



MARK LUCK LIMITED

Mark Luck Haulage Yard

Railway Sidings Wested Lane Swanley Kent BR8 8EE

Telephone: (01322) 613355 Fax: (01322) 613265

Website: www.markluckltd.co.uk

E-mail: info@markluckltd.co.uk

All Aggregates - Recycled Materials - Site Clearance - T/Soils

CONVEYANCE/CONTROLLED WASTE TRANSFER NOTE



360653 N° 907197

Section A.

Description of Waste/Material

NON - HAZ

Soil & STONE

Vehicle Reg. No. GA7HJK

Cubic Metres

In Words LGRA3

GROSS

TARE

NETT

Driver's Name SIMON

CLIENT
SIC

4120/2

EWC

170504

Section B. Current Holder of Waste/Material/Collection Point

Name

SEVENOAKS ENVIRONMENTS

Address

ARMOURY DRIVE

Waste Reg. No (if applicable)

GRAVESDOR DOR

Section C. Person Collecting Waste

MARK LUCK LIMITED

SIC Code 49.41

Registered Waste Carrier No. CBDU90780

Issued by KENT COUNTY COUNCIL

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011

Section D. Authorised Tip / Delivery Point / Daywork

Name

GRS

Address

Authorised Tip No. (if applicable)

TILBURY

Waiting time on Site/Daywork

Arrival Time

Departure Time

Allowance/TT

Hours Chargeable

Signed on behalf of Customer

PRINT NAME

N.B. To Customers, Authorised Agents, Representatives, or Responsible Persons signing this Delivery Ticket. This is in your interest - Please read this ticket fully and inspect material, agreeing quantity, quality and that everything is to your satisfaction, before finally signing this receipt note. We regret we cannot under any circumstances entertain any claims concerning quantity or quality, once the vehicle has left the site and a clear signature has been given. We Cannot accept responsibility for damage caused by our vehicles while delivering material to your site.

Site

Date

15/12/14

PLEASE PRINT

Customers ordering vehicles off the public roads do so entirely at their own risk



368199

Nº 953217

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CONVEYANCE/CONTROLLED WASTE TRANSFER NOTE

**Section A.**

Description of Waste/Material

NON HAZ

Soil & Stone

CLIENT
SIC

41 20 1

EWC

17 05 09

Vehicle Reg. No.

GN16 FHW

Cubic Metres

In Words

1 x grab load

GROSS

TARE

NETT

Driver's Name

Justin Murfitt

Section B. Current Holder of Waste/Material/Collection Point

Name

Serenocaks ENV

Address

Armoury Drive Gravesend

Waste Reg. No (if applicable)

DA12 1NB

Section C. Person Collecting Waste SIC Code 49.41

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Section D. Authorised Tip / Delivery Point / Daywork

Name

Mark Luck

Address

Manor way

Authorised Tip No. (if applicable)

Waiting time on Site/Daywork

Arrival Time

Departure Time

Allowance/TT

Hours Chargeable

Signed on behalf of Customer

PRINT NAME

NP To Customers, Authorised Agents, Representatives or Responsible Persons signing this Delivery Ticket. This is in your interest. Please read this

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CONVEYANCE/CONTROLLED WASTE TRANSFER NOTE**Nº 944484****Section A.**

Description of Waste/Material

*Non Haz
soil stone.*

Vehicle Reg. No

Cubic Metres

In Words

GROSS

TARE

NETT

Driver's Name

CLIENT

SIC

EWC

Section B. Current Holder of Waste/Material/Collection Point

Name

Address

Waste Reg. No (if applicable)

Section C. Person Collecting Waste

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Section D. Authorised Tip / Delivery Point / Daywork

Name

Address

Authorised Tip No. (if applicable)

Waiting time on Site/Daywork

Arrival Time

Departure Time

Allowance/TT

Hours Chargeable

Signed on behalf of Customer

PRINT NAME

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Signed

Date

Cus

on risk

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All Aggregates - Recycled Materials - Site Clearance - T/Soils

CONVEYANCE/CONTROLLED WASTE TRANSFER NOTE**Nº 943677****341779****Section A.**

Description of Waste/Material

*non Haz
inert Away*CLIENT
SIC ☐☐☐☐ / ☐☐EWC ☐☐☐☐☐☐Vehicle Reg. No. *GU16 ENW*

Cubic Metres

In Words *1 grab load*

GROSS

TARE

NETT

Driver's Name *Nieran***Section B.** Current Holder of Waste/Material/Collection PointName *Sevenshaws environmental*Address *Armoury Drive, gravesend*

Waste Reg. No (if applicable)

Section C. Person Collecting Waste SIC Code 49.41

MARK LUCK LIMITED

Registered Waste Carrier No. CBDU90780

Issued by KENT COUNTY COUNCIL

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011

Section D. Authorised Tip / Delivery Point / DayworkName *Waishes / GRS*Address *Tilbury*Authorised Tip No. (if applicable) *Ref: 1105934*

Waiting time on Site/Daywork

Arrival Time

Departure Time

Allowance/TT

Hours Chargeable

Signed on behalf of Customer

PRINT NAME

N.B. To Customers, Authorised Agents, Representatives, or Responsible Persons signing this Delivery Ticket. This is in your interest - Please read this ticket fully and inspect material, agreeing quantity, quality and that everything is to your satisfaction, before finally signing this receipt note. We regret we cannot under any circumstances accept a signature if the signature has been given. We Cannot accept

Signed by Driver

Date *20/1*

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All Aggregates - Recycled Materials - Site Clearance - T/Soils

CONVEYANCE/CONTROLLED WASTE TRANSFER NOTE

N^o 943679

341783

Section A.

Description of Waste/Material

non Haz
inert AwayCLIENT
SIC

4120/2

EWC

170504

Vehicle Reg. No.

G616 FHW

Cubic Metres

In Words

1 grab load

GROSS

TARE

NETT

Driver's Name

Xieran

Section B. Current Holder of Waste/Material/Collection Point

Name

Sevenscales environmental

Address

Armory drive, gravesend

Waste Reg. No (if applicable)

Section C. Person Collecting Waste SIC Code 49.41

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Registered Waste Carrier No. CBDU90780

Issued by KENT COUNTY COUNCIL

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Section D. Authorised Tip / Delivery Point / Daywork

Name

Walshes

Address

Tilbury

Authorised Tip No. (if applicable)

Ref: 1103934

Waiting time on Site/Daywork

Arrival Time

Departure Time

Allowance/TT

Hours Chargeable

Signed on behalf of Customer

PRINT NAME

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Signed by

Date

20/12/15

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All Aggregates - Recycled Materials - Site Clearance - T/Soils

CONVEYANCE/CONTROLLED WASTE TRANSFER NOTE

Nº 933176



Section A.

Description of Waste/Material

NON HAZ

Soil + Stone

CLIENT

SIC

41.20/2

EWC

17.05.04

Vehicle Reg. No.

GD15 DUY

Cubic Metres

In Words

1 x Gross

GROSS

TARE

NETT

Driver's Name

Paul C

Section B. Current Holder of Waste/Material/Collection Point

Name

SEVENOAKS ENVIRONMENTAL CONSULTANCY

Address

ARMOUR DRIVE, GRAVESEND

Waste Reg. No (if applicable)

DA12 1NB

Section C. Person Collecting Waste

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Section D. Authorised Tip / Delivery Point / Daywork

Name

Address

Authorised Tip No. (if applicable)

Waiting time on Site/Daywork

Arrival Time

Departure Time

Allowance/TT

Hours Chargeable

Signed on behalf of Customer

PRINT NAME

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Signed

mer

Date

15/12/24

PLEASE PRINT

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Appendix H

Hi-Visibility Geotextile Membrane Specification

GEOTEXTILE HIGH VISIBILITY

TECHNICAL DATASHEET

Highly visible, Lotrak® Alarm15 has specifically been developed as a contaminated ground warning or marker geomembrane.

Designed to complement the existing Lotrak® range, Don & Low have drawn on their expertise and knowledge of this market sector and provided a combination of factors that has resulted in the development of this multifunctional geosynthetic material.

With the increasing demand for good building land, reclamation of industrial zones are becoming more commonplace, potential hazards are now often buried and contained underground as an alternative to removal. Good environmental construction practice utilises Lotrak® Alarm15 to notify future contractors and excavators of these hidden hazards.

Features

- With good tensile strength, CBR properties and a strong visual appearance Lotrak® Alarm15 provides a high-performance underground warning system.
- Based on well-established Lotrak® Base, Lotrak® Alarm15 performs excellently as a separating geotextile in a wide range of civil engineering applications

Benefits

- Proven superior performance
- UV resistant and highly durable
- Highly visible

Manufactured under BS EN ISO 9001



Test	Standard	Alarm15	
Tensile strength (kN/m)	EN 10319	MD	10
		CD	9
Elongation at max.load (%)	EN 10319	MD	22
		CD	15
CBR puncture resistance (N)	EN ISO 12236		1500
Cone drop penetration (mm)	EN 918		18
Pore size 90% finer than (microns)	EN ISO 12956		330
Water Permeability (x 10 ⁻³) (m/sec)	EN ISO		10
Effect of UV Light	The polypropylene (PP) used contains a UV inhibitor		
Roll Size (m)		Width	4.5
		Length	100

Appendix I

Arboriculture Related Documents



Armoury Drive

Gravesend

DA12 1NB

Planning Submission

Condition Number : 022



Prepared for :

Gravesham
Borough Council



- **Summary**

- Remediation works under a watching brief have commenced on site in accordance with the approved strategy - condition 5. The area identified as a root protection area will be subsequently protected by the measures detailed in this application (condition 22) in accordance with BS5837.
- Since the original Remedial Strategy document was written it has become apparent that 3no. trees located on site adjacent to the western boundary are subject to Tree Protection Orders. A site meeting was held between the Client, SEC and an Arboricultural Consultant to discuss these trees and associated requirements in relation to proposed remedial and construction related excavation groundwork given that excavation is required within the root protection zones. The following is proposed to facilitate groundwork (both remedial and construction related) and avoid compromising the trees.

- **Method**

- Careful removal of hard standing and any sub-base across the western area of the site by a small mechanical excavator with a ditching (toothless) bucket;
- Following removal of hard standing and sub-base, excavation of soils will be conducted by hand to mitigate damage to tree roots. Where tree roots become too abundant (close to the tree trunks) for hand excavation then impacted Made Ground will remain and the cover system will be “feathered” up to the tree trunks subject to guidance by the Arboricultural Consultant;

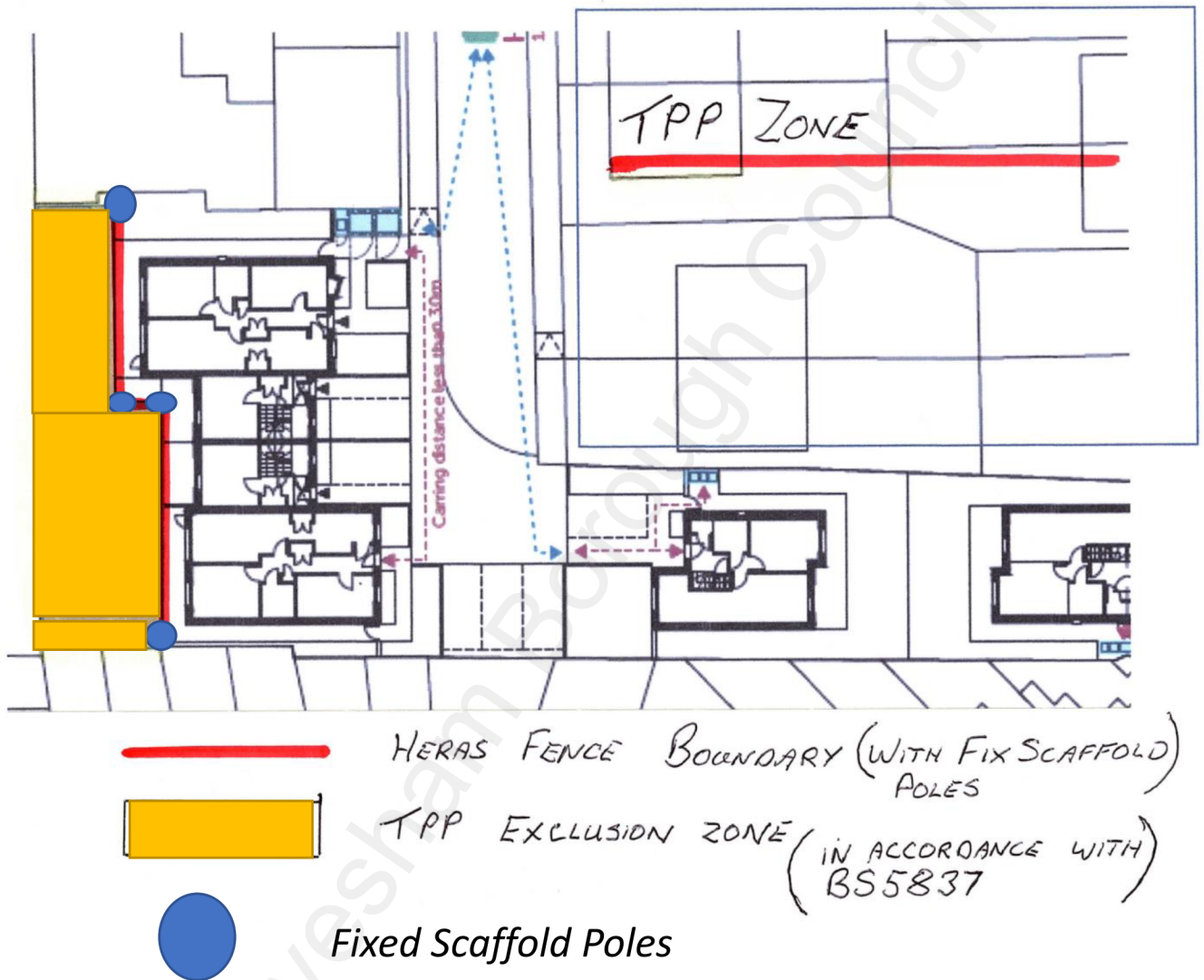


LONGLEY

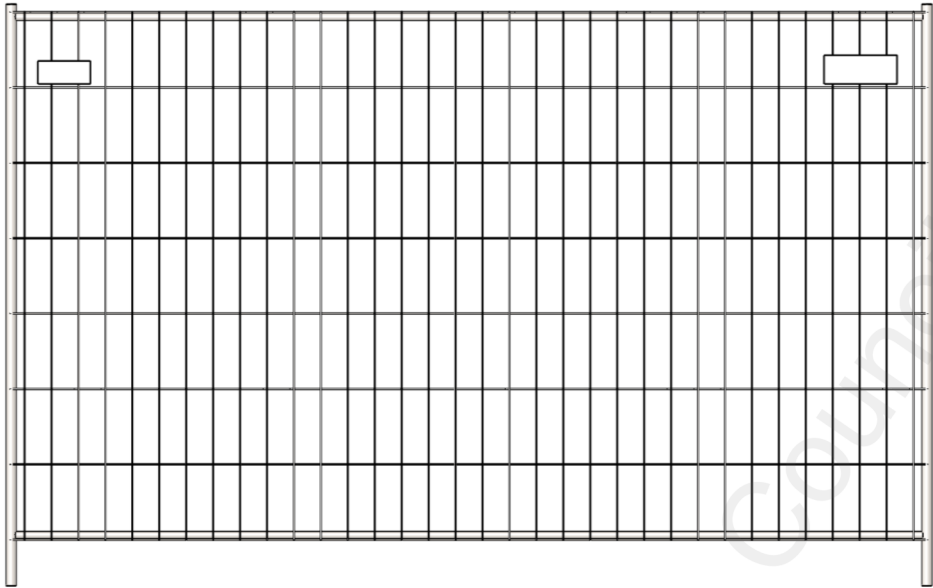


LONGLEY

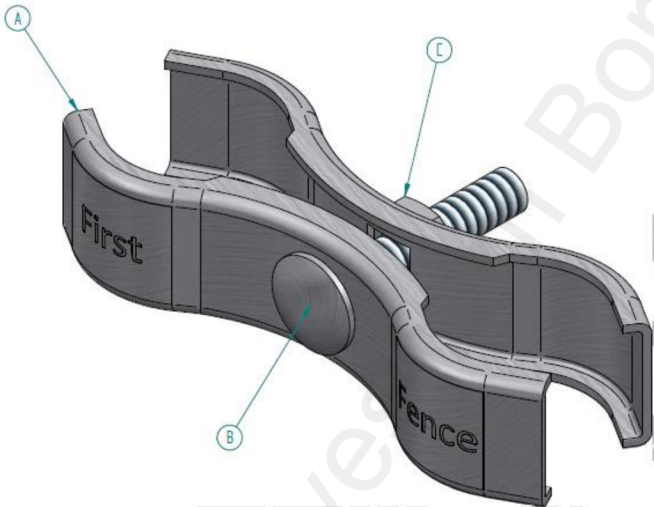
TPP Exclusion Plan



The proposal above is in accordance with BS5837. With a permanent structure fixed within each panel of the fencing to secure the proposed boundary line is not moved, whilst construction is in commencement



- Notes:
- 1. Coupling, 2mm Galvanised Steel
 - 2. Coupling Embossed With First Fence
 - 3. Cup Head Bolt, BZP M10 x 55mm / 1.5 Thread Pitch
 - 4. Nut , BZP M10 / 1.5 Thread Pitch

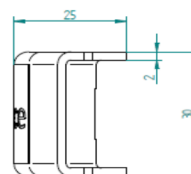
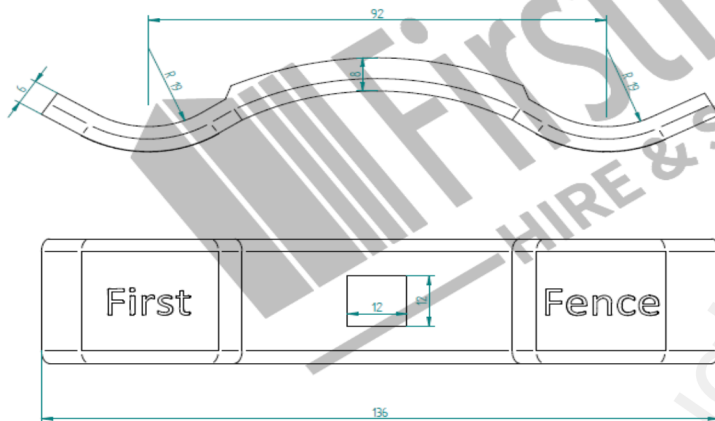
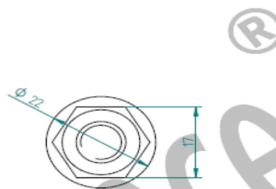
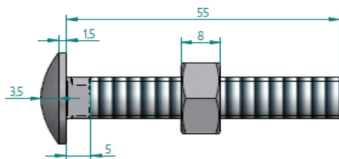


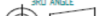
Item	Component Name	Quantity
A	TEMP-ACC-0001 - COUPLING FOR TEMPORARY FENCING	2
B	TEMP-ACC-0001 - BZP STEEL M10 X 55mm CUP HEAD BOLT	1
C	TEMP-ACC-0001 - BZP STEEL HEX NUT M10	1

NAME		DATE	TITLE	
DRAWN	LT	07/04/22	TEMP-ACC-0001 - COUPLER COUPLING FOR TEMPORARY FENCING	
TOLERANCE			± 2mm Unless Stated Otherwise	
3RD ANGLE			 First Fence Ltd, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000	
			SIZE	A2
WEIGHT: 0.2 kg			REV	A
			SHEET 1 OF 2	

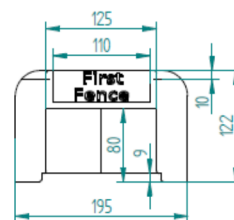
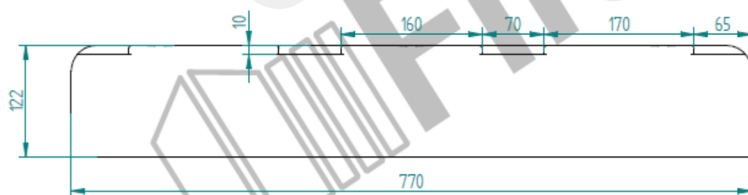
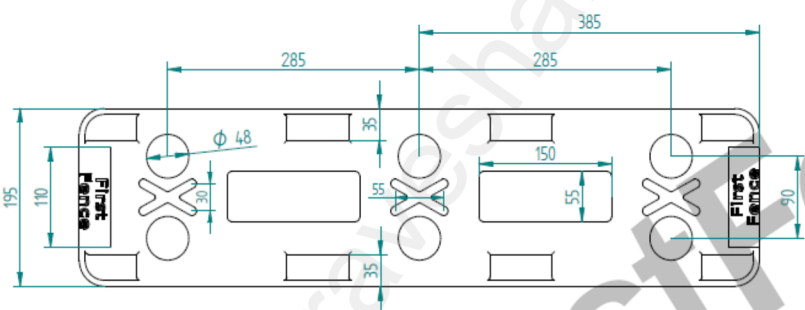
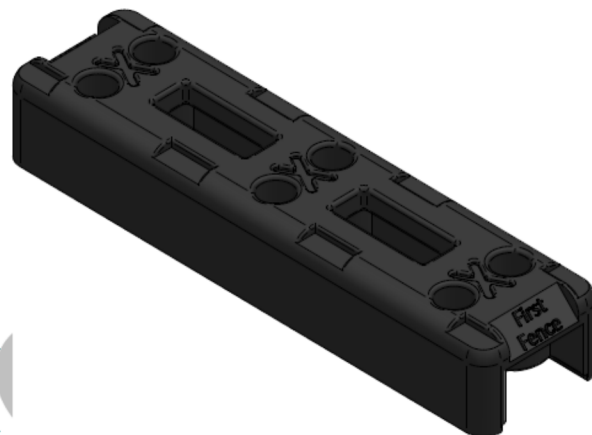


LONGLEY



	NAME	DATE	TITLE
	LT	07/04/22	TEMP-ACC-0001 - COUPLER COUPLING FOR TEMPORARY FENCING
DRAWN			
TOLERANCE	± 2mm Unless Stated Otherwise		
3RD ANGLE			
			
			800 Space Ltd, 8100 Hwy, Hamilton, Ontario, L8N 1W4 2020-03-13 1:17 info@firstfence.co.uk
SIZE			REV
A3			
WEIGHT			SHEET
0.2 kg			2 OF 2

FILE NAME: TEMP-ACC-0001 - COUPLER - COUPLING FOR TEMPORARY FENCING.DWG



MATERIAL: RECYCLED PLASTICS

NAME		DATE	TITLE
DRAWN	LT	22/03/21	Thermoplastic Feet Foot for Temporary Fencing
CHECKED			
ENG APPR			
3RD ANGLE			
			First Fence Ltd, 151m Way, Southwicks, Dorchester, Dorset DT1 1BB 01306 551111 info@firstfence.co.uk
SIZE	A3	REV	A
WEIGHT	0.2 kg		SHEET 1 OF 1

FILE NAME: TEMP-FEE-0001 - THERMOPLASTIC FEET - FOOT FOR TEMPORARY FENCING.DWG



LONGLEY

19'8"- (6.0 Metre) 4mm Wall - Scaffold Tube
(Galv) - 48.3mm o/d

Heavy duty 6m galvanised steel scaffolding tube, 48.3mm outside diameter with 4mm wall thickness. Scaffold poles are manufactured to EN39 European Standard.

Info Detail

Length 19ft8 (6 Metre)

Outside Diameter 48.3mm

Wall Thickness 4 mm

Galvanised Coating 60 micron

Specification BS EN 39:2001





T1

T4

T2

T3

Hall

Stone

Stone

CHRIST CHURCH

CRESCENT

Posts

3

9

106

1

6

11

18

21

Method + Risk Assessment

Customer:	Gravesham Borough council				
Project Number:	635	Site Address:	Albert Murray close, DA12 1LT, Gravesend		
Contractor:	GOZZETT TREE SURGERY & LAND MANAGEMENT		Ifield Court, Church Road, Cobham DA139AS		
Document No:	Jxxxxx-RAMS-634	Rev:	A	Date:	08/02/2023
Title:	RE-POLLARDING TPO LIME TREES				
Distribution:	Name:	Company:			
	Tom Gozzett	Team Leader (First Aid trained)			
	Isley Foster	Operative			
	Daniel Blanche	Operative (First Aid Trained)			
	Jack Spellar	Operative			
Location of Work: Albert Murray close, DA12 1LT, Gravesend					
Start Date & Duration: 9:00AM Wednesday 8th February					
Names of Site Supervisor: Tom Gozzett: 07585336836					
Names of operatives:					
Tom Gozzett		07897728241			
Isley Fothergill		07534531974			
Daniel Blanche		07754943828			
Jack Spellar		07539312750			
Permits Required:			Assessments Required:		
	Yes	No		Yes	No
HAZMAT (Site to Issue)		✓	COSHH		✓
General Permit (Site to Issue)		✓	Noise	✓	
Steps/Ladders		✓	Manual Handling	✓	
Out of Hours		✓	Working at Height	✓	
Riser/Confined Space		✓	Hot Works		✓
Trench Working		✓	Riser/ Confined Spaces		✓
Plant & Equipment to be Used			Materials to be Used		
Avant 225			Timberwolf 230		
Merlo Teleporter					

Method + Risk Assessment

Pre Works-process:

Team will arrive on site at 9:00 Am on the selected date to carry out works, Machine will carry out a VTA (visual tree assessment) to assure the tree is in safe condition and knows the procedure of how it will be undertaken, the team will then have a discussion of the process explaining the risks and how the Machine wishes to carry out the work in a safe manner also in relations to the BS 3998 standards.

Refiling will be carried out on a drip tray to stop contamination into the environment, and smoking will be prohibited on site.

Post Works-process

Team will make the site safe and back into a tidy manner before completion on the job.



Method + Risk Assessment

Plant/Equipment Inspections					
All equipment and plant used on this project will be inspected daily by Tom and contractor All equipment must also be inspected by the user before each use e.g. chainsaws, Climbing Kit check					
Access/Egress			PPE Requirements		
Through site entrance and around the back road of the site				Safety Headwear - EN397	✓
				Safety Footwear - EN ISO 20345	✓
				Hi-Vi Tabard - EN471 Class 2	✓
				Work Gloves - EN388	✓
				Safety Eyewear - EN166 1F	✓
				Climbing Harness – EN 12277	✓
Others at Risk			Audits & Inspections		
No other parties should access work areas whilst operations are being carried out unless expressly invited by tom			All works are to be inspected by the client upon completion.		
Housekeeping & Waste Disposal			Toolbox Talks		
All areas Gozzett Tree Surgery & Land Management are carrying out operations are always to be kept clean and clear to maintain a safe working environment.			Working near moving plant.		
Training Certificates Required					
	Yes	No		Yes	No
Felling up to 380 mm	✓		Loler	✓	
Tree climbing and rescue	✓		Puwer	✓	
Aerial Cutting/Free fall Techniques	✓				
Safe use of chipper	✓				
1 st Aid	✓				
Tractor driving and related operations	✓				
Regulations/Guidelines			1st Aid & Accident Reporting		

Method + Risk Assessment

All works to follow the BS3998 standards	All incidents involving operatives, or their operations must be reported to Tom as soon as possible after the event. They must also be reported to the appointed person on customer premises appointed to deal with accidents. An accident form must be completed, and an investigation carried out. All HSE guidelines and RIDDOR requirements are to be followed in the event of any incident occurring.
Amendments to Current Systems	Review/Monitoring Required
Clients site procedures take precedence.	Tom is to review this document on the day the works are being carried out to ensure the safe system of work detailed herein can be followed.
Method Statement Prepared By:	
Name: Tom Gozzett	Signature: <i>Tom Gozzett</i> Date: 08/02/2023

Method + Risk Assessment

Company name: Gozzett Tree Surgery & Land Management

Assessment carried out by: Tom Gozzett

Date of next review: next project Date assessment was carried out: 08/02/2023

What are the hazards?	Who might be harmed and how?	What are you already doing to control the risks?	What further action do you need to take to control the risks?	Who needs to carry out the action?	When is the action needed by?	Done
Slips, trips falls	Employees , public falling over debris	Cornere d off, Signage	Remind staff about hazards on floor, tidy work place	Tom,customer	08/02/2023	08/02/2023
Falling/flying Debris	Employees , vehicles, public causing injury	Face shield, 20 meter distance	Reminder of staff in exclusion zone	Tom,Customer	08/02/2023	08/02/2023
Manual handling	Employees	Small machine, correct methods , efficient working	Breaks, not rushing, correct manual handling practises	Employees	08/02/2023	08/02/2023
Operator visibility and working near plant	Employees , public	High vis, eye contact when moving, distance	Good communication of method of how the job is going to be undertook and safe working area where everyone is aware of	employees	08/02/2023	08/02/2023



QA**Albert Murray Close – Preliminary Ecological Appraisal**

Issue/Revision:	Draft	Final
Date:	August 2019	August 2019
Comments:		
Prepared by:	Laura Thomas	Laura Thomas
Signature:		
Authorised by:		
Signature:		
File Reference:	551310ItAug19DV01_PEA.docx	551310ItAug19FV01_PEA.docx

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1.0 EXECUTIVE SUMMARY

- 1.1 Greengage Environmental Ltd was commissioned to undertake a Preliminary Ecological Appraisal by Potter Raper Ltd of a site known as Albert Murray Close in Gravesend, Kent.
- 1.2 This document is a report of this survey and has been produced to support a planning submission for the site which seeks to demolish the existing buildings and develop six residential units.
- 1.3 This survey aimed to establish the ecological value of this site and the presence/likely-absence of notable and/or legally protected species in order to inform appropriate mitigation, compensation and enhancement actions in light of proposed development works.
- 1.4 The survey area extends to 0.1 hectares and comprises two derelict brick buildings with surrounding dense scrub, scattered trees and hardstanding.
- 1.5 The derelict buildings were classified as being of low potential value for roosting bats and a further dawn re-entry survey is accordingly recommended to confirm presence/likely absence.
- 1.6 There was evidence of past nesting in the old ambulance station with moderate potential value for nesting birds in the dense scrub and trees on site. Any demolition of buildings and clearance of vegetation should therefore be undertaken outside of nesting bird season (March-August inclusive), unless a suitably qualified ecologist confirms absence of nesting birds prior to works.
- 1.7 There are no other rare or protected habitats or species within or adjacent to the site and no statutory or non-statutory designated sites that stand to be impacted by the development.
- 1.8 Mitigation and ecological enhancement recommendations for the scheme have been made in line with local conservation objectives and include:
 - Wildlife friendly planting;
 - Bird and bat boxes;
 - A sensitive lighting strategy; and
 - Invertebrate features such as log piles and bug hotels.
- 1.9 Should the recommendations made in this report alongside any specific actions identified during the additional bat survey work be followed, the development could stand to result in net gains for biodiversity, although the scale of predicted change has not been quantified at this time.
- 1.10 Key details relating to ecological design, including Biodiversity Net Gain calculations, could be included within an Ecological Management Plan for the site which could be secured through planning condition.

2.0 INTRODUCTION

- 2.1 Greengage Environmental Ltd was commissioned to undertake a Preliminary Ecological Appraisal by Potter Raper of a site known as Albert Murray Close in Gravesend, Kent.
- 2.2 This document is a report of this survey and has been produced to support a planning submission for the site which seeks to demolish the existing buildings and develop six residential units.
- 2.3 This survey aimed to establish the ecological value of this site and the presence/likely-absence of notable and/or legally protected species in order to inform appropriate mitigation, compensation and enhancement actions in light of proposed development works.

SITE DESCRIPTION

- 2.4 The survey area extends to approximately 0.1 hectares and is centred on National Grid Reference TQ650735, OS Co-ordinates 565094, 173563.
- 2.5 The site itself comprises two derelict buildings with associated access driveway and surrounding overgrown scrub and ruderal vegetation. The larger of the two buildings is a brick-built structures with pitched and tiled roof. This was formerly used as an ambulance station. The second building is a single storey brick block with flat roof upon which sits a large metal water tank. This building has a small open breeze block lean to structure on its eastern elevation with a corrugated roof.
- 2.6 There are three mature limes (*Tilia* sp.) along the western boundary with a single semi mature plane tree (*Platanaceae* sp.) located to the east of the water tank block.
- 2.7 The site is located in a residential district of Gravesend, surrounded on all sides by housing with associated road networks, many of which are lined by street trees, and private gardens. Greenspace in the area comprises residential gardens, parks such as Windmill Gardens 0.3km north east and playing fields. The River Thames runs 0.8km north of the site.

3.0 METHODOLOGY

- 3.1 The PEA (which included an Extended Ecological Phase 1 Survey) was undertaken in accordance with guidance in the Joint Nature Conservation Committee (JNCC) (2010) Handbook for Phase 1 Habitat Survey¹ and the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal², in accordance with BS42020:2013: Biodiversity³. The overall assessment consisted of:
- Site specific biological information gained from statutory and non-statutory consultation; and
 - A site walkover, protected species scoping assessment and phase 1 habitat survey.
- 3.2 The site-specific consultation provided the ecological context for the site survey carried out on the 24th July 2019.
- 3.3 The survey boundary and existing site is shown at Figure 1.
- 3.4 Greengage undertook the site walkover during dry and sunny weather conditions. Features within the site boundary and accessible features immediately bordering it were evaluated and the extent and distribution of habitats and plant communities were recorded, and supplemented with target notes on areas or species requiring further commentary. Fauna using the area were recorded and areas of habitat suitable for statutorily protected species were identified where present, with an active search carried out for evidence of such use.

DESK TOP REVIEW

- 3.5 A review of readily available ecological information and other relevant environmental databases (included Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) website⁴) was undertaken for the site and its vicinity. In addition, a biological records search from Kent and Medway Biological Records Centre (KMBRC) was reviewed to identify the location and citations of local non-statutory designated sites and presence of records for notable and protected species. This provided the overall ecological context for the site, to better inform the Phase 1 Survey.

ON SITE SURVEYS

Flora

- 3.6 The extent and distribution of different habitats on site were identified and mapped according to the standard Phase 1 Survey methodologies, supplemented with target notes describing the dominant botanical species and any features of interest. Any present protected plant species and invasive/non-natives were also noted. A habitat map has been produced to illustrate the results, as shown at Figure 1.

Fauna

- 3.7 The Phase 1 Survey specifically included assessments to identify the potential value for notable, rare and protected species at site. This involved identifying potential habitats in terms of refugia, breeding sites and foraging areas in the context of species known to be present locally and regionally.
- 3.8 The likelihood of occurrence is ranked as follows:
- Negligible - While presence cannot be absolutely discounted, the site includes very limited or poor-quality habitat for a particular species. The site may also be outside the known national range for a species;
 - Low - On-site habitat is poor to moderate quality for a given species, with few or no information about their presence from desk top study. However, presence cannot be discounted due to the national distribution of the species or the nature of on-site and surrounding habitats;
 - Moderate - The on-site habitats are of moderate quality, providing most or all of the key requirements for a species. Several factors may limit the likelihood of occurrence, habitat severance, habitat disturbance and small habitat area;
 - High - On-site habitat of high quality for given species. Site is within a regional or national stronghold for that particular species with good quality surroundings and good connectivity; and
 - Present - Presence confirmed for the survey itself or recent, confirmed records from information gathered through desk top study.
- 3.9 The species surveyed for included:

Badger (Meles meles)

- 3.10 The potential for badger to inhabit or forage within the study area was assessed. Evidence of badger activity includes the identification of setts (a system of underground tunnels and nesting chambers), grubbed up grassland (caused by the animals digging for earthworms, slugs, beetles etc.), badger hairs, paths, latrines and paw prints.

Bat Species (Chiroptera)

- 3.11 The site visit was undertaken in daylight and the evaluation of bat potential comprised an assessment of natural features on site that aimed to identify characteristics suitable for bat roosts, foraging and commuting. In accordance with Bat Conservation Trust's *Good Practice Guidelines*⁵ and methods given in English Nature's (now Natural England) *Bat Mitigation Guidelines*⁶ consideration was given to:
- The availability of access to roosts for bats;
 - The presence and suitability of crevices and other places as roosts; and

- Signs of bat activity or presence.
- 3.12 Definite signs of bat activity were taken to be:
- The bats themselves;
 - Droppings;
 - Grease marks;
 - Scratch marks; and
 - Urine spatter.
- 3.13 Signs of possible bat presence were taken to be:
- Stains; and
 - Moth and butterfly wings.
- 3.14 Features with potential as roost sites include mature trees with holes, crevices or splits (the most utilised trees being oak, ash, beech, willow and Scots pine), caves, bridges, tunnels and buildings with cracks or gaps serving as possible access points to voids or crevices.
- 3.15 Additionally, linear natural features such as tree lines, hedgerows and river corridors are often considered valuable for commuting and semi-natural habitats such as woodland, meadows and waterbodies can provide important foraging resources. Consideration was given to the presence of these features both immediately within and adjacent to the assessment area.

Great Crested Newt (*Triturus cristatus*)

- 3.16 An assessment was carried out to identify any potential habitats that may support great crested newt (GCN) and other native amphibians. The aquatic and terrestrial habitats required generally include small, still ponds or water bodies suitable for breeding; and woodland or grassland areas where there is optimal invertebrate prey potential.

Reptiles

- 3.17 The potential for reptile species on site was assessed during the walkover survey. Possible species include grass snake (*Natrix natrix*), smooth snake (*Coronella austriaca*), adder (*Vipera berus*), common and sand lizard (*Lacerta vivipara* and *L. agilis*) and slow worm (*Anguis fragilis*). These native reptile species generally require open areas with low, mixed-height vegetation, such as heathland, rough grassland, and open scrub or,

in the case of grass snake, waterbody margins. Suitable well drained and frost-free areas are needed so they can survive the winter.

Dormouse (*Muscardinus avellanarius*)

- 3.18 During the walkover survey the potential for dormouse to be present on site was assessed. This included observations for suitable habitat such as well-layered woodland, scrub and linking hedgerows, particularly those comprised of species offering suitable food sources such as honeysuckle and hazel, in addition to direct evidence such as characteristically gnawed hazelnuts, chewed ash keys and honeysuckle flowers, or nests.

Water Vole (*Arvicola terrestris*)

- 3.19 Water vole potential was assessed during the walkover survey. The potential is identified by the presence of ditches, rivers, dykes and lakes with holes and runs along the banks. Latrines, footprints or piles of food can also be noted.

Otter (*Lutra lutra*)

- 3.20 Where desktop review or consultation indicates the presence of otter in a river catchment, the presence of water bodies with good cover and potential holt (den) sites would be noted. Spraint, footprints or food remains can also be noted.

Birds

- 3.21 During the walkover survey, the potential for breeding, wintering and migratory birds was assessed. In particular, this includes areas of trees, scrub, heathland and wetlands that could support nests for common or notable species.

Invertebrates

- 3.22 As part of the walkover survey the quality of invertebrate habitat and the potential for notable terrestrial and aquatic invertebrate species was considered. There is a wide variety of habitats suitable for invertebrates including wetland areas, heathland, areas of bare sandy soil, ephemeral brownfield vegetation and meadows.

Biodiversity Action Plan priority species/ Species of Principal Importance

- 3.23 Where consultation and desk-study indicates the presence of BAP priority species (Species of Principal Importance) not protected by statute, effort was made to establish the potential for the site to support these species.

SURVEYORS

- 3.24 Morgan Taylor, who reviewed this report, has a bachelors and master's degree in marine biology (MSci Hons), a Natural England CL17 Bat Survey Level 2 Class Licence (2015-

7369-CLS-CLS) and CL10 Dormouse Survey Licence (2017-30817-CLS-CLS). Morgan is a Chartered Environmentalist, Full member of CIEEM and has over 8 years' experience in ecological surveying having undertaken assessments of numerous development sites of this type. He leads the Ecology team at Greengage.

- 3.25 Laura Thomas, who undertook the PEA and wrote this report, has an undergraduate degree in Biology (BSc Hons) and a Master's degree in Evolutionary and Behavioural Ecology and is a Graduate member of CIEEM. Laura has over 3 years' experience in the commercial sector.
- 3.26 This report was written by Laura and reviewed and verified by Morgan who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:
- Represents sound industry practice;
 - Reports and recommends correctly, truthfully and objectively;
 - Is appropriate given the local site conditions and scope of works proposed; and
 - Avoids invalid, biased and exaggerated statements.

CONSTRAINTS

- 3.27 The PEA was undertaken during an optimal time of year during ideal conditions by a suitably qualified ecologist.
- 3.28 It was possible to access all the internal areas of the ambulance building however the internal areas of the water tank building was inaccessible as it has been boarded shut.
- 3.29 No significant constraints that stand to impact conclusions drawn in this report presented themselves however.

4.0 RESULTS

DESK TOP REVIEW

Designations

- 4.1 Consultations with the Kent and Medway Biological Records Centre (KMBRC) and the MAGIC dataset have confirmed that there are no statutory designations of national or international importance within the boundary of the site.
- 4.2 There is however one statutory designation, the Thames Estuary and Marshes Ramsar and Site of Special Scientific Interest (SSSI), within a 2km radius which is designated for nature conservation reasons.
- 4.3 No records of non-statutory sites were identified within 1km of the site boundary.
- 4.4 Table 4.1 below gives the location and description of the nearest/most relevant local designation.

Table 4.1 Statutory and Non-Statutory Designated Sites within Search Radius

Site Name	Approximate Location	Description
Statutory Designation		
South Thames Estuary and Marshes (SSSI and Ramsar)	0.7km north east	The South Thames Estuary and Marshes from Gravesend to the eastern end of the Isle of Grain forms a major component of the Greater Thames Estuary. The site consists of an extensive mosaic of grazing marsh, saltmarsh, mudflats and shingle characteristics of the estuarine habitats of the north Kent marshes. Freshwater pools and some areas of woodland provide additional variety and complement the estuarine habitats. The site supports outstanding numbers of waterfowl with total counts of 20,000. Many species regularly occur in nationally important numbers and some species regularly use the site in international important numbers. The breeding bird community is also of particular interest. The diverse habitats within the site support a number of nationally rare and scarce invertebrate species and an assemblage of nationally scarce plants. Birds mudflats attract large numbers of feeding waders and wildfowl with the site being regularly used by redshank (<i>Tringa tetanus</i>) in internationally important numbers. There is evidence from recent winter low-water counts that knot (<i>Calidris canutus</i>) and dunlin (<i>Calidris alpina</i>) exceed internationally important numbers when feeding on the mudflats. These counts indicate that avocet (<i>Recurvirostra avosetta</i>) and ringed plover (<i>Charadrius hiaticula</i>) regularly exceed nationally important numbers. The saltmarshes support characteristic vegetation dominated by the saltmarsh grasses (<i>Puccinellia</i> sp.), the glassworts (<i>Salicornia</i> sp.), sea aster (<i>Aster tripolium</i>), sea lavender (<i>Limonium vulgare</i>) and sea purslane (<i>Halimione portulacoides</i>),

Site Name	Approximate Location	Description
		with nationally scarce plants such as golden samphire (<i>Inula crithmoides</i> and <i>Puccinella fasciculata</i>). The site supports a diverse invertebrate fauna and includes nationally rare beetles, flies and true bugs. The 'scarce emerald damselfly' (<i>Lestes dryas</i>), a hoverfly (<i>Lejops vittata</i>), a shorebug (<i>Saldula opacula</i>) and the dotted fan-foot moth (<i>Macrochilo cribrumalis</i>), aquatic weevils (<i>Bagous</i> sp.) and the great silver water beetle (<i>Hydrophilus piceus</i>).

Biodiversity Action Plans

- 4.5 UK Biodiversity Action Plans (BAPs) have been developed which set priorities for nationally important habitats and species. To support the BAPs, Species/Habitat Statements (otherwise known as Species/Habitat Action Plans) were produced that provide an overview of the status of the species and set out the broad policies that can be developed to conserve them. A list of priority species of conservation importance was also developed.
- 4.6 The UK BAP was succeeded in 2012 by the *UK-Post 2012 Biodiversity Framework* which informed the creation of the *Biodiversity 2020* strategy; England's contribution towards the UK's commitments under the *United Nations Convention of Biological Diversity*.
- 4.7 Despite this, the UK BAP priority species lists and conservation objectives still remain valid through integration with local BAPs (which remain valid), and in the form of the Habitats and Species of Principle Importance list (as required under section 41 of the Natural Environment and Rural Communities (NERC) Act).
- 4.8 There were no UK BAP priority habitats were present at site or in the immediate vicinity.
- 4.9 Local Biodiversity Action Plans (LBAPs) ensure that national action plans (the UK BAP/Biodiversity 2020) are translated into effective action at the local level and establish targets and actions for locally characteristic species and habitats. This area is covered by the Kent Nature Partnership Biodiversity Strategy.
- 4.10 *Kent Nature Partnership (KNP) Biodiversity Strategy 2019 to 2044*
- 4.11 Produced by the Kent Nature Partnership (KNP), this document (currently under consultation) aims "to deliver, over a 25 year period, the restoration and creation of habitats that are thriving with wildlife and plants, ensuring the county's terrestrial, freshwater, intertidal and marine environments regain and retain good health".
- 4.12 The KNP has chosen to select 13 priority habitats and 10 species on which efforts should be specifically focussed and targets set. Whilst no habitats relate to this site the following species of relevance to this report are:
- Hedgehog (*Erinaceus europaeus*);
 - Serotine bat (*Eptesicus serotinus*); and

- Common blue (*Polyommatus icarus*).

Species Record

4.13 The information provided in the biological data search from KMBRC identified records of a number of protected and BAP priority species within 1km search radius of the site. Among others, these include the following species of relevance to the site:

- Stag beetle (*Lucanus cervus*);
- Shrill carder bee (*Bombus sylvarum*);
- Great crested newt (*Triturus cristatus*);
- Common lizard (*Zootoca vivipara*);
- Slow worm (*Anguis fragilis*);
- Grass snake (*Natrix helvetica*);
- Hedgehog;
- Turtle dove (*Streptopelia turtur*);
- Swift (*Apus apus*);
- Swallow (*Hirundo rustica*);
- House martin (*Delichon urbicum*);
- Black redstart (*Phoenicurus ochruros*);
- House sparrow (*Passer domesticus*);
- Bat species including serotine, Daubenton's and Natterer's (*Myotis daubentonii* and *M. nattereri*), Leisler's and noctule (*Nyctalus leisleri* and *N. noctula*), common, soprano and Nathusius' pipistrelle (*Pipistrellus pipistrellus*, *P. pygmaeus* and *P. nathusii*) and brown long eared bats (*Plecotus auritus*).

4.14 The species listed above are primarily those known to be in the area that may be impacted by any proposals at the site, or that stand to benefit as a consequence of potential ecological enhancements at the site and inform site-specific mitigation and enhancement recommendations described in the following chapter.

Detailed Description of Site: Habitats

4.15 The habitats presented across the assessment site consist of the following Joint Nature Conservation Committee (JNCC) Phase 1 Habitat categories, as mapped at Figure 1:

- Buildings/Hardstanding (J3.6);
- Cultivated/disturbed land- ephemeral/short perennial (J1.4);
- Scrub (A2);

- Tall ruderal (C3.1); and
- Scattered trees (A3).

Target notes

- 4.16 Target notes have been used to denote features of ecological importance not described in sufficient detail by the above habitat codes.

Target note 1

- 4.17 Target note 1 refers to the derelict buildings on site. Both buildings are of brick construction with areas of tiled roof. The larger building was previously used as an ambulance station and the other as a water storage block. Both buildings have low bat potential with opportunities in cracks and crevices in the brickwork and under lifted/missing tiles – see further discussion at 4.24.

Target note 2

- 4.18 Target note 2 describes the dense scrub and tall ruderal habitat which runs along the southern boundary and surrounds the water tank block. The species present are typical of such habitats on urban brownfield sites, and include bramble (*Rubus fruticosus*), ivy (*Hedera helix*), nettles (*Urtica dioica*), pellitory-of-the-wall (*Parietaria officinalis*), green alkanet (*Pentaglottis sempervirens*), great hairy willowherb (*Epilobium hirsutum*), ribwort plantain (*Plantago lanceolata*), common ragwort (*Jacobaea vulgaris*), mallow (*Malva sylvestris*), yarrow (*Achillea millefolium*), curled dock (*Rumex crispus*), black horehound (*Ballota nigra*), Canadian fleabane (*Erigeron canadensis*), field bindweed (*Convolvulus arvensis*), hedge bindweed (*Calystegia sepium*), maple (*Acer* sp.) saplings and wall barley (*Hordeum murinum*).

Target note 3

- 4.19 Target note 3 describes the trees on site. Tree cover is limited a line of 3 mature lime trees running along the western boundary and a semi-mature plane tree to the east of the water tank block.

Detailed description of Site: Species

Badger

- 4.20 No suitable habitat or evidence of use by badger was identified during the site visit. As such, the potential for the site and its surroundings to support badgers is considered **negligible**.

Bats***Foraging***

- 4.21 The scrub and trees on site are likely to be of some value for common invertebrate prey assemblages and accordingly, foraging bats. However, better foraging and commuting habitat exists in the local area.
- 4.22 As such the site is considered to be of **low** potential value for foraging and commuting bats.

Roosting

- 4.23 Full access was given to the internal areas of the ambulance building and no field signs of roosting bats were observed. Internal access to the water storage building was not possible as the building has been boarded shut.
- 4.24 Potential roosting features were observed on both buildings associated with lifted, missing and broken tiles and some holes in the brickwork on the western elevation of the water storage building.
- 4.25 As a consequence, the buildings were considered to be of **low** potential value for roosting bats.

Great Crested Newt

- 4.26 Terrestrial habitat for great crested newt (GCN) within the site boundary is limited to the small patches of scrub. However, this area is isolated from suitable aquatic features or adjoining terrestrial habitat with no waterbodies within 500m of the site.
- 4.27 As such, the potential for the site and its surroundings to support great crested newts is considered **negligible**.

Reptiles

- 4.28 Potential value for reptile was limited to the scrub edge habitat. The site is isolated from other suitable habitat by roads and residential development, meaning reptiles are unlikely to have colonised. Therefore, the potential of the site to support reptiles is considered **negligible**.

Dormouse

- 4.29 No suitable habitat was identified during the site visit. As such, the potential for the site to support dormice is considered **negligible**.

Water Vole and Otter

- 4.30 There are no suitable waterbodies on or near the site to support riparian mammals. The site is considered to have **negligible** potential to support water vole and otter.

Birds

- 4.31 A nest was observed in the internal area of the old ambulance station, however, this appeared to be old and inactive. Areas of scrub and trees on site also provide value for nesting birds.
- 4.32 Therefore, the site is considered to have **high** potential to support nesting birds with evidence of past use.

Invertebrates

- 4.33 Habitat for invertebrates on site is generally limited given the poor floral diversity and limited vegetation cover. The small areas of common early colonising brownfield flora may provide some value for invertebrate species however, and the value is therefore considered **low**.

Protected Plant Species

- 4.34 No protected plant species were observed during the PEA. Overall, the potential for protected plant species is considered to be low owing to the isolation of the site and nature of common urban habitats present.

Invasive/Non-native species

- 4.35 No invasive species were recorded at the site.

Other BAP Species

- 4.36 The site has suitable habitats and features present to support hedgehog. The scrub habitats provide shelter and are likely to support an abundance of prey species.

5.0 EVALUATION AND DISCUSSION

BASELINE SUMMARY

- 5.1 The assessment site and its surroundings have potential to support the following ecological receptors of note, which could therefore be impacted upon by any future prospective development proposals, as indicated in Table 5.2 below. Comment on further recommendations for each receptor is provided; further detail and discussion can be found at paragraph 5.2 onward:

Table 5.2 Baseline Summary

Receptor	Presence/Potential Presence	Comments
Designated Sites: Statutory	Present in local area	South Thames Estuary and Marshes (SSSI and Ramsar) is located ~0.7km north east of the site. This area is isolated from the site by residential developments. No impacts as a consequence of the proposed development are therefore considered likely to occur; increase in visitor footfall as a consequence of new residents are not predicted to be of a scale to impact the qualifying features of this designation.
Foraging bats	Low	The dense scrub areas and tree margins provide potential habitats for bat prey species as well as linear corridors for commuting. Bats are accordingly likely to use the site to forage and commute. It is understood that the mature lime trees are to be retained however proposals are likely to result in an increase in artificial light pollution within the site and will result in the loss of scrub habitat which may currently form a foraging resource. No further surveys are considered necessary for foraging bats, however mitigation in the form of a sensitive lighting strategy which follows BCT/ILP guidelines is recommended, alongside provision of compensatory foraging and commuting habitat to account for the loss of any existing vegetation.

Receptor	Presence/Potential Presence	Comments
Roosting bats	Low	The existing buildings have low potential for roosting bats. In accordance with BCT guidelines, and given the legal protection afforded to bats, a single dusk/dawn survey conducted between May and September is recommended for these buildings to determine the presence/likely absence of roosting bats. Mitigation, compensation and enhancement actions should be informed by the phase 2 survey; however, commentary is provided below relating to concepts that should be followed within design and approach at site, irrespective of survey outcomes.
Birds	High	An old nest was observed in the old ambulance station and value for nesting birds was identified in the dense scrub and trees. No further surveys are recommended, however, demolition and site clearance should take place outside of the nesting bird season (taken to run March to August, inclusive), unless nests are confirmed as absent by an ecologist prior to works. Proposals should provide compensatory nesting habitat in the form of wildlife-friendly landscaping and boxes hung from trees as well as integrated boxes within the built form of new buildings at site; see detail below.
Invertebrates	Low	No further surveys are required, however suitable compensatory habitat should be provided within landscaping proposals.
Other BAP species	Low	The site is likely to be of value for BAP species such as hedgehog. Proposals will result in the loss of suitable habitats for this species. No further surveys are required, however commentary on appropriate mitigation and enhancements for these species is provided below.

DISCUSSION AND RECOMMENDATIONS

- 5.2 Discussion is provided below on the key ecological receptors that stand to be impacted/benefit from proposed works; high level commentary on appropriate mitigation, compensation and enhancement actions is also provided.
- 5.3 An Ecological Management Plan (EMP) should be produced and implemented for the site providing greater detail on the below, which could be secured through planning condition in accordance with BS 42020: 2013 Biodiversity.

Statutory Sites

- 5.4 No further consideration is required for statutory designated sites. Potential impacts associated with construction, such as pollution events, dust deposition and noise pollution/vibration will not affect designated sites due to the distance and presence of geographical barriers. Potential operational impacts such as increased footfall and litter will be minimal as the designated site is already in a suburban context subject to these factors already. Nearer outdoor recreation areas also exist.

Bats

Foraging and commuting

- 5.5 Impacts upon foraging bats may stand to occur through loss of scrub habitat and increased levels of lighting associated with construction and operation.
- 5.6 Any unavoidable loss of foraging habitat should be compensated for through new planting of native trees, shrubs and wildflowers.
- 5.7 A bat-sensitive lighting strategy should be implemented during construction and operation. Effort should be made to select the least impactful luminaires, use directional lighting and minimise external lighting at night, in line with established best practice guidance provided by the Bat Conservation Trust and Institute of Lighting Professionals⁷.

Roosting

- 5.8 In accordance with BCT guidelines⁸ a single re-entry survey is recommended to determine the presence/likely absence of roosting bats in the buildings on site. One aspect of the old ambulance building backs on to residential gardens and will be difficult to observe from site. Therefore, a dawn survey is recommended as re-entry behaviour tends to be easier to observe.
- 5.9 Details on appropriate mitigation for roosting bats would be dependent upon findings of this survey.

Birds

- 5.10 Impacts upon nesting birds can be fully avoided through timing of works. Demolition and vegetation clearance should be undertaken outside of the nesting bird season (taken to run from March to August inclusive). If clearance within this window is not possible, a nesting bird check by a qualified ecologist would be required prior to clearance.
- 5.11 Should an active nest be identified, works that would stand to destroy the nest/eggs and/or kill birds building nests must cease until the nest is vacated.
- 5.12 Compensatory nesting habitat should be provided in the form of shrub and trees within landscaping and integrated boxes within the built form of new buildings at site.

BAP Species

- 5.13 Whilst potential for the majority of BAP priority species is limited, the site contains small areas of habitat of potential value to hedgehogs.
- 5.14 Accordingly, precautionary methods of clearance scrub or dense ground cover should be preceded by a thorough hand search to check for hedgehogs, particularly if undertaken during hibernation season (October-April) with hedgehogs relocated to suitable retained habitat if found.
- 5.15 Connectivity should be maintained for hedgehogs through the allowance of 13x13cm gaps in fences/boundary walls. Suitable foraging habitat should be created in landscaped areas.

ECOLOGICAL ENHANCEMENT RECOMMENDATIONS

- 5.1 There are opportunities to enhance the ecological value of the site through the development proposals. Habitat should be created to provide value for priority species in line with local conservation objectives.
- 5.2 Specifically, the following enhancement features are recommended:
- Wildlife friendly landscaping should be provided across the site. Improved tree and shrub cover should be delivered alongside use of pollinator friendly herbaceous planting. In addition, any lawn/amenity grassland provided should incorporate wildflower turf, or products which provide higher provision of wildflowers and nectar sources for pollinators.

Figure 5.1 Wildflower turf providing recreation, amenity and biodiversity value



- Provision of bird nest boxes and bat boxes within the built form of new buildings and/or fitted to trees included in the landscape design. These boxes should target species such as house sparrow and swift, with multiple opportunities provided in the form of sparrow terraces and groups of swift boxes together.

Figure 5.1 Example bird and bat box products to be integrated within buildings



- Invertebrate habitat features. Within public landscaped areas, invertebrate habitat features should be incorporated to provide aesthetic interest as well as ecological function. Stag beetle loggeries, solitary beehives and habitat panels should be placed in suitable locations. Stag beetle loggeries should be placed in shady areas amongst trees or shrubbery to provide forage and shelter for saproxylic invertebrates in larval stage, whereas beehives and habitat panels should be located in sunny areas.

Figure 5.2 Example invertebrate habitat features



- 5.3 Incorporation of the aforementioned features would stand to result in potential improvements for biodiversity at site level.
- 5.4 Detail relating to these measures could be described within an EMP, which could also seek to quantify biodiversity change using the Defra Biodiversity metric, as per NPPF policy drivers. An overall net gain in biodiversity should be targeted.

6.0 SUMMARY & CONCLUSION

- 6.1 Greengage Environmental Ltd was commissioned to undertake a Preliminary Ecological Appraisal by Potter Raper of a site known as Albert Murray Close in Gravesend, Kent in order to establish the ecological value of this site and its potential to support notable and/or legally protected species.
- 6.2 The PEA identified value for a number of notable and protected species and habitats including:
- Low potential to support roosting bats;
 - High potential to support nesting birds; and
 - Low potential to support hedgehogs.
- 6.3 A single re-entry survey is recommended to confirm presence/likely absence of roosting bats and inform mitigation, compensation and enhancement actions.
- 6.4 It is also recommended that any clearance of vegetation on site should be undertaken outside of the nesting bird season (March-August Inclusive).
- 6.5 Key mitigation, compensation and enhancement actions are described to enable legislative and policy compliance (see context at Appendix 2), aiming to achieve net gains in biodiversity for the site.
- 6.6 Key actions could be detailed within an EMP document for the site which could be secured through planning condition.

FIGURE 1 SITE PLAN AND HABITAT MAP



**Alpha Murray
Close**

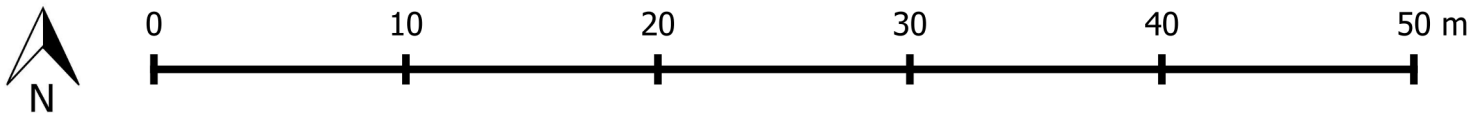
- Red Line
- Trees
- buildings
- Scrub
- Hardstanding



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**Figure 1.0 Site Plan and
Habitat Map**

Project Number 551310
August 2019
e.g. 1 to 300 at A3
[Map data: Google Satellite]



APPENDIX 1 SITE PHOTOGRAPHS

Photograph 1 – Dense scrub growing either side of the driveway to the old Ambulance station



Photograph 2 – Dense scrub and tall ruderal vegetation outside old water storage building



Photograph 3- The old ambulance station and dense scrub



Photograph 4- The plane tree to the east of the old water storage building



APPENDIX 2 RELEVANT LEGISLATION AND POLICY

LEGISLATION

Current key legislation relating to ecology includes the Wildlife and Countryside Act 1981 (as amended)⁹; The Conservation of Habitats and Species Regulations 2017 ('Habitats & Species Regulations')¹⁰, The Countryside and Rights of Way Act 2000 (CRoW Act)¹¹, and The Natural Environment and Rural Communities Act, 2006¹².

The Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats & Species Regulations replace The Conservation (Natural Habitats, etc.) Regulations 1994 (as amended)¹³, and transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive')¹⁴, and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive')¹⁵ into UK law (in conjunction with the Wildlife and Countryside Act).

Regulation 43 and 47 respectively of the Conservation of Habitats & Species Regulations makes it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2 (European protected species of animals), or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5 (European protected species of plant). Development that would contravene the protection afforded to European protected species requires a derogation (in the form of a licence) from the provisions of the Habitats Directive.

Regulation 63 (1) states: 'A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which —

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of that site;

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.'

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats¹⁶ (the 'Bern Convention') and the Birds Directive and EU Habitats Directive are implemented in Great Britain.

The Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act has been updated by the CRoW Act. The CRoW Act amends the law relating to nature conservation and protection of wildlife. In relation to

threatened species it strengthens the legal protection and adds the word 'reckless' to the offences of damaging, disturbing, or obstructing access to any structure or place a protected species uses for shelter or protection, and disturbing any protected species whilst it is occupying a structure or place it uses for shelter or protection.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 states that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Biodiversity Action Plans provide a framework for prioritising conservation actions for biodiversity.

Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity. The list, a result of the most comprehensive analysis ever undertaken in the UK, currently contains 1,149 species, including for example, hedgehog (*Erinaceus europaeus*), and 65 habitats that were listed as priorities for conservation action under the now defunct UK Biodiversity Action Plan¹⁷ (UK BAP). Despite the devolution of the UK BAP and succession of the UK Post-2010 Biodiversity Framework¹⁸ (and Biodiversity 2020 strategy¹⁹ in England), as a response to the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020²⁰ and EU Biodiversity Strategy (EUBS)²¹, this list (now referred to as the list of Species and Habitats of Principal Importance in England) will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 41 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions.

Biodiversity Action Plans

Non-statutory Biodiversity Action Plans (BAPs) have been prepared on a local and regional scale throughout the UK over the past 15 years. Such plans provide a mechanism for implementing the government's broad strategy for conserving and enhancing the most endangered ('priority') habitats and species in the UK for the next 20 years. As described above the UK BAP was succeeded in England by Biodiversity 2020 although the list of priority habitats and species remains valid as the list of *Species of Principal Importance for Nature Conservation*.

Regional and local BAPs are still valid however and continue to be updated and produced.

Detail on the relevant BAPs for this site are provided in the main text of this report.

Legislation Relating to Nesting Birds

Nesting birds, with certain exceptions, are protected from intentional killing, destruction of nests and destruction/taking of eggs under the Wildlife and Countryside Act 1981 (as amended) and the CROW Act. Any clearance of dense vegetation should therefore be undertaken outside of the nesting bird season, taken to run conservatively from March

to August (inclusive), unless an ecologist confirms the absence of active nests prior to clearance.

Legislation Relating to Bats

All UK bats and their roosts are protected by law. Since the first legislation was introduced in 1981, which gave strong legal protection to all bat species and their roosts in England, Scotland and Wales, additional legislation and amendments have been implemented throughout the UK.

Six of the 18 British species of bat have Biodiversity Action Plans (BAPs) assigned to them, which highlights the importance of specific habitats to species, details of the threats they face and proposes measures to aid in the reduction of population declines.

Although habitats that are important for bats are not legally protected, care should be taken when dealing with the modification or development of an area if aspects of it are deemed important to bats such as flight corridors and foraging areas.

The Wildlife & Countryside Act 1981 (WCA) was the first legislation to provide protection for all bats and their roosts in England, Scotland and Wales (earlier legislation gave protection to horseshoe bats only.)

All eighteen British bat species are listed in Schedule 5 of the Wildlife and Countryside Act, 1981 and under Annexe IV of the Habitats Directive, 1992 as a European protected species. They are therefore fully protected under Section 9 of the 1981 Act and under Regulation 43 of the Conservation of Habitats and Species Regulations 2017, which transposes the Habitats Directive into UK law. Consequently, it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

This legislation applies to all bat life stages.

The implications of the above in relation to the proposals are that where it is necessary during construction to remove trees, buildings or structures in which bats roost, it must first be determined that work is compulsory and if so, appropriate licenses must be obtained from Natural England.

Legislation Relating to Natura 2000 Sites and Habitats Directive Annex I/II Species

European Commission Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive'), and Council Directive

79/409/EEC on the Conservation of Wild Birds ('Birds Directive') form the cornerstones of nature conservation legislation across EU member states. Priority species requiring protection across Europe are listed in the Annexes of these Directives. Regulation 63(1) of the Conservation of Habitats and Species Regulations 2017 and Offshore Marine Conservation Regulations, 2007 (as amended) transpose these directives into UK law and set the basis for the designations of protected sites (known as Natura 2000 sites; Special Areas of Conservation under the Habitat Directive and Special Areas of Protection under the Birds Directive) that are of importance for habitats, species or assemblages listed on the directive Annexes. In the UK Ramsar sites are also offered the same level of protection as SPAs and SACs however the qualifying species for the designation may differ; Ramsar sites being designated specifically as important wetland habitats.

Under article 6(3) of the Habitats Directive, where projects stand to have likely significant effect (in accordance with the European Court of Justice ruling of C-127/02 Waddenzee cockle fishing) upon the integrity of conservation objectives (i.e. conservation status of the qualifying species or habitats) within the designated sites then the Competent Authority must undertake an Appropriate Assessment.

PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2019²² sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Local

Local policy and SPDs

Gravesham Local Plan Core Strategy 2014²³

Green Grid

There has been a long term aspiration to develop a linked network of open spaces and routes across the Borough, joining with a wider network beyond the Borough's

boundaries. This is known as the Green Grid. The focus of the Green Grid in Gravesham is on building a network that:

- Links green spaces to create green continuity, including ecological continuity, wherever possible;
- Improves access within the urban area, between the urban area and the rural area and along the River Thames for leisure and sustainable travel purposes; and
- Creates safe and attractive routes for walkers, cyclists and mobility-impaired people.

Biodiversity

Some previously developed sites in the urban area have high biodiversity value. The green space and green grid networks together with other areas such as school grounds and private gardens also have a role in providing and connecting habitats.

Local Nature Partnerships have been set up to help local areas to manage the natural environment as a system and to embed its value in local decisions for the benefit of nature, people and the economy. Local Nature Partnerships have been approved for Kent and Thames Gateway.

The strategy is to ensure that there is no net loss of biodiversity in the Borough and to take every opportunity to improve biodiversity. Existing sites of biodiversity value will be protected according to their importance. Where development is proposed, ecological surveys must be conducted and mitigation strategies produced, where applicable, prior to seeking planning permission. Development will then be expected to be designed, laid out and constructed in a manner which protects habitats and important species and also includes features to enhance biodiversity. Biodiversity Opportunity Areas have been identified across Kent and the wider South East which incorporate areas of the greatest biodiversity value. In Gravesham, these comprise: North Kent Marshes; Thames-side Green Corridors; and Medway Gap and North Kent Downs. These areas give opportunities for the restoration or creation of new priority habitats and will be the focus for improvement where opportunities arise, for example through the Local Nature Partnerships and the Nature Improvement Area.

Policy CS12: Green Infrastructure

A multifunctional linked network of green spaces, footpaths, cycle routes and wildlife stepping stones and corridors will be created, protected, enhanced and maintained. The network will improve access within the urban area, from the urban area to the rural area and along the River Thames. The key parts of the network are identified on Figure 19: Strategic Green Infrastructure Network.

Sites designated for their biodiversity value will be protected, with the highest level of protection given to internationally designated Special Protection Areas, Special Areas of Conservation and Ramsar sites, followed by nationally designated Sites of Special

Scientific Interest, followed by Local Wildlife Sites and then by other areas of more local importance for biodiversity.

There will be no net loss of biodiversity in the Borough, and opportunities to enhance, restore, re-create and maintain habitats will be sought, in particular within the Biodiversity Opportunity Areas shown on the Strategic Green Infrastructure Network map and within new development.

Where a negative impact on protected or priority habitats/species cannot be avoided on development sites and where the importance of the development is considered to outweigh the biodiversity impact, compensatory provision will be required either elsewhere on the site or off-site, including measures for ongoing maintenance.

The overall landscape character and valued landscapes will be conserved, restored and enhanced. The greatest weight will be given to the conservation and enhancement of the landscape and natural beauty of the Kent Downs Area of Outstanding Natural Beauty and its setting. Proposals will take account of the Kent Downs Area of Outstanding Natural Beauty Management Plan, the Gravesham Landscape Character Assessment, and the Cluster Studies where relevant.

Kent and Medway Supplementary Planning Guidance SPG2 2006²⁴

Policy EN8: Protecting, Conserving and Enhancing Biodiversity

Important wildlife habitats and species will be protected, maintained and enhanced, especially through long term management and habitat creation schemes, where they have been identified as national and county priorities in the UK and Kent Biodiversity Action Plan(s), or where they are protected under wildlife legislation. This will be secured by:

- a) ensuring that site evaluation is undertaken to establish the nature conservation value of proposed development sites;
- b) identifying, safeguarding and managing existing and potential land for nature conservation as part of development proposals, particularly where a connected series of sites can be achieved;
- c) local planning authorities identifying locations and proposals for habitat and species management, restoration and creation.

Development likely to have an adverse effect, directly, indirectly or cumulatively, on important habitats or species will not be permitted unless:

- there is an overriding need for the development that outweighs adverse impact on nature conservation; and
- adverse impact on an important nature conservation resource can be adequately mitigated and/or compensated.

Principle 1 - Planning and Biodiversity

Planning proposals which have the potential to impact on wildlife should:

- Be accompanied by adequate information to allow an informed decision to be made.
- Seek to avoid and reduce species and habitat loss and fragmentation.
- Recognise direct, indirect and cumulative impacts of development.
- Provide adequate mitigation and compensation for adverse impacts.
- Deliver positive benefits including reversing the effects of historic loss and fragmentation of habitats and populations of wild species.
- Enhance the ecological value of existing sites and habitats and the links between them according to what is appropriate, by reference to the site's physical context.
- Where practicable, create wildlife habitats within developments and linkages with existing established sites and corridors of biodiversity value.
- Have regard to adopted biodiversity action plans and local landscape strategies.

Principle 2 – Development Proposals and Biodiversity Conservation

Development Proposals should clearly show that:

- All relevant aspects of the natural environment have been properly taken into account in the design of the development and its associated works.
- An appropriate assessment of the development's potential impact and the role it can play in positively contributing to biodiversity conservation has been undertaken.

REFERENCES

- ¹ Joint Nature Conservation Committee (2010); Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit. JNCC, Peterborough.
- ² CIEEM (2017); Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- ³ BSI (2013); British Standard 42020:2013: Biodiversity — Code of practice for planning and development, BSI Standards Publication
- ⁴ MAGIC (2019); Interactive Map. (Partnership project involving six government organisations: Defra (Department for Environment, Food and Rural Affairs); English Heritage; Natural England; Environment Agency; Forestry Commission; Department for Communities and Local Government). Available at: www.magic.gov.uk.
- ⁵ Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London
- ⁶ English Nature, (2004); Bat Mitigation Guidelines. English Nature.
- ⁷ Bat Conservation Trust & Institute of Lighting Professionals (2018); Bats and Artificial Lighting in the UK: Bats and the built environment series. BCT
- ⁸ Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London
- ⁹ HM Government, (1981); Part I and Part II of Wildlife and Countryside Act (as amended). HMSO
- ¹⁰ HM Government, (2017); The Conservation of Habitats and Species Regulations 2017. Statutory Instrument 2017 no. 490 Wildlife Countryside. OPSI
- ¹¹ HM Government, (2000); The Countryside and Rights of Way Act. HMSO
- ¹² HM Government, (2006); Natural Environment and Rural Communities Act 2006. HMSO
- ¹³ HM Government, (1994); The Conservation (Natural Habitats, &c.) Regulations. HMSO
- ¹⁴ CEC (Council of the European Communities), (1992); Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

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- ¹⁵ The European Parliament And Of The Council, (30 November 2009); Directive 2009/147/EC On The Conservation Of Wild Birds (Codified Version)
- ¹⁶ CEC (Council of the European Communities), (1979); Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 19.IX.1979). EC
- ¹⁷ UK Biodiversity Action Plan (2007). UKBAP Priority Species and Habitats. <http://www.ukbap.org.uk/newprioritylist.aspx>
- ¹⁸ JNCC and Defra (on behalf of the Four Countries' Biodiversity Group) (2012). UK Post-2010 Biodiversity Framework. July 2012. Available from: <http://jncc.defra.gov.uk/page-6189>
- ¹⁹ Defra (2011). Biodiversity 2020: A strategy for England's wildlife and ecosystem services
- ²⁰ Convention on Biological Diversity (CBD) (2010). Decision X/2 Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets. Available at <https://www.cbd.int/decision/cop/?id=12268>
- ²¹ European Commission (2012). Our life insurance, our natural capital: an EU biodiversity strategy to 2020 European Parliament resolution of 20 April 2012 on our life insurance, our natural capital: an EU biodiversity strategy to 2020 (2011/2307(INI))
- ²² GOV.UK. (2019). *National Planning Policy Framework*. [online] Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed 13 June 2019].
- ²³ Gravesham Borough Council (2006) Gravesham Local Plan Core Strategy
- ²⁴ Kent County Council (2006) Kent and Medway Structure Plan 2006 mapping out the future- Supplementary Planning Guidance SPG2 Biodiversity Conservation
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Appendix J

Imported Material Delivery Tickets and Chemical Batch Data



TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Drew Wetherell
Bourne Amenity Ltd
The Wharf
Newenden
Cranbrook
Kent TN18 5QG

5th July 2024

Our Ref: TOHA/24/1427/2/SS

Your Ref: PO BA/134469/2004

Dear Sirs

Topsoil Analysis Report: Sevenoaks TS6 Topsoil

We have completed the analysis of the soil sample recently received, referenced *SO TS6 Topsoil*, and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

This report presents the results of analysis for the sample received, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing, waste designation purposes or for any project-specific application, especially after the topsoil has left the Bourne Amenity site.

SAMPLE EXAMINATION

The sample was described as a dark yellowish brown (Munsell Colour 10YR 4/4), slightly moist, friable, slightly calcareous LOAMY SAND with a weakly developed, very fine to medium granular structure*. The sample was virtually stone-free and contained a moderate proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

*This appraisal of soil structure was made from examination of a disturbed sample. Structure is a key soil characteristic that may only be accurately assessed by examination in an in-situ state.

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Plate 1 – SO TS6 Topsoil Sample

ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- detailed particle size analysis (5 sands, silt, clay);
- stone content (2-20mm, 20-50mm, >50mm);
- saturated hydraulic conductivity;
- pH and electrical conductivity values;
- calcium carbonate;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- visible contaminants (>2mm);
- heavy metals (Sb, As, B, Ba, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, V, Zn);
- total cyanide and total (mono) phenols;
- elemental sulphur, acid volatile sulphur and water soluble sulphate;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

RESULTS OF ANALYSIS

Detailed Particle Size Analysis and Stone Content

The sample fell into the *loamy sand* texture class. Further detailed particle size analysis found the sample to have a reasonably narrow particle size distribution with a predominance of *medium sand* (0.25-0.50mm). This is usually ideal for topsoil in general landscape applications as reasonable porosity levels are generally maintained in a consolidated state and the risk of particle interpacking is reduced. The sample should therefore provide adequate drainage and aeration properties for general landscape applications.

The sample was virtually stone-free and, as such, stones should not restrict the use of the soil for general landscape purposes.

Saturated Hydraulic Conductivity

The sample had a saturated hydraulic conductivity value of 206 mm/hr, which indicates that the material would be free-draining. As a result, the soil may be more prone to drought but may be acceptable for use in landscape environments where a free-draining topsoil is required or where there will be a low drought risk.

pH and Electrical Conductivity Values

The sample was strongly alkaline in reaction (pH 8.5). This pH value would be considered suitable for general landscape purposes provided species with a wide pH tolerance or those known to prefer alkaline soils are selected for planting, turfing and seeding.

The electrical conductivity (salinity) value (water extract) was moderate, which indicates that soluble salts should not be present at levels that would be harmful to plants.

The electrical conductivity value by CaSO₄ extract (BS3882 requirement) fell below the maximum specified value (3300 µS/cm) given in BS3882:2015 – Table 1.

Organic Matter and Fertility Status

The sample was adequate to well supplied with organic matter and all major plant nutrients.

The C:N ratio of the sample was acceptable for general landscape purposes.

Potential Contaminants

With reference to BS3882:2015 - Table 1: Notes 3 and 4, there is a requirement to confirm levels of potential contaminants in relation to the topsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been compared with the *residential with homegrown produce* land use in the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels (C4SLs) for Assessment of Land Affected by Contamination – Policy Companion Document* (2014).

Of the potential contaminants determined, none was found at levels that exceeded their guideline values.

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in BS3882:2015 – Table 1.

CONCLUSION

The purpose of the analysis was to determine the suitability of the topsoil sample for general landscape purposes. The analysis has also been undertaken to determine the sample's compliance with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

From the soil examination and subsequent laboratory analysis, the sample was described as a strongly alkaline, non-saline, slightly calcareous, virtually stone-free *loamy sand* with an adequate structure and a high saturated hydraulic conductivity rate. The sample contained sufficient reserves of organic matter and all major plant nutrients. Of the potential contaminants determined, none exceeded their respective guideline values.

To conclude, based on our findings, the topsoil represented by this sample would be considered suitable for landscape environments where a free draining topsoil is required or where there is low drought risk, provided the physical condition of the soil is satisfactory and species with a wide pH tolerance or those known to prefer alkaline conditions are selected.

The topsoil was also fully compliant with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

Soil Handling Recommendations

It is important to maintain the physical condition of the soil and avoid structural damage during all phases of soil handling (e.g. stockpiling, resspreading, cultivating, planting, seeding or turfing). As a consequence, soil handling operations should be carried out when soil is sufficiently dry to be non-plastic (friable) in consistency.

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency. If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

Further details on soil handling are provided in Annex A of *BS3882:2015*.

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Soil Scientist

Senior Soil Scientist

For & on behalf of Tim O'Hare Associates LLP



TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	Bourne Amenity Ltd
Project:	Sevenoaks TS6 Topsoil
Job:	Topsoil Analysis (BS3882:2015)
Date:	05/07/2024
Job Ref No:	TOHA/24/1302/2/SS

Sample Reference		Accreditation
Clay (<0.002mm)	%	UKAS
Silt (0.002-0.05mm)	%	UKAS
Very Fine Sand (0.05-0.15mm)	%	UKAS
Fine Sand (0.15-0.25mm)	%	UKAS
Medium Sand (0.25-0.50mm)	%	UKAS
Coarse Sand (0.50-1.0mm)	%	UKAS
Very Coarse Sand (1.0-2.0mm)	%	UKAS
Total Sand (0.5 - 2.0mm)	%	UKAS
Texture Class (UK Classification)	--	UKAS
Stones (2-20mm)	% DW	GLP
Stones (20-50mm)	% DW	GLP
Stones (>50mm)	% DW	GLP

Visible Contaminants: Plastics >2.00mm	%	UKAS
Visible Contaminants: Sharps >2.00mm	%	UKAS

Saturated Hydraulic Conductivity (m)	mm/hr	A2LA
pH Value (1:2.5 water extract)	units	UKAS
Calcium Carbonate	%	UKAS
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS
Electrical Conductivity (1:2 CaSO ₄ extract)	uS/cm	UKAS
Exchangeable Sodium Percentage	%	UKAS
Organic Matter (LOI)	%	UKAS
Total Nitrogen (Dumas)	%	UKAS
C : N Ratio	ratio	UKAS
Extractable Phosphorus	mg/l	UKAS
Extractable Potassium	mg/l	UKAS
Extractable Magnesium	mg/l	UKAS

Total Antimony (Sb)	mg/kg	MCERTS
Total Arsenic (As)	mg/kg	MCERTS
Total Barium (Ba)	mg/kg	MCERTS
Total Beryllium (Be)	mg/kg	MCERTS
Total Cadmium (Cd)	mg/kg	MCERTS
Total Chromium (Cr)	mg/kg	MCERTS
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS
Total Copper (Cu)	mg/kg	MCERTS
Total Lead (Pb)	mg/kg	MCERTS
Total Mercury (Hg)	mg/kg	MCERTS
Total Nickel (Ni)	mg/kg	MCERTS
Total Selenium (Se)	mg/kg	MCERTS
Total Vanadium (V)	mg/kg	MCERTS
Total Zinc (Zn)	mg/kg	MCERTS
Water Soluble Boron (B)	mg/kg	MCERTS
Total Cyanide (CN)	mg/kg	MCERTS
Total (mono) Phenols	mg/kg	MCERTS
Elemental Sulphur	mg/kg	MCERTS
Sulphide	mg/kg	MCERTS
Water Soluble Sulphate (SO ₄)	mg/kg	MCERTS

Naphthalene	mg/kg	MCERTS
Acenaphthylene	mg/kg	MCERTS
Acenaphthene	mg/kg	MCERTS
Fluorene	mg/kg	MCERTS
Phenanthrene	mg/kg	MCERTS
Anthracene	mg/kg	MCERTS
Fluoranthene	mg/kg	MCERTS
Pyrene	mg/kg	MCERTS
Benzo(a)anthracene	mg/kg	MCERTS
Chrysene	mg/kg	MCERTS
Benzo(b)fluoranthene	mg/kg	MCERTS
Benzo(k)fluoranthene	mg/kg	MCERTS
Benzo(a)pyrene	mg/kg	MCERTS
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS
Dibenzo(a,h)anthracene	mg/kg	MCERTS
Benzo(g,h,i)perylene	mg/kg	MCERTS
Total PAHs (sum USEPA16)	mg/kg	MCERTS

Aliphatic TPH >C5 - C6	mg/kg	MCERTS
Aliphatic TPH >C6 - C8	mg/kg	MCERTS
Aliphatic TPH >C8 - C10	mg/kg	MCERTS
Aliphatic TPH >C10 - C12	mg/kg	MCERTS
Aliphatic TPH >C12 - C16	mg/kg	MCERTS
Aliphatic TPH >C16 - C21	mg/kg	MCERTS
Aliphatic TPH >C21 - C35	mg/kg	MCERTS
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS
Aromatic TPH >C5 - C7	mg/kg	MCERTS
Aromatic TPH >C7 - C8	mg/kg	MCERTS
Aromatic TPH >C8 - C10	mg/kg	MCERTS
Aromatic TPH >C10 - C12	mg/kg	MCERTS
Aromatic TPH >C12 - C16	mg/kg	MCERTS
Aromatic TPH >C16 - C21	mg/kg	MCERTS
Aromatic TPH >C21 - C35	mg/kg	MCERTS
Aromatic TPH (C5 - C35)	mg/kg	MCERTS

Benzene	mg/kg	MCERTS
Toluene	mg/kg	MCERTS
Ethylbenzene	mg/kg	MCERTS
p & m-xylene	mg/kg	MCERTS
o-xylene	mg/kg	MCERTS
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS

Asbestos Screen	ND/D	ISO 17025
-----------------	------	-----------

LS = LOAMY SAND

Visual Examination

The sample was described as a dark yellowish brown (Munsell Colour 10YR 4/4), slightly moist, friable, slightly calcareous LOAMY SAND with a weakly developed, very fine to medium granular structure. The sample was virtually stone-free and contained a moderate proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

Results of analysis should be read in conjunction with the report they were issued with

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Sevenoaks TS6 Topsoil

7
10
6
16
42
15
4
83
LS
1
0
0

0
0

206

8.5
1.5
942
3141
4.9
4.8
0.42
7
56
1215
116

2
7
24
0.3
< 0.2
15
< 1.8
14
17
< 0.3
10
< 1.0
29
40
1.9
< 1.0
< 1.0
6.2
< 1.0
120

< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
0.07
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.80

< 0.020
< 0.020
< 0.050
< 1.0
< 2.0
< 8.0
< 8.0
< 10
< 0.010
< 0.010
< 0.050
< 1.0
< 2.0
< 10
< 10
< 10

< 0.005
< 0.005
< 0.005
< 0.005
< 0.005
< 0.005

Not-detected



Vehicle EK20VKB
Trailer
Driver Pawel Rosa

Delivery Note

Job number 8424

Order number

114974

Reference 1

Reference 2

Deliver to

ADH Groundworks Ltd
Armoury Drive
(Building Site at end of road)
Gravesend

DA12 1NB

Deliver on

21/02/2023 23:59

Goods	Quantity	Weight	Volume
TS6 Topsoil	0.000	19.020	0.000

Notes

Instructions

Andy - 07928 444 539

8am-4pm

John Bourne & Co Ltd
The Wharf
Rye Road
Newenden
Kent
TN18 5QG

Telephone: 01797 252 298
Email: Transport@bourne.uk.com

The above goods have been received in good order and condition

Signature

Print Name

Date

Andy

21/02/2023 13:04



Vehicle EK20VKB
Trailer
Driver Pawel Rosa

Delivery Note

Job number 8425

Order number

114974

Reference 1

Reference 2

Deliver to

ADH Groundworks Ltd
Armoury Drive
(Building Site at end of road)
Gravesend

DA12 1NB

Deliver on

21/02/2023 23:59

Goods	Quantity	Weight	Volume
TS6 Topsoil	0.000	18.740	0.000

Notes

Instructions

Andy - 07928 444 539

8am-4pm

John Bourne & Co Ltd
The Wharf
Rye Road
Newenden
Kent
TN18 5QG

Telephone: 01797 252 298
Email: Transport@bourne.uk.com

The above goods have been received in good order and condition

Signature

Print Name

Date

Andy

21/02/2023 10:34



Vehicle EK20VKA
Trailer
Driver Josef Neuwirth

Delivery Note

Job number 8426

Order number

114974

Reference 1

Reference 2

Deliver to

ADH Groundworks Ltd
Armoury Drive
(Building Site at end of road)
Gravesend

DA12 1NB

Deliver on

21/02/2023 23:59

Goods	Quantity	Weight	Volume
TS6 Topsoil	0.000	19.220	0.000

Notes

Instructions

Andy - 07928 444 539

8am-4pm

John Bourne & Co Ltd
The Wharf
Rye Road
Newenden
Kent
TN18 5QG

Telephone: 01797 252 298
Email: Transport@bourne.uk.com

The above goods have been received in good order and condition

Signature

Print Name

Date

Paul

21/02/2023 10:13



Delivery Note

Job number 8423

Vehicle GN66SXO
Trailer
Driver Aidan Brown

Order number

114974

Reference 1

Reference 2

Deliver to

ADH Groundworks Ltd
Armoury Drive
(Building Site at end of road)
Gravesend

DA12 1NB

Deliver on

21/02/2023 23:59

Goods	Quantity	Weight	Volume
TS6 Topsoil	0.000	18.600	0.000

Notes

Instructions

Andy - 07928 444 539

8am-4pm

John Bourne & Co Ltd
The Wharf
Rye Road
Newenden
Kent
TN18 5QG

Telephone: 01797 252 298
Email: Transport@bourne.uk.com

The above goods have been received in good order and condition

Signature

Print Name

Date 21/02/2023 14:32

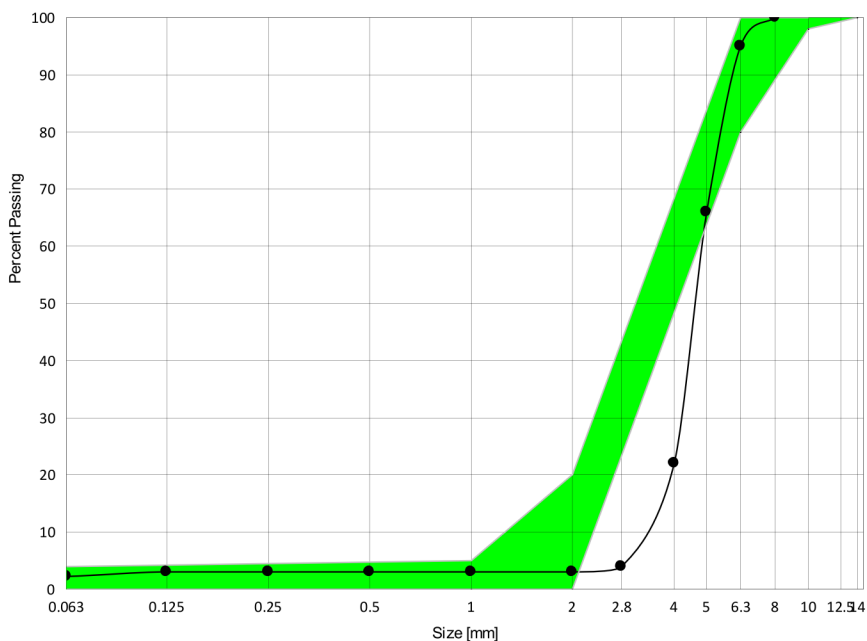
Imported Aggregate and Shingle
Delivery Tickets awaited



Ridgewood House
The Ridge
Chipping Sodbury
Bristol
BS37 6AY

Particle Size Distribution Report

Product: 2/6 Gc80/20 Limestone
EN 12620
Material Code: 200225
Supplied by: Whatley
Customer:
Site:
Ticket Number:
Testing Laboratory: Whatley
Material type: BS EN 12620 / Limestone
Job Type: 100/General
Test Method: Dry sieving entire sample
(To BS EN 933-1 : 2020)
Sampled to: BSEN 932-1 : 1997
Prepared to: BSEN 932-2 : 1997



Sample Information	
Sample number	AGG-0133096
Sampled by	Chris Keepen
Date Sampled	23/07/2024
Date Tested	24/07/2024
Sample location	FSH
Moisture Content (%)	0.8
Flakiness Index	11
Flakiness Specification	35
Compliance Specification	Yes
Remarks	

Results shown on this report only relate to the sample being tested and at no point did the laboratory deviate from the test method as stated above.

Sieve Size (mm)	Percentage Passing (%)	Spec limits (%)	Complies
20	100	-	-
16	100	-	-
14	100	100	Yes
12.5	100	-	-
10	100	98 - 100	Yes
8	100	-	-
6.3	95	80 - 100	Yes
5	66	-	-
4	22	-	-
2	3	0 - 20	Yes
1	3	0 - 5	Yes
0.5	3	-	-
0.25	3	-	-
0.125	3	-	-
0.063	2.3	0 - 4.0	Yes

Signed

Issue Date :29/07/2024



Blaise Aggregate Data Sheet

Blaise Aggregate Data Sheet				
Material Type/Class		Type 1		
Some test results for materials produced at Blaise Quarry may be applicable to more than one product				
Test	Specification	Date Tested	Result	
Los Angeles Coefficient	BS EN 1097-2:2010	Jan-24	34	
Micro Deval (M _{DE})	BS EN 1097-1:2011	Jan-24	37	
Particle Density (Mg/m³)	BS EN 1097-6:2013	Jan-24	Oven Dry	2.28
		Jan-24	S.S.D	2.39
		Jan-24	Apparent	2.58
		Jan-24	5.2	
Water Absorption (%)		Jan-24	5.2	
Frost Heave (mm)	BS 812: Part 124:2009 Annex B	Jan-24	11.3	
Plasticity Index	BS1377: Part 2: 1990	Jan-24	Non - Plastic	
*Optimum Moisture Content & Maximum Dry Density	BS 1377: Part 4: 1990	Jan-24	OMC (%)	9.2
		Jan-24	MDD (Mg/m³)	2.02
Horizontal Permeability	CD 225 Revision 1 - Appendix C	Jan-24	2.5 x 10 ⁻²	
Moisture Condition Value	BS 1377: Part 4: 1990	Jan-24	16.4	
Magnesium Sulphate Soundness (MS)	BS EN 1367-2:2009	Jan-24	20	
pH	-	Jan-24	8.5	
Organic Matter (%)	BS1377: 2018 + A1: 2021 clause 4	Jan-24	0.1	
Water Soluble Sulphate (as SO ₄) (%)	BS EN 1744	Jan-24	<0.01	
Acid Soluble Sulfides (as S) (%)	BS EN 1744	Jan-24	<0.01	
Acid Soluble Sulphate (as SO ₄) (%)	BS EN 1744	Jan-24	0.2	
Total Sulphur (%)	BS EN 1744	Jan-24	<0.1	
Total Potential Sulphate (%)	BS EN 1744	Jan-24	0.06	
Oxidisable Sulphide (as SO ₄)	BS EN 1744	Jan-24	<0.01	
Water Soluble Chloride Content (%)	BS EN 1744	Jan-24	<0.001	
Effective Angle of Internal Friction and Effective Cohesion	BS1377: Part 7 1990	Jan-24	Angle of Friction	47
			Cohesion (kPa)	44

* Material properties may be subject to change, please contact Gallagher Technical Department for the latest data

Authorised signatories:

L Cooney (*)

W Leighton ()

S Connor ()

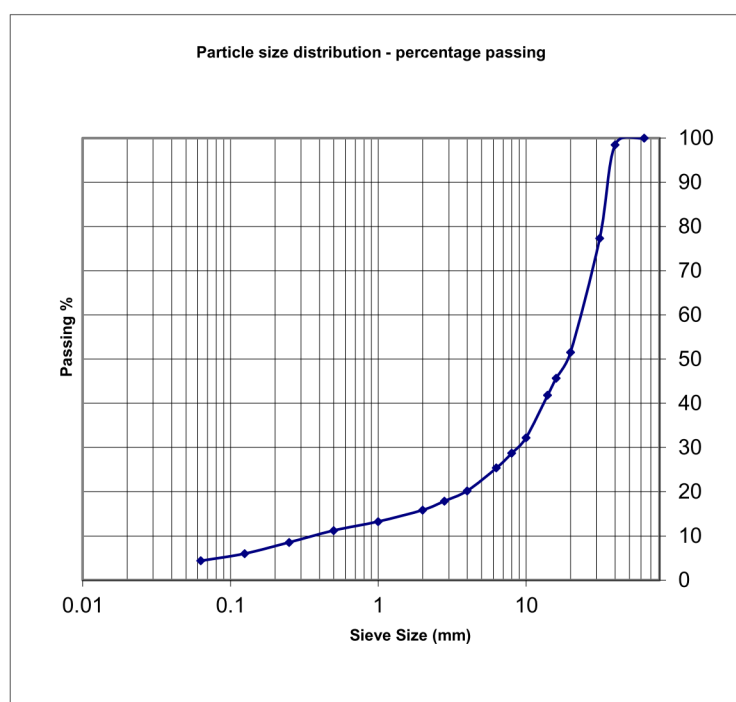


CERTIFICATE OF TEST

PARTICLE SIZE DISTRIBUTION REPORT SUMMARY

LABORATORY REF:	G5122	SITE/CLIENT REF:	GALLAGHER QUARRY
SCHEME/SITE:	GALLAGHER AGGREGATES - QUARRY TESTING		
MATERIAL SPECIFICATION	Type 1 Subbase SHW cl.803 Table 8/5		
SAMPLE TYPE	Bulk	Material Type:	Type 1 Limestone 0/31.5mm
SOURCE	Blaise Quarry	Ticket No.	N/A
DATE SAMPLED	10/07/24	Date Received	10/07/24
SAMPLED BY	LC	Date Tested	11/07/24

Sieve (mm)	Passing %	Specification
63	100	100
40	98	
31.5	77	75-99
20	52	
16	46	43-81
14	42	
10	32	
8	29	23-66
6.3	25	
4	20	12-53
2.8	18	
2	16	6-42
1	13	3-32
0.5	11	
0.25	9	
0.125	6	
0.063	4.4	0-9



Remarks: Test does comply with the specification

Sieves	Diff	Spec
16	8	7-30
8	4	7-30

MC 8.4%

Certificate of sampling:

Not available

Sampling method: BS EN 932-1:1997

Preparation method: BS EN 932-2:1999

Test method: BS EN 933-1:2012

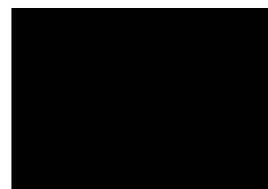
WET ☒ DRY ☐

Client Detail

Gallagher Aggregates Limited
Hermitage Quarry, Hermitage Lane,
Barming, Maidstone, Kent ME16 7NS

Name: Lee Cooney

Signed



Authorised signatories:

L Cooney (*)

W Leighton ()

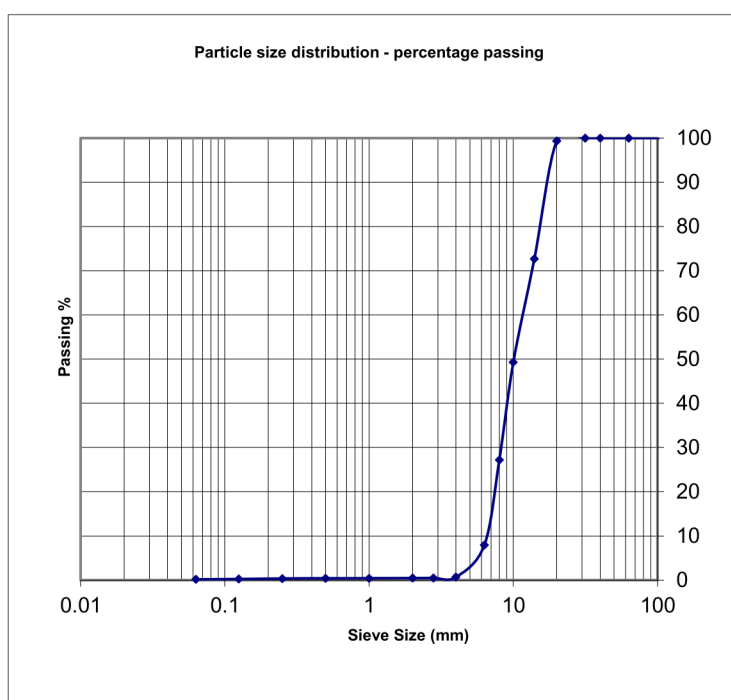
S Connor ()



CERTIFICATE OF TEST
PARTICLE SIZE DISTRIBUTION REPORT SUMMARY

LABORATORY REF:	G5074	SITE/CLIENT REF:	GALLAGHER QUARRY
SCHEME/SITE:	GALLAGHER AGGREGATES - QUARRY TESTING		
MATERIAL DESC	4/20mm Kentish Ragstone		
MATERIAL SPEC	BS EN 13242 : 2002 +A1 2007		
SAMPLE TYPE	Bulk	Material Type:	Limestone 4/20mm
SOURCE	Hermitage Quarry	Ticket No.	N/A
DATE SAMPLED	19/06/24	Date Received	19/06/24
SAMPLED BY	LD	Date Tested	20/06/24

Sieve (mm)	Passing %	Specification
125	100	
63	100	
40	100	100
31.5	100	98-100
20	99	90-99
14	73	
10	49	25-70
8	27	
6.3	8	
4	1	0-15
2.8	0	
2	0	0-5
1	0	
0.5	0	
0.25	0	
0.125	0	
0.063	0.2	



Remarks:

Certificate of sampling: Not available

Sampling method: BS EN 932-1:1997

Preparation method: BS EN 932-2:1999

Test method: BS EN 933-1:2012

WET ☒ DRY ☐

Client Detail

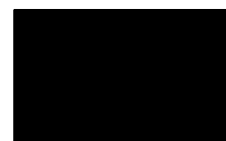
Gallagher Aggregates Limited

Hermitage Quarry, Hermitage Lane,

Barming, Maidstone, Kent ME16 7NS

Name: Lee Cooney

Signed



Appendix K

Ground Gas Membrane Specification, Verification Plan and Validation Certificate

GROUND GAS/VAPOUR MITIGATION DESIGN AND 3rd PARTY INDEPENDENT INSPECTION, TESTING & VERIFICATION PLAN:

FOR MATERIALS TO BE INSTALLED AT:

**FORMER ST. JOHN'S AMBULANCE STATION,
ARMOURY DRIVE, GRAVESEND,
KENT, DA12 1NB**

Document Reference No: MTS.DVP.852-BA

Client: Sevenoaks Environmental Consultancy Ltd

Dated: October 2022



Client Name: Sevenoaks Environmental Consultancy Limited

Reference: MTS.DVP.852-BA

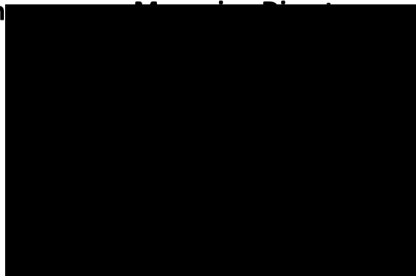
Issue: **PRELIMINARY**

Date: 14th October 2022

Approval Status: **FOR APPROVAL**

Prepared by: Barrie Ackroyd

Position:



Revisions:

This 3rd party ground gas/vapour mitigation design strategy and verification plan has been prepared by MembraneTestingSolutions Ltd with all reasonable skill, care, and diligence within the terms of the contract with the client, incorporation of our General Terms and Conditions of Business and considering the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This 3rd party ground gas/vapour mitigation design strategy and verification plan is confidential to our client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on this report at its own risk.



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Appendix A – Validation Surveyors/Installer Certificates of Competence

Mr Barrie Ackroyd (MTS Ltd)
Mr Michael Smith (MTS Ltd)
Mr Robert Boosey (MTS Ltd)
Mr Carl Orr (MTS Ltd)

Appendix B – Design Drawings

Sevenoaks Environmental Drawing;

- 4551-03 Rev 01 – Site Location Plan

ADM-BPTW Drawings;

- ADM-BPTW-01-ZZ-DR-A-1701-P02 – 2B4P Flats Floor Plan Layouts
- ADM-BPTW-02-ZZ-DR-A-1702-P04 – 182P Bungalow Floor Plan Layouts

Architectural Design Lab Ltd Drawing;

- DL-SUB-01 Rev - - Substructure Details, Ground Floor – Ground 150mm Below FFL

MTS Ltd Drawings;

- 22852-01 – Typical Perimeter Wall (Un-Ventilated) Gas Mitigation Section Detail
- 22852-02 – Typical Perimeter Wall (Ventilated) Gas Mitigation Section Detail
- 22852-03 – Typical Door Threshold Detail
- 22852-04 – Typical Internal Wall DPC Detail With Under Floor Wall Ventilation
- 22852-05 – Typical Service Pipe Sealing Detail
- 22852-06 – Typical Party Wall Gas Resistant DPC Detail

Appendix C – JUTA Material Specifications

- JUTA GP DPC
- JUTA GP5 Gas Barrier Membrane
- JUTA GP Bitumen Primer
- JUTA GP SAM (Gas Resistant Self-Adhesive Membrane)

Appendix D – Project Survey Sheets

Gas Protection Inspection & Validation Record (Example)
Independent Inspection & Validation - Certificate of Conformance (Example)
CL:Aire Residential Declaration of Conformance (Example)