Optimum time for surveys.				Reduced activity	
	MITIGATION	5	Avoid capture programmes (low activity levels may lead to animals being easily missed)			Exclusion of crayfish from construction areas	Avoid capture programmes		Exclusion of crayfish from construction areas				Avoid capture programmes (low activity levels may lead to animals being easily missed)	
SAND LIZARDS, SMOOTH SNAKES AND COMMON LIZARDS	SURVEYS	2	No survey – reptiles in hibernation		Activity surveys from March to June and in September/October Surveys are limited by high temperatures during July & August Peak survey months are April, May & September								No survey – reptiles in hibernation	
	MITIGATION	3	Scrub clearance		Capture and translocation programmes can be conducted only while reptiles are active (March to June and September/October). Trapping is limited to high temputures during July/August. Scrub clearance								Scrub clearance	
OTHER REPTILES	SURVEYS	N	No survey – Reptiles in hibernation		Activity surveys from March to June and in September/October Surveys are limited by high temperatures during July & August Peak survey months are April, May & September								No survey – Reptiles in hibernation	
	MITIGATION	N	Scrub clearance		Capture and translocation programmes can be conducted only while reptiles are active (March to June and September/October). Trapping is limited to high temputures during July/August. Scrub clearance								Scrub clearance	

TABLE 1: KEY

- Recommended survey time
- No surveys
- Mitigation conducted at these times
- Mitigation works restricted

TABLE 1: NOTES

1. FOR BIRDS LISTED IN SCHEDULE 1 OF THE WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED) IT IS ILLEGAL TO DISTURB THEM WHEN THEY ARE NESTING.
2. WHERE SURVEY TECHNIQUES INVOLVE THE CAPTURE, HANDLING OR DISTURBANCE OF CERTAIN PROTECTED SPECIES THEN ONLY LICENSED PERSONS CAN UNDERTAKE SURVEYS; PERSONAL SURVEY AND MONITORING LICENCES ARE OBTAINED FROM ENGLISH NATURE, COUNTRYSIDE COUNCIL FOR WALES OR SCOTTISH NATURAL HERITAGE.
3. WHERE MITIGATION INVOLVES THE KILLING, CAPTURE, INJURY AND/OR DISTURBANCE OF EUROPEAN PROTECTED SPECIES AND/OR THE DESTRUCTION OF THEIR HABITATS, A DEVELOPMENT LICENCE MUST BE OBTAINED FROM ONE OF THE FOLLOWING:

   3.1. NATURAL ENGLAND
   3.2. SCOTTISH NATURAL HERITAGE
   3.3. COUNTRYSIDE COUNCIL FOR WALES

   LICENCES WILL BE GRANTED ONLY TO PERSONS WHO HAVE PROVEN COMPETENCE IN DEALING WITH THE SPECIES CONCERNED. DEVELOPMENT LICENCE APPLICATIONS TAKE APPROXIMATELY 30 DAYS TO BE PROCESSED BY GOVERNMENT DEPARTMENTS. WHERE MITIGATION WORKS NEED TO BE CONDUCTED UNDER LICENCE BEFORE WORKS BEGIN, LICENCE APPLICATIONS WILL NEED TO BE SUBMITTED CONSIDERABLY EARLIER.
4. AS OF 6TH APRIL 2008, WATER VOLES ARE FULLY COVERED BY THE PROVISIONS OF SECTION 9 OF THE WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED).
5. WHERE MIGRATION INVOLVES THE CAPTURE OF WHITE–CLAWED CRAYFISH, A CONSERVATION LICENCE MUST BE OBTAINED.

N= No LICENCE REQUIRED

NOTE: JAPANESE KNOTWEED

1. JAPANESE KNOTWEED FALLOPIA JAPONICA VAR JAPONICA IS A NON–NATIVE SPECIES OF PLANT.
2. IT IS AN OFFENCE TO PLANT OR CAUSE JAPANESE KNOTWEED TO SPREAD IN THE WILD UNDER THE WILDLIFE AND COUNTRYSIDE ACT 1981 AND ALL WASTE– CONTAINING JAPANESE KNOTWEED COMES UNDER THE CONTROL OF PART II OF THE ENVIRONMENTAL PROTECTION ACT 1990.
3. FOR ADVICE AND GUIDANCE WITH THE IDENTIFICATION AND MANAGEMENT OF JAPANESE KNOTWEED ON YOUR SITE REFER TO:

   3.1. THE ENVIRONMENT AGENCY PUBLICATION "THE KNOTWEED CODE OF PRACTICE" – MANAGING JAPANESE KNOTWEED ON DEVELOPMENT SITES. COPIES CAN BE DOWNLOADED FROM THE E.A. WEB SITE. http://www.environment–agency.gov.uk/

   3.2. THE SCOTTISH ENVIRONMENT PROTECTION AGENCY TECHNICAL GUIDANCE NOTE. "ON SITE MANAGEMENT OF JAPANESE KNOTWEED AND ASSOCIATED CONTAMINATED SOILS". http://www.sepa.org.uk/

TABLE 2: NOTES

1. THIS TABLE IDENTIFIES SIGNIFICANT HAZARDS WHICH MIGHT AFFECT THE HEALTH AND SAFETY OF THOSE UNDERTAKING THE WORKS OR THOSE AFFECTED BY THESE ACTIVITIES. THE ITEMS LISTED IN TABLE 2 ARE NOT EXHAUSTIVE AND A SITE SPECIFIC RISK ASSESSMENT SHOULD ALWAYS BE UNDERTAKEN PRIOR TO COMMENCING ANY WORKS ON SITE.
2. IT IS ASSUMED THAT A COMPETENT CONTRACTOR IS AWARE OF THE RISKS ASSOCIATED WITH GENERAL CONSTRUCTION ACTIVITIES UNDERTAKEN WITHIN THE RAILWAY ENVIRONMENT.

TABLE 2: SAFETY, HEALTH & ENVIRONMENT GENERIC RISK ASSESSMENT

SAFETY, HEALTH & ENVIRONMENT RISK ASSESSMENT

DESIGNERS' NOTE – CDM REG. 13(2)(b)

THE FOLLOWING ARE SIGNIFICANT HAZARDS WHICH MIGHT AFFECT THE HEALTH AND SAFETY OF THOSE UNDERTAKING THE WORKS OUTLINED IN THIS SET OF DRAWINGS ON RAILWAY STRUCTURES OR THOSE AFFECTED BY THESE ACTIVITIES. A SITE SPECIFIC RISK ASSESSMENT SHOULD ALWAYS BE UNDERTAKEN PRIOR TO COMMENCING ANY OF THE WORKS DESCRIBED ON SITE.

IT IS ASSUMED THAT A COMPETENT CONTRACTOR IS AWARE OF THE RISKS ASSOCIATED WITH GENERAL CONSTRUCTION ACTIVITIES UNDERTAKEN WITHIN THE RAILWAY ENVIRONMENT.

RISK	STAGE	MITIGATING MEASURES
INJURY TO PERSONNEL FROM STRIKING/ DAMAGING BURIED SERVICES	C	A SERVICE SEARCH OF UTILITY COMPANIES TO BE COMPLETED PRIOR TO COMMENCEMENT OF THE WORKS. ALL WORKS INVOLVING BREAKING OF THE GROUND TO BE CAT SCANNED. A PERMIT TO DIG IS TO BE ISSUED PRIOR TO ANY WORKS BEING UNDERTAKEN. REFERENCE SHOULD BE MADE TO NR/L2/AMG/1030 'WORKING SAFELY IN THE VICINITY OF BURIED SERVICES'.
WORKING NEAR NETWORK RAIL S&T/OLE	C	ENSURE ALL CABLES/SERVICES ARE IDENTIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK. WORK TO BE CARRIED OUT AT SAFE DISTANCE FROM OLE.
WORKING NEAR THE RUNNING LINE	C	ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH NETWORK RAIL STANDARDS/RULE BOOK USING RIMINI PLANNING.
WORKING AT HEIGHT / STEEP SLOPES	C	APPROPRIATE PPE TO BE WORN. SAFETY ACCESS ROPES, HARNESS, APPROPRIATE PPE & PROOF OF COMPETENCY TO UNDERTAKE ROPED ACCESS WORK WHERE REQUIRED.
LEPTOSPIROSIS	C/O	APPROPRIATE PPE TO BE WORN. AVOID CONTACT WITH POTENTIALLY CONTAMINATED WATER. COVER EXISTING CUTS AND ABRASIONS.
GROUTING CAUSES HEAVE AND TRACK MOVEMENT	D/C	UNDERTAKE TRACK MONITORING IN ACCORDANCE WITH NR/BS/LI/045– 'MONITORING TRACK OVER OR ADJACENT TO CIVIL ENGINEERING WORKS: PROCEDURE AND INTERVENTION LEVELS'.
EXCAVATIONS / PLANT OPERATIONS	C	ALL PERMANENT AND TEMPORARY WORKS TO BE SUBJECT TO NETWORK RAIL APPROVAL
DROWNING	C	WEAR APPROPRIATE PPE WHEN WORKING OVER OR ADJACENT TO WATER. AVOID WORKING ALONE. PERMANENT WATER HAZARD SIGNAGE TO BE PROVIDED TO NEWLY CONSTRUCTED PONDS AND WATER COURSES.
TRACK MOVEMENT DUE TO PRESENCE OF BURROWING SPECIES	D	PLANNING OF HABITAT LOCATION AND FUTURE PROOF AGAINST INFESTATION IN ADJOINING INFRASTRUCTURE
PROTECTED SPECIES ADVERSELY AFFECTED BY CONSTRUCTION WORKS	D/C	AN ENVIRONMENTAL ASSESSMENT IS TO BE UNDERTAKEN. ECOLOGICAL SURVEY AND IMPLEMENT MITIGATION MEASURES PRIOR TO WORKS COMMENCING.
CONSTRUCTION WORKS CAUSE ENVIRONMENTAL INCIDENT	D/C	ALL EARTHWORKS MATERIALS TO BE APPROVED. CONTRACTOR TO CONSIDER USE OF ALTERNATIVE MATERIALS. GROUTING WORKS TO BE UNDERTAKEN IN STRICT ACCORDANCE WITH THE WORK PACKAGE PLAN.
DISTURBANCE OF WATER HABITAT AREAS	D/C	THE SITE SHOULD BE SCREENED FROM PUBLIC RIGHTS OF WAY, PREFERABLY BY HAWTHORN HEDGING TO DISCOURAGE ACCESS AND NOT NEAR ANY ROADS, WHERE FLY TIPPING MAY OCCUR. LOCKABLE GATES MAY BE REQUIRED TO ALLOW CONTROLLED ENTRY.

NOTE : C=CONSTRUCTION, D=DESIGN, O=OPERATION

DRAWING No. NR/CIV/SD/240

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
2. EXCAVATION WITHIN THE TRACK SUPPORT ZONE SHALL NOT BE PERMITTED, EXCEPT FOLLOWING SCHEME SPECIFIC APPROVAL AND TEMPORARY WORKS CONSIDERATION.
3. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH CURRENT LEGISLATION AND BEST PRACTICE, INCLUDING REFERENCE TO THE FOLLOWING DOCUMENTS : –

   CIRIA C567, 2005 – WORKING WITH WILDLIFE SITE GUIDE

   CIRIA C645, 2006 – A GUIDE TO RABBIT MANAGEMENT.

   ENGLISH NATURE, 2001 – GREAT CRESTED NEWT MITIGATION GUIDELINES.

   NATURAL ENGLAND, NOV 2007 – RABBITS: USE OF FENCING TO PREVENT AGRICULTURAL DAMAGE, TECHNICAL INFORMATION NOTE TIN023.

   NATURAL ENGLAND, SEP 2007 – PROBLEMS WITH BADGERS IN RURAL AREAS, TECHNICAL INFORMATION NOTE TIN005.

   NATURAL ENGLAND, NOV 2007 – BADGER GATES IN RABBIT–PROOF FENCING, TECHNICAL INFORMATION NOTE TIN026.

   NATURAL ENGLAND, NOV 2007 – USING ONE–WAY GATES ON BADGER SETT ENTRANCES, TECHNICAL INFORMATION NOTE TIN025.

   NATURAL ENGLAND, APR 2008 – WATER VOLES AND DEVELOPMENT: LICENSING POLICY. TECHNICAL INFORMATION NOTE TIN042.

   DEFRA– DEVELOPING A METHOD FOR BLOCKING RABBIT BURROWS CSG.15
4. EARTHWORK MATERIAL SHALL COMPLY WITH THE REQUIREMENTS OF THE SPECIFICATION FOR HIGHWAY WORKS (SHW) NOV 2009 EDITION INCLUDING SUBSEQUENT AMENDMENTS.
5. WHERE MESHING OR NETTING ENCROACHES WITHIN 2M OF OLE STRUCTURES, LOC CABINETS OR OTHER METALLIC PARTS OF THE INFRASTRUCTURE THAT COULD BECOME LIVE, THEN CONSIDERATION SHALL BE GIVEN TO THE PROVISION OF BONDING MEASURES.
6. ALL WORKS SHALL COMPLY WITH THE GENERAL REQUIREMENTS AND RESTRICTIONS OF TABLES 1 & 2 AND THE DRAWING NOTES
7. THESE DRAWINGS ARE INTENDED TO CONTROL DETERIORATION OF THE EARTHWORK AND DO NOT ADDRESS ANY SITE SPECIFIC DEFECTS RELATED TO EARTHWORK OR STRUCTURAL INSTABILITY. THESE SHALL BE ASSESSED SEPARATELY FOR EACH SITE PRIOR TO IMPLEMENTATION AND TO ENSURE THE WORKS DO NOT HAVE A DETRIMENTAL IMPACT ON STABILITY.
8. ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE NETWORK RAIL STANDARDS AND SPECIFICATIONS EXCEPT WHERE STATED OTHERWISE IN THE SCHEME SPECIFIC DRAWINGS AND SPECIFICATIONS.
9. REFERENCE SHOULD BE MADE TO THE SCHEME SPECIFIC DRAWINGS AND SPECIFICATIONS FOR TRACK POSSESSION REQUIREMENTS.

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STANDARD ECOLOGICAL DETAIL

GENERAL INFORMATION

Scale	AS SHOWN	
Drawing Number	NR/CIV/SD/240	REV. A

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