## EXHIBIT LIST

Reference No: HOC/00035  
Petitioner: David Cook  
Published to Collaboration Area: Thursday 10-May-2018

<table>
<thead>
<tr>
<th>No</th>
<th>Exhibit Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>P139 Location.pdf (P139)</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>P140 Construction.pdf (P140)</td>
<td>3</td>
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<td>3</td>
<td>P141 Operation.pdf (P141)</td>
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<td>4</td>
<td>P142 Cross Section Plan.pdf (P142)</td>
<td>5</td>
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<td>P143 Cross Section.pdf (P143)</td>
<td>6</td>
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<td>6</td>
<td>P144 Noise Contour Map.pdf (P144)</td>
<td>7</td>
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<tr>
<td>7</td>
<td>P145 Noise Tables.pdf (P145)</td>
<td>8 - 9</td>
</tr>
</tbody>
</table>
Ingestre Park

Petitioner's property

Ingestre

Ingestre Underbridge

Ingestre Hall

Ingestre Park Golf Club

Route Wide

Design Stage

Design

Design

Design

Design

Design

Design

Design
Ingestre Underbridge
Petitioner's property
Ingestre Park Golf Club

**OPERATION - HYBRID BILL**

- **Ingestre Hall**
- **Ingestre Park**
- **Petitioner's property**
- **Ingestre Underbridge**

**Designers**:
- **P2A Civils Design & Environmental Services**
- **Ove Arup & Partners International Ltd**

**Design Details**:
- **Rail alignment**
- **Engineering earthworks**
- **Landscape earthworks**
- **Balancing pond**
- **Grassland habitat creation**
- **Landscape mitigation planting (scrub / woodland)**
- **Grassed areas**
- **Rail alignment**
- **Rail alignment formation**

**Legend**:
- **Ditches**
- **New Hedge**
- **Existing public right of way**
- **HS2 Access road**
- **Indicative extent of Petitioner's land**

**Project Details**:
- **Route Wide**
- **Designs for Petition**
- **Petitions**
- **Operation**

**Designers for Petition**:
- **David Cook**
- **Petition HOC 000235**

**Operation Details**:
- **Ingestre Park Road**
- **Ingestre Underbridge**
- **Ingestre Hall**
- **Ingestre Golf Club**
- **Petitioner's property**

**Scale**: 1:5000

**Date**: 2018/04/20

**Compliance**:
- **Drawing Title**: Route Wide
- **Designer**: P2A Civils Design & Environmental Services
- **Designers for Petition**: Ove Arup & Partners International Ltd

**Registration**:
- **Registration No. 06791686**
- **Birmingham, B4 6GA**
- **Queensway, 2 Snow Hill**
- **Registered office: Birmingham, B4 6GA**
- **Registration No. 06791686**
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Operational Noise and Vibration Impacts and Likely Significant Effects (with Assessment Locations) – Petition 35: David Cook
Community Area 2: Colwich to Yarlet

HS2 (rail only) sound level \( L_{Aeq} \) and potential noise effect:

<table>
<thead>
<tr>
<th>Night-time ( L_{Aeq} ) (T=23:00 to 07:00)</th>
<th>Daytime ( L_{Aeq} ) (T=07:00 to 23:00)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Non-residential &amp; quiet areas</td>
</tr>
<tr>
<td>&gt; 55 dB</td>
<td>&gt; 65 dB</td>
</tr>
<tr>
<td>40 to 55 dB</td>
<td>50 to 65 dB</td>
</tr>
<tr>
<td>&lt; 40 dB</td>
<td>&lt; 50 dB</td>
</tr>
</tbody>
</table>

Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV-CPF.

**Panel A**

Legend - General features
- Residential buildings only
- 1 km Airborne sound study area
- 1 km Engineering earthworks
- 1 km Engineering e.g. cuttings (green tunnels separately marked)
- 1 km Landscaping and/or fence barriers
- 1 km Engineering e.g. cuttings (green tunnels separately marked)
- 1 km Other environmental e.g. landscaping
- 1 km Ground-borne sound & vibration study area (residential and non-residential)
- 1 km Ground-borne sound & vibration study area (highly sensitive non-residential)
- 1 km Airborne sound assessment location
- 1 km Ground-borne sound and/or vibration assessment location
- 1 km Airborne sound, ground-borne sound and vibration assessment location
- 1 km Ground-borne noise or vibration impact

**Panel B**

Legend - Sound related features
- Envisaged measures further reducing noise effects:
  - Ground-borne & vibration study area (residential and non-residential)
  - Ground-borne & vibration study area (highly sensitive non-residential)
  - Airborne sound assessment location
  - Airborne sound and vibration assessment location
  - Ground-borne sound and/or vibration assessment location
  - Ground-borne noise or vibration impact

Potential additional noise insulation (triggered by Noise Insulation Regulations 1996):*
- Beneficial (<-3dB)
- Negligible (-3dB to 3dB)
- Minor adverse (3dB to 5dB)
- Moderate adverse (5dB to 10dB)
- Major adverse (>10dB)

**Legend - General features**
- Major adverse (10dB)
- Minor adverse (5dB to 10dB)
- Negligible (3dB to 5dB)
- Beneficial (<3dB)

**Legend - Sound related features**
- Envisaged measures further reducing noise effects:
  - Ground-borne & vibration study area (residential and non-residential)
  - Ground-borne & vibration study area (highly sensitive non-residential)
  - Airborne sound assessment location
  - Airborne sound and vibration assessment location
  - Ground-borne sound and/or vibration assessment location
  - Ground-borne noise or vibration impact

See text for full description and extent of significant effects. (*) Where SESiAP is reason for significant effect.
Where a measurement location has been included within table 1, physical baseline data has been collected at the assessment location.

### Table 1. Existing baseline sound levels

<table>
<thead>
<tr>
<th>Assessment location</th>
<th>Measurement location</th>
<th>Existing baseline sound levels (dB)</th>
<th>For construction sound assessment</th>
<th>Data source coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ref</td>
<td>Area represented</td>
<td>Daytime $L_{eq,day}$</td>
<td>Night-time $L_{eq,night}$</td>
<td>Arithmetic average $L_{eq,ave}$</td>
</tr>
<tr>
<td>12082</td>
<td>The Old Rectory, Ingestre</td>
<td>ML193</td>
<td>43</td>
<td>35</td>
</tr>
</tbody>
</table>

### Table 2. Assessment of construction noise at residential receptors

<table>
<thead>
<tr>
<th>Assessment location</th>
<th>Impact criteria</th>
<th>Significance criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ref</td>
<td>Area represented</td>
<td>Typical/highest monthly outdoor $L_{eq,day}$ at the facade (Assessment category A/B/C)</td>
</tr>
<tr>
<td>12082</td>
<td>The Old Rectory, Ingestre</td>
<td>51/57 [A]</td>
</tr>
</tbody>
</table>

### Table 3. Operational airborne sound level, noise impacts and effects

<table>
<thead>
<tr>
<th>Assessment location</th>
<th>Impact criteria</th>
<th>Significance criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ref</td>
<td>Area represented</td>
<td>Proposed Scheme only (year 15 traffic)</td>
</tr>
<tr>
<td>12082</td>
<td>The Old Rectory, Ingestre</td>
<td>47</td>
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</table>
## Noise levels – The Old Rectory, Ingestre (ID: 12082)

<table>
<thead>
<tr>
<th>12082</th>
<th>2 The Old Rectory, Ingestre</th>
<th>Existing baseline sound level (dB)</th>
<th>Construction noise levels (dB)</th>
<th>Operational noise levels (dB)</th>
<th>Change (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>For construction assessment</td>
<td></td>
<td>Daytime</td>
<td>44</td>
<td>51/57</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evening/Weekend</td>
<td>41</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Night-time</td>
<td>35</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>For operational assessment</td>
<td></td>
<td>Daytime</td>
<td>43</td>
<td>48</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Night-time</td>
<td>35</td>
<td>-</td>
<td>39</td>
<td>4</td>
</tr>
</tbody>
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