Air Quality Technical Note

CLIENT:	Rex Proctor and Partners on behalf of Strata Sterling Barnsley West Limited
PROJECT:	Barnsley West roundabout application at Barugh Green Road and Higham Road
SUBJECT:	Air Quality Technical Note relating to revisions to the Southern Higham Road Roundabout
JOB NO:	ST17019
DATE:	17th September 2020
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Introduction

Wardell Armstrong (WA) LLP has been commissioned by Rex Proctor and Partners on behalf of Strata Sterling Barnsley West Limited to address potential air quality impacts associated with the relocation of the proposed Southern Roundabout at Barnsley West. This commission is at the request of Pollution Officer, Chris Shields of Barnsley Council. It is required to consider the relocation of the Southern Roundabout and any effects on the previously considered environmentally sensitive receptors as well as whether any new receptors may be affected.

This technical note should accompany, and be read in conjunction with, the technical reports which were submitted as part of the planning application. The reports are referenced:

- ST17019 AQ Detailed Report Final dated December 2019;
- ST17019 AQ Addendum Final dated March 2020; and
- Technical Note: Barnsley West Roundabouts Application Air Quality Additional Scenario dated 24th April 2020.

The roundabout is to be relocated northwards by approximately 27m. It is expected, therefore, that properties on Higham Common Road would be further away from the roundabout, and properties on Hermit Lane closer to the roundabout. The alignment of the link road to the north of the roundabout works is not expected to change, and the appointed transport consultant has

confirmed that there will be no changes to the traffic data that was previously used to inform the aforementioned air quality assessments.

Potential Air Quality Impacts

A qualitative review has been undertaken of the scenarios which were assessed within previous air quality assessments. The review determined whether there would be any potential for adverse air quality impacts as a result of the changes to the Southern Roundabout proposals. Consideration has been given to the predicted modelled results to determine any risk of breaches of the Air Quality Objectives (AQO), paying particular attention to environmentally sensitive receptors (ESR) in the vicinity of the proposed roundabout. The receptors are located on Hermit Lane (ESR 14) and Higham Common Road (ESR5 and ESR6), as illustrated in ST17019 001 Existing Sensitive Receptors.

As the roundabout was originally proposed, ESR 14 on Hermit Lane would have been located approximately 95m north of the Southern roundabout; the new proposals reduce this distance to approximately 68m. The distance of ESR 14 will also be approximately 23m from the link road at the nearest point, but this distance has not changed from the previous assessments.

There are no predicted exceedances of the AQO of 40µg/m^3 for NO_2 in the previous reports. The predicted annual average concentration of NO_2 is 21.86µg/m^3 for the Future Year 2033 including MU1, and concentrations will remain well below these objectives with the altered location of the roundabout. It is considered that any slight increase in concentrations on Hermit Lane would remain well below the AQO. Additionally, there are no changes in traffic flow and therefore the conclusions of the assessment would remain unchanged.

With the original location of the roundabout, ESR 5 on Higham Common Lane would have been located approximately 13m from the Southern Roundabout at one of the exits and the new proposals increase this distance to approximately 28m from the roundabout due to the realignment. Similarly, ESR 6 on Higham Common Lane would have been located approximately 31m south west of the Southern Roundabout at the closest point. This distance has increased to approximately 50m with the revised realignment.

Since there are no changes to the traffic data and given the increase in distances between the receptors and the proposed Southern Roundabout, it is anticipated that all pollutant concentrations at ESR 5 and ERS 6 would decrease compared to the results presented in the earlier air quality assessments.

Summary

It is not anticipated that the re-alignment of the Southern Roundabout would alter the conclusions of the previous assessment work undertaken, nor would there be any additional sensitive receptors affected as a result of the proposed changes and therefore the air quality impacts are considered to be 'not significant'.