

Report to the Cabinet

Report reference: C/120/2005-06.

Date of meeting: 6 February 2006.



**Epping Forest
District Council**

Portfolio: Environmental Protection.

Subject: Bobbingworth Tip - Landfill Remediation Project.

**Officer contact for further information: Qasim Durrani (01992 – 56 4047).
C Crudgington (01992 – 56 4055).**

Democratic Services Officer: Adrian Hendry (01992 – 56 4246).

Recommendations:

- (1) To receive an overview presentation from Mr. Darren Cole of Cleanaway on the proposed design solution;**
- (2) That the conclusions of the design stage associated with Capital project for the remediation and restoration of the Bobbingworth landfill site be noted;**
- (3) That the views of Atkins, the specialist consultants engaged to advise the Council on the suitability of the design solution in terms of risk minimization, be noted;**
- (4) That the Head of Environmental Services be authorized to agree a target price of not more than £1.35 Million for Capital works;**
- (5) That the action of officers in submitting a planning application to enable works to commence during 2006 be endorsed;**
- (6) That, subject to recommendation (4) above, a Supplementary Capital Estimate in the sum of £920,000 (which includes £670,000 for works and £250,000 for contingencies, unforeseen and professional fees) be recommended to the Council for approval; and**
- (7) That, subject to recommendation (4) above, CSB growth bids be approved for the ongoing maintenance and management of the site in the sums of:**
 - (a) £11,100 for 2007/08;**
 - (b) £21,600 for 2008/09;**
 - (c) £19,200 for 2009/10; and**
 - (d) £18,100 for 2010 onwards.**

The Contract:

- 1. The Cabinet are reminded of the background to this site, which centres on the need for the Council to deal with the polluting effects of the old landfill site at Bobbingworth**

Tip, Moreton, with leachate (contaminated liquid from the tip) seeping on to adjoining land from where it is discharging to the Cripsey brook, along with the need to control the volumes and quality of leachate which discharges under licence to the nearby Thames Water Sewage Treatment Works (STW).

2. After a number of studies undertaken, both in-house and via consultants to develop a solution to the problem, in 2002 a partnered design build and operate contract was approved by the Cabinet with a target cost form of contract as its basis with a pain/gain share mechanism, to ensure that the contractor is motivated to deliver at the lowest reasonable cost.
3. The Contract was awarded to the consortium of Cleanaway /Pearl (Land Drainage) for a seven year design, build and operation with a letter of intent issued to Cleanaway in August 2004 and the Contract between EFDC and Cleanaway finalised in May 2005.

Project Objectives:

4. The project objectives required of Cleanaway are as follows:
 - (a) To fulfill the Council's responsibility as landowners with regard to contaminated land under Part IIA of the Environmental Protection Act;
 - (b) To provide an environment that is fundamentally safe for use by members of the public;
 - (c) To ensure that the Council's position with respect to public liability is fully protected including leachate escape and landfill gas emissions;
 - (d) To optimize the cost relationship between initial installation works and the continuing associated operational costs;
 - (e) To take due account of the views of the various stakeholders to the project;
 - (f) To deliver an attractive area that will be inviting to the public from a landscaping point of view, for informal recreation, wildlife conservation and to create a through route for horse riders;
 - (g) To fulfill the requirements of gas monitoring/soil sampling regime as set out by the Council; and
 - (h) The design solution should not affect the ability of the Council to discharge leachate direct to Morton Sewage Treatment Works.
5. Cleanaway considered the leachate management problem as a priority and advised that a "hybrid" solution to the problem could be possible, to enclose the contaminated landfill, preventing leachate escapes but not obstructing in an uncontrollable way any ground water inflows that may be entering the uphill side of the site.
6. The strategy at the Contract award was to allow Cleanaway to carry out investigations, monitoring, install further boreholes for ground water and methane levels, and having analysed the resultant and gained more knowledge of the dynamics of the site, then undertake further technical and economic analysis to determine the optimum solution. Cleanaway have developed a design that addresses both remediation and restoration, the basis of which is summarized below.

Leachate Treatment:

7. The treatment of leachate drained from the landfill site and discharged to Moreton Sewage Treatment Works will be required irrespective of what is done for remediation or restoration. It is proposed to install a reed bed treatment to reduce the concentration of iron in the leachate and an aeration plant to remove dissolved methane. Concentrations of iron and dissolved methane currently exceed the control limits prescribed in the discharge agreement between the Council and Thames Water Utilities Limited.

Surface restoration:

8. The option presented for surface restoration envisages the burial of contamination from the northern part of the site in the southern part, covering this with clean soils and regrading of the surface to blend with the neighbouring topography/countryside therefore improving the surface run-off and causing a reduction in the leachate generation from the site. This will allow future access over the whole site.

Site remediation:

9. Leachate is currently leaving the site via surface and subsurface pathways. Leachate contamination is found within the subsurface aquifers in the site and surrounding area and in the surface water ditches to the east of the site. Leachate contaminated water is discharging from these sources directly into the Cripsey Brook main river. In addition there are other recorded incidences of leachate outbreaks on the land to the north and east of the site. Although at present the discharge from the leachate contaminated water is not believed to be causing significant impact on the Cripsey Brook the Environment Agency has indicated that this discharge will not be allowed to continue unless it is pre treated.
10. The option for leachate management relies on a physical barrier on the down gradient side of the tip, i.e. the eastern boundary of the site. This will enable containment of groundwater and leachate within the site with no sub surface migration off site, significantly reducing any third party risks.
11. To ensure that leachate generation rates do not exceed the volume limit set in the discharge Agreement between the Council and Thames Water Utilities Limited, groundwater flowing into the site from the west is to be intercepted and pumped "over" the site for discharge to the surface water drains to the east. In addition to this the site surface will be engineered when it is regraded, to minimise leachate generation through infiltration.

Atkins Review of the Cleanaway Design Solution:

12. The Council appointed Atkins Consultants Limited as an external specialist to provide independent advice on the technical components of the design and associated costs proposals of Cleanaway Limited in terms of the reasonableness and whole life costing of the proposed solution. They have vetted the proposed designs and endorse the proposed remediation and on going management proposals as set out in this report.
13. Atkins endorse the proposal for continued flushing of the site, burial of existing physical contaminants found at or near the surface, for the site to be regraded with uncontaminated soils won from site and rendering the site safe and suitable for public access. They also endorse the proposal of the construction of groundwater cut-off drains to control groundwater ingress to the site from the west. Further the proposed bentonite cut-off wall on the down gradient side of the site will provide the control to ensure that, within the design parameters, there is no egress onto third party land.

14. The Council's consultants accept some on-site treatment of leachate will be necessary, prior to its discharge off-site, promoting the use of 'reed beds' and believe this will make a valuable contribution to the replacement of wetland environments.
15. They conclude that the design presented offers a good solution to the former landfill site, minimizing Council's future risk of liability, resolving the problem of the management of the site in a sustainable way which will ensure that the leachate and waste quality will improve with time, provide a safe and attractive environment for the people and at the same time minimising the potential need for future tankering.
16. Atkins also undertook an evaluation of the cost plan prepared by Cleanaway Limited or the construction works, on going revenue costs and the Whole Life Cost assessment for project with a view to advise the Council on its components and extent to which the Council is exposed to cost risks.
17. Atkins are satisfied that Cleanaway's budget estimate for costs is realistic for the project works proposed. In addition Atkins advise to be prudent at this stage of the development of the capital works and propose a contingent sum as identified within this submission for potential developments which may arise during the conclusion of the design. They further endorse the proposals from Cleanaway in that Cleanaway have considered the likely items and have made a reasonable allowances for these works.

Proposal for reporting:

18. The nature and scope of the works are such that the importation of materials will necessitate heavy traffic movements all of which will be incorporated into the design risk assessments and traffic management plan. These soil movements will be subject to Planning and Environment Agency consents and quality control procedures. With the local community being advised as and when details become available.
19. Preliminary discussions have been undertaken with Planning and Essex County Council Highways relative to the requirements for traffic impact assessments and soil importation procedures, and all such requirements will be incorporated within the detailed design.
20. It is intended to further report to Cabinet on progress and with the first progress report due in April 2006, the Cabinet will be apprised of the contract target price programming, the environmental impact assessment, planning and other statutory consent issues.

Cost Planning:

21. The current cost plan for the work to date and the design solution is detailed in the following paragraphs.
22. Cabinet authorized a Capital sum of £947,000 in August 2004 consisting of the original target price of £92,000 for initial investigation and assessment report writing only, but with identified compensation event costs estimated at approximately £855,000.
23. The estimated cost of the project has increased significantly since the previous submission. In 2004 the scope of works could not be accurately defined due to a lack of available information on the nature of the site, additional information has now been obtained by completing a detailed desk study and site investigation. This has revealed

a more complex environmental picture of the site that consequently requires a more complex design solution.

24. Major additional costs, not incorporated in the budget of August 2004 include: the installation of a 600 metres long groundwater interceptor drain complete with pumping system (£170,000); The placement of an engineered cap and cap protection layer across the site surface (£264,000); additional environmental monitoring (£23,000); ecological constraints associated with the new design (£52,000); additional leachate works for the dewatering and treatment infrastructure (£80,000), and other miscellaneous works (£64,000).
25. At the current stage of the project out of the initial allocation of £947,000 a sum of £240,000 (comprising of £155,000 spent already and £85,000 committed to achieve completion of detailed design) has been allocated on Capital project and a further £30,000 has been spent on land costs and professional fees. This leaves capital allocation currently available of approximately £680,000.
26. The Capital cost to achieve project implementation is estimated at £1.35 Million, an additional sum of £920,000 (£670,000 for works and £250,000 for contingencies, unforeseen and professional fees) will be required to construct the proposed design solution.
27. There is a claim for damages by one of the adjoining landowners. It is proposed that in light of earlier Cabinet decisions and after site remediation is carried out officers approach the landowners with a view to seek a resolution.
28. In addition, CSB growth of £11,100 for 07/08, £21,600 for 08/09, £19,200 for 09/10 and £18,100 for 2010 and onwards will be required to be included in the revenue accounts as a CSB growth item. This is to include maintenance costs, TWUL fees and overheads. There is an existing CSB growth allocation of £17,000 in year 2006/07 which has been taken into consideration when requesting the above allocation.
29. The on-going revenue cost is expected to diminish as the behaviour of the tip stabilizes and it is estimated that the figure would remain at £18,100 after 2010.

Statement in support of recommended action:

30. The Council has awarded a contract for the remediation of Bobbingworth Tip in order to manage the leachate and its effect upon the local environment after considering options over an extended period and it is now essential that the project be moved forward. These recommendations in this report, alongside those in earlier reports, enable a mechanism for successful management of the tip itself and the inherent risks.

Other options for action:

31. It is possible to fit a solution within the current budget allocations, however this would not achieve the project objectives as set out and as approved by the Cabinet earlier. Doing nothing cannot be recommended.

Consultation undertaken:

32. The recommendation is put forward following consultation/discussion with:
 - (a) Atkins (External Specialist Consultant, Quantity Surveyor & partnering adviser);

- (b) Cleanaway Ltd (Partnering contractor);
- (c) Enviros Consulting Limited; and
- (d) The Environment Agency.

Resource implications:

Budget provision: As set out in the report.

Personnel: Nil.

Land: Remediation of Bobbingworth Tip, appropriate open space byelaws will be made once the site is declared public open space.

Community Plan/BVPP reference: Key theme “a safe, healthy and attractive place”.

Relevant statutory powers: Environmental Protection Act, Water Resources Act.

Background papers: Previous Committee and Cabinet reports.

Environmental/Human Rights Act/ Crime & Disorder Act Implications: Dealing with the potential harmful effects of leachate from the disused refuse tip at Bobbingworth, Moreton and restoring the tip site to an environmental/conservation asset.

Key Decision reference (if required): N/A.