



## Environmental Scoping Assessment

	Name	Position	Date
Prepared by	CONFIDENTIAL	Assistant Environmentalist	18.11.15
Checked by	CONFIDENTIAL	Environmentalist	30.06.16
Received by	CONFIDENTIAL	Project Manager	01.09.16

<b>Project No:</b>	<b>A22</b>	<b>Scheme Title:</b>	<b>Ecclesall</b>
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### Project description

#### Introduction:

As part of the Sheffield Streets Ahead (SSA) contract Amey has been tasked with highways works to renew and improve assets within the A22 Ecclesall zone. Works within the zone are proposed to include the following:

- Street lighting repairs, maintenance and the installation of new equipment
- Drainage repairs and maintenance
- Repairs to kerbs, edgings and channels
- Footway and carriageway repairs and maintenance (including re-surfacing works)
- De-vegetation (including tree removals)

#### Project Location:

The A22 Ecclesall zone is located adjacent west of Sheffield City Centre at National Grid Reference (NGR): 434046,385683. The zone encompasses the areas of Sharrow, Nether Edge, Heeley and Ringinglow. Sharrow, Nether Edge and Heeley are mainly residential suburbs hosting a few commercial properties. Ringinglow is much more rural in nature, with the western extents running into the Peak District National Park. Please see figures 1 and 2 for the location of the A22 Ecclesall zone.



Figure 1. Location of the A22 Ecclesall zone.

Zone boundary : 

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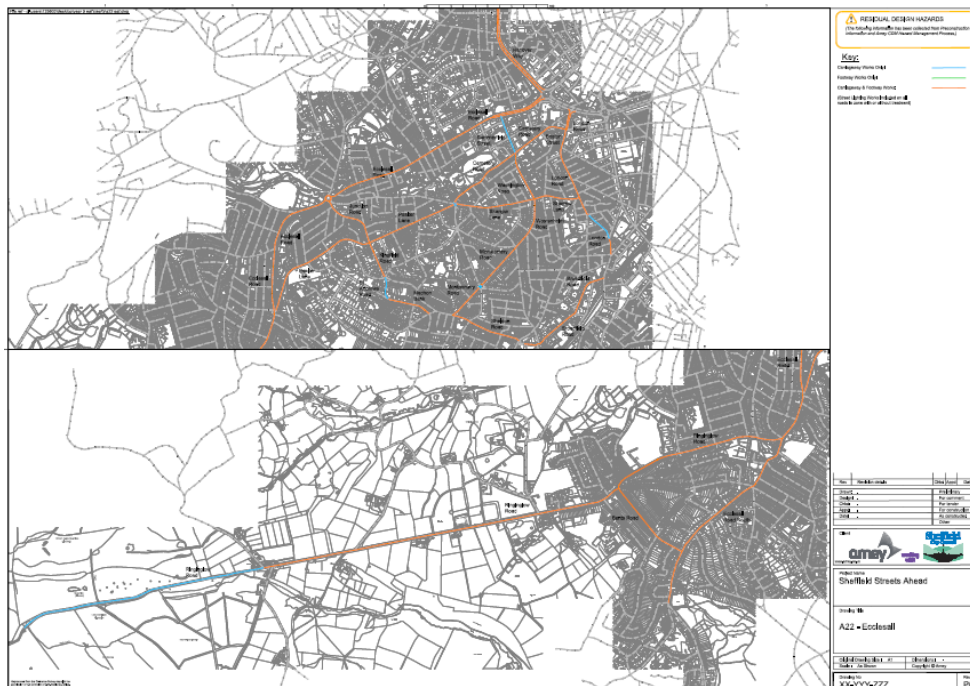


Figure 2. Roads involved in works within the A22 zone.

(please see Appendix A for a full scale copy).

<p><b>Project Programme:</b> Works within the A22 Ecclesall zone are proposed to commence on 06.03.17 for duration of 13 weeks. It is currently unknown whether works will be required to commence during night time hours.</p>		
<p><b>Traffic Management:</b> Traffic management for the A22 Ecclesall zone is not currently planned. However, it is anticipated that road/lane closures and/or traffic management will be required on some roads.</p>		
<b>This project requires Screening Opinion (EIA Regulations)</b>	YES	NO
<b>This project requires a Record of Determination (Applicable to HA work only)</b>	YES	NO
<b>This project requires environmental permissions, licenses or consents? (ENVT-EnvtAssess-PL-02))</b>	YES	NO
<ul style="list-style-type: none"> <li>• <i>Sheffield City Council (SCC) Environmental Protection Service (eps.admin@sheffield.gov.uk) should be contacted regarding works taking place within the local AQMA. SCC Environmental Health Officer (airquality@sheffield.gov.uk) should be copied (cc'd) into all correspondence to ensure they are kept informed of the works and this consultation. However, works within the A22 zone are not thought to be detrimental to the objectives of the AQMA. <b>This consultation will not be undertaken by the environmental team, but is the responsibility of the project manager.</b></i></li> <li>• <i>SCC Conservation Officer and Planning Department should be consulted regarding the materials and scope/method of works within the Nether Edge Conservation Area. Consent must be obtained prior to works commencing. <b>Please note this consultation and consent will not be undertaken and obtained by the environmental team, but is the responsibility of the project manager.</b></i></li> <li>• <i>An ecological site visit will be undertaken prior to works commencing, ensuring all ecological issues have been identified and mitigated for appropriately. Works CANNOT commence until the environmental team confirm it is safe to do so.</i></li> <li>• <i>Natural England must be contacted regarding the South Pennine Moors SAC, the Peak District Moors (South Pennine Moors Phase 1) SPA and the Eastern Peak District Moors SSSI located within and adjacent to the works. A No Significant Effects Report (NSER) will be completed regarding the SAC and SPA and submitted to Natural England for review. All required consent must be in place prior to works commencing. This consultation (and the NSER) will be conducted by the environmental team and all responses and consents will be forwarded onto the lead designer to include them in the scheme PCI pack.</i></li> <li>• <i>The Peak District National Park Authority (PDNPA) should be contacted and made aware of works occurring within the National Park Boundary. As works are being undertaken by Amey on behalf of Sheffield City Council (SCC) (who are permitted under Schedule 2, Part 12 and 13 of the Town and Countryside Planning (general Permitted Development) Order 1995) no planning permissions or notifications for works of this type are required. The PDNPA will be informed of the works by the environmental team as a courtesy consultation.</i></li> <li>• <i>SCC should be contacted and working hours agreed. Any permits required with regard to noise must be obtained prior to works commencing. Please note, this consultation and any necessary consent will not be carried out / obtained by the environmental team, but is the responsibility of the project manager.</i></li> <li>• <i>During the environmental site visit, acknowledgment of potential nocturnal species "hot spots" will be recorded and suggestions will be made to reduce the brightness of street lighting in these areas.</i></li> </ul>		
<p><b>What statutory procedures are involved?</b></p>		
<p>A Site Waste Management Plan (SWMP) is required as these works are predicted to cost in excess of £300,000. Although no longer required by legislation, it is deemed best practice to produce a SWMP.</p> <p>An Environmental Plan is required as works within the A22 Ecclesall zone are expected to cost in excess of £500,000.</p>		

IDENTIFICATION OF POTENTIAL ENVIRONMENTAL EFFECTS		
AIR QUALITY		
<b>Assessment methodology:</b>	An assessment of air quality was undertaken using data from the Department for Environment, Food and Rural Affairs (DEFRA) regarding the Sheffield Air Quality Management Area (AQMA). It was assessed how any decrease in air quality may impact on sensitive receptors located within 200m of A22 Ecclesall zone. Mitigation measures have been formulated to reduce any such negative effects.	
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>The A22 Ecclesall zone is located within the Sheffield Citywide Air Quality Management Area (AQMA). The AQMA covers the city, hosting the major built up areas (which are now declared for annual 1- hour nitrogen dioxide objectives and the 24-hour PM10 subjective).</li> <li>The following air quality sensitive receptors are located within 200m of the A22 Ecclesall zone:               <ul style="list-style-type: none"> <li>- Residencies</li> <li>- 16 educational buildings</li> <li>- 5 medical buildings</li> <li>- 11 care homes</li> <li>-</li> </ul> </li> </ul> <p><i>Please note, the exact location of these sensitive receptors in relation to roads undergoing works will be detailed within the A22 Environmental Site Notes document.</i></p>	
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>Street lighting repairs, maintenance and the installation of new equipment</li> <li>Drainage repairs and maintenance</li> <li>Repairs to kerbs, edgings and channels</li> <li>Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>De-vegetation (including tree removals)</li> </ul>	
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>Dust may be experienced during the works period as a result of construction activities. However, this is considered to be of little local significance due to the relatively minor nature of works and low levels of dust associated with these works.</li> <li>Subtle odours and fumes may be experienced as a result of construction activities such as re-surfacing works. The effect of this is of a temporary nature and not anticipated to be significant.</li> </ul>	
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>Works within the A22 Ecclesall zone are not considered to be detrimental to the objectives of the AQMA due to the proposed works not being anticipated to permanently decrease air quality.</li> <li>Providing all mitigation measures are adhered to, no permanent effects on air quality are predicted.</li> </ul>	
<b>Mitigation / control measures:</b>		
<ul style="list-style-type: none"> <li>Best practicable means of working, according to the method statement should be applied to all materials used during construction.</li> <li>Please refer to best practice guidance provided on <a href="https://www.gov.uk/browse/environment-countryside">https://www.gov.uk/browse/environment-countryside</a>.</li> <li>Works should be conducted according to an accredited Environmental Management System (ISO14001).</li> </ul>		
<b>Further action/assessment required?</b>	YES	NO
<p><i>Sheffield City Council (SCC) Environmental Protection Service (eps.admin@sheffield.gov.uk) should be contacted regarding works taking place within the local AQMA. SCC Environmental Health Officer (airquality@sheffield.gov.uk) should be copied (cc'd) into all correspondence to ensure they are kept informed of the works and this consultation.</i></p>		

However, works within the A22 zone are not thought to be detrimental to the objectives of the AQMA. This consultation will not be undertaken by the environmental team, but is the responsibility of the project manager.

## ARCHAEOLOGY AND CULTURAL HERITAGE

<b>Assessment methodology:</b>	An assessment of archaeology and cultural heritage was undertaken using data from the Multi Agency Geographic Information for the Countryside (MAGIC) and English Heritage. This data was then assessed in relation to the proposed works, determining how construction may impact on surrounding archaeological and cultural heritage features.																																																																									
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>MAGIC identified the following listed buildings/structures located within 300m of the A22 Ecclesall zone (<i>please note that those highlighted in <b>bold</b> are located directly adjacent to a road involved in the A22 works</i>):</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Name of listed building/structure</th> <th style="text-align: center;">Grade</th> <th style="text-align: center;">Distance from the nearest road involved in the works (approx.)</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">Synagogue</td><td style="text-align: center;">II</td><td style="text-align: center;">82m north of Ecclesall Road</td></tr> <tr><td style="text-align: center;">Bow Works</td><td style="text-align: center;">II</td><td style="text-align: center;">116m south east of Ecclesall Road</td></tr> <tr><td style="text-align: center;">Stag Works</td><td style="text-align: center;">II</td><td style="text-align: center;">224m east of London Road</td></tr> <tr><td style="text-align: center;">Bath Hotel</td><td style="text-align: center;">II</td><td style="text-align: center;">216m north east of Hanover Street</td></tr> <tr><td style="text-align: center;">The Towers</td><td style="text-align: center;">II</td><td style="text-align: center;">181m south of Psalter Lane</td></tr> <tr><td style="text-align: center;"><b>Vestry Hall</b></td><td style="text-align: center;"><b>II</b></td><td style="text-align: center;"><b>Located on Boston Street</b></td></tr> <tr><td style="text-align: center;">Sharrow Mills</td><td style="text-align: center;">II</td><td style="text-align: center;">170m south of Ecclesall Road</td></tr> <tr><td style="text-align: center;">Collegiate Hall</td><td style="text-align: center;">II</td><td style="text-align: center;">50m north west of Ecclesall Road</td></tr> <tr><td style="text-align: center;">94 Gell Street</td><td style="text-align: center;">II</td><td style="text-align: center;">177m north east of Hanover Street</td></tr> <tr><td style="text-align: center;">1 Rundle Road</td><td style="text-align: center;">II</td><td style="text-align: center;">211m south east of Psalter Lane</td></tr> <tr><td style="text-align: center;">Beehive Works</td><td style="text-align: center;">II</td><td style="text-align: center;">108m east of Hanover Street</td></tr> <tr><td style="text-align: center;">Portland Works</td><td style="text-align: center;">II</td><td style="text-align: center;">199m east of London Road</td></tr> <tr><td style="text-align: center;">Lantern Theatre</td><td style="text-align: center;">II</td><td style="text-align: center;">146m north east of Montgomery Road</td></tr> <tr><td style="text-align: center;">5 Conway Street</td><td style="text-align: center;">II</td><td style="text-align: center;">125m north east of Hanover Street</td></tr> <tr><td style="text-align: center;">Church of St Silas</td><td style="text-align: center;">II</td><td style="text-align: center;">61m south west of Hanover Street</td></tr> <tr><td style="text-align: center;">2 Broomhall Road</td><td style="text-align: center;">II</td><td style="text-align: center;">287m west of Hanover Street</td></tr> <tr><td style="text-align: center;">Kenilworth Works</td><td style="text-align: center;">II</td><td style="text-align: center;">107m south of Boston Street</td></tr> <tr><td style="text-align: center;"><b>1 Sharrow Lane</b></td><td style="text-align: center;"><b>II</b></td><td style="text-align: center;"><b>Located on Sharrow Lane</b></td></tr> <tr><td style="text-align: center;"><b>Banner Cross Hall</b></td><td style="text-align: center;"><b>II</b></td><td style="text-align: center;"><b>Located on Ecclesall Road South</b></td></tr> <tr><td style="text-align: center;">High Storrs School</td><td style="text-align: center;">II</td><td style="text-align: center;">119m north of Ringinglow Road</td></tr> <tr><td style="text-align: center;">Church Of All Saints</td><td style="text-align: center;">II</td><td style="text-align: center;">21m south of Ringinglow Road</td></tr> <tr><td style="text-align: center;">Agnes Verel House</td><td style="text-align: center;">II</td><td style="text-align: center;">200m north west of Hanover Street</td></tr> <tr><td style="text-align: center;">Horn Handle Works</td><td style="text-align: center;">II</td><td style="text-align: center;">82m west of London Road</td></tr> </tbody> </table>		Name of listed building/structure	Grade	Distance from the nearest road involved in the works (approx.)	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Church of St Andrew	II	151m north west of Hanover Street
Church of St Andrew	II	246m south of Psalter Lane
St Barnabas House	II	49m east of London Road
22 Wilkinson Street	II	294m north west of Hanover Street
24 Wilkinson Street	II	240m north west of Hanover Street
27 Wilkinson Street	II	186m north west of Hanover Street
32 Wilkinson Street	II	264m north west of Hanover Street
34 Wilkinson Street	II	265m north west of Hanover Street
36 Wilkinson Street	II	275m north west of Hanover Street
47 Wilkinson Street	II	238m north west of Hanover Street
Taylor's Ceylon Works	II	253m east of Hanover Street
Trustee Savings Bank	II	107m north of Boston Street
100 and 102 Gell Street	II	124m north east of Hanover Street
<b>Hunters Bar Toll Gate</b>	<b>II</b>	<b>Located on Ecclesall Road</b>
Church Of St Augustine	II	96m north east of Ecclesall Road
Abbeydale Picture House	II	70m north west of Broadfield Road
<b>Ringinglow Roundhouse</b>	<b>II</b>	<b>Located on Ringinglow Road</b>
<b>14 Ecclesall Road South</b>	<b>II</b>	<b>Located on Ecclesall Road South</b>
<b>The Albion Public House</b>	<b>II</b>	<b>Located on London Road</b>
<b>Norfolk Arms Public House</b>	<b>II</b>	<b>Located on Ringinglow Road</b>
Sewer Gas Destructor Lamp	II	142m north of Psalter Lane
28 and 30 Wilkinson Street	II	240m north west of Hanover Street
33 and 35 Wilkinson Street	II	231m north west of Hanover Street
Dam Walls at Sharrow Mills	II	185m south of Ecclesall Road
Taylor's Eye Witness Works	II	225m east of Hanover Street
2 and 4 Collegiate Crescent	II	219m west of Hanover Street
6 and 8 Collegiate Crescent	II	266m west of Hanover Street
210-212 Sharrow Vale Road	II	139m south of Ecclesall Road
George Woofindin Almshouses	II	53m north of Ecclesall Road
Moore Street Electricity Substation	II	81m east of Hanover Street
Succah 2 Metres South West of Synagogue	II	53m north of Ecclesall Road
Old Chapel at General Cemetery	II	280m south of Ecclesall Road

Boundary Wall and Gates to Synagogue	II	97m north of Ecclesall Road
Main Gateway and Lodges to General Cemetery	II	165m south of Ecclesall Road
Gateway and Railings to Botanical Garden	II	101m north west of Ecclesall Road
New Mill Building At Sharrow Mills	II	131m south of Ecclesall Road
Nos. 94, 96 and 100 Milton Street	II	93m east of Hanover Street
80 and 82 Upper Hanover Street	II	169m north west of Hanover Street
Springfield Junior and Infant Schools	II	204m north east of Hanover Street
Wesley House and Boundary Railings	II	47m east of London Road
<b>Mount Pleasant Community Centre</b>	<b>II</b>	<b>Located on Sharrow Lane</b>
Catacombs at Sheffield General Cemetery	II	212m south of Ecclesall Road
Nether Edge Hospital, Kingswood Building	II	74m south of Machon Bank
Sheffield Hallam University Main Building	II	174m north west of Ecclesall Road
Union Hotel and Adjoining Boundary Wall	II	132m north east of Machon Bank
Roundabout Hostel and Attached Boundary Wall	II	37m east of London Road
Highfield Library and Adjoining Librarians House	II	28m east of London Road
Bridge and Retaining Wall at Rear of Sharrow Mills	II	131m south of Ecclesall Road
Rear Range to Lowerfield Junior and Infant Schools	II	48m east of London Road
James Nicholson Memorial in General Cemetery	II	258m south east of Ecclesall Road
<b>Pavilion and Lodge at East Entrance to Park</b>	<b>II</b>	<b>Located on Ecclesall Road</b>
Lodge Near South Entrance to Botanical Gardens	II	175m north west of Ecclesall Road
Statue of Queen Victoria at South East End of Park	II	61m north west of Ecclesall Road
Numbers 2 and 3 and Attached Boundary Wall and Railings	II	20m south west of Hanover Street
Numbers 4 and 5 and Attached Boundary Wall	II	20m south west of Hanover Street
Numbers 6 and 7 and Attached Boundary Wall	II	22m south west of Hanover Street
Numbers 6 and 7 and Attached Boundary Wall	II	23m south west of Hanover Street
Chestnut Cottage and Adjoining Cottage to Left	II	55m north of Ringinglow Road

Terrace Wall to South and East of Banner Cross Hall	II	Located approximately 112m south east of Ecclesall Road South
Bridge To East Of Sharrow Mills And Attached Gate Pier	II	152m south of Ecclesall Road
Former Stables and Fan Room to West of Sharrow Mills	II	146m south of Ecclesall Road
Charnwood Hotel and Adjoining Former Coach House	II	37m west of London Road
Numbers 10 to 16 and Attached Boundary Wall	II	67m south west of Hanover Street
Right Lodge at Entrance to Nether Edge Hospital	II	64m south of Machon Bank
Left Lodge at Entrance to Nether Edge Hospital	II	81m south of Machon Bank
Walls Railings and Gates to High Storrs School	II	112m north of Ringinglow Road
Jubilee Monument and Railing in Centre of Endcliffe Park	II	129m north of Ecclesall Road
<b>Baptist Church and Adjoining Sunday School</b>	II	<b>Located on Cemetery Road</b>
<b>Sewer Gas Lamp at Junction With London Road</b>	II	<b>Adjacent south east of London Road</b>
Westbrook House, Sheffield Area Health Authority Offices	II	289m south of Ecclesall Road
Caretakers House to Springfield Junior and Infant School	II	194m north east of Hanover Street
Wall and Gatepiers to Sheffield Hallam University Main Building	II	170m north west of Ecclesall Road
Roadside War Memorial 80 Metres South of Church of All Saints	II	142m south of Ringinglow Road
<b>Rubble Boundary Wall to West and South of Banner Cross Hall</b>	II	<b>Located on Ecclesall Road South</b>
Boundary Walls and Railing to Springfield Junior and Infant Schools	II	232m north east of Hanover Street
Haqqani House Sufi Centre and Adjoining Boundary Wall and Gates	II	275m south east of Montgomery Road
<b>Ice House 150 Metres South East of Banner Cross Hall</b>	II	<b>Located on Ecclesall Road South</b>
<b>Boundary Wall and Gates at George Woofindin Almshouses</b>	II	<b>Located on Ecclesall Road</b>
Bridge and Lamp 12 Metres South West of George Woofindin Almshouses	II	23m north of Ecclesall Road



	<b>Banner Cross Methodist Church and Attached Rooms and Schoolroom</b>	II	<b>Located on Ecclesall Road South</b>
	<b>Boundary Walls and Gate Piers at Psalter Lane Methodist Church</b>	II	<b>Located on Psalter Lane</b>
	<b>Psalter Lane Methodist Church and Adjoining Steps and Walls</b>	II	<b>Located on Psalter Lane</b>
	Lodge to The Towers and Adjoining Boundary Wall and Gate Piers	II	61m south of Psalter Lane
	Monument to Mark Firth 60 Metres East of New Chapel At General Cemetery	II	261m south east of Ecclesall Road
	<b>Lowfield Junior and Infant Schools and Attached Caretakers House</b>	II	<b>Located on London Road</b>
	<b>Boundary Walls, Railings and Gates to Lowfield Junior and Infant Schools</b>	II	<b>Located on London Road</b>
	<b>Former Stables and Coach House at Number 3 Mount Pleasant Community Centre</b>	II	<b>Located on Sharrow Lane</b>
	<b>Boundary Wall and Gate Piers to East and South of Banner Cross Methodist Church</b>	II	<b>Located on Ecclesall Road</b>
	North Lodge to Swallow Hotel (Not Included) with Boundary Wall And Gate Piers North Lodge to Swallow Hotel with Boundary Wall and Gate Piers	II	207m south west of Psalter Lane
	<ul style="list-style-type: none"> <li>• The Sheffield General Cemtery Registered Park and Garden is located approximately 190m south east of Ecclesall Road.</li> <li>• The Porter Valley Park Registered Park and Garden is located adjacent north west of Ecclesall Road.</li> <li>• The Sheffield Botanical Gardens Registered Park and Garden is located approximately 69m north west of Ecclesall Road.</li> <li>• The "Hoffman Kiln between Aizlewood Road and Cutts Terrace" Scheduled Ancient Monument (SAM) is located approximately 50m west of Broadfield Road.</li> <li>• South east of Psalter Lane (including Psalter Lane) is located within the Nether Edge Conservation Area.</li> <li>• Cemetery Road is located adjacent south east of the General Cemtery Conservation Area.</li> </ul>		
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>• Street lighting repairs, maintenance and the installation of new equipment</li> <li>• Drainage repairs and maintenance</li> <li>• Repairs to kerbs, edgings and channels</li> <li>• Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>• De-vegetation (including tree removals)</li> </ul>		

<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>High vibration works within close proximity to listed buildings/structures and SAMs should be aware that works of this nature can cause damage to these features.</li> <li>Works taking place within Conservation Areas have the potential to alter the aesthetics of these cultural heritage designated sites.</li> </ul>		
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>Providing all mitigation measures are adhered to, no negative permanent effects to any surrounding cultural or archaeological features are predicated.</li> </ul>		
<b>Mitigation / control measures:</b>			
<ul style="list-style-type: none"> <li>Where high vibration works are to occur, the owners of all listed buildings/structure located on a road involved in the works (those highlighted in <b>bold</b> above) should be contacted and the state of the feature pre-construction noted. These features should then be monitored both during and post construction for damage.</li> <li>All works occurring within the Nether Edge Conservation Area must have the materials and scope/method of works approved and consented prior to works commencing. Works must remain in-keeping with the current aesthetics of these areas.</li> </ul>			
<b>Further action/assessment required?</b>	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">YES</td> <td style="text-align: center;">NO</td> </tr> </table>	YES	NO
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<p><i>SCC Conservation Officer and Planning Department should be consulted regarding the materials and scope/method of works within the Nether Edge Conservation Area. Consent must be obtained prior to works commencing. Please note this consultation and consent will not be undertaken and obtained by the environmental team, but is the responsibility of the project manager.</i></p>			

<b>LANDSCAPE</b>	
<b>Assessment methodology:</b>	The landscape surrounding the A22 Ecclesall area was assessed using data from Natural England and google maps. This information was then used to build a picture of the landscape surrounding the zone, and how this may be affected by maintenance works.
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>The A22 Ecclesall zone is located adjacent west of Sheffield City Centre.</li> <li>The zone encompasses the areas of Sharrow, Nether Edge, Heeley and Ringinglow. Sharrow, Nether Edge and Heeley are mainly residential suburbs hosting a few commercial properties.</li> <li>Ringinglow is much more rural in nature, with the western extents running into the Peak District National Park.</li> <li>None of the zone is located within an Area of Outstanding Natural Beauty (AONB).</li> <li>The west of Ringinglow Road is located within the Peak District National Park.</li> </ul>
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>Street lighting repairs, maintenance and the installation of new equipment</li> <li>Drainage repairs and maintenance</li> <li>Repairs to kerbs, edgings and channels</li> <li>Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>De-vegetation (including tree removals)</li> </ul>
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>Works have the potential to result in temporary aesthetic alterations as a result of the presence of plant, machinery and vehicles during the works period.</li> </ul>
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>Works in the A22 Ecclesall zone will slightly alter the aesthetics of the surrounding environment, such as new kerbing, re-surfacing and the installation of new street lighting equipment. However, these improvement alterations are thought to have positive aesthetic changes within the zone.</li> <li>Tree removals have the potential to alter the aesthetics of the zone.</li> </ul>
<b>Mitigation / control measures:</b>	

<ul style="list-style-type: none"> <li>The duration that plant, machinery and vehicles are located on site should be limited to the shortest possible duration. They should not be stored on soft estate. Hard-standing should be used to prevent soil compaction.</li> <li>Nothing should be stored within the root area of trees; this can provide detrimental to their future health.</li> <li>Every tree which is removed should be replaced; ensuring no net loss. Re-planting can occur at new locations if deemed necessary. The arboriculturist team should advise on the most appropriate species and location for re-planting.</li> </ul>			
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<b>Further action/assessment required?</b>	YES	NO	

**ECOLOGY AND NATURE CONSERVATION**

**Assessment methodology:** An assessment of Ecology and Nature Conservation was conducted using data from Sheffield Biological Records Centre (SBRC 2015/16) and MAGIC. This data was interpreted, understanding how the surrounding fauna and flora may be affected by the proposed works. Mitigation measures have been formulated to help reduce any negative impacts the proposed works may have.

**Key baseline conditions:**

- The following ecologically designated sites are located within 2km of the A22 Ecclesall zone (*please note that Local Wildlife Sites (LWS) and Biodiversity Action Plan (BAP) Target Sites are only considered where they lie directly adjacent to a road involved in the A22 works. Those highlighted in **bold** are located adjacent to a road involved in the works*):

Name of ecologically designated site	Type of designation	Distance from the nearest road involved in the works (approx.)
<b>Peak District</b>	<b>National Park</b>	<b>Located on and around the western extent of Ringinglow Road</b>
<b>South Pennine Moors</b>	<b>Special Area of Conservation (SAC)</b>	<b>Located on and around the western extent of Ringinglow Road</b>
<b>Peak District Moors (Phase 1)</b>	<b>Special Protection Area (SPA)</b>	<b>Located on and around the western extent of Ringinglow Road</b>
<b>Eastern Peak District Moors</b>	<b>Site of Special Scientific Interest (SSSI)</b>	<b>Located on and around the western extent of Ringinglow Road</b>
Gleadless Valley	Local Nature Reserve (LNR)	1.4km south east of London Road
<b>Porter Valley Woodlands</b>	<b>Local Nature Reserve (LNR)</b>	<b>Adjacent north west of Ecclesall Road</b>
Sharrow School Green Road	Local Nature Reserve (LNR)	90m south west of London Road
<b>Endcliffe Park</b>	<b>Local Wildlife Site (LWS)</b>	<b>Adjacent north west of Ecclesall Road</b>
<b>Sheffield General Cemetery</b>	<b>Local Nature Reserve (LNR) &amp; Local Wildlife Site (LWS)</b>	<b>Adjacent north west of Cemetery Road</b>

	& Woodlands BAP Target Site																					
Sunnybank	Local Nature Reserve (LNR) & Local Wildlife Site (LWS) & Wetlands BAP Target Site	Adjacent north west of Ecclesall Road																				
<ul style="list-style-type: none"> <li>There are no National Nature Reserves (NNR) or Ramsar sites located within 2km of the A22 zone.</li> <li>There are no Grasslands or Heathlands BAP Target sites located adjacent to a road involved in the works.</li> <li>There are records of the following species located within 2km of the A22 Ecclesall zone (SBRC, 2015/16 and SSA, 2015/16):</li> </ul>																						
<table border="1"> <thead> <tr> <th>Species</th> <th>Location (approx.)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Newt (<i>Pleurodelinae</i>)</td> <td>Great Crested Newt (<i>Triturus cristatus</i>)</td> <td>0.6km south east of Ecclesall Road South</td> </tr> <tr> <td>Smooth Newt (<i>Lissotriton vulgaris</i>)</td> <td>0.9km north of Ecclesall Road, Weston Park</td> </tr> <tr> <td>Palmate Newt (<i>Lissotriton helveticus</i>)</td> <td>0.8km south east of Ecclesall Road South, Abbeydale Hall Wildlife Garden</td> </tr> <tr> <td>Crayfish (<i>Astacoidea</i>)</td> <td>White Clawed Crayfish (<i>Austropotamobius pallipes</i>)</td> <td>0.9km north of Ecclesall Road, Porter Brook watercourse</td> </tr> <tr> <td><b>Water Vole</b> (<i>Arvicola amphibious</i>)</td> <td><b>N/A</b></td> <td><b>Broadfield Road, River Sheaf</b></td> </tr> <tr> <td rowspan="2"><b>Bats</b> (<i>Chiroptera</i>)</td> <td><b>Pipistrelle</b> (<i>Pipistrellus pipistrellus</i>)</td> <td><b>Around the Ringinglow area</b></td> </tr> <tr> <td>Myotis (<i>unidentified</i>)</td> <td>0.8km north of Ecclesall Road, Notre Dame High School</td> </tr> </tbody> </table>			Species	Location (approx.)	Newt ( <i>Pleurodelinae</i> )	Great Crested Newt ( <i>Triturus cristatus</i> )	0.6km south east of Ecclesall Road South	Smooth Newt ( <i>Lissotriton vulgaris</i> )	0.9km north of Ecclesall Road, Weston Park	Palmate Newt ( <i>Lissotriton helveticus</i> )	0.8km south east of Ecclesall Road South, Abbeydale Hall Wildlife Garden	Crayfish ( <i>Astacoidea</i> )	White Clawed Crayfish ( <i>Austropotamobius pallipes</i> )	0.9km north of Ecclesall Road, Porter Brook watercourse	<b>Water Vole</b> ( <i>Arvicola amphibious</i> )	<b>N/A</b>	<b>Broadfield Road, River Sheaf</b>	<b>Bats</b> ( <i>Chiroptera</i> )	<b>Pipistrelle</b> ( <i>Pipistrellus pipistrellus</i> )	<b>Around the Ringinglow area</b>	Myotis ( <i>unidentified</i> )	0.8km north of Ecclesall Road, Notre Dame High School
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<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>Street lighting repairs, maintenance and the installation of new equipment</li> <li>Drainage repairs and maintenance</li> <li>Repairs to kerbs, edgings and channels</li> <li>Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>De-vegetation (including tree removals)</li> </ul>																					
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>Temporary disturbance in the form of noise, vibrations and direct impact on vegetation may result for ecologically designated sites located within 2km of the A22 zone. Particular care must be taken when working within the Peak District National Park, adjacent to an SPA, SAC, SSSI and multiple LNR and LWS (highlighted in bold in the table above).</li> <li>Habitats may experience short-lived disruptions during the works period.</li> </ul>																					

<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>There is the potential for a loss of biodiversity as a result of the works if all mitigation measures are not adhered to.</li> </ul>	
<b>Mitigation / control measures:</b>		
<ul style="list-style-type: none"> <li>All works, including vegetation clearance and tree removals on the western extent of Ringinglow Road must be undertaken outside of the bird nesting season, which generally runs between March and August (inclusive). This road is located adjacent to a SPA which has ground nesting birds as a qualifying feature. Natural England are unlikely to grant consent for any works taking place during the nesting bird season.</li> <li>All works and vegetation clearance (including tree removals) on other roads within the zone should be undertaken outside of the bird nesting season, which generally runs between March and August (inclusive). Where this is not possible, all vegetation should be thoroughly inspected for nesting birds immediately prior to removals commencing. If nesting birds are identified works must cease immediately and a member of the environmental team contacted for further advice.</li> <li>Every tree which is removed should be replaced; ensuring no net loss. Re-planting can occur at new locations if deemed necessary. The arboriculturist team should advise on the most appropriate species and location for re-planting.</li> <li>Tree Preservation Orders (TPOs) must be checked prior to any felling commencing. This will not be conducted by the environmental team, but is the responsibility of the project manager.</li> <li>If any invasive/injurious plants are identified during the works period, construction should avoid contact with these plants. Where contact cannot be avoided, all invasive/injurious plants should be handled, stored and disposed of as controlled/hazardous waste (depending on the treatment method) in accordance with relevant legislation.</li> <li>If any protected species are identified during construction, works should cease immediately and a member of the environmental team contacted for further advice.</li> <li>Toolbox talks should be given to on site staff, informing them of the precautions to be taken should any invasive/injurious plants and/or protected species be identified during the works period.</li> <li>All materials and waste should be stored on hard-standing to prevent soil compaction and any unnecessary disturbances to flora. The grass verges surrounding ecologically designated sites (including the LWS noted in the table above) which are located immediately next to works areas (those highlighted in bold above) must be treated as buffer zones to the site; nothing must be stored within these areas</li> </ul>		
<b>Further action/assessment required?</b>	YES	NO
<p><i>An environmental site visit will be undertaken prior to works commencing, ensuring all environmental issues have been identified and mitigated for appropriately. Works CANNOT commence until the environmental team confirm it is safe to do so.</i></p> <p><i>Natural England must be contacted regarding the South Pennine Moors SAC, the Peak District Moors (South Pennine Moors Phase 1) SPA and the Eastern Peak District Moors SSSI located within and adjacent to the works. A No Significant Effects Report (NSER) will be completed regarding the SAC and SPA and submitted to Natural England for review. All required consent must be in place prior to works commencing. This consultation (and the NSER) will be conducted by the environmental team and all responses and consents will be forwarded onto the lead designer to include them in the scheme PCI pack.</i></p> <p><i>The Peak District National Park Authority (PDNPA) should be contacted and made aware of works occurring within the National Park Boundary. As works are being undertaken by Amey on behalf of Sheffield City Council (SCC) (who are permitted under Schedule 2, Part 12 and 13 of the Town and Countryside Planning (general Permitted Development) Order 1995) no planning permissions or notifications for works of this type are required. The PDNPA will be informed of the works by the environmental team and all responses will be forwarded onto the lead designer to include in the scheme PCI pack.</i></p>		
<b>This project requires Assessment of Implications on European Sites (AIES)?</b>	YES	NO



<b>GEOLOGY, SOILS AND CONTAMINATED LAND</b>		
<b>Assessment methodology:</b>	Geology and soils were assessed using the Geology of Britain viewer and information provided by the lead designer regarding any proposed excavation works. These two coupled were then used to identify whether geology and soils may be affected by the proposed works within the A22 Ecclesall zone.	
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>The Geology of Britain viewer identified the geology underlying the A22 Ecclesall zone as:               <p><b>Full zone area apart from the west of Ringinglow Road:</b></p> <ul style="list-style-type: none"> <li>Pennine Middle Coal Measures Formation – Mudstone, Siltstone, Sandstone, Coal, Ironstone and Ferricrete.</li> <li>Sedimentary bedrock formed approximately 312-313 million years ago during the Carboniferous Period.</li> <li>Local environment previously dominated by swamps, estuaries and deltas.</li> </ul> <p><b>The west of Ringinglow Road :</b></p> <ul style="list-style-type: none"> <li>Millstone Grit Group - Mudstone, Siltstone and Sandstone.</li> <li>Sedimentary Bedrock formed approximately 313-326 million years ago during the Carboniferous Period.</li> <li>Local environment previously dominated by rivers.</li> </ul> </li> <li>Minor excavations are proposed to occur as part of the works within the A22 zone.</li> <li>Where street lighting columns are located on grass verges, these will require excavating in order to install the new equipment.</li> <li>All excavations are taking place on previously excavated highways land.</li> </ul>	
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>Street lighting repairs, maintenance and the installation of new equipment</li> <li>Drainage repairs and maintenance</li> <li>Repairs to kerbs, edgings and channels</li> <li>Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>De-vegetation (including tree removals)</li> </ul>	
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>De-vegetation may result in a minor disturbance to top soils.</li> <li>Grass verges and cable trenches which require excavating in order to install new equipment will experience disturbances.</li> <li>All excavations are occurring on previously excavated highways land and are anticipated to be minor in nature. Therefore, excavation works are not considered significant.</li> </ul>	
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>Re-surfacing of carriageways and footways has the potential to produce tar bound materials. If tar bound materials are identified these must be handled, stored and disposed of as hazardous waste in accordance with relevant legislation.</li> </ul>	
<b>Mitigation / control measures:</b>		
<ul style="list-style-type: none"> <li>All plant, machinery, vehicles, materials and waste should be stored on hard standing to avoid soil compaction.</li> <li>Where excavations are required to facilitate street lighting works, these areas will be kept as small as possible, reducing any disturbance to geology and soils in the surrounding area.</li> <li>All carriageways and footways to be excavated must be core tested for tar prior to works commencing. Where tar bound materials are identified these must be handled, stored and disposed of as hazardous waste in accordance with relevant legislation (Hazardous Waste Act 2005).</li> </ul>		
<b>Further action/assessment required?</b>	YES	NO

<b>MATERIALS USE</b>		
<b>Assessment methodology:</b>	Materials used and waste resulting from construction were assessed using information from the Environmental Alert Form (EAF) provided to the environmental team by the lead designer. All waste was then considered in terms of potential impacts on the environment. Mitigation measures aim to reduce the amount of waste resulting in landfill and the associated environmental impacts/costs.	
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>• Waste produced as a result of construction may include the following:               <ul style="list-style-type: none"> <li>- Concrete/hard-core</li> <li>- Green waste – resulting from de-vegetation.</li> <li>- Planings arising from carriageway/footway works</li> <li>- Electrical Waste (Waste Electrical and Electronic Equipment (WEEE))</li> </ul> </li> </ul>	
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>• Street lighting repairs, maintenance and the installation of new equipment</li> <li>• Drainage repairs and maintenance</li> <li>• Repairs to kerbs, edgings and channels</li> <li>• Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>• De-vegetation (including tree removals)</li> </ul>	
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>• Use of oil</li> <li>• Use of fuel</li> <li>• Use of carbon intensive materials</li> <li>• Use of materials which are not locally sourced</li> <li>• Emissions to land/sea/air resulting from the transportation of workers, materials and waste to and from site.</li> </ul>	
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>• Depletion of natural resources.</li> <li>• Production of waste which may be required to go to landfill.</li> <li>• Where tar bound materials are identified these must be handled, stored and disposed of as hazardous waste in accordance with relevant legislation.</li> <li>• Potential for the production of invasive/injurious plant waste which will require handling, storing and disposing of as controlled/hazardous waste (depending on the treatment method) in accordance with relevant legislation.</li> </ul>	
<b>Mitigation / control measures:</b>		
<ul style="list-style-type: none"> <li>• Materials should be sourced locally where possible; reducing the associated transportation costs.</li> <li>• The whole life cost of materials and recycled alternatives should be considered at the design stage where available. For example, where materials have been excavated during street lighting works, this material should be re-used to back fill the excavation area surrounding the new street lighting column. Be aware that this cannot occur if the materials are tar bound.</li> <li>• Foamix should be considered as an alternative to bituminous materials.</li> <li>• Waste should not be stored on site. Where this is not possible, all waste should be separated and stored away from areas which discharge directly into the water environment.</li> <li>• All sub-contractors removing waste from site must possess a current waste carrier's license.</li> <li>• All waste disposal sites must be appropriately licensed.</li> <li>• Waste management should be in accordance with Amey policy – PLC-ENVT-WASTE-PR-01.</li> <li>• All planings must be tested determining whether the materials contained are tar bound or not. Where tar bound materials are identified these must be handled, stored and disposed of as hazardous waste in accordance with relevant legislation (Hazardous Waste Act 2005).</li> <li>• All WEEE must be stored and disposed of separately in accordance with relevant legislation. Where possible WEEE should be recycled and re-used in accordance with relevant legislation. (Please refer to WEEE Regulations 2013: government guidance notes).</li> </ul>		
<b>Further action/assessment required?</b>	YES	NO

<b>NOISE AND VIBRATION</b>		
<b>Assessment methodology:</b>	Noise and vibrations were assessed in terms of the effects of any increase from baseline noise levels on sensitive receptors located within 300m of the A22 Ecclesall zone. It was assessed what effect any increase in noise and/or vibrations would have on these features. Mitigation measures have been suggested which will aid in reducing any such negative effects.	
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>• The following noise and vibration sensitive receptors are located within 300m of the A22 Ecclesall zone:               <ul style="list-style-type: none"> <li>- Residencies</li> <li>- 19 educational buildings</li> <li>- 5 medical buildings</li> <li>- 12 care homes</li> <li>- 23 places of worship</li> </ul> </li> <li>• Baseline noise levels within the zone will be largely influenced by the type and volume of traffic using the roads within the zone.</li> </ul>	
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>• Site set-up</li> <li>• Arrival/departure of workers, materials and waste</li> <li>• Street lighting repairs, maintenance and the installation of new equipment</li> <li>• Drainage repairs and maintenance</li> <li>• Repairs to kerbs, edgings and channels</li> <li>• Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>• De-vegetation (including tree removals)</li> </ul>	
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>• Noise and vibrations are likely to increase above baseline levels during the works period only.</li> <li>• Site set-up, the arrival/departure of workers, materials and waste may increase congestion and consequently traffic related noise levels.</li> </ul>	
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>• The resurfacing of carriageways within the A22 zone may result in a minor decrease in baseline noise levels.</li> </ul>	
<b>Mitigation / control measures:</b>		
<ul style="list-style-type: none"> <li>• Noise and vibrations should be kept as low as feasibly possible; reducing the effects of exacerbated noise levels on sensitive receptors located in close proximity. If necessary temporary acoustic sound barriers should be used to shield nearby sensitive receptors from excessive noise levels.</li> <li>• Where high vibration works are to occur in close proximity to listed buildings/structures or SAMs (see Chapter 2) the owners of these features should be contacted and the state pre-construction noted.</li> <li>• Works within the A22 Ecclesall zone must be carried out in accordance with BS5228: Noise and Vibration Control on construction and open sites.</li> <li>• All local residents and businesses should be made aware of the works prior to them commencing. This should include a start date and likely duration.</li> </ul>		
<b>Further action/assessment required?</b>	YES	NO
<p><i>SCC should be contacted and working hours agreed prior to works commencing. Any permits required with regard to noise must be obtained prior to works commencing. Section 61 – Noise and Air Quality may be required if works are taking place on a Sunday or bank holiday or outside of the hours of 07:00 to 18:00 Monday to Friday or Saturday 08:00 to 13:00. Please note, this consultation and any necessary consent will not be carried out / obtained by the environmental team, but is the responsibility of the project manager.</i></p>		

<b>EFFECTS ON ALL TRAVELLERS</b>
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<b>Assessment methodology:</b>	The effects of works within the A22 Ecclesall zone on travellers were assessed using google maps. It was identified what roads within the zone could be used for, and how works may affect road users during and post construction. Mitigation measures have been recommended to help keep disruptions for the road user to a minimum.	
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>• Works within the A22 Ecclesall zone are taking place on A roads, B roads and smaller residential/access roads.</li> <li>• Roads within the zone provide direct access to Sheffield City Centre and out into the Peak District National Park.</li> <li>• Multiple sensitive receptors, residential, commercial and industrial properties are accessed via the roads involved in the A22 works.</li> <li>• Road users may experience disruptions to the following features within the zone: <ul style="list-style-type: none"> <li>- Bus stops, shelters and routes</li> <li>- Local traffic routes</li> <li>- Through traffic routes</li> </ul> </li> </ul>	
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>• Site set-up</li> <li>• Arrival/departure of workers, materials and waste</li> <li>• Street lighting repairs, maintenance and the installation of new equipment</li> <li>• Drainage repairs and maintenance</li> <li>• Repairs to kerbs, edgings and channels</li> <li>• Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>• De-vegetation (including tree removals)</li> </ul>	
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>• Buses and local and through traffic may experience disruptions as result of construction activities during the works period only.</li> <li>• The arrival/departure of workers, materials and waste may increase congestion, adding to journey times.</li> <li>• Traffic management and road closures have the potential to increase journey times and restrict parking during the construction period only.</li> </ul>	
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>• Works within the A22 Ecclesall zone (installation of new street lighting equipment, use of new kerbing, drainage repairs and improvements and re-surfacing works) will lead to a safer, more aesthetically pleasing road network which is considered a positive effect for road users within the A22 Ecclesall zone.</li> </ul>	
<b>Mitigation / control measures:</b>		
<ul style="list-style-type: none"> <li>• All local residents and businesses should be made aware of the works prior to them commencing. This should include a start date and likely duration.</li> <li>• Where roads require closure this should be highlighted to road users in advice and diversions clearly signed. Restrictions on parking must also be given in advance of the works. This is the responsibility of the project manager.</li> <li>• Works surrounding features which experience high volumes of traffic at certain times of the day (for example schools) should avoid taking place at these peak times. This will help avoid construction related congestion. Consultation with these features prior to works commencing should be undertaken and is the responsibility of the project manager.</li> <li>• Working hours should be agreed with SCC in advance and strictly adhered to.</li> <li>• All traffic management should be in accordance with the Department for Trade and Industry (DTI) – Chapter 8, Traffic Signs and Safety Manual for Road Works and Temporary Structures.</li> </ul>		
<b>Further action/assessment required?</b>	YES	NO

### EFFECTS ON THE COMMUNITY AND PRIVATE ASSETS

<b>Assessment methodology:</b>	Effects on the community and private assets were determined by analysing the location of sensitive receptors, community facilities and the alignment of roads.
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	These were then interpreted, anticipating potential effects on the community and private assets. Mitigation measures have been formulated to minimise potential disruptions.
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>• Works within the A22 Ecclesall zone are taking place on A roads, B roads and smaller residential/access roads.</li> <li>• Roads within the zone provide access to residential, commercial and industrial properties, sensitive receptors and towards the city centre and out into the Peak District National Park.</li> <li>• It is likely that the following community features/private assets may experience disruptions during the works period: <ul style="list-style-type: none"> <li>- Residencies</li> <li>- 19 educational buildings</li> <li>- 5 medical buildings</li> <li>- 12 care homes</li> <li>- 23 places of worship</li> <li>- Public call boxes</li> <li>- Post boxes</li> <li>- Bus stops/shelters</li> <li>- Public rights of way</li> </ul> </li> </ul> <p><i>(Where possible the location of these features will be detailed within the A22 Environmental Site Notes report.)</i></p>
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>• Site set-up</li> <li>• Arrival/departure of workers, materials and waste</li> <li>• Street lighting repairs, maintenance and the installation of new equipment</li> <li>• Drainage repairs and maintenance</li> <li>• Repairs to kerbs, edgings and channels</li> <li>• Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>• De-vegetation (including tree removals)</li> </ul>
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>• Access to the community features/private assets listed above may be restricted during the works period only.</li> <li>• The community and private asset features listed above may also experience short term disruptions in the form of noise during construction works.</li> <li>• On-street parking may be restricted on some roads undergoing re-surfacing works; however these restrictions will only be in place during the works period.</li> </ul>
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>• Works within the A22 Ecclesall zone will result in aesthetic and structural improvements to the highway network; considered a positive for the local community.</li> <li>• New street lighting and re-surfaced footways will improve safety for pedestrians within the A22 Ecclesall zone</li> </ul>
<b>Mitigation / control measures:</b>	
<ul style="list-style-type: none"> <li>• Safe pedestrian access to residential properties should be maintained at all times throughout the works period.</li> <li>• Unobstructed access to medical buildings and care homes, wide enough for an ambulance should be maintained at all times throughout the works period.</li> <li>• If roads require closure during the works period this should be highlighted in advance and the provision of alternative routes provided. Where on-street parking is to be restricted, this must be highlighted in advance allowing alternative parking arrangements to be made.</li> <li>• A safe pedestrian passageway should be maintained at all times.</li> <li>• Consultation should be held with schools and places of worship, ensuring the best working times are established around these features.</li> <li>• All traffic management should be in accordance with the Department for Trade and Industry (DTI) – Chapter 8, Traffic Signs and Safety Manual for Road Works and Temporary Structures.</li> </ul>	



Further action/assessment required?	YES	NO
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<b>DRAINAGE AND THE WATER ENVIRONMENT</b>	
<b>Assessment methodology:</b>	Drainage and the water environment were assessed using data from the Environment Agency (EA). The data was assessed to understand the baseline fluvial conditions and how the A22 Ecclesall area may be affected by flooding. Mitigation measures have been suggested to help reduce the impacts of works on the water environment and local drainage systems.
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>• The River Sheaf watercourse runs beneath Broadfield Road and the Porter Brook watercourse beneath Ecclesall Road.</li> <li>• The EA classifies the River Sheaf watercourse as hosting “moderate” ecological potential. The Porter Brook watercourse is classified by the EA as hosting “good” ecological potential.</li> <li>• The EA classified Ecclesall Road as at a medium to low risk of flooding from rivers.</li> <li>• The zone is not located within a Ground Water Source Protection Zone (SPZ).</li> <li>• The west of Ringinglow Road is located on a Secondary aquifer of Superficial Deposits Designation.</li> <li>• The entire A22 zone is located on a Secondary A aquifer of Bedrock Deposits designation.</li> <li>• All of the zone apart from the western extent of Ringinglow Road is located on a minor aquifer of high vulnerability. The western extent of Ringinglow Road is located on a minor aquifer of low vulnerability.</li> </ul>
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>• Street lighting repairs, maintenance and the installation of new equipment</li> <li>• Drainage repairs and maintenance</li> <li>• Repairs to kerbs, edgings and channels</li> <li>• Footway and carriageway repairs and maintenance (including re-surfacing works)</li> <li>• De-vegetation (including tree removals)</li> </ul>
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>• There is the potential for accidental spills / leaks of materials to enter nearby water bodies and drainage systems; resulting in pollution.</li> <li>• Materials such as epoxy resin have the potential to cause vast pollution should they enter drainage systems/water bodies.</li> </ul>
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>• Providing all mitigation measures are adhered to, no permanent negative effects are predicted in relation to the water environment.</li> <li>• Drainage within the A22 zone will be improved once the proposed drainage improvement works have been completed. These works are anticipated to improve the highways ability to handle water in flood conditions.</li> </ul>
<b>Mitigation / control measures:</b>	
<ul style="list-style-type: none"> <li>• Best practicable means of working, according to the method statement should be applied to all materials used during construction.</li> <li>• Waste/materials should not be stored on site. Where this is not possible, all waste should be separated and stored away from areas which discharge directly into the water environment.</li> <li>• If fuel and/or oil are to be stored on site this should be in accordance with the Control of Pollution (Oil Storage) England Regulations 2001.</li> <li>• Spill kits should be available on site and personnel trained in their use.</li> <li>• All environmental incidents should be reported the Environment Agency’s Emergency Hotline on 0800 807 060.</li> <li>• All open drainage features should be covered during re-surfacing works; preventing potentially polluting substances entering drainage systems and consequently water bodies. This will also help reduce the</li> </ul>	

<p>risk of materials entering surface drains and causing blockages.</p> <ul style="list-style-type: none"> <li>The proposed works and materials/waste must not enter any of the water bodies located within the A22 Ecclesall zone. When works are taking place next to any of the identified water bodies, mitigation measures must be put in place to ensure materials/waste do not fall into them.</li> <li>The River Sheaf watercourse is classified as a main river and the Porter Brook as an Ordinary watercourse by the EA. Due to the relatively minor nature of works to be undertaken, restricted to within the highway boundary, these works are considered to be an “excluded activity” (<a href="https://www.gov.uk/guidance/flood-risk-activities-environmental-permits">https://www.gov.uk/guidance/flood-risk-activities-environmental-permits</a>) and therefore watercourse consent is not required from the EA.</li> </ul>		
<b>Further action/assessment required?</b>	YES	NO

<b>ENERGY AND LIGHTING</b>		
<b>Assessment methodology:</b>	Energy and lighting were assessed in terms of the installation of new street lighting equipment. It was assessed how changes in street lighting may affect the A22 Ecclesall zone. Mitigation measures have been formulated to reduce any anticipated negative impacts.	
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>Existing street lighting is in the current form of Low Pressure Sodium (SOX) and High Pressure Sodium (SON) lighting.</li> </ul>	
<b>Key construction activities:</b>	<ul style="list-style-type: none"> <li>Removal of existing sodium street lighting equipment</li> <li>Installation of new LED white light source (Colour Rendering Ra &gt;60) street lighting equipment. (All roads within the A22 Ecclesall zone will be subject to the installation of new street lighting columns.)</li> <li>Excavations associated with the removal of existing columns, installation of new columns and cable trenching (some of these excavations may be occurring within grass verge areas).</li> </ul>	
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>Access along footways are likely to be restricted / obstructed during the installation of new equipment and removal of old equipment.</li> <li>Disturbance to verge side areas and associated flora due to excavation works.</li> </ul>	
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>Lower carbon emissions resulting from reduced energy consumption.</li> <li>Less light pollution due to a more direct light source with LED lights.</li> <li>New LED lighting has the potential to cause habitat corridor barriers for nocturnal (light sensitive) species. However, please note that new LED lighting is only being installed where street lighting already exists.</li> <li>A change in lighting may impact on nocturnal animal activity/feeding behaviour.</li> <li>The installation of the new LED lighting will result in significant energy and cost savings.</li> <li>The new LED street lights will light up areas better which has the potential to make them safer for users of the carriageway and footways within the zone.</li> </ul>	
<b>Mitigation / control measures:</b>		
<ul style="list-style-type: none"> <li>New street lighting being erected in known / suitable “hotspot” areas for nocturnal species which are light sensitive could use a lower brightness, avoiding disruptions for nocturnal animals. The new LED lighting equipment being installed has the capability of being dimmed in specific areas/on specific streets.</li> <li>All excavations are occurring on previously excavated highways land. Therefore the effects associated with these minor excavations are not considered significant. If any potential badger setts are found within close proximity (within 30m) of excavation areas, works should stop immediately and the environmental team should be contacted to undertake further inspections/surveys.</li> </ul>		
<b>Further action/assessment required?</b>	YES	NO



*During the environmental site visit, acknowledgment of potential nocturnal species "hot spots" will be recorded and suggestions will be made to reduce the brightness of street lighting in these areas.*