

A428 Black Cat to Caxton Gibbet improvements

TR010044

Volume 9

9.123 Construction Noise Impacts at Borrow Pits Technical Note

Planning Act 2008

Rule 8(1)(k)

Infrastructure Planning (Examination Procedure) Rules 2010

February 2022

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Examination Procedure) Rules 2010**

**A428 Black Cat to Caxton Gibbet
improvements
Development Consent Order 202[]**

**9.123 Construction Noise Impacts at Borrow Pits
Technical Note**

Regulation Reference:	Rule 8(1)(k)
Planning Inspectorate Scheme Reference	TR010044
Application Document Reference	TR01004/EXAM/9.123
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Version	Date	Status of Version
Rev 1	15 February 2022	Deadline 10

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1 Introduction

1.1 Purpose of this Technical Note

- 1.1.1 This Technical Note has been prepared to provide the Applicant's position on Part 3 of the Examining Authority's Rule 17 request for further information, published on 7 February 2022 **[PD-017]**.
- 1.1.2 The purpose of this Technical Note is to provide a summary of, and the location for, all the construction noise information which has been submitted into the Examination in response to concerns raised by the Examining Authority and Bedford Borough Council (BBC) on noise impacts associated with the borrow pit operations during the construction phase.
- 1.1.3 This Technical Note also cross references information provided by the Applicant as part of a presentation held with BBC on 7 February 2022 relating to the construction noise model (refer also to the presentation slides within Appendix A). This meeting was held to demonstrate the construction noise model which was developed by the Applicant and used to derive the construction noise impacts resulting from the Scheme, including from operations at the borrow pits.

2 Information submitted to Examining Authority on construction noise impacts at borrow pits

2.1 Information submitted as part of the application, question responses and for further clarification

- 2.1.1 There have been various discussions with BBC regarding their concerns around the borrow pits proposed in their administrative area. Many of these concerns have related to the availability of data for scrutiny by BBC. This part of the Technical Note provides an overview of the extent of information submitted, including the title of the document where the information is presented and a brief description of how it relates to:
- a. The approach taken by the Applicant in assessing the impacts from borrow pit operations.
 - b. The predicted impacts of these operations on nearby receptors in the Bedford Borough Council administrative area.
 - c. The approach to mitigating the impacts identified.

2.2 Borrow Pits Optioneering Report [APP-246]

- 2.2.1 Paragraph 2.4.5 of the Borrow Pits Optioneering Report [APP-246] provides a list of the indicative plant that would be used for the various activities during the borrow pits works, noting that it is unlikely that this plant would be employed in the same area at the same time.

2.3 Applicant's Responses to the Examining Authority's First Round of Written Questions [REP1-022]

- 2.3.1 In the response to Q1.16.2.3, the Applicant confirms that mitigation measures including the adoption of Best Practicable Means and localised bunding/hoarding will be confirmed at detailed design stage once the details of the construction works are finalised. In practice, this will be dealt with through the Second Iteration Environmental Management Plan on which BBC will be consulted in accordance with Requirement 3 of the dDCO [TR010044/APP/3.1v6].
- 2.3.2 In the response to Q1.16.2.6, the Applicant confirms that the construction noise assessment reported in Chapter 11 Noise and Vibration [APP-080] does include excavation and backfilling of the borrow pits. This response also confirms that reasonable worst-case assumptions have been adopted in the assessment of construction noise impacts, including those associated with borrow pits. For example, specific mitigation at the borrow pits such as localised bunding/hoarding has not been included in the assessment at this stage. This ensures that the results of the construction noise assessment are robust.

2.4 Applicant Responses to Relevant Representations [REP1-021]

- 2.4.1 The Applicant's response to RR-008ax (BBC) summarises the approach taken by the Applicant in assessing the construction noise impacts of the Scheme, confirming that this included the excavation and backfilling of the borrow pits. The Applicant provided references to where the predictions of construction noise were reported and that the assessment demonstrated that the activities at the borrow pits are not a direct source of potentially significant construction noise effects at nearby receptors. The Applicant also summarised how the measures to minimise construction noise, including at the borrow pits, would be developed once the details of the construction works are finalised. In practice, this will be dealt with through the Second Iteration Environmental Management Plan on which BBC will be consulted in accordance with Requirement 3 of the dCO [TR010044/APP/3.1v6].
- 2.4.2 The Applicant's response to RR-008abc referred back to its response to RR-008ax, as well referring to the Borrow Pits Optioneering Report [APP-246].

2.5 Applicant's comments on other parties' responses to first round of written questions [REP3-007]

- 2.5.1 In its comments on BBC's response to Q1.6.2.1, the Applicant referred to previous responses in REP1-021 on assumptions adopted in the assessment of construction noise impacts, including at borrow pits, and the information contained in the Borrow Pits Excavation and Restoration Report [REP3-011].
- 2.5.2 In its comments on BBC's response to Q1.16.1.6, the Applicant confirmed that the excavation and backfilling of all potential borrow pits have been included in the predictions of construction noise presented in the ES [APP-080]. The Applicant also referred to information contained in previous responses to RR-008ax [REP1-021] and the Borrow Pits Excavation and Restoration Report [REP3-011].
- 2.5.3 In its comments on BBC's response to Q1.17.1.1, the Applicant confirmed that the construction traffic impacts on existing roads, as well as construction traffic on haul roads within the site boundary (Order Limits), had been assessed and reported in the Environmental Statement [APP-080].

2.6 Borrow Pit Excavation and Restoration Report [REP3-011]

- 2.6.1 Paragraphs 2.3.46 and 3.3.38 of the Borrow Pit Excavation and Restoration Report [REP3-011] confirmed that the construction noise assessment [APP-080] reported in the Environmental statement was based on reasonable worst-case assumptions, including for works associated with the borrow pits. The paragraph details types of construction plant likely to be required for the excavation and backfilling of the borrow pits, such as excavators, tractors, bowsers, water pumps and wagons. These were assumed to operate during the daytime only. The paragraph also confirmed that the impact of earthworks haul movements to and from the borrow pit along haul roads were also included in the assessment and that specific mitigation measures, such as localised hoarding, were not included in predicting construction noise impacts.

- 2.6.2 Paragraph 2.3.47 of the Borrow Pit Excavation and Restoration Report **[REP3-011]** confirmed that the assessment reported in the Environmental Statement was based on estimates of monthly average construction noise levels for a selection of 45 potentially sensitive receptors along the Scheme. The closest selected receptor to Site 11 is 10 Roxton Road located approximately 220m northeast of the Site (Receptor Reference R08). This paragraph also confirmed that the borrow pit operations were not directly related to the significant adverse effects reported at this property in Chapter 11, Noise and Vibration **[APP-080]** of the Environmental Statement.
- 2.6.3 Paragraph 2.3.48 of the Borrow Pit Excavation and Restoration Report **[REP3-011]** confirmed that the predicted construction noise level at the closest receptor to Site 11, located on Spinney Road, was 49dB LAeq. This is considerably below the SOAEL of 65 dB LAeq at this receptor. Therefore, the borrow pit works at Site 11 are not considered to be a potential source of significant adverse construction noise effects at the closest receptors.
- 2.6.4 Paragraph 3.3.39 of the Borrow Pit Excavation and Restoration Report **[REP3-011]** confirmed that the assessment reported in the Environmental Statement was based on estimates of monthly average construction noise levels for a selection of 45 potentially sensitive receptors along the Scheme. The closest selected receptor to Site 14 is 9 Great North Road located approximately 140m north of Site 14 (Receptor Reference R15A and B). This paragraph also confirmed that the borrow pit operations were not directly related to the significant adverse effect reported at this property in Chapter 11, Noise and Vibration **[APP-080]** of the Environmental Statement.
- 2.6.5 Paragraph 3.3.40 of the Borrow Pit Excavation and Restoration Report **[REP3-011]** confirmed that the predicted construction noise level at the closest receptor to Site 14, located off Great North Road, was 57dB LAeq. This is considerably below the Significant Observed Adverse Effect Level (SOAEL) of 65 dB LAeq at this receptor. Therefore, the borrow pit works at Site 14 are not considered to be a potential source of significant adverse construction noise effects at the closest receptors.
- 2.7 Applicant's responses to the Examining Authority's Second Round Written Questions [REP4-037]**
- 2.7.1 In its response to Q2.6.2.1, the Applicant confirms that the excavation and backfilling of the borrow pits has been included in the construction noise predictions reported in the Environmental Statement **[APP-080]** and that the assessment was undertaken in accordance with the DMRB methodology. The response confirmed that the borrow pits are not a direct source of the potential significant construction noise effects reported in Chapter 11, Noise and Vibration **[APP-080]** of the Environmental Statement. The response also refers to the generic (best practice) measures to control construction noise set out in the First Iteration Environmental Management Plan **[APP-234]**, as well as further information within the Borrow Pit Excavation and Restoration Report **[REP3-011]** and the Borrow Pits Optioneering Report **[APP-246]**.

2.8 Applicant's comments on other parties' responses to second round written questions **[REP5-015]**

2.8.1 In its response to Q2.6.2.2, BBC referred to its outstanding concerns regarding noise from the borrow pits, as well as their inability to advise on height of compound barriers without an awareness of noise levels emitted from such compounds. In its comments on BBC's response, the Applicant refers to its position as set out in response to Q2.6.2.2 b) in the Applicant's Responses to the Examining Authority's Second Round Written Questions. This confirms that the Applicant will continue to engage with landholders and the local authorities to ensure they remain informed as further detail is developed during detailed design and construction planning. **[REP4-037]**. Engagement with BBC on the detailed mitigation will take place through development and consultation on the Second Iteration EMP.

2.9 First Iteration Environmental Management Plan Rev 3 **[REP9-009]**

2.9.1 The First Iteration Environmental Management Plan **[REP9-009]** was updated at Deadline 9 to include a Borrow Pit Management Plan (Annex R). This includes reference to borrow pit specific noise mitigation measures in Table R-6.

2.10 Applicant's comments on other parties' responses to third round written questions **[REP9-023]**

2.10.1 In its comments on BBC's response to Q3.6.2.1, the Applicant confirms that an assessment of noise impacts relating to the borrow pits is reported in paragraphs 2.3.47-2.3.48 (Site 4) and paragraphs 3.3.39-3.3.40 (Site 14) of the Borrow Pits Excavation and Restoration Report **[REP3-011]** submitted at Deadline 3. The comments also refer to the Borrow Pits Excavation and Restoration Report **[REP3-011]** which contains mitigation that has now been secured in Annex R of the First Iteration Environmental Management Plan **[REP9-009]**.

3 Construction Noise modelling meeting with Bedford Borough Council held on 7 February 2022

- 3.1.1 This meeting was held to demonstrate the construction noise model which was developed by the Applicant and used to derive the construction noise impacts due to the Scheme, including from operations at the borrow pits. The slides provided a visual representation of the construction noise assessment information submitted into the Examination from both the application stage and requests for information during the Examination phase.
- 3.1.2 The sources of the information contained in the presentation were as follows:
- a. Construction noise and vibration assessment methodology:
Chapter 11, Noise and Vibration **[APP-080]** Paragraphs 11.3.21 to 11.3.44 – applicable to the whole Scheme
 - b. Construction noise and vibration assessment assumptions:
Chapter 11, Noise and Vibration **[APP-080]** Paragraphs 11.4.4 c, d and e – applicable to the whole Scheme
 - c. Construction noise and vibration study area, including clarification of number of sensitive receptors modelled:
Chapter 11, Noise and Vibration **[APP-080]** Paragraphs 11.5.2 to 11.5.4 – applicable to whole Scheme.
 - d. Construction noise and vibration essential mitigation:
Chapter 11, Noise and Vibration **[APP-080]** Paragraphs 11.8.2 to 11.8.8 – applicable to whole Scheme.
 - e. Construction noise and vibration impacts and effects:
Chapter 11, Noise and Vibration **[APP-080]** Table 11-10 – reports the LOAEL, SOAEL and maximum predicted monthly construction noise levels at the selected receptors across the Scheme for day, evening and night periods. Receptors within BBC are R01 – R15B inclusive. These, as with all predicted construction noise levels reported in the Environmental Statement, are levels from all construction activities currently assumed to occur in the referenced month, based on the information provided by the Buildability Contractor at the time of the assessment.
Chapter 11, Noise and Vibration **[APP-080]** Paragraphs 11.9.6 a to k inclusive provides further discussion of the predicted construction noise levels reported in Table 11.10 for receptors within BBC.
Chapter 11, Noise and Vibration **[APP-080]** Paragraphs 11.9.8 a, b, c, d and e – reports significant adverse construction noise effects identified at receptors within BBC.
Chapter 11, Noise and Vibration **[APP-080]** Paragraphs 11.9.9 to 11.9.13 – applicable to selected receptors across the Scheme.

Borrow Pit Excavation and Restoration Report **[REP3-011]** paragraph 2.3.48 (Site 4) and paragraphs 3.3.39-3.3.40 (Site 14) of the Borrow Pits Excavation and Restoration Report **[REP3-011]**.

- f. Construction noise and vibration mitigation approach:

First Iteration Environmental Management Plan Annex A (Noise and Vibration) **[REP9-009]**.

First Iteration Environmental Management Plan Annex R (Borrow Pits) **[REP9-009]**.

4 Summary

- 4.1.1 The Applicant has made efforts to address the concerns of BBC regarding the assessment of noise arising from the construction phase including the borrow pits in BBC's administrative area.
- 4.1.2 The Applicant has explained methods and approaches, including the approach to mitigation within the assessment. However, BBC have not accepted the assessment because they have stated there is not enough information in the application for an assessment to be made (in **[REP1-040]** in response to Q1.2.1 in the first round of written questions **[PD-008]**).
- 4.1.3 The Applicant's assessment of construction noise and vibration effects likely to arise due the Scheme has been informed by the methods set out in DMRB, as described in Chapter 11 Noise and Vibration **[APP-080]** of the Environmental Statement. The assessment was based on reasonable worst-case assumptions, including for works associated with the borrow pits and its outcomes confirmed that the borrow pit operations were not directly related to any of the significant adverse construction noise and vibration effects identified in the Environmental Statement **[APP-080]**.
- 4.1.4 The methodologies and assumptions relied upon to make this assessment have been presented as part of either the Environmental Statement or subsequent iterations of technical notes and management plans identified in this Technical Note, and which have been submitted to the Examination, to aid the understanding of all readers. However, the view of BBC has not changed regarding the assessment methodology following receipt of the evidence presented.

Appendix A – Construction Noise Model Presentation

A428 Black Cat to Caxton Gibbet improvements

Noise Modelling - Construction

Bedford Borough Council

7th February 2022



Introductions



Agenda



Agenda

1. Meeting Scope
2. Background
3. Model inputs
4. Model outputs
5. Consideration of Mitigation
6. Questions



Meeting Scope

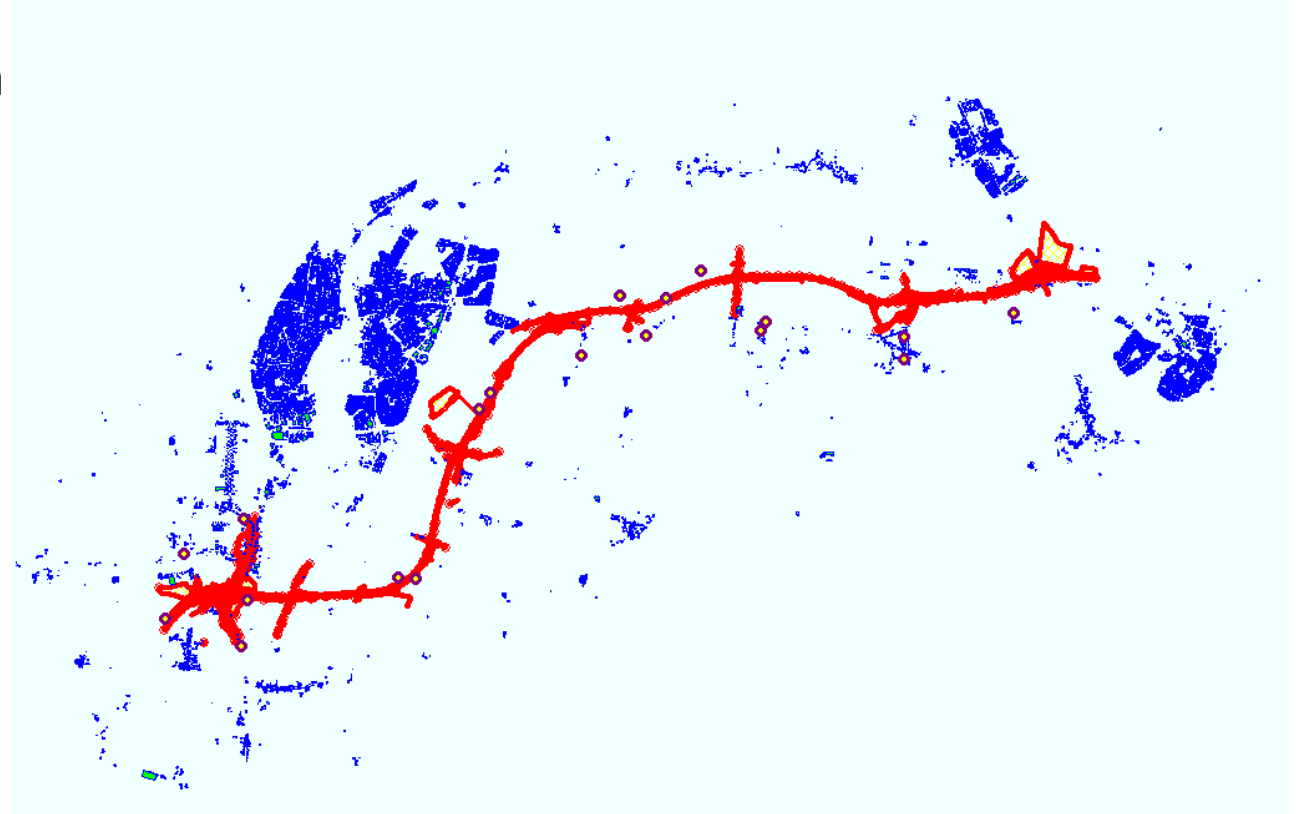


Meeting scope

This meeting is focussed on the construction noise model development only.

The meeting will cover guidance informing construction noise model development, inputs and model outputs.

The meeting will also cover approach to construction vibration assessment



Background



Background

Construction assessment undertaken in accordance with the requirements of LA 111.

- Construction Study Area – generally within 300m from construction activities (construction noise); within 100m from construction activities which require vibratory equipment (construction vibration).
- Noise Sensitive Receptors – residential and non-residential.
- Existing ambient noise levels derived using Do Minimum 2025 traffic noise levels calculated using Calculation of Road Traffic Noise. Used to derive construction noise LOAELs and SOAELs on which construction noise impacts have been based.
- Significant effects – based on predicted construction noise/vibration levels being equal to or exceeding SOAEL, with consideration of likely duration of the predicted impact.

Model built using proprietary noise modelling software.

- SoundPLAN v8.2



Model inputs



Model inputs

Construction specific

- Construction programme and activities, including indicative plant requirements, provided by buildability contractor, including estimate of haul road locations and movements to/from borrow pits and asphalt batching plants. Based on preliminary design.

Project design team 3D Scheme design

- Horizontal and vertical alignment.
- Earthworks and road extents to determine hard and soft ground.

Highways England operational teams

- Confirmed surfacing type on Strategic Roads in opening year without the proposed Scheme as low noise surfacing.



Model inputs

Ordnance Survey data, including Mastermap and AddressPoint.

- Horizontal alignment of existing roads.
- Existing ground elevation in wider study area.
- Location and heights of buildings.
- Identification of noise sensitive buildings (including residential, schools, places of worship, community facilities, medical centres).
- Ground type to identify hard and soft ground.



Model inputs

Defra Open Datasets

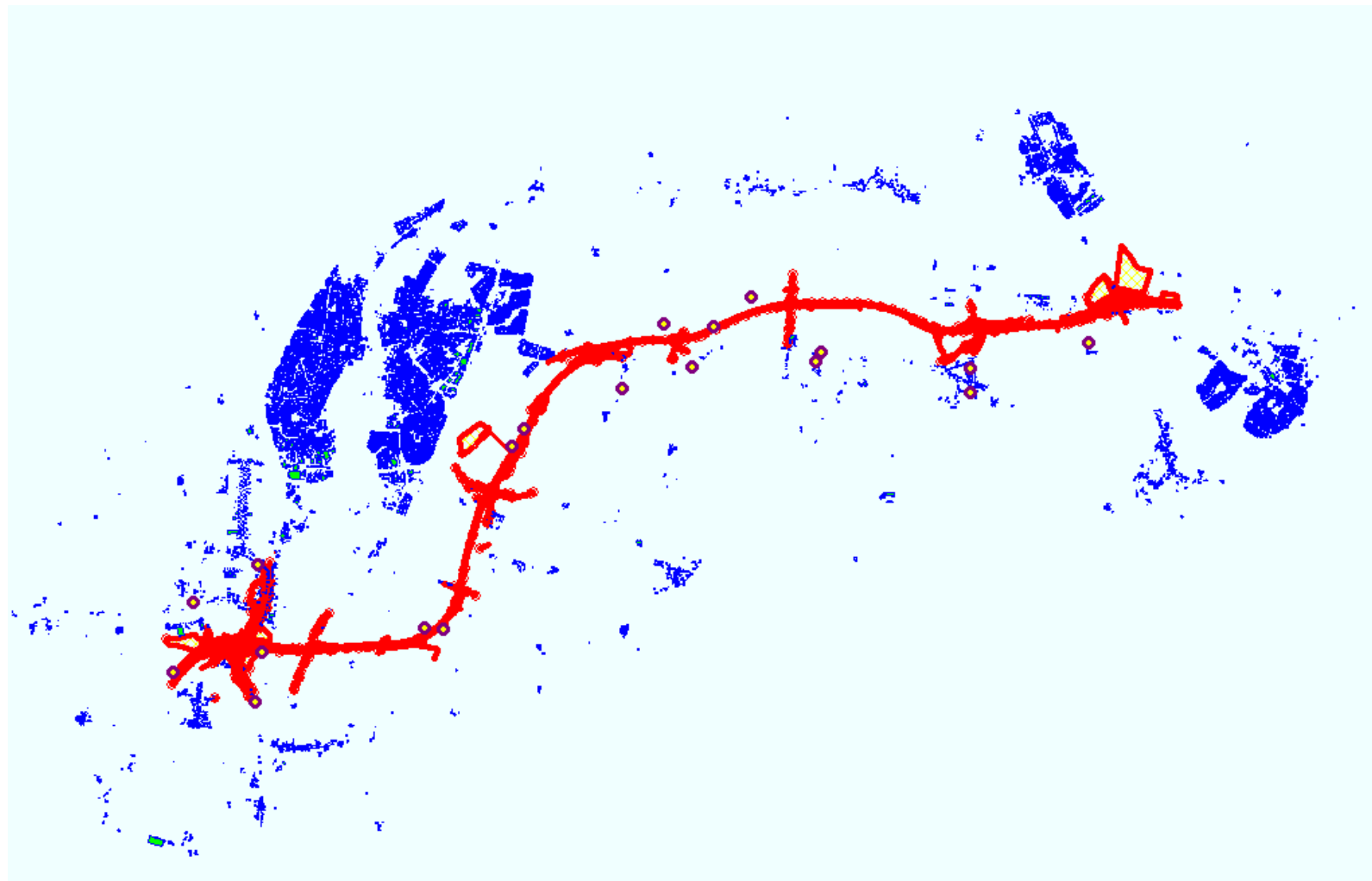
- Lidar data for existing and proposed ground models.

Further details of noise modelling inputs and assumptions is provided in Environmental Statement Volume 6.3 Appendix 11.4: Noise Modelling details [A428 Black Cat to Caxton Gibbet improvements \(planninginspectorate.gov.uk\)](https://www.planninginspectorate.gov.uk/consultations/a428-black-cat-to-caxton-gibbet-improvements/)



Model inputs

Noise model



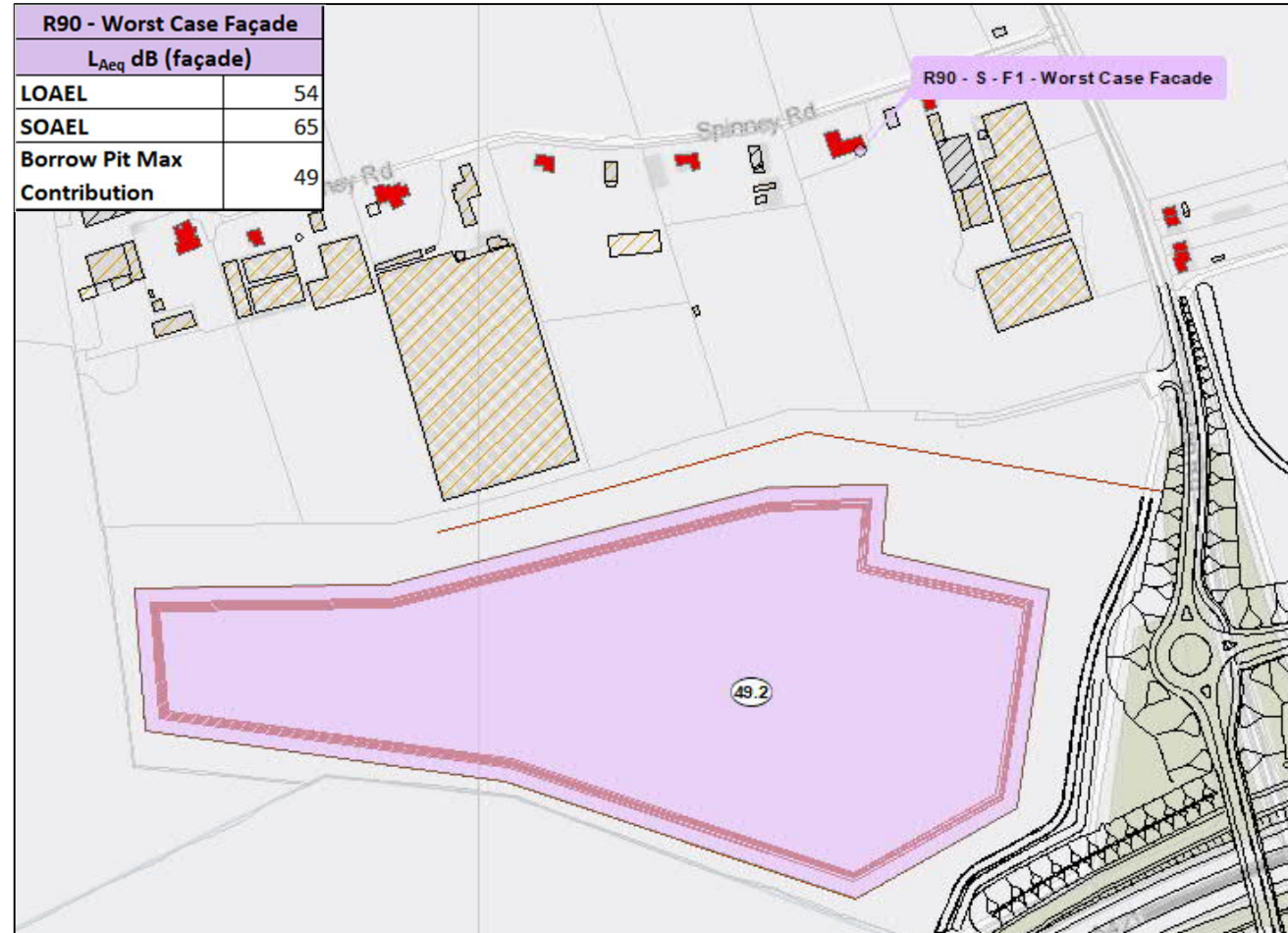
Model outputs



Site 11 - Russell Field F5 Borrow Pit - Excavation

Closest facing sensitive receptor: R90 - Hare Cottage, 18 Spinney Road, Chawston

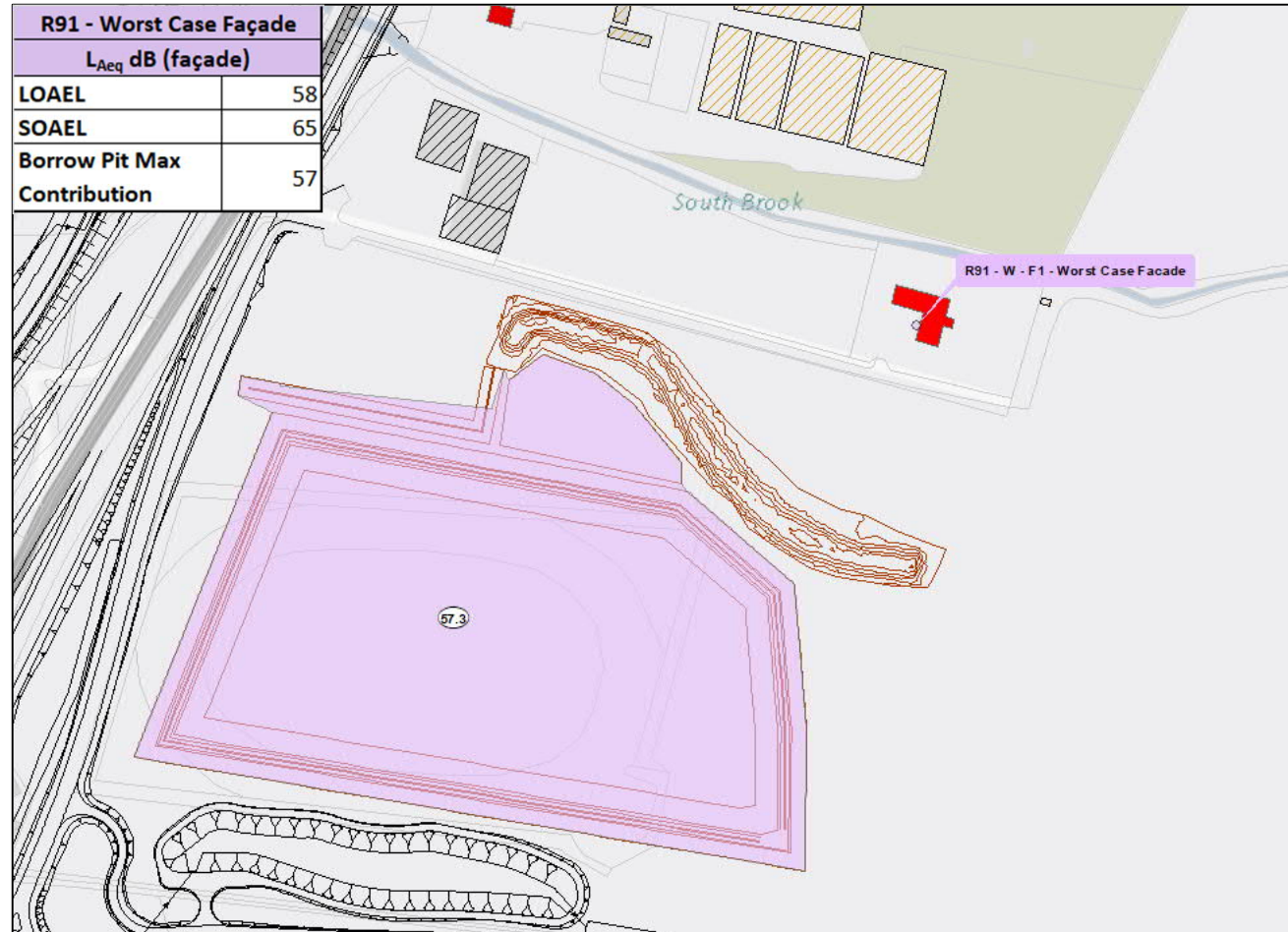
Worst case façade: Floor 1, East side of South facing façade



Site 14 - Doherty F23 Borrow Pit - Excavation

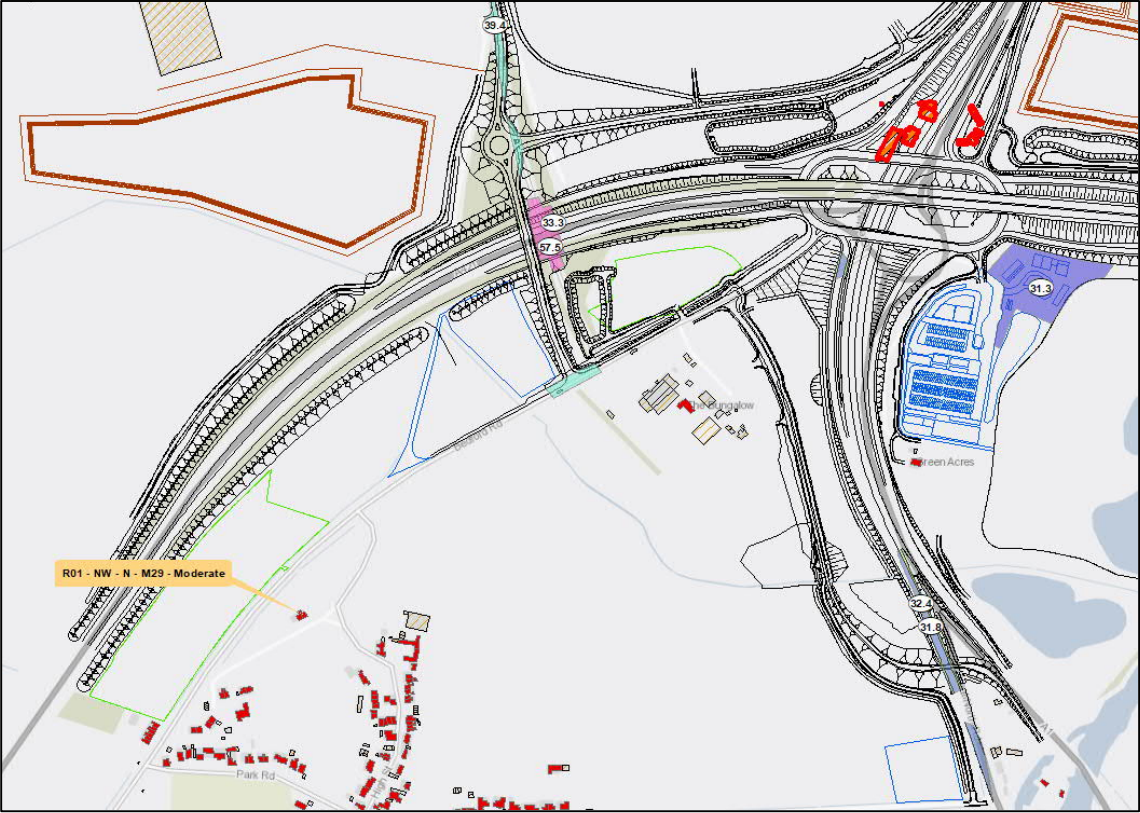
Closest facing sensitive receptor: R91 – Off Great North Road

Worst case façade: Floor 1, closest West facing façade



R01 – Night – Month 29 – Moderate

All Contributions

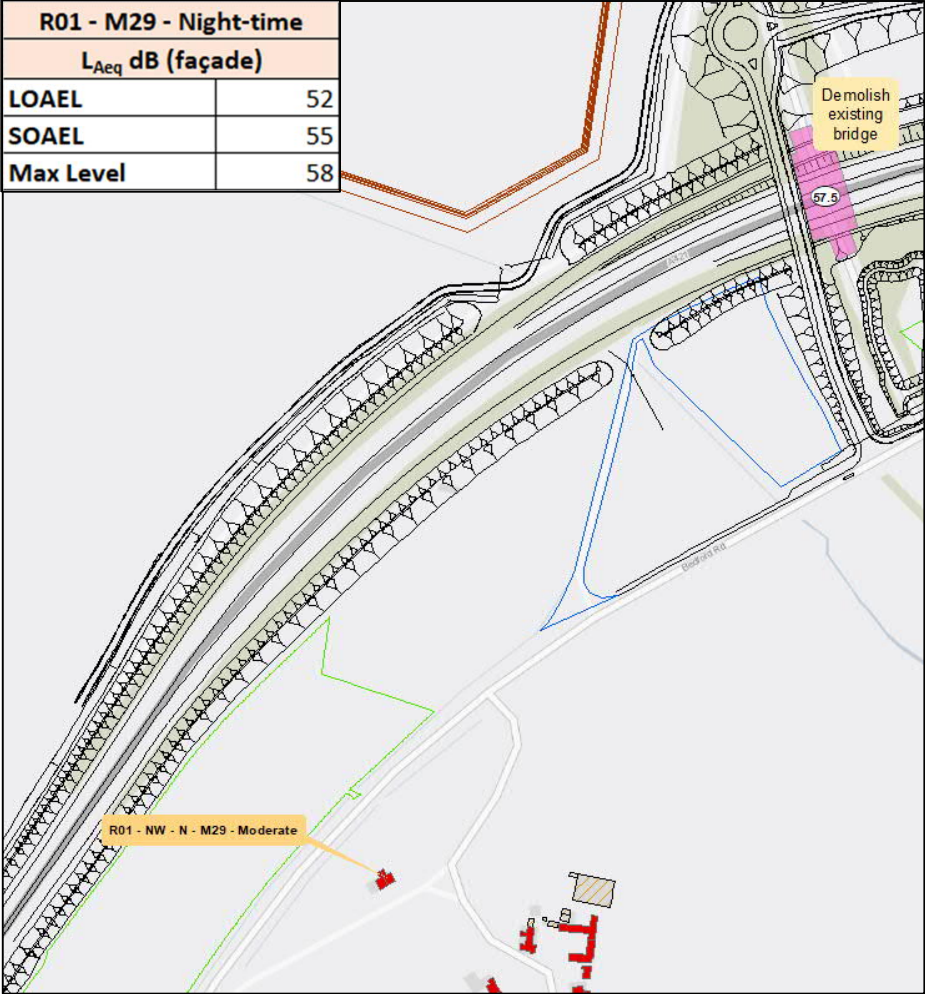


R01 - Night - M29 - All Contributions

WORK AREAS 1

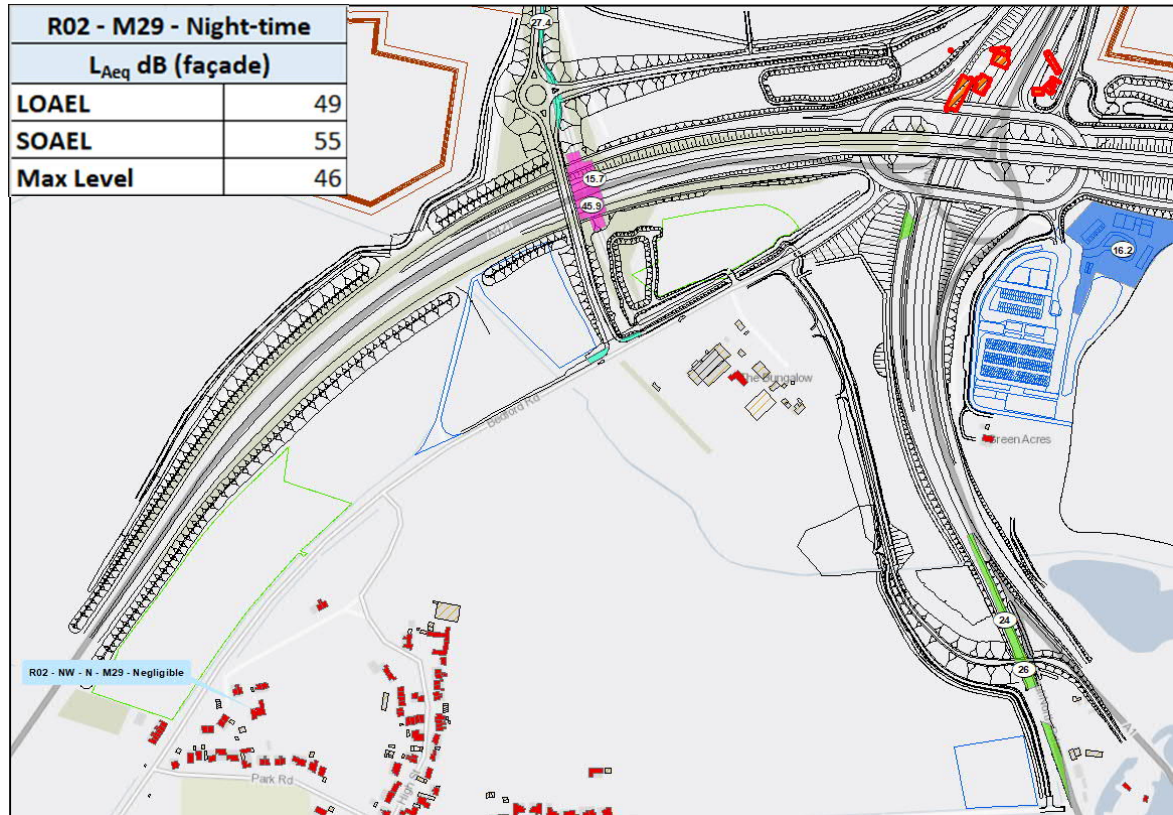
- 31.3 -- U.01.02.01.01 -- Onsite Concrete Batching
- 31.8 -- U.03.10.07.01 -- Traffic Signs and Road markings for A1 NB Offslip
- 32.4 -- U.03.10.06.02 -- Surfacing for A1 NB Offslip (Wearing)
- 33.3 -- U.03.08.08.01 -- Traffic Signs Markings for NW Quadrant ,A1 NB Free Flow Link
- 39.4 -- U.07.02.10.01 -- Road Lighting Columns, Brackets and CCTV Masts for Roxton Road
- 57.5 -- U.07.01.06.02 -- Demolish existing bridge

Main Contributions



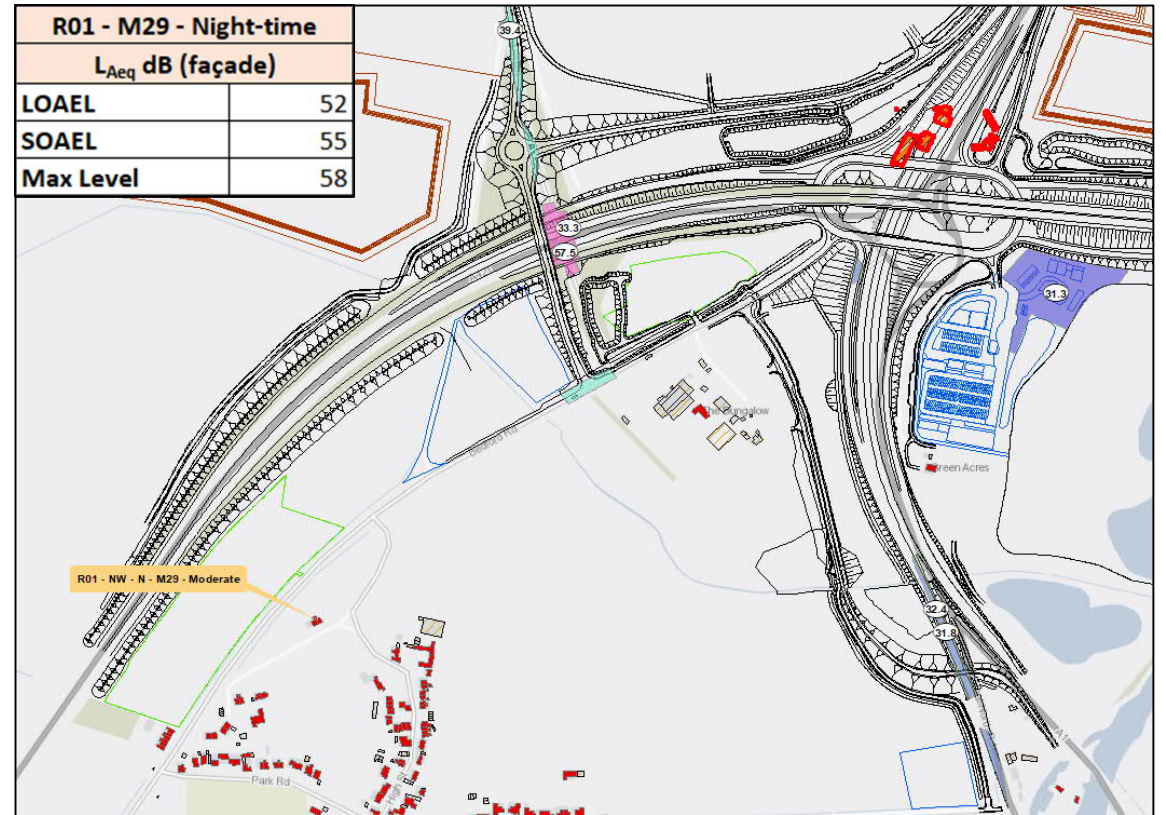
R02 (Back Row for R01) – Night – Month 29 – Negligible

All Contributions R02 (Back Row)



- R02 - Night - M29 - All Contributions
- WORK AREAS
 - 15.7 -- U.03.08.08.01 -- Traffic Signs Markings for NW Quadrant_A1 NB Free Flow Link
 - 16.2 -- U.01.02.01.01 -- Onsite Concrete Batching
 - 24 -- U.03.10.07.01 -- Traffic Signs and Road markings for A1 NB Offslip
 - 26 -- U.03.10.06.02 -- Surfacing for A1 NB Offslip (Wearing)
 - 27.4 -- U.07.02.10.01 -- Road Lighting Columns, Brackets and CCTV Masts for Roxton Road
 - 45.9 -- U.07.01.06.02 -- Demolish existing bridge

All Contributions R01 Comparison

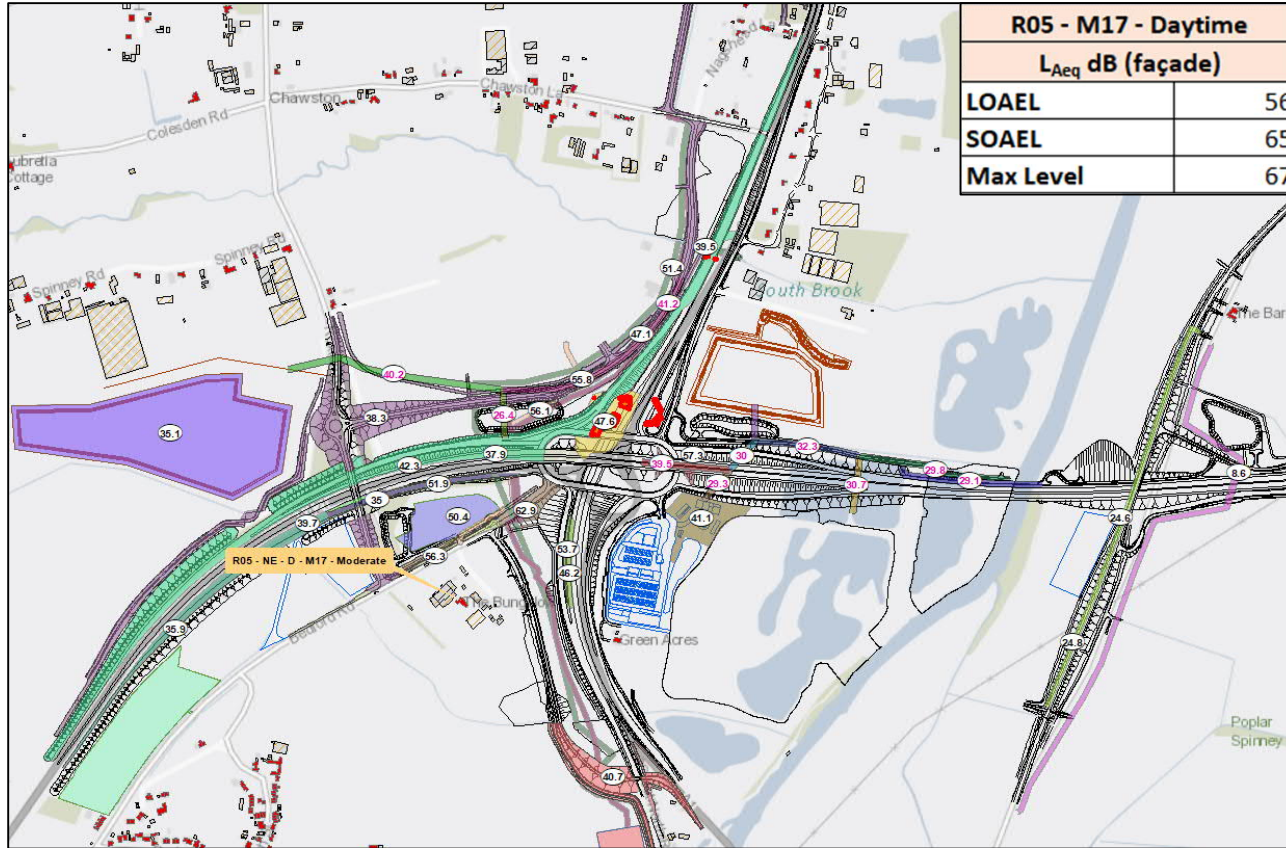


- R01 - Night - M29 - All Contributions
- WORK AREAS 1
 - 31.3 -- U.01.02.01.01 -- Onsite Concrete Batching
 - 31.8 -- U.03.10.07.01 -- Traffic Signs and Road markings for A1 NB Offslip
 - 32.4 -- U.03.10.06.02 -- Surfacing for A1 NB Offslip (Wearing)
 - 33.3 -- U.03.08.08.01 -- Traffic Signs Markings for NW Quadrant_A1 NB Free Flow Link
 - 39.4 -- U.07.02.10.01 -- Road Lighting Columns, Brackets and CCTV Masts for Roxton Road
 - 57.5 -- U.07.01.06.02 -- Demolish existing bridge

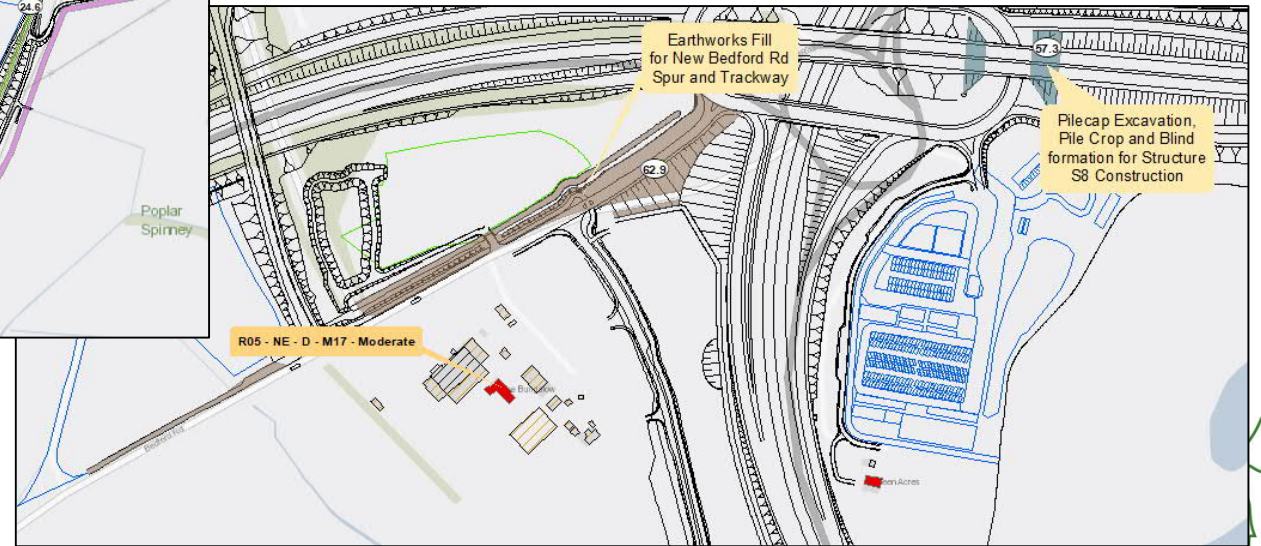


R05 – Day – Month 17 – Moderate

All Contributions



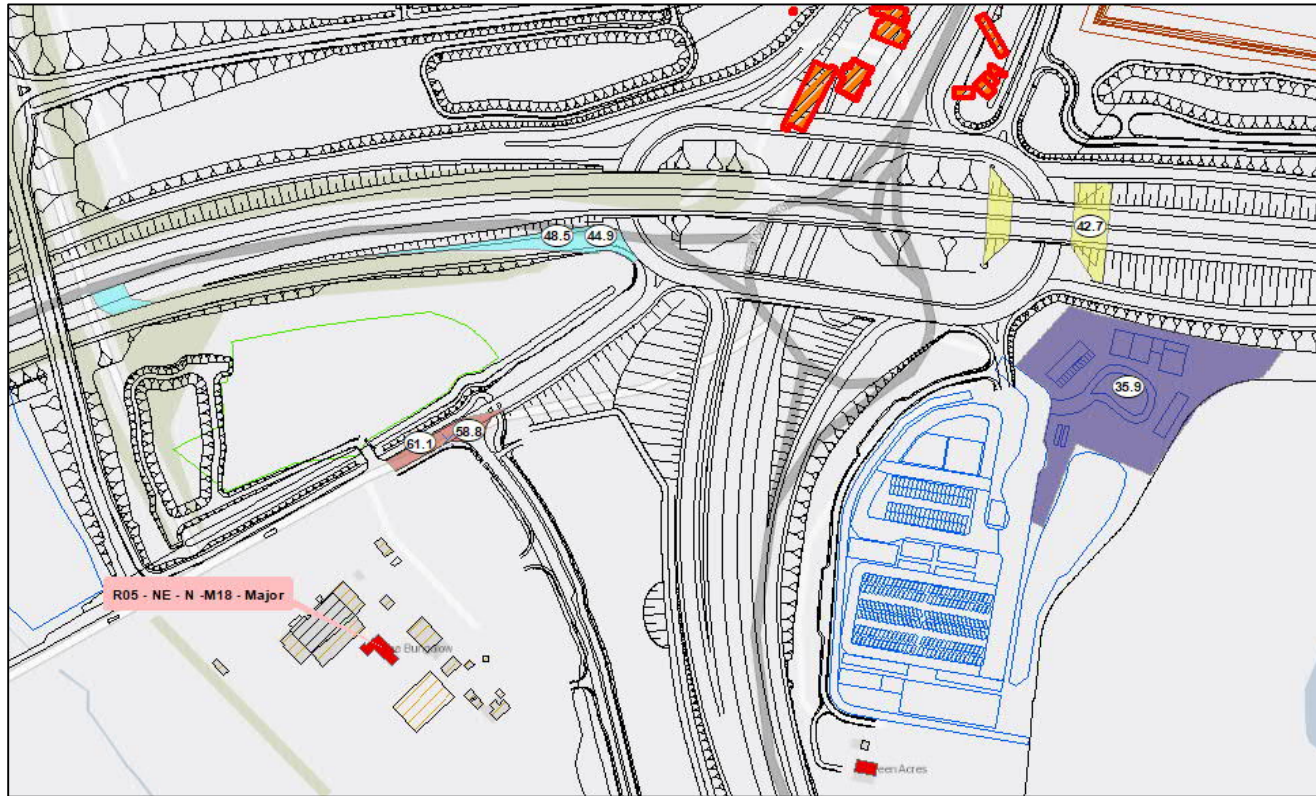
Main Contributions



- R05 - Day - M17 - All Contributions**
- HAUL ROUTES
 - 26.4 -- U.09.01.01.02 -- Ewks Haul - BlackCatW - Spur
 - 29.1 -- U.09.01.03.01 -- Ewks Haul - RO FCA and Platform
 - 29.3 -- U.09.01.02.06 -- Ewks Haul - BlackCatE - SpurW
 - 29.8 -- U.09.01.02.04 -- Ewks Haul - BlackCatE - SpurE
 - 30 -- U.09.01.02.05 -- Ewks Haul - BlackCatE - Split-SpurW
 - 30.7 -- U.09.01.02.03 -- Ewks Haul - BlackCatE - SpurE
 - 32.3 -- U.09.01.02.02 -- Ewks Haul - BlackCatE - Split-SpurE
 - 39.5 -- U.09.01.02.07 -- Ewks Haul - BlackCatE - SpurW-W
 - 39.5 -- U.09.01.02.01 -- Ewks Haul - BlackCatE - BwP-Split
 - 40.2 -- U.09.01.01.01 -- Ewks Haul - BlackCatW - BwP-Spur
 - 41.2 -- U.09.01.01.03 -- Ewks Haul - BlackCatW - Spur-E
 - WORK AREAS
 - 8.6--V.01.01.08.01--W06 - Water Main Diversion - Construction duration
 - 24.6--V.01.01.05.01--VF02 - Vodafone Cable Diversion (CH2660) - Construction duration
 - 24.8--V.01.01.06.01--BT11 BT Diversion (CH2660) - Construction duration
 - 24.8--V.01.01.04.01--VM02 - Virgin Media Cable Diversion (CH2660) - Construction duration
 - 35--U.03.05.12.01--Electrical Work including ducting for A421 Onslip_Widening
 - 35.1--U.03.02.01.01--Russell Field F5 Borrow Pit - Excavation
 - 35.9--U.01.02.01.02--Onsite Precast concrete manufacturing
 - 35.9--U.01.02.01.01--Onsite Concrete Batching
 - 35.9--U.03.05.13.01--V Channel for A421 Onslip_Widening
 - 37.9--U.03.08.03.01--Strip Topsoil for NW Quadrant inc. A1 NB Free Flow Link
 - 38.3--U.07.02.01.01--Site Clearance for Roxton Road Re-alignment Works
 - 39.5--U.03.04.02.02--Culvert Construction to South Brook
 - 39.7--U.03.05.04.03--Narrow Filter Drainage for A421 Onslip_Widening
 - 40.7--U.08.02.01.01--Site Clearance for Kelpie Marina access road
 - 41.1--U.01.02.01.03--Bulk material handling
 - 42.3--U.03.03.04.02--FRC Foundations for Structure S8 Construction
 - 42.3--U.03.08.02.01--Temporary Earthworks Drainage for NW Quadrant
 - 46.2--U.03.07.03.01--Pilecap Excavation, Pile Crop and Blind formation for Structure S51D
 - 47.1--U.02.01.03.01--BT02 - BT Diversion - Construction duration
 - 47.6--U.03.01.03.01--Demolish A1 Services and regrade working area
 - 50.4--U.03.06.02.01--Strip Topsoil for New Bedford Rd Spur and Trackway
 - 51.4--U.02.01.05.01--W01 - Water Main Diversion - Construction duration
 - 51.9--U.03.05.08.02--Sub Base for A421 Onslip_Widening
 - 53.7--U.03.07.02.02--S51D Piles Construction
 - 55.8--U.02.01.02.01--E01 - Electricity Overhead Diversion - Construction duration
 - 56.1--U.02.01.04.01--C02 - Unidentified Duct Diversion - Construction duration
 - 56.3--U.03.06.01.01--Carrier Drainage for New Bedford Rd Spur and Trackway
 - 57.3--U.03.03.04.01--Pilecap Excavation, Pile Crop and Blind formation for Structure S8 Construction
 - 62.9--U.03.06.03.01--Earthworks Fill for New Bedford Rd Spur and Trackway

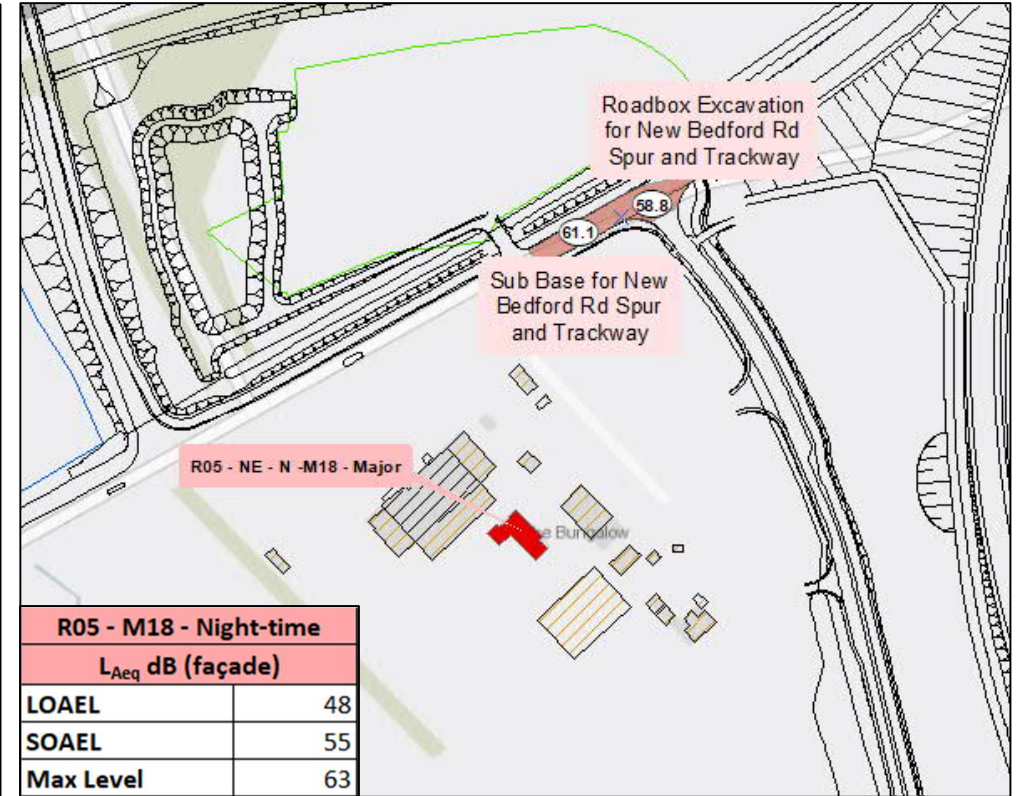
R05 – Night – Month 18 – Major

All Contributions



- R05 - Night - M18 - All Contributions
- WORK AREAS
- 35.9 -- U.01.02.01.01 -- Onsite Concrete Batching
- 40.3 -- U.03.04.02.02 -- Culvert Construction to South Brook
- 42.7 -- U.03.03.04.03 -- FRC Abutments for Structure S8 Construction
- 44.9 -- U.03.05.09.01 -- Surfacing for A421 Onslip Widening (Base_Binder)
- 48.5 -- U.03.05.11.01 -- Road Lighting Columns, Brackets and CCTV Masts for A421 Onslip_Widening
- 58.8 -- U.03.06.04.01 -- Roadbox Excavation for New Bedford Rd Spur and Trackway
- 61.1 -- U.03.06.04.02 -- Sub Base for New Bedford Rd Spur and Trackway

Main Contributions



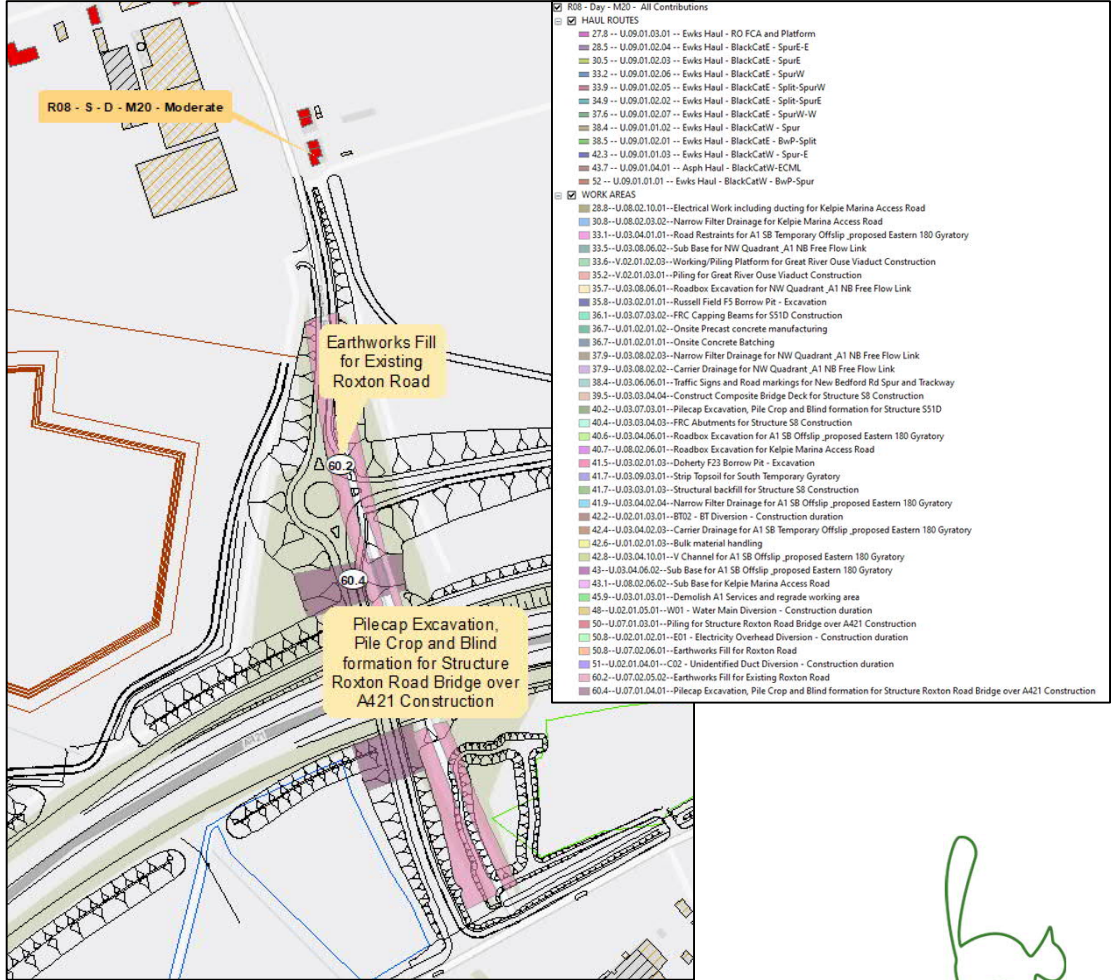
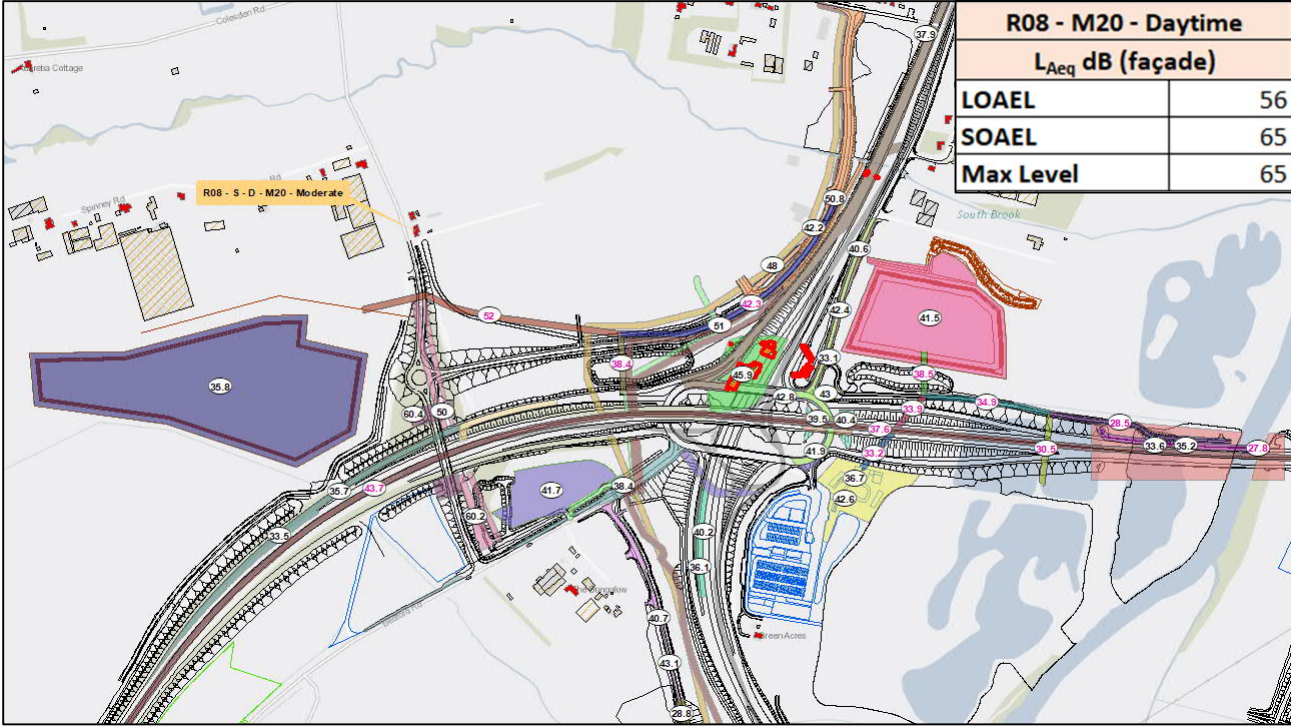
R05 - M18 - Night-time	
L _{Aeq} dB (façade)	
LOAEL	48
SOAEL	55
Max Level	63



R08 – Day – Month 20 – Moderate

All Contributions

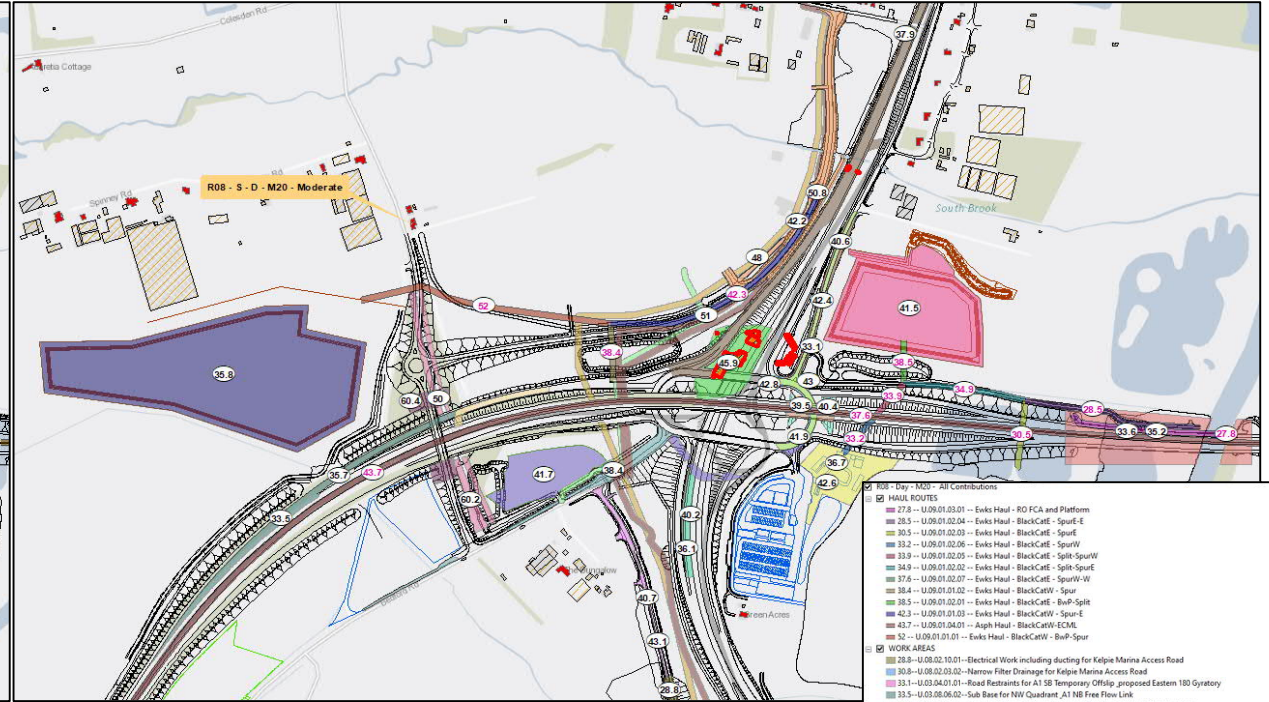
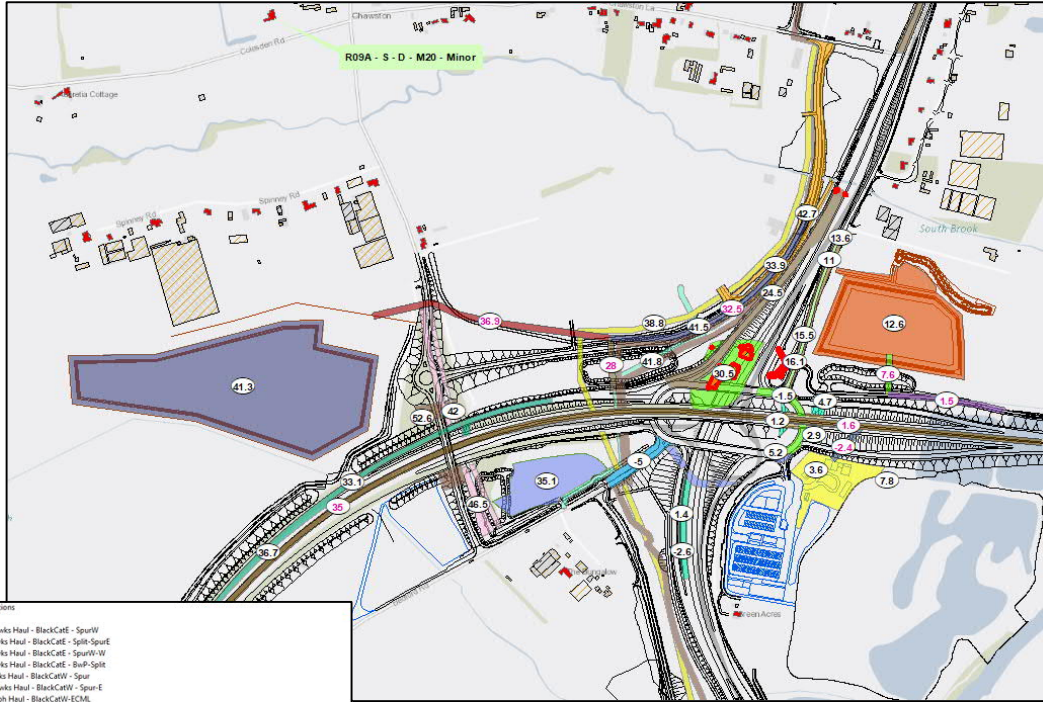
Main Contributions



R09A (Back Row for R08) – Day – Month 20 – Minor

All Contributions R09A (Back Row)

All Contributions R08 Comparison



- R09 - Day - M20 - All Contributions**
- HAUL ROUTES**
 - 2.4 - U-09.01.02.06 - Evks Haul - BlackCatE - SpurW
 - 1.5 - U-09.01.02.02 - BlackCatE - Split-SpurE
 - 1.6 - U-09.01.02.07 - Evks Haul - BlackCatE - SpurW-W
 - 7.8 - U-09.01.02.01 - Evks Haul - BlackCatE - BuP-Split
 - 28 - U-09.01.01.02 - Evks Haul - BlackCatW - Spur
 - 32.5 - U-09.01.01.03 - Evks Haul - BlackCatW - Spur-E
 - 35 - U-09.01.04.01 - AspH Haul - BlackCatW-ECM
 - 36.9 - U-09.01.01.01 - Evks Haul - BlackCatW - BuP-Spur
 - WORK AREAS**
 - 5 - U-03.06.06.01 - Traffic Signs and Road markings for New Bedford Rd Spur and Trackway
 - 3.6 - U-03.07.03.02 - FRC Capping Beams for S51D Construction
 - 1.5 - U-03.04.04.01 - Road Restraints for A1 S8 Temporary Offlip, proposed Eastern 180 Gyrotary
 - 1.2 - U-03.04.04.04 - Construct Composite Bridge Deck for Structure S8 Construction
 - 1.4 - U-03.07.03.01 - Pilecap Excavation, Pile Crop and Blind formation for Structure S51D
 - 2.9 - U-03.03.04.05 - FRC Abutments for Structure S8 Construction
 - 3.6 - U-01.02.01.01 - On-site Concrete Batching
 - 3.6 - U-01.02.01.02 - On-site Precast concrete manufacturing
 - 4.7 - U-03.03.01.03 - Structural backfill for Structure S8 Construction
 - 5.2 - U-03.04.02.04 - Narrow Filter Drainage for A1 S8 Offlip, proposed Eastern 180 Gyrotary
 - 7.8 - U-01.02.01.03 - Bulk material handling
 - 11 - U-03.04.06.01 - Roadbox Excavation for A1 S8 Offlip, proposed Eastern 180 Gyrotary
 - 12.6 - U-03.02.01.03 - Doherty F23 Borrow Pit - Excavation
 - 12.6 - U-03.04.06.02 - Sub Base for A1 S8 Offlip, proposed Eastern 180 Gyrotary
 - 15.5 - U-03.04.02.03 - Carrier Drainage for A1 S8 Temporary Offlip, proposed Eastern 180 Gyrotary
 - 16.1 - U-03.04.10.01 - V Channel for A1 S8 Offlip, proposed Eastern 180 Gyrotary
 - 24.5 - U-03.08.02.03 - Narrow Filter Drainage for NW Quadrant, A1 NB Free Flow Link
 - 24.5 - U-03.08.02.02 - Carrier Drainage for NW Quadrant, A1 NB Free Flow Link
 - 30.5 - U-03.01.03.01 - Demolish A1 Services and regrade working area
 - 31 - U-03.08.06.01 - Roadbox Excavation for NW Quadrant, A1 NB Free Flow Link
 - 33.9 - U-02.01.03.01 - BT02 - BT Diversion - Construction duration
 - 35.1 - U-03.09.03.01 - Strip Topsoil for South Temporary Gyrotary
 - 36.7 - U-03.08.06.02 - Sub Base for NW Quadrant, A1 NB Free Flow Link
 - 38.4 - U-02.01.05.01 - W01 - Water Main Diversion - Construction duration
 - 41.3 - U-03.02.01.01 - Russell Field F5 Borrow Pit - Excavation
 - 41.5 - U-02.01.02.01 - E01 - Electricity Overhead Diversion - Construction duration
 - 41.8 - U-02.01.04.01 - C02 - Underside Duct Diversion - Construction duration
 - 42 - U-07.03.03.01 - Piling for Structure Roston Road Bridge over A421 Construction
 - 42.7 - U-07.02.06.01 - Earthworks Fill for Roston Road
 - 46.5 - U-07.02.25.02 - Earthworks Fill for Existing Roston Road
 - 52.6 - U-07.01.04.01 - Pilecap Excavation, Pile Crop and Blind formation for Structure Roston Road Bridge over A421 Construction

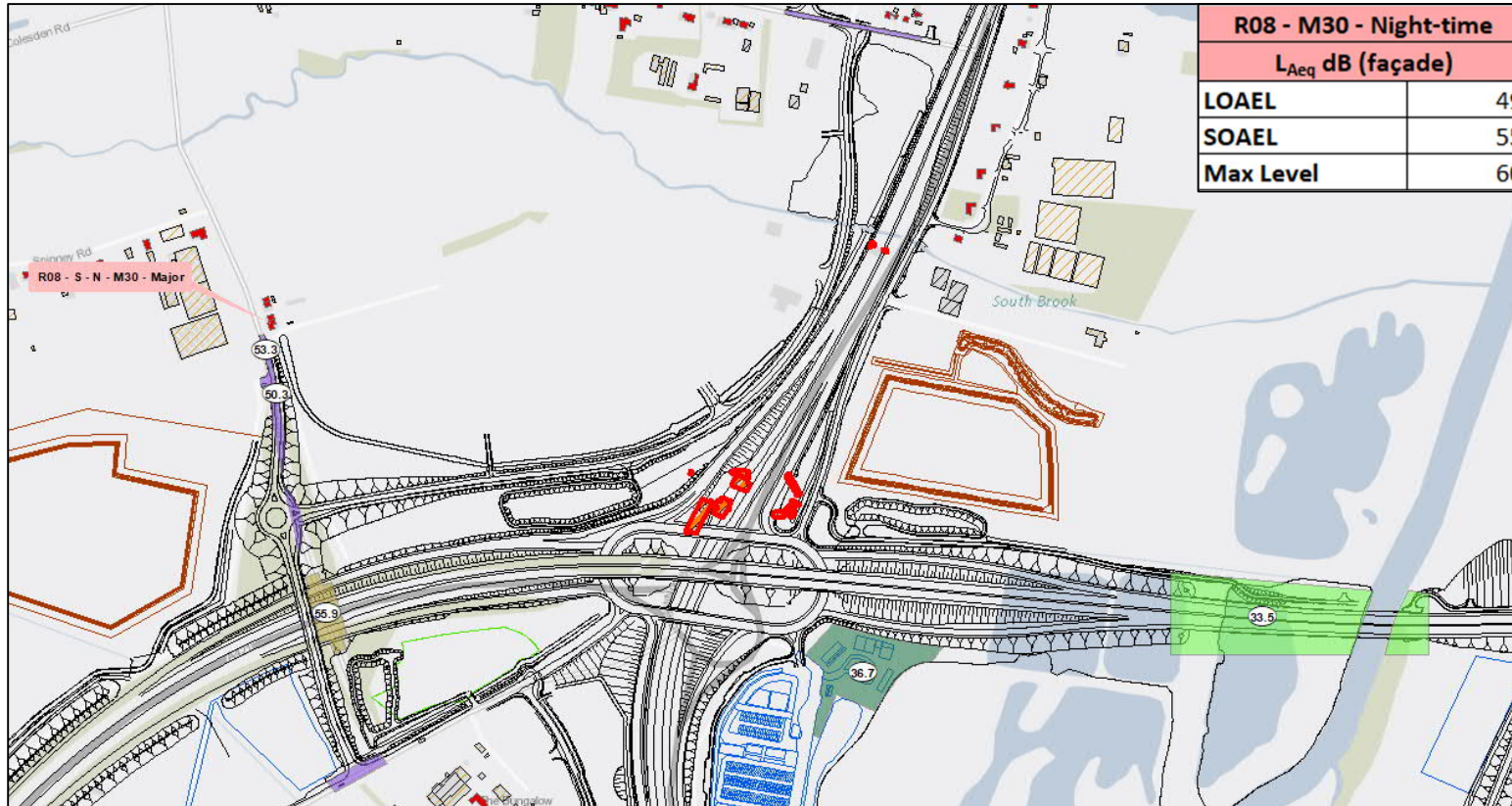
R09A - M20 - Daytime	
L _{Aeq} dB (façade)	
LOAEL	54
SOAEL	65
Max Level	55

R08 - M20 - Daytime	
L _{Aeq} dB (façade)	
LOAEL	56
SOAEL	65
Max Level	65

- HAUL ROUTES**
 - 27.8 - U-09.01.03.01 - Evks Haul - RD FCA and Platform
 - 28.5 - U-09.01.02.04 - Evks Haul - BlackCatE - SpurE-E
 - 30.5 - U-09.01.02.03 - Evks Haul - BlackCatE - SpurE-E
 - 33.2 - U-09.01.02.06 - Evks Haul - BlackCatE - SpurW
 - 33.9 - U-09.01.02.05 - Evks Haul - BlackCatE - Split-SpurW
 - 34.9 - U-09.01.02.02 - Evks Haul - BlackCatE - Split-SpurE
 - 37.6 - U-09.01.02.07 - Evks Haul - BlackCatE - SpurW-W
 - 38.4 - U-09.01.01.02 - Evks Haul - BlackCatW - Spur
 - 38.5 - U-09.01.02.01 - Evks Haul - BlackCatE - BuP-Split
 - 42.3 - U-09.01.01.03 - Evks Haul - BlackCatW - Spur-E
 - 43.7 - U-09.01.04.01 - AspH Haul - BlackCatW-ECM
 - 52 - U-09.01.01.01 - Evks Haul - BlackCatW - BuP-Spur
- WORK AREAS**
 - 28.8 - U-03.08.10.01 - Electrical Work including ducting for Kelpie Marina Access Road
 - 30.8 - U-03.08.02.02 - Narrow Filter Drainage for Kelpie Marina Access Road
 - 33.1 - U-03.04.01.01 - Road Restraints for A1 S8 Temporary Offlip, proposed Eastern 180 Gyrotary
 - 33.5 - U-03.08.06.02 - Sub Base for NW Quadrant, A1 NB Free Flow Link
 - 33.6 - U-03.02.01.01 - Rustled Field F5 Borrow Pit - Excavation
 - 35.2 - U-02.01.03.01 - Piling for Great River Usage Viaduct Construction
 - 35.7 - U-03.04.01.01 - Roadbox Excavation for NW Quadrant, A1 NB Free Flow Link
 - 35.8 - U-03.02.01.01 - Rustled Field F5 Borrow Pit - Excavation
 - 36.1 - U-03.07.03.02 - FRC Capping Beams for S51D Construction
 - 36.7 - U-01.02.01.02 - On-site Precast concrete manufacturing
 - 36.7 - U-01.02.01.01 - On-site Concrete Batching
 - 37.9 - U-03.08.02.03 - Narrow Filter Drainage for NW Quadrant, A1 NB Free Flow Link
 - 37.9 - U-03.08.02.02 - Narrow Filter Drainage for NW Quadrant, A1 NB Free Flow Link
 - 37.9 - U-03.08.02.01 - Carrier Drainage for NW Quadrant, A1 NB Free Flow Link
 - 38.4 - U-03.06.06.01 - Traffic Signs and Road markings for New Bedford Rd Spur and Trackway
 - 39.1 - U-03.01.04.04 - Construct Composite Bridge Deck for Structure S8 Construction
 - 40.2 - U-03.07.03.01 - Pilecap Excavation, Pile Crop and Blind formation for Structure S51D
 - 40.4 - U-03.04.03.03 - FRC Abutments for Structure S8 Construction
 - 40.6 - U-03.04.06.01 - Roadbox Excavation for A1 S8 Offlip, proposed Eastern 180 Gyrotary
 - 40.7 - U-03.02.06.01 - Roadbox Excavation for Kelpie Marina Access Road
 - 41.3 - U-03.02.01.03 - Doherty F23 Borrow Pit - Excavation
 - 41.7 - U-03.09.03.01 - Strip Topsoil for South Temporary Gyrotary
 - 41.7 - U-03.01.03.01 - Structural backfill for Structure S8 Construction
 - 41.9 - U-03.04.02.04 - Narrow Filter Drainage for A1 S8 Offlip, proposed Eastern 180 Gyrotary
 - 42.2 - U-02.01.03.01 - BT02 - BT Diversion - Construction duration
 - 42.4 - U-03.04.02.03 - Carrier Drainage for A1 S8 Temporary Offlip, proposed Eastern 180 Gyrotary
 - 42.6 - U-03.01.03.03 - Carrier Drainage for A1 S8 Temporary Offlip, proposed Eastern 180 Gyrotary
 - 42.6 - U-01.02.01.03 - Bulk material handling
 - 42.8 - U-03.04.10.01 - V Channel for A1 S8 Offlip, proposed Eastern 180 Gyrotary
 - 43 - U-03.04.06.02 - Sub Base for A1 S8 Offlip, proposed Eastern 180 Gyrotary
 - 43.1 - U-03.08.06.02 - Sub Base for Kelpie Marina Access Road
 - 43.5 - U-03.01.03.01 - Demolish A1 Services and regrade working area
 - 48 - U-02.01.05.01 - W01 - Water Main Diversion - Construction duration
 - 50 - U-07.01.03.01 - Piling for Structure Roston Road Bridge over A421 Construction
 - 50.8 - U-02.01.02.01 - E01 - Electricity Overhead Diversion - Construction duration
 - 50.8 - U-07.02.06.01 - Earthworks Fill for Roston Road
 - 51 - U-02.01.04.01 - C02 - Underside Duct Diversion - Construction duration
 - 60.2 - U-07.02.25.02 - Earthworks Fill for Existing Roston Road
 - 60.4 - U-07.01.04.01 - Pilecap Excavation, Pile Crop and Blind formation for Structure Roston Road Bridge over A421 Construction

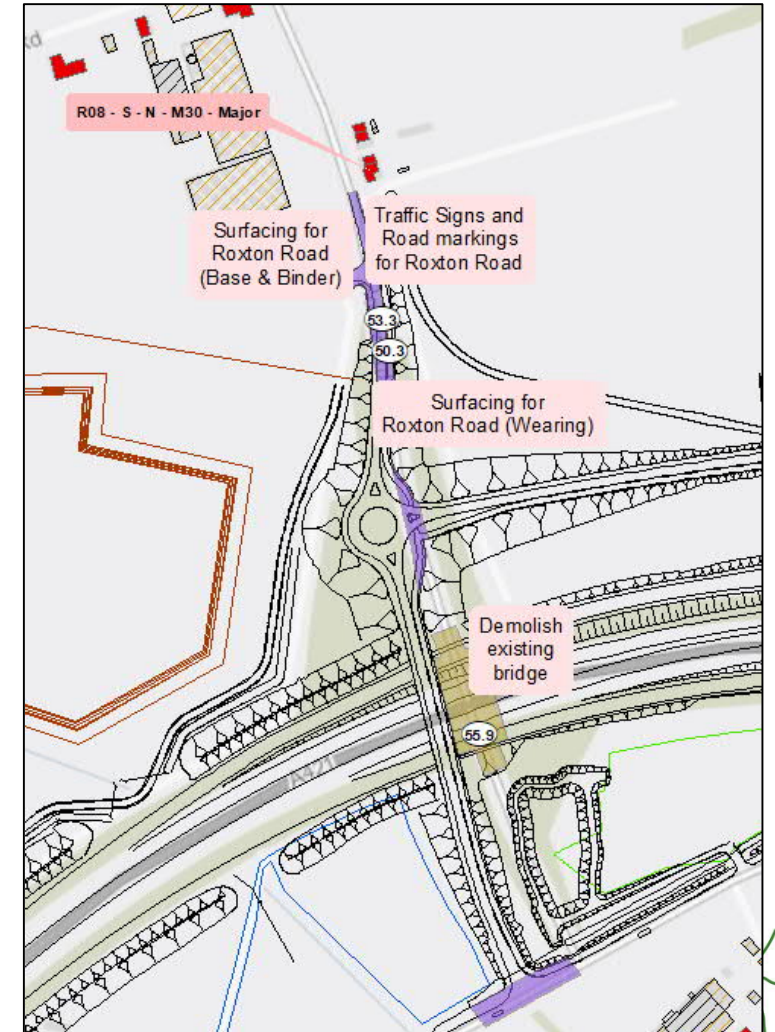
R08 – Night – Month 20 – Major

All Contributions



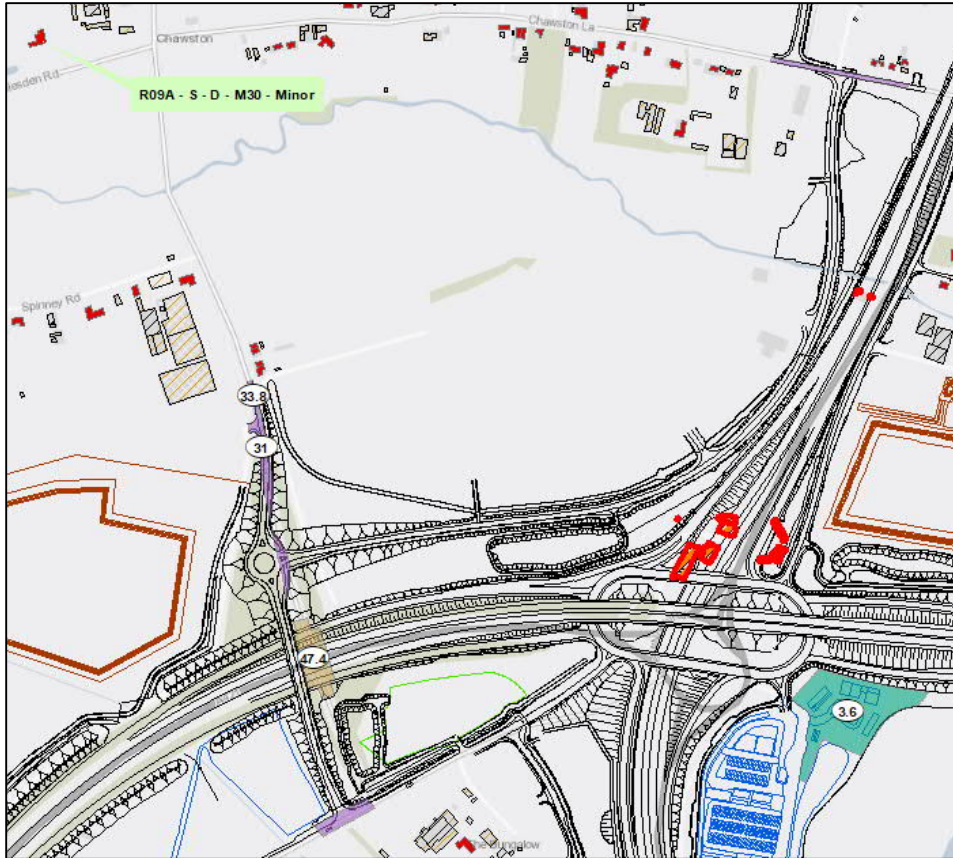
- R08 - Night - M30 - All Contributions
- WORK AREAS
- 33.5 -- V.02.01.04.03 -- FRC Piers and Abutments for Great River Ouse Viaduct Construction
- 36.7 -- U.01.02.01.01 -- Onsite Concrete Batching
- 50.3 -- U.07.02.09.01 -- Traffic Signs and Road markings for Roxton Road
- 53.3 -- U.07.02.08.01 -- Surfacing for Roxton Road (Base_Binder)
- 53.3 -- U.07.02.08.02 -- Surfacing for Roxton Road (Wearing)
- 55.9 -- U.07.01.06.02 -- Demolish existing bridge

Main Contributions



R09A (Back Row for R08) – Night – Month 30 – Minor

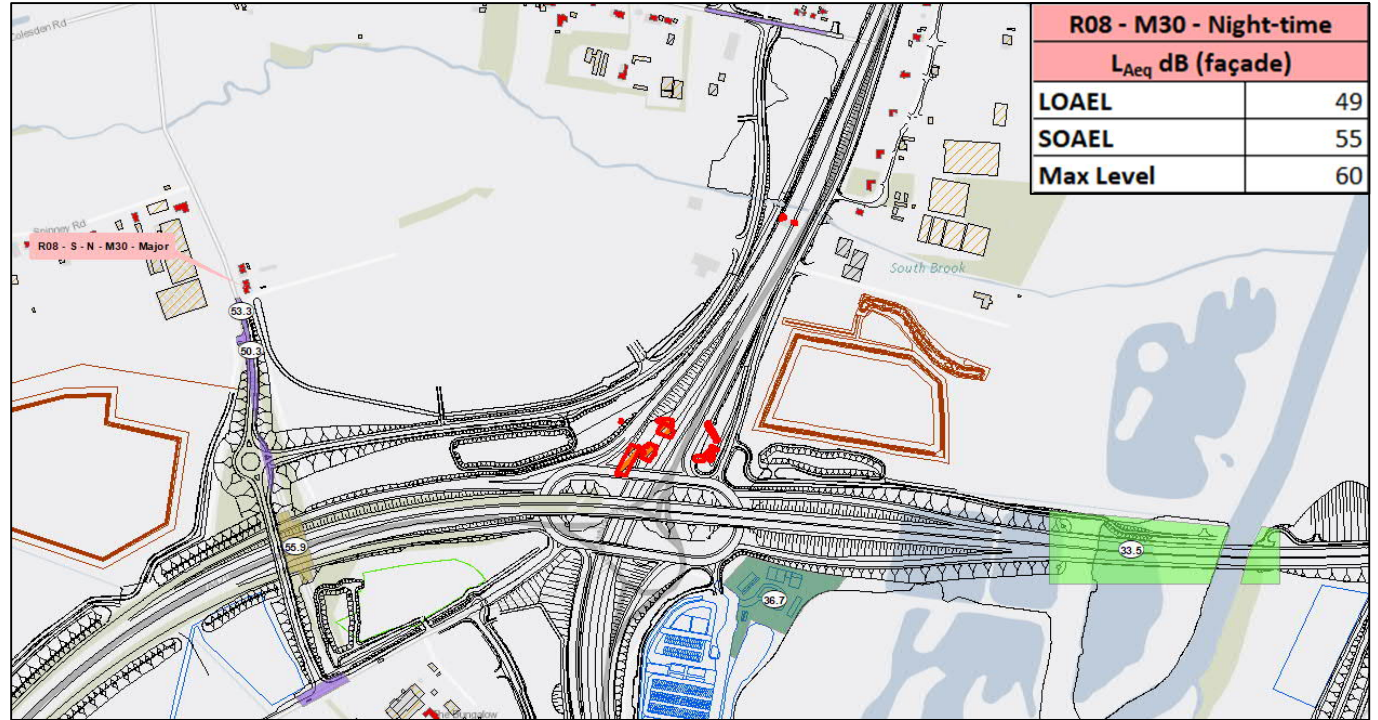
All Contributions R09A (Back Row)



- R09 - Night - M30 - All Contributions
- WORK AREAS
- 3.6 -- U.01.02.01.01 -- Onsite Concrete Batching
- 31 -- U.07.02.09.01 -- Traffic Signs and Road markings for Roxton Road
- 33.8 -- U.07.02.08.02 -- Surfacing for Roxton Road (Wearing)
- 33.8 -- U.07.02.08.01 -- Surfacing for Roxton Road (Base_Binder)
- 47.4 -- U.07.01.06.02 -- Demolish existing bridge

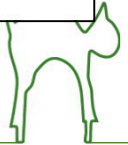
R09A - M30 - Daytime	
L _{Aeq} dB (façade)	
LOAEL	47
SOAEL	50
Max Level	48

All Contributions R08 Comparison



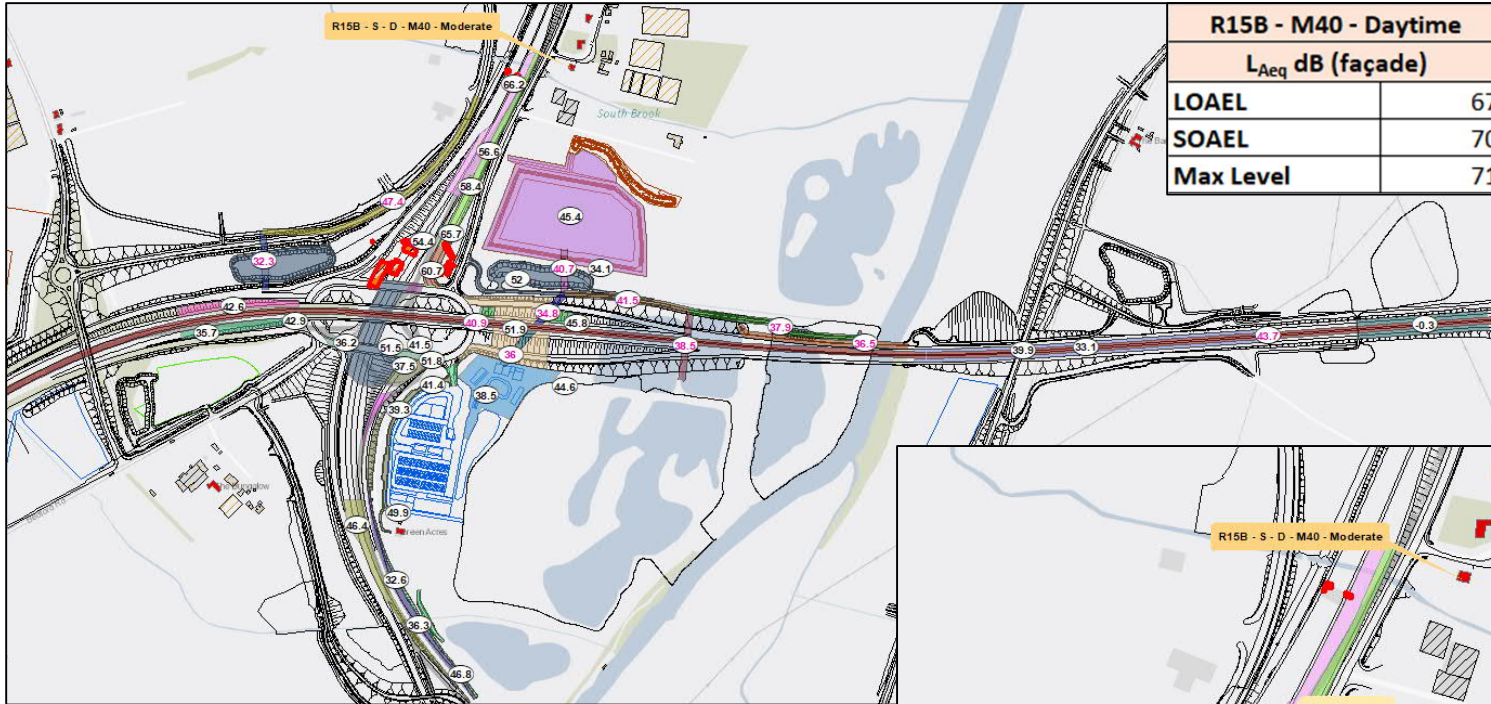
R08 - M30 - Night-time	
L _{Aeq} dB (façade)	
LOAEL	49
SOAEL	55
Max Level	60

- R08 - Night - M30 - All Contributions
- WORK AREAS
- 33.5 -- V.02.01.04.03 -- FRC Piers and Abutments for Great River Ouse Viaduct Construction
- 36.7 -- U.01.02.01.01 -- Onsite Concrete Batching
- 50.3 -- U.07.02.09.01 -- Traffic Signs and Road markings for Roxton Road
- 53.3 -- U.07.02.08.01 -- Surfacing for Roxton Road (Base_Binder)
- 53.3 -- U.07.02.08.02 -- Surfacing for Roxton Road (Wearing)
- 55.9 -- U.07.01.06.02 -- Demolish existing bridge

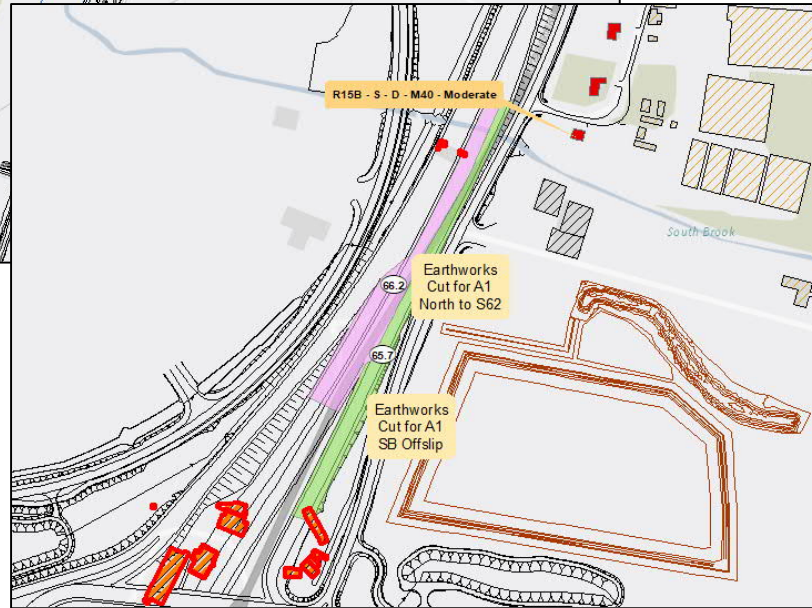


R15B – Day – Month 40 – Moderate

All Contributions



Main Contributions



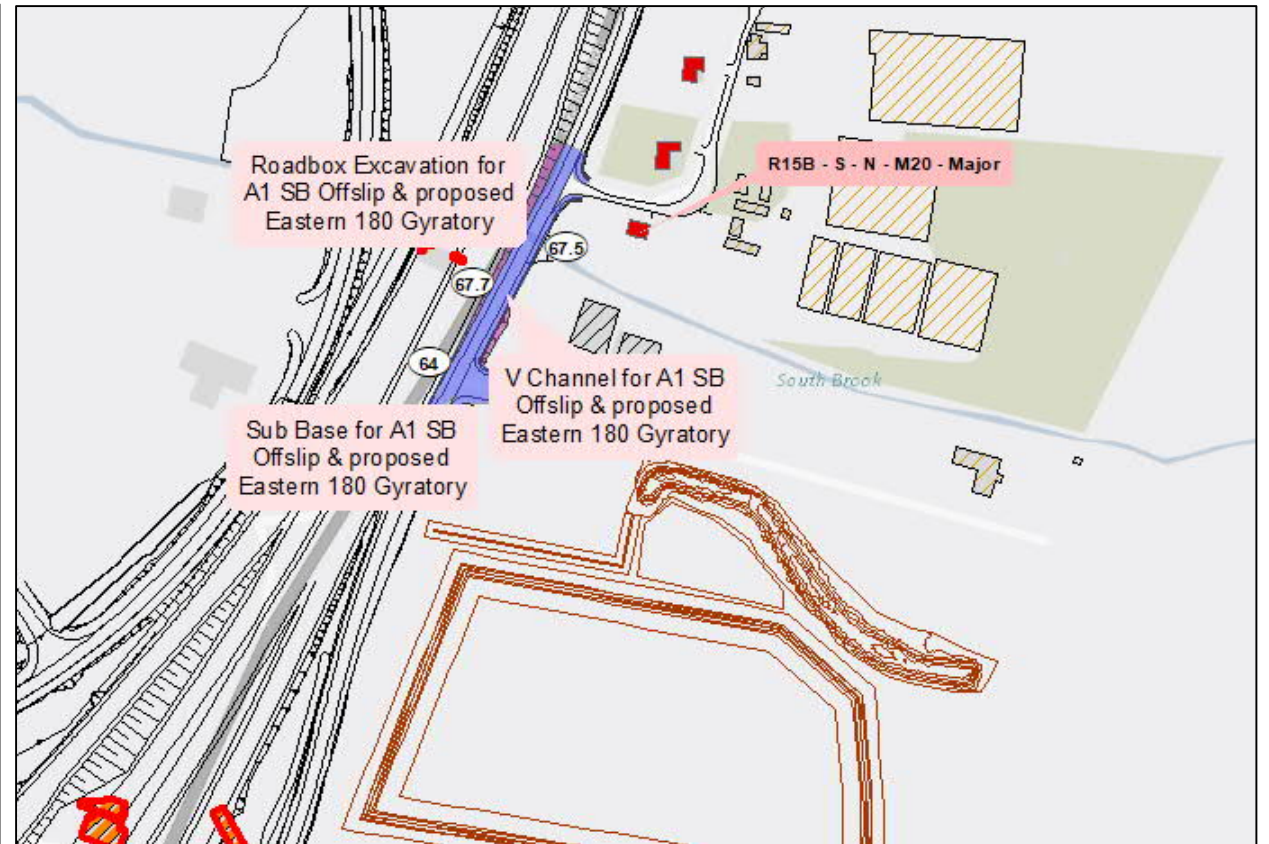
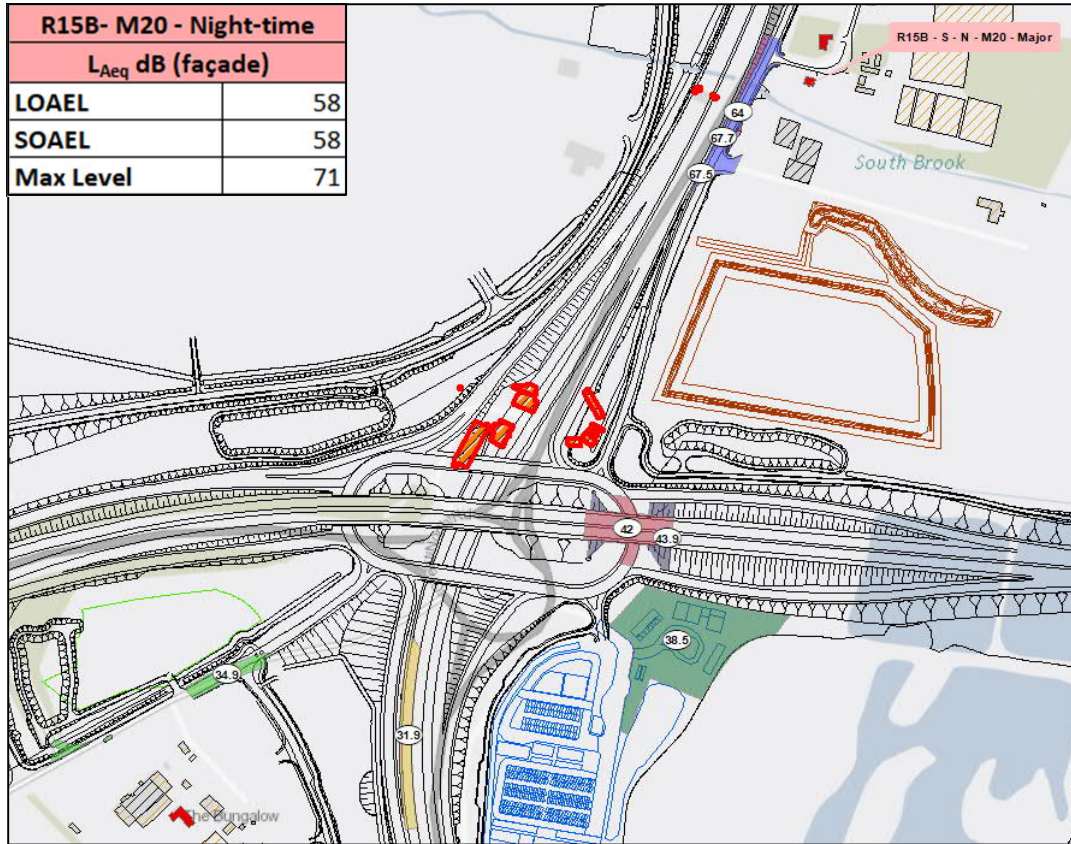
- ☑ R15B - Day - M40 - All Contributions
- ☑ HAUL ROUTES
 - 32.3 -- U.09.01.01.02 -- Ewks Haul - BlackCatW - Spur
 - 34.8 -- U.09.01.02.05 -- Ewks Haul - BlackCatE - Split-SpurW
 - 36 -- U.09.01.02.06 -- Ewks Haul - BlackCatE - SpurW
 - 36.5 -- U.09.01.03.01 -- Ewks Haul - RO FCA and Platform
 - 37.9 -- U.09.01.02.04 -- Ewks Haul - BlackCatE - Spur-E
 - 38.5 -- U.09.01.02.03 -- Ewks Haul - BlackCatE - SpurE
 - 40.7 -- U.09.01.02.01 -- Ewks Haul - BlackCatE - BwP-Split
 - 40.9 -- U.09.01.02.07 -- Ewks Haul - BlackCatE - SpurW-W
 - 41.5 -- U.09.01.02.02 -- Ewks Haul - BlackCatE - Split-SpurE
 - 43.7 -- U.09.01.04.01 -- Asph Haul - BlackCatW-ECML
 - 47.4 -- U.09.01.01.03 -- Ewks Haul - BlackCatW - Spur-E
- ☑ WORK AREAS
 - 0.3--V.03.01.05.01--Carrier Drainage for New Road Section CH2300 to CH3850
 - 32.6--U.05.06.10.01--Electrical Work including ducting for New Road Section CH3850 to CH3850
 - 33.1--V.03.01.10.01--Roadbox Excavation for New Road Section CH2300 to CH3850
 - 34.1--U.05.06.02.01--Carrier Drainage for A1 SB Onslip
 - 34.1--U.05.01.01.01--Drainage for A1 Underpass
 - 35.7--U.05.03.01.01--Drainage for Structure S61 Reinforced Earth Wall
 - 36.2--U.05.07.10.01--Electrical Work including ducting for South Gyrotory
 - 36.3--U.05.06.02.02--Narrow Filter Drainage for A1 SB Onslip
 - 37.5--U.05.07.02.01--Carrier Drainage for South Gyrotory
 - 37.5--U.05.07.02.02--Narrow Filter Drainage for South Gyrotory
 - 38.5--U.01.02.01.01--Onsite Concrete Batching
 - 39.3--U.05.06.06.01--Roadbox Excavation for A1 SB Onslip
 - 39.3--U.05.07.06.01--Roadbox Excavation for South Gyrotory
 - 39.9--V.03.01.10.02--Sub Base for New Road Section CH2300 to CH3850
 - 41.4--U.05.06.06.02--Sub Base for A1 SB Onslip
 - 41.5--U.05.07.06.02--Sub Base for South Gyrotory
 - 42.6--U.05.02.02.02--S60 Reinforced Earth Wall
 - 42.9--U.05.03.02.02--S61 Reinforced Earth Wall
 - 44.6--U.01.02.01.03--Bulk material handling
 - 45.4--U.03.02.01.04--Doherty F23 Borrow Pit - Backfill
 - 45.8--U.05.04.02.02--S62 Reinforced Earth Wall
 - 46.4--U.05.01.02.02--Earthworks Cut for A1 South to S60_S61
 - 46.8--U.05.06.05.01--Earthworks Fill for A1 SB Onslip
 - 49.9--U.05.06.04.01--Earthworks Cut for A1 SB Onslip
 - 51.5--U.05.07.04.01--Earthworks Cut for South Gyrotory
 - 51.8--U.05.07.05.01--Earthworks Fill for South Gyrotory
 - 51.9--U.05.01.03.01--Earthworks Fill for A421 Embankments
 - 52--U.05.05.12.01--Electrical Work including ducting for A1 SB Offslip
 - 52--U.05.01.02.01--Earthworks Cut for A1 Central to Flyover embankments
 - 54.4--U.05.05.05.01--Earthworks Fill for A1 SB Offslip
 - 56.6--U.05.05.02.02--Narrow Filter Drainage for A1 SB Offslip
 - 56.6--U.05.05.02.01--Carrier Drainage for A1 SB Offslip
 - 58.4--U.05.05.06.01--Roadbox Excavation for A1 SB Offslip
 - 60.7--U.05.05.06.02--Sub Base for A1 SB Offslip
 - 65.7--U.05.05.04.01--Earthworks Cut for A1 SB Offslip
 - 66.2--U.05.01.02.03--Earthworks Cut for A1 North to S62

R15B – Night – Month 20 – Major

All Contributions

Main Contributions

R15B- M20 - Night-time	
L _{Aeq} dB (façade)	
LOAEL	58
SOAEL	58
Max Level	71



R15B - Night - M20 - All Contributions

WORK AREAS

- 31.9 -- U.03.07.03.02 -- FRC Capping Beams for S51D Construction
- 34.9 -- U.03.06.06.01 -- Traffic Signs and Road markings for New Bedford Rd Spur and Trackway
- 38.5 -- U.01.02.01.01 -- Onsite Concrete Batching
- 42 -- U.03.03.04.04 -- Construct Composite Bridge Deck for Structure S8 Construction
- 43.9 -- U.03.03.04.03 -- FRC Abutments for Structure S8 Construction
- 64 -- U.03.04.06.01 -- Roadbox Excavation for A1 SB Offslip ,proposed Eastern 180 Gyratory
- 67.5 -- U.03.04.10.01 -- V Channel for A1 SB Offslip ,proposed Eastern 180 Gyratory
- 67.7 -- U.03.04.06.02 -- Sub Base for A1 SB Offslip ,proposed Eastern 180 Gyratory



Consideration of mitigation



Consideration of mitigation

Construction noise assessment reported in Environmental Statement does not include mitigation measures

First Iteration Environmental Management Plan sets out approach to managing construction noise and vibration impacts

- Includes Outline Noise and Vibration Management Plan setting out generic measures to control noise and vibration during the construction phase.
- Includes Borrow Pit Management Plan setting out generic measures to control noise and vibration specifically from borrow pit activities during the construction phase.
- Commitment to develop the Outline Management Plan with Final Management Plan prior to work commencing.



Questions

