


Environmental Engineering Services in
Respect of the Former Sidlesham
Landfill Site, West Sussex

South East England Development Agency

March 2007

Prepared by


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For:


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1 Tender Summary

1.1 Overall Project Objectives

This tender has been prepared by Mouchel Parkman in response to an invitation to tender received from SEEDA.

The Brief identifies the key aim of this Project as:

The redevelopment of the visitor centre at the nature reserve and extension of public access to the land.

This will be accomplished by:

Stage 1

- undertaking a visual investigation with sampling in order to report to Client/Project Partners on the key issues for progression of the project including the anticipated remediation requirements and recommended scope of the Stage 2 ground investigation.

Stage 2

- intrusive investigation and analysis culminating in a report to Clients to:
 - establish the most technically and financially viable location for the visitor centre and car park.
 - establish options for remediation if required.

The brief does not mention planning permission for the development, but it is assumed that planning permission will be required. The information obtained from Stages 1 and 2 will be appropriate for supporting a planning application.

Similarly we understand that the site is not under consideration by the local authority as potential "contaminated land" under Part IIA of the Environmental protection Act, 1990, but the information required for the planning application will be equivalent to that required under Part IIA as outlined in Planning Policy guidance (PPG23).

1.2 Investigation Objectives

Based on the information contained in the Brief, we believe the overall objectives of the project to be:

The gathering and analysis of information to determine:

- potential remediation required at each of the identified project locations.
- cost of capping the entire subject site
- requirements for and cost of remediation of additional areas for habitat relocation and landscaping

With that information to hand the Client(s) will be in a position to progress the Partnerships' plan for the development of the site. We believe that these investigation objectives combine to support the Project Objectives and Required Outcomes identified in the Brief.

1.3 Tender Structure

This tender is divided into three main sections as follows:

- Mouchel Parkman's proposal for meeting and exceeding the award Criteria

- Methodology for Stages 1 and 2 of the project
- Preliminary programme and fee proposal
- Suggested timescales for delivery.

1.4 Timescale

We confirm that we can complete the works as outlined in our methodology to meet the key date of 23 March for the stage 1 Report.

We propose that the Stage 2 works would be delivered in a subsequent period of 22 weeks.

1.5 Fee Summary

Our suggested fee ceiling for undertaking the three stages of works outlined in this document is detailed in the table below:

STAGE	FEE CEILING
1	£6,352
2(a)	£24,375
2(b)	£2,000

The fees detailed above are inclusive of disbursements but exclude VAT. A detailed breakdown of how this figure has been calculated is included in the Fees section of this proposal (section 4 Programme and Fees)

Estimates of other costs payable directly by SEEDA are presented in the table below. These costs are preliminary estimates based on the information available at the time of tender.

STAGE	ITEM	APPROXIMATE COSTS
1	Ecology survey (using locally based Mouchel Parkman ecologist)	£2k
	Laboratory testing of samples	£ 2k
	Topographical survey	£2k
2(a)	Ground Investigation (subject to the number of boreholes required following the Stage 1 works, frequency of monitoring and the type of analysis required)	£35k

1.6 Team

The core team for this project was also part of the core team which has been successful in delivering contaminated land and geotechnical work for SEEDA on the East Cowes project.

Our proposed team is comprised of the following members:

Project Director..... [REDACTED]
Project Manager..... [REDACTED]
Hydrogeology..... [REDACTED]
Geotechnics..... [REDACTED]
Geotechnical review..... [REDACTED]
Landfill gas/Human Health assessment..... [REDACTED]

CVs for these staff are contained on the following pages.

1.7 Further Information

Further information regarding this tender can be obtained from [REDACTED]
(tel: [REDACTED] mobile: [REDACTED] e-mail: [REDACTED])

2 Meeting and exceeding the Award Criteria

2.1 Overview of Mouchel Parkman Services

Mouchel Parkman's Land & Environment Division offers services that enable public and private sector Clients to deliver and manage land use and development projects. Comprising almost 300 Engineers, Scientists and Land referencers, the Division boasts an impressive portfolio of projects in the government, regeneration, transport, infrastructure and energy sectors.

Our Environmental Science and Engineering team help landowners to meet their legal or public obligations for contaminated sites and enable clients to realise the full value of their sites.

Our team boasts a depth of knowledge and a breadth of experience in the investigation and remediation process including:

Environmental Investigation – We gather a comprehensive range of data which is then used to inform a project and assess potential issues and liabilities.

Contaminated Land Assessment – We identify abnormal development issues and assess possible impacts on time cost and progress of projects.

Human Health Risk Assessment – Our hydro-geologists, chemists and environmental scientists carry out human health and groundwater risk assessment, crucial parts of any contaminated land remediation project.

Remediation Design – We design affordable remediation solutions including preparing remediation strategies for approval by regulatory bodies. We also provide impartial advice in identifying and recommending practical treatment methods.

In addition to this contaminated land specialism the Division would be supported by other parts of the Mouchel Parkman organisation to add value to the project by bringing in skills of:

- Ecology to advise on how investigation should be carried out on this particularly sensitive site.
- Building and infrastructure design to support technical assessment of remediation

2.2 Selected Clients

The following list provides an indication of the scale, diversity and background of our Environmental Engineering Clients.

SEEDA.....	Regional Development Agency
English Partnerships.....	National Development Agency
Advantage West Midlands.....	Regional Development Agency
Fairview Homes.....	Residential Property Developer specialising in Brownfield land sites
National Grid.....	Property developer of historically contaminated sites
Wiltshire County Council.....	Local Authority and Landfill Operator

2.3 Previous experience and success

2.3.1 Scaynes Hill Landfill, West Sussex – Southern Water (2007)

£100k Ground investigation and risk assessments for former domestic landfill site closed in 1970s. Leachate from the site poses a potential risk to the underlying aquifer and adjacent river. There may also be migration of landfill gas from the site. The work is being undertaken as voluntary action with the intention of ameliorating any unacceptable environmental risks.

2.3.2 Boo Hole, Rochdale – Rochdale MBC (2007)

£40k Ground investigation and risk assessments for three former industrial and domestic landfills with suspected gas migration posing potential risks to adjacent properties. Being undertaken as voluntary action under Part IIA of the Environmental Protection Act.

2.3.3 East Cowes – SEEDA (2004 – Present)

Mouchel Parkman has a significant involvement in the major redevelopment of old aerospace factory complex, including:

- Input to planning process including Environmental Impact Assessment
- Extensive Ground Investigation, including land and marine boreholes to assess geotechnical and geo-environmental matters
- Demolition of the existing factory and leisure complex buildings
- Planning Supervisor for:
 - Trailer park extension for Red Funnel fleet
 - Apron extension and marina works
- Design of infrastructure (roads, sewers and utilities)

2.3.4 Blessington, CRH (2002 – Present)

Mouchel Parkman has been providing specialist advice on the assessment and remediation of environmental risks arising from an unauthorised tipping.

Key issues have been:

- Identification and delineation of areas of unauthorised tipping
- Assessment of risks posed to groundwater resources and local drinking water supply wells using MODFLOW, Consim, Landsim
- Gas migration modelling using GasSim and landfill gas interception
- Design of new landfill cells to encapsulate the waste and associated enquiry
- Ex situ waste treatment (screening and sorting) and replacement/removal off site.

The project has been extremely sensitive and the subject of legal proceedings so Mouchel Parkman's involvement has been intensely scrutinised by a number of reviewers and authorities. Mouchel Parkman has worked closely with the regulatory authorities in difficult situations and developed a cost effective solution for the client.

2.3.5 Wobaston Road, West Midlands – Advantage West Midlands (2003 – Present)

Mouchel Parkman is providing support in environmental assessment, infrastructure, planning supervision and remediation works to include the scope of environmental, geotechnical and civil engineering services for the redevelopment of the 100 hectare brownfield site, north of Wolverhampton. The construction value of this project is approximately £32 million.

Part of the work has involved the remediation of a 20 hectare rayon waste disposal site, which was completed in 2005.

All risk assessments and validation reports for the rayon waste have been signed off and the site is ready for development.

2.3.6 Sideway – Advantage West Midlands (2003 – Present)

£200k Investigation, risk assessment and remediation of 32 hectare brownfield site including former tyre and rubber works disposal site. All risk assessments and the remediation strategy for the site were approved. Works have been completed and planning permission for developed approved.

2.3.7 Nar Ouse Regeneration – Birse (2003 – 2006)

The Nar-Ouse Regeneration Scheme (NORS) is a series of brownfield land parcels of about 70 hectares including tar works, fertiliser factory, landfill, varied commercial sites and allotments surrounding the intersection of the River Nar and the River Ouse near Kings Lynn, Norfolk. The area is to become a mixed commercial, industrial and millennium community residential development. Mouchel Parkman was appointed as designer to contractor Birse, on an innovative early involvement D&B contract. The team working closely with Norfolk County Council and Kings Lynn Borough Council has successfully developed the detail for the scheme within the funding available. All permissions have been obtained and construction work is nearing completion.

2.3.8 Tower Farm Landfill, Bury – Bury MBC (2005)

Mouchel Parkman was appointed in January 2005 to carry out a detailed investigation of this former landfill at Radcliffe next to the River Irwell. The workscope included a desk study and intrusive investigations throughout the site in the context of its proposed use as a

school playing field and public open space. Risk assessments in respect of human health, groundwater and ground gases, geotechnics etc were conducted to establish the feasibility of the proposed uses.

2.3.9 *Everleigh Landfill, Wiltshire – Wiltshire County Council (2002 – 4)*

£35k Landfill risk assessment of a site used for military waste and BSE carcass disposal. Works included long term monitoring of gas and peripheral groundwater, potential special site under part IIA of the environmental protection act, risk assessment following part IIA process handbook protocols and the development of enhanced risk based monitoring network and programme

2.3.10 *Redlynch, Wiltshire – Wiltshire County Council (2004)*

£35k Landfill closure programme for domestic and commercial industrial landfill including Hydrogeological risk assessment using in-house spreadsheet based risk assessment tool and development of risk based monitoring network and programme.

2.3.11 *Pentleigh, Wiltshire – Wiltshire County Council (2001 – 4)*

Landfill closure programme for domestic and commercial industrial landfill. The works involved implementation of a management strategy for leachate including surface water diversions, leachate capture and drainage and a leachate monitoring programme, investigation of an off site groundwater contamination plume with long term monthly monitoring scheme for leachate, groundwater and landfill gas, groundwater risk assessment to assess risks to local watercourse and development of long term risk based monitoring programme for closure and landfill restoration.

2.3.12 *Mouse Water Minewater Treatment Project*

The project was designed and constructed as to provide treatment of the minewater issuing into a tributary of the Clyde from a mine adit causing considerable pollution of the downstream environment. Key features of the design include:

- Scheme merges into and is an integral part of the existing landform, with enhanced amenity value, including wetlands, shaped viewpoints, new pedestrian footbridge and footpaths
- Innovative use of a pre-cast concrete dividing wall finished just below water level such that the twin settlement ponds appear as one, yet allow continued treatment when one side is drained for sludge removal.
- Minewater treatment by passive means with gravity flow resulting in minimal long term operational cost.
- Sympathetic use of appropriate local materials and extensive landscape planting with native species.

This scheme received an Environmental Commendation, presented by the President of the Institution of Civil Engineers at the Saltire Awards, Glasgow.

2.3.13 Research

The team's significant scientific expertise in this field has also led to involvement in a number of recent publications and papers including:

CIRIA's upcoming guidance "Assessing risks posed by hazardous ground gases for buildings"

National Grid Property Guidance paper on permissible (new term) values for vapour concentrations as part of a SPOSH assessment (Significant Possibility of Significant Harm).

Steering group on research into innovative minewater treatment technologies at the universities of Cardiff and Newcastle.

3 Methodology

The process is broken down into the following stages and activities as follows:

Stage 1

- Review of Base Documentation
- Determination of extent and level of potential remediation required
- Visual Site Inspection and Sampling
- Preparation of Outline Methodology for investigation of all options
- Stage 1 reporting and client agreement

Stage 2(a)

- Specify Investigation
- Procure Investigation
- Management of intrusive investigation
- Revision of Conceptual Model
- Risk Assessment
- Identification of most appropriate location for visitor centre
- Recommendations for remediation and further investigation
- Stage 2 Reporting and Client agreement

*+ habitat
creation
+ curb*

Stage 2(b)

- Assist/advise the Client with necessary management arrangements required under the new CDM Regulations 2007.

3.1 Project Management

Mouchel Parkman believe that the key to this (and indeed to all projects) is sound Project Management, where the methods of complying with the requirements of the Brief are constantly reviewed, revised and refined. Good communication with the Client and awareness of the needs of the Client are essential. This process is enhanced by an initial meeting on site with the Client as part of the Stage 1 process. Mouchel Parkman have visited site as part of the preparation of this proposal document to ensure that awareness of the site location and sensitivity and its use by the public can be taken properly into account.

Mouchel Parkman have the capability in house and the experience to take the project beyond Stage 2. We have experience in the sympathetic design of "soft engineering" solutions in terms of drainage, roads and car parks to suit the setting and use of Pagham Harbour. We have experience of the Town and Country planning process, and have the ability to provide architectural input to fully provide the one stop shop that many of our Clients require.

** habitat
enhancement
optimising
creation*

3.2 Rationale

The ground beneath the proposed development comprises an uncapped landfill. It is understood that various civic amenity wastes were deposited within the ground at the site in the 1960s and 1970s. As a consequence, there is the potential for significant contamination of the ground and groundwater in and around the site. These contaminants

could pose unacceptable long term risks to human health, controlled waters (groundwater and nearby surface waters) and ecosystems (SSSIs, RAMSAR sites, AONB, etc). In addition, acute risks from toxic and flammable gases and vapours from degrading wastes in the ground may be an issue.

The risk assessment undertaken by Casella Stanger reflects all the potential pathways at the site. Whilst numerous pathways have been identified, the risk are generic ie a similar list would be expected from any landfill in a sensitive location where the contents are unknown. The risk assessment and identified potential pollutant linkages demonstrate the need to characterise the landfill in terms of its chemical and physical content and the hydrogeological setting to enable increased confidence in the risks to be established. It is anticipated that the list of contaminants and therefore the number of potential pollutant linkages will be reduced significantly following the stage 2 works.

The key to development of the site will be to identify the potential pollutant linkages which could be considered significant, their interaction and effects on proposed development and the remediation options for managing the associated risks. *- opportunities*

3.3 Stage 1 - Methodology

We will commence Stage 1 of the study by undertaking a review of the baseline reports, concentrating on understanding current development proposals and the key documents that guide development of each of the option sites. We will focus on the investigation objectives stated in 1.2 and remediation implications of information gained from the following documents:

- The Option paper for locations
- Outline spec for visitor centre
- Casella Stanger recommendations for further investigation
- Conceptual Model
- Remediation Options

together with any other base data that is available from Client Partners and Stakeholders.

In view of the required programme the stage 1 report will include the results of only one groundwater sampling round. Further sampling will be reported in the stage 2 report.

Site reconnaissance, sampling and chemical testing will be undertaken in order to improve the conceptual model of the site. This information will be used to refine any risk modelling work needed in order to determine a robust understanding to future development of the risks posed by the site, site users and the surrounding environment. From this process the key risk drivers according to the source → pathway → receptor linkage will be identified and appropriate risk management proposals will be developed.

We will undertake a site walkover of the site. During the first walkover we will undertake:

- a visual inspection of the site and take a photographic record of access, boundaries and visual/olfactory evidence of contamination.
- assessment of access for site investigation equipment and security of site boundaries.
- a visual inspection of any buildings on site with particular regard to their foundations and the presence of any cellars and underground spaces.
- a visual inspection of surface and any standing water.
- a walkover of the immediate surrounding area to determine the presence of off-site receptors.

We will sample surface water in the drain running through the site and in the Broad Rife upstream and downstream of the site (6 samples per visit). Samples will be collected from site and transported immediately to an approved laboratory for testing for ecological and agricultural indicators (typically COD, BOD, Ph, electrical conductivity, nitrate, phosphate, orthophosphate, ammonia as N, and Total Suspended Solids) alongside a standard groundwater testing suite.

Following the site visit and on receipt of the test results we will provide an outline methodology for investigating the site for geotechnical and environmental purposes to provide recommendations for remediation and on the preferred option for the Visitor Centre location.

3.3.1 Stage 2(a)

Currently we anticipate the following requirements for the Site Investigation:

- cable percussive borehole at each of the ten proposed locations to at least 3 metres into natural ground.
- in-situ testing in all boreholes (SPT or U100 as appropriate) ? diameter
- installation of gas/groundwater standpipes in all boreholes.
- 14 trial pits excavated by suitable hydraulic excavator how deep?
- geotechnical laboratory testing.
- environmental laboratory testing.
- subsequent gas/groundwater monitoring of boreholes.

This will enable Mouchel Parkman to assess the depth and chemical properties of the landfill along with geotechnical properties to inform the foundation design. It will enable the groundwater quality and flow beneath the site to be assessed and the ground gas regime to be quantified.

Following the stage 1 recommendations, the design of the Site Investigation will be fully specified in agreement with the client.

3.3.2 Risk Assessment

The risk assessment methodologies will be undertaken in accordance with the methods, protocols and processes as outlined in Model Procedures for the Management of Land Contamination, Contaminated Land Report 11, DEFRA & Environment Agency, (2004).

Due regard to Part IIA of the Environmental Protection Act 1990 will be included in any assessment.

During the risk assessment process and as the conceptual understanding of the site develops and improves, it would be prudent to undertake cost benefit analysis for the proposed remedial options which may come to light. Any such analysis would be undertaken in close liaison with the relevant stakeholders and in accordance with best practice and guidance, i.e., Costs and Benefits Associated with Remediation of Contaminated Groundwater: A Review of the Issues, Environment Agency R&D Technical Report P278, (1999), Costs and Benefits Associated with Remediation of Contaminated Groundwater: A Framework for Assessment, Environment Agency R&D Technical Report P279, (2000) and Cost Benefit Analysis for Remediation of Land Contamination, Environment Agency R&D Technical Report P316, (1999).

Risks from soil gases such as methane and carbon dioxide and also from volatile organic compounds such as hydrocarbons will be assessed. The methodology as set out in Assessing Risks Posed By Hazardous Ground Gases To Buildings, C659, CIRIA (2006), will be adopted.

3.4 Stage 2(b)

Duties to be undertaken to manage the role of Planning Supervisor under the Construction (Design and Management) Regulations 1994 for the Ground Investigation at Pagham Harbour Nature Reserve:

- i. *Receive information on the Project from the Client [(Regulation 11(i)(2))]*
- ii. *Assess the notifiability of the Project and advise the Client accordingly [(Regulation 2(4), 3(2), 3(3), 3(4) and 7(1))]*
- iii. *Notify the Health and Safety Executive in accordance with Regulation 7.*
- iv. *Receive any existing Health and Safety File from the Client [Regulation 12(i)]*
- v. *Make available for inspection any Health and Safety File and other information received from the Client to any person who may need information for the purposes of complying with the Regulations*
- vi. *Ensure, so far as is reasonably practicable, that the design of any structure comprised in the Project includes among the design considerations adequate regard to the needs specified in the heads (i) to (iii) of Regulation 13(2)(a) and includes adequate information as specified in then Regulation 13(2)(b) [Regulation 14(a)]*
- vii. *Take such steps as it is reasonable for a Planning Supervisor to take to ensure, so far as is reasonably practicable, co-operation between Designers [Regulation 14(b)]*
- viii. *Provide advice to the Client on the Health and Safety competence and resources of up to 4 proposed Contractors before an approved list of tenderers is agreed [Regulation 8.3 and 9.3]*
- ix. *Prepare a pre-construction Health and Safety Plan containing information specified in Regulation 15(3)a-f is prepared and provided to any contractor before arrangements are made to carry out or manage construction work [Regulation 15(1) and (2)]*

- x. *Prepare a Health and Safety File, in digital format, subject to the receipt of information being made available by Designers and Contractors*
- xi. *Review, amend or add to the Health and Safety File prior to the delivery to the Client and deliver one copy of the File to the Client*
- xii. *Advise the Client whether or not the Principal Contractor's construction phase Health and Safety Plan is sufficient, in accordance with the Regulations, for construction work to start.*

Mouchel Parkman is aware that the role of Planning Supervisor as defined under the Construction (Design and Management) Regulations 1994 will likely be replaced on 6 April 2007 by the role of CDM Co-ordinator under the CDM Co-ordinator under the Construction (Design and Management) Regulations 2007.

The Ground Investigation works are likely to be non-notifiable under the new Regulations and will therefore not require the appointment of a CDM Co-ordinator. Mouchel Parkman would, however caution the Client that there are numerous new duties that the Client will need to address under the new Regulations:

- *Appoint:*
 - *competent/adequately resourced people/organisations*
 - *early in the construction process to enable dutyholders to carry out duties effectively*
- *Put in place management arrangements:*
 - *for construction works to be carried out safely and without risk to health*
 - *that remain in place throughout the project*
- *Allow sufficient time for each stage of the project:*
 - *design*
 - *preparation for starting on site (mobilisation)*
 - *construction*
- *Provide information, so that dutyholders can comply with their duties*
- *Co-operate with everyone, to make it easier for them to carry out their duties*
- *Co-ordinate your own work with all those involved, to ensure the safety of those carrying out construction work and anyone affected by it*
- *Be satisfied workplaces are designed to relevant Health and Safety legislation*
- *Be satisfied Contractors provide welfare facilities from start/throughout construction*

Mouchel Parkman can provide SEEDA with the necessary assistance to discharge their Client duties under the new Construction (Design and Management) Regulations 2007 by acting as the CDM Advisor for the Ground Investigation.

4 Programme and Fees

4.1 Programme

A preliminary programme has been prepared for the project and follows this page.

4.2 Stage 1 Fee

The fee ceiling for Stage 1 of the project is **£6,352**

A full breakdown of hours is included on the page following the end of this section

4.3 Stage 2(a) Fee

Mouchel Parkman's fee ceiling for undertaking Stage 2 (a) is **£24,375**

A full breakdown of hours is included on the page following the end of this section

4.3.1 Assumptions and exclusions

The following assumptions and exclusions have been made:

- Fee is exclusive of topographical survey
- Fee is exclusive of ecological survey
- Third party investigation costs are not included *£22.*

4.4 Stage 2(b) Fee

Mouchel Parkman's fee for undertaking either the role of Planning Supervisor (in the unlikely event that the new Regulations do not become law on 6 April 2007) or provide assistance as detailed above for the sum of **£2,000**; inclusive of disbursements and exclusive of VAT.

4.5 Budget Estimate for Site Investigation

In order to budget for the provision of sufficient geotechnical information to enable a decision to be made on the final location of the Visitors Centre and also give coverage of the rest of the site for pavement design the following assumptions are made:

- A borehole will be positioned at each of the **six building locations to 10m bgl with gas/groundwater monitoring standpipes** plus additional boreholes to characterise the overall condition of the waste..
- **The remainder of the site will be covered with trial pits.**

We estimate the following third party costs for investigation is **£35,000**

4.6 Capacity to deliver the work

We can confirm that the Stage 1 deadlines can be met by Mouchel Parkman and that sufficient resource is available to deliver the project.



1. Project initiation: Define scope, objectives, and stakeholders.
2. Initial assessment: Review project goals and objectives.
3. Data collection: Gather relevant data and information.
4. Data analysis: Analyze collected data to identify trends and patterns.
5. Reporting: Prepare a report detailing findings and recommendations.
6. Recommendations: Provide actionable insights and suggestions for improvement.
7. Implementation: Put the recommended changes into practice.
8. Monitoring and evaluation: Track the progress of implementation and measure its impact.
9. Review and feedback: Conduct a final review and gather feedback from stakeholders.
10. Project closure: Formalize the end of the project and document lessons learned.
11. Project completion: Celebrate the successful completion of the project.
12. Project evaluation: Assess the overall performance and effectiveness of the project.
13. Project review: Reflect on the project experience and identify areas for improvement.
14. Project documentation: Create a comprehensive record of the project's history and outcomes.
15. Project communication: Keep stakeholders informed throughout the project lifecycle.
16. Project risk management: Identify, assess, and mitigate potential risks to the project.
17. Project budget management: Monitor and control the project's financial resources.
18. Project quality management: Ensure that the project deliverables meet the required quality standards.
19. Project time management: Plan and manage the project schedule to ensure timely completion.
20. Project resource management: Allocate and manage the project's human and material resources.
21. Project stakeholder management: Identify and engage all parties affected by the project.
22. Project procurement management: Manage the acquisition of goods and services for the project.
23. Project contract management: Monitor and manage the performance of project contracts.
24. Project change management: Manage any changes to the project's scope, schedule, or budget.
25. Project communication management: Plan and manage the project's communication needs.
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82. Project time management: Plan and manage the project schedule to ensure timely completion.
83. Project resource management: Allocate and manage the project's human and material resources.
84. Project stakeholder management: Identify and engage all parties affected by the project.
85. Project procurement management: Manage the acquisition of goods and services for the project.
86. Project contract management: Monitor and manage the performance of project contracts.
87. Project change management: Manage any changes to the project's scope, schedule, or budget.
88. Project communication management: Plan and manage the project's communication needs.
89. Project risk management: Identify, assess, and mitigate potential risks to the project.
90. Project quality management: Ensure that the project deliverables meet the required quality standards.
91. Project time management: Plan and manage the project schedule to ensure timely completion.
92. Project resource management: Allocate and manage the project's human and material resources.
93. Project stakeholder management: Identify and engage all parties affected by the project.
94. Project procurement management: Manage the acquisition of goods and services for the project.
95. Project contract management: Monitor and manage the performance of project contracts.
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98. Project risk management: Identify, assess, and mitigate potential risks to the project.
99. Project quality management: Ensure that the project deliverables meet the required quality standards.
100. Project time management: Plan and manage the project schedule to ensure timely completion.

Project	Project Director	Project Manager	Geotechnics	Landfill gas/Human Health Assessment	Geotechnical Reviewer	Hydrogeologist	Assistant Professional	Technician	Assistant Professional	Hours
STAGE 1 £6,352	1	Review of base documentation	£ 85.76	£ 40.89	£ 40.89	£ 40.89	£ 53.74	£ 29.72	£ 29.72	1
	Hours	1	2			7.5	15			Hours
	2	Site meetings, inspection and sampling	£ 85.76	£ 125.78			£ 403.85	£ 445.89		£ 1,068.28
	Hours	7.5	7.5			7.5				Hours
	3	Procure topographic survey and laboratory testing	£ 643.20	£ 471.68			£ 403.85			£ 1,517.93
Hours	2	2							Hours	
4	Report production	£ 171.52	£ 125.78					£ 82.32	£ 375.62	
Hours	4	3				28		4	Hours	
5	Meeting with Client to discuss report	£ 343.04	£ 188.67			£ 1,594.72	£ 118.89	£ 122.48	£ 2,278.79	
Hours	7.5	7.5							Hours	
6	Produce tender documents for Ground Investigation	£ 171.52	£ 251.56	£ 503.12	£ 251.56	£ 806.10	£ 125.78	£ 308.70	£ 2,418.34	
Hours	2	4	8	4	2	15		15	Hours	
7	Tender and review	£ 171.52				£ 429.92			£ 601.44	
Hours	2	2				50	50		Hours	
8	Site works	£ 171.52	£ 125.78			£ 4,836.60	£ 2,674.89		£ 7,808.79	
Hours						7.5	15		Hours	
9	Review Contractor's report					£ 403.85			£ 445.89	
Hours	4	4	4	7.5	4	100		15	Hours	
10	Interpretive report	£ 343.04	£ 251.56	£ 251.56	£ 251.56	£ 5,374.00	£ 251.56	£ 308.70	£ 11,842.97	
Hours	7.5	7.5							Hours	
11	Meeting with Client to discuss report	£ 643.20	£ 471.68						£ 1,114.88	
Hours	40hours	40hours	12hours	7hours	6hours	26hours	100hours	42hours	36hours	
TOTALS	£ 3,387.52	£ 2,484.16	£ 754.68	£ 4,968.31	£ 377.34	£ 14,160.49	£ 3,120.80	£ 822.20	£ 1,019.48	£ 31,086.78
	Hours	40hours	12hours	7hours	6hours	26hours	100hours	42hours	36hours	Total Hours
	Fee	£ 3,387.52	£ 2,484.16	£ 754.68	£ 4,968.31	£ 14,160.49	£ 3,120.80	£ 822.20	£ 1,019.48	Total Fee

Insurance

4.7 Public Liability Insurance and Professional Indemnity Insurance

Mouchel Parkman have:

- public liability insurance providing cover to a minimum value of £10 million for each and every claim
- professional indemnity cover providing minimum cover of £2 million for each and every claim.

Mouchel Parkman's Public Liability Insurance and Mouchel Parkman's Professional Indemnity cover certification follow this page.

Heath Lambert Group

Friary Court
Crutched Friars
London
EC3N 2NP

TO WHOM IT MAY CONCERN:

Telephone 
Fax 
Email 
www.heathlambert.com

Dear Sirs,

RE: Mouchel Parkman Plc and Subsidiary Companies.

1st August 2006

EMPLOYERS LIABILITY INSURANCE.

We act as Insurance Brokers to Mouchel Parkman and confirm below details of the Employers Liability Insurance we arrange on their behalf.




Insurer : AXA Corporate Solutions
Policy No : XUK0002343LI06A
Period : 1st August 2006 to 31st July 2007
Interest : To indemnify the Insured in respect of their legal liability for injury, disease to or death of any employee arising out of and in the course of his/her employment with the insured.
Limit of Indemnity : £10,000,000 any one claim but limited to GBP5,000,000 in respect of Asbestos or Terrorism or Work Offshore.

As you will appreciate, the foregoing information is not intended to be detailed summary of the protection provided by this policy. This Insurance is subject to the terms, conditions and exceptions specifically set out in the policy referred to. This letter is provided for you as a matter of information only. The issuing of this document does not make the person or organisation to whom it has been issued an additional Insured, nor does it modify in any manner the Contracts of Insurance between the Insured and the Insurers. Any amendment, change or extension of such contracts can only be effected by specific endorsements attached thereto.

Should the above mentioned Contract of Insurance be cancelled, assigned or changed prior to the expiry date shown in such a manner as to affect this document, no obligation to inform the holder exists.

We trust the above details are satisfactory for your requirements. Should you have any queries then please contact the undersigned.

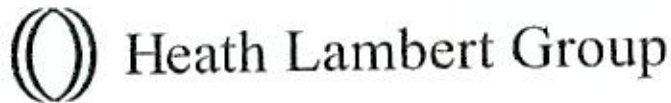
Yours faithfully
ON BEHALF OF
HEATH LAMBERT GROUP



Direct Dial: 

Email: 

It is a legal requirement world-wide that anyone seeking a new policy of insurance/reinsurance or cover for additional risks or renewal under an existing policy, must disclose any information that might influence the insurers/reinsurers in fixing the premium or determining whether to accept the risk. Under English law, failure to do so may entitle insurers/reinsurers to avoid cover from inception and to seek repayment of paid claims. If you are in any doubt as to whether information is material you should disclose it.

Heath Lambert Limited is authorised and regulated by the Financial Services Authority
Registered Office: Friary Court, Crutched Friars, London, EC3N 2NP. Registered No 1199129 England and Wales



133 Houndsditch
London
EC3A 7AH
Telephone [REDACTED]
Fax [REDACTED]
www.heathlambert.com

TO WHOM IT MAY CONCERN

MOUCHEL PARKMAN PLC

CERTIFICATE OF PROFESSIONAL INDEMNITY INSURANCE

We hereby confirm that Professional Indemnity Insurance has been effected in accordance with the following details.

Insured: Mouchel Parkman plc
and/or Associated and/or Subsidiary Companies and Partnerships

Period of Insurance: 12 months from 1st August 2006 to 31st July 2007.

Limit of Indemnity: £2,000,000 any one claim

Special Conditions: For pollution/contamination and millennium risks, the indemnity is limited to £2,000,000 in the aggregate plus one reinstatement

Geographical Limits: Worldwide, but in respect of contract locations in United States of America or Canada the indemnity is limited to £2,000,000 in the aggregate

Insurers: Ace European Group plus Lloyd's Underwriters and other Insurers

Subject to: The insuring agreements, exclusions, conditions and declarations contained in the Insurance Policies.

Policy No. PF3431106

This document is furnished to you as a matter of information only. The issue of this document does not make the person or organisation to whom it is issued an additional Insured, nor does it modify in any manner the contract of insurance between the Insured and the Insurers. Any amendment, change or extension of such contract can only be effected by specific endorsement attached thereto.

Should the above-mentioned contract of insurance be cancelled, assigned or changed during the Policy period in such a manner as to affect this document, no obligation to inform the Holder of this document is accepted by the undersigned or by the Insurers.

Dated: 1st August 2006

Signed

Financial & Professional Risks