



Crest
NICHOLSON



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Project Name	Bicester, Elmsbrook
Prepared For	Crest Nicholson Regeneration
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When required geological, geotechnical, environmental, structural and civil staff helped to produce this document			

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EXECUTIVE SUMMARY

Introduction

Dunton Environmental Ltd (DEL) was instructed by Crest Nicholson (Crest) Midlands in January 2018 to undertake a Construction Environmental Risk Assessment (CERA) and prepare a Construction Environmental Management Plan (CEMP) for an area of undeveloped land (Approximately 9.9ha) in Elmsbrook, Bicester.

This CEMP has been produced based on information provided by Crest Nicholson. The key documents assessed are listed within **Appendix B** of this CEMP.

At present DEL have not been contracted to undertake the works and this CEMP is to be used as a guidance document for ground workers/ earthworks and remediation contractors to develop. If requested, DEL will coordinate with the site manager to carry out site visits/audits to inspect that the measures outlined in this report are met.

The site is separated into two phases Phase 3 and Phase 4 and occupies an approximate area of 9.9 hectares. The site is situated just north of Bicester town.

The proposed development comprises of 228 residential properties.

The main vehicular access into the site is to the northeast from the B4100.

Scope of Works

The works were undertaken in accordance with the Outline Scope of Works for Environmental Risk Assessment & Expert Advice. The principle function is to identify potential environmental aspects and impacts associated with on-site works. Where potential impacts have been identified, environmental protection measures must be introduced to mitigate the impacts. The existing Crest Nicholson Environmental procedures and standards are discussed in **Appendix D**.

The assumed order of proposed scope for works includes the following:

- Excavation and removal of potentially asbestos contaminated soil (TP5)
- Site compound and access setup
- Topsoil clearance
- General cut and fill activities to create the required levels
- Building Foundations
- Service connection
- General building and road construction

Earthwork Details

The site consists of two separate phases, Phase 3 and Phase 4 and has been defined as a greenfield site.

Cement bound asbestos discovered at TP5 is recommended to be removed from site to a suitable disposal facility prior to commencing works.

Any material leaving site should be classed as a waste, such material movements should be recorded in accordance with *Waste Licensing and Duty of Care Regulations*. Licences of waste carriers, contractors, final disposal sites, and consignment notes should be retained.

A site layout plan which shows key environmental aspects that require consideration and monitoring locations is included in **Appendix D**.

Site Sensitivity

The CERA (**Appendix C**) completed by DEL identifies the site as a **MEDIUM RISK** during site construction works.

Key Environmental Risks

The following environmental aspects have been identified as the most sensitive to pollution prior to and during construction works:

1. **Asbestos Containing Material (ACM)** discovered during the initial site investigation at TP5 will require removal from site to a suitable disposal facility, care must be taken to avoid cross contamination of site.
2. **Sensitive Receptors** include the **residential properties** to the north and south. Monitoring and potentially mitigation of nuisance (Dust, noise, vibration, odour) to these sensitive receptors will be required during site works.
3. **Temporary Stockpiles** will be present on site resulting from bulk earthworks activities. Material arising from excavations could potentially **pollute water and air with silt and dust**. Appropriate measures must be taken to deal with **silt run off**. If necessary stockpiles will need to be lined and covered with a non-erodible material such as geotextiles.
4. An **Emergency Incident Response Plan** to manage sediment run off to the nearby pond, offsite drains or a fuel leakage incident must be implemented and site supervisors should ensure all site personnel have received the appropriate spill response training and use of the relevant emergency response numbers.

Recommendations

The measures outlined in this CEMP should be compared against the ground workers Environmental Risk Management Method Statements to ensure that the risks identified are diligently addressed.

If requested, following mobilisation to site (typically within one month) a CEMP Operational Audit will be carried out on site by a suitably Qualified Person from DEL in accordance with the Outline Scope of Works for Environmental Risk Assessment and Expert Advice.

The Crest Nicholson site audit process should be used to verify that the site procedures are managing the environmental risks and enable demonstration of the Contractors due diligence. Where non-conformance is identified, the contractor will take appropriate measures to ensure that the non-compliance is recorded and corrective action implemented.


1. POLLUTION PREVENTION PLANNING				
Environmental Aspect / Impact	RFI	Date Requested / By Whom	Mitigation Measures	ACTIONED Y/N
<p>Legal Framework</p> <p>Licences / Consents/ Exemptions</p> <p>Site-specific aspects –removal of any material on-site</p>			<p>Businesses have a responsibility to minimise environmental impacts and a commitment to meet the requirements of all relevant environmental legislation, agreements, authorisations and commitments.</p> <p>Topsoil and Subsoil</p> <p>Topsoil is to be conserved and protected in accordance with BS 3882:2015 Specification for topsoil. It is equally important to ensure Sub soil is protected against compaction during the construction process: refer to BS 8601:2013 Specification for subsoil and requirements for use.</p> <p>Waste Exemption Licence:</p> <p>Where low risk waste handling operations are required, these will need to be registered for a waste exemption licence with the Environmental Agency.</p> <p>Materials Management Plan (MMP)</p> <p>Production of a Materials Management Plan (MMP) –</p> <ul style="list-style-type: none"> • Should waste materials need to be reused onsite as a final product for backfill this may occur under the definition of a waste code of practice (DOWCOP) and following a site materials management plan, with materials movements/ volume tracking records. • This should include a site-specific earthworks specification and also document how all waste materials in the ground are to be dealt with. • The MMP should follow the CL:AiRE Code of Practice and declared to the Environment Agency (EA) by an appointed Qualified Person. • The MMP should specifically reference detailed site layout plans. • Any imported materials should also be tested for suitability and should be incorporated into the MMP. • The MMP should be based on appropriate risk assessments and geochemical evaluations with specific reference to detailed site layout plans. 	



2. WATER MANAGEMENT				
Environmental Aspect / Impact	RFI	Date Requested / By Whom	Mitigation Measures	ACTIONED Y/N
<p>Controlled Waters</p> <p>Pollution of site and nearby drainage</p> <p>Site specific aspects –</p> <p>Drains</p> <p>Underlying Secondary A aquifer</p>			<p>The law requires protection of controlled surface run-off within the development area and should be achieved by adopting the following measures:</p> <p>Minimising and controlling contaminated surface water and sediment run-off:</p> <p>Site drainage should be controlled during construction so that it does not enter the public drains without prior settlement and at a controlled discharge rate. Site management should also take into account that heavy rainfall can give rise to unforeseen surface run-off, both within and outside normal working hours.</p> <p>Actions are to include:</p> <ul style="list-style-type: none"> • Bunds should be built around stockpiles made out of earth and geotextile to collect any water runoff from stockpiles. • Pumps should be used to remove any pooling water or water captured behind bunds if at risk of overflowing. • Clean water should be diverted away from exposed soils and working areas using diversion drains where required. • Terram (or similar textile) material should be used to cover drains to stop suspended sediments from entering public sewers and causing potential blockages. • Stockpiles should be shaped and lightly compacted to reduce polluted surface run-off from stockpiles. <p>Discharges to water, groundwater or sewer:</p> <p>All discharges to groundwater or foul sewer should be following settlement to reduce sediment content and appropriate water treatment prior to discharge under consent.</p>	



3. NUISANCE				
Environmental Aspect / Impact	RFI	Date Requested / By Whom	Mitigation Measures	ACTIONED Y/N
<p>Dust</p> <p>Site-specific aspects – Sensitive human health receptors including general public and residential properties to the north and south.</p> <p>Asbestos containing material.</p>			<p>Minimising Dust:</p> <ul style="list-style-type: none"> • Dependant on time of year and weather conditions, material may need to be dampened down using water bowsers and/ or jet wash to reduce dust from becoming airborne, especially during dry and windy periods. • Haul roads and the B4100 should be kept free of dust using jet washers, wheel washing equipment, and road sweepers, as necessary to the working site manager’s judgement. • Background monitoring for general airborne and personal asbestos fibres is recommended during the excavation of asbestos containing material in the vicinity of TP5. 	
<p>Noise</p> <p>Site-specific aspects – Sensitive human health receptors including general public and residential properties to the north and south.</p>			<p>Noise monitoring:</p> <p>Working hours should be restricted to:</p> <ul style="list-style-type: none"> • Monday – Friday 07:30 to 18:00 Hours • Saturday – 08:00 to 12:30 Hours • Sunday and Bank Holiday – No work 	

			<p>Proposed Mitigation</p> <p>Crest Nicholson should carry out the following mitigation strategies based their Construction Management Plan.</p> <ul style="list-style-type: none">• All supervisors should be advised on noise mitigation.• Noise levels to be regularly monitored during working hours to ensure no exceedance of the recommendations outlined in the Construction Noise and Vibration Assessment.• No words or music are to broadcast by radio or other sound reproduction equipment.• Neighbouring area will be warned of anticipated noisy periods of work through letter drops.• Silencers and mufflers should be fitted to plant where possible.• Security/Noise hoarding to be maintained to screen the site and any noisy equipment.• Delivery vehicles should not be left waiting in the highway.	
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<p>Light Disturbance</p> <p>Site-specific aspects – Sensitive human health receptors including local residents to the north and south.</p> <p>Complaints by residents</p>			<p>Lighting design:</p> <ul style="list-style-type: none"> • No overnight work should take place. • Directional lighting should be used for any lighting installed to divert excessive light away from sensitive receptors. • Low pressure sodium lamps should be used. • The working site manager should deal with all complaints to site. 	
<p>Traffic Congestion</p> <p>Site-specific aspects – Sensitive human health receptors including the residential properties to the north, south and the general public along the B4100.</p> <p>Complaints by residents and general public</p>			<p>Traffic Management:</p> <p>Construction-related traffic should be managed in line with Crest Nicholson’s Construction Management Plan and ARCADIS’ Construction Traffic Management Plan.</p> <ul style="list-style-type: none"> • Jet washers, wheel washing equipment, and road sweepers should be used as necessary to ensure that local highways remain free of construction-related mud. • Vehicles leaving/entering the site should be guided by a trained banksman or gateman to avoid vehicles waiting on the highway and ensure both employee and public safety. • In order to minimise disruption to the local area, all construction deliveries will be made outside of the highway and school peak periods taking place between the hours of 09:00 and 15:30 (Monday to Friday). • Following construction of Phase 3 (2019) the existing haul road is to be opened allowing for through traffic movements. As such, all egress/ access vehicle movements will be banksman controlled. 	

4. WASTE MANAGEMENT				
Environmental Aspect / Impact	RFI	Date Requested / By Whom	Mitigation Measures	ACTIONED Y/N
<p>Waste</p> <p>Site-specific aspect – off-site removal of surplus excavated materials and asbestos containing materials.</p> <p>Legal action by Statutory Authorities.</p>			<p>Materials Waste Management:</p> <ul style="list-style-type: none"> • Materials stockpiled should be put on non-erodible material such as turf / geotextiles and covered over when not required. • Bunds should be created around stockpiles to stop surface water and sediment runoff from the stockpiles. • Materials trackers and plans must be used to document material movement see MMP. • Any asbestos containing material should be segregated and disposed of correctly to a suitable facility.  <p>Disposal Waste Management:</p> <p>Any material leaving site should be classed as waste. As such material movements should be recorded in accordance with <i>Waste Licensing and Duty of Care Regulations</i>. Licences of waste carriers, contractors, final disposal sites, and consignment notes should be retained. (for hazardous materials)</p> <p>Waste Classification:</p> <p>Any material leaving site should be classified in accordance with current EA Technical Guidance and the most appropriate disposal option identified, in line with the Waste Management Hierarchy.</p> 	

5. INCIDENT RESPONSE				
Environmental Aspect / Impact	RFI	Date Requested / By Whom	Mitigation Measures	ACTIONED Y/N
Pollution incident Harmful discharge to land, air or water (surface drains)			Incident Response: <ul style="list-style-type: none"> • An incident response plan should be on-site and followed if an incident does occur. • Spill kits and trained staff should be on-site at all times. • In the event of an incident the Environment Agency pollution incident hotline should be contacted on 0800 80 70 60. 	

6. ECOLOGICAL MANAGEMENT

Environmental Aspect / Impact	RFI	Date Requested / By Whom	Mitigation Measures	ACTIONS Y/N
<p>Tree Protection</p> <p>Protected animal species.</p>			<p>Tree Retention</p> <p>Arboricultural recommendations are outlined within SJA's Arboricultural Method Statement</p> <ul style="list-style-type: none"> • Two trees on the site boundary (Phase 4 – West) are to be retained as part of the future development and will require protection throughout the development. • Well signed heras fencing will need to be installed around trees to be retained to protect the tree branches as well as create a 'no dig zone' for root protection. <p>Protected Plants and Animal Species</p> <p>Ecological mitigation measures are outlined within Aspect Ecology's Ecological Protection CEMP.</p> <ul style="list-style-type: none"> • Active badger setts were identified outside of the site boundary to the southeast. While outside of the site, care should still be taken during works in the vicinity of this area. • No bat roosts were recorded within Phases 3 and 4. • Bird activity was restricted to the boundary hedgerows present on site these to be retained. • No Reptiles were recorded within Phases 3 and 4. • 4 ponds were identified within 500m of the site however following surveying it has been deemed unlikely that Great Crested Newts are present within the area surrounding the site. 	

APPENDIX A

Project Contact List

PROJECT CONTACT LIST

COMPANY	NAME/ROLE	ADDRESS	EMAIL/TEL
Dunton Environmental Ltd	David Johnson Technical Manager	Unit 1, Tamebridge Industrial Estate, Aldridge Road, Perry Barr, Birmingham, B42 2TX	david.johnson@duntonenvironmental.co.uk 0121 356 4360
Dunton Environmental Ltd	Paul Pearson SHEQ Director	Unit 1, Tamebridge Industrial Estate, Aldridge Road, Perry Barr, Birmingham, B42 2TX	paul.pearson@duntonenvironmental.co.uk 0121 356 4360
Dunton Environmental Ltd	Adam Rawles Technical Engineer	Unit 1, Tamebridge Industrial Estate, Aldridge Road, Perry Barr, Birmingham, B42 2TX	adam.rawles@duntonenvironmental.co.uk 0121 356 4360
Crest Nicholson Regeneration	Chris Gardiner Technical Manager	Crest House, Pycroft Road, Chertsey, Surrey, KT16 9GN	chris.gardiner@crestnicholson.com 01932 580448

APPENDIX B

Technical Report References

TECHNICAL REPORT REFERENCES

DATE	TITLE	COMPANY	REF
October 2015	Site Plan	PRP	AA2699(3)_2001
January 2017	Ecological Mitigation Plan	ACD	HILL20939EMP
June 2017	Elmsbrook Bicester PH3+4 Technical Report	Crest Nicholson Regeneration	Rev B
November 2017	CEMP (Ecological Protection)	Aspect Ecology	10/01780/HYBRID
November 2017	Arboricultural Method Statement	SJA	SJA ams 1 7313-01
January 2018	Construction Management Plan	Crest Nicholson	N/A
July 2018	Construction Traffic Management Plan	ARCADIS	N/A

APPENDIX C

Construction Environmental Risk Assessment

CONSTRUCTION ENVIRONMENTAL RISK ASSESSMENT (CERA)

Site Name:	Elmsbrook Bicester Phases 3 & 4
Site Address:	Charlotte Avenue, Bicester, OX27 8AS
Number of units:	228
Division:	Crest Nicholson Regeneration -JV: Elmsbrook (Crest A2D) LLP
Prepared By:	Chris Gardiner



NOTES

CERA to be completed when Technical Report pulled together prior to Project Committee
 Following review with Group HS&E Director, CEMP may be requested from Dunton if Medium or High risk



What is the approximate size of the site (acres)?	What is the nature of site?	Tick Box	Soil type (brief description)	A. Is there any evidence of these activities within 150m of the site?	Notes	Score in this box	B. Are any of these high risk activities to be carried out on site?	Notes	Score in this box	C. Is there a potential of any of these sources of pollution being generated in the site development works?	Notes	Score in this box	D. Do any of these potential receptors exist on or near the site?	Notes	Score in this box	E. Are any of these permissions applicable for these works?	Notes	Score in this box
24.5	Greenfield	✓	Brown gravelly clay topsoil. Below topsoil firm brown sandy gravelly silt and clay becoming cobbles and gravel	Heavy Industry	Score 1 if present	0	Substructure Demolition	Score 1 if present	0	Soil Stockpiles on site	Score 1 if present	1	Protected Plants off site within 10m of boundary	Score 1 if present	0	Abstraction licences needed	Score 1 if present	0
	Brownfield			Landfill Sites	Score 1 if present	0	Invasive Weed Clearance	Score 1 if present	0	Deep Excavations	Score 1 if present	0	Off site main public drains within 10m of boundary	Score 1 if present	0	Discharge consent if water	Score 1 if present	0
							Mine Grouting	Score 1 if present	0	Invasive weeds	Score 1 if present	0	Ground water protection zone within 100m of the site	Score 1 if present	0	Waste Permitting if soil/	Score 1 if present	0
					Add up total score above	0	Superstructure Demolition	Score 1 if present	0	Excessive heavy plant noise from activities such as crushing, breakout and piling.	Score 1 if present	0	Any water extraction point on or near site within 100m	Score 1 if present	0	Service Diversions needed	Score 1 if present	0
							Bulk Earthworks and recontouring	Score 2 if present	0	Excessive dust from heavy plant movements and activities such as crushing, screening and earthworks.	Score 1 if present	0	People living within 10m of boundary	Score 1 if present	0	Waste Exemptions needed	Score 1 if present	0
										Excessive vibration from activities such as heavy compaction and piling.	Score 1 if present	0	Surface water courses within 100m of the boundary	Score 2 if present	0	Site Registrations if hazard	Score 1 if present	0
Total of all scores		3							Add up total score above	0		0	Surface water ditches within 100m of the boundary	Score 2 if present	0			
Maximum possible score		52							Medium Risk Score - add all score 1 and 2	2		0	Demolition waste and asbestos	Score 2 if present	0			
% of maximum possible score		5.77%								0		0	Silt runoff from earthworks	Score 2 if present	0			Add up total score above
												0	Protected Plants on site	Score 2 if present	2			0

Please Complete

Was the site contaminated?	N
If yes, please provide brief description	N/A
Is remediation dealt with in one operation?	N/A
Is decontamination a clean up or remediation process?	N/A
What contractor is conducting the remediation work?	N/A

RISK LEVEL

N/A

MEDIUM

N/A

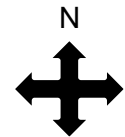
Add up total score above	2
Medium Risk Score - add all score 1 and 2	2
High Risk Score - add all score 3	0

Add up total score above	1
Medium Risk Score - add all score 1 and 2	1

People living on site during advance works	Score 2 if present	0
DO you have protected animals or near the site within their respective protective zones	Score 3 if present	0
Ground water protection zone under site	Score 3 if present	0
Shallow ground water below site	Score 3 if present	0
Surface water courses on site	Score 3 if present	0
Surface water ditches on site	Score 3 if present	0

APPENDIX D

Construction Environmental Aspects Plan






Environmental Monitoring points (Dust, wind, vibration and odour) will be present at the locations indicated to avoid nuisance to any local receptors.

Hedgerows to be retained due to presence of protected bird species. Please refer to Aspect Ecology CEMP for more detail.

Trees are to be retained along the boundary of the site, please refer to the SJA's Tree Protection Plan for detail regarding locations.

Key

- Active Badger Sett 
- Retained Hedgerow 
- Environmental Monitoring Point 

Sensitive Receptors include the residential properties to the north and south.

Jet washers, wheel washing equipment, and road sweepers should be used as necessary to ensure that **B1004** remains free of construction-related mud.

Active Badger Sett entrance has been found directly outside of the site boundary, care should be taken in the vicinity of this area. Please refer to Aspect Ecology CEMP for more detail.



Construction Environmental Aspects Plan
Elmsbrook, Bicester
DTR 18507



Dunton
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Restoring Our Environment

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Dunton Environmental Ltd provides multi-disciplinary Environmental consultancy services such as:

- Geo-environmental Services
- Contaminated Land Remediation
- Environmental Management
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