

# **ENVIRON**

23 November 2004

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Dear John

## **REVIEW OF "ROYAL ORDNANCE", BISHOPTON DEVELOPMENT ACCESS STRATEGY AND APPRAISAL. JMP. JULY 2004**

Thank you for inviting ENVIRON to comment on the above report. Our comments are set out below.

### **1.0 Scope**

1.1 We have restricted our focus to an examination of the environmental appraisal contained within the above report. We comment on the extent to which the appraisal conforms with STAG Version 1.0, having regard to what is considered reasonable, given the nature of the proposals under consideration.

1.2 The following documents have been reviewed;

- Main report
- Appendix A. Technical Consideration of Options
- Appendix G; Landscape and Visual Assessment
- Appendix H. Part 1 Appraisal Summary Tables
- Appendix I. Part 2 Appraisal Summary Tables
- Appendix J. Environmental and Economic Appraisal of Options.

### **2.0 Comments**

#### **Option Generation and Sifting**

2.1 The report identifies seven options, a reference case which it argues is required to facilitate development at the RO site, and six scheme options. We concur with the proposed scope of the Reference Case, and consider the approach to be valid. From the information presented, we are satisfied, from the standpoint of environmental acceptability, that there are no additional viable options that should be considered.

- 2.2 The report summarises all seven options, but goes on to sift out the Reference Case and Options 1-3, on the grounds that they are flawed, and give rise to unacceptable impact on traffic and the environment. We concur with the sifting. Certainly, Options 1-3 will give rise to unacceptable environmental impacts locally (in terms of noise and air pollution from high traffic flows through Bishopton) and in the case of Option 2 (and partly 3), from longer travel times, with the associated effects of fuel use and CO<sub>2</sub>.
- 2.3 Limiting the focus of the appraisal to Options 4-6 is therefore reasonable, although we would prefer to see the Reference Case appraised in greater detail, to allow a better basis for comparison, and a clearer assessment of need, at least from an environmental standpoint.

### Part 1 Appraisal

- 2.4 Turning to the Part 1 appraisal, the environmental implications of each option are addressed in qualitative terms. In each case, the appraisals focus on the impacts on landscape and visual amenity (and for Option 6, on agriculture.) For each, the appraisals conclude that there will be “no significant material impact on water quality and drainage, geology, biodiversity or cultural heritage”, although no information is provided to justify this statement. In particular, for Option 4, reference is made to the use of “poor quality land currently used as a landfill site”, although no further consideration is made of the implications this might have in terms of stability and the risks associated with mobilising gas and leachate.
- 2.5 The Part 1 appraisal ranks the options as follows; Option 4 - “major benefit”; Option 5 - “moderate benefit” and Option 6 - “minor benefit”. Whilst we would concur that option 6 is the least attractive in terms of its associated land take, travel distance, and landscape impact, we disagree with the ranking of Options 4 and 5, and feel that the two options are closer than JMP conclude. Without the benefit of further information (or of a site inspection), we consider the assessment overplays the landscape impact and impact on the single farmsteading of Option 5, and underplays the greater land take of Option 4, and the potential problems associated with the landfill.

### Part 2 Appraisal

- 2.6 Our criticism is the limited scope of the appraisal, in particular the complete absence of information on water quality and drainage, geology, biodiversity, soils and agriculture or cultural heritage. Moreover, the assessment of noise and vibration and air quality is limited to noise and air quality predictions (using CRTN and DMRB respectively), with no base-line information or impact assessment provided.
- 2.7 The notable exception is the assessment of the landscape and visual impact assessment, proved by Cass Associates, which draws on a base-line assessment of the existing landscape character and visual amenity, and which provides a comprehensive assessment of impacts on landscape and visual amenity, illustrated by photomontages, and provides a thorough and objective assessment of the three options.
- 2.8 The lack of assessment of other environmental aspects is a major shortcoming. No information, of any sort, even to justify the assessment of “no impact” is presented. Apart from noise, air quality and landscape and visual amenity, the qualitative information cell for each environment sub-objective in the Part 2 AST simply states “As described in Part 1”. As stated above, there is no description in Part 1 provided for these sub-objectives, save the unsubstantiated statement that there is no material impact.
- 2.9 In our view, there are a number of key areas where further information is critical to an understanding of these options;

- The full extent of land take required, and an indication of current and likely future land uses; current agricultural activity; land use capability class; and size of farm units potentially affected. The Part 1 AST for Option 6 suggested an agricultural severance impact. The Part 2 AST concluded “no impact”. Qualitative and quantitative information is required to address this matter more precisely.
- Information on the extent of the landfill likely to be affected by Option 4 is necessary, together with an assessment of the potential risks/consequences of mobilising gas and leachate that construction works might have on the landfill, and what measures might be necessary to stabilise the infilled land for construction.
- Land between the M8 and the landfill appears to include marshy land with woodland further south, and a drain/water course (Lin Burn) and water feature. These characteristics raise questions about the implications for Option 4 for biodiversity, and water quality/drainage.
- Option 6 crosses the rail line tunnel, passes close to a radio mast and beneath a transmission line, and alongside woodland (Conyston Plantation ) which is part of Erskine Home Farm. Information should be provided on ground conditions, agriculture and soils and biodiversity.
- All three options would have implications on existing road drainage and would require SUDS. An assessment of the feasibility of accommodating SUDS should form part of the appraisal.
- There are listed buildings 100m south of the route of Option 6 at Richieston. There are recorded features of archaeological interest in the vicinity of Option 4 and along the route of Option 6, identified in the Royal Commission for Ancient and Historic Monuments (RCAHMS) data base (Canmore). In particular, there is a ring ditch close to the proposed bridge crossing of Option 6 (at NS432 722), and crop marks on the southern edge of Conyston Plantation at NS 440 721. Information on the implications for cultural heritage is clearly warranted.

2.10 Notwithstanding the above limitations, there is no evidence that the appraisal has taken into account the views of consultation bodies, such as SNH, SEPA, Scottish Water, and Historic Scotland, nor local environmental groups, nor that base-line information has been sought from these and other organisations. There is no evidence on the extent of consultation and public involvement in the appraisal, although it is reported that the Community Council was represented on the client Working Party assembled to steer the overall approach to the redevelopment of the RO site.

2.11 The appraisals do consider noise and air quality, but here again, there are limitations. There is no evidence that base-line noise data has been obtained, either from published sources, derived from traffic flows, or measured empirically. A general statement on the likely level of background noise is included, but without referencing or justification as to its selection. Similarly, no account seems to have been taken of background air quality information, in the prediction of local air quality, other than the 1996 default value embedded in the DMRB spreadsheet. Reference to information held by Renfrewshire Council might be reasonably expected.

2.12 With regard to assessment thresholds, the selection of 60dB as a level where “noise is generally not a problem” is made without reference or justification. The Air Quality Objectives referred to are not strictly correct, although the overall assessment is reasonable. The correct thresholds are for NO<sub>2</sub> the annual mean (40 µg/m<sup>3</sup>) and for PM<sub>10</sub>, the 24 mean which is 50 µg/m<sup>3</sup> not to be exceeded on more than 7 times per year.

- 2.13 Turning to the specific noise and air quality prediction, we have examined the spreadsheet print-outs for the DMRB and CRTN models presented at Appendix J, which show the predicted air pollution levels, and noise levels, for the projected *base* and *base plus development* traffic flows. DMRB inputs annual average daily flow (AADT) which is the annual average daily two-way flow over a 24 hour period. CRTN inputs 18 hour flow, usually for the period 6am to midnight. There appears to be a discrepancy between the flows used in Appendix J. For Option 4 (for the same road section) for example, the AADT *base* and *base plus development* flows are 788 and 1303 vehicles, respectively. The footnote to the spreadsheet indicates that this flow is in vehicles/hour, whereas the input flow should be a 24 flow. It is unclear whether the flows indicated are 1 hr or 24 hr flows. Further confusion arises when comparing these flows to those used in estimating noise levels. Here, the model input flows should be expressed either as 18 hour flows or as an hourly average of the 18 hour period (conventionally 6am to midnight). The noise level prediction for Option 4 uses *base* and *base plus development* flows of 391 and 604 vehicles. Whichever basis has been used for both predictions, the flows do not seem to reconcile.
- 2.14 Appendix J assesses only a limited range of road sections. The report cites (6.5.5) an additional benefit of Option 4 is that it will provide an improved access to the M8 from Inchinnan. Arguably however, the same applies to Option 5, but this is underplayed in the report, and omitted from the conclusions. Attracting traffic west from Inchinnan may increase the impact at properties along the A8 between Red Smiddy and the M8 bridge. These impacts are not assessed in the appraisal.
- 2.15 The deficiencies of the Part 2 appraisal are highlighted, particularly with respect to the other environment sub-objectives mentioned above, by the comprehensiveness and quality of the landscape and visual assessment provided at Appendix G. The approach adopted is consistent with best practice. The information presented on the base-line is comprehensive and allows a clear interpretation of the impacts of the three options. The potential impacts are clearly identified and assessed and the basis for the assessment of impacts is transparent. The Appendix significantly enhances understanding of the options and the implications with regard to this objective. Whilst we agree that landscape and visual amenity issues are more significant than others, we do not agree that other potential impacts (save noise and air quality) warrant no consideration at all.

### 3.0 Conclusion

3.1 Our conclusions can be summarised as follows;

- We are content with the approach taken in the appraisal to option generation and we concur that the seven options, including the Reference Case, include all potentially viable options.
- We are content with the approach to option sifting, and concur with the conclusions of that exercise.
- We consider that the level of information provided for Part 1 is too limited to allow a thorough understanding of the options. In particular, the statement that “no significant material impact on water quality and drainage, geology, biodiversity or cultural heritage” has not been justified, and compared to the significance of noise and air quality, which have been addressed, is possibly incorrect.
- We consider that, with the exception of the landscape and visual impact assessment, the level of information provided for Part 2 is inadequate in that it precludes an informed assessment of the three options on environmental grounds. There are potentially important environmental issues associated with all three options, which might lead to a

different conclusion about which option is preferred, which are not described and assessed.

- We question whether the correct traffic flow data has been used in the predictions of noise and air quality, and we contend that further road sections should have been subject to assessment.
- The landscape and visual assessment is of high quality, and sets a benchmark for other aspects of the assessment.
- We consider that the statement at 6.5.6 that Option 4 has “far less impact on land take” is an over statement, and suggests that any difference between Options 4 and 5 maybe more marginal than the appraisal suggests. Further, we consider the statement in the same paragraph that “Option 5 has significant impacts on an operational farm and a farmstead which may be required to be demolished” is also an over statement. Clearly, without quantitative information being provided, these qualitative statements are difficult to interpret.
- Finally, we consider that the statement at 7.1.6. that “Option 4 emerges as a clear favourite, demonstrated through an appraisal of all options” is difficult to justify, when potentially important information has not been provided.

3.2 In short, we contend that the case for Option 4 is possibly not as clear cut as the appraisal concludes.

I trust that the foregoing assists with your review of the appraisal. You will see that we have raised one or two questions about the data used in parts of the assessment, and we would be pleased to liaise with the Scottish Executive or JMP to explore this point in more detail.

Clearly, assuming JMP respond by providing an update to its appraisal, I would be happy to comment on any additional assessment provided.

Yours sincerely

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**Matthew H Davies**  
**Principal**