

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
THURSDAY 13th APRIL 1995 AT 10.00 HOURS**

Present: Mr Bob Watts :W.S.A. **Copies:** Mr.A.Moores :M.O.D/DLA
Mr Graham Vincent :R.O. Mr.D.Coyle :M.O.D.P.E.
Mr Peter Mayell :R.O. Mr.S.Chaddock :ARCH
Mr.D.Bone :CIVIX
Mr.P.Greggain :M.O.D/DLA
Mr.S.Fox :M.O.D/DLA

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- | <u>1.</u> | <u>MATTERS ARISING - FROM MEETING OF 9th MARCH 1995</u> | <u>ACTION</u> |
|-----------|--|---------------------------------|
| 1.1 | (1.1) <u>Explosives Testing</u>
A programme of sampling mounds for explosives and non-explosives contamination supplementary to ESG 17/92 is required. WSA to prepare - SMC received. Strimming and raking of mounds proceeding. Blue Asbestos discovered in E2 mound has been removed by excavation. Confirmatory sampling required. | W.S.A.
R.O. |
| 1.2 | (1.2) <u>Photographic record</u>
This activity to proceed with admin assistant and possibly student labour during vacations. | R.O. |
| 1.3 | (1.3) <u>P Area</u> - outstanding items are:- replace sandstone capping to Bridge 1 abutments. Treatment to residual material in Bridge 1 abutment to await services excavation and bank treatment undertaken by Wimpey. | W.S.A.
R.O. |
| 1.4 | (1.4) <u>Water wheel and Press House areas.</u> Confirmatory investigation results to hand. Coring to banks and metal-detector sweep required. Bob Stebbings is tendering scheme for rehabilitation and planting. SMC awaited. Target date for completion of remediation is 1st May 1995. | B.S.
R.O.
ARCH.
W.S.A. |
| 1.5 | (1.5) <u>Incorporating Mills.</u>
Work in these buildings stopped. Clearance of undercrofts and final clean awaiting resources. L157 is completed and will be sampled. RO to prepare a swab sampling procedure. Remaining deep drains will be rodded clean and grouted. Outstanding drain grouting to be tendered. | - W.S.A.
R.O. |

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|------|--------|---|----------------|
| 1.6 | (1.6) | <u>Tetryl Area</u> . Confirmatory sampling of factory area will await removal of canal intersections and bank treatment. Due to commence 24th April 1995. | W.S.A.
R.O. |
| 1.7 | (1.7) | <u>Asbestos clad steam main routes</u> work proceeding. Remainder of routes to be confirmed. Information to be collated on CAD drawings. Proceeding. | W.S.A.
R.O. |
| 1.8 | (1.8) | <u>Preparation of artifact inventory</u> . Work stopped on this activity. Artifacts at Powfoot belonging to RO to be transported to South site at cost of RO and EFDC in liaison with Trust Steering Committee and resident archaeologist. | ARCH.
R.O. |
| 1.9 | (1.9) | <u>Asphalt melting plant</u> . This activity held. As buildings are cleaned - an assessment will be made as to whether asphalt floors should be removed at that stage. SMC received. Accumulate asphalt till warmer weather. This process could be carried out at New Hill. RO to review existing stock pile volumes. | R.O.
W.S.A. |
| 1.10 | (1.10) | <u>CAD plot of services survey</u> to hand. Final check required. | R.O.
W.S.A. |
| 1.11 | (1.11) | <u>Safety Audit</u> . Monthly visits proceeding. | R.O. |
| 1.12 | (1.13) | <u>Explosives License Application</u> received by R.O. back from HSE. Next stage is to advertise and seek public comment. In hand but a resolution not expected until after the June meeting of Essex County Council. | R.O. |
| 1.13 | (1.14) | <u>Disposal of transformer</u> PCB clearance certificate received. PCB levels indicate investigation necessary, which will be done with remediation of L146. | W.S.A. |
| 1.14 | (1.15) | <u>Trenching to Northern Canals</u> - some investigation by excavation of buried stoves and canal adjacent 22a required. Further tree clearance required. Awaiting resources. | R.O.
W.S.A. |
| 1.15 | (1.16) | <u>Queens Mead</u> almost totally covered with sludge which will be excavated in May 1995 after dewatering. General strip of areas affected by grit blasting and search for canal also required. | W.S.A. |
| 1.16 | (1.17) | <u>Water mains</u> - Some brickwork repairs to valve and hydrant pits required. Costs to VO77. On completion of works with a requirement for mains water, the system will be isolated. | R.O.
W.S.A. |
| 1.17 | (1.18) | <u>Bridge works</u> . Tenders returned. Reduced programme to go ahead in respect of bridges 2, 8, 11, 17 and 18. Start date not yet confirmed. | W.S.A. |

- 1.18 (1.19) R.O. investigation into the stability of N.G. in timber. Draft report 2095/95 passed to WSA. W.S.A.
R.O.
- 1.19 (1.20) Piling to canal/river intersections to remove residual contaminated material. Reduced programme to proceed. Commencing week beginning 24th April 1995. W.S.A.
- 1.20 (1.21) Excavation of river beds adjacent and integral with bridges 6 and 8 in refurbishment/replacement works. This is best carried out using Portadam technique. If bridge works approved may be possible to liaise with contractor to use his dam installation to clear before bridge works are undertaken. NRA to deal with fish. Work approved. W.S.A.
- 1.21 (1.22) R.O. draft inventory of client owned items received. Will be updated. R.O.
- 1.22 (1.23) Portable explosives analyser R.O. trial complete, not yet written up. Copy to WSA. May have a use in buildings. Unit can be hired. R.O.
- 1.23 (1.24) R.O. produced a draft certificate dealing with explosives risks in remediated buildings. When accompanied by a report which addresses the toxicity aspects, this approach would seem to be satisfactory and enable building re-use. A qualified certificate for buildings not totally remediated will be provided. R.O.
- 1.24 (1.25) Excavation of Millhead Stream and parallel drain, await resources. R.O.
- 1.25 (1.27) TNT contaminated drain at E2 excavated, confirmatory sampling undertaken further remediation required. SMC awaited. ARCH.
R.O.
W.S.A.
- 1.26 (1.28) Clearance of tip 74a complete. Soil samples required. R.O.
W.S.A.
- 1.27 (1.29) Building L108 and shores to canal brickwork. Hold.
- 1.28 (1.30) Drum dredged from Middle Stream (held in H7) will be remotely pre-drilled and sawn as cylinders. To be carried out before excavation of the Burning Ground. R.O.
- 1.29 (1.31) English Heritage approval to metal detection on Burning Ground, Press House area, Newtons Pool, New Hill bomb craters and other identified areas received, subject to Archaeologists oversight. R.O. have suitable equipment and will propose a hire charge. Now urgent. R.O.

- 1.30 (1.32) Fencing building drops. Work approved. **SMC received,** work partially complete. Snagging items outstanding. **R.O.
W.S.A.**
- 1.31 (3.1) Disposal of special waste stockpile approved by WSA. **R.O.**
- 1.32 (3.2) Limited increase in labour and plant approved, 1 Kubota excavator and 6 labourers. **R.O.**
- 1.33 (3.3) Pump down and excavation of Hoppit Pool nearing completion. **R.O.**

2. PROGRESS AND PROGRAMME

- 2.1 Revised programme appears at Appendix 1. 77% progress to date on present programme to complete 31st July 1995.

3. ANY OTHER BUSINESS

- 3.1 Handover documentation tasks for the decontamination works will be divided as follows:-
a) Buildings - RO
b) Ground - WSA
Finalisation of the documentation will require a small number of staff to complete the work after 31st July 1995. **R.O.
W.S.A.**
- 3.2 Micron have been replaced by Adams Environmental for Asbestos in Air Monitoring.
- 3.3 In scrutiny areas 750mm long pegs with yellow head to be used to locate obstructions. Building doors are to be blocked open as works proceed. **R.O.**
- 3.4 Asbestos clearance to Mrs.Bellamy's (A221) approved.
- 3.5 Explosives sampling of T Area canal/intersection 25 at 1 per 2m³ approved. **R.O.**

4. DATE OF NEXT MEETING

- 4.1 14.00 Hours on Thursday 11th May 1995.

R.E.WATTS.
19th April 1995.

Royal Gunpowder Mills Remediation Project Plan - as at 11. 5

ID	Name	% Comp.	h		April							May							June							July							August							September							October		
			19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15																
1	Scrutiny of Surfaces	17%																																															
2	Area S	55%																																															
3	Area H	0%																																															
4	Area N	0%																																															
5	Area B	0%																																															
6	Area L	0%																																															
7	Area M	0%																																															
8	Area T	0%																																															
9	Steam Main Routes Clear & Cover	60%																																															
10	Steam Main Routes Clear: Thomas	65%																																															
11	General Asbestos Clearance	0%																																															
12	Hoppits Pool & Assoc. Canal Works	51%																																															
13	Sludge removal - Queens Mead	0%																																															
14	Clean muck stockpile clearance (Intermittent)	24%																																															
15	Special Waste stockpile clearance (Intermittent)	26%																																															
16	Canal Intersections 21, 25, 26 + Bank & other ITs	37%																																															
17	Bridge Works Nos 2 ,11, 8, 17, 18	0%																																															
18	Area M/Cordite/Gas works	55%																																															
19	E2 Traverse clearance	100%																																															
20	E2 Traverse reinstatement	0%																																															
21	Area H Finals/sampling/H7/Roads/SAM/BHs	51%																																															
22	New Hill Clay Win (Intermittent) + Pit Prep finals	29%																																															
23	Burning Ground	9%																																															
24	Miscellaneous Clearance Works	37%																																															
25	Infrastructure Maintenance	37%																																															
26	Confirmatory Sampling	0%																																															
27	Safety Works	37%																																															
28	Tree Clearance (Intermittent)	47%																																															
29	Heavy Artefact Collection	0%																																															

Royal Gunpowder Mills Remediation Project Plan - as at 11.11.25

			April							May							June							July							August							September							October		
ID	Name	% Comp.	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15														
30	Site Welfare	37%																																													
31	Area P North Finals	32%																																													
32	Dredging	0%																																													
33	Management	37%																																													
34	Final Documentation	0%																																													

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**MINUTES OF MEETING HELD ON SITE
THURSDAY 9th MARCH 1995 AT 10.00 HOURS**

Present: Mr Bob Watts	:W.S.A.	Copies: Mr.D.Stanners	:M.O.D/DLS
Mr Graham Vincent	:R.O.	Mr.D.Coyle	:M.O.D.P.E.
Mr Peter Mayell	:R.O.	Mr.S.Chaddock	:ARCH
		Mr.D.Bone	:CIVIX
		Mr.P.Greggain	:M.O.D/DLA
		Mr.S.Fox	:M.O.D/DLA
		Mr.A.Moores	:M.O.D/DLA

1. MATTERS ARISING - FROM MEETING OF 9th FEBRUARY 1995 ACTION

- 1.1 (1.1) Explosives Testing
A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A to prepare - SMC received. Strimming and raking of mounds proceeding. Blue Asbestos discovered in E2 mound, SMC for removal received.
W.S.A.
R.O.
- 1.2 (1.2) Photographic record
This activity to proceed with admin assistant and possibly student labour during vacations.
R.O.
- 1.3 (1.3) P Area - outstanding items are: replace sandstone capping to Bridge 1 abutments and treatment to residual material in Bridge 1 abutment (to await services excavation and bank treatment undertaken by Wimpey).
- W.S.A.
R.O.
- 1.4 (1.4) Water wheel and Press House areas. Confirmatory investigation in hand, some resampling undertaken results of analysis awaited. Bob Stebbings is tendering scheme for rehabilitation and planting. SMC awaited. Target date for completion of remediation is end March 1995.
B.S.
R.O.
ARCH.
W.S.A.
- 1.5 (1.5) Incorporating Mills.
Work in these buildings stopped. Clearance of undercrofts and final clean awaiting resources. L157 is completed and will be sampled. Remaining deep drains will be rodded clean and grouted. Outstanding drain grouting to be tendered.
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R.O.

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| 1.6 | (1.6) | <u>Tetryl Area</u> . Confirmatory sampling of factory area will await removal of canal intersections and bank treatment. | W.S.A.
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| 1.7 | (1.7) | <u>Asbestos clad steam main routes</u> work proceeding. Remainder of routes to be confirmed. Information to be collated on CAD drawings. | W.S.A.
R.O. |
| 1.8 | (1.8) | <u>Preparation of artifact inventory</u> . Work stopped on this activity. R.O. gave notice of disposal of artifacts in 2 weeks. <u>Archaeologist to liaise</u> with Trust Steering Committee. | ARCH.
R.O. |
| 1.9 | (1.9) | <u>Asphalt melting plant</u> . This activity held. As buildings are cleaned an assessment will be made as to whether asphalt floors should be removed at that stage. <u>SMC received</u> . Accumulate asphalt till warmer weather. This process could be carried out at New Hill. | W.S.A.
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| 1.10 | (1.10) | <u>CAD plot of services survey</u> to hand. Final check required. | R.O.
W.S.A. |
| 1.11 | (1.11) | <u>Safety Audit</u> . Monthly visits proceeding. | R.O. |
| 1.12 | (1.12) | <u>Edmonsey Sluice</u> . Near completion, road to be capped with Type 1, ditch to be scraped. | R.O. |
| 1.13 | (1.13) | <u>Explosives License Application</u> received by R.O. back from HSE. Next stage is to advertise and seek public comment. In hand but a resolution not expected until after the June meeting of Essex County Council. | R.O. |
| 1.14 | (1.15) | <u>Disposal of transformer</u> PCB clearance certificate received. PCB levels indicate investigation necessary, which will be done with remediation of L146. | - W.S.A. |
| 1.15 | (1.16) | <u>Trenching to Northern Canals</u> - some investigation by excavation of buried stoves and canal adjacent 22a required. Awaiting resources. | W.S.A.
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W.S.A. |
| 1.18 | (1.20) | <u>Bridge works</u> . Tenders returned. Reduced programme to go ahead in respect of bridges 2, 8, 11, 17 and 18. | W.S.A. |
| 1.19 | (1.23) | R.O. investigation into the <u>stability of N.G. in timber</u> . Draft report issued. | R.O. |

- 1.20 (1.24) Piling to canal/river intersections to remove residual contaminated material. Reduced programme to proceed. W.S.A.
- 1.21 (1.25) Excavation of river beds adjacent and integral with bridges 6 and 8 in refurbishment/replacement works. This is best carried out using Portadam technique. If bridge works approved may be possible to liaise with contractor to use his dam installation to clear before bridge works are undertaken. NRA to deal with fish. Work approved. Similar work to Hoppit Pool proceeding. W.S.A.
- 1.22 (1.26) R.O. draft inventory of client owned items received. Will be updated. R.O.
- 1.23 (1.27) Portable explosives analyser R.O. trial complete, not yet written up. Copy to WSA. May have a use in buildings. Unit can be hired. R.O.
- 1.24 (1.28) R.O. produced a draft certificate dealing with explosives risks in remediated buildings. With a report which addresses the toxicity aspects, this approach would seem to be satisfactory and enable building re-use. EHO will have to be involved. R.O.
- 1.25 (1.29) Excavation of Millhead Stream and parallel drain, await resources. R.O.
- 1.26 (1.30) Table of results of explosives analysis on artifacts received. Any future analyses to cross reference the artifact number. R.O.
- 1.27 (1.31) TNT contaminated drain at E2 excavated, confirmatory sampling undertaken further remediation required. SMC application in hand. ARCH.
R.O.
- 1.28 (1.32) Clearance of tip 74a complete. Soil samples required. R.O.
- 1.29 (1.33) Building L108 and shores to canal brickwork. Hold.
- 1.30 (1.35) Drum dredged from Middle Stream will be remotely pre-drilled and sawn as cylinders. To be carried out before excavation of the Burning Ground. R.O.
- 1.31 (1.36) English Heritage approval to metal detection on Burning Ground, Press House area, Newtons Pool, New Hill bomb craters and other identified areas received, subject to Archaeologists oversight. R.O. ARCH.
R.O.
- 1.32 (1.37) SMC application submitted for fencing building drops. Work approved. R.O.
ARCH.
- 1.33 (1.38) Liability issue in respect of hired plant resolved.

2. PROGRESS AND PROGRAMME

- 2.1 Revised programme appears at Appendix 1. 71% progress to date on present programme. Main programme extended to 31st July 1995 due to exceptional inclement weather and additional discovered contamination in the areas being remediated to residential standards.

3. ANY OTHER BUSINESS

- 3.1 Disposal of special waste stockpile approved by WSA. **R.O.**
- 3.2 WSA informed R.O. that a limited increase in labour and plant may be approved for identified specific tasks to enable critical programme activities to be progressed. **R.O.**
- 3.3 Pump down and excavation of Hoppit Pool is in hand. **R.O.**

4. DATE OF NEXT MEETING

- 4.1 14.00 Hours on Thursday 13th April 1995.

R.E.WATTS.
10th March 1995.

FORMER RARDE SITE WALTHAM ABBEY NORTH REMEDIATION PROJECT

APPENDIX 1

PROJECT PLAN - ISSUE 8A

MARCH 1995

Updated to reschedule slipped tasks at 9/3/95

ROYAL ORDNANCE ENVIRONMENTAL SERVICES GROUP

ID	Name	Duration	% Comp.	June					July					August				September				October				November				D				
				29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20		27	4		
1	Remediation of H Area	66.6w	52%	[Gantt bar spanning from June 29 to August 21]																														
2	Remediate & Tidy ancient monument	5w	10%	[Gantt bar spanning from August 21 to September 4]																														
3	Construct Road, Install Wheel Wash	6w	100%	[Gantt bar spanning from June 29 to July 10]																														
4	Waste Removal Phase 2	14w	100%	[Gantt bar spanning from June 29 to August 11]																														
5	EFDC Consultation for Demolition	5w	100%	[Gantt bar spanning from June 29 to July 4]																														
6	Mobilise for Demolition of H10, H71 & H8	5w	100%	[Gantt bar spanning from June 29 to July 4]																														
7	Demolition of H10, H71 & H8	4w	100%	[Gantt bar spanning from July 10 to July 24]																														
8	H8 Mound to T Area	2w	100%	[Gantt bar spanning from August 14 to August 21]																														
9	Removal of Redundant Services, bldg bases etc	14w	98%	[Gantt bar spanning from June 29 to August 11]																														
10	Ditching to Millhead Stream inc NRA Approval	6w	68%	[Gantt bar spanning from September 18 to October 9]																														
11	Clearance of canals north from Hoppits Pool - Phase 1	5w	100%	[Gantt bar spanning from June 29 to July 4]																														
12	Clearance of canals north from Hoppits Pool - Phase 2	5w	100%	[Gantt bar spanning from August 14 to August 21]																														
13	Clearance of canals north from Hoppits Pool - Phase 3	4w	18%	[Gantt bar spanning from September 11 to September 25]																														
14	Soil Strip, Area H	14w	92%	[Gantt bar spanning from June 29 to August 11]																														
15	Re-establish Hoppit Road	7w	100%	[Gantt bar spanning from August 14 to August 28]																														
16	Cut back water main to North of H8 or leave exposed	3w	100%	[Gantt bar spanning from September 11 to September 18]																														
17	Remove H16 Slab	4w	100%	[Gantt bar spanning from September 18 to September 25]																														
18	Interim Analysis	5w	0%																															
19	Confirmatory Analysis	13w	5%																															
20	Report	4w	0%																															
21	Erect temporary fences and gate	26w	0%																															
22	Establish Boreholes	26w	0%																															
23	Organic trace	9w	0%																															
24	Design	5w	0%																															
25	Install	5w	0%																															
26	Monitor	16w	0%																															

ID	Name	Duration	% Comp.	June					July					August					September					October					November					D	
				29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4				
27	Remediation of North P area	62.6w	65%																																
28	Maintenance of Bailey Bridge & footway	9w	8%																																
29	Maintenance/replacement of footbridge	9w	8%																																
30	Removal of redundant services	14w	100%																																
31	Vacation of A221	0d	0%																																
32	Exterior renovation to A210/A214	4w	85%																																
33	Excavate remaining canals	9w	100%																																
34	Sample north bank of canal (north)	2w	100%																																
35	Infill canal	6w	100%																																
36	Sheet pile Millhead/canal junction	2w	100%																																
37	Excavate	2w	100%																																
38	Backfill	2w	100%																																
39	Obtain NRA approval for dredging	2w	100%																																
40	Dredge	7w	86%																																
41	Tree Removal	4w	100%																																
42	Surface Strip	14w	100%																																
43	Confirmatory Sample & Analysis	10w	60%																																
44	Report	4w	0%																																
45	Installation of Boreholes	22w	0%																																
46	Design	4w	0%																																
47	Construct	4w	0%																																
48	Monitor	10w	0%																																
49	Confirmatory Sampling (under fuel tanks)	4w	100%																																
50	Store recovered materials in A210	9w	100%																																
51	Store recovered Barge	4w	0%																																
52	Traffic Access/services	5w	100%																																
53	Reinstate carpark	4w	100%																																

ID	Name	Duration	% Comp.	June					July					August					September					October					November					D	
				29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27					
54	Remediation of T area (inc. lagoons & ponds)	48.88w	69%																																
55	Surface excavations/classify arisings	4w	90%																																
56	Classify washpond arisings	4w	100%																																
57	Decontaminate pipework	4w	99%																																
58	Gunpowder stove clearance	4w	100%																																
59	Confirmatory testing	2w	77%																																
60	Terram sheeting & H8 mtl placement	3w	97%																																
61	Excavation of filled canals	5w	100%																																
62	Confirmatory sampling & analysis	4w	18%																																
63	Report	4w	0%																																
64	Refill with H8 mound from stockpile	2w	0%																																
65	Top Soil, re-seed/re-plant to EN instructions	3w	0%																																
66	Road reinstatement	4w	100%																																
67	Acid Factory remediation	0.2w	0%																																

ID	Name	Duration	% Comp.	June					July					August					September					October					November					D	
				29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4				
68	Remediation of M Area	64.2w	36%																																
69	Removal of cordite/asbestos arisings	5w	100%																																
70	Tender	1w	100%																																
71	Removal	4w	100%																																
72	Excavation of canals/reinstatement of road	4w	10%																																
73	Gasworks Remediation	12w	0%																																
74	Excavation	4w	0%																																
75	Sampling & analysis	4w	0%																																
76	Remediation	4w	0%																																
77	Surface confirmatory sampling & analysis	4w	0%																																
78	Report	4w	0%																																
79	Remediation of incorporator railways	13w	0%																																
80	Remediation	4w	0%																																
81	Sampling & analysis	4w	0%																																
82	Report	5w	0%																																
83	Removal of redundant services	18w	79%																																
84	Decontamination of drains	46.64w	71%																																
85	L157	1w	100%																																
86	L153	4w	95%																																
87	L148	4w	94%																																
88	L145	4w	90%																																
89	L149	4w	0%																																
90	Associated buildings	4w	70%																																
91	Removal of external slabs	14w	0%																																
92	Demolition of buildings	17w	0%																																
93	Ditching of waterways	9w	90%																																
94	Gritblasting/ painting of steelwork	49.14w	34%																																
95	L157	1w	100%																																
96	L153	6w	64%																																
97	L148	6w	27%																																

ID	Name	Duration	% Comp.	June					July					August					September					October					November					D
				29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4			
98	L149	6w	0%																															
99	Wall and Floor removal/paint stripping	49.33w	52%																															
100	L153	5w	74%																															
101	L148	4w	65%																															
102	L145	5w	37%																															
103	L149	4w	28%																															
104	Roofing	14w	0%																															
105	L145	14w	0%																															
106	L157	14w	0%																															
107	L145 (bays)	14w	0%																															
108	Boreholes	17w	0%																															
109	Design	4w	0%																															
110	Construct	4w	0%																															
111	Monitor	9w	0%																															
112	Confirmatory analysis in buildings	13w	0%																															
113	Sampling & Analysis	9w	0%																															
114	Report	4w	0%																															
115	Clean out of non-scheduled, non-listed buildings	0.2w	0%																															
116	Clean out of listed buildings	0.2w	0%																															

ID	Name	Duration	% Comp.	June					July					August					September					October					November					D
				29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4			
117	Remediation of L Area	48.6w	9%																															
118	Excavation & backfill of canals	4w	0%																															
119	Confirmatory Sampling & Analysis	9w	0%																															
120	Report	4w	0%																															
121	Grassland Management	4w	100%																															
122	Demolition of buildings	16w	0%																															
123	Boreholes	16w	0%																															
124	Design	4w	0%																															
125	Construct	4w	0%																															
126	Monitor	8w	0%																															
127	Work to selected buildings	1d	0%																															
128	Rationalise Services	1d	0%																															
129	Remove Redundant Services	4w	28%																															

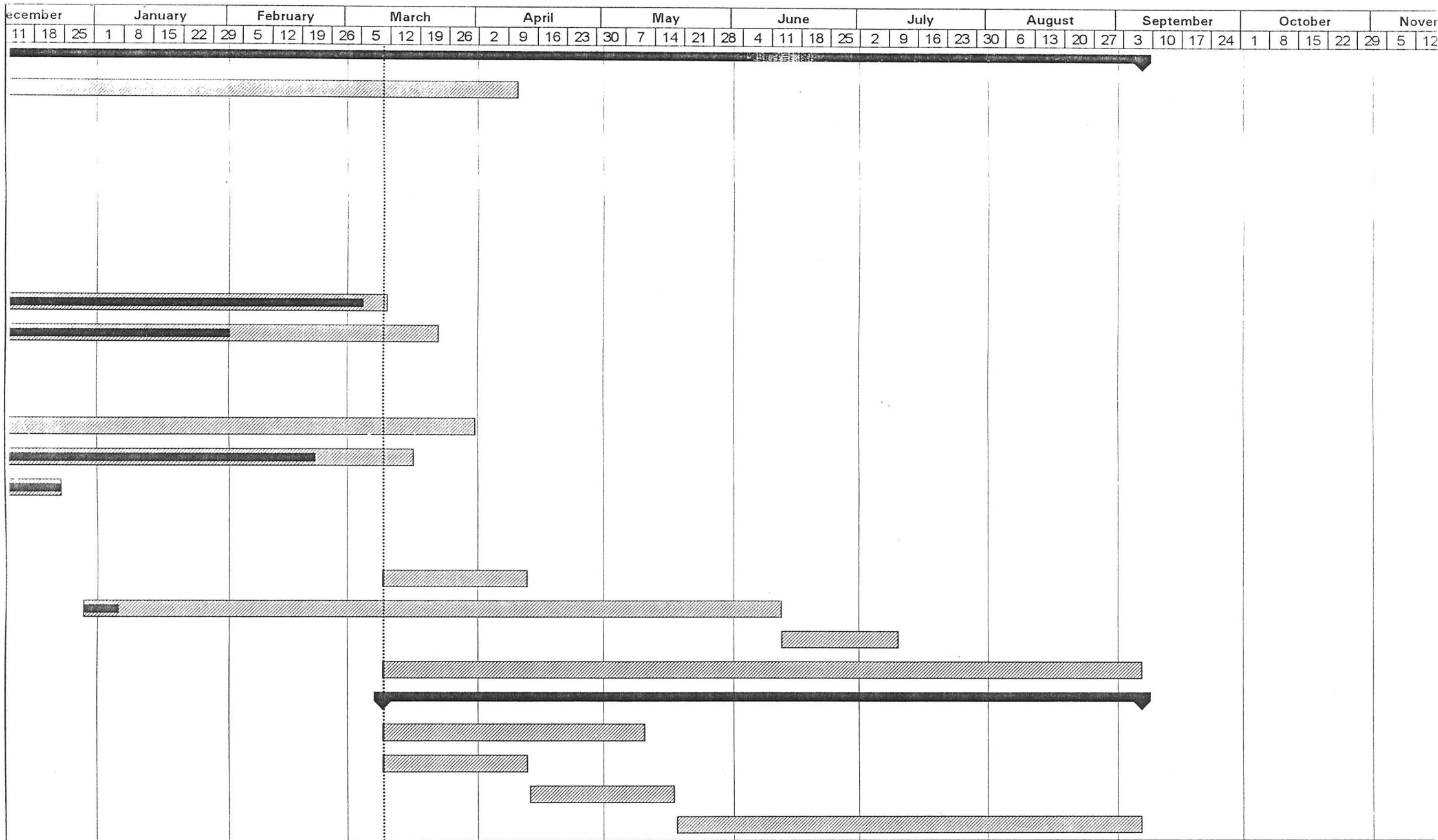
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160	General	14w	21%																															
161	Removal of Redundant Services	0.2w	0%																															
162	Scrutiny of surfaces - Heronry	15.4w	95%																															
163	Scutiny of surfaces - Remainder	12.6w	5%																															
164	Clean out Scheduled Monument buildings	27.6w	30%																															

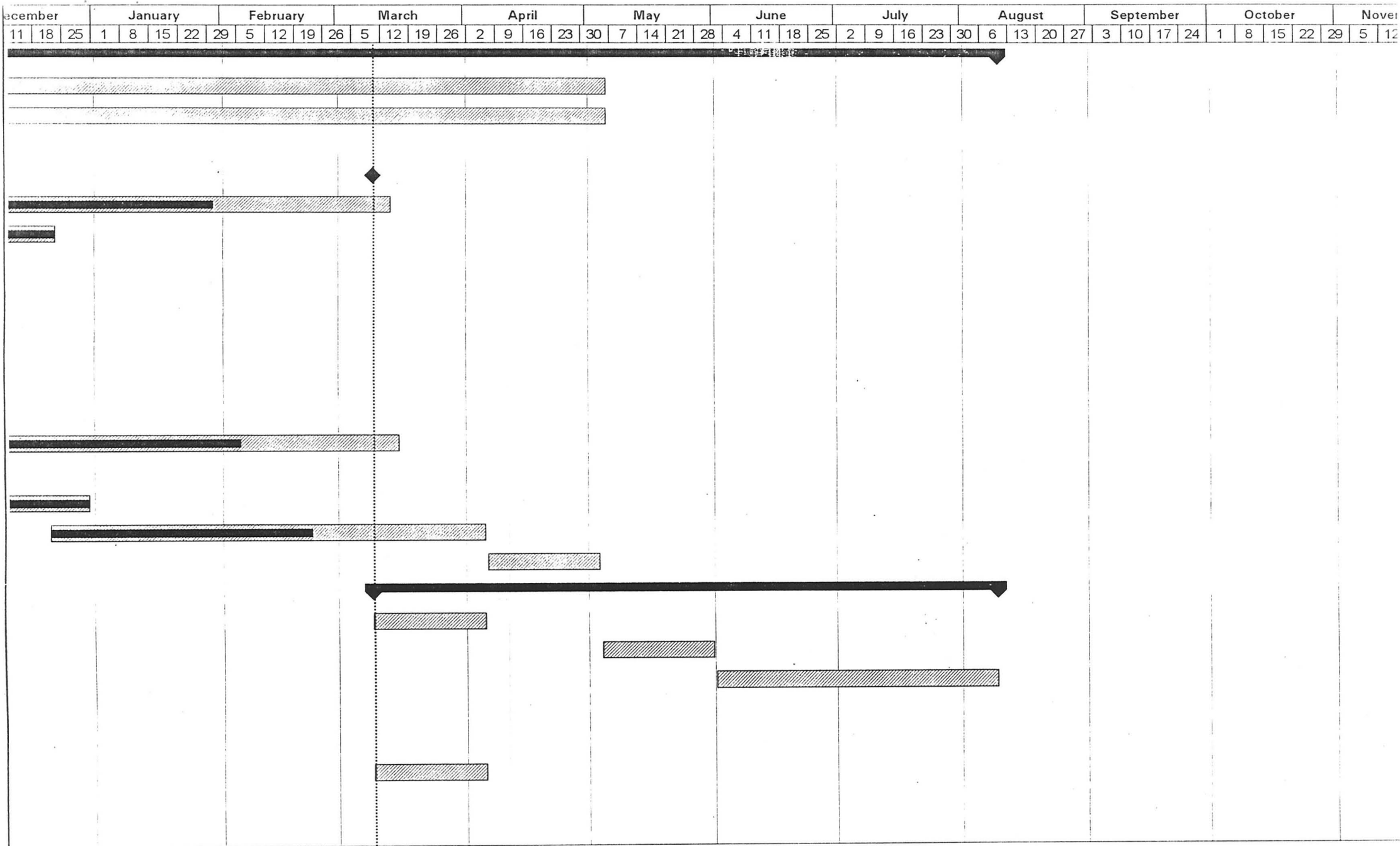
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165	Remediation of N Area	66.6w	13%																																
166	Site Strip	4w	14%																																
167	Establish Waste Handling	22w	44%																																
168	Temporary Road	4w	0%																																
169	Fill in Pits	4w	100%																																
170	Maintenance to Cattlegate bridge	9w	14%																																
171	Improve Entrance from crooked mile	4w	0%																																
172	Demolish unwanted buildings	13w	0%																																
173	Rationalise Services	4w	55%																																
174	Clean up after Waste Operations	14w	0%																																
175	Establish monitoring boreholes	14w	0%																																
176	Winning of clay for general site works	54.6w	18%																																
177	H Area	5w	100%																																
178	Lining Canals	14w	0%																																
179	Burning Ground	9w	0%																																
180	Confirmatory sampling, analysis & reporting	17w	0%																																
181	Fencing	5w	0%																																
182	Removal of Cattlegate Bridge	4w	0%																																
183	Installation of foot bridge	4w	0%																																
184	Rehabilitation	26w	0%																																
185	Handover to LVRPA	0d	0%																																
186	Scrutiny of surfaces	4w	0%																																

ID	Name	Duration	% Comp.	June					July				August				September				October				November				D		
				29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13		20	27
187	Remediation of Burning Ground	57 6w	9%																												
188	Remove Entrance Road	4w	100%																												
189	Services rationalisation	9w	51%																												
190	Site Strip to Gravel/Undisturbed Strata	14w	0%																												
191	Transport Arisings to N Area	14w	0%																												
192	Sweep Area with Metal Detector	9w	0%																												
193	Re-establish clay membrane & top soil	9w	0%																												
194	Carry out EH/EN remediation proposals	9w	0%																												
195	Confirmatory analysis of soil samples	12w	0%																												
196	Asphalt treatment	14w	0%																												

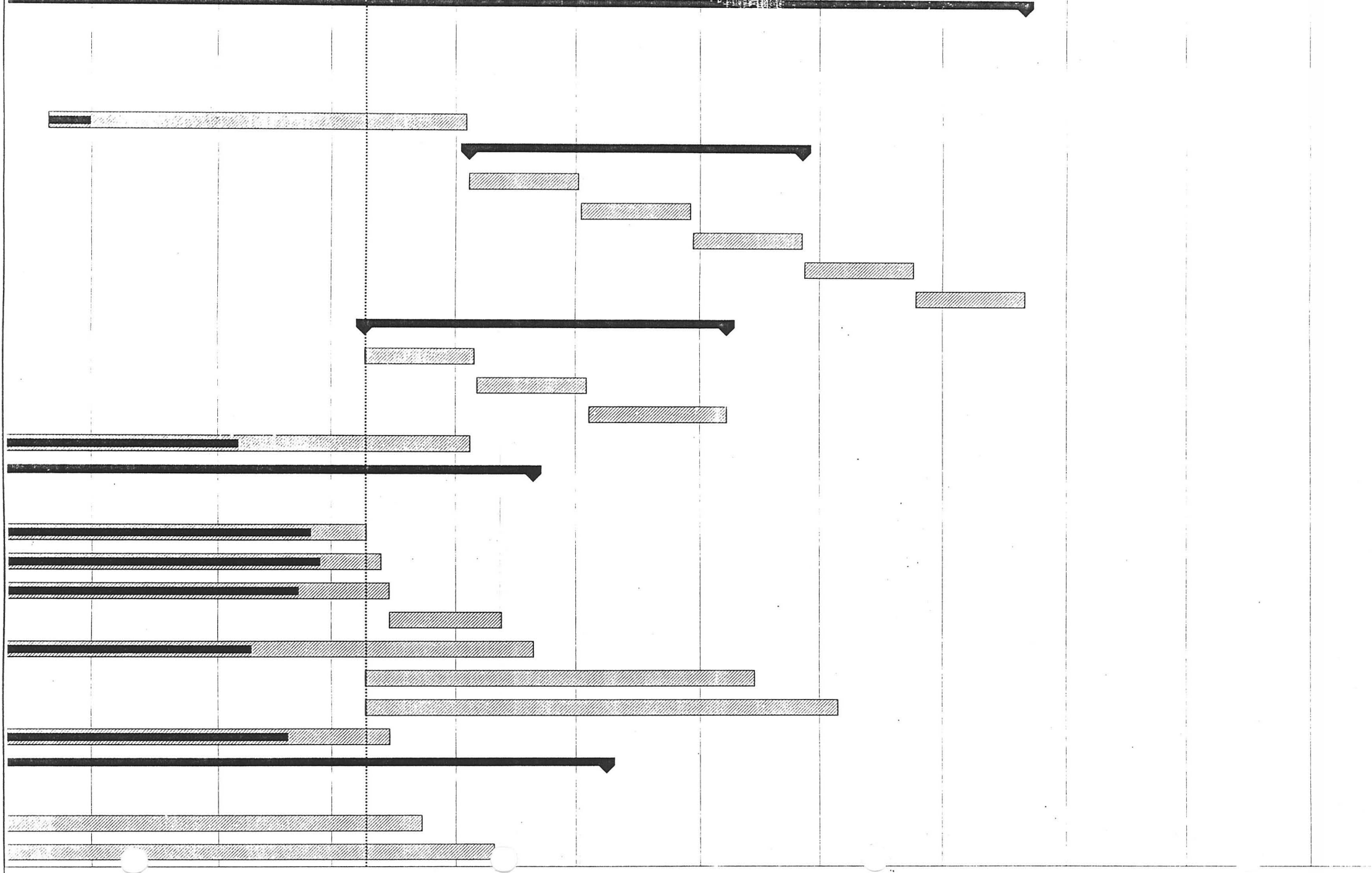
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197	Maintenance of Bridges	62.6w	37%																																				
198	SMC/Trust Approval	4w	100%																																				
199	Design/Tender	9w	100%																																				
200	Construction	22w	0%																																				
201	Remediation of River Banks	57w	8%																																				
202	Sheet Piling & Excavations East Bank of Horsemill Strea	5w	0%																																				
203	Operations West Bank Horsemill Stream	5w	0%																																				
204	Ditching of On-Site Rivers & Canals	5w	70%																																				
205	Removal of Canal Material at Intersection of Waterways	21.4w	0%																																				
206	NRA/EN Proposals to Raise Site Water Levels	5w	0%																																				
207	Reinstatement of Banks	39.2w	42%																																				
208	Excavate canal batters	8w	95%																																				
209	Excavate pond batters	4w	100%																																				
210	Sample	4w	60%																																				
211	Apply Terram and backfill	8w	0%																																				
212	Report	4w	0%																																				
213	Completion of T Area Works	5w	0%																																				
214	Remediation under Steam Pipes	57.3w	47%																																				
215	Survey & Peg-Out Routes	1w	100%																																				
216	Site Strip/disposal outside Heronry	13w	35%																																				
217	Site Strip/disposal inside Heronry	9w	95%																																				
218	Sample Analysis	4w	0%																																				
219	Surface Treatment inside Heronry	5w	95%																																				
220	Surface Treatment outside Heronry	9w	5%																																				

ID	Name	Duration	% Comp.	June					July					August					September					October					November					D	
				29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4				
221	Buildings & Mounds	50.82w	78%																																
222	Mounds - Sample & Analyse	1d	0%																																
223	Scheduled Area Buildings	1d	0%																																
224	Other Buildings	1d	0%																																
225	Tree Clearance from Mounds & Buildings	40w	95%																																
226	Building Information Packs	14w	27%																																
227	Services Survey	5w	100%																																

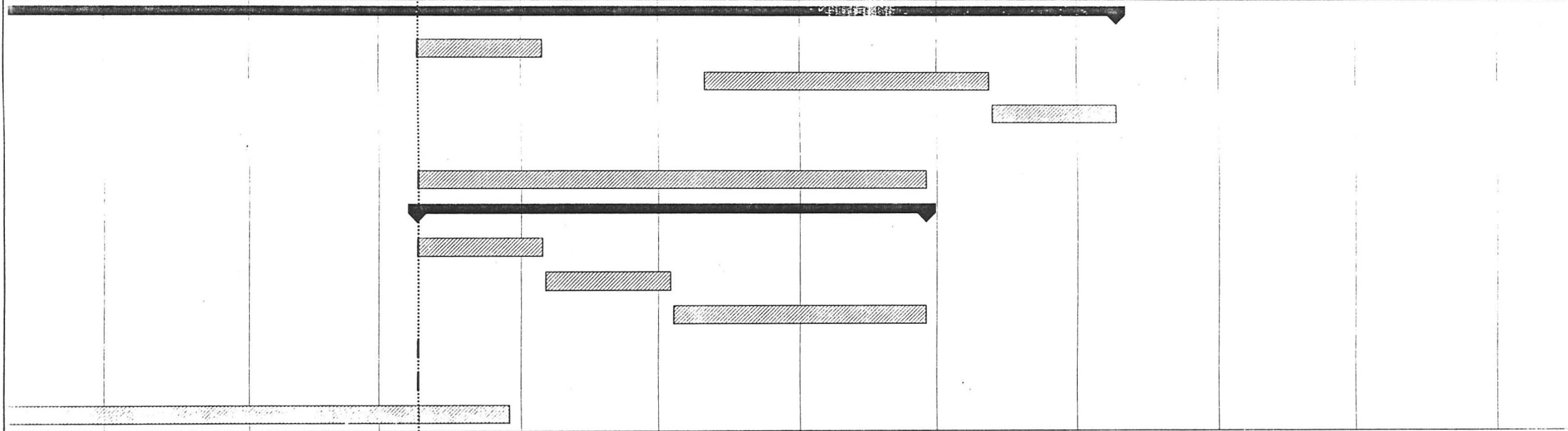




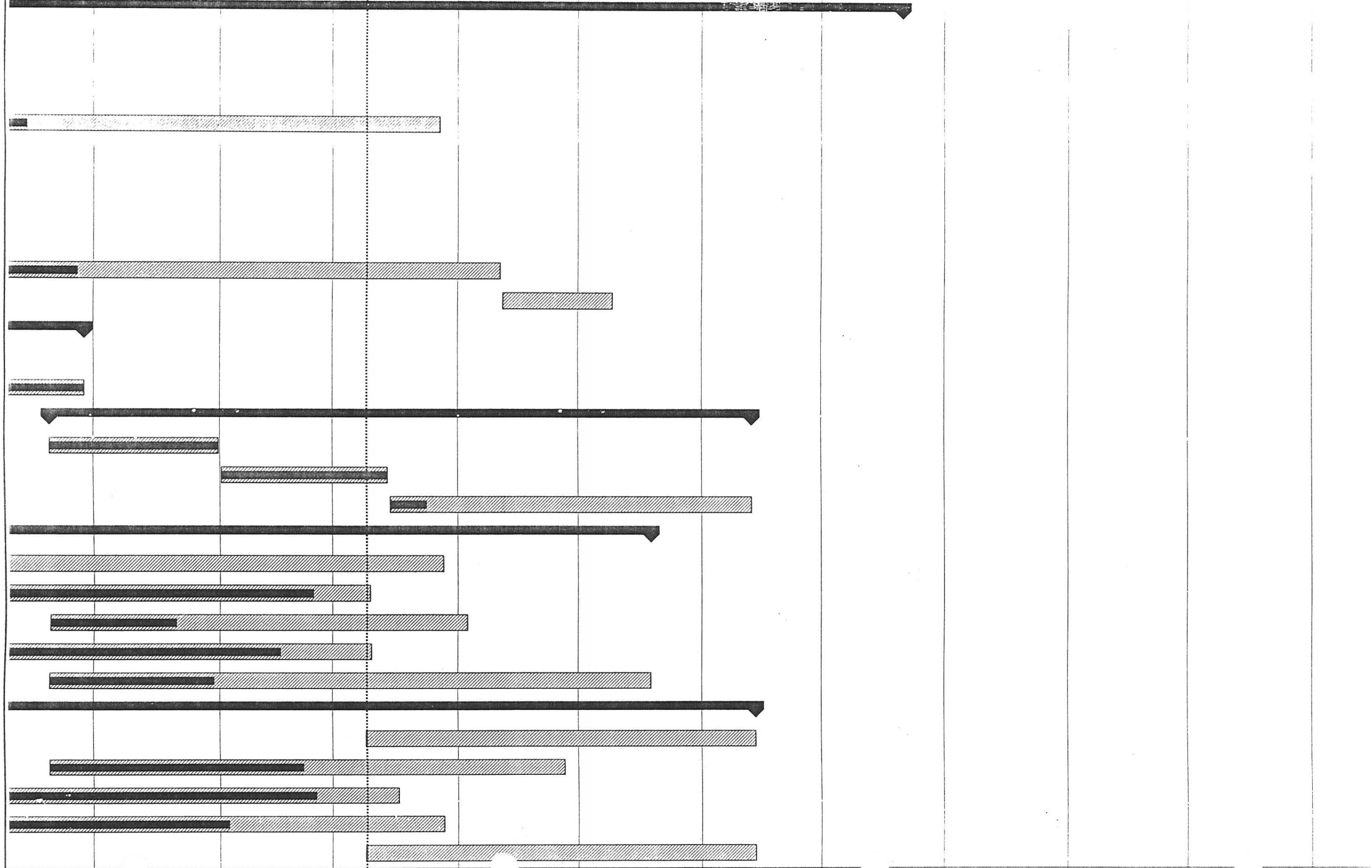
December			January				February				March				April				May				June				July				August				September				October				November					
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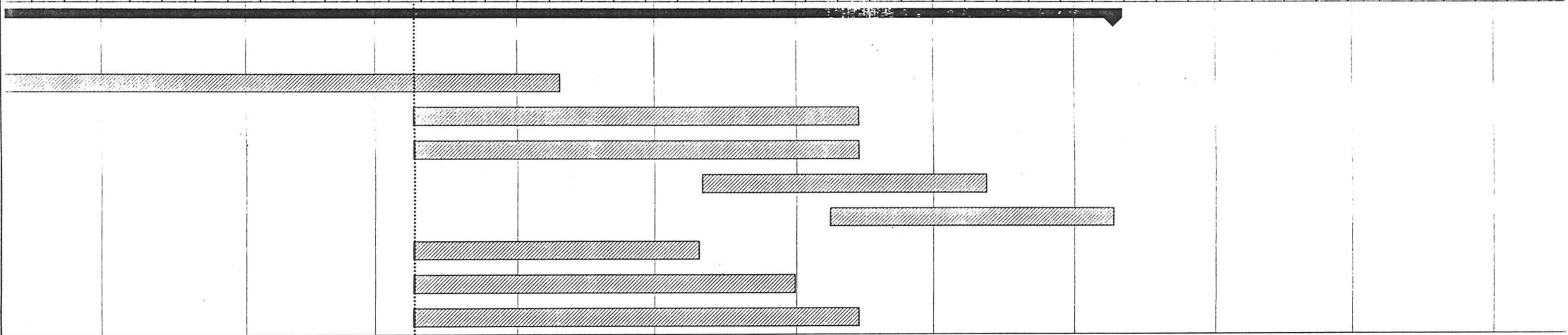
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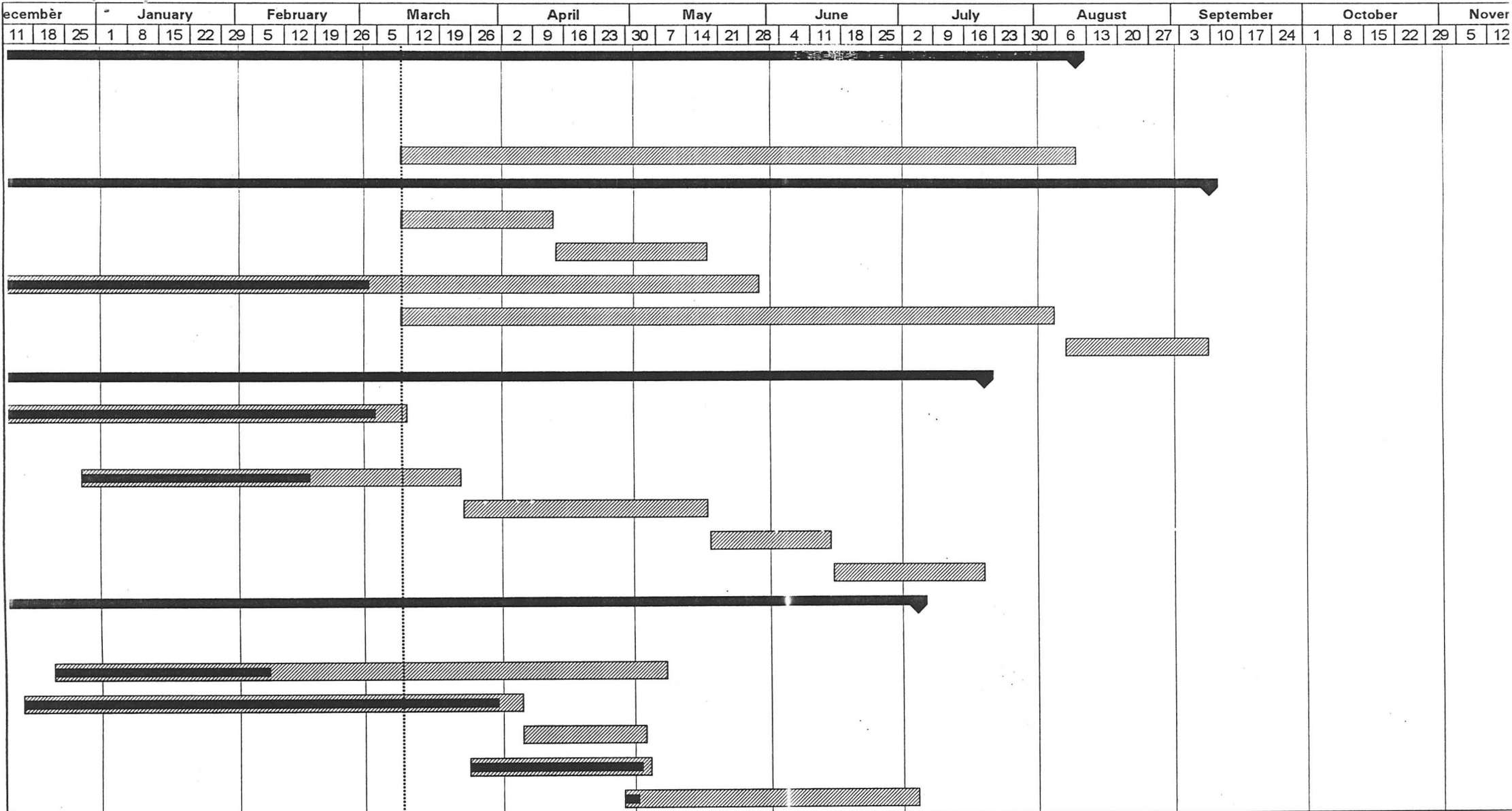


December			January				February				March				April				May				June				July				August				September				October				November					
11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12



December			January				February				March				April				May				June				July				August				September				October				November					
11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12





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CONTAMINATED LAND INVESTIGATION AND REMEDIATION WALTHAM ABBEY RARDE NORTH SITE

MINUTES OF MEETING HELD ON SITE THURSDAY 9th FEBRUARY 1995 AT 14.00 HOURS

Present: Mr Bob Watts	:W.S.A.	Copies: Mr.D.Stanners	:M.O.D/DLS
Mr Graham Vincent	:R.O.	Mr.D.Coyle	:M.O.D.P.E.
Mr Peter Mayell	:R.O.	Mr.S.Chaddock	:ARCH.
Mr Stuart Fox	:M.O.D/DLA	Mr.D.Bone	:CIVIX
		Mr.P.Greggain	:M.O.D/DLA

1. MATTERS ARISING - FROM MEETING OF 21st DECEMBER 1994 ACTION

- 1.1 (1.1) Explosives Testing
A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives.
W.S.A to prepare - SMC received. ESG 4/93 strimming and raking of mounds proceeding. Blue Asbestos discovered in E2 mound, SMC for removal received. W.S.A.
R.O.
- 1.2 (1.2) Photographic record
This activity to proceed with student labour during vacations. R.O.
- 1.3 (1.3) P Area - sale complete - concrete capping to sheet piling near completion (by others). Clay berm to be tidied. Temporary road to be removed. W.S.A.
R.O.
- 1.4 (1.5) Water wheel and Press House areas. Confirmatory investigation in hand, samples collected results of analysis awaited. B.S.
Decontamination of Press House progressing. English Nature/Bob Stebbings considering this area for rehabilitation, planting etc., ARCH.
SMC awaited. Target date for completion March 1995. R.O.
W.S.A.
- 1.5 (1.6) Incorporating Mills.
Work in these buildings stopped. Clearance of undercrofts and final clean awaiting resources. L157 is completed and will be sampled. Remaining deep drains will be rodded clean and grouted. Outstanding drain grouting to be tendered. W.S.A.
R.O.
- 1.6 (1.7) Tetryl Area. Results of pool bed sampling awaited. Confirmatory sampling of factory area will await removal of canal intersections and bank treatment. R.O.
W.S.A.

- | | | | |
|------|--------|---|------------------|
| 1.7 | (1.8) | <u>Asbestos clad steam main routes</u> work proceeding. Remainder of routes to be confirmed. Information to be collated on CAD drawings. | W.S.A.
- R.O. |
| 1.8 | (1.9) | <u>Preparation of artifact inventory.</u> Work stopped on this activity. R.O. offered to give notice of any disposal. | R.O. |
| 1.9 | (1.10) | <u>Asphalt melting plant.</u> This activity held. As buildings are cleaned an assessment will be made as to whether asphalt floors should be removed at that stage. SMC received. Accumulate asphalt till warmer weather. | W.S.A.
R.O. |
| 1.10 | (1.12) | <u>CAD plot of services survey</u> to hand. Final check required. | R.O.
W.S.A. |
| 1.11 | (1.13) | <u>Safety Audit.</u> Monthly visits proceeding. | R.O. |
| 1.12 | (1.14) | <u>Edmonsey Sluice waste.</u> Place remaining top soil around trees and backfill with H8 material. Task to await resources. | R.O. |
| 1.13 | (1.15) | <u>Explosives License Application</u> received by R.O. back from HSE. Next stage is to advertise and seek public comment. In hand but a resolution not expected until after the June meeting of Essex County Council. | R.O. |
| 1.14 | (1.16) | <u>Site vehicles.</u>
1 Minibus R.O.
1 Old Landrover R.O.
2 Landrovers 110 R.O.
No further vehicles required. | R.O. |
| 1.15 | (1.17) | <u>Disposal of transformer</u> PCB clearance certificate received. PCB levels indicate investigation necessary, which will be done with remediation of L146. | W.S.A. |
| 1.16 | (1.19) | <u>Trenching to Northern Canals</u> - some investigation by excavation of buried stoves and canal adjacent 22a required. Awaiting resources. | W.S.A.
R.O. |
| 1.17 | (1.20) | <u>Asbestos discovered</u> on opposite bank of Horse Mill stream. NRA dealing with this. | N.R.A. |
| 1.18 | (1.21) | <u>Queens Mead</u> almost totally covered with sludge which will be excavated in May 1995 after dewatering. General strip of areas affected by grit blasting and search for canal also required. | W.S.A. |
| 1.19 | (1.22) | <u>Water mains</u> - Maintenance of valves and hydrants carried out by Terry Stenman Some brickwork repairs to pits required. Costs to VO77. | W.S.A.
R.O. |

- | | | | |
|------|--------|--|-------------------------|
| 1.20 | (1.23) | <u>Bridge works</u> . Tenders returned - held. | W.S.A. |
| 1.21 | (1.24) | Carden and Godfrey have identified <u>building anomalies</u> between RCHME survey, MKS survey drawings and situation on the ground. These to be incorporated into the site records. | ARCH.
W.S.A.
MKS |
| 1.22 | (1.25) | <u>Further buildings</u> to be reviewed by RW and SC for release to Morris Contracting for clean out. | ARCH.
W.S.A.
R.O. |
| 1.23 | (1.26) | R.O. investigation into the <u>stability of N.G. in timber</u> will be reported 23rd February 1995. | R.O. |
| 1.24 | (1.27) | <u>Piling to canal/river intersections</u> to remove residual contaminated material held. | W.S.A. |
| 1.25 | (1.28) | <u>Excavation of river beds adjacent and integral with bridges 6 and 8</u> in refurbishment/replacement works. This is best carried out using Portadam technique. If bridge works approved may be possible to liaise with contractor to use his dam installation to clear before bridge works are undertaken. NRA to deal with fish. Work held at present. Similar work to Hoppit Pool to proceed. | W.S.A. |
| 1.26 | (1.29) | R.O. <u>draft inventory</u> of client owned items received. Will be updated. | R.O. |
| 1.27 | (1.30) | <u>Portable explosives analyser</u> R.O. trial complete, not yet written up. Copy to WSA. May have a use in buildings. Unit can be hired. | R.O. |
| 1.28 | (1.31) | R.O. to respond to issue of the <u>extent of the building remediation and likely certification</u> , methods and requirements. | R.O. |
| 1.29 | (1.32) | <u>Excavation of Millhead Stream and parallel drain</u> , removal of agreed trees proceeding. | R.O. |
| 1.30 | (1.33) | Table of results of <u>explosives analysis on artifacts</u> required. | R.O. |
| 1.31 | (1.34) | <u>TNT contaminated drain</u> at E2 excavated, confirmatory sampling to follow. | R.O. |
| 1.32 | (1.35) | <u>Clearance of tip 74a</u> complete. Samples required. | R.O. |
| 1.33 | (1.36) | <u>Building L108</u> and shores to canal brickwork. Hold. | |
| 1.34 | (1.37) | <u>Repair of Highbridge Street traffic barrier</u> damaged by Holts complete. No charge to MoD. | R.O. |

- 1.35 (1.38) Drum dredged from Middle Stream will be remotely pre-drilled and sawn as cylinders. Awaiting resources. R.O.
- 1.36 (3.1) English Heritage approval to metal detection on Burning Ground, Press House area, Newtons Pool, New Hill bomb craters and other identified areas received, subject to Archaeologists oversight. R.O. have suitable equipment and will propose a hire charge. R.O.
- 1.37 (3.2) SMC application submitted for fencing building drops. Work approved. R.O. ARCH.
- 1.38 (3.3) Liability issue in respect of hired plant to be resolved. Meeting WSA/RO pm 15th February 1995.

2. PROGRESS AND PROGRAMME

- 2.1 Revised programme appears at Appendix 1. 65% progress to date on present programme. Shortened programme to complete end of February 1995. Main programme extended to 31st July 1995 due to exceptional inclement weather and additional discovered contamination in the areas being remediated to residential standards.

3. ANY OTHER BUSINESS

- 3.1 HSE officer Mr.D.G.Wilson from the Chelmsford office visited site 9th February 1995. No problems arising from the visit were notified.
- 3.2 Mr.Fox explained that a decision on the future of the site was not yet resolved. However decontamination works on the reduced programme is to proceed until further notice.
- 3.3 R.O. Valuation N° 36 up to 28th February 1995, with sub-contactors invoices to 24th February 1995, to be handed to WSA on 7th March 1995 for clearance this financial year.

4. DATE OF NEXT MEETING

- 4.1 14.00 Hours on Thursday 9th March 1995.

R.E.WATTS.
10th February 1995.

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
WEDNESDAY 21st DECEMBER 1994 AT 14.00 HOURS**

Present: Mr Bob Watts	:W.S.A.	Copies: Mr.D.Stanners	:M.O.D/DLS
Mr Graham Vincent	:R.O.	Mr.D.Coyle	:M.O.D.P.E.
Mr Peter Mayell	:R.O.	Mr.A.Ford	:ARCH.
		Mr.S.Chaddock	:ARCH.
		Mr.D.Bone	:CIVIX
		Mr.P.Greggain	:M.O.D/DLA

1. MATTERS ARISING - FROM MEETING OF 17th NOVEMBER 1994 ACTION

- 1.1 (1.1) Explosives Testing
A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives.
W.S.A to prepare - SMC submitted. Part 1 ESG 4/93 received from R.O. Part 2 revised by R.O to include typical sampling arrangements. Strimming of mounds proceeding.
Blue Asbestos discovered in E2 mound, SMC application for removal prepared. W.S.A.
R.O.
- 1.2 (1.2) Photographic record
This activity held.
- 1.3 (1.3) Remediation in P Area complete - contracts exchanged. Some issues yet to be resolved. Piling along Mill Head Stream complete. Clay filling completed. Concrete capping proceeding. R.O.
W.S.A.
CIVIX
- 1.4 (1.4) A quantity of cast iron drain pipes removed from M Area awaiting heat treatment. R.O.
- 1.5 (1.5) Water wheel and Press House areas. Confirmatory investigation to proceed when grid established by MKS. English Nature/Bob Stebbings considering this area for rehabilitation, planting etc., SMC required. Target date for completion February 1995. B.S.
ARCH.
R.O.
W.S.A.
- 1.6 (1.6) Incorporating Mills.
Work in these buildings stopped. Clearance of undercrofts and final clean awaiting resources. L157 is completed and will be sampled. Remaining deep drains will be rodded clean and grouted. Outstanding drain grouting to be tendered. R.O.

- 1.7 (1.7) Tetryl Area. Gunpowder stove final filling complete. Pool banks sampled and results are good, L.G.C. will sample sludge from beds on 17th January 1995. Confirmatory sampling of factory area will await removal of canal intersections and bank treatment. R.O.
ARCH.
W.S.A.
- 1.8 (1.8) Asbestos clad steam main routes. Revised procedure within SSSI agreed with English Nature and English Heritage. Routes previously excavated will be filled, routes not yet remediated will be either hand raked or machine excavated as determined by Bob Stebbings/English Nature and backfilled without Terram. Resampling not required, work has commenced in Heronry first using MSO Thomas. Metal detection will not be undertaken. W.S.A.
B.S.
ARCH.
R.O.
- 1.9 (1.9) Preparation of artifact inventory. Work stopped on this activity.
- 1.10 (1.10) Asphalt melting plant. This activity held. As buildings are cleaned an assessment will be made as to whether asphalt floors should be removed at that stage.
- 1.11 (1.11) Waste tip sampling for explosives analysis. Proceeding satisfactorily, volume of samples for analysis has reduced. W.S.A.
R.O.
- 1.12 (1.12) CAD plot of services survey to hand. Final check required. R.O.
W.S.A.
- 1.13 (1.13) Safety Audit. Monthly visits proceeding. R.O.
- 1.14 (1.14) Edmonsey Sluice waste excavation complete. Windbreak fencing complete. Place remaining top soil around trees and backfill with H8 material. Task to await resources. R.O.
- 1.15 (1.15) Explosives License Application received by R.O. back from HSE. Next stage is to advertise and seek public comment. R.O.
- 1.16 (1.16) Site vehicles.
1 Minibus R.O.
1 Maestro van R.O. (to be returned end of December).
1 Old Landrover R.O.
2 Landrovers 110 R.O. (from 21/11/94). R.O.
- 1.17 (1.17) Disposal of transformer PCB clearance certificate received. PCB levels indicate investigation necessary, which will be done with remediation of L146.
- 1.18 (1.18) R.O to investigate sewerage charges under auspices of the management contract. R.O.
- 1.19 (1.19) Trenching to Northern Canals - some investigation by excavation of buried stoves required. Awaiting resources. W.S.A.
R.O.

- | | | | |
|------|--------|--|--------------------------|
| 1.20 | (1.20) | <u>Asbestos discovered</u> on opposite bank of Horse Mill stream. NRA dealing with this. Awaiting NRA decisions regarding bank excavation, reduction in Horse Mill Stream water level and export route for waste. Work may proceed this FY. | N.R.A.
R.O.
W.S.A. |
| 1.21 | (1.21) | <u>Queens Mead</u> almost totally covered with dewatering sludge which will be excavated next summer with a general strip of areas affected by grit blasting and search for canal. | |
| 1.22 | (1.22) | <u>Water mains</u> - Valves and hydrants maintained by Terry Williams. Costs to caretaking contract, VO61. | W.S.A.
R.O. |
| 1.23 | (1.23) | <u>Bridge works.</u> Tenders returned - held. | W.S.A. |
| 1.24 | (1.24) | Carden and Godfrey have identified <u>building anomalies</u> between RCHME survey, MKS survey drawings and situation on the ground. These to be incorporated into the site records. | ARCH.
W.S.A.
MKS |
| 1.25 | (1.25) | Initial <u>strip out of buildings 134 to 160</u> complete. Work stopped. Further buildings to be reviewed by RW and AF for release to Morris Contracting for clean out. Particularly building 96 in the Heronry. | ARCH.
W.S.A.
R.O. |
| 1.26 | (1.26) | R.O. investigation into the <u>stability of N.G. in timber</u> proceeding. First stage nearing completion. Sealing methods being assessed. | R.O. |
| 1.27 | (1.27) | <u>Piling to canal/river intersections</u> to remove residual contaminated material held. Geotechnical investigation report available. Samples recovered from selected intersections. | |
| 1.28 | (1.29) | <u>Excavation of river beds adjacent and integral with bridges</u> in refurbishment/replacement works. This is best carried out using Portadam technique. If bridge works approved may be possible to liaise with contractor to use his dam installation to clear before bridge works are undertaken. NRA to deal with fish. Work held at present. | |
| 1.29 | (1.30) | R.O. <u>draft inventory</u> of client owned items received. | R.O. |
| 1.30 | (1.31) | <u>Demonstration of portable explosives analyser</u> took place on 14th September 1994. R.O. will trial this end of January 1995. | R.O. |
| 1.31 | (1.32) | R.O. to respond to issue of the <u>extent of the building remediation and likely certification</u> , methods and requirements. | R.O. |
| 1.32 | (1.33) | <u>Excavation of Millhead Stream</u> and <u>parallel drain</u> and removal of agreed trees held. | |

- 1.33 (3.5) Table of results of explosives analysis on artifacts required. **ARCH.**
Artifacts with UCL will be returned to site. **R.O.**
- 1.34 (3.6) Procedure for TNT drain at E2 complete, issue imminent. **R.O.**
- 1.35 (3.7) Clearance of tip 74a almost complete. **R.O.**
- 1.36 (3.9) Building L108 and shores to canal brickwork. Hold.
- 1.37 (3.10) R.O. site list of expenditure items as approved to hand and being updated regularly. **R.O.**
- 1.38 (3.11) Repair of Highbridge Street traffic barrier damaged by Holts, arrangements proceeding. **R.O.**
- 1.39 (3.13) Drum dredged from Middle Stream will be remotely pre-drilled and sawn as cylinders. **R.O.**
- 1.40 (3.14) Agreed R.Bray can remove stockpiled chippings at own expense.

2. PROGRESS AND PROGRAMME

- 2.1 Revised programme appears at Appendix 1. 60% progress to date on present programme. Shortened programme to complete end of January 1995.

3. ANY OTHER BUSINESS

- 3.1 English Heritage approval to metal detection on Burning Ground, Press House area, Newtons Pool, New Hill bomb craters and other identified areas received, subject to Archaeologists oversight.
- 3.2 SMC application will be made for fencing building drops. Deborah Priddy to visit site 12th January 1995 to view.
- 3.3 Liability issue in respect of hired plant to be resolved.
- 3.4 Reduction in Micron Monitoring agreed.

4. DATE OF NEXT MEETING

- 4.1 14.00 Hours on Tuesday 7th February 1995.

A HAPPY NEW YEAR TO ALL OUR READERS.

R.E.WATTS.
28th December 1994

PROJECT PLAN - ISSUE 6A

DECEMBER 1994

Updated to reschedule slipped tasks at 21/12/94

ID	Name	June					July				August				September				October				November				December				Ja		
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1
68	Remediation of M Area																																
69	Removal of cordite/asbestos arisings																																
70	Tender																																
71	Removal																																
72	Excavation of canals/reinstatement of road																																
73	Gasworks Remediation																																
74	Excavation																																
75	Sampling & analysis																																
76	Remediation																																
77	Surface confirmatory sampling & analysis																																
78	Report																																
79	Remediation of incorporator railways																																
80	Remediation																																
81	Sampling & analysis																																
82	Report																																
83	Removal of redundant services																																
84	Decontamination of drains																																
85	L157																																
86	L153																																
87	L148																																
88	L145																																
89	L149																																
90	Associated buildings																																
91	Removal of external slabs																																
92	Demolition of buildings																																
93	Ditching of waterways																																
94	Gritblasting/ painting of steelwork																																
95	L157																																

ID	Name	June					July					August					September					October					November					December					Ja	
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8				
96	L153																																					
97	L148																																					
98	L149																																					
99	Wall and Floor removal/paint stripping																																					
100	L153																																					
101	L148																																					
102	L145																																					
103	L149																																					
104	Roofing																																					
105	L145																																					
106	L157																																					
107	L145 (bays)																																					
108	Boreholes																																					
109	Design																																					
110	Construct																																					
111	Monitor																																					
112	Confirmatory analysis in buildings																																					
113	Sampling & Analysis																																					
114	Report																																					
115	Clean out of non-scheduled, non-listed buildings																																					
116	Clean out of listed buildings																																					

ID	Name	June					July					August					September					October					November					December					Ja
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8			
117	Remediation of L Area																																				
118	Excavation & backfill of canals																																				
119	Confirmatory Sampling & Analysis																																				
120	Report																																				
121	Grassland Management																																				
122	Demolition of buildings																																				
123	Boreholes																																				
124	Design																																				
125	Construct																																				
126	Monitor																																				
127	Work to selected buildings																																				
128	Rationalise Services																																				
129	Remove Redundant Services																																				

ID	Name	June					July					August					September					October					November					December					Ja				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8							
130	Remediation of S Area																																								
131	Excavate Newtons Pool Canals																																								
132	Exploratory excavation trenches																																								
133	EN Approval																																								
134	Barge removal																																								
135	Excavation of Canals- North of M area																																								
136	Tree Clearance																																								
137	Excavation of Canals- North of T area																																								
138	Tree Clearance																																								
139	Sampling & Analysis																																								
140	Report																																								
141	Removal of Residual Tips																																								
142	Edmondsey Sluice																																								
143	Cattlegate bridge																																								
144	Establish monitoring boreholes																																								
145	Design																																								
146	Construct																																								
147	Monitor																																								
148	Rehabilitation of Areas to EN & EH approval																																								
149	Newtons Pool																																								
150	Press House																																								
151	Barrel Graveyard																																								
152	Nitration Lagoons																																								
153	General																																								
154	Confirmatory Sampling, analysis & reporting																																								
155	Newtons Pool																																								
156	Press House																																								
157	Edmondsey Sluice																																								

ID	Name	June					July					August					September					October					November					December					Ja												
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158	Barrel Graveyard	<div></div>																																															
159	Nitration Lagoons	<div></div>																																															
160	General	<div></div>																																															
161	Removal of Redundant Services	<div></div>																																															
162	Scrutiny of surfaces - Heronry	<div></div>																																															
163	Scutiny of surfaces - Remainder	<div></div>																																															
164	Clean out Scheduled Monument buildings	<div></div>																																															

ID	Name	June					July					August					September					October					November					December					Ja	
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165	Remediation of N Area																																					
166	Site Strip																																					
167	Establish Waste Handling																																					
168	Temporary Road																																					
169	Fill in Pits																																					
170	Maintenance to Cattlegate bridge																																					
171	Improve Entrance from crooked mile																																					
172	Demolish unwanted buildings																																					
173	Rationalise Services																																					
174	Clean up after Waste Operations																																					
175	Establish monitoring boreholes																																					
176	Winning of clay for general site works																																					
177	H Area																																					
178	Lining Canals																																					
179	Burning Ground																																					
180	Confirmatory sampling, analysis & reporting																																					
181	Fencing																																					
182	Removal of Cattlegate Bridge																																					
183	Installation of foot bridge																																					
184	Rehabilitation																																					
185	Handover to LVRPA																																					
186	Scrutiny of surfaces																																					

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187	Remediation of Burning Ground																																					
188	Remove Entrance Road																																					
189	Services rationalisation																																					
190	Site Strip to Gravel/Undisturbed Strata																																					
191	Transport Arisings to N Area																																					
192	Sweep Area with Metal Detector																																					
193	Re-establish clay membrane & top soil																																					
194	Carry out EH/EN remediation proposals																																					
195	Confirmatory analysis of soil samples																																					
196	Asphalt treatment																																					

ID	Name	June					July					August					September					October					November					December					Ja										
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8													
197	Maintenance of Bridges																																														
198	SMC/Trust Approval																																														
199	Design/Tender																																														
200	Construction																																														
201	Remediation of River Banks																																														
202	Sheet Piling & Excavations East Bank of Horsemill Str																																														
203	Operations West Bank Horsemill Stream																																														
204	Ditching of On-Site Rivers & Canals																																														
205	Removal of Canal Material at Intersection of Waterway																																														
206	NRA/EN Proposals to Raise Site Water Levels																																														
207	Reinstatement of Banks																																														
208	Excavate canal batters																																														
209	Excavate pond batters																																														
210	Sample																																														
211	Apply Terram and backfill																																														
212	Report																																														
213	Completion of T Area Works																																														
214	Remediation under Steam Pipes																																														
215	Survey & Peg-Out Routes																																														
216	Site Strip/disposal outside Heronry																																														
217	Site Strip/disposal inside Heronry																																														
218	Sample Analysis																																														
219	Surface Treatment inside Heronry																																														
220	Surface Treatment outside Heronry																																														

ID	Name	June					July					August					September					October					November					December					Ja	
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8				
221	Buildings & Mounds																																					
222	Mounds - Sample & Analyse																																					
223	Scheduled Area Buildings																																					
224	Other Buildings																																					
225	Tree Clearance from Mounds & Buildings																																					
226	Building Information Packs																																					
227	Services Survey																																					

January			February				March				April				May				June				July				August				September				October				November							
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January			February				March				April				May				June				July				August				September				October				November							
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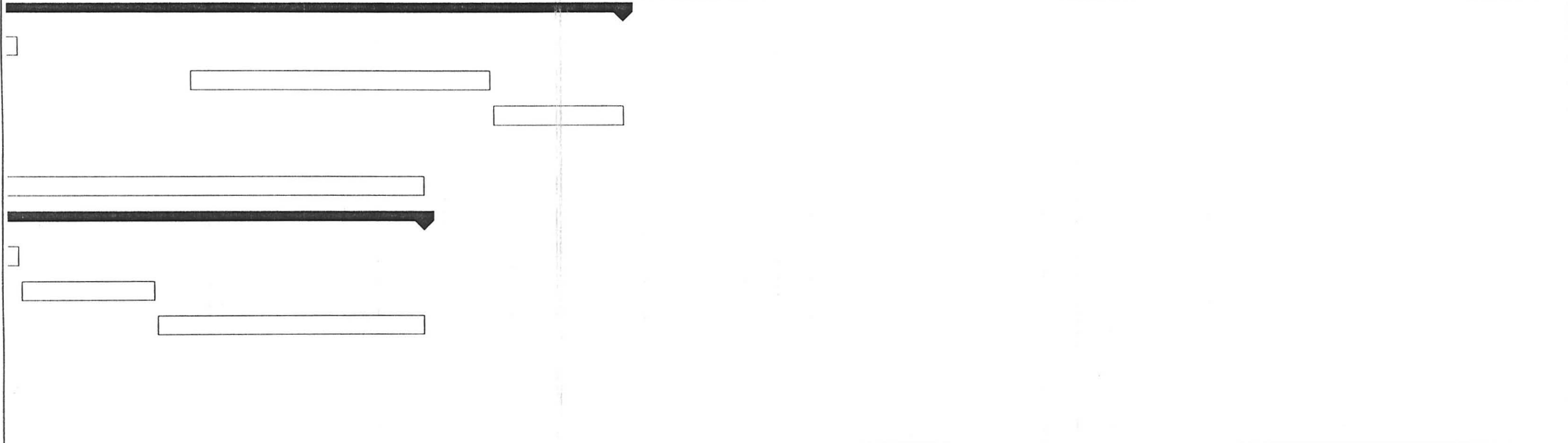
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January			February				March				April				May				June				July				August				September				October				November							
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January				February				March				April				May				June				July				August				September				October				November							
15	22	29		5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3

January			February				March				April				May				June				July				August				September				October				November							
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**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
THURSDAY 17th NOVEMBER 1994 AT 14.00 HOURS**

Present: Mr Bob Watts	:W.S.A.	Copies: Mr.D.Stanners	:M.O.D/DLS
Mr Graham Vincent	:R.O.	Mr.D.Coyle	:M.O.D.P.E.
Mr Peter Mayell	:R.O.	Mr.A.Ford	:ARCH
		Mr.D.Bone	:CIVIX
		Mr.P.Greggain	:M.O.D/DLA

1. MATTERS ARISING - FROM MEETING OF 19th OCTOBER 1994 **ACTION**

- 1.1 (1.1) Explosives Testing
A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A to prepare - SMC submitted. Part 1 ESG 4/93 received from R.O. Part 2 to be revised by R.O to include typical sampling arrangements. Strimming of mound proceeding. **W.S.A.
R.O.**
- 1.2 (1.2) Photographic record
This activity held.
- 1.3 (1.3) Remediation in P Area complete - contracts exchanged. Issues yet to be resolved. Piling along Mill Head Stream complete. Clay filling completed. Concrete work to commence Monday 21st November 1994. **W.S.A.
CIVIX
R.O.**
- 1.4 (1.4) Collection of Tetryl Area pipes from T Area progressing. Existing water mains need not be cut into short sections before heat treatment. When collection complete decontamination to proceed with Morris Contractors. **R.O.**
- 1.5 (1.5) Water wheel and Press House areas. Confirmatory investigation to await outstanding items and scrutiny. English Nature/Bob Stebbings considering this area for rehabilitation, planting etc., SMC required. Target date for completion January 1995. **B.S.
ARCH.
R.O.
W.S.A.**
- 1.6 (1.6) Incorporating Mills.
Work in these buildings being systematically reduced to cease beginning January 1995. Outstanding drain grouting to be tendered. **R.O.**

- 1.7 (1.8) Tetryl Area. Gunpowder stove final filling complete. Pool banks to be sampled, L.G.C. will sample sludge from beds. Confirmatory sampling of factory area will await removal of canal intersections and bank treatment. **R.O.
ARCH.
W.S.A.**
- 1.8 (1.9) Asbestos clad steam main routes. Revised procedure within SSSI agreed with English Nature and English Heritage. Routes previously excavated will be filled, routes not yet remediated will be either hand raked or machine excavated as determined by Bob Stebbings/English Nature and backfilled. Resampling not required, work has commenced in Heronry first using MSO Thomas. **B.S.
W.S.A.
ARCH.
R.O.**
- 1.9 (1.10) Preparation of artifact inventory. Work stopped on this activity.
- 1.10 (1.11) Asphalt melting plant. This activity held. As buildings are cleaned an assessment will be made as to whether asphalt floors should be removed at that stage. **R.O.
W.S.A.**
- 1.11 (1.12) Waste tip sampling for explosives analysis. Proceeding satisfactorily, volume of samples for analysis has reduced. **W.S.A.
R.O.**
- 1.12 (1.13) R.O engineer carrying out services survey and checking CAD plot. Work complete.
- 1.13 (1.14) Safety Audit. Monthly visits proceeding. **R.O.**
- 1.14 (1.15) Edmonsey Sluice waste excavation complete. Windbreak fencing in hand, SMC submitted. Place remaining top soil around trees. **R.O.**
- 1.15 (1.16) Copy of Explosives License Application received from R.O. Delayed at request of H.S.E Explosives Inspectorate - no progress. **R.O.**
- 1.16 (1.17) Site vehicles.
1 Minibus R.O.
1 Minibus hired (return 18/11/94)
1 Astra van hired (return 18/11/94)
1 Maestro van R.O. (return on receipt of 2nd replacement 110 Landrover).
1 Old Landrover R.O.
1 Landrover 110 R.O. (from 21/11/94). Awaiting 2nd replacement Landrover R.O. **R.O.**
- 1.17 (1.18) Disposal of transformer PCB clearance certificate received. PCB levels indicate investigation necessary, which will be done with remediation of L146. **W.S.A.
R.O.**

1.18	(1.19)	R.O to investigate <u>sewerage charges</u> under auspices of the management contract.	R.O.
1.19	(1.20)	<u>Trenching to Northern Canals</u> - complete. Trench logs outstanding. Results of analysis indicate fill quality is acceptable and also overlain by river gravels. No further excavation required. Some investigation by excavation of buried stoves required.	W.S.A. R.O.
1.20	(1.21)	<u>Asbestos discovered</u> on opposite bank of Horse Mill stream. NRA dealing with this. Awaiting NRA decisions regarding bank excavation, reduction in Horse Mill Stream water level and export route for waste. Work may proceed this FY.	N.R.A. R.O. W.S.A.
1.21	(1.22)	<u>Queens Mead</u> almost totally covered with dewatering sludge which will be excavated next summer with a general strip of areas affected by grit blasting and search for canal.	R.O.
1.22	(1.23)	<u>Water main and Sewage Pumping main H Area</u> - stripped out from H Area. Pumping main not to be replaced at this time. Continue emptying pump sump by tanker. Valves and hydrants being maintained by Terry Williams. Costs to caretaking contract, VO61.	W.S.A. R.O.
1.23	(1.24)	<u>Bridge works</u> . Tenders returned - held.	W.S.A.
1.24	(1.25)	Carden and Godfrey have identified <u>building anomalies</u> between RCHME survey, MKS survey drawings and situation on the ground. These to be incorporated into the site records.	ARCH. W.S.A. MKS
1.25	(1.26)	Initial <u>strip out of buildings 134 to 160</u> partially complete. Work stopped. Further buildings to be reviewed by RW and AF for release to Morris Contracting for clean out.	W.S.A. ARCH. R.O.
1.26	(1.27)	R.O investigation into the <u>stability of N.G. in timber</u> on a shared cost basis delayed. R.O. to advise completion date.	R.O.
1.27	(1.28)	<u>Piling to canal/river intersections</u> to remove residual contaminated material held. Geotechnical investigation complete. Samples required from selected intersections.	W.S.A. R.O.
1.28	(1.29)	<u>Kocurek amphibious excavator</u> off hire 18/11/94. Remaining Millhead Stream to be dredged from bank side.	R.O.
1.29	(1.31)	<u>Excavation of river beds adjacent and integral with bridges</u> in refurbishment/replacement works. This is best carried out using Portadam technique. If bridge works approved may be possible to liaise with contractor to use his dam installation to clear before bridge works are undertaken. NRA to deal with fish. Work held at present.	W.S.A. B.S. R.O. NRA.

- | | | | |
|------|--------|---|------|
| 1.30 | (1.32) | R.O. to produce <u>draft inventory</u> of client owned items. | R.O. |
| 1.31 | (1.34) | <u>Demonstration of portable explosives analyser</u> took place on 14th September 1994. R.O. will trial this on 2 week free loan from manufacturer in November 1994. No progress. | R.O. |
| 1.32 | (1.35) | R.O. to respond to issue of the <u>extent of the building remediation and likely certification</u> , methods and requirements. | R.O. |
| 1.33 | (3.1) | <u>Excavation of Millhead Stream</u> held, <u>parallel drain</u> progressing, remove agreed trees. | R.O. |

2. PROGRESS AND PROGRAMME

- | | |
|-----|---|
| 2.1 | Revised programme will be issued when client aspects resolved. 55% progress to date on present programme. |
|-----|---|

3. ANY OTHER BUSINESS

- | | | |
|------|--|-------------------------|
| 3.1 | Gas works investigation held but will be designed by WSA. | W.S.A. |
| 3.2 | Site hours reduced to 0730 - 1600 from 21st November 1994. | |
| 3.3 | Standard hours 5 day working by all contractors and staff unless previously agreed. | R.O.
W.S.A.
ARCH. |
| 3.4 | Reprogramming of activities in hand, staff and labour reductions actioned. Commensurate reductions in road sweeping and Polyloo provision in hand. | R.O. |
| 3.5 | Table of results of explosives analysis on artifacts required. | R.O. |
| 3.6 | Procedure for TNT drain at E2 in hand. | R.O. |
| 3.7 | Tip 74a to be cleared. | R.O. |
| 3.8 | Bridge 59. Form clay berm to culvert bed. | R.O. |
| 3.9 | Building L108 and shores to canal brickwork. Hold. | |
| 3.10 | R.O. to produce site list of expenditure items as approved. | R.O. |
| 3.11 | Blick quote received for repair of Highbridge Street traffic barrier damaged by Holts. | |
| 3.12 | Suspect material excavated from around A210 is paint. No contamination implications. Disposal with special waste. | R.O. |

3.13 Drum dredged from Middle Stream will be remotely pre-drilled
and sawn as cylinders.

R.O.

3.14 Agreed R.Bray can remove stockpiled chippings at own expense.

4. DATE OF NEXT MEETING

4.1 14.00 Hours on Wednesday 21st December 1994.

R.E.WATTS.
21st November 1994

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
WEDNESDAY 19th OCTOBER 1994 AT 14.00 HOURS**

Present: Mr Bob Watts	:W.S.A.	Copies: Mr.D.Stanners	:M.O.D/DLS
Mr Graham Vincent	:R.O.	Mr.D.Coyle	:M.O.D.P.E.
Mr Peter Mayell	:R.O.	Mr.A.Ford	:ARCH.
		Mr.D.Bone	:CIVIX
		Mr.P.Greggain	:M.O.D/DLA

1. MATTERS ARISING - FROM MEETING OF 15th SEPTEMBER 1994 ACTION

- 1.1 (1.2) Explosives Testing
A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A to prepare - SMC submitted. Part 1 ESG 4/93 received from R.O. Part 2 to be revised by R.O to include typical sampling arrangements. Strimming of mound proceeding. W.S.A.
R.O.
- 1.2 (1.3) Photographic record
Negatives indexed, photos to be indexed by vacation student. Video tape with "date on" to be edited. R.O.
- 1.3 (1.4) Remediation in P Area complete - contracts exchanged. CIVIX
Issues yet to be resolved. Piling along Mill Head Stream complete. W.S.A.
Clay filling completed. Concrete work to be tendered. R.O.
- 1.4 (1.5) Collection of Tetryl Area pipes from T Area progressing. Existing water mains need not be cut into short sections before heat treatment. When collection complete decontamination to proceed with Morris Contractors. R.O.
- 1.5 (1.6) Water wheel and Press House areas. Confirmatory investigation to await completion of road construction and outstanding items. B.S.
English Nature/Bob Stebbings considering this area for rehabilitation, ARCH.
planting etc., SMC required. R.O.
W.S.A.
- 1.6 (1.7) L157 2nd stage strip out nearing completion. Work carried out in L157 extended to L145, L148, L149 and L153. Floor removal to be assessed using 3 tonne remote controlled chisel, which is on order. R.O.
W.S.A.

- | | | | |
|------|--------|--|---|
| 1.7 | (1.8) | <u>Roof works to A203.</u> Defects on lead work to be rectified. Ponding on library roof, R.O to present priced proposals to rectify. Non urgent. | R.O. |
| 1.8 | (1.9) | <u>Tetryl Area.</u> Procedure for pools adjacent to E2 agreed with Bob Stebbings and nearing completion. Gunpowder stove initial filling complete, external excavation in hand to prepare for final filling. Pools to be sampled, L.G.C. will sample sludge from beds. | R.O.
<u>ARCH.</u>
W.S.A. |
| 1.9 | (1.10) | <u>Asbestos clad steam main routes.</u> Revised procedure within SSSI agreed with English Nature and English Heritage. Routes previously excavated will be filled, routes not yet remediated will be either hand raked or machine excavated as determined by Bob Stebbings/English Nature and backfilled. Resampling not required, work to commence in Heronry first using MSO Thomas. | B.S.
W.S.A.
<u>ARCH.</u>
R.O. |
| 1.10 | (1.12) | <u>Preparation of artifact inventory.</u> R.O draft report being continuously updated. R.O. to organise transport of artifacts. Barge to be transported to site, organised by archaeologist, but dependent on formation of the Trust. | R.O.
<u>ARCH.</u> |
| 1.11 | (1.13) | <u>Asphalt melting plant</u> work complete to date. R.O have prepared a list of remaining buildings with asphalt floors. WSA authorised removal work to proceed. R.O to inspect asphalt floors in buildings undergoing strip out. R.O are investigating commercial outlet for asphalt. Additional buildings identified from C & G report. SMC submitted. | W.S.A.
R.O. |
| 1.12 | (1.14) | <u>Waste tip sampling for explosives analysis.</u> Proceeding satisfactorily, volume of samples for analysis has reduced. | W.S.A.
R.O. |
| 1.13 | (1.15) | R.O <u>engineer carrying out services survey</u> and checking CAD plot. | R.O. |
| 1.14 | (1.17) | <u>Safety Audit.</u> Monthly visits proceeding. | R.O. |
| 1.15 | (1.19) | Initial <u>Edmonsey Sluice waste</u> excavation and filling complete. Further limited excavation required and sampling. Windbreak fencing to follow, SMC submitted. Grit blasting to NRA sluice has resulted in wind blown arisings being blown onto site. | R.O. |
| 1.16 | (1.20) | Copy of <u>Explosives License Application</u> received from R.O. Delayed at request of H.S.E Explosives Inspectorate - no progress. | R.O. |
| 1.17 | (1.21) | <u>Site vehicles</u> 1 No. flat bed and minibus available October. | R.O. |

- | | | | |
|------|--------|--|-------------------------------|
| 1.18 | (1.23) | <u>Disposal of transformer</u> PCB clearance certificate received. PCB levels indicate investigation necessary, which will be done with remediation of L146. | W.S.A.
R.O. |
| 1.19 | (1.24) | R.O to investigate <u>sewerage charges</u> under auspices of the management contract. | R.O. |
| 1.20 | (1.25) | <u>Trenching to Northern Canals</u> - complete. Samples taken. Logs in hand, results of analysis received. | W.S.A.
R.O. |
| 1.21 | (1.26) | <u>Asbestos discovered</u> on opposite bank of Horse Mill stream. NRA dealing with this. Awaiting NRA decisions regarding bank excavation, reduction in Horse Mill Stream water level and export route for waste. Work may proceed this FY. | N.R.A.
R.O.
W.S.A. |
| 1.22 | (1.27) | <u>Queens Mead Canals</u> partially located and excavated, work suspended. River sludge being placed. Areas affected by gritblasting exhaust (lead content) to be stripped on completion of task. | R.O. |
| 1.23 | (1.28) | <u>Water main and Sewage Pumping main</u> to be rerouted and/or cut back and replaced with new polymer tube where exposed. H Area water main cut off, sewage pumping main to be reinstated. Pump sump emptied by tanker. Valves and hydrants to be maintained by Terry Williams. Costs to caretaking contract, VO61. | W.S.A.
R.O. |
| 1.24 | (1.29) | <u>Bridge works</u> to be organised by WSA. Decontamination programme implications. Tenders returned. | W.S.A. |
| 1.25 | (1.30) | Carden and Godfrey have identified <u>building anomalies</u> between RCHME survey, MKS survey drawings and situation on the ground. These to be incorporated into the site records. | <u>ARCH.</u>
W.S.A.
MKS |
| 1.26 | (1.31) | Initial <u>strip out of buildings 134 to 160</u> proceeding to programme. Further buildings to be reviewed by RW and AF for release to Morris Contracting. | <u>ARCH.</u>
R.O. |
| 1.27 | (1.32) | R.O proposal for further investigation into the stability of N.G. in timber on a shared cost basis approved. Will commence end of October. | R.O. |
| 1.28 | (1.33) | WSA outlined the requirements for <u>piling canal/river intersections</u> to remove residual contaminated material. Approval to proceed with design received. Trial pits/probes at intersections carried out by R.O. Geotechnical investigation commences 20th October 1994. | W.S.A.
R.O. |
| 1.29 | (1.35) | Kocurek amphibious excavator on site to <u>dredge Millhead Stream.</u> | R.O. |
| 1.30 | (1.36) | <u>Grass cutting to Queens Mead and N Area</u> complete. | R.O. |

- 1.31 (1.37) WSA instructed R.O. to excavate river beds adjacent and integral with bridges in Bridge Refurbishment/Replacement works. Amphibious excavator too large to carry out work. RSC to consider implications of damming part of Middle Stream and Hoppit Pool. **B.S.
R.O.**
- 1.32 (1.38) R.O. to produce draft inventory of client owned items. **R.O.**
- 1.33 (1.39) R.O. have ordered air filtration plant relating to gritblasting air discharge. Delivery week commencing 24th October 1994, McGoff & Vickers to cable in. **W.S.A.
R.O.**
- 1.34 (1.40) Demonstration of portable explosives analyser took place on 14th September 1994. R.O. will trial this on 2 week free loan from manufacturer in November 1994. **R.O.**
- 1.35 (1.41) R.O. to respond to issue of the extent of the building remediation and likely certification, methods and requirements. **R.O.**
- 1.36 (3.1) Agreed the resourcing of further R.O. site supervisor Bob Edwards.

2. PROGRESS AND PROGRAMME

- 2.1 Revised October programme attached at Appendix 1. Next revision at coming progress meeting. Existing 6 weeks delay held. Practical completion end of June 1994. 52% completion to end of October.

3. ANY OTHER BUSINESS

- 3.1 Excavation of Millhead Stream and parallel drain. Tree clearance agreed.
- 3.2 Sean Roberts, student, will be on site to gain experience. Could carry out tasks at a charge of £7 per hour for R.O. and W.S.A.

4. DATE OF NEXT MEETING

- 4.1 10.00 Hours on Thursday 17th November 1994.

R.E.WATTS.
16th November 1994

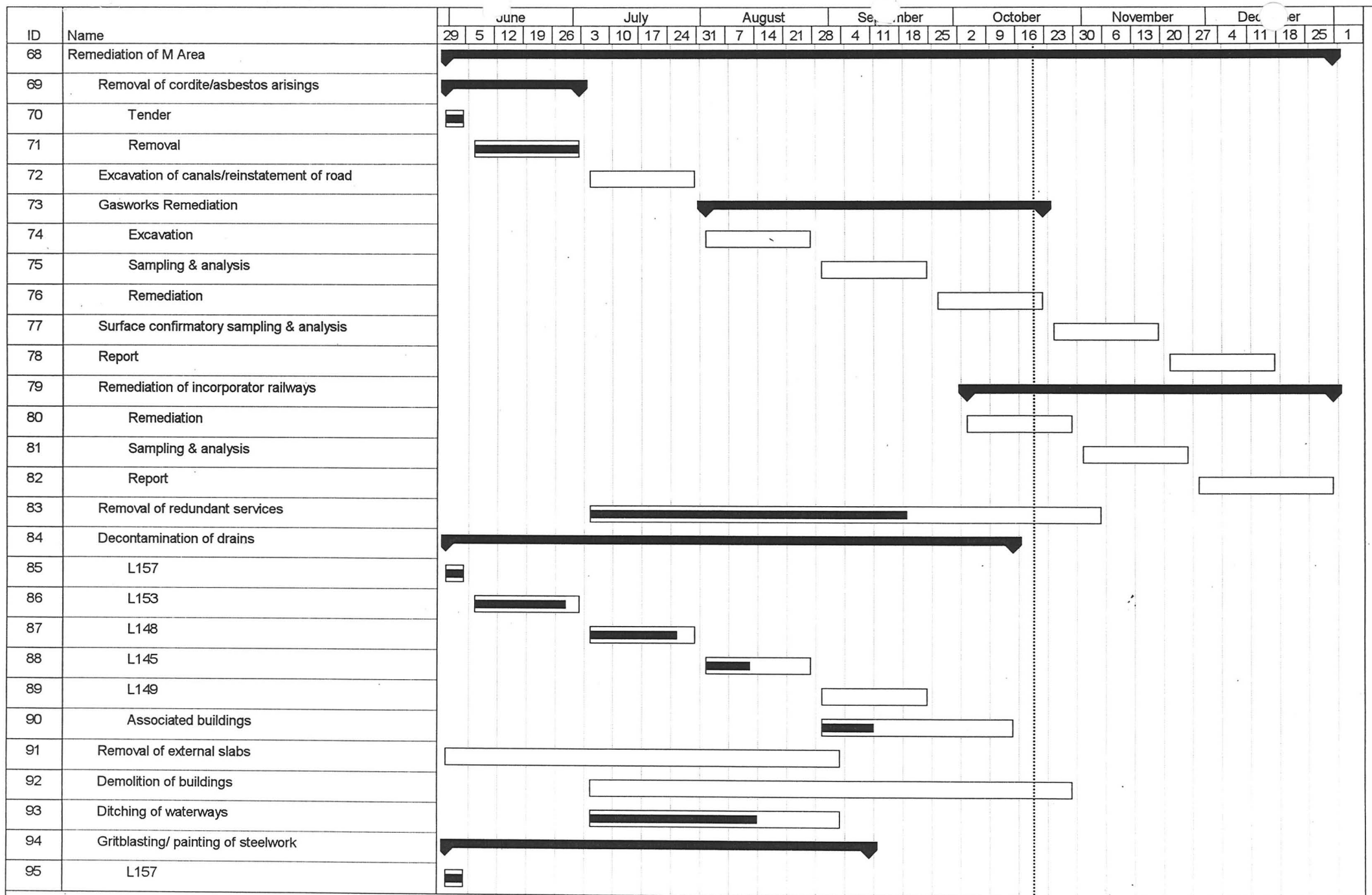
FORMER RARDE SITE WALTHAM ABBEY NORTH REMEDIATION PROJECT

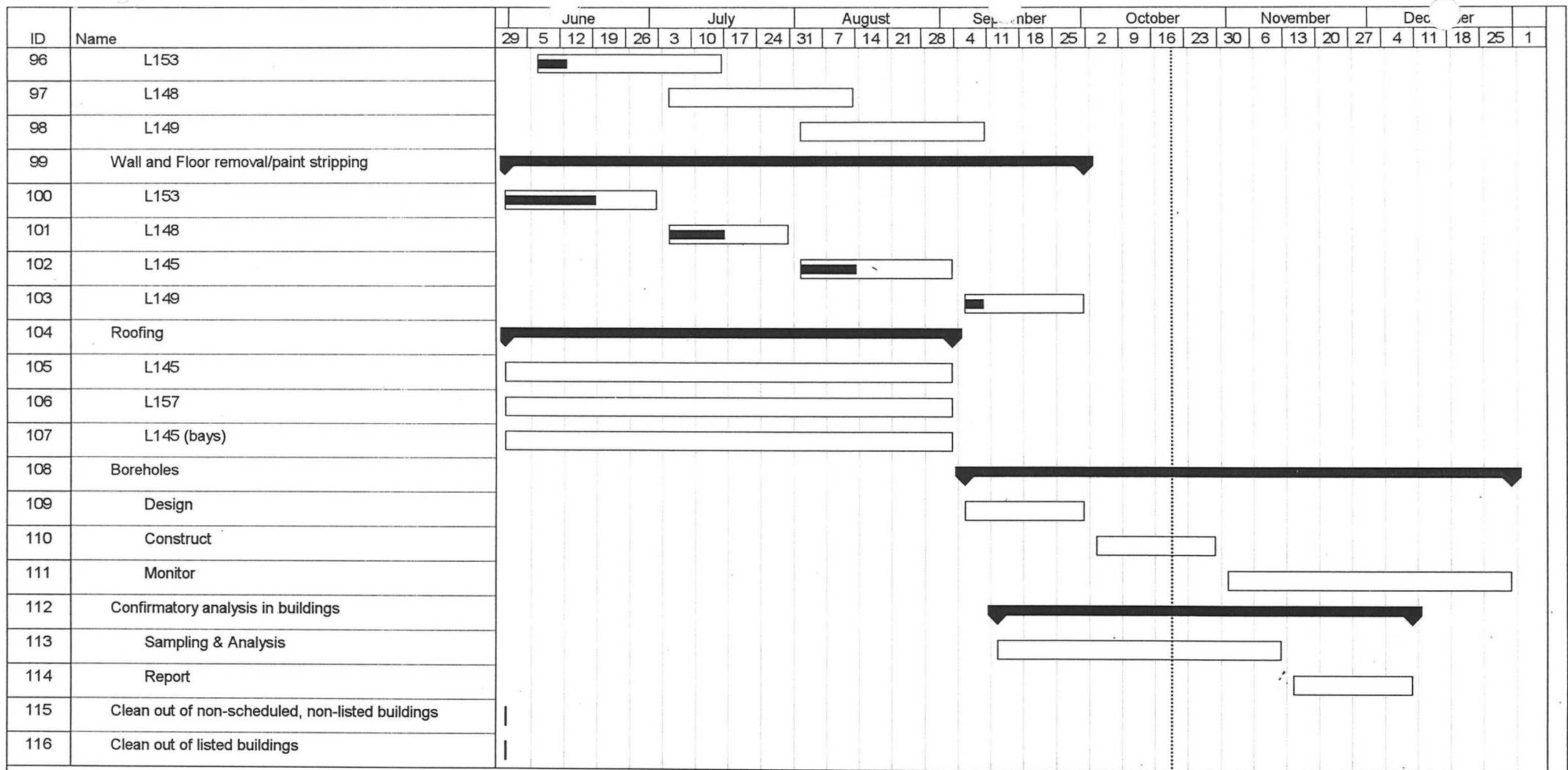
APPENDIX 1

PROJECT PLAN - ISSUE 5
OCTOBER 1994

ROYAL ORDNANCE ENVIRONMENTAL SERVICES GROUP

ID	Name	June					July				August				September				October				November				December						
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1
1	Remediation of H Area																																
2	Remediate & Tidy ancient monument	<div></div>																															
3	Construct Road, Install Wheel Wash	<div></div>																															
4	Waste Removal Phase 2	<div></div>																															
5	EFDC Consultation for Demolition	<div></div>																															
6	Mobilise for Demolition of H10, H71 & H8	<div></div>																															
7	Demolition of H10, H71 & H8	<div></div>																															
8	H8 Mound to T Area	<div></div>																															
9	Removal of Redundant Services, bldg bases etc	<div></div>																															
10	Ditching to Millhead Stream inc NRA Approval	<div></div>																															
11	Clearance of canals north from Hoppits Pool - Phase 1	<div></div>																															
12	Clearance of canals north from Hoppits Pool - Phase 2	<div></div>																															
13	Clearance of canals north from Hoppits Pool - Phase 3	<div></div>																															
14	Soil Strip, Area H	<div></div>																															
15	Re-establish Hoppit Road	<div></div>																															
16	Cut back water main to North of H8 or leave exposed	<div></div>																															
17	Remove H16 Slab	<div></div>																															
18	Interim Analysis	<div></div>																															
19	Confirmatory Analysis	<div></div>																															
20	Report	<div></div>																															
21	Erect temporary fences and gate	<div></div>																															
22	Establish Boreholes																																
23	Organic trace	<div></div>																															
24	Design	<div></div>																															
25	Install	<div></div>																															
26	Monitor	<div></div>																															





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		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
117	Remediation of L Area																																			
118	Excavation & backfill of canals																																			
119	Confirmatory Sampling & Analysis																																			
120	Report																																			
121	Grassland Management																																			
122	Demolition of buildings																																			
123	Boreholes																																			
124	Design																																			
125	Construct																																			
126	Monitor																																			
127	Work to selected buildings																																			
128	Rationalise Services																																			
129	Remove Redundant Services																																			

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		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
130	Remediation of S Area																																			
131	Excavate Newtons Pool Canals																																			
132	Exploratory excavation trenches																																			
133	EN Approval																																			
134	Barge removal																																			
135	Excavation of Canals- North of M area																																			
136	Tree Clearance																																			
137	Excavation of Canals- North of T area																																			
138	Tree Clearance																																			
139	Sampling & Analysis																																			
140	Report																																			
141	Removal of Residual Tips																																			
142	Edmondsey Sluice																																			
143	Cattlegate bridge																																			
144	Establish monitoring boreholes																																			
145	Design																																			
146	Construct																																			
147	Monitor																																			
148	Rehabilitation of Areas to EN & EH approval																																			
149	Newtons Pool																																			
150	Press House																																			
151	Barrel Graveyard																																			
152	Nitration Lagoons																																			
153	General																																			
154	Confirmatory Sampling, analysis & reporting																																			
155	Newtons Pool																																			
156	Press House																																			
157	Edmondsey Sluice																																			

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		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1
158	Barrel Graveyard																																
159	Nitration Lagoons																																
160	General																																
161	Removal of Redundant Services																																
162	Scrutiny of surfaces - Heronry																																
163	Scrutiny of surfaces - Remainder																																
164	Clean out Scheduled Monument buildings																																

ID	Name	June					July				August				September				October				November				December						
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1
187	Remediation of Burning Ground																																
188	Remove Entrance Road																																
189	Services rationalisation																																
190	Site Strip to Gravel/Undisturbed Strata																																
191	Transport Arisings to N Area																																
192	Sweep Area with Metal Detector																																
193	Re-establish clay membrane & top soil																																
194	Carry out EH/EN remediation proposals																																
195	Confirmatory analysis of soil samples																																
196	Asphalt treatment																																

ID	Name	June					July					August					September					October					November					December				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
197	Maintenance of Bridges																																			
198	SMC/Trust Approval																																			
199	Design/Tender																																			
200	Construction																																			
201	Remediation of River Banks																																			
202	Sheet Piling & Excavations East Bank of Horsemill Stre																																			
203	Operations West Bank Horsemill Stream																																			
204	Ditching of On-Site Rivers & Canals																																			
205	Removal of Canal Material at Intersection of Waterways																																			
206	NRA/EN Proposals to Raise Site Water Levels																																			
207	Reinstatement of Banks																																			
208	Excavate canal batters																																			
209	Excavate pond batters																																			
210	Sample																																			
211	Apply Terram and backfill																																			
212	Report																																			
213	Completion of T Area Works																																			
214	Remediation under Steam Pipes																																			
215	Survey & Peg-Out Routes																																			
216	Site Strip/disposal outside Heronry																																			
217	Site Strip/disposal inside Heronry																																			
218	Sample Analysis																																			
219	Surface Treatment inside Heronry																																			
220	Surface Treatment outside Heronry																																			

ID	Name	June					July					August					September					October					November					December				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
221	Buildings & Mounds																																			
222	Mounds - Sample & Analyse																																			
223	Scheduled Area Buildings																																			
224	Other Buildings																																			
225	Tree Clearance from Mounds & Buildings																																			
226	Building Information Packs																																			
227	Services Survey																																			

ID	Name	January					February					March					April					May					June					July				
		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6			
1	Remediation of H Area																																			
2	Remediate & Tidy ancient monument																																			
3	Construct Road, Install Wheel Wash																																			
4	Waste Removal Phase 2																																			
5	EFDC Consultation for Demolition																																			
6	Mobilise for Demolition of H10, H71 & H8																																			
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9	Removal of Redundant Services, bldg bases etc																																			
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23	Organic trace																																			
24	Design																																			
25	Install																																			
26	Monitor																																			

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27	Remediation of North P area																																
28	Maintenance of Bailey Bridge & footway																																
29	Maintenance/replacement of footbridge																																
30	Removal of redundant services																																
31	Vacation of A221																																
32	Exterior renovation to A210/A214																																
33	Excavate remaining canals																																
34	Sample north bank of canal (north)																																
35	Infill canal																																
36	Sheet pile Millhead/canal junction																																
37	Excavate																																
38	Backfill																																
39	Obtain NRA approval for dredging																																
40	Dredge																																
41	Tree Removal																																
42	Surface Strip																																
43	Confirmatory Sample & Analysis																																
44	Report																																
45	Installation of Boreholes																																
46	Design																																
47	Construct																																
48	Monitor																																
49	Confirmatory Sampling (under fuel tanks)																																
50	Store recovered materials in A210																																
51	Store recovered Barge																																
52	Traffic Access/services																																
53	Reinstate carpark																																

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		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6						
54	Remediation of T area (inc. lagoons & ponds)																																						
55	Surface excavations/classify arisings																																						
56	Classify washpond arisings																																						
57	Decontaminate pipework																																						
58	Gunpowder stove clearance																																						
59	Confirmatory testing																																						
60	Terram sheeting & H8 mtl placement																																						
61	Excavation of filled canals																																						
62	Confirmatory sampling & analysis																																						
63	Report																																						
64	Refill with H8 mound from stockpile																																						
65	Top Soil, re-seed/re-plant to EN instructions																																						
66	Road reinstatement																																						
67	Acid Factory remediation																																						

ID	Name	January				February				March				April				May				June				July						
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68	Remediation of M Area																															
69	Removal of cordite/asbestos arisings																															
70	Tender																															
71	Removal																															
72	Excavation of canals/reinstatement of road																															
73	Gasworks Remediation																															
74	Excavation																															
75	Sampling & analysis																															
76	Remediation																															
77	Surface confirmatory sampling & analysis																															
78	Report																															
79	Remediation of incorporator railways																															
80	Remediation																															
81	Sampling & analysis																															
82	Report																															
83	Removal of redundant services																															
84	Decontamination of drains																															
85	L157																															
86	L153																															
87	L148																															
88	L145																															
89	L149																															
90	Associated buildings																															
91	Removal of external slabs																															
92	Demolition of buildings																															
93	Ditching of waterways																															
94	Gritblasting/ painting of steelwork																															
95	L157																															

ID	Name	January				February				March				April				May				June				July						
		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30
96	L153																															
97	L148																															
98	L149																															
99	Wall and Floor removal/paint stripping																															
100	L153																															
101	L148																															
102	L145																															
103	L149																															
104	Roofing																															
105	L145																															
106	L157																															
107	L145 (bays)																															
108	Boreholes																															
109	Design																															
110	Construct																															
111	Monitor																															
112	Confirmatory analysis in buildings																															
113	Sampling & Analysis																															
114	Report																															
115	Clean out of non-scheduled, non-listed buildings																															
116	Clean out of listed buildings																															

ID	Name	January					February					March					April					May					June					July							
		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6						
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157	Edmondsey Sluice																																			

ID	Name	January				February				March				April				May				June				July						
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158	Barrel Graveyard																															
159	Nitration Lagoons																															
160	General																															
161	Removal of Redundant Services																															
162	Scrutiny of surfaces - Heronry																															
163	Scutiny of surfaces - Remainder																															
164	Clean out Scheduled Monument buildings																															

ID	Name	January				February				March				April				May				June				July							
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165	Remediation of N Area																																
166	Site Strip																																
167	Establish Waste Handling																																
168	Temporary Road																																
169	Fill in Pits																																
170	Maintenance to Cattlegate bridge																																
171	Improve Entrance from crooked mile																																
172	Demolish unwanted buildings																																
173	Rationalise Services																																
174	Clean up after Waste Operations																																
175	Establish monitoring boreholes																																
176	Winning of clay for general site works																																
177	H Area																																
178	Lining Canals																																
179	Burning Ground																																
180	Confirmatory sampling, analysis & reporting																																
181	Fencing																																
182	Removal of Cattlegate Bridge																																
183	Installation of foot bridge																																
184	Rehabilitation																																
185	Handover to LVRPA																																
186	Scrutiny of surfaces																																

ID	Name	January				February				March				April				May				June				July							
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187	Remediation of Burning Ground																																
188	Remove Entrance Road																																
189	Services rationalisation																																
190	Site Strip to Gravel/Undisturbed Strata																																
191	Transport Arisings to N Area																																
192	Sweep Area with Metal Detector																																
193	Re-establish clay membrane & top soil																																
194	Carry out EH/EN remediation proposals																																
195	Confirmatory analysis of soil samples																																
196	Asphalt treatment																																

ID	Name	January				February				March				April				May				June				July							
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197	Maintenance of Bridges																																
198	SMC/Trust Approval																																
199	Design/Tender																																
200	Construction																																
201	Remediation of River Banks																																
202	Sheet Piling & Excavations East Bank of Horsemill Stre																																
203	Operations West Bank Horsemill Stream																																
204	Ditching of On-Site Rivers & Canals																																
205	Removal of Canal Material at Intersection of Waterways																																
206	NRA/EN Proposals to Raise Site Water Levels																																
207	Reinstatement of Banks																																
208	Excavate canal batters																																
209	Excavate pond batters																																
210	Sample																																
211	Apply Terram and backfill																																
212	Report																																
213	Completion of T Area Works																																
214	Remediation under Steam Pipes																																
215	Survey & Peg-Out Routes																																
216	Site Strip/disposal outside Heronry																																
217	Site Strip/disposal inside Heronry																																
218	Sample Analysis																																
219	Surface Treatment inside Heronry																																
220	Surface Treatment outside Heronry																																

ID	Name	January				February				March				April				May				June				July				August			
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221	Buildings & Mounds																																
222	Mounds - Sample & Analyse																																
223	Scheduled Area Buildings																																
224	Other Buildings																																
225	Tree Clearance from Mounds & Buildings																																
226	Building Information Packs																																
227	Services Survey																																

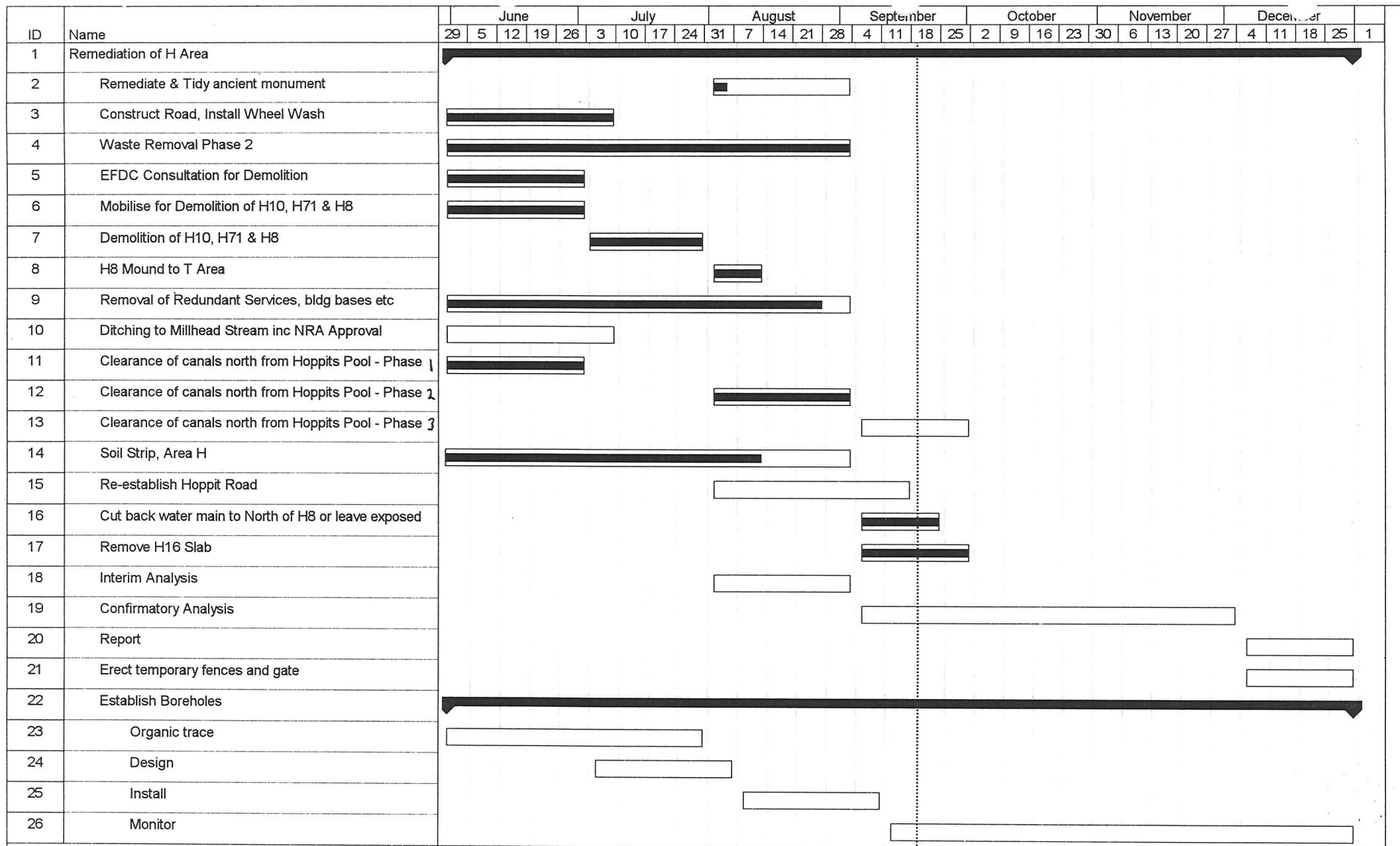
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1	Remediation of H Area																							
27	Remediation of North P area																							
54	Remediation of T area (inc. lagoons & ponds)																							
68	Remediation of M Area																							
117	Remediation of L Area																							
130	Remediation of S Area																							
165	Remediation of N Area																							
187	Remediation of Burning Ground																							
197	Maintenance of Bridges																							
201	Remediation of River Banks																							
207	Reinstatement of Banks																							
214	Remediation under Steam Pipes																							
221	Buildings & Mounds																							

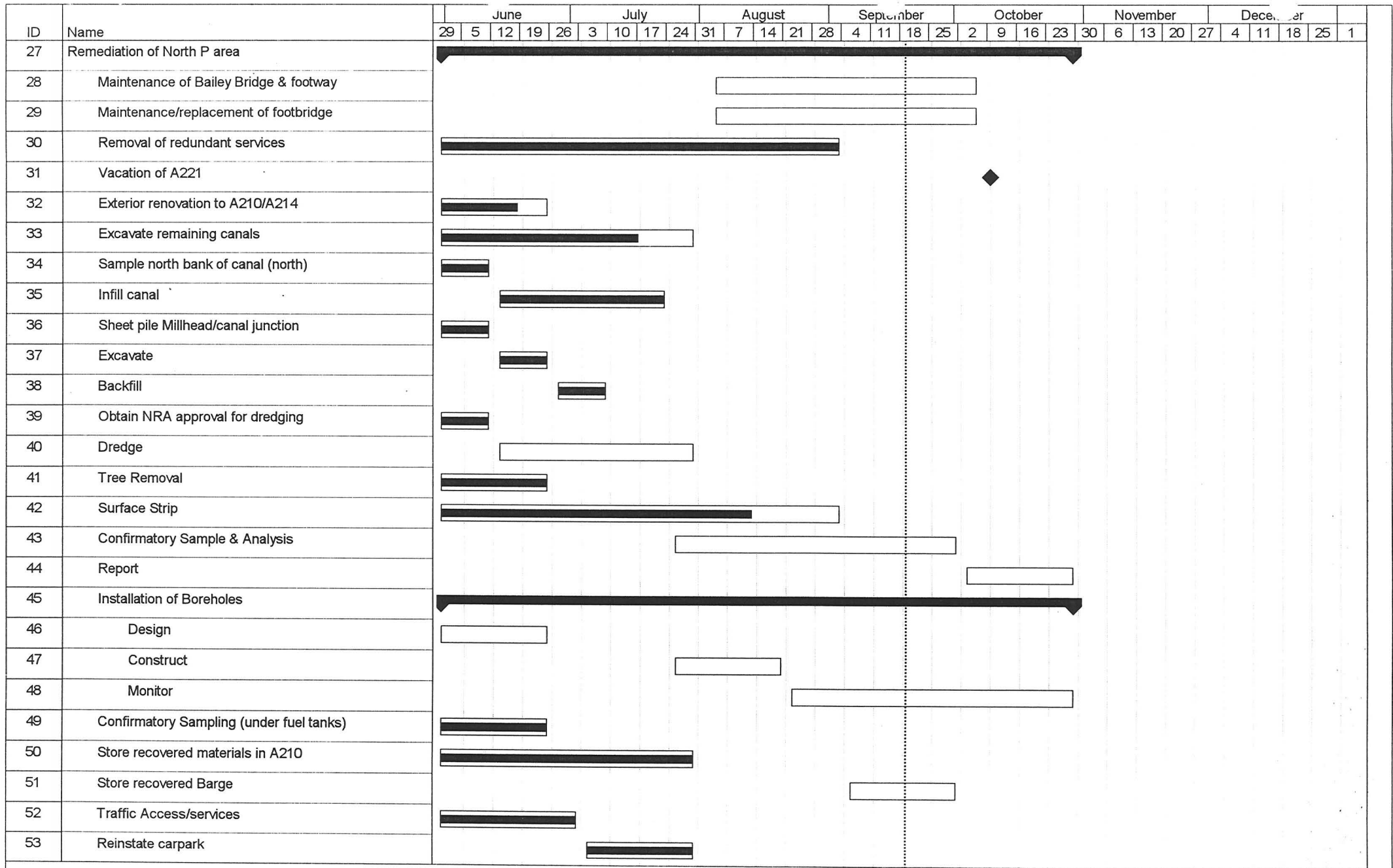
FORMER RARDE SITE WALTHAM ABBEY NORTH REMEDIATION PROJECT

APPENDIX 1

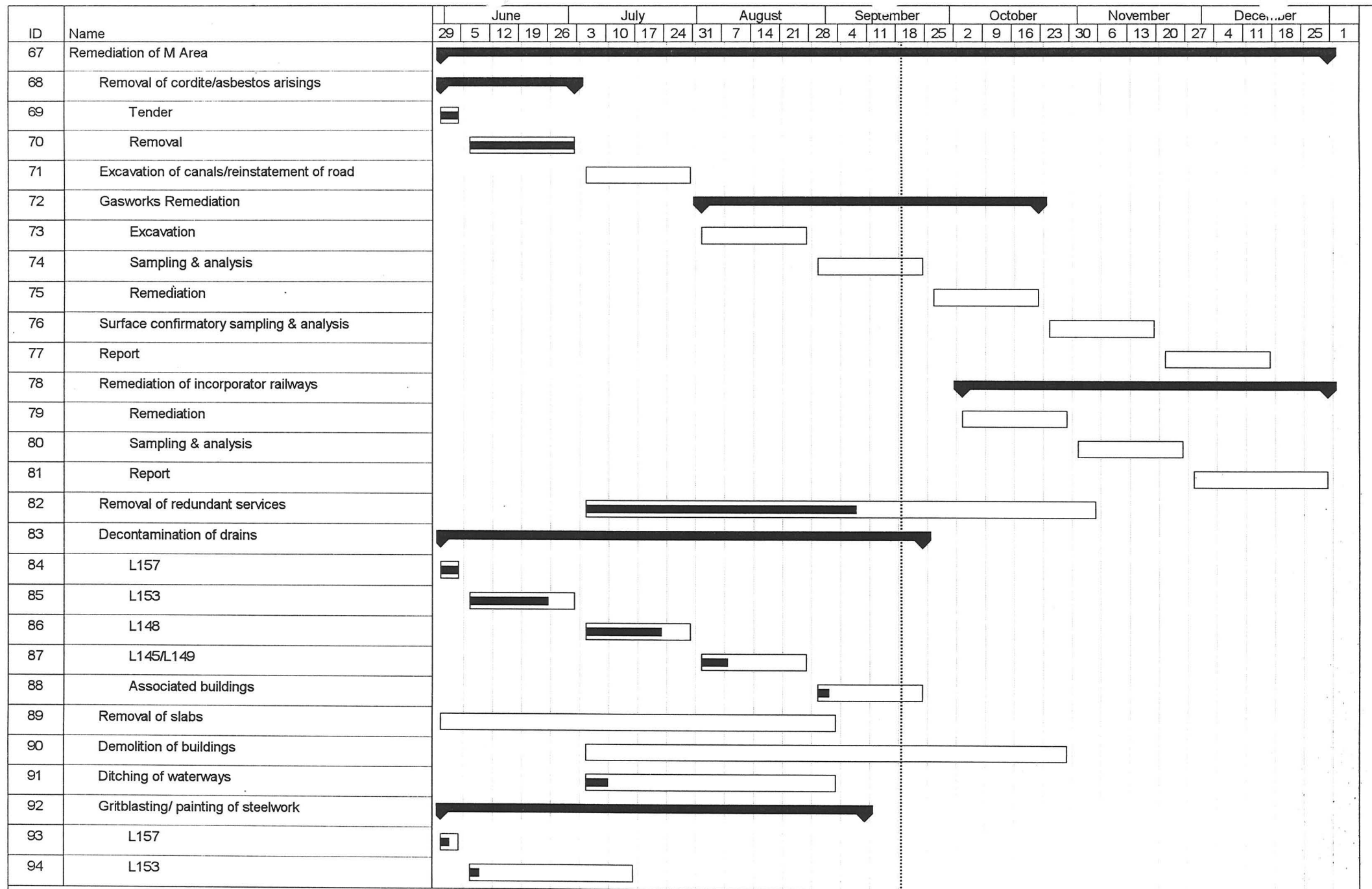
**PROJECT PLAN - ISSUE 4
SEPTEMBER 1994**

ROYAL ORDNANCE ENVIRONMENTAL SERVICES GROUP



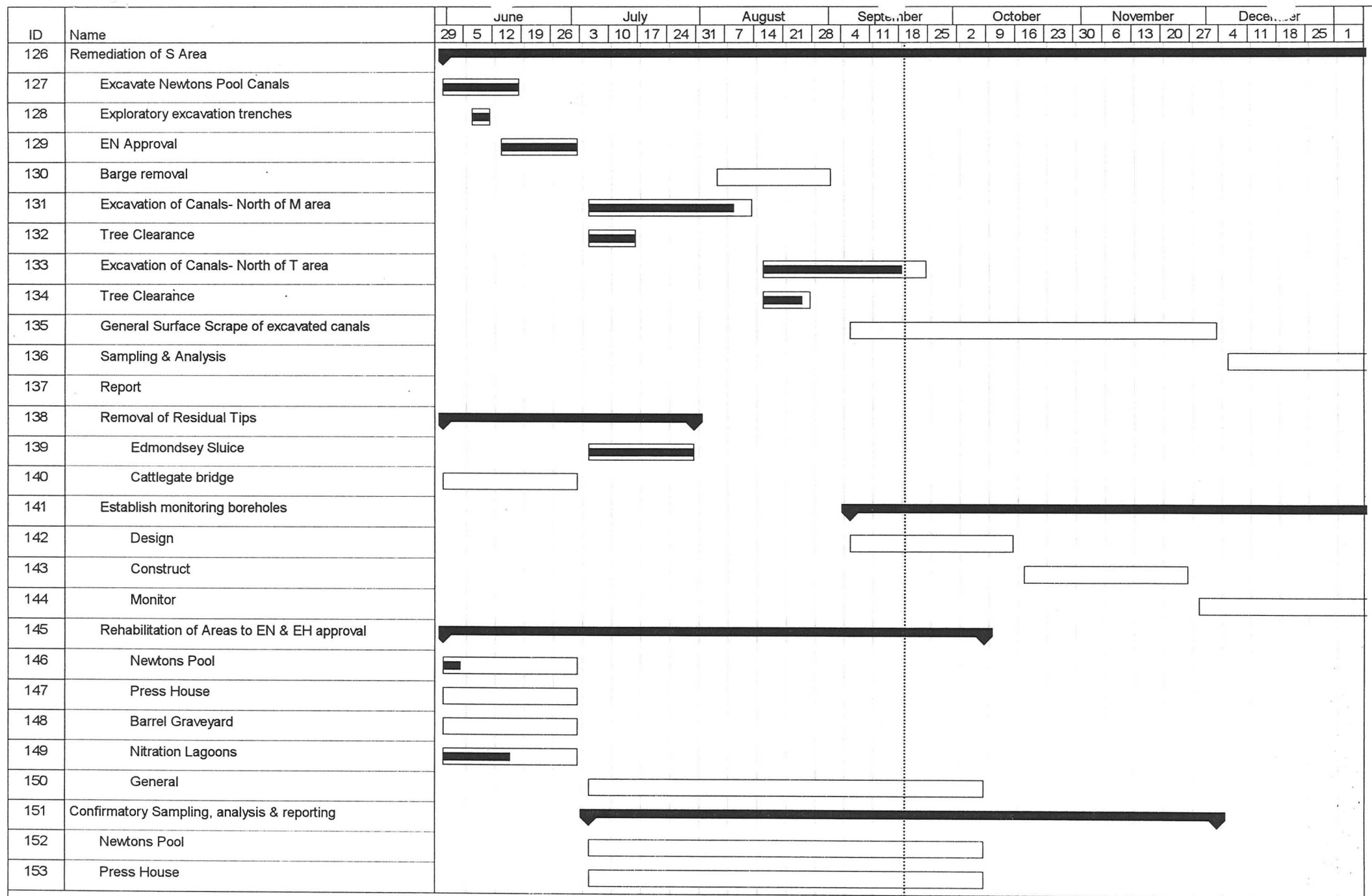


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54	Remediation of T area (inc. lagoons & ponds)																																				
55	Surface excavations/classify arisings																																				
56	Classify washpond arisings																																				
57	Decontaminate pipework																																				
58	Gunpowder stove clearance																																				
59	Confirmatory testing																																				
60	Terram sheeting & H8 mtl placement																																				
61	Excavation of filled canals																																				
62	Confirmatory sampling & analysis																																				
63	Report																																				
64	Refill with H8 mound from stockpile																																				
65	Top Soil, re-seed/re-plant to EN instructions																																				
66	Road reinstatement																																				



ID	Name	June					July					August					September					October					November					December				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
95	L148																																			
96	L149																																			
97	Wall and Floor removal/paint stripping																																			
98	L153																																			
99	L148																																			
100	L145																																			
101	L149																																			
102	Roofing																																			
103	L145																																			
104	L157																																			
105	L145 (bays)																																			
106	Boreholes																																			
107	Design																																			
108	Construct																																			
109	Monitor																																			
110	Confirmatory analysis in buildings																																			
111	Sampling & Analysis																																			
112	Report																																			

ID	Name	June					July					August					September					October					November					December				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
113	Remediation of L Area																																			
114	Excavation & backfill of canals																																			
115	Confirmatory Sampling & Analysis																																			
116	Report																																			
117	Grassland Management																																			
118	Demolition of buildings																																			
119	Boreholes																																			
120	Design																																			
121	Construct																																			
122	Monitor																																			
123	Work to selected buildings																																			
124	Rationalise Services																																			
125	Remove Redundant Services																																			



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154	Edmondsey Sluice																																			
155	Barrel Graveyard																																			
156	Nitration Lagoons																																			
157	General																																			
158	Removal of Redundant Services																																			

ID	Name	June					July					August					September					October					November					December				
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159	Remediation of N Area																																			
160	Site Strip																																			
161	Establish Waste Handling																																			
162	Temporary Road																																			
163	Fill in Pits																																			
164	Maintenance to Cattlegate bridge																																			
165	Improve Entrance from crooked mile																																			
166	Demolish unwanted buildings																																			
167	Rationalise Services																																			
168	Clean up after Waste Operations																																			
169	Establish monitoring boreholes																																			
170	Winning of clay for general site works																																			
171	H Area																																			
172	Lining Canals																																			
173	Burning Ground																																			
174	Confirmatory sampling, analysis & reporting																																			
175	Fencing																																			
176	Removal of Cattlegate Bridge																																			
177	Installation of foot bridge																																			
178	Rehabilitation																																			
179	Handover to LVRPA																																			

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192	Maintenance of Bridges																																								
193	SMC/Trust Approval																																								
194	Design/Tender																																								
195	Construction																																								
196	Remediation of River Banks																																								
197	Sheet Piling & Excavations East Bank of Horsemill Str																																								
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199	Ditching of On-Site Rivers & Canals																																								
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201	NRA/EN Proposals to Raise Site Water Levels																																								
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206	Tender/mobilise																																								
207	Site Strip/disposal outside Heronry																																								
208	Site Strip/disposal inside Heronry																																								
209	Sample Analysis																																								
210	Surface Treatment inside Heronry																																								
211	Surface Treatment outside Heronry																																								
212	Buildings & Mounds																																								
213	Mounds - Sample & Analyse																																								
214	Scheduled Area Buildings																																								
215	Other Buildings																																								
216	Tree Clearance from Mounds & Buildings																																								
217	Building Information Packs																																								
218	Services Survey																																								

ID	Name	January					February				March				April				May				June				July						
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1	Remediation of H Area																																
2	Remediate & Tidy ancient monument																																
3	Construct Road, Install Wheel Wash																																
4	Waste Removal Phase 2																																
5	EFDC Consultation for Demolition																																
6	Mobilise for Demolition of H10, H71 & H8																																
7	Demolition of H10, H71 & H8																																
8	H8 Mound to T Area																																
9	Removal of Redundant Services, bldg bases etc																																
10	Ditching to Millhead Stream inc NRA Approval																																
11	Clearance of canals north from Hoppits Pool - Phase																																
12	Clearance of canals north from Hoppits Pool - Phase																																
13	Clearance of canals north from Hoppits Pool - Phase																																
14	Soil Strip, Area H																																
15	Re-establish Hoppit Road																																
16	Cut back water main to North of H8 or leave exposed																																
17	Remove H16 Slab																																
18	Interim Analysis																																
19	Confirmatory Analysis																																
20	Report																																
21	Erect temporary fences and gate																																
22	Establish Boreholes																																
23	Organic trace																																
24	Design																																
25	Install																																
26	Monitor																																

ID	Name	January				February				March				April				May				June				July						
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27	Remediation of North P area																															
28	Maintenance of Bailey Bridge & footway																															
29	Maintenance/replacement of footbridge																															
30	Removal of redundant services																															
31	Vacation of A221																															
32	Exterior renovation to A210/A214																															
33	Excavate remaining canals																															
34	Sample north bank of canal (north)																															
35	Infill canal																															
36	Sheet pile Millhead/canal junction																															
37	Excavate																															
38	Backfill																															
39	Obtain NRA approval for dredging																															
40	Dredge																															
41	Tree Removal																															
42	Surface Strip																															
43	Confirmatory Sample & Analysis																															
44	Report																															
45	Installation of Boreholes																															
46	Design																															
47	Construct																															
48	Monitor																															
49	Confirmatory Sampling (under fuel tanks)																															
50	Store recovered materials in A210																															
51	Store recovered Barge																															
52	Traffic Access/services																															
53	Reinstate carpark																															

ID	Name	January					February					March					April					May					June					July						
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54	Remediation of T area (inc. lagoons & ponds)																																					
55	Surface excavations/classify arisings																																					
56	Classify washpond arisings																																					
57	Decontaminate pipework																																					
58	Gunpowder stove clearance																																					
59	Confirmatory testing																																					
60	Terram sheeting & H8 mtl placement																																					
61	Excavation of filled canals																																					
62	Confirmatory sampling & analysis																																					
63	Report																																					
64	Refill with H8 mound from stockpile																																					
65	Top Soil, re-seed/re-plant to EN instructions																																					
66	Road reinstatement																																					

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67	Remediation of M Area																															
68	Removal of cordite/asbestos arisings																															
69	Tender																															
70	Removal																															
71	Excavation of canals/reinstatement of road																															
72	Gasworks Remediation																															
73	Excavation																															
74	Sampling & analysis																															
75	Remediation																															
76	Surface confirmatory sampling & analysis																															
77	Report																															
78	Remediation of incorporator railways																															
79	Remediation																															
80	Sampling & analysis																															
81	Report																															
82	Removal of redundant services																															
83	Decontamination of drains																															
84	L157																															
85	L153																															
86	L148																															
87	L145/L149																															
88	Associated buildings																															
89	Removal of slabs																															
90	Demolition of buildings																															
91	Ditching of waterways																															
92	Gritblasting/ painting of steelwork																															
93	L157																															
94	L153																															

ID	Name	January				February				March				April				May				June				July						
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95	L148																															
96	L149																															
97	Wall and Floor removal/paint stripping																															
98	L153																															
99	L148																															
100	L145																															
101	L149																															
102	Roofing																															
103	L145																															
104	L157																															
105	L145 (bays)																															
106	Boreholes																															
107	Design																															
108	Construct																															
109	Monitor																															
110	Confirmatory analysis in buildings																															
111	Sampling & Analysis																															
112	Report																															

ID	Name	January					February					March					April					May					June					July						
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113	Remediation of L Area																																					
114	Excavation & backfill of canals																																					
115	Confirmatory Sampling & Analysis																																					
116	Report																																					
117	Grassland Management																																					
118	Demolition of buildings																																					
119	Boreholes																																					
120	Design																																					
121	Construct																																					
122	Monitor																																					
123	Work to selected buildings																																					
124	Rationalise Services																																					
125	Remove Redundant Services																																					

ID	Name	January				February				March				April				May				June				July					
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126	Remediation of S Area																														
127	Excavate Newtons Pool Canals																														
128	Exploratory excavation trenches																														
129	EN Approval																														
130	Barge removal																														
131	Excavation of Canals- North of M area																														
132	Tree Clearance																														
133	Excavation of Canals- North of T area																														
134	Tree Clearance																														
135	General Surface Scrape of excavated canals																														
136	Sampling & Analysis																														
137	Report																														
138	Removal of Residual Tips																														
139	Edmondsey Sluice																														
140	Cattlegate bridge																														
141	Establish monitoring boreholes																														
142	Design																														
143	Construct																														
144	Monitor																														
145	Rehabilitation of Areas to EN & EH approval																														
146	Newtons Pool																														
147	Press House																														
148	Barrel Graveyard																														
149	Nitration Lagoons																														
150	General																														
151	Confirmatory Sampling, analysis & reporting																														
152	Newtons Pool																														
153	Press House																														

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159	Remediation of N Area																														
160	Site Strip																														
161	Establish Waste Handling																														
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163	Fill in Pits																														
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168	Clean up after Waste Operations																														
169	Establish monitoring boreholes																														
170	Winning of clay for general site works																														
171	H Area																														
172	Lining Canals																														
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174	Confirmatory sampling, analysis & reporting																														
175	Fencing																														
176	Removal of Cattlegate Bridge																														
177	Installation of foot bridge																														
178	Rehabilitation																														
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180	Remediation of Burning Ground																																				
181	Canals - surface scrape & batter sides																																				
182	Establish temporary road - not Req'd																																				
183	Remove Entrance Road																																				
184	Services rationalisation																																				
185	Site Strip to Gravel/Undisturbed Strata																																				
186	Transport Arisings to N Area																																				
187	Sweep Area with Metal Detector																																				
188	Re-establish clay membrane & top soil																																				
189	Carry out EH/EN remediation proposals																																				
190	Confirmatory analysis of soil samples																																				
191	Asphalt treatment																																				

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206	Tender/mobilise																																					
207	Site Strip/disposal outside Heronry																																					
208	Site Strip/disposal inside Heronry																																					
209	Sample Analysis																																					
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216	Tree Clearance from Mounds & Buildings																																					
217	Building Information Packs																																					
218	Services Survey																																					

CONTAMINATED LAND INVESTIGATION AND REMEDIATION WALTHAM ABBEY RARDE NORTH SITE

MINUTES OF MEETING HELD ON SITE THURSDAY 15th SEPTEMBER 1994 AT 14.00 HOURS

Present: Mr Bob Watts	:W.S.A.	Copies: Mr.D.Stanners	:M.O.D/DLS
Mr Graham Vincent	:R.O.	Mr.D.Coyle	:M.O.D.P.E.
Mr Peter Mayell	:R.O.	Mr.A.Ford	:ARCH.
Mr Peter Greggain	:M.O.D./DLA	Mr.D.Bone	:CIVIX

-
- | <u>1. MATTERS ARISING - FROM MEETING OF 18th AUGUST 1994</u> | <u>ACTION</u> |
|--|-------------------------------|
| 1.1 (1.1) <u>Drain Sampling</u>
Review draft 37/93. | W.S.A. |
| 1.2 (1.2) <u>Explosives Testing</u>
A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A to prepare - SMC required. Part 1 ESG 4/93 received from R.O. Part 2 to be revised by R.O to include typical sampling arrangements and sampling positions as indicated by settlement of trenches. | R.O.
W.S.A. |
| 1.3 (1.4) <u>Photographic record</u>
Negatives indexed, photos being indexed by vacation student. Video tape with "date on" to be edited. | R.O. |
| 1.4 (1.5) <u>Remediation in P Area</u> complete - contracts exchanged. Issues yet to be resolved. Piling along Mill Head Stream bank started on programme. | CIVIX
W.S.A.
R.O. |
| 1.5 (1.7) <u>Collection of Tetryl Area pipes</u> from T Area progressing. Existing water mains need not be cut into short sections before heat treatment. When collection complete decontamination to proceed with Morris Contractors. | R.O. |
| 1.6 (1.8) <u>Water wheel and Press House areas.</u> Confirmatory investigation to await completion of road removal and associated works. Liaison committee is considering this area, including the Barrel Graveyard, for rehabilitation, planting etc., <u>SMC required.</u> | <u>ARCH</u>
R.O.
W.S.A. |

- 1.7 (1.9) L157 2nd stage strip out in progress. Work carried out in L157 extended to L145, L148, L149 and L153. Floor removal to be assessed using 3 tonne remote controlled chisel. R.O.
W.S.A.
- 1.8 (1.11) Roof works to A203. Defects on lead work to be rectified. Ponding on library roof, R.O to present priced proposals to rectify. Non urgent. R.O.
- 1.9 (1.12) Tetryl Area. Procedure for pools adjacent to E2 agreed with Bob Stebbings and nearing completion. Gunpowder stove filling complete, external excavation in hand. ARCH.
R.O.
W.S.A.
- 1.10 (1.13) Partial preparation of accurate drawings and pegging out of Asbestos clad steam main routes based on existing drawings, on-site observations, R.C.H.M.E survey drawing and Archaeologist input undertaken by MKS. Drawings to be marked up with assumed routes, to be proved on site. WSA to collate results, instigate remediation and negotiate acceptable levels with EHO. Recent disturbance along a steam route revealed significant quantities of visible asbestos in the ground. Now urgent to achieve access during Heronry open period. W.S.A.
MKS.
ARCH.
R.O.
- 1.11 (1.14) Comments received from Fire Prevention Officer. W.S.A to comment. Problem with door swings. Prices being sought for a replacement fire alarm system. W.S.A.
- 1.12 (1.15) Preparation of artefact inventory. R.O draft report being continuously updated. R.O. to organise transport of artifacts. Barge to be transported to site, organised by archaeologist, but dependent on formation of the Trust. R.O.
ARCH.
- 1.13 (1.16) Asphalt melting plant work complete to date. R.O have prepared a list of remaining buildings with asphalt floors. WSA authorised removal work to proceed. R.O to inspect asphalt floors in buildings undergoing strip out. R.O are investigating commercial outlet for asphalt. Additional buildings to be identified from C & G report. SMC required. W.S.A.
R.O.
- 1.14 (1.17) Waste tip sampling for explosives analysis. Review again 29th September 1994. Proceeding satisfactorily, volume of samples for analysis has reduced. R.O.
W.S.A.
- 1.15 (1.18) R.O engineer carrying out services survey and checking CAD plot. R.O.
- 1.16 (1.19) Stockpiled waste material Waste classification complete. Contract for special waste disposal complete. Call off contract in place. R.O.

- 1.17 (1.20) Safety Audit. Report received. R.O.
- 1.18 (1.21) Newtons Pool Preliminary canal clean out complete. Analysis of arisings does not reveal any contamination. Dispose of as uncontaminated material Clearance work to be incorporated into a larger area for clearance by end of October for hand over to RSC. W.S.A.
R.O.
- 1.19 (1.22) Initial Edmonsey Sluice waste excavation complete. Further limited excavation required, sampling and backfilling. Windbreak fencing to follow. R.O.
- 1.20 (1.24) Copy of Explosives License Application received from R.O. Delayed at request of H.S.E Explosives Inspectorate - no progress. R.O.
- 1.21 (1.25) Site vehicles 1 No. flat bed available October. Requirement for transport now. Additional 110 Landrover required, R.O. to resource. R.O. will if possible change Landrovers 2 x 110 at existing rates. R.O.
- 1.22 (1.26) Explosives analysis data capture. Report by R.O with WSA for comment. R.O.
- 1.23 (1.27) Disposal of transformer PCB clearance certificate received. PCB levels indicate investigation necessary, which will be done with remediation of L146. W.S.A.
R.O.
- 1.24 (1.28) R.O to investigate sewerage charges under auspices of the management contract. R.O.
- 1.25 (1.29) Trenching to Northern Canals - complete. Samples taken. Logs in hand, results of analysis awaited. W.S.A.
R.O.
- 1.26 (1.30) Asbestos discovered on opposite bank of Horse Mill stream. NRA dealing with this. Awaiting NRA decisions regarding bank excavation, reduction in Horse Mill Stream water level and export route for waste. Work may proceed this FY. N.R.A.
R.O.
W.S.A.
- 1.27 (1.31) Queens Mead Canals partially located and excavated, work suspended. River sludge being placed. Areas affected by gritblasting exhaust (lead content) to be stripped on completion of task. R.O.
- 1.28 (1.32) Water main and Sewage Pumping main to be rerouted and/or cut back and replaced with new polymer tube where exposed if damage by plant is a problem. H Area water main to be cut off,

- sewage pumping main to be reinstated. Valves and hydrants to be maintained by Terry Williams. Costs to caretaking contract. **R.O.**
VO61. **W.S.A.**
- 1.29 (1.33) Bridge works to be organised by WSA. Decontamination programme implications. Tender return 22nd September 1994. **W.S.A.**
- 1.30 (1.34) Carden and Godfrey have identified building anomalies between ~~ARCH~~ RCHME survey, MKS survey drawings and situation on the **W.S.A.**
ground. These to be incorporated into the site records. **MKS**
- 1.31 (1.35) Initial strip out of buildings 134 to 160 proceeding to programme. Further buildings to be reviewed by RW and AF for release to Morris Contracting. **R.O.**
- 1.32 (1.36) R.O proposal for further investigation into the stability of N.G. in timber on a shared cost basis approved. Will commence end of September. Analytical results for L149 timber samples outstanding. **R.O.**
- 1.33 (1.37) WSA outlined the requirements for piling canal/river intersections to remove residual contaminated material. Approval to proceed with design received. Trial pits/probes required at intersections to be carried out by R.O. **W.S.A.**
R.O.
- 1.34 (1.38) Report by R.O listing buildings cleared of asbestos is in hand. **R.O.**
- 1.35 (1.39) R.O. reported angled excavator and long reach excavator hired to dredge Mill Head Stream and batter canals. Kokurek amphibious excavator being resourced. Tree clearance required to Middle Stream. **R.O.**
- 1.36 (1.40) Grass cutting to Queens Mead and N Area complete, except for area South of bomb craters and S16. **R.O.**
- 1.37 (3.1) WSA instructed R.O. to excavate river banks adjacent and integral with bridges in Bridge Refurbishment/Replacement works. Await arrival of amphibious excavator. **R.O.**
- 1.38 (3.2) R.O. to produce draft inventory of client owned items. **R.O.**
- 1.39 (3.3) R.O. are researching air filtration plant relating to gritblasting air discharge. **R.O.**
- 1.40 (3.4) Demonstration of portable explosives analyser took place on 14th September 1994. R.O. will trial this on 2 week free loan from manufacturer. **W.S.A.**

- 1.41 (3.5) R.O. to respond to issue of the extent of the building remediation **W.S.A.**
and likely certification, methods and requirements. **R.O.**

2. PROGRESS AND PROGRAMME

- 2.1 Revised September programme attached at Appendix 1. Next revision at coming progress meeting. Existing 6 weeks delay held. Practical completion end of June 1994.

3. ANY OTHER BUSINESS

- 3.1 Agreed the resourcing of further R.O. site supervision.

4. DATE OF NEXT MEETING

- 4.1 14.00 Hours on Wednesday 19th October 1994.

R.E.WATTS.
5th October 1994

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
WEDNESDAY 18th AUGUST 1994 AT 14.00 HOURS**

Present:	Mr Bob Watts	:W.S.A.	Copies:	Mr.D.Stanners	:M.O.D/DLS
	Mr Graham Vincent	:R.O.		Mr.D.Coyle	:M.O.D.P.E.
	Mr Peter Mayell	:R.O.		Mr.A.Ford	:ARCH.
	Mr Peter Greggain	:M.O.D./DLA		Mr.D.Bone	:CIVIX

-
- | <u>1.</u> | <u>MATTERS ARISING - FROM MEETING OF 20th JULY 1994</u> | <u>ACTION</u> |
|------------------|---|--|
| 1.1 | (1.1) <u>Drain Sampling</u>
Review draft 37/93. | W.S.A. |
| 1.2 | (1.2) <u>Explosives Testing</u>
A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives.
W.S.A to prepare - SMC required. Part 1 ESG 4/93 received from R.O. Part 2 to be revised by R.O before issue. | R.O.
W.S.A. |
| 1.3 | (1.3) <u>Building Index</u>
Condition Survey now available. Use for R.O. index limited to datapacks. | R.O. |
| 1.4 | (1.4) <u>Photographic record</u>
Negatives indexed, photos being indexed by vacation student. Index to CLI required. Video tape to be edited. | R.O. |
| 1.5 | (1.5) <u>Remediation in P Area</u> complete - contracts exchanged.
Issues yet to be resolved. Piling along Mill Head Stream bank to commence 12th September 1994. | CIVIX
W.S.A.
R.O. |
| 1.6 | (1.6) <u>Barrel Graveyard</u> will be incorporated into Presshouse and steam mains remediation. | W.S.A. |
| 1.7 | (1.7) Collection of <u>Tetryl Area</u> pipes from T Area progressing.
Existing water mains need not be cut into short sections before heat treatment. When collection complete decontamination to proceed on basis of lump sum contract. | R.O. |

- 1.8 (1.8) Water wheel and Press House areas. Confirmatory investigation to await completion of road removal and associated works. Liaison committee is considering this area for rehabilitation, planting etc., SMC required. **ARCH
R.O.
W.S.A.**
- 1.9 (1.9) L157 2nd stage strip out in progress. Work carried out in L157 extended to L145, L148, L149 and L153. Floor removal to proceed on basis of established method, but assessment of alternative heavy duty hydraulic remote slab cracking equipment to be carried out by R.O. **W.S.A.
R.O.**
- 1.10 (1.10) "Asbestos in Buildings" Review of procedures by W.S.A carried out 28th March 1994. Personnel air monitoring exercise complete. Draft WSA report received. Report issue imminent. **W.S.A.**
- 1.11 (1.12) Roof works to A203. Defects on lead work to be rectified. Ponding on library roof, R.O to present priced proposals to rectify. Non urgent. **R.O.**
- 1.12 (1.13) Tetryl Area. Procedure for pools adjacent to E2 agreed with Bob Stebbings and nearing completion. Results of analysis of samples from the Gunpowder Store indicate the need for further excavation with Archaeologists overview, sampling and backfill. **ARCH.
R.O.
W.S.A.**
- 1.13 (1.14) Partial preparation of accurate drawings and pegging out of Asbestos clad steam main routes based on existing drawings, on-site observations, R.C.H.M.E survey drawing and Archaeologist input undertaken by MKS. Drawings to be marked up with assumed routes, to be proved on site. WSA to collate results, instigate remediation and negotiate acceptable levels with EHO. Recent disturbance along a steam route revealed significant quantities of visible asbestos in the ground. **ARCH.
W.S.A.
MKS.
R.O.**
- 1.14 (1.15) Comments received from Fire Prevention Officer. W.S.A to comment. Problem with door swings. Prices being sought for a replacement fire alarm system. **W.S.A.**
- 1.15 (1.16) Preparation of artefact inventory. R.O draft report being continuously updated. R.O. to organise transport of artifacts. Barge to be transported to site, organised by archaeologist, but dependent on formation of the Trust. **R.O.
ARCH.**
- 1.16 (1.17) Asphalt melting plant work complete to date. R.O have prepared a list of remaining buildings with asphalt floors. WSA authorised removal work to proceed. R.O to inspect asphalt floors in buildings undergoing strip out. R.O to investigate commercial outlet for asphalt. **R.O.**

- 1.17 (1.18) Waste tip sampling for explosives analysis. Present system reviewed Thursday 30th June 1994. Simplified arrangements promulgated. Review again 29th September 1994. Proceeding satisfactorily, volume of samples for analysis has reduced. R.O.
W.S.A.
- 1.18 (1.19) R.O engineer carrying out services survey and checking CAD plot. Archaeologist has arranged copying of material in the PRO. ARCH.
R.O.
- 1.19 (1.20) Stockpiled waste material Waste classification complete. Contract for special waste practically complete. Call off contract in place. R.O.
- 1.20 (1.21) Safety Audit. Report received, current report outstanding. R.O.
- 1.21 (1.22) Newtons Pool Preliminary canal clean out complete. Analysis of arisings does not reveal any contamination. Dispose of as uncontaminated material Clearance work to be incorporated into a larger area for clearance by end of October for hand over to RSC. W.S.A.
R.O.
- 1.22 (1.23) Edmonsey Sluice waste excavation complete further topsoil for trees delivered. Bag up discrete, localised asbestos. Competitive prices required for additional windbreak fencing. R.O.
- 1.23 (1.25) Clean/Dirty site arrangements. Wheel wash off hire. Block laying complete. Level check to follow. R.O.
- 1.24 (1.26) Copy of Explosives License Application received from R.O. Delayed at request of H.S.E Explosives Inspectorate. H10, H8 and H71 demolition proceeding. R.O.
- 1.25 (1.27) Site vehicles 1 No. flat bed available October. Requirement for transport now. R.O. will change Landrovers 2x110 at existing rates. R.O.
- 1.26 (1.28) Explosives analysis data capture. Output complete, report by R.O in hand. R.O.
- 1.27 (1.29) Disposal of transformer PCB clearance certificate received. PCB levels indicate investigation necessary, which will be done with remediation of L146. W.S.A.
R.O.
- 1.28 (1.31) R.O to investigate sewerage charges under auspices of the management contract. R.O.
- 1.29 (1.32) Trenching to Northern Canals - complete. Samples to be taken. W.S.A.
R.O.

- 1.30 (1.33) Asbestos discovered on opposite bank of Horse Mill stream. NRA dealing with this. Awaiting NRA decisions regarding bank excavation, reduction in Horse Mill Stream water level and export route for waste. Work may proceed this FY. N.R.A.
R.O.
W.S.A.
- 1.31 (1.34) Queens Mead Canals partially located and excavated, work suspended. Grass cut in hand, area can accommodate river sludge. R.O.
- 1.32 (1.35) Water main and Sewage Pumping main to be rerouted and/or cut back and replaced with new polymer tube where exposed if damage by plant is a problem. Valves and hydrants to be maintained by Terry Williams. Costs to caretaking contract. VO61. R.O.
W.S.A.
- 1.33 (1.36) Bridge works to be organised by WSA. Decontamination programme implications. Tender return 22nd September 1994. W.S.A.
- 1.34 (1.37) Carden and Godfrey have identified anomalies between RCHME survey, MKS survey drawings and situation on the ground. W.S.A.
These to be incorporated in the site records. MKS
- 1.35 (3.1) Initial strip out of buildings 134 to 160 proceeding to programme. R.O.
- 1.36 (3.2) R.O undertook to investigate the costs and submit a proposal for further investigation into the stability of N.G. in timber on a shared cost basis as R.O have an interest. R.O.
- 1.37 (3.3) WSA outlined the requirements for piling canal/river intersections to remove residual contaminated material. There would be a considerable input from R.O. The piling would be undertaken by Woods Warren. Revised estimates are in hand. W.S.A.
R.O.
- 1.38 (3.4) Report by R.O listing buildings cleared of asbestos is in hand. R.O.
- 1.39 (3.5) R.O. reported investigations were in hand to resource plant to dredge Mill Head Stream and batter canals. R.O.
- 1.40 (3.8) Quotations for grass cutting to Queens Mead and N Area approved. Work proceeding. R.O.

2. PROGRESS AND PROGRAMME

- 2.1 Revised August programme attached at Appendix 1. Next revision at coming progress meeting. Approximately 6 weeks delay. Practical completion end of June 1994.

3. ANY OTHER BUSINESS

- | | | |
|-----|---|----------------|
| 3.1 | WSA instructed R.O. to excavate river banks adjacent and integral with bridges in Bridge Refurbishment/Replacement works. | R.O. |
| 3.2 | R.O. to produce draft inventory. | R.O. |
| 3.3 | R.O. are researching air filtration plant relating to gritblasting air discharge. | R.O. |
| 3.4 | WSA informed R.O. of portable explosives analyser commercially available. WSA to arrange a demonstration. | W.S.A. |
| 3.5 | Discussion took place on the extent of the building remediation and likely certification, methods and requirements. | W.S.A.
R.O. |

4. DATE OF NEXT MEETING

- | | |
|-----|--|
| 4.1 | 14.00 Hours on Thursday 15th September 1994. |
|-----|--|

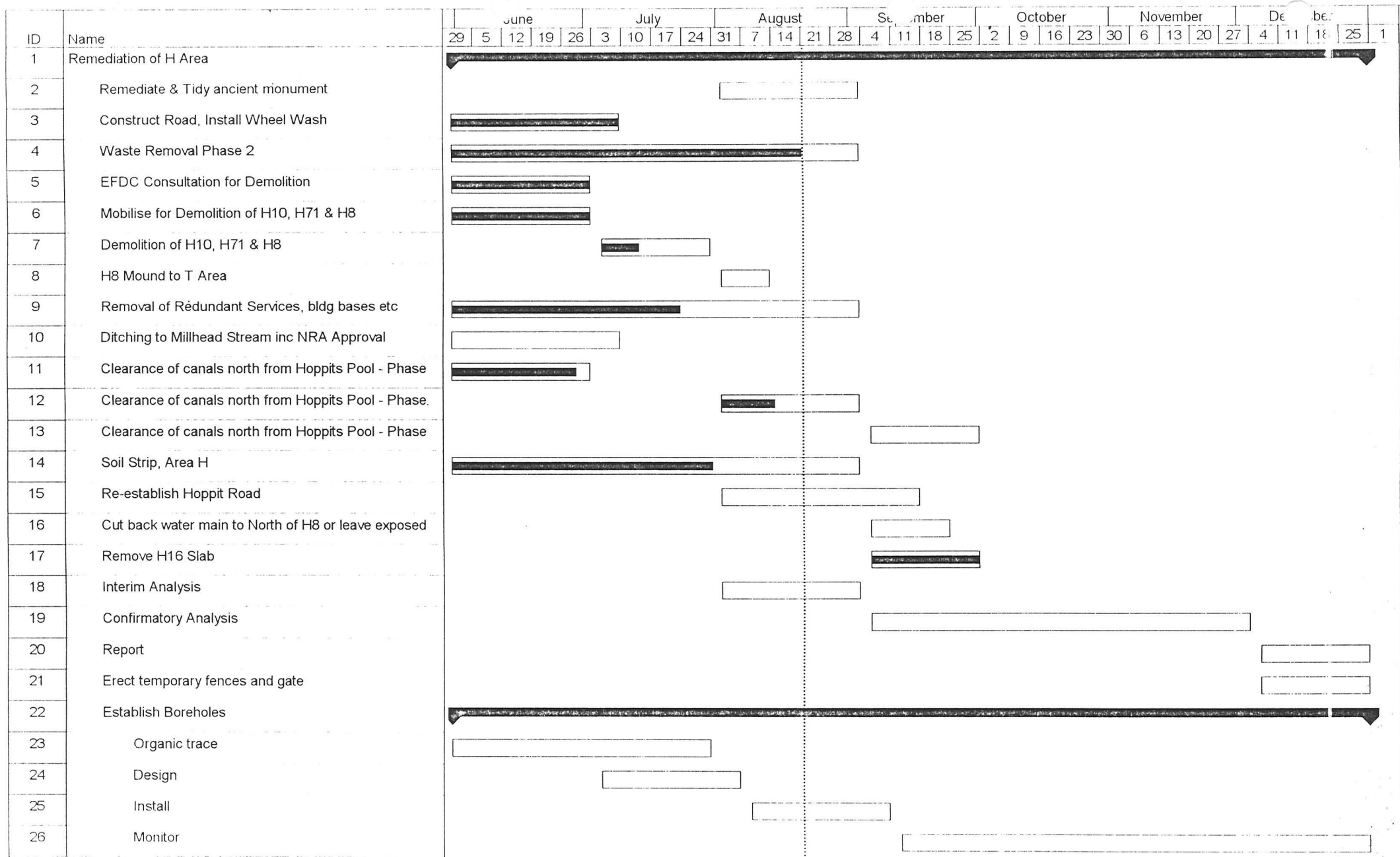
R.E.WATTS.
8th September 1994

FORMER RARDE SITE WALTHAM ABBEY NORTH REMEDIATION PROJECT

APPENDIX 1

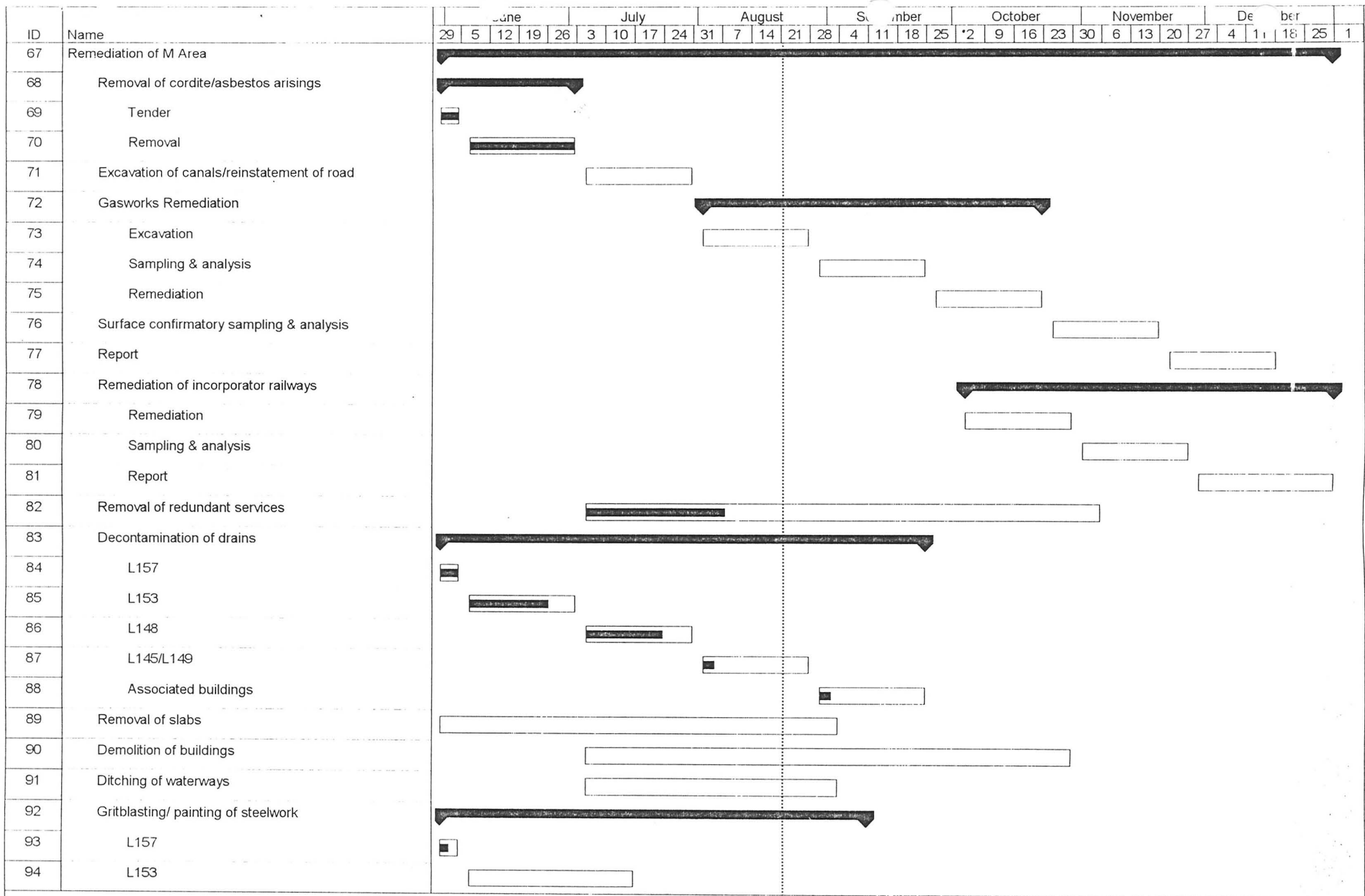
PROJECT PLAN - ISSUE 3
AUGUST 1994

ROYAL ORDNANCE ENVIRONMENTAL SERVICES GROUP



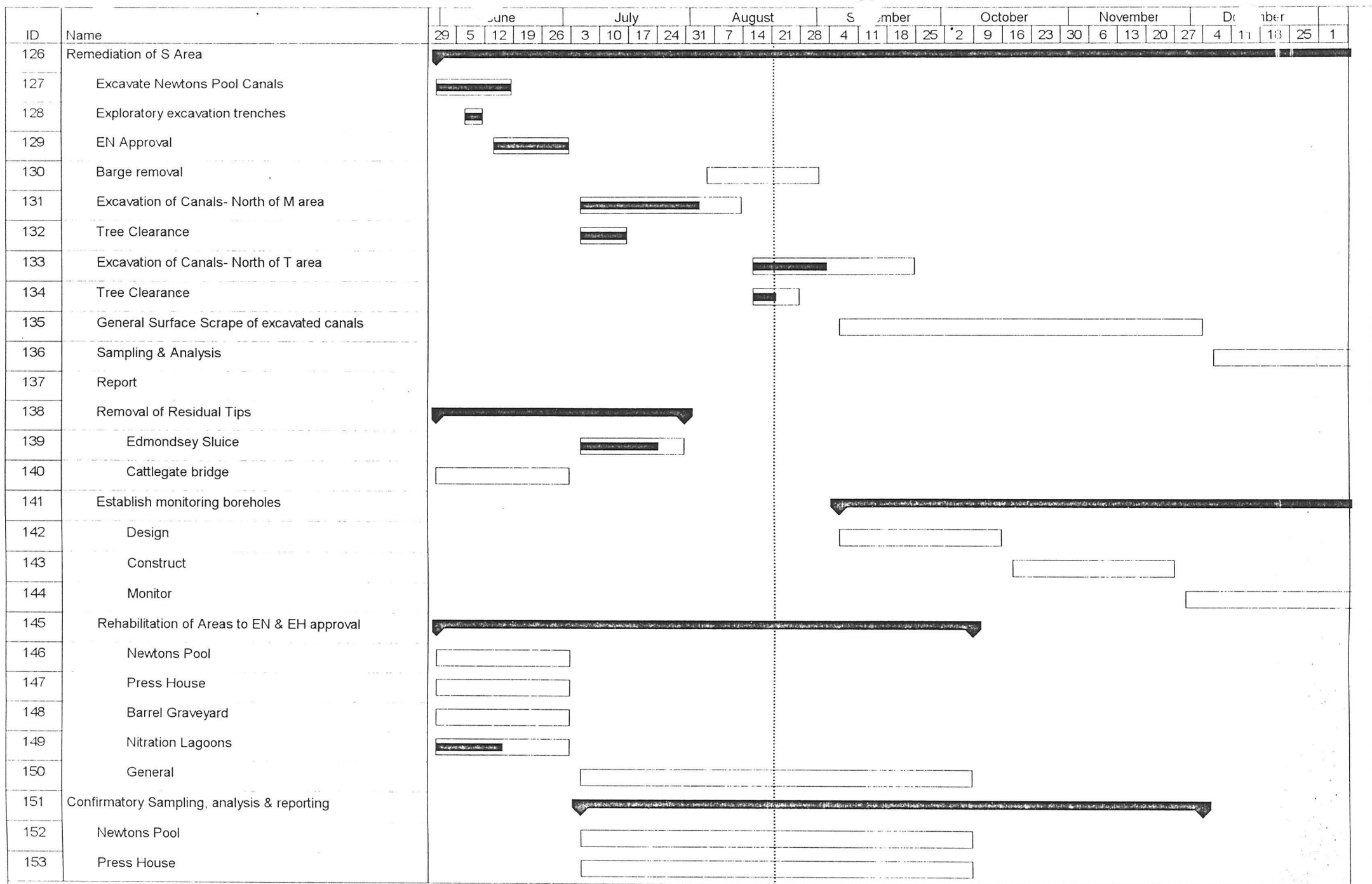
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27	Remediation of North P area																																			
28	Maintenance of Bailey Bridge & footway																																			
29	Maintenance/replacement of footbridge																																			
30	Removal of redundant services																																			
31	Vacation of A221																																			
32	Exterior renovation to A210/A214																																			
33	Excavate remaining canals																																			
34	Sample north bank of canal (north)																																			
35	Infill canal																																			
36	Sheet pile Millhead/canal junction																																			
37	Excavate																																			
38	Backfill																																			
39	Obtain NRA approval for dredging																																			
40	Dredge																																			
41	Tree Removal																																			
42	Surface Strip																																			
43	Confirmatory Sample & Analysis																																			
44	Report																																			
45	Installation of Boreholes																																			
46	Design																																			
47	Construct																																			
48	Monitor																																			
49	Confirmatory Sampling (under fuel tanks)																																			
50	Store recovered materials in A210																																			
51	Store recovered Barge																																			
52	Traffic Access/services																																			
53	Reinstate carpark																																			

ID	Name	June					July					August					September					October					November					December				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
54	Remediation of T area (inc. lagoons & ponds)																																			
55	Surface excavations/classify arisings																																			
56	Classify washpond arisings																																			
57	Decontaminate pipework																																			
58	Gunpowder stove clearance																																			
59	Confirmatory testing																																			
60	Poly sheeting & hoggin placement																																			
61	Excavation of filled canals																																			
62	Confirmatory sampling & analysis																																			
63	Report																																			
64	Refill with H8 mound from stockpile																																			
65	Top Soil, re-seed/re-plant to EN instructions																																			
66	Road reinstatement																																			



ID	Name	June					July					August					September					October					November					December				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
95	L148																																			
96	L149																																			
97	Wall and Floor removal/paint stripping																																			
98	L153																																			
99	L148																																			
100	L145																																			
101	L149																																			
102	Roofing																																			
103	L145																																			
104	L157																																			
105	L145 (bays)																																			
106	Boreholes																																			
107	Design																																			
108	Construct																																			
109	Monitor																																			
110	Confirmatory analysis in buildings																																			
111	Sampling & Analysis																																			
112	Report																																			

ID	Name	June					July					August					September					October					November					December				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
113	Remediation of L Area																																			
114	Excavation & backfill of canals																																			
115	Confirmatory Sampling & Analysis																																			
116	Report																																			
117	Grassland Management																																			
118	Demolition of buildings																																			
119	Boreholes																																			
120	Design																																			
121	Construct																																			
122	Monitor																																			
123	Work to selected buildings																																			
124	Rationalise Services																																			
125	Remove Redundant Services																																			



ID	Name	June					July				August				September				October				November				December						
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1
154	Edmondsey Sluice																																
155	Barrel Graveyard																																
156	Nitration Lagoons																																
157	General																																
158	Removal of Redundant Services																																

ID	Name	June					July					August					September					October					November					December				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
180	Remediation of Burning Ground																																			
181	Canals - surface scrape & batter sides																																			
182	Establish temporary road - not Req'd																																			
183	Remove Entrance Road																																			
184	Services rationalisation																																			
185	Site Strip to Gravel/Undisturbed Strata																																			
186	Transport Arisings to N Area																																			
187	Sweep Area with Metal Detector																																			
188	Re-establish clay membrane & top soil																																			
189	Carry out EH/EN remediation proposals																																			
190	Confirmatory analysis of soil samples																																			
191	Asphalt treatment																																			

ID	Name	June					July					August					September					October					November					December				
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1			
192	Maintenance of Bridges																																			
193	SMC/Trust Approval																																			
194	Design/Tender																																			
195	Construction																																			
196	Remediation of River Banks																																			
197	Sheet Piling & Excavations East Bank of Horsemill Str																																			
198	Operations West Bank Horsemill Stream																																			
199	Ditching of On-Site Rivers & Canals																																			
200	Removal of Canal Material at Intersection of Waterway																																			
201	NRA/EN Proposals to Raise Site Water Levels																																			
202	Reinstatement of Banks																																			
203	Completion of T Area Works																																			
204	Remediation under Steam Pipes																																			
205	Survey & Peg-Out Routes																																			
206	Tender/mobilise																																			
207	Site Strip/disposal outside Heronry																																			
208	Site Strip/disposal inside Heronry																																			
209	Sample Analysis																																			
210	Surface Treatment inside Heronry																																			
211	Surface Treatment outside Heronry																																			
212	Buildings & Mounds																																			
213	Mounds - Sample & Analyse																																			
214	Scheduled Area Buildings																																			
215	Other Buildings																																			
216	Tree Clearance from Mounds & Buildings																																			
217	Building Information Packs																																			
218	Services Survey																																			

ID	Name	January					February					March					April					May					June					July				
		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6			
1	Remediation of H Area																																			
2	Remediate & Tidy ancient monument																																			
3	Construct Road, Install Wheel Wash																																			
4	Waste Removal Phase 2																																			
5	EFDC Consultation for Demolition																																			
6	Mobilise for Demolition of H10, H71 & H8																																			
7	Demolition of H10, H71 & H8																																			
8	H8 Mound to T Area																																			
9	Removal of Redundant Services, bldg bases etc																																			
10	Ditching to Millhead Stream inc NRA Approval																																			
11	Clearance of canals north from Hoppits Pool - Phase																																			
12	Clearance of canals north from Hoppits Pool - Phase																																			
13	Clearance of canals north from Hoppits Pool - Phase																																			
14	Soil Strip, Area H																																			
15	Re-establish Hoppit Road																																			
16	Cut back water main to North of H8 or leave exposed																																			
17	Remove H16 Slab																																			
18	Interim Analysis																																			
19	Confirmatory Analysis																																			
20	Report																																			
21	Erect temporary fences and gate																																			
22	Establish Boreholes																																			
23	Organic trace																																			
24	Design																																			
25	Install																																			
26	Monitor																																			

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27	Remediation of North P area																																			
28	Maintenance of Bailey Bridge & footway																																			
29	Maintenance/replacement of footbridge																																			
30	Removal of redundant services																																			
31	Vacation of A221																																			
32	Exterior renovation to A210/A214																																			
33	Excavate remaining canals																																			
34	Sample north bank of canal (north)																																			
35	Infill canal																																			
36	Sheet pile Millhead/canal junction																																			
37	Excavate																																			
38	Backfill																																			
39	Obtain NRA approval for dredging																																			
40	Dredge																																			
41	Tree Removal																																			
42	Surface Strip																																			
43	Confirmatory Sample & Analysis																																			
44	Report																																			
45	Installation of Boreholes																																			
46	Design																																			
47	Construct																																			
48	Monitor																																			
49	Confirmatory Sampling (under fuel tanks)																																			
50	Store recovered materials in A210																																			
51	Store recovered Barge																																			
52	Traffic Access/services																																			
53	Reinstate carpark																																			

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64	Refill with H8 mound from stockpile																																			
65	Top Soil, re-seed/re-plant to EN instructions																																			
66	Road reinstatement																																			

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86	L148																															
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88	Associated buildings																															
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90	Demolition of buildings																															
91	Ditching of waterways																															
92	Gritblasting/ painting of steelwork																															
93	L157																															
94	L153																															

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106	Boreholes																															
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192	Maintenance of Bridges																																
193	SMC/Trust Approval																																
194	Design/Tender																																
195	Construction																																
196	Remediation of River Banks																																
197	Sheet Piling & Excavations East Bank of Horsemill Str																																
198	Operations West Bank Horsemill Stream																																
199	Ditching of On-Site Rivers & Canals																																
200	Removal of Canal Material at Intersection of Waterway																																
201	NRA/EN Proposals to Raise Site Water Levels																																
202	Reinstatement of Banks																																
203	Completion of T Area Works																																
204	Remediation under Steam Pipes																																
205	Survey & Peg-Out Routes																																
206	Tender/mobilise																																
207	Site Strip/disposal outside Heronry																																
208	Site Strip/disposal inside Heronry																																
209	Sample Analysis																																
210	Surface Treatment inside Heronry																																
211	Surface Treatment outside Heronry																																
212	Buildings & Mounds																																
213	Mounds - Sample & Analyse																																
214	Scheduled Area Buildings																																
215	Other Buildings																																
216	Tree Clearance from Mounds & Buildings																																
217	Building Information Packs																																
218	Services Survey																																

Project: WAN
Date: 18/8/94

Critical

Progress



Summary



Noncritical

Milestone



Rolled Up

CONTAMINATED LAND INVESTIGATION AND REMEDIATION WALTHAM ABBEY RARDE NORTH SITE

MINUTES OF MEETING HELD ON SITE WEDNESDAY 20TH JULY 1994 AT 09.00 HOURS

Present: Mr Bob Watts	:W.S.A.	Copies: Mr.D.Stanners	:M.O.D/DLS
Mr Graham Vincent	:R.O.	Mr.D.Coyle	:M.O.D.P.E.
Mr Peter Mayell	:R.O.	Mr.A.Ford	:ARCH
		Mr.D.Bone	:CIVIX
		Mr.R.Pallett	:D.W.S.
		Mr.P.Greggain	:M.O.D/DLA

1. MATTERS ARISING - FROM MEETING OF 10TH JUNE 1994 ACTION

1.1 (1.1) Drain Sampling
Draft ESG 37/93 - (will include details of work to L157), and draft 41/93 - will be issued soon. L153 drain removal progressing. Material above drain sample 1 per 50m³, material below drain sample 1 per 12m³ and 1 per drain branch. **R.O.**

1.2 (1.2) Explosives Testing
Method statement 1 month before { A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A to prepare - SMC required. Part 1 ESG 4/93 received from R.O. Part 2 to be revised by R.O before issue. **R.O.**
W.S.A.

1.3 (1.3) Building Index
Revised versions to be issued as changes are made. Condition Survey of Buildings issue imminent. **R.O.**

1.4 (1.5) Photographic record
Vacation student used at £5 per hour will return summer to complete. Negatives indexed, not photos yet indexed but system in place. Index to CLI required. Video tape to be edited. **R.O.**

1.5 (1.6) Remediation in P Area - practical completion - (17th Jan 1994)
Archaeological evaluation complete. Report received from E.C.C. All residual work complete. Disposal proceeding. **W.S.A.**
PPG.16
Wimpy's

1.6 (1.7) Barrel Graveyard investigated. Strata of ground proved. Sampling undertaken by L.G.C. Results received from R.O. and L.G.C. W.S.A to issue short report. Steam main routes to be resolved. **W.S.A.**

1.7 (1.8) Collection of Tetryl Area pipes from T Area progressing. Existing water mains need not be cut into short sections before heat treatment. When collection complete decontamination to proceed on basis of lump sum contract. R.O.

1.8 (1.9) *Liaison with E2 and Hyson Pearson* Water wheel and Press House areas. Confirmatory investigation to await removal of road located on fill which is progressing. Condition survey of buildings 103 and 104 will dictate approach to clearance. Liaison committee is considering this area for further work, planting etc... SMC required. R.O.
W.S.A.

1.9 (1.10) *New equipment* L157 2nd stage strip out in progress. Work carried out in L157 extended to L145, L148, L149 and L153. Floor removal to proceed on basis of established method, but assessment of alternative heavy duty hydraulic remote slab cracking equipment to be carried out by R.O. E.H.
W.S.A.
R.O.

1.10 (1.11) "Asbestos in Buildings" Review of procedures by W.S.A carried out 28th March 1994. Personnel air monitoring exercise complete. Draft WSA report received. W.S.A.

1.11 (1.12) Damage to fence in Grand Magazine Work proceeding. R.O.

1.12 (1.13) Roof works to A203. Defects on lead work to be rectified. Ponding on library roof, R.O to present priced proposals to rectify. R.O.

1.13 (1.14) *to be arranged* Tetryl Area. Procedure for pools adjacent to E2 agreed with Bob Stebbings and nearing completion. Results of analysis of samples from the Gunpowder Store indicate the need for further excavation with Archaeologists overview. ARCH.
R.O.
W.S.A.

1.14 (1.15) Partial preparation of accurate drawings and pegging out of Asbestos clad steam main routes based on existing drawings, on-site observations, R.C.H.M.E survey drawing and Archaeologist input undertaken by MKS. Drawings to be marked up with assumed routes, to be proved on site. WSA to collate results, instigate remediation and negotiate acceptable levels with EHO. ARCH.
W.S.A.
MKS.
R.O.

1.15 (1.16) Comments received from Fire Prevention Officer. W.S.A to comment. Problem with door swings. W.S.A.

1.16 (1.17) Preparation of artefact inventory. R.O draft report publication imminent R.O. to organise transport of artifacts. Barge to be transported to site, organised by archaeologist. R.O.
ARCH.

- 1.17 (1.18) Asphalt melting plant work complete to date. R.O have prepared a list of buildings with asphalt floors. WSA to consider this work in relation to proposed interpretation. R.O to inspect asphalt floors in buildings undergoing strip out. R.O to investigate commercial outlet for asphalt **R.O.**
- 1.18 (1.19) Waste tip sampling for explosives analysis. Present system reviewed Thursday 30th June 1994. Simplified arrangements promulgated. Review again 29th September 1994. *nice word.* **R.O.**
W.S.A.
- 1.19 (1.20) R.O engineer carrying out services survey and checking CAD plot. Archaeologist is arranging copying of material in the PRO and researching drawing preservation methods and costs. *All of them are expensive.* **ARCH.**
R.O.
- 1.20 (1.21) Stockpiled waste material Waste classification complete. Contract for special waste removal let. **W.S.A.**
- 1.21 (1.22) Safety Audit. Report received, another visit due. **R.O.**
- 1.22 (1.23) Newtons Pool Canal clean out complete. Disposal of waste to be arranged by WSA. Clearance work to be incorporated into a larger area for clearance by end of October for hand over to RSC. **W.S.A.**
R.O.
- 1.23 (1.24) Edmonsey Sluice waste excavation proceeding further topsoil for trees ordered. Bag up to discrete, localised asbestos. Prices required for additional fencing. **R.O.**
- 1.24 (1.25) Drainage to Island car park. Pointing to brickwork at drain outfall to canal and Bridge N^o 1 abutment complete. **R.O.**
- 1.25 (1.26) Clean/Dirty site arrangements. Wheel wash off hire. Block laying proceeding. **R.O.**
- 1.26 (1.27) Copy of Explosives License Application received from R.O. Delayed at request of H.S.E Explosives Inspectorate. H10, H8 and H71 strip out and demolition proceeding. **R.O.**
- 1.27 (1.28) Site vehicles 1 No. flat bed available October. **R.O.**
- 1.28 (1.30) Explosives analysis data capture. Output complete, report by R.O to be prepared. **R.O.**
- 1.29 (1.31) Disposal of transformer PCB clearance certificate received. PCB levels indicate investigation necessary. **W.S.A.**
R.O.

- 1.30 (1.34) Fuel tank excavation in North P Area to be sealed with clay and backfilled. Results of sampling acceptable. W.S.A.
R.O.
- 1.31 (1.35) R.O to investigate sewerage charges under auspices of the management contract. Response from Thames Water in respect of proposed vehicle wash not received. R.O to proceed. R.O.
- 1.32 (1.36) Trenching to Northern Canals - replace materials as excavated so any suspect material is capped with gravel. Beware buried barge. Original investigation trenches pegged out. WSA to inspect with R.O. W.S.A.
R.O.
- 1.33 (1.38) Asbestos discovered on opposite bank of Horse Mill stream. NRA dealing with this. Samples processed by R.O and LGC. Awaiting NRA decisions regarding bank excavation, reduction in Horse Mill Stream water level and export route for waste. N.R.A.
R.O.
W.S.A.
- 1.34 (1.39) Queens Mead Canals partially located and excavated, work suspended. After grass cut excavation can accomodate river sludge. R.O.
- 1.35 (1.41) Water main and Sewage Pumping main to be replaced with new polymer tube where exposed if damage by plant is a problem. Valves and hydrants to be maintained by Terry Williams. Costs to caretaking contract. VO61 R.O.
W.S.A.
- 1.36 (3.5) Bridge works to be organised by WSA. Decontamination programme implications. Roughtons outline programme received. W.S.A.
- 1.37 (1.43) Carden and Godfrey are identifying anomalies between RCHME survey, MKS survey drawings and situation on the ground. These can then be incorporated in the site records.

2. PROGRESS AND PROGRAMME

- 2.1 Revised July programme attached at Appendix 1. Next revision at coming progress meeting.

3. ANY OTHER BUSINESS

- 3.1 R.O outlined the proposed programme and resources required to carry out an initial strip of buildings 134 to 160 and the implications for welfare facilities. R.O.

- 3.2 R.O undertook to investigate the costs and submit a proposal for further investigation into the stability of N.G. in timber on a shared cost basis as R.O have an interest. **R.O.**
- 3.3 WSA outlined the requirements for piling canal/river intersections to remove residual contaminated material. There would be a considerable input from R.O. The piling would be undertaken by Woods Warren. **W.S.A.
R.O.**
- 3.4 WSA described the requirements for a report by R.O listing buildings cleared of asbestos. **R.O.**
- 3.5 R.O. reported investigations were in hand to resource plant and dredge Mill Head Stream and batter canals. **R.O.**
- 3.6 R.O. reported arrangements were in hand to accommodate the English Heritage seminar on 6th August 1994. **R.O.**
- 3.7 WSA instructed R.O to resource additional ablution facilities. **R.O.**
- 3.8 R.O. reported that quotations for grass cutting to Queens Mead and H Area are being sought. **R.O.**
- 3.9 Mr.Peter Greggain from Defence Land Agent Cambridge will attend the next progress meeting.
- 3.10 The Ministers visit on 7th July 1994 went well and messages of thanks and appreciation have been received from Steven Norris MP, WATC, etc.

4. DATE OF NEXT MEETING

- 4.1 09.00 Hours on Thursday 18th August 1994.

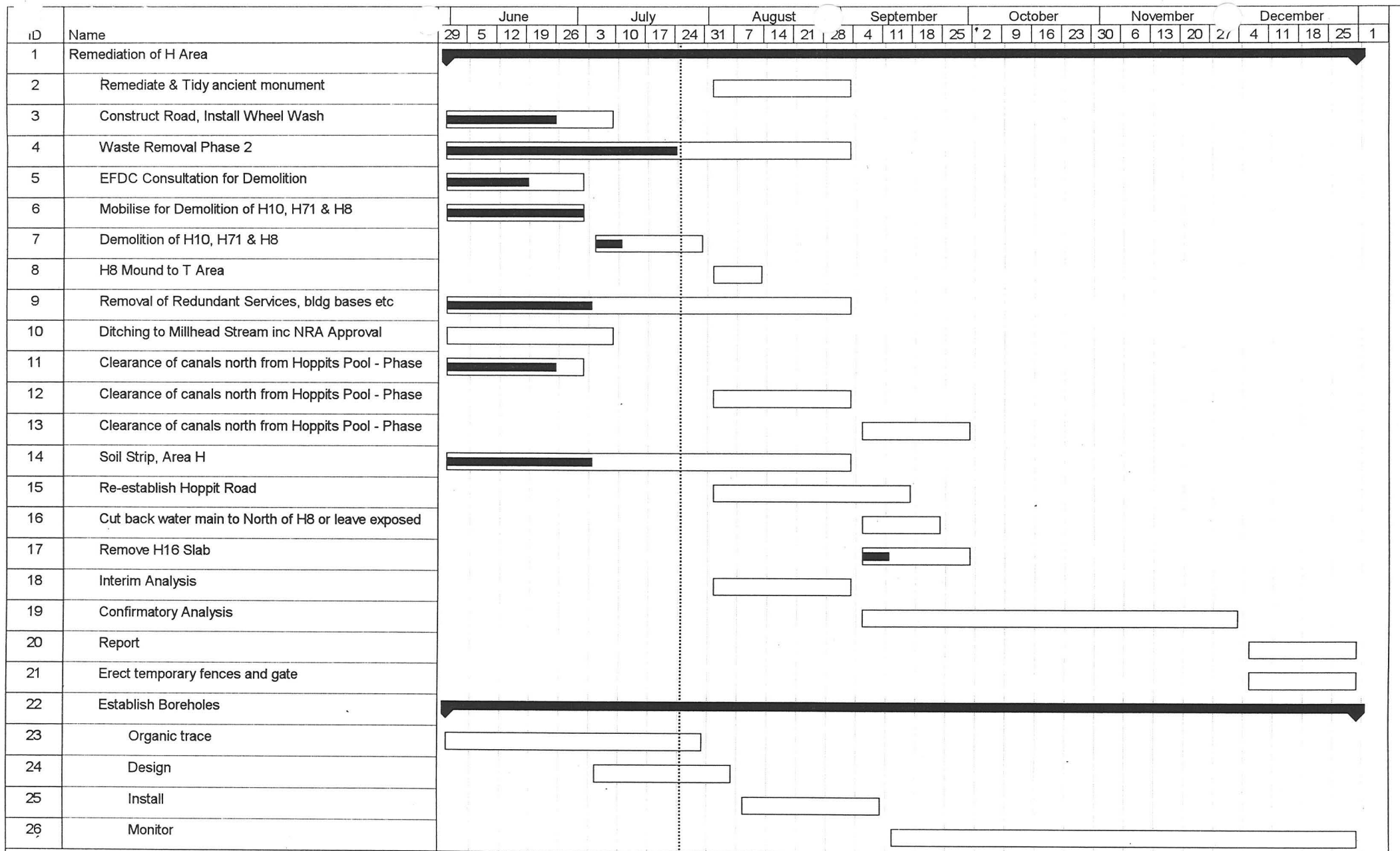
R.E.WATTS.
21st July 1994

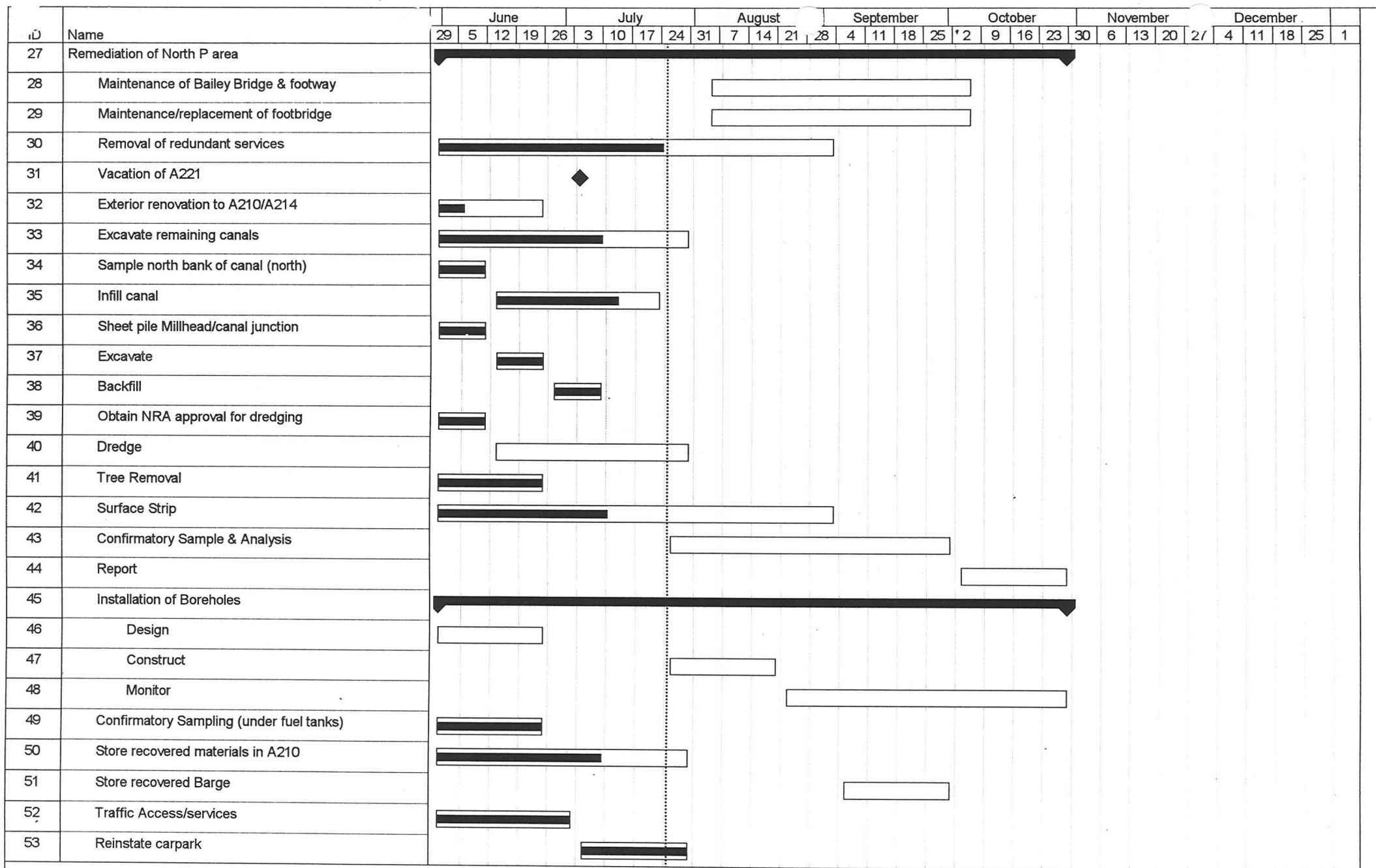
FORMER RARDE SITE WALTHAM ABBEY NORTH REMEDIATION PROJECT

APPENDIX 1

PROJECT PLAN - ISSUE 2
JULY 1994

ROYAL ORDNANCE ENVIRONMENTAL SERVICES GROUP



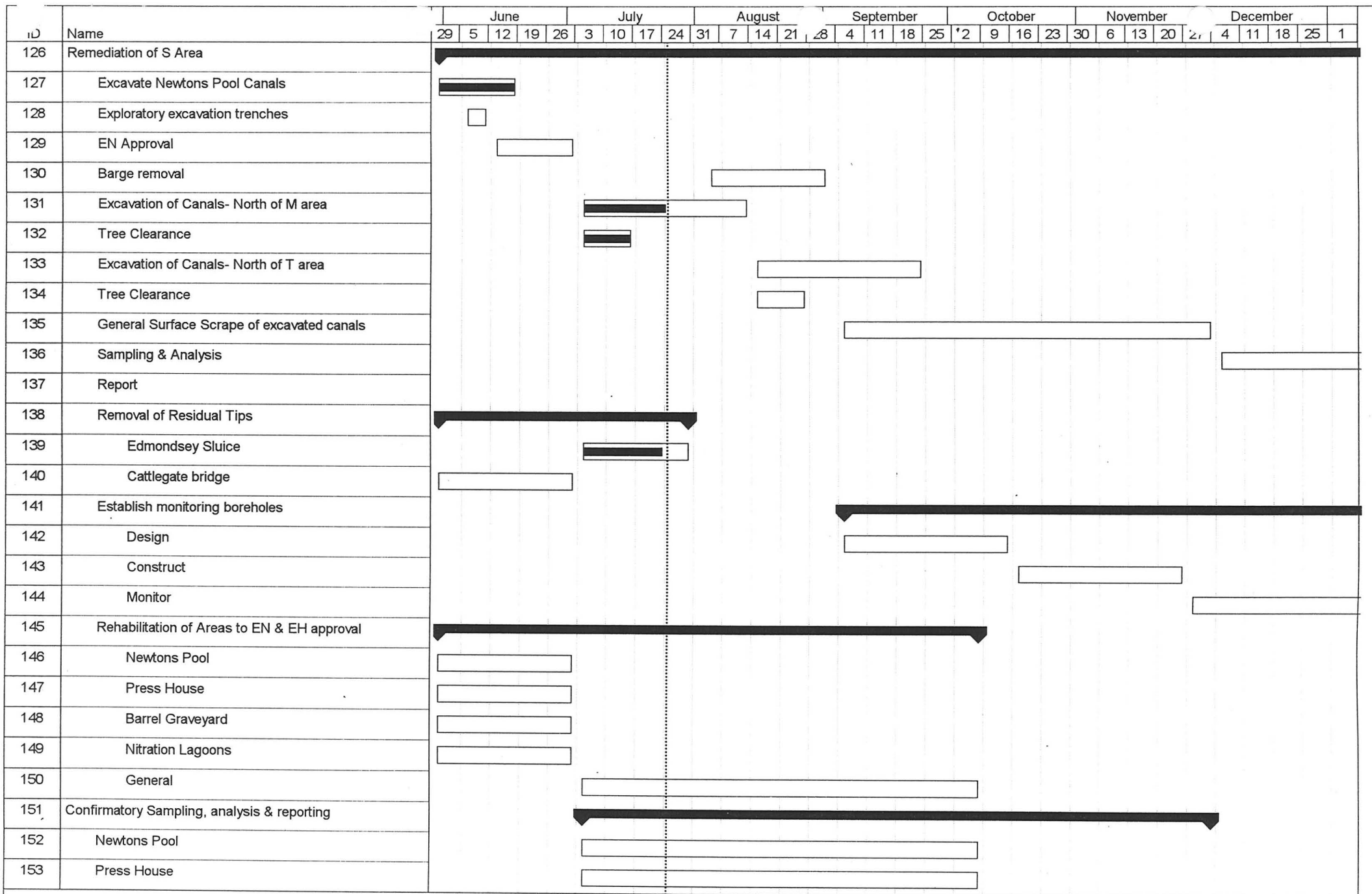


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161	Establish Waste Handling																																
162	Temporary Road																																
163	Fill in Pits																																
164	Maintenance to Cattlegate bridge																																
165	Improve Entrance from crooked mile																																
166	Demolish unwanted buildings																																
167	Rationalise Services																																
168	Clean up after Waste Operations																																
169	Establish monitoring boreholes																																
170	Winning of clay for general site works																																
171	H Area																																
172	Lining Canals																																
173	Burning Ground																																
174	Confirmatory sampling, analysis & reporting																																
175	Fencing																																
176	Removal of Cattlegate Bridge																																
177	Installation of foot bridge																																
178	Rehabilitation																																
179	Handover to LVRPA																																

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189	Carry out EH/EN remediation proposals																																			
190	Confirmatory analysis of soil samples																																			
191	Asphalt treatment																																			

Project: WAN
Date: 29/7/94

Critical



Progress



Summary



Noncritical



Milestone



Rolled Up



ID	Name	January					February					March					April					May					June					July				
		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6			
1	Remediation of H Area																																			
2	Remediate & Tidy ancient monument																																			
3	Construct Road, Install Wheel Wash																																			
4	Waste Removal Phase 2																																			
5	EFDC Consultation for Demolition																																			
6	Mobilise for Demolition of H10, H71 & H8																																			
7	Demolition of H10, H71 & H8																																			
8	H8 Mound to T Area																																			
9	Removal of Redundant Services, bldg bases etc																																			
10	Ditching to Millhead Stream inc NRA Approval																																			
11	Clearance of canals north from Hoppits Pool - Phase																																			
12	Clearance of canals north from Hoppits Pool - Phase																																			
13	Clearance of canals north from Hoppits Pool - Phase																																			
14	Soil Strip, Area H																																			
15	Re-establish Hoppit Road																																			
16	Cut back water main to North of H8 or leave exposed																																			
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18	Interim Analysis																																			
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20	Report																																			
21	Erect temporary fences and gate																																			
22	Establish Boreholes																																			
23	Organic trace																																			
24	Design																																			
25	Install																																			
26	Monitor																																			

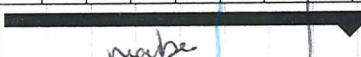




No	Name	January				February				March				April				May				June				July						
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27	Remediation of North P area																															
28	Maintenance of Bailey Bridge & footway																															
29	Maintenance/replacement of footbridge																															
30	Removal of redundant services																															
31	Vacation of A221																															
32	Exterior renovation to A210/A214																															
33	Excavate remaining canals																															
34	Sample north bank of canal (north)																															
35	Infill canal																															
36	Sheet pile Millhead/canal junction																															
37	Excavate																															
38	Backfill																															
39	Obtain NRA approval for dredging																															
40	Dredge																															
41	Tree Removal																															
42	Surface Strip																															
43	Confirmatory Sample & Analysis																															
44	Report																															
45	Installation of Boreholes																															
46	Design																															
47	Construct																															
48	Monitor																															
49	Confirmatory Sampling (under fuel tanks)																															
50	Store recovered materials in A210																															
51	Store recovered Barge																															
52	Traffic Access/services																															
53	Reinstate carpark																															

ID	Name	January					February					March					April					May					June					July				
		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6			
54	Remediation of T area (inc. lagoons & ponds)																																			
55	Surface excavations/classify arisings																																			
56	Classify washpond arisings																																			
57	Decontaminate pipework																																			
58	Gunpowder stove clearance																																			
59	Confirmatory testing																																			
60	Poly sheeting & hoggin placement																																			
61	Excavation of filled canals																																			
62	Confirmatory sampling & analysis																																			
63	Report																																			
64	Refill with H8 mound from stockpile																																			
65	Top Soil, re-seed/re-plant to EN instructions																																			
66	Road reinstatement																																			


























ID	Name	January					February					March					April					May					June					July				
		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6			
67	Remediation of M Area																																			
68	Removal of cordite/asbestos arisings																																			
69	Tender																																			
70	Removal																																			
71	Excavation of canals/reinstatement of road																																			
72	Gasworks Remediation																																			
73	Excavation																																			
74	Sampling & analysis																																			
75	Remediation																																			
76	Surface confirmatory sampling & analysis																																			
77	Report																																			
78	Remediation of incorporator railways																																			
79	Remediation																																			
80	Sampling & analysis																																			
81	Report																																			
82	Removal of redundant services																																			
83	Decontamination of drains																																			
84	L157																																			
85	L153																																			
86	L148																																			
87	L145/L149																																			
88	Associated buildings																																			
89	Removal of slabs																																			
90	Demolition of buildings																																			
91	Ditching of waterways																																			
92	Gritblasting/ painting of steelwork																																			
93	L157																																			
94	L153																																			

ID	Name	January					February				March				April				May				June				July						
		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6
95	L148																																
96	L149																																
97	Wall and Floor removal/paint stripping																																
98	L153																																
99	L148																																
100	L145																																
101	L149																																
102	Roofing																																
103	L145																																
104	L157																																
105	L145 (bays)																																
106	Boreholes																																
107	Design																																
108	Construct																																
109	Monitor																																
110	Confirmatory analysis in buildings																																
111	Sampling & Analysis																																
112	Report																																

iD	Name	January				February				March				April				May				June				July						
		1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30
113	Remediation of L Area																															
114	Excavation & backfill of canals																															
115	Confirmatory Sampling & Analysis																															
116	Report																															
117	Grassland Management																															
118	Demolition of buildings																															
119	Boreholes																															
120	Design																															
121	Construct																															
122	Monitor																															
123	Work to selected buildings																															
124	Rationalise Services																															
125	Remove Redundant Services																															

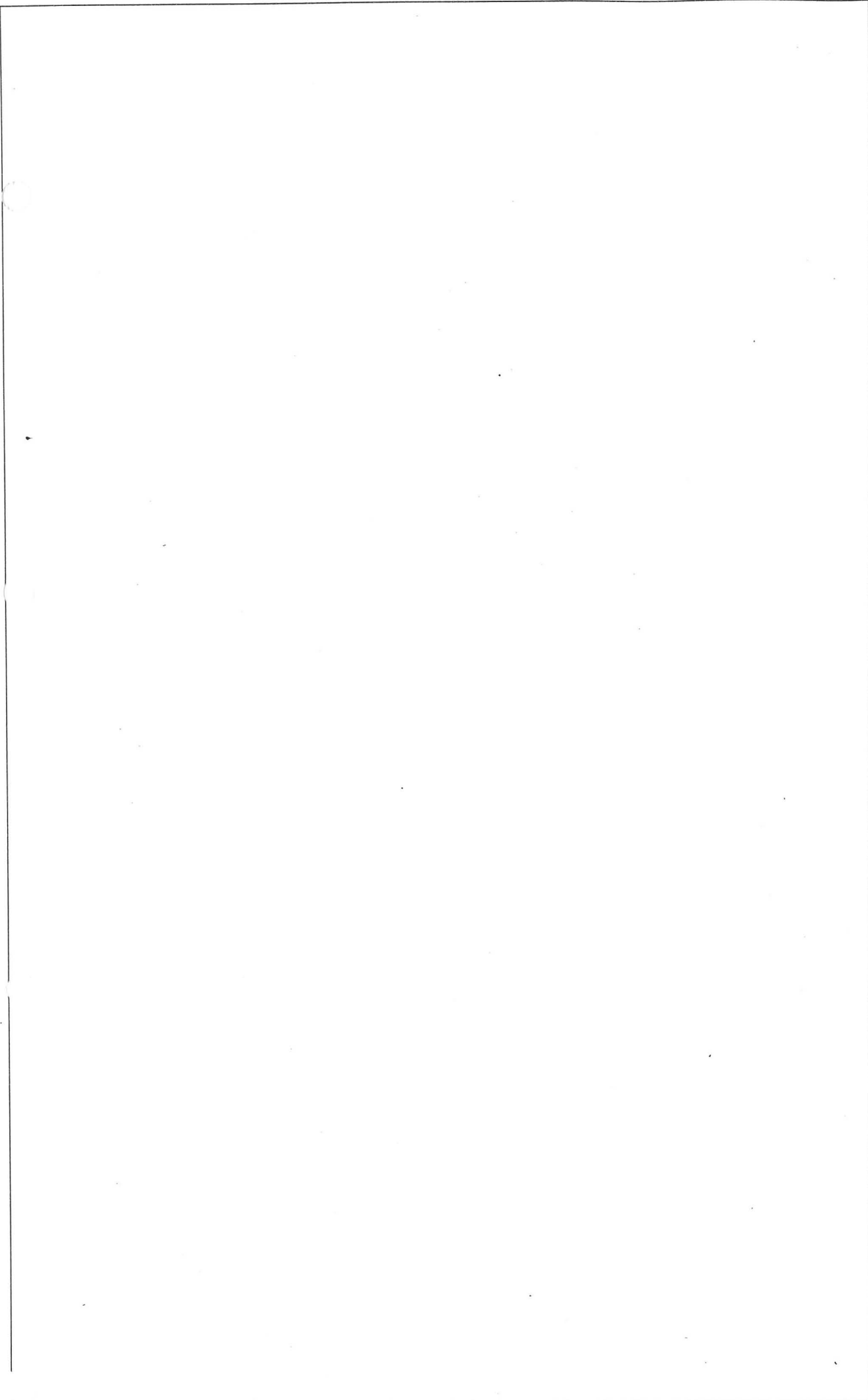
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126	Remediation of S Area																																
127	Excavate Newtons Pool Canals																																
128	Exploratory excavation trenches																																
129	EN Approval																																
130	Barge removal																																
131	Excavation of Canals- North of M area																																
132	Tree Clearance																																
133	Excavation of Canals- North of T area																																
134	Tree Clearance																																
135	General Surface Scrape of excavated canals																																
136	Sampling & Analysis																																
137	Report																																
138	Removal of Residual Tips																																
139	Edmondsey Sluice																																
140	Cattlegate bridge																																
141	Establish monitoring boreholes																																
142	Design																																
143	Construct																																
144	Monitor																																
145	Rehabilitation of Areas to EN & EH approval																																
146	Newtons Pool																																
147	Press House																																
148	Barrel Graveyard																																
149	Nitration Lagoons																																
150	General																																
151	Confirmatory Sampling, analysis & reporting																																
152	Newtons Pool																																
153	Press House																																

ID	Name	January					February					March					April					May					June					July						
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154	Edmondsey Sluice																																					
155	Barrel Graveyard																																					
156	Nitration Lagoons																																					
157	General																																					
158	Removal of Redundant Services																																					

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159	Remediation of N Area																																
160	Site Strip	<i>not necessarily me.</i>																															
161	Establish Waste Handling																																
162	Temporary Road																																
163	Fill in Pits																																
164	Maintenance to Cattlegate bridge																																
165	Improve Entrance from crooked mile																																
166	Demolish unwanted buildings																																
167	Rationalise Services																																
168	Clean up after Waste Operations																																
169	Establish monitoring boreholes					<i>not me.</i>																											
170	Winning of clay for general site works																																
171	H Area																																
172	Lining Canals																																
173	Burning Ground																																
174	Confirmatory sampling, analysis & reporting																																
175	Fencing									<i>not me</i>																							
176	Removal of Cattlegate Bridge													<i>not me</i>																			
177	Installation of foot bridge																	<i>not me</i>															
178	Rehabilitation																					<i>not me</i>											
179	Handover to LVRPA																																

iD	Name	January					February				March				April				May				June				July														
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180	Remediation of Burning Ground																																								
181	Canals - surface scrape & batter sides						?										possible problem																								
182	Establish temporary road - not Req'd																																								
183	Remove Entrance Road																																								
184	Services rationalisation																																								
185	Site Strip to Gravel/Undisturbed Strata						?																																		
186	Transport Arisings to N Area																																								
187	Sweep Area with Metal Detector																																								
188	Re-establish clay membrane & top soil																																								
189	Carry out EH/EN remediation proposals																																								
190	Confirmatory analysis of soil samples																																								
191	Asphalt treatment																																								

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192	Maintenance of Bridges																															
193	SMC/Trust Approval																															
194	Design/Tender																															
195	Construction																															
196	Remediation of River Banks																															
197	Sheet Piling & Excavations East Bank of Horsemill Str																															
198	Operations West Bank Horsemill Stream																															
199	Ditching of On-Site Rivers & Canals																															
200	Removal of Canal Material at Intersection of Waterway																															
201	NRA/EN Proposals to Raise Site Water Levels																															
202	Reinstatement of Banks																															
203	Completion of T Area Works																															
204	Remediation under Steam Pipes																															
205	Survey & Peg-Out Routes																															
206	Tender/mobilise																															
207	Site Strip/disposal outside Heronry																															
208	Site Strip/disposal inside Heronry																															
209	Sample Analysis																															
210	Surface Treatment inside Heronry																															
211	Surface Treatment outside Heronry																															
212	Buildings & Mounds																															
213	Mounds - Sample & Analyse																															
214	Scheduled Area Buildings																															
215	Other Buildings																															
216	Tree Clearance from Mounds & Buildings																															
217	Building Information Packs																															
218	Services Survey																															



Project: WAN Date: 29/7/94	<input type="checkbox"/>	Progress		Summary	
	<input type="checkbox"/>	Milestone		Rolled Up	

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
FRIDAY 10TH JUNE 1994 AT 09.00 HOURS**

Present:	Mr Bob Watts	:W.S.A.	Copies:	Mr.D.Stanners	:M.O.D
	Mr Graham Vincent	:R.O.		Mr.D.Coyle	:MOD.PE.
	Mr Peter Mayell	:R.O.		Mr.A.Ford	:ARCH.
				Mr.D.Bone	:CIVIX
				Mr.R.Pallett	:D.W.S.

-
- | <u>1.</u> | <u>MATTERS ARISING - FROM MEETING OF 5TH MAY 1994</u> | <u>ACTION</u> |
|------------------|---|----------------------|
| 1.1 | (1.1) <u>Drain Sampling</u>
Draft ESG 37/93 - (will include details of work to L157),
and draft 41/93 - will be issued soon. L153 drain removal
progressing sample analysis 1 per 12m ³ and 1 per drain branch. | R.O. |
| 1.2 | (1.2) <u>Explosives Testing</u>
A programme of sampling mounds for chemical contamination
is required. All samples will be screened for explosives.
W.S.A to prepare - SMC required. Part 1 ESG 4/93 received
from R.O. | W.S.A. |
| 1.3 | (1.3) <u>Building Index</u>
Revised versions to be issued as changes are made. | R.O. |
| 1.4 | (1.4) R.O. to issue <u>ESG 17/92 amendment.</u> | R.O. |
| 1.5 | (1.5) <u>Photographic record</u>
Vacation student used at £5 per hour will return summer to
complete. Negatives indexed, not photos yet but system in place.
Index to CLI required. Video tape to be edited. | R.O. |
| 1.6 | (1.6) <u>Remediation in P Area</u> - practical completion - (17th Jan 1994)
Archaeological evaluation complete. Report received from
E.C.C. All residual work complete. Disposal proceeding. | W.S.A. |
| 1.7 | (1.7) <u>Barrel Graveyard</u> investigated. Strata of ground proved.
Sampling undertaken by L.G.C. Results received from R.O.
and L.G.C. W.S.A to issue report. | W.S.A. |

- 1.8 (1.8) Gas Bottles uncovered in Tips disposal complete. Method statement 78/93 for Tetryl pipe issued. Collection of pipes from T Area progressing. Existing water mains need not be cut into sections before heat treatment. Work ongoing. R.O to clarify quantities decontaminated to date. **R.O.**
- 1.9 (1.9) Water wheel and Press House areas. Confirmatory investigation to await removal of road which is located on fill. Road removal will proceed on completion of Newtons Pool Sluice. Condition survey of buildings 103 and 104 will dictate approach to clearance. Liaison committee is considering this area for further work, planting etc... SMC required. **R.O.**
W.S.A.
- 1.10 (1.10) L157 2nd stage strip out in progress. Work carried out in L157 extended to L145, L148 and L153. Floor removal to proceed on basis of established method, monitor and assess progress. **E.H.**
W.S.A.
R.O.
- 1.11 (1.11) "Asbestos in Buildings" Review of procedures by W.S.A carried out 28th March 1994. Personnel air monitoring exercise complete. WSA report imminent. **W.S.A.**
- 1.12 (1.12) Damage to fence in Grand Magazine SMC application received. Provision for placement of otter pipes to be made. R.O to proceed. **R.O.**
- 1.13 (1.13) Roof works to A203. Defects on lead work to be rectified. Ponding on library roof, R.O to present priced proposals to rectify. Jobbing firm to repair Mrs.Bellamys roof. Slates on A201/A202 to be refixed. **R.O.**
- 1.14 (1.14) Tetryl Area. Procedure for pools adjacent to E2 agreed with Bob Stebbings. Awaiting results of analysis of samples from Gunpowder Store. Final clearance, removal and replacement of road and confirmatory sampling imminent. **ARCH.**
R.O.
W.S.A.
- 1.15 (1.15) Partial preparation of accurate drawings and pegging out of Asbestos clad steam main routes based on existing drawings, on-site observations, R.C.H.M.E survey drawing and Archaeologist input undertaken by MKS. Drawings to be marked up with assumed routes, to be proved on site. WSA to collate results, instigate remediation and negotiate acceptable levels with EHO. **ARCH.**
W.S.A.
MKS.
R.O.
- 1.16 (1.16) Comments received from Fire Prevention Officer. W.S.A to comment. Problem with door swings. Electrical installation, handover scheduled 10th June 1994. **W.S.A.**

- 1.17 (1.17) Preparation of artefact inventory. R.O draft report received. R.O. revised offer for this work approved. First items stored at South Site 29th April 1994. Barge to be transported to site, organised by archaeologist. R.O.
ARCH.
- 1.18 (1.19) Asphalt melting plant work complete to date. R.O have prepared a list of buildings with asphalt floors. WSA to consider this work in relation to proposed interpretation. R.O.
- 1.19 (1.22) Waste tip sampling for explosives analysis. Present system to be reviewed Thursday 30th June 1994. R.O.
W.S.A.
- 1.20 (1.23) R.O to engage engineer short term to complete existing services plotting. Checking by R.O then later C.A.D incorporation by MKS. Task continuing. N Area water mains and services trace in hand. Chessington drawings now on site. Archaeologist is arranging copying of material in the PRO and researching drawing preservation methods and costs. ARCH.
R.O.
- 1.21 (1.25) Stockpiled waste material Waste classification being carried out by W.S.A. W.S.A.
- 1.22 (1.26) Safety Audit. Report received, another visit due. R.O.
- 1.23 (1.27) Newtons Pool Canal clean out in hand. Disposal of waste to be arranged by WSA. R.O to trim weed growth to permit inspection. R.O.
- 1.24 (1.28) R.O to carry out preliminary removal of demolition arisings and hand pick of waste/asbestos in wooded area adjacent to track south of Edmonsey Sluice. R.O reported initial undergrowth clearance in hand. R.O.
- 1.25 (1.29) Boot wash and drainage to Island car park. Pointing required to brickwork at drain outfall to canal. R.O to erect a sign. R.O.
- 1.26 (1.30) Clean/Dirty site arrangements. Implementation of proposals in hand. Wheel wash off hire. Preparatory work proceeding. Placement of clay almost complete. W.S.A.
R.O.
- 1.27 (1.31) Copy of Explosives License Application received from R.O. This item long overdue. R.O to progress. H.S.E explosives inspectorate have promised to deal. H8, H10 & H7 not used. Agreed to keep H10 intact for the moment, pending EFDC approval to demolition. R.O reported H.S.E agree to change H8 magazine in application to H7. WSA agreed delay of 2 - 3 weeks to enable application to go forward with South Site application on shared costs basis. Proceeding R.O.

- 1.28 (1.32) Site vehicles 1 No. flat bed to be obtained. R.O.
- 1.29 (1.33) R.O offered mound material from South Site for filling in T Area. W.S.A.
W.S.A inspection revealed dubious material. W.S.A to re-inspect. R.O.
- 1.30 (1.34) Explosives analysis data capture. Output complete, report by
R.O to be prepared. (Related to review see item 1.19) R.O.
- 1.31 (1.35) Disposal of transformer PCB clearance certificate received. PCB
levels indicate investigation necessary. R.O.
- 1.32 (1.36) Revised programme issued. Will be updated next month.
- 1.33 (1.37) New Hill Pits 5 No. now exposed and fenced. Awaiting results
of analysis of samples. R.O.
- 1.34 (1.38) Fuel tanks in North P Area located, exposed and removed. W.S.A.
Awaiting results of sampling undertaken after clean up. R.O.
- 1.35 (1.40) R.O to investigate sewerage charges under auspices of the
management contract. WSA awaiting response from Thames
Water in respect of proposed vehicle wash. R.O.
- 1.36 (1.41) Trenching to Northern Canals - replace materials as excavated
so any suspect material is capped with gravel. Beware buried
barge. R.O.
- 1.37 (1.42) R.O to provide 2 No. portable offices on rental, call off when
required. For use in N Area, adjacent A200 or Powdermill lane.
Delivery 16th June 1994. Use local crane, can also lift pipe
bridges to North of A210. R.O.
- 1.38 (1.43) Asbestos discovered on opposite bank of Horse Mill stream. N.R.A.
NRA dealing with this. Samples processed by R.O and R.O.
LGC. W.S.A.
- 1.39 (1.44) Queens Mead Canals partially located and excavated, work
suspended. R.O.
- 1.40 (1.45) Repairs to H Area Road and others continuing on Saturdays.
SMC received for repairs in the Scheduled Monument. R.O.
- 1.41 (1.47) Urgent repair to Pumping main carried out. Pumping test by
Rogers Engineers required. R.O to move pump equipment to H7.
Valves and hydrants to be maintained by Terry Williams. Costs R.O.
to caretaking contract. VO61 W.S.A.

1.42 (3.5) Bridge works to be organised by WSA. Programme implications. W.S.A. Awaiting Roughtons draft programme.

1.43 (3.6) Carden and Godfrey are identifying anomalies between RCHME survey, MKS survey drawings and situation on the ground. These can then be incorporated in the site records.

1.44 (3.9) Mrs.Bellamys dampness to be investigated and remedied. R.O to advise. **R.O.**

1.45 (3.10) New storage heaters installed by McGoff and Vickers.

1.46 (3.11) Replacement of plastic fencing in unsafe locations by scaffolding purchased from Bray (to be painted) approved. Also certain bridges as advised. **R.O.**

2. PROGRESS AND PROGRAMME

2.1 Revised programme attached at Appendix 1. Next revision at coming progress meeting.

3. ANY OTHER BUSINESS

3.1 WSA to advise re-scaffolding to S90 and 26. R.O to obtain costing details for purchase of raking shores and bridge to S90. **R.O.**

4. DATE OF NEXT MEETING

4.1 09.00 Hours on Wednesday 20th July 1994.

R.E.WATTS.
13th June 1994

FORMER RARDE SITE WALTHAM ABBEY NORTH REMEDIATION PROJECT

APPENDIX 1

PROJECT PLAN - ISSUE 1

JUNE 1994

ROYAL ORDNANCE ENVIRONMENTAL SERVICES GROUP

ID	Name	June				July				August				September				October				November				December							
		29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1
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34	Sample north bank of canal (north)																																			
35	Infill canal																																			
36	Sheet pile Millhead/canal junction																																			
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1	Remediation of H Area																															
2	Remediate & Tidy ancient monument																															
3	Construct Road, Install Wheel Wash																															
4	Waste Removal Phase 2																															
5	EFDC Consultation for Demolition																															
6	Tender & Mobilise for Demolition of H10, H71 & H8																															
7	Demolition of H10, H71 & H8																															
8	H8 Mound to T Area																															
9	Removal of Redundant Services, bldg bases etc																															
10	Ditching to Millhead Stream inc NRA Approval																															
11	Clearance of canals north from Hoppits Pool - Phase 1																															
12	Clearance of canals north from Hoppits Pool - Phase 2																															
13	Clearance of canals north from Hoppits Pool - Phase 3																															
14	Soil Strip, Area H																															
15	Re-establish Hoppit Road																															
16	Cut back water main to North of H8 or leave exposed																															
17	Remove H16 Slab																															
18	Interim Analysis																															
19	Confirmatory Analysis																															
20	Report																															
21	Erect temporary fences and gate																															
22	Establish Boreholes																															
23	Organic trace																															
24	Design																															
25	Install																															
26	Monitor																															

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27	Remediation of North P area																														
28	Maintenance of Bailey Bridge & footway																														
29	Maintenance/replacement of footbridge																														
30	Removal of redundant services																														
31	Vacation of A221																														
32	Exterior renovation to A210/A214																														
33	Excavate remaining canals																														
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CONTAMINATED LAND INVESTIGATION AND REMEDIATION WALTHAM ABBEY RARDE NORTH SITE

MINUTES OF MEETING HELD ON SITE THURSDAY 5TH MAY 1994 AT 09.00 HOURS

Present: Mr Bob Watts	:W.S.A.	Copies: Mr.D.Stanners	:M.O.D.
Mr Graham Vincent	:R.O.	Mr.D.Coyle	:MODPE.
Mr Peter Mayell	:R.O.	Mr.A.Ford	:ARCH.
		Mr.D.Bone	:CIVIX
		Mr.R.Pallett	:D.W.S.

1. MATTERS ARISING - FROM MEETING OF 15TH MARCH 1994 ACTION

- | | | | |
|-----|-------|---|--------|
| 1.1 | (1.1) | <u>Drain Sampling</u>
Draft ESG 37/93 - replaced by draft 41/93 - Drain removal around incorporating Mills proceeding. Sheeting and hydraulic shores necessary. Sampling of drains one per run, surrounding material one per 12m ³ for explosives analysis. | R.O. |
| 1.2 | (1.2) | <u>Explosives Testing</u>
A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A to prepare - SMC required. Draft part 1 ESG 4/93 received from R.O. | W.S.A. |
| 1.3 | (1.3) | <u>Building Index</u>
Revised versions to be issued as changes are made. | R.O. |
| 1.4 | (1.4) | R.O. to prepare <u>ESG 17/92 amendment</u> for issue at R.O. cost. Issues as identified by W.S.A and CEC/EFDC EHO. | R.O. |
| 1.5 | (1.5) | <u>Photographic record</u>
Vacation student used at £5 per hour will return summer to complete. Negatives indexed, not photos yet but system in place. Index to CLI required. Video tape to be edited. | R.O. |
| 1.6 | (1.6) | <u>Remediation in P Area</u> - practical completion - (17th Jan 1994)
Archaeological evaluation complete. Report received from E.C.C. All residual work complete. Disposal proceeding. | W.S.A. |
| 1.7 | (1.7) | <u>Barrel Graveyard</u> investigated. Strata of ground proved. Sampling undertaken by L.G.C. Results received from R.O. and L.G.C. W.S.A to issue report. | W.S.A. |

- 1.8 (1.8) Gas Bottles uncovered in Tips disposal complete. Method statement 78/93 for Tetryl pipe issued. Collection of pipes from T Area progressing. Existing water mains need not be cut into sections before heat treatment. Part of lump sum work. **R.O.**
- 1.9 (1.9) Water wheel and Press House areas. Confirmatory investigation to await removal of road which is located on fill. Road removal will proceed on completion of Newtons Pool Sluice. Condition survey of buildings 103 and 104 will dictate approach to clearance. Liaison committee is considering this area for further work, planting etc... SMC required. **R.O.**
W.S.A.
- 1.10 (1.10) L157 2nd stage strip out in progress. Listed building consents required for work other than maintenance, replacement like with like or safety aspects. R.O document for E.H. listing explosives contamination matters issued. Scaffold erection, grit blasting and painting approved. Visit by Paul Edwards 3rd May 1994 extension of work carried out in L157 extended to L145, L148 and L153. Floor removal method to be assessed. **E.H.**
W.S.A.
R.O.
- 1.11 (1.11) "Asbestos in Buildings" Review of procedures by W.S.A carried out 28th March 1994. Ditto Air Monitoring report expected.. Personnel air monitoring regime in place. **W.S.A.**
- 1.12 (1.12) Damage to fence in Grand Magazine area will require replacement with buried chain link. Competitive quote approved SMC application submitted, work to commence when SMC received. Provision for placement of otter pipes to be made. **R.O.**
- 1.13 (1.13) Roof works to A203. Defects on lead work to be rectified. Ponding on library roof, R.O to present priced proposals to rectify. R.O to contact local roofing / jobbing firms for prices to repair Mrs.Bellamys roof. Slates on A201/A202 to be refixed. **R.O.**
- 1.14 (1.14) Tetryl Area. Analysis of samples from Horsemill Stream bank indicated explosives within open space levels. Asbestos now is prime concern. Proceed with exposing gunpowder stove remains. Which will then be sheeted and covered with hoggin if confirmatory sampling and analysis is satisfactory. Proceed with clearance and excavation generally. Canal clearance to have Archaeological supervision. Necessity to sheet pile bank for excavation to be resolved. Lagoon cleaned out awaiting pump down to inspect. R.O to excavate trench to determine extent of borrow pit fill and threat to pollarded willows and adjacent buildings. Further asbestos removal and scraping required. **ARCH.**
R.O.
W.S.A.

- 1.15 (1.16) Preparation of accurate drawings and pegging out of Asbestos clad steam main routes based on existing drawings, on-site observations, R.C.H.M.E survey drawing and Archaeologist input undertaken by MKS from 28th March 1994. R.O. backup required regarding site information etc. R.C.H.M.E survey disk received. Approaching completion on site. Drawings to be marked up with assumed routes to be proved on site. WSA to collate results, instigate remediation and negotiate acceptable levels with EHO. **ARCH.
W.S.A.
MKS.
R.O.**
- 1.16 (1.18) Comments received from Fire Prevention Officer. W.S.A to comment. Problem with door swings. Modifications to Electrical installation, commenced 18th April 1994. **W.S.A.**
- 1.17 (1.19) Preparation of artefact inventory. R.O draft report received. R.O. revised offer for this work approved. First items stored at South Site 29th April 1994. Barge to be transported to site, organised by archaeologist. **R.O.
ARCH.**
- 1.18 (1.20) Adam Ford Site Archaeologist has prepared and issued the bridge report and canal/river intersections report. **ARCH.**
- 1.19 (1.21) Asphalt melting plant production continuing. R.O report 07.00 hours early start had improved efficiency. R.O to prepare a list of buildings with asphalt floors. R.O to dispose of arisings at no cost. MOD pay transport costs to South Site. **R.O.**
- 1.20 (1.22) Security High Bridge Street entrance. Barrier installed. **R.O.**
- 1.21 (1.23) Reports. W.S.A has informed R.O which copy reports are required. WSA to check outstanding items. **W.S.A.**
- 1.22 (1.24) Waste tip sampling for explosives analysis. Present system to be reviewed Thursday 30th June 1994.
- 1.23 (1.26) R.O to engage engineer short term to complete existing services plotting. Checking by R.O then later C.A.D incorporation by MKS. Task continuing. N Area water mains required. Chessington drawings now on site. Archaeologist is arranging copying of material in the PRO and researching drawing preservation methods and costs. **R.O.**
- 1.24 (1.27) Replacement of gutter to A201/A202 with cast iron. E.H approved. Work complete. **R.O.**

- 1.25 (1.28) Stockpiled waste material adjacent to A210 awaiting disposal. Analysis revealed consistent asbestos (Crocidolite) levels. Boiler house cleaned out. Material can be used as a dilutant to explosively contaminated material > 1% if necessary. Waste classification being carried out by W.S.A. **W.S.A.**
- 1.26 (1.29) Safety Audit. Report received, another visit due. **R.O.**
W.S.A.
- 1.27 (1.29) Newtons Pool now complete. R.O report of total works issued. Wagtail nest preventing further work. Canals to be cleaned out. **W.S.A.**
Disposal to be arranged by WSA. **R.O.**
- 1.28 (1.31) R.O to carry out preliminary removal of demolition arisings and hand pick of waste/asbestos in wooded area adjacent to track south of Edmonsey Sluice. R.O reported no progress, awaiting machine availability and labour resources. R.O to investigate alternative methods and machine source. **R.O.**
- 1.29 (1.32) Boot wash and drainage to Island car park W.S.A have commented on R.O draft proposals. Works approved, but awaiting SMC. Pointing required to brickwork at drain outfall to canal. PMH **R.O.**
SMC issued by DNH but not received. R.O to proceed. **W.S.A.**
- 1.30 (1.33) Clean/Dirty site arrangements. Implementation of proposals in hand. 6 months minimum hire on wheel wash agreed. Preparatory work proceeding. WSA instructed placement of N Area clay. Detail **R.O.**
required. **W.S.A.**
- 1.31 (1.34) Copy of Explosives License Application received from R.O. This item long overdue. R.O to progress. H.S.E explosives inspectorate have promised to deal. H8, H10 & H7 not required. Agreed to keep H10 intact for the moment, pending EFDC approval to demolition. R.O reported H.S.E agree to change H8 magazine in application to H7. WSA agreed delay of 2 - 3 weeks to enable application to go forward with South Site application on shared costs basis. **R.O.**
- 1.32 (1.37) Site vehicles provision agreed. 2 new landrovers, 1 new Maestro and used landrover delivered. 1 No. flat bed to be obtained. Transit to be returned to South Site. AF and RW to be placed on Maestro insurance. **R.O.**
- 1.33 (1.38) R.O offered mound material from South Site for filling in T Area. W.S.A inspection revealed dubious material. W.S.A to re-inspect.

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|------|--------|--|--------------------------|
| 1.34 | (1.40) | <u>Explosives analysis data capture.</u> Output complete, further data to be added, report by R.O to be prepared. | R.O. |
| 1.35 | (1.41) | <u>Disposal of transformer</u> PCB clearance certificate required. | R.O. |
| 1.36 | (1.43) | The need to <u>revise the present programme</u> to take account of clean/dirty site operations, requirements of planning application and development, expenditure, use of Crooked Mile Site access and infrastructure, was discussed. W.S.A draft programme put onto software by R.O for agreement and amendment. Additional muck shifting and other plant requirements to be identified by R.O in resources plot. | R.O.
W.S.A. |
| 1.37 | (1.44) | <u>New Hill Pits</u> 5 No. now exposed and fenced. R.O to organise sample collection for chemical analysis. | R.O. |
| 1.38 | (1.45) | <u>Fuel tanks</u> in North P Area located, exposed and removed. Sampling required after canal location and clean up. | W.S.A.
R.O. |
| 1.39 | (1.46) | <u>Drying Room</u> B & CE complete. Await electrics. | W.S.A. |
| 1.40 | (1.47) | R.O to investigate <u>sewerage charges</u> under auspices of the management contract. | R.O. |
| 1.41 | (1.48) | <u>Trenching to Northern Canals</u> - replace materials as excavated so any suspect material is capped with gravel. Beware buried barge. | R.O. |
| 1.42 | (1.50) | R.O to provide 2 No. portable offices on rental, call off when required. For use in N Area, adjacent A200 or Powdermill lane. Craneage requirements to be coordinated with Wheelwash delivery. | R.O. |
| 1.43 | (1.53) | <u>Asbestos discovered</u> on opposite bank of Horse Mill stream. NRA dealing with this. Samples processed by R.O and LGC. | N.R.A.
R.O.
W.S.A. |
| 1.44 | (1.54) | <u>Queens Mead Canals</u> partially located and excavated, work suspended. | R.O. |
| 1.45 | (1.55) | <u>Repairs to H Area Road</u> and others continuing on Saturdays. SMC received for repairs in the Scheduled Monument. | |
| 1.46 | (1.56) | P.M.N. Additional W.S Atkins training visit to site arranged for 12th May 1994. | W.S.A. |

- 1.47 (3.1) Urgent repair to Pumping main and water main.
 i) Repairs to pumping main to allow pumping test by Rogers Engineers. Move pump equipment to H7.
 ii) Repairs to water main urgent to permit dust control by sprinklers. Check out mains connection to Watermans Cottage.
 iii) Valves and hydrants to be maintained by Terry Williams. Costs to caretaking contract.
- 1.48 (3.2) Restructuring of site labour and staff undertaken. Approval given for replacement agency foreman to overlap Friday 6th May 1994.

2. PROGRESS AND PROGRAMME

- 2.1 R.O have produced a monthly progress report and recast programme based on a W.S.A draft which is attached at Appendix 1 to these minutes.

3. ANY OTHER BUSINESS

- 3.1 Approval given to grouting contract for deep buried drains.
 R.O to proceed. **R.O.**
- 3.2 Works required to Watermans Cottage. **R.O.**
- 3.3 WSA had expressed interest in RO/ESG demonstration of explosives. **R.O.**
- 3.4 Engineering bricks, copings etc. to be collected into 168.
 Not to be collected from collapsed buildings and structures unless instructed. **R.O.**
- 3.5 Bridge works to be organised by WSA. Programme implications. **W.S.A.**
- 3.6 Carden and Godfrey are identifying anomalies between RCHME survey, MKS survey drawings and situation on the ground These can then be incorporated in the site records.
- 3.7 Waste charges to be clarified by R.O. **R.O.**
- 3.8 Purchase of 3 No. weather proofing sheets for L157 by Morris Contractors approved. **R.O.**
- 3.9 Mrs.Bellamys dampness to be further investigated and remedied. **R.O.**
- 3.10 R.O to obtain used replacement storage heaters for installation by McGoff & Vickers. **R.O.**

- 3.11 Replacement of plastic fencing in unsafe locations by scaffolding purchased from Bray (to be painted) approved. **R.O.**
- 3.12 Employment of South Site Lab Technician for cleaning duties 3 days per week (not Friday) during site hours on a trial basis at Morris Labour rate approved. **R.O.**
- 3.13 Hydrocarbon contaminated material from Wheelwash road excavation to be transported to Chorley for trial in R.O soil remediation unit. Costs for disposal (Hazardous non special) to be rebated to R.O. **R.O.**
W.S.A.

4. DATE OF NEXT MEETING

- 4.1 09.00 Hours on Thursday 9th June 1994.

R.E.WATTS.
9th May 1994

CONTAMINATED LAND INVESTIGATION AND REMEDIATION WALTHAM ABBEY RARDE NORTH SITE

MINUTES OF MEETING HELD ON SITE TUESDAY 15TH MARCH 1994 AT 09.00 HOURS

Present: Mr Bob Watts	:W.S.A.	Copies: Mr.D.Stanners	:M.O.D
Mr Graham Vincent	:R.O.	Mr.D.Coyle	:MODPE.
Mr Peter Mayell	:R.O.	Mr.A.Ford	:ARCH.
		Mr.D.Bone	:CIVIX
		Mr.R.Pallett	:D.W.S.

-
- | <u>1.</u> | <u>MATTERS ARISING - FROM MEETING OF 10TH FEBRUARY 1994</u> | <u>ACTION</u> |
|-----------|---|----------------|
| 1.1 | (1.1) <u>Drain Sampling</u>
Draft ESG 37/93 - replaced by draft 41/93 - Drain removal around incorporating Mills to proceed. Sheeting and hydraulic shores required. | R.O. |
| 1.2 | (1.2) <u>Explosives Testing</u>
A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A to prepare - awaiting issue of ESG 4/93 Part 1 from R.O. Part 2 received. SMC required. | R.O.
W.S.A. |
| 1.3 | (1.3) <u>Building Index</u>
Revised versions to be issued as changes are made. | R.O. |
| 1.4 | (1.4) R.O. to prepare <u>ESG 17/92 amendment</u> for issue at R.O. cost. | R.O. |
| 1.5 | (1.5) <u>Photographic record of C.L.I</u> now available. Post C.L.I photographs to be indexed and stored in Albums for inspection. Video film will be edited. Index to C.L.I required. W.S.A approved temporary labour for indexing post C.L.I photographs R.O to confirm rate. Future photographs to be indexed when taken. Adopt Adam Fords system. | R.O. |
| 1.6 | (1.7) <u>Remediation in P Area</u> - practical completion - (17th Jan 1994) Archaeological evaluation complete. Report awaited from E.C.C. All residual work complete. Disposal proceeding. | W.S.A. |
| 1.7 | (1.8) <u>Barrel Graveyard</u> investigated. Strata of ground proved. Sampling undertaken by L.G.C. Results received from R.O. and L.G.C. W.S.A to issue report. | W.S.A. |

- 1.8 (1.9) Gas Bottles uncovered in Tips disposal complete. Method statement 78/93 for Tetryl pipe issued. Collection progressing. **R.O.**
- 1.9 (1.10) Water wheel and Press House areas. Confirmatory investigation to await removal of road which is located on fill. Road removal will proceed on completion of Newtons Pool Sluice. Condition survey of buildings 103 and 104 will dictate approach to clearance. Liaison committee is considering this area for further work, planting etc... SMC required. **R.O.**
W.S.A.
- 1.10 (1.11) L157 2nd stage strip out in progress. Listed building consents required for work other than maintenance, replacement like with like or safety aspects. R.O document for E.H. listing explosives contamination issues imminent. Scaffold erection, grit blasting and painting approved. **E.H.**
W.S.A.
R.O.
- 1.11 (1.12) "Asbestos in Buildings" Review of procedures by W.S.A to be carried out 28th March 1994. **W.S.A.**
- 1.12 (1.13) Damage to fence in Grand Magazine area will require replacement W.S.A. have raised general V.O. for work which will appear in valuation but charged to caretaking and maintenance contract. Competitive quote approved SMC application submitted, work to commence when SMC received. **R.O.**
- 1.13 (1.14) Roof works to A203. Defects on lead work to be rectified. Ponding on library roof, R.O to present priced proposals to rectify. Letchworth day work rates received for work on Mrs Bellamy's roof are high. R.O to contact local roofing / jobbing firms for prices. **R.O.**
- 1.14 (1.15) Tetryl Area. Analysis of samples from bank indicated explosives within open space levels. Asbestos now is prime concern. Proceed with exposing gunpowder stove remains. Which will then be sheeted and covered with hoggin if confirmatory sampling and analysis is satisfactory. Proceed with clearance and excavation generally. **ARCH.**
Canal clearance to have Archaeological supervision. Necessity to sheet pile bank for excavation to be resolved. **R.O.**
W.S.A.
- 1.15 (1.16) Air monitoring to continue until further notice. W.S.A to investigate third party checking. Review to be carried out 28th March 1994. **R.O.**
W.S.A.

- 1.16 (1.17) Preparation of accurate drawings and pegging out of Asbestos clad steam main routes based on existing drawings, on-site observations, R.C.H.M.E survey drawing and Archaeologist input to be undertaken by MKS from 28th March 1994. R.O. backup required regarding site information etc. R.C.H.M.E survey disk received. **ARCH.
W.S.A.
MKS
R.O.**
- 1.17 (1.18) Disposal of bagged asbestos. New arrangements proposed by W.S.A agreed. Remaining bags to be disposed of with skip loaded asbestos contaminated soil. **R.O.**
- 1.18 (1.19) Lecture theatre power and lights now functional. Comments received from Fire Prevention Officer. W.S.A to comment Problem with door swings. Modifications to Electrical installation, tenders due 18th March 1994. **W.S.A.**
- 1.19 (1.20) Approval up to £2,000 received for preparation of artefact inventory. Roger Neal will accompany Adam Ford to R.O sites to review items which may be available. R.O to progress, report required. R.O. revised offer for this work submitted to client for approval. Barge to be transported to site, organised by archaeologist. **R.O.
ARCH.**
- 1.20 (1.21) Adam Ford Site Archaeologist has prepared and issued the bridge report. He is also preparing a report on canal/river intersections. **ARCH.**
- 1.21 (1.22) Asphalt melting plant to process material possibly containing explosives. Production continuing. Bitumen addition successful in improving flow characteristics. R.O report 07.00 hours early start had improved efficiency. R.O to prepare a list of buildings with asphalt floors. **R.O.**
- 1.22 (1.23) Security High Bridge Street entrance. Layout related to clean/dirty site proposals. TW mains connection application cancelled. SMC received for installation of barrier. Barrier held in stock pending deliveries. **R.O.
W.S.A.**
- 1.23 (1.24) Reports. W.S.A informed R.O which copy reports are required. R.O to action remaining items and prepare an updated and edited publications list. **R.O.**
- 1.24 (1.25) R.O have copied past waste tip method coloured results sheets to W.S.A. R.O reminded to pass explosives analytical results to W.S.A as they become available. Review of method complete. Procedure 76/93 now printed with revised information on "Wet Method" and applicable factors. **R.O.
W.S.A**

- 1.25 (1.26) Basis of soil stripping to areas containing asbestos contaminated soil below former insulated steam mains and taking account of E.H. E.N and R.S.C views. The EHO has now issued guidelines on acceptable levels of Asbestos in soil. However experience has shown these levels will be difficult to achieve and each area will require individual assessment. **W.S.A.**
- 1.26 (1.27) R.O to engage engineer short term to complete existing services plotting. Checking by R.O then later C.A.D incorporation by external source. Task continuing. Chessington drawings now on site. Archaeologist is arranging copying of material in the PRO. **R.O.**
- 1.27 (1.28) Replacement of gutter to A201/A202 with cast iron. E.H approved. Work proceeding. **R.O.**
- 1.28 (1.30) Stockpiled waste material adjacent to A210 awaiting disposal. Analysis revealed consistent asbestos (Crocidolite) levels. Boiler house cleaned out. Material can be used as a dilutant to explosively contaminated material > 1% if necessary. Waste classification being carried out by W.S.A. R.O to carry out land fill search. R.O waste Disposal Audit Report to be issued to W.S.A. **W.S.A.**
- 1.29 (1.31) Safety Audit comments received by R.O copied to W.S.A proposals for monthly Audit Visits at £200 per visit approved. Reports to be copied to W.S.A. Visit carried out, awaiting report. **R.O.**
W.S.A.
- 1.30 (1.32) Newtons Pool now complete. Results of explosives analysis to arisings received. Stockpiled material to be disposed of. Sluice practically complete. Canal clean out agreed. Results of confirmatory testing received. R.O draft report of total works in hand. **W.S.A.**
R.O.
- 1.31 (1.33) R.O to carry out preliminary removal of demolition arisings and hand pick of waste/asbestos in wooded area adjacent to track south of Edmonsey Sluice. R.O reported no progress, awaiting machine availability and labour resources. R.O to investigate alternative machine source. **R.O.**
- 1.32 (1.34) Boot wash and drainage to Island car park W.S.A have commented on R.O draft proposals. Works approved, but awaiting SMC. Pointing required to brickwork at drain outfall to canal. **W.S.A.**
- 1.33 (1.35) Clean/Dirty site arrangements. Implementation of proposals in hand. 6 months minimum hire on wheel wash agreed. Preparatory work proceeding. **W.S.A.**

- 1.34 (1.36) Copy of Explosives License Application received from R.O. This item long overdue. R.O to progress. H.S.E explosives inspectorate have promised to deal. H8, H10 & H7 not used. Agreed to keep H10 intact R.O reported H.S.E agree to change H8 magazine in application to H7. **R.O.**
- 1.35 (1.37) Lagoon pump out in T Area and scrape complete. Sludge held in borrow pit for de-watering. Material being transported to slabs and sampled for explosives prior to disposal. **R.O.**
- 1.36 (1.38) Rawlings Associates have assessed structural stability of walls (2 No.) at Newtons Pool and inspected R.O occupied buildings and unstable structures. Reports issued. Information received on paint specification and stability of undercroft in L148. **W.S.A.**
- 1.37 (1.39) Site vehicles provision agreed. 2 landrover vehicles delivered, hire vehicle returned. R.O to replace existing 2 vans with 1 new Maestro (outstanding) and landrover (delivered). 6 months minimum hire on landrovers agreed. **R.O.**
- 1.38 (1.40) R.O offered mound material from South Site for filling in T Area. W.S.A inspection revealed dubious material. W.S.A will inspect further if mound exposed by R.O. At present the material would not seem worth further consideration.
- 1.39 (1.41) Instructions issued by W.S.A Re: prevention of pollution by oil. R.O reported absorbent material obtained to deal with spillage. R.O and W.S.A to remind all contractors of need to contain fuel and oil stocks. R.O to provide steel fuel trays for use by contractors. R.O provided costing of £55 per tray, 1200 x 1200 x 125mm. R.O have ordered. Delivery imminent. **R.O.**
- 1.40 (1.42) Explosives analysis data capture. Waste tip results complete, Asbestos bags to follow, then open space and residential results. Database to be interrogated. **R.O.**
- 1.41 (1.43) Disposal of transformer PCB clearance certificate required. **R.O.**
- 1.42 (1.44) Tennis Club Hut Work is completed. R.O to dispose of residual items if not collected this summer. **R.O.**
- 1.43 (1.46) The need to revise the present programme to take account of clean/dirty site operations, requirements of planning application and development, expenditure, use of Crooked Mile Site access and infrastructure, was discussed. W.S.A draft programme prepared. R.O to put onto software for agreement and amendment. **R.O.**
Pertmaster manuals loaned to R.O. **W.S.A.**

- 1.44 (1.47) New Hill Pits, now exposed and fenced, sampling by R.O required for explosives to open space levels. Archaeologist cannot identify previous use. R.O to organise sample collection for explosive and chemical analysis. R.O.
ARCH.
- 1.45 (1.48) Fuel tanks in North P Area located and exposed. Specialist contract for removal required. R.O to organise. R.O.
- 1.46 (1.50) Drying Room B & CE complete. Await electrics. W.S.A.
- 1.47 (1.51) R.O to investigate water consumption/sewerage charges and electric tariff under auspices of the management contract. R.O.
W.S.A.
- 1.48 (1.52) Trenching to Northern Canals - replace materials as excavated so any suspect material is capped with gravel. Beware buried barge. R.O.
- 1.49 (1.54) Services to Mrs.Bellamy to be maintained. R.O.
- 1.50 (1.58) R.O undertook to investigate port-a-cabin rental prices and purchase options. For use in N Area, adjacent A200 or Powdermill lane. Craneage requirements to be coordinated. R.O.
- 1.51 (3.1) W.S.A have ascertained situation regarding Planning Permission and H Area. Remediation to residential standards is required. W.S.A.
- 1.52 (3.4) Demolition Contract - Button have repaired damaged roof trusses. Arched timber door frames repairs outstanding. R.O.
- 1.53 (3.5) Asbestos discovered on opposite bank of Horse Mill stream. NRA dealing with this. R.O input possible on explosives aspects. W.S.A.
Awaiting NRA. N.R.A.
- 1.54 (3.6) Queens Mead Canals partially located and excavated, work suspended. R.O.
- 1.55 (3.7) Repairs to H Area Road and others outstanding.
- 1.56 (3.10) W.S Atkins training visit to site rearranged for 27th April 1994. W.S.A.

2. PROGRESS AND PROGRAMME

- 2.1 R.O have produced a monthly progress report and recast programme based on a W.S.A draft for comment which is attached at Appendix 1 to these minutes.

3. ANY OTHER BUSINESS

- 3.1 Valves and Hydrants to be maintained by Terry Williams. Costs to caretaking contract.
- 3.2 Restructuring of site labour and staff to be undertaken. Approval given to employment of agency foreman to organise and motivate dayworks labour.

4. DATE OF NEXT MEETING

- 4.1 09.00 Hours on Tuesday 3rd May 1994.

R.E.WATTS.
21st April 1994

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
TUESDAY 10TH FEBRUARY 1994 AT 09.00 HOURS**

Present:	Mr Bob Watts	: W.S.A.	Copies: Mr D. Stanners	: M.O.D.
	Mr Graham Vincent	: R.O.	Mr D. Coyle	: M.O.D. P.E.
	Mr Peter Mayell	: R.O.	Mr A. Ford	: ARCH.
			Mr D. Bone	: CIVIX
			Mr R. Pallett	: D.W.S.

1. MATTERS ARISING - FROM MEETING OF 11TH JANUARY 1994 ACTION

1.1 (1.1) Drain Sampling

Draft ESG 37/93 - replaced by draft 41/93 - W.S.A. to comment.	R.O.
Drain removal around Incorporating Mills to proceed.	W.S.A.

1.2 (1.2) Explosives Testing

A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A. to prepare - awaiting issue of ESG 4/93 Part 1 from R.O. Part 2 received. SMC required.	R.O. W.S.A.
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1.3 (1.3) Building Index

Revised versions to be issued as changes are made.	R.O.
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1.4 (1.4) R.O. to prepare ESG 17/92 amendment for issue at R.O. cost. R.O.

1.5 (1.5) Photographic record of C.L.I. now available. Post C.L.I. photographs to be indexed and stored in Albums for inspection. Video film will be edited. Index to C.L.I. required - non urgent. W.S.A. to consider temporary labour requirements for indexing post C.L.I. photographs. Future photographs to be indexed when taken. Adopt Adam Fords system. R.O.

1.6 (1.6) Dossiers of buildings identified for retention draft document published. PMN finalised document published. CIVIX

- 1.7 (1.7) Remediation in P Area - practical completion - (17th Jan 1994) **R.O.**
W.S.A.
- 1.8 (1.8) Barrel Graveyard investigated. Strata of ground proved. Sampling undertaken by L.G.C. Results received from R.O. and L.G.C. W.S.A. to issue report. **W.S.A.**
- 1.9 (1.9) Gas Bottles uncovered in Tips Fixed price for this work received from R.O. and approved. Draft method statement for Tetryl pipe not complete. **R.O.**
- 1.10 (1.10) Water wheel and Press House areas. Confirmatory investigation to await removal of road which is located on fill. Road removal will proceed on completion of Newtons Pool Sluice. Condition survey of buildings 103 and 104 will dictate approach to clearance. Liaison committee is considering this area for further work, planting etc... SMC required. **R.O.**
W.S.A.
- 1.11 (1.11) L157 2nd stage strip out in progress. Await E.H. comments on exposure of boiler house and method of paint stripping. Listed building consents required for work other than maintenance, replacement like with like or safety aspects. **E.H.**
W.S.A.
R.O.
- 1.12 (1.12) "Asbestos in Buildings" Review of procedures in hand by W.S.A. **W.S.A.**
- 1.13 (1.13) Damage to fence in Grand Magazine area will require replacement. R.O. to undertake under maintenance contract. W.S.A. have raised V.O. which will appear in valuation but charged to caretaking and maintenance contract. R.O. to approach Carey's new fencing contractor when on site. PMN competitive quotes being obtained. **R.O.**
- 1.14 (1.14) Roof works to A203. Defects on lead work to be rectified. Ponding on library roof, R.O. to present proposals to rectify. Letchworth day work rates received for work on Mrs Bellamy's roof. **R.O.**
- 1.15 (1.15) Tetryl Area. Analysis of samples from bank indicated explosives within open space levels. Asbestos now is prime concern. Proceed with exposing gunpowder stove remains. Which will then be sheeted and covered with hoggin if confirmatory sampling and analysis is satisfactory. Proceed with clearance and excavation generally. Necessity to sheet pile bank for excavation to be resolved. **ARCH.**
R.O.
W.S.A.
- 1.16 (1.16) Air monitoring to continue until further notice. W.S.A. to investigate third party checking. **R.O.**
W.S.A.
- 1.17 (1.17) Preparation of accurate drawings of Asbestos clad steam main routes based on existing drawings, on-site observations. R.C.H.M.E. survey and Archaeologist input to be undertaken by MKS. W.S.A. to arrange. R.O. backup required regarding site information etc... **W.S.A.**

- 1.18 (1.18) R.O. reported on progress relating to disposal of bagged asbestos and results of explosive sampling. New arrangements proposed by W.S.A. agreed. **R.O.**
- 1.19 (1.19) Lecture theatre power and lights now functional. Comments received from Fire Prevention Officer. W.S.A. to comment. Electrics survey in hand and preparation of contract documents. Problem with door swings. **W.S.A.**
- 1.20 (1.20) Approval up to £2000 received for preparation of artefact inventory. Roger Neal will accompany Adam Ford to R.O. sites to review items which may be available. R.O. to progress, report required. Barge to be transported to site, organised by archaeologist. R.O. to submit revised offer for this work. **R.O.
ARCH.**
- 1.21 (1.21) Adam Ford Site Archaeologist is preparing a bridge report. Which is in print. He is also preparing a report on canal/river intersections. **ARCH.**
- 1.22 (1.22) R.O. have purchased asphalt melting plant to process material possibly containing explosives, for hire to client. Production in hand. Bitumen addition successful in improving flow characteristics. R.O. to investigate early start late finish for this task. **R.O.**
- 1.23 (1.23) Security High Bridge Street entrance. Layout related to clean/dirty site proposals. TW mains connection application in hand. R.O. checked possibility of mail deliveries to Highbridge Street. Possible but leave till permanent presence at High Bridge Street. PMN SMC received. **R.O.
W.S.A.**
- 1.24 (1.24) Reports. W.S.A. informed R.O. which copy reports are required. R.O. to action. First instalment received. **R.O.**
- 1.25 (1.25) R.O. have copied past waste tip method coloured results sheets to W.S.A. R.O. reminded to pass explosives analytical results to W.S.A. as they become available. Review of method complete. Procedure now being printed with revised information on "Wet Method" and applicable factors. **R.O.
W.S.A.**
- 1.26 (1.26) Basis of soil stripping to areas containing asbestos contaminated soil below former insulated steam mains and taking account of E.H. E.N. and R.S.C. views. The EHO has now issued guidelines on acceptable levels of Asbestos in soil. **W.S.A.**
- 1.27 (1.27) R.O. to engage engineer short term to complete existing services plotting. Checking by R.O. then later C.A.D. incorporation by external source. Task continuing. Chessington drawings now on site. Archaeologist is arranging copying of material in the PRO. **R.O.**

- 1.28 (1.28) Replacement of gutter to A201/A202 with cast iron. Order now placed with Bray. Awaiting E.H. approval. PMN approval received from E.H. **R.O.**
- 1.29 (1.29) Shaft by Water Mill cleaned out. R.O. reported no explosives. R.O. to fill with shingle. **R.O. ARCH.**
- 1.30 (1.30) Stockpiled waste material to be disposed of. Analysis revealed consistent Asbestos (Crocidolite) levels. Boiler house being cleaned out. Material can be used as a dilutant to explosively contaminated material > 1% if necessary. In dispute with S & M Re: volume calculations. **W.S.A.**
- 1.31 (1.31) Safety Audit comments received by R.O. copied to W.S.A. proposals for monthly Audit Visits at £200 per visit approved. Reports to be copied to W.S.A. Visit arranged. **R.O. W.S.A.**
- 1.32 (1.32) Newtons Pool now complete. Results of explosives analysis to arisings received. Stockpiled material to be disposed of. Sluice practically complete. Canal clean out agreed. Results of confirmatory testing received. R.O. draft report of total works in hand. **W.S.A. R.O.**
- 1.33 (1.33) R.O. to carry out preliminary removal of demolition arisings and hand pick of waste/asbestos in wooded area adjacent to track south of Edmonsey Sluice. R.O. reported no progress. awaiting machine availability and labour resources. **R.O.**
- 1.34 (1.34) Boot wash and drainage to Island car park W.S.A. have commented on R.O. draft proposals. Works approved. but awaiting SMC. Pointing required to brickwork at drain outfall to canal. **W.S.A**
- 1.35 (1.35) Clean/Dirty site arrangements. Implementation of proposals in hand. PMN 6 months minimum hire on wheel wash agreed. **W.S.A.**
- 1.36 (1.36) Copy of Explosives License Application received from R.O. This item long overdue. R.O. to progress. H.S.E. explosives inspectorate have promised to deal. H8, H10 & H71 not used. Agreed to keep H10 intact R.O. reported HSE agree to change H8 magazine in application to H7. **R.O.**
- 1.37 (1.37) Lagoon pump out in T Area and scrape complete. Sludge held in borrow pit for de-watering. Material will be sampled. awaiting resources. **R.O.**
- 1.38 (1.38) Rawlings Associates have assessed structural stability of walls (2 No.) at Newtons Pool and inspection of R.O. occupied buildings. Report issued. Unstable structures investigated. report in hand. Information received on paint specification and stability of undercroft in L148. **W.S.A.**

- 1.39 (I.39) Site vehicles provision agreed. 2 vehicles delivered, hire vehicle returned. R.O. to replace existing 2 vans with 1 new Maestro and Bedford Flat bed. R.O. to action before next meeting. PMN 6 months minimum hire on landrovers agreed. **R.O.**
- 1.40 (I.40) R.O. offered mound material from South Site for filling in T Area. W.S.A. inspection revealed dubious material. W.S.A. will inspect further if mound exposed by R.O. At present the material would not seem worth further consideration.
- 1.41 (I.41) Instructions issued by W.S.A. Re: prevention of pollution by oil. R.O. reported absorbent material obtained to deal with spillage. R.O. and W.S.A. to remind all contractors of need to contain fuel and oil stocks. R.O. to provide steel fuel trays for use by contractors. R.O. provided costing of £55 per tray, 1200 x 1200 x 125mm R.O. to order 4. **R.O.**
- 1.42 (I.42) R.O. costs for explosives analysis data capture received. R.O. to proceed with hire of temp and provide proposals for acceptance. **R.O.**
- 1.43 (I.43) Disposal of Transformer PCB clearance certificate required. **R.O.**
- 1.44 (I.44) Tennis Club Hut Work in completed. R.O. to dispose of residual items. **R.O.**
- 1.45 (I.45) Erection of security lights at Highbridge Street and A203 and other electrical requirements. Contract preparation in hand by Terry Pack. **W.S.A.**
- 1.46 (I.46) The need to revise the present programme to take account of clean/dirty site operations, requirements of planning application and development, expenditure, use of Crooked Mile Site access and infrastructure, was discussed. This to be undertaken before next progress meeting. **R.O.**
W.S.A.
- 1.47 (I.47) New Hill pits, now exposed and fenced, sampling by R.O. required for explosives to open space levels. Archaeologist cannot identify previous use. R.O. to organise sample collection for explosive and chemical analysis. **R.O.**
ARCH.
- 1.48 (I.48) R.O. to locate fuel tanks in North P Area. In hand. **R.O.**
- 1.49 (I.49) R.O. to provide itemised B.T. bills for 651611, 700296 and 713962. R.O. reported in hand. PMN received. **R.O.**
- 1.50 (I.50) Drying Room B & CE complete. Await electrics. **W.S.A.**
- 1.51 (I.52) R.O. to investigate water consumption/charges and electric tariff under auspices of the management contract. Terry Pack reviewing power consumption also. Copy of R.O. report to Mr D Stanners handed over. **R.O.**
W.S.A.
- 1.52 (I.53) Trenching to Northern Canals - replace materials as excavated so any suspect material is capped with gravel. Beware buried barge. **R.O.**

- 1.53 (1.54) Canal clearance in the Herony protection zone completed for this season. R.O.
- 1.54 (1.55) Services to Mrs Bellamy to be maintained. R.O.
- 1.55 (1.56) R.O. undertook to review hire rates of their equipment. R.O. to add insurance rate to specific hire items (excluding vehicles). R.O. reported in hand. PMN received.
- 1.56 (3.1) R.O. to produce February Valuation in early March to ensure payment this Financial Year. R.O.
- 1.57 (3.2) W.S.A. informed that an advisor to the emerging Trust was to be appointed and would require accommodation in A203 adjacent to present W.S.A./Archaeologists accommodation.
- 1.58 (3.3) R.O. undertook to investigate port-a-cabin rental prices and options. For use in N Area. R.O.

2. PROGRESS AND PROGRAMME

- 2.1 R.O. have produced a monthly progress report and re-cast programme for comment which is attached at Appendix 1 to these minutes.

3. ANY OTHER BUSINESS

- 3.1 W.S.A. to ascertain situation regarding Planning Permission and H Area. Degree of remediation is dependent on end use. W.S.A.
- 3.2 R.O. to be invited to comment on Specifications/Proposals prepared by others. W.S.A.
- 3.3 R.O. reiterated the requirement for a Drying Room during the wet weather. W.S.A.
R.O.
- 3.4 Demolition Contract - Button to be instructed to repair damaged roof trusses. R.O.
- 3.5 Asbestos discovered on opposite bank of Horse Mill Stream. NRA dealing with this. R.O. input possible on explosives aspects. W.S.A.
N.R.A.
- 3.6 Queens Mead Canals being located and excavated. R.O.
- 3.7 Repairs to H Area Road in hand.
- 3.8 R.M.A. undertaking L145 and L157 roof repairs. W.S.A.
- 3.9 Tony Bell has visited site to inspect the Herons. He will be carrying out monthly inspections. Working arrangements as last year. R.O.

3.10

W S Atkins training visit to site on 17th March 1994.

W.S.A.

4. DATE OF NEXT MEETING

4.1

09.00 Hours on 15th March 1994.

R. E. Watts
1st March 1994

CONTAMINATED LAND INVESTIGATION AND REMEDIATION WALTHAM ABBEY RARDE NORTH SITE

MINUTES OF MEETING HELD ON SITE TUESDAY 11TH JANUARY 1994 AT 09.00 HOURS

Present:	Mr Gordon Bulloch	: R.O.	Copies: Mr D. Stanners	: MOD. DLS.
	Mr Graham Vincent	: R.O.	Mr D. Coyle	: M.O.D. P.E.
	Mr Peter Mayell	: R.O.	Mr A. Ford	: ARCH.
	Mr Bob Watts	: W.S.A.	Mr D. Bone	: CIVIX
			Mr R. Pallett	: D.W.S.

1. MATTERS ARISING - FROM MEETING OF 4TH NOVEMBER 1993 ACTION

1.1 (1.1) Drain Sampling

Draft ESG 37/93 - W.S.A. to comment. (PMN) awaiting copy from R.O. R.O.
W.S.A.

1.2 (1.2) Explosives Testing

A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A. to prepare - awaiting issue of ESG 4/93 from R.O. R.O.
W.S.A.

1.3 (1.3) Building Index

Revised versions to be issued as changes are made. R.O.

1.4 (1.4) R.O. to prepare ESG 17/92 amendment for issue at R.O. cost. R.O.

1.5 (1.6) Photographic record of C.L.I. now available. Post C.L.I. photographs to be indexed and stored in Albums for inspection. Video film will be edited. Index to C.L.I. required - non urgent. W.S.A. will consider labour requirements for indexing post C.L.I. Future photographs to be indexed when taken. R.O.

1.6 (1.7) Dossiers of buildings identified for retention not yet received from CIVIX. Walton House proposals have been circulated by R.M.A. This task now extended to cover all buildings and remains to meet E.H. requirements for a condition survey. CIVIX

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|------|--------|--|------------------------|
| 1.7 | (1.8) | <u>Remediation in P Area</u> - approaching completion - (17th Jan 1994) | R.O.
W.S.A. |
| 1.8 | (1.9) | <u>Barrel Graveyard</u> investigated. Strata of ground proved. Sampling undertaken by L.G.C. Results received from R.O. and L.G.C. Issue report when Asbestos in soil issue resolved. | W.S.A. |
| 1.9 | (1.10) | <u>Gas Bottles uncovered in Tips</u> Fixed price for this work received from R.O. and approved. Draft method statement for Tetryl pipe received and commented on. | R.O. |
| 1.10 | (1.11) | <u>Water wheel and Press House areas</u> . Confirmatory investigation to await removal of road which is located on fill. Road removal will proceed on completion of Newtons Pool Sluice. Condition survey of buildings 103 and 104 will dictate approach to clearance. Liaison committee is considering this area for further work, planting etc... | R.O.
W.S.A. |
| 1.11 | (1.12) | <u>L157 2nd stage strip out</u> in progress. Sampling approved by W.S.A. Fill / undisturbed horizon around undercroft to be determined and sampled. L157 undercroft cleared. Draft incident report: ESG 77/93 received and commented on. Await E.H. comments on exposure of boiler house and method of paint stripping. Paul Morris to prepare costs and schedule of rates for remaining Incorporating Mills. | E.H.
W.S.A.
R.O. |
| 1.12 | (1.13) | <u>"Asbestos in Buildings"</u> Review of procedures in hand by W.S.A. No further clearance tests. List of buildings not yet cleared by R.O. in hand. | W.S.A.
R.O. |
| 1.13 | (1.14) | <u>Damage to fence in Grand Magazine</u> area will require replacement. R.O. to undertake under maintenance contract. W.S.A. have raised V.O. which will appear in valuation but charged to caretaking and maintenance contract. R.O. to approach Carey's fencing contractor when on site. | R.O. |
| 1.14 | (1.15) | <u>Roof works to A203</u> . Defects on lead work rectified, slate fixing on A201, A202 and A200 complete. Ponding on library roof, R.O. to present proposals to rectify. | R.O. |
| 1.15 | (1.16) | <u>Tetryl Area</u> - some analysis results available. Approval to further sampling for explosives analysis to open space levels approved, results awaited. Construction of bank to Horse Mill Stream to be ascertained by R.O. NRA to be consulted when further information is to hand. Di Mathias marked up drawing identified 4 pipes to be investigated. Waste is being processed. Excavation around archaeological remains proceeding. | ARCH.
R.O. |
| 1.16 | (1.17) | <u>Air monitoring</u> to continue until further notice. Results summary received and distributed to E.H.O. W.S.A. to investigate third party checking. | W.S.A.
R.O. |

- 1.17 (1.18) Preparation of accurate drawings of Asbestos clad steam main routes based on existing drawings, on-site observations, R.C.H.M.E. survey and Archaeologist input to be undertaken by MKS, subject to cost. W.S.A. to arrange. R.O. backup required regarding site information etc... **W.S.A.**
- 1.18 (1.19) R.O. reported on progress relating to disposal of bagged asbestos and results of explosive sampling. New arrangements proposed by W.S.A. R.O. to investigate implementation. **R.O.**
- 1.19 (1.20) Lecture theatre power and lights now functional. Comments received from Fire Prevention Officer. W.S.A. to comment, presentation by R.C.H.M.E. on 21st January 1993. Electrics survey in hand and preparation of contract documents. Problem with door swings. **W.S.A.**
- 1.20 (1.21) Approval up to £2000 received for preparation of artefact inventory. Roger Neal will accompany Adam Ford to R.O. sites to review items which may be available. R.O. to progress, report required. Barge to be transported to site. **R.O.
ARCH.**
- 1.21 (1.22) Adam Ford Site Archaeologist will now carry out the task of preparing bridge report. Progressing. **ARCH.**
- 1.22 (1.23) R.O. have purchased asphalt melting plant to process material possibly containing explosives, for hire to client. Production in hand. **R.O.**
- 1.23 (1.24) Security module in place at High Bridge Street entrance. W.S.A. to obtain quotes for security barrier. Portable toilet in place. Layout related to clean/dirty site proposals. TW mains connection application in hand. R.O. to check possibility of mail deliveries to Highbridge Street. **R.O.
W.S.A.**
- 1.24 (1.25) Reports. W.S.A. informed R.O. which copy reports are required. R.O. to action. **R.O.**
- 1.25 (1.26) R.O. have copied past waste tip method coloured results sheets to W.S.A. R.O. reminded to pass explosives analytical results to W.S.A. as they become available. Review of method complete. R.O. to resolve "wet factor" with David Malcolm. **W.S.A.
R.O.**
- 1.26 (1.27) Basis of soil stripping to areas containing asbestos contaminated soil below former insulated steam mains. This work to be held pending consultations with E.H.O., R.S.C. and W.S.A. L.G.C. sampling in N Area complete, results indicate persistent Asbestos levels. W.S.A. to discuss with E.H.O. acceptable levels of Asbestos in soil. **W.S.A.**
- 1.27 (1.28) R.O. to engage engineer short term to complete existing services plotting. Checking by R.O. then later C.A.D. incorporation by external source. R.O. reported P Area complete. Task continuing. **R.O.**

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|------|--------|---|----------------|
| 1.28 | (1.29) | <u>Replacement of gutter to A201/A202</u> with cast iron. Order now placed with Bray. | R.O. |
| 1.29 | (1.30) | <u>Shaft by Water Mill</u> cleaned out. R.O. reported rubble removed. R.O. to sample soil for open space analysis. | R.O.
ARCH. |
| 1.30 | (1.31) | <u>Stockpiled waste material to be disposed of.</u> Analysis revealed consistent Asbestos (Crocidolite) levels. Boiler house to be cleaned out. Material can be used as a dilutant to explosively contaminated material > 1%. | W.S.A. |
| 1.31 | (1.32) | <u>Safety Audit</u> comments received by R.O. copied to W.S.A. proposals for monthly Audit Visits at £200 per visit approved. Reports to be copied to W.S.A. | R.O.
W.S.A. |
| 1.32 | (1.33) | <u>Newtons Pool</u> now complete. Results of explosives analysis to arisings received. Stockpiled material to be disposed of. Sluice practically complete. R.O. clean up in hand. Canal clean out and confirmatory testing agreed. Eventually report of total works required. | R.O. |
| 1.33 | (1.34) | R.O. to carry out <u>preliminary removal of demolition arisings</u> and hand pick of waste/asbestos in wooded area adjacent to track south of <u>Edmonsey Sluice</u> . R.O. reported no progress, awaiting machine availability and labour resources. | R.O. |
| 1.34 | (1.35) | <u>Boot wash and drainage to Island car park</u> W.S.A. have commented on R.O. draft proposals. Works approved. | W.S.A |
| 1.35 | (1.36) | <u>Clean/Dirty site arrangements.</u> W.S.A. to comment on R.O. draft proposals. | W.S.A. |
| 1.36 | (1.37) | Copy of <u>Explosives License Application</u> received from R.O. This item long overdue. R.O. to progress. H.S.E. explosives inspectorate have promised to deal. H8, H10 & H71 not used. Agreed to keep H10 intact R.O. to change H8 magazine in application to H7 if possible. | R.O. |
| 1.37 | (1.38) | <u>Lagoon</u> pump out in T Area and scrape in progress. Sludge held in borrow pit for de-watering. Material will be sampled, awaiting resources. | R.O. |
| 1.38 | (1.39) | Conisbee have assessed <u>structural stability</u> of walls (2 No.) at Newtons Pool and inspection of R.O. occupied buildings. Information has been circulated. Report issued. Unstable structures to be investigated. | W.S.A. |
| 1.39 | (1.40) | <u>Site vehicles</u> provision agreed. 2 vehicles delivered, hire vehicle returned. R.O. to replace existing 2 vans from R.O. stock of more recent vintage at same cost. R.O. to action before next meeting. | R.O. |

- 1.40 (1.41) R.O. offered mound material from South Site for filling in T Area. W.S.A. inspection revealed dubious material. W.S.A. will inspect further if mound exposed by R.O. At present the material would not seem worth further consideration.
- 1.41 (1.42) Instructions issued by W.S.A. Re: prevention of pollution by oil. R.O. reported absorbent material obtained to deal with spillage. R.O. and W.S.A. to remind all contractors of need to contain fuel and oil stocks. R.O. to provide steel fuel trays for use by contractors. R.O. to provide costing. R.O.
- 1.42 (1.43) R.O. costs for explosives analysis data capture received. R.O. to proceed with hire of temp and provide proposals for acceptance. R.O.
- 1.43 (1.44) Disposal of Transformer PCB clearance certificate required. R.O.
- 1.44 (1.45) Tennis Club Hut Work in progress. R.O.
- 1.45 (1.46) Erection of security lights at Highbridge Street and A203 and other electrical requirements. Contract preparation in hand by Terry Pack. W.S.A.
- 1.46 (1.48) The need to revise the present programme to take account of clean/dirty site operations, requirements of planning application and development, expenditure, use of Crooked Mile Site access and infrastructure, was discussed. This to be undertaken before next progress meeting. R.O.
W.S.A.
- 1.47 (1.50) New Hill pits, now exposed and fenced, sampling by R.O. required for explosives to open space levels. Archaeologist to identify if possible. R.O.
ARCH.
- 1.48 (1.51) R.O. to locate fuel tanks in North P Area. Use metal detectors if necessary. Await relocation of waste operations. R.O.
- 1.49 (1.53) R.O. to provide itemised B.T. bills for 651611, 700296 and 713962. R.O. reported in hand. R.O.
- 1.50 (1.54) P.M.N. Drying Room B & CE complete. Await electrics. W.S.A.
- 1.51 (1.55) P.M.N. R.O. list of unstable buildings and structures received. W.S.A. to respond. W.S.A.
- 1.52 (1.56) R.O. to investigate water consumption/charges and electric tariff under auspices of the management contract. Terry Pack reviewing power consumption also. R.O.
W.S.A.
- 1.53 (3.1) Trenching to Northern Canals - replace materials as excavated so any suspect material is capped with gravel. R.O.
- 1.54 (3.2) Complete canal clearance in the Herony protection zone before 16th January 1994 if possible. R.O.

1.55 (3.3) Services to Mrs Bellamy to be maintained.

R.O.

1.56 (3.4) R.O. undertook to review hire rates of their equipment. R.O. to add insurance rate to specific hire items (excluding vehicles).

2. PROGRESS AND PROGRAMME

2.1 R.O. have produced a monthly progress report and re-cast programme for comment which is attached at Appendix 1 to these minutes.

3. ANY OTHER BUSINESS

3.1 R.O. to produce February Valuation in early March to ensure payment this Financial Year.

R.O.

3.2 W.S.A. informed that an advisor to the emerging Trust was to be appointed and would require accommodation in A203 adjacent to present W.S.A./Archaeologists accommodation.

3.3 R.O. undertook to investigate port-a-cabin rental prices. For use in N Area.

4. DATE OF NEXT MEETING

4.1 09.00 Hours on 10th February 1994.

R. E. Watts
2nd February 1994

Adam
Ford.

Our Ref: E5275

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
THURSDAY 9TH DECEMBER 1993 AT 09.00 HOURS**

Present:	Mr Graham Vincent	: R.O.	Copies: Mr D. Stanners	: MOD. DLS.
	Mr Peter Mayell	: R.O.	Mr D. Coyle	: M.O.D. P.E.
	Mr Bob Watts	: W.S.A.	Mr A. Ford	: ARCH.
			Mr D. Bone	: CIVIX

1. MATTERS ARISING - FROM MEETING OF 4TH NOVEMBER 1993 ACTION

1.1 (1.1) Drain Sampling

Draft ESG 37/93 - W.S.A. to comment. (PMN) awaiting copy from R.O.

**R.O.
W.S.A.**

1.2 (1.2) Explosives Testing

A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A. to prepare - (PMN) awaiting issue of ESG 4/93 from R.O.

**R.O.
W.S.A.**

1.3 (1.3) Building Index

Revised versions to be issued as changes are made.

R.O.

1.4 (1.4) Updating of original C.L.I. report to await W.S.A. response to Clayton Report. R.O. reported P Area update completed. (PMN) Response completed R.O. to prepare amendment for issue at R.O. Cost.

R.O.

1.5 (1.5) Original sample points are to be plotted on MKS survey drawings when C.A.D. input resolved. Area P complete, drawing register established, standard title block required.

R.O.

1.6 (1.6) Photographic record of C.L.I. now available. Post C.L.I. photographs to be indexed and stored in Albums for inspection. Video film will be edited. Index to C.L.I. required - non urgent. W.S.A. will consider labour requirements for indexing post C.L.I. Future photographs to be indexed when taken.

R.O.

- | | | |
|------|--|------------------------------------|
| 1.7 | (1.7) <u>Dossiers of buildings identified for retention</u> not yet received from CIVIX. Walton House proposals have been circulated by R.M.A. This task now extended to cover all buildings and remains to meet E.H. requirements for a condition survey. | CIVIX |
| 1.8 | (1.8) <u>Further investigation required in Southern P Area</u> to W.S.A. plan. Extent will depend on discussions with developers/purchasers and degree of remediation required - in hand. | M.K.S.
L.G.C.
R.O.
W.S.A. |
| 1.9 | (1.9) <u>Barrel Graveyard</u> to be investigated. Strata of ground proved. Sampling undertaken by L.G.C. Results awaited from R.O. and L.G.C. (PMN) Results to hand. | W.S.A. |
| 1.10 | (1.10) <u>Gas Bottles uncovered in Tips</u> Fixed price for this work received from R.O. and approved. Draft method statement for Tetryl pipe received. | R.O.
W.S.A. |
| 1.11 | (1.11) <u>Water wheel and Press House areas.</u> Confirmatory investigation to await removal of road which is located on fill. Road removal will proceed on completion of Newtons Pool Sluice. Condition survey of buildings 103 and 104 will dictate approach to clearance. Liaison committee is considering this area for further work, planting etc... | R.O.
W.S.A. |
| 1.12 | (1.12) <u>L157 2nd stage strip out</u> in progress. Sampling approved by W.S.A. Fill / undisturbed horizon around undercroft to be determined and sampled. L157 undercroft to be cleared. Draft incident report ESG 77/93 received. Await E.H. comments on exposure of boiler house and method of paint stripping. Paul Morris to prepare costs and schedule of rates for remaining Incorporating Mills. | E.H.
W.S.A.
R.O. |
| 1.13 | (1.13) <u>"Asbestos in Buildings"</u> Review of procedures in hand by W.S.A. No further clearance tests. List of buildings not yet cleared required. | R.O. |
| 1.14 | (1.15) <u>Damage to fence in Grand Magazine</u> area will require replacement. R.O. to undertake under maintenance contract. W.S.A. have raised V.O. will appear in valuation but charged to caretaking and maintenance contract. | R.O. |
| 1.15 | (1.17) <u>Roof works to A203.</u> Defects on lead work rectified, slate fixing on A201, A202 and A200 complete, R.O. to inspect. Ponding on library roof R.O. to present proposals to rectify. | R.O. |

- 1.16 (1.18) Tetryl Area - analysis results available. Approval to further sampling for explosives analysis to open space levels approved. Construction of bank to Horse Mill Stream to be ascertained by R.O. NRA to be consulted when further information is to hand. Di Mathias marked up drawing identified 4 pipes to be investigated. Waste is being processed. Excavation around archaeological remains proceeding. **R.O.**
- 1.17 (1.19) Air monitoring to continue until further notice. Results summary received and distributed to E.H.O. W.S.A. to investigate third party checking. **R.O.**
- 1.18 (1.20) Preparation of accurate drawings of Asbestos clad steam main routes based on existing drawings, on-site observations, R.C.H.M.E. survey and Archaeologist input to be undertaken by MKS, subject to cost. W.S.A. to arrange. R.O. backup required regarding site information etc... **W.S.A.**
- 1.19 (1.22) R.O. reported on progress relating to disposal of bagged asbestos and results of explosive sampling. Revised procedure ESG 1008/93 draft for comment from R.O. (PMN) New arrangements proposed by W.S.A. **R.O.**
W.S.A.
- 1.20 (1.23) Lecture theatre power and lights now functional. Comments received from Fire Prevention Officer. W.S.A. to comment, presentation by R.C.H.M.E. on 21st January 1993. (PMN) Electrics survey in hand and preparation of contract documents. Problem with door swings. **W.S.A.**
- 1.21 (1.24) Approval up to £2000 received for preparation of artefact inventory. Roger Neal will accompany Adam Ford to R.O. sites to review items which may be available. R.O. to progress, report required. (PMN) Barge to be transported to site. **R.O.**
ARCH.
- 1.22 (1.25) Adam Ford Site Archaeologist will now carry out the task of preparing bridge report. Progressing. **ARCH.**
- 1.23 (1.26) R.O. have purchased asphalt melting plant to process material possibly containing explosives, for hire to client. Production in hand R.O. issued draft report ESG 65/93 for comment. **R.O.**
W.S.A.
- 1.24 (1.27) Security module in place at High Bridge Street entrance. W.S.A. to obtain quotes for security barrier, R.O. to install stand pipe. Portable toilet in place. Layout related to clean/dirty site proposals. TW mains connection application in hand. R.O. to check possibility of mail deliveries to Highbridge Street. **R.O.**
W.S.A.
- 1.25 (1.28) Reports. W.S.A. informed R.O. which copy reports are required. R.O. to action. **R.O.**

- 1.26 (1.29) R.O. have copied past waste tip method coloured results sheets to W.S.A. R.O. reminded to pass explosives analytical results to W.S.A. as they become available. Review of method in hand. R.O. to resolve "wet factor" with David Malcolm. Draft instruction ESG 76/93 passed for comment. **W.S.A.
R.O.**
- 1.27 (1.31) Basis of soil stripping to areas containing asbestos contaminated soil below former insulated steam mains positions set out in P.S.A. letter to R.O. of the 11th June 1993. This work to be held pending consultations with E.H.O., R.S.C. and W.S.A. L.G.C. sampling in N Area complete, results indicate persistent Asbestos levels. W.S.A. to discuss with E.H.O. acceptable levels of asbestos in soil. **W.S.A.**
- 1.28 (1.32) R.O. to engage engineer short term to complete existing services plotting. Checking by R.O. then later C.A.D. incorporation by external source. R.O. reported P Area complete. R.O. to produce completed services drawing for P Area. Task continuing. **R.O.**
- 1.29 (1.33) Replacement of gutter to A201/A202 with cast iron, quotations required. Variations in offers resolved. Order now placed with Bray. **R.O.**
- 1.30 (1.34) Shaft by Water Mill cleaned out. R.O. reported rubble removed. R.O. to sample soil for open space analysis. **R.O.
ARCH.**
- 1.31 (1.35) Stockpiled waste material to be disposed of. Analysis revealed consistent Asbestos (Crocidolite) levels. Boiler house to be cleaned out. Material can be used as a dilutant to explosively contaminated material > 1%. **W.S.A.**
- 1.32 (1.37) Safety Audit comments received by R.O. copied to W.S.A. proposals for monthly Audit Visits at £200 per visit approved. Reports to be copied to W.S.A. **R.O.
W.S.A.**
- 1.33 (1.54) Newtons Pool now complete. Results of explosives analysis to arisings received. Stockpiled material to be disposed of. Sluice practically complete. R.O. clean up in hand. Canal clean out and confirmatory testing outstanding. PMN incident report required and eventually report of total works. **R.O.**
- 1.34 (1.56) R.O. to carry out preliminary removal of demolition arisings and hand pick of waste/asbestos in wooded area adjacent to track south of Edmonsey Sluice. R.O. reported no progress, awaiting machine availability. **R.O.**
- 1.35 (1.57) Boot wash and drainage to Island car park W.S.A. have commented on R.O. draft proposals. Works approved. **W.S.A**
- 1.36 (1.58) Clean/Dirty site arrangements. W.S.A. to comment on R.O. draft proposals. **W.S.A.**

- 1.37 (1.59) Copy of Explosives License Application received from R.O. This item long overdue. R.O. to progress. H.S.E. explosives inspectorate have promised to deal H8, H10 & H71 not used. **R.O.**
- 1.38 (1.60) Lagoon pump out in T Area and scrape in progress. Sludge held in borrow pit for de-watering. Material will be sampled, awaiting resources. **R.O.**
- 1.39 (1.61) Conisbee have assessed structural stability of walls (2 No.) at Newtons Pool and inspection of R.O. occupied buildings. Information has been circulated. Draft report imminent. Unstable structures to be investigated. **W.S.A.**
- 1.40 (1.62) Site vehicles provision agreed. 2 vehicles delivered, hire vehicle returned. R.O. to replace existing 2 vans from R.O. stock of more recent vintage at same cost. R.O. to action. **R.O.**
- 1.41 (1.64) R.O. offered mound material from South Site for filling in T Area. W.S.A. inspection revealed dubious material. W.S.A. will inspect further if mound exposed by R.O. At present the material would not seem worth further consideration.
- 1.42 (1.67) Instructions issued by W.S.A. Re: prevention of pollution by oil. R.O. reported absorbent material obtained to deal with spillage. R.O. and W.S.A. to remind all contractors of need to contain fuel and oil stocks. R.O. to provide steel fuel trays for use by contractors. R.O. to provide costing. **R.O.**
- 1.43 (1.68) R.O. costs for explosives analysis data capture received. R.O. to provide proposals for acceptance. **R.O.**
- 1.44 (1.69) Instructions for disposal of transformer issued. Others on site to be identified. Costs from specialist company received. R.O. reported removal imminent. **R.O.**
- 1.45 (1.70) VO. issued for Tennis Club Hut erection. Weather delay, dimension problem, hut delivered but not erected. **R.O.**
- 1.46 Erection of security lights at Highbridge Street and A203 and other electrical requirements to be considered. (PMN) Contract preparation in hand by Terry Pack. **W.S.A.**
- 1.48 (3.2) The need to revise the present programme to take account of clean/dirty site operations, requirements of planning application and development, expenditure, use of Crooked Mile Site access and infrastructure, was discussed. This to be undertaken before next progress meeting. **R.O.**
W.S.A.
- 1.49 (3.3) Hire of security guard for Highbridge Street gate requested by W.S.A. No cost advantage using Reliance Security in place of Bray.

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|------|--------|--|----------------------|
| 1.50 | (3.4) | <u>New Hill pits</u> , now exposed and fenced, sampling by R.O. required for explosives to open space levels. Archaeologist to identify if possible. Pending R.O. to report. | R.O.
ARCH. |
| 1.51 | (3.6) | R.O. to <u>locate fuel tanks</u> in North P Area. Use metal detectors if necessary. Await relocation of waste operations. | R.O. |
| 1.52 | (3.8) | R.O. reported <u>sign production and fixing</u> is complete. | R.O. |
| 1.53 | (3.9) | R.O. to provide <u>itemised B.T. bills</u> for 651611, 700296 and 713962. R.O. reported in hand. | R.O. |
| 1.54 | (3.12) | P.M.N. <u>Drying Room</u> B & CE complete. Await electrics. | W.S.A. |
| 1.55 | (3.13) | P.M.N. R.O. list of <u>unstable buildings and structures</u> received. W.S.A. to respond. | W.S.A. |
| 1.56 | (3.15) | R.O. to investigate <u>water consumption/charges and electric tariff</u> under auspices of the management contract. (PMN) Terry Pack reviewing power consumption also. | W.S.A. |

2. PROGRESS AND PROGRAMME

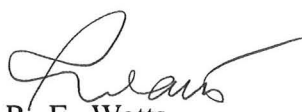
- 2.1 Programme against which progress is being measured is to be recast to take account of land disposals, developers requirements and establishment ^{of the} Trust.

3. ANY OTHER BUSINESS

- 3.1 Trenching to Northern Canals - replace materials as excavated so any suspect material is capped with gravel.
- 3.2 Complete canal clearance in the Herony protection zone before 16th January 1994 if possible.
- 3.3 W.S.A. will write to M.O.D. to clarify services to Mrs Bellamy.
- 3.4 R.O. undertook to review hire rates of their equipment. R.O. to add insurance rate to specific hire items (excluding vehicles).

4. DATE OF NEXT MEETING

- 4.1 09.00 Hours on 11th January 1994.


 R. E. Watts
6th January 1994

CONTAMINATED LAND INVESTIGATION AND REMEDIATION WALTHAM ABBEY RARDE NORTH SITE

MINUTES OF MEETING HELD ON SITE TUESDAY 4TH NOVEMBER 1993 AT 09.00 HOURS

Present:	Mr Graham Vincent	: R.O.	Copies:	Mr D. Stanners	: M.O.D. DLS.
	Dr Gordon Bulloch	: R.O.		Mr D. Coyle	: M.O.D. P.E.
	Mr Peter Mayell	: R.O.		Mr D. Bone	: CIVIX
	Mr Bob Watts	: W.S.A.		Mr A. Ford	: ARCH.

1. MATTERS ARISING - FROM MEETING OF 2ND SEPTEMBER 1993 ACTION

1.1 (1.1) Drain Sampling

Report ESG28/93 issued. Draft ESG37/93 and ESG41/93 issued.
W.S.A to comment - outstanding.

W.S.A.

1.2 (1.2) Explosives Testing

A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A. to prepare - outstanding. (See also 3.1).

W.S.A.

1.3 (1.4) Building Index

Revised versions to be issued as changes are made.

R.O.

1.4 (1.5) Updating of original C.L.I. report to await W.S.A. response to Clayton Report. R.O. reported P Area update completed.

W.S.A.

1.5 (1.6) Original sample points are to be plotted on MKS survey drawings when C.A.D. input resolved. Area P complete, drawing register established, standard title block required.

R.O.

1.6 (1.7) Potographic record of C.L.I. now available. Post C.L.I. photographs to be indexed and stored in Albums for inspection. Video film will be edited. Index to C.L.I. required - non urgent. W.S.A. will consider labour requirements for indexing post C.L.I. Future photographs to be indexed when taken.

R.O.

1.7 (1.8) Dossiers of buildings identified for retention not yet received from CIVIX. Walton House proposals have been circulated by R.M.A. This task now extended to cover all buildings and remains to meet E.H. requirements for a condition survey.

CIVIX

- 1.8 (1.9) Further investigation required in Southern P Area to W.S.A. plan. Extent will depend on discussions with developers/purchasers and degree of remediation required - in hand. **W.S.A**
- 1.9 (1.10) Barrel Graveyard to be investigated. Strata of ground proved. Sampling undertaken by L.G.C. Results awaited from R.O. and L.G.C. **L.G.C**
R.O.
W.S.A.
- 1.10 (1.11) R.O. to investigate the hire and use of remotely controlled electric saw to cut gas bottles uncovered in tip. R.O. stated intention to pilot drill first then saw. Procurement of saw in hand. Suitable arrangements will be made by R.O. to take account of any chlorine release. Water sprays, breathing apparatus etc... procedure ESG48/93 issued. Fixed price for this work received from R.O. - W.S.A to respond. **W.S.A.**
- 1.11 (1.12) Water wheel and Press House areas. Confirmatory investigation to await removal of road which is located on fill. Road removal will proceed on completion of Newtons Pool Sluice. Condition survey of buildings 103 and 104 will dictate approach to clearance. PJ costs relating to stabilising spray received. Two further competitive costs required. Liaison committee is considering this area for further work, planting etc... **R.O.**
W.S.A.
- 1.12 (1.13) L157 2nd stage strip out in progress. alternative method of working under consideration. Sampling approved by WSA. Fill / undisturbed horizon around undercroft to be determined and sampled. L157 undercroft to be cleared. Strutting of undercroft approved. **R.O.**
- 1.13 (1.14) "Asbestos in Buildings" Report to be photocopied to WSA with list of completed buildings with a view to tender action for remainder **R.O.**
- 1.14 (1.15) Phase IV demolition contract defects and deficiencies complete. WSA to issue WSA VO to cover outstanding account and subsequent demolition. **W.S.A.**
- 1.15 (1.16) Damage to fence in Grand Magazine area will require replacement. R.O. to undertake under maintenance contract. W.S.A. to raise V.O. will appear in valuation but charged to caretaking and maintenance contract. **W.S.A.**
R.O.
- 1.16 (1.17) R.S.C. has recommended September cut rake and light rolling to Queens Mead. Fitzjohn proceeding on competitive quotation. **R.O.**
- 1.17 (1.18) Approval to variation on roof works arising from poor quality roof screed on Area C. Defects on lead work to be rectified, slate fixing on A201, A202 and A200 to proceed, date required. Ponding on library roof R.O. to present proposals to rectify. **R.O.**

- 1.18 (1.19) Tetryl Area - analysis results available. Approval to further sampling for explosives analysis to open space levels approved. Construction of bank to Horse Mill Stream to be ascertained by R.O. NRA to be consulted when further information is to hand. Di Mathias marked up drawing identified 4 pipes to be investigated. **R.O.**
- 1.19 (1.20) Air monitoring to continue until further notice. Results summary received and distributed to E.H.O. Drawing required showing locations of "fixed" monitoring locations. P.M.N. 3 copies of monitoring results and clearance certificates now required for E.H.O. and consultant. **R.O.**
- 1.20 (1.21) Preparation of accurate drawings of Asbestos clad steam main routes based on existing drawings, on-site observations, RCHME survey and Archaeologist input to be undertaken by MKS, subject to cost. WSA to arrange. R.O. backup required regarding site information etc... **W.S.A.**
- 1.21 (1.22) MKS or similar to undertake future gridding and survey work on site and production of CAD survey sheets. **W.S.A.**
- 1.22 (1.23) R.O. reported on progress relating to disposal of bagged asbestos and results of explosive sampling, comments received from E.H.O. Ref: ESG/1008/93 procedure. Some positives < 1000 ppm. Further discussions required W.S.A. to respond to E.H.O. R.O. to write to Shanks & McEwan with volumes and types of solvent for disposal as special waste and tip license limitations. **R.O.**
W.S.A.
- 1.23 (1.24) Lecture theatre power and lights now functional. Successful presentation 22nd October to ex RARDE employees. Comments received from Fire Prevention Officer. WSA to comment. **W.S.A.**
- 1.24 (1.25) Approval up to £2000 received for preparation of artefact inventory. P.S.A. letter of 26th May 1993 refers. R.O. to action. Visits to be made with A.F. commencing with South Site. National Maritime Museum have inspected barges on site and at Fort Halstead. Preliminary barge report received tender proposals for restoration imminent. Roger Neal will accompany Adam Ford to other R.O. sites to review items which may be available. R.O. to progress. **R.O.**
ARCH.
- 1.25 (1.26) Adam Ford Site Archaeologist will now carry out the task of preparing bridge report. **ARCH.**
- 1.26 (1.29) R.O. have purchased asphalt melting plant to process material possibly containing explosives, for hire to client. R.O. to advise hire rate and work procedure. Demonstration by manufacturer to R.O. successful. R.O. reported delivery to W/A North Site. Commissioning at R.O. cost. (Excluding labour costs). 5/11/93. **R.O.**

- 1.27 (1.30) Security module in place at High Bridge Street entrance. W.S.A. to obtain quotes for security barrier, R.O. to install stand pipe. Portable toilet in place. Layout related to clean/dirty site proposals. **R.O.**
W.S.A.
- 1.28 (1.32) Reports. W.S.A. to inform R.O. which copy reports are required. Outstanding W.S.A. to action. **W.S.A.**
- 1.29 (1.33) R.O. to copy past waste tip method coloured results sheets to W.S.A. at approximately £0.80p sheet. R.O. reminded to pass explosives analytical results to W.S.A. as they become available. **R.O.**
- 1.30 (1.34) Distribution list for all R.O. proposals to be as P.S.A. fax to Roger Neal of 4th June 1993. W.S.A. will distribute to E.F.D.C. Environmental Officer, and his consultant, Clayton Environmental. Please note cost information to David Stanners M.O.D. and W.S.A. only. W.S.A. will distribute to S.S.O. M.O.D. P.E. Tender documents not to be distributed unless instructed by W.S.A. **R.O.**
- 1.31 (1.35) Basis of soil stripping to areas containing asbestos contaminated soil below former insulated steam mains positions set out in P.S.A. letter to R.O. of the 11th June 1993. This work to be held pending consultations with E.H.O., R.S.C. and W.S.A. L.G.C. sampling in N Area complete, results awaited. W.S.A. to discuss with E.H.O. acceptable levels of asbestos. **W.S.A.**
- 1.32 (1.36) R.O. to engage engineer short term to complete existing services plotting. Checking by R.O. then later C.A.D. incorporation by external source. R.O. reported P Area complete. R.O. to produce completed services drawing for P Area. Task continuing. **R.O.**
- 1.33 (1.38) Replacement of gutter to A201/A202 with cast iron, quotations required. Variations in offers resolved. Order now placed with Bray. **R.O.**
- 1.34 (1.40) Shaft by Water Mill cleaned out. R.O. to make safe. R.O. to use hand grab to lower level of internal rubble. In hand. **R.O.**
ARCH.
- 1.35 (1.41) Stockpiled waste material to be disposed of. Analysis to proceed to classify present and future waste. Alternative sites to be researched. **W.S.A.**
- 1.36 (1.42) P.M.N. S.S.O. requested documents supplied by R.O. and collected - comments awaited.
- 1.37 (1.44) Safety Audit comments received by R.O. To be copied to W.S.A. with proposals for frequency of Audit Visits which are to be considered. **R.O.**
W.S.A.
- 1.38 (1.47) All R.O. sample analysis to be identified by number in valuations. **R.O.**

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| 1.39 | (1.48) | <u>Excavate Northern P Area canal over road</u> , temporary road installed to allow excavation of remainder of canal. Confirmatory sampling as part of Powdermill Lane Housing Site investigation. | R.O. |
| 1.40 | (1.49) | <u>P10 Area</u> - Latest sample analysis results indicate presence of NG in excavated faces. Re-excavation required in co-ordination with Powdermill Lane Housing Site. | R.O. |
| 1.41 | (1.50) | <u>Powdermill Lane Housing</u> . Future fill stripping and demolition of A230, 1, 2 & 4 buildings to be resolved with developers and client. P.M.N. consultation procedure in hand, date required for completion. Tender procedure for demolition to be progressed by R.O. | R.O.
W.S.A. |
| 1.42 | (1.52) | <u>Accumulated material from cordite area</u> which contains minimal shards of cordite sampled for asbestos content to determine disposal route. Area formed in truncated cone shape. Spray paint used to mark grids L.G.C. sampling complete. Results awaited. | R.O.
W.S.A. |
| 1.54 | (1.54) | <u>Newtons Pool</u> now complete. Remaining clay and silt to be sorted. Football found, report awaited and results of analysis. Carey started 18th October 1993. R.O. set up syphon between Cornmill Stream and Old River Lea. W.S.A. to consider chemical sampling of silt and gave approval to limited explosives sampling by R.O. | R.O. |
| 1.55 | (1.56) | R.O. to obtain costings for procurement of a <u>rotary suction floor cleaner</u> . R.O. reported on order correct machine awaited. | R.O. |
| 1.56 | (1.57) | R.O. to carry out <u>preliminary removal of demolition arisings</u> and hand pick of waste/asbestos in wooded area adjacent to track south of <u>Edmonsey Sluice</u> . R.O. reported no progress. | R.O. |
| 1.57 | (3.1) | <u>Boot wash and drainage to Island car park</u> W.S.A. to comment on R.O. draft proposals. | W.S.A |
| 1.58 | (3.2) | <u>Clean/Dirty site arrangements</u> . W.S.A. to comment of R.O. draft proposals. | W.S.A. |
| 1.59 | (3.3) | Copy of <u>Explosives License Application</u> received from R.O. This item long overdue. R.O. to progress. | R.O. |
| 1.60 | (3.4) | <u>Lagoon</u> pump out in T Area and scrape in progress. Sludge held in borrow pit for de-watering | R.O. |
| 1.61 | (3.6) | Conisby have assessed <u>structural stability</u> of walls (2 No.) at Newtons Pool and inspection of R.O. occupied buildings. Some information received W.S.A. to circulate. | W.S.A. |

- 1.62 (3.7) Site vehicles provision agreed. 2 vehicles delivered, hire vehicle returned. R.O. to replace existing 2 vans from R.O. stock of more recent vintage at same cost. **R.O.**
- 1.63 (3.8) Comments on ESG 5/93 part 1 made by W.S.A. do not necessitate re-issue. 3 sets of Part 2, as amended, requested for W.S.A. & E.H.O. **R.O.**
- 1.64 (3.9) R.O. offered mound material from South Site for filling in T Area. W.S.A. inspection revealed dubious material. W.S.A. will inspect further if mound exposed by R.O. At present the material would not seem worth further consideration.
- 1.65 (3.10) Copier delivered and installed. Rental will appear in valuations. Charge of 0.9p per copy will be applied.
- 1.66 (3.11) Camera equipment supplied. Rental charge to be proposed by R.O. **R.O.**
- 1.67 (3.13) Instructions issued by W.S.A. Re: prevention of pollution by oil. R.O. reported absorbent material obtained to deal with spillage. R.O. and W.S.A. to remind all contractors of need to contain fuel and oil stocks. **R.O.**
- 1.68 (3.14) R.O. proposals and costs for explosives analysis data capture in hand. **R.O.**
- 1.69 (3.17) Instructions for disposal of transformer issued. Others on site to be identified. Awaiting costs from specialist company. **R.O.**
- 1.70 (3.18) VO. issued for Tennis Club Hut erection. No request by R.M.A. yet. **R.O.**
- (3.19) Instruction for removal of security lights and associated cable and fittings issued. Erection of security lights at Highbridge Street and A203 and other electrical requirements to be considered. **W.S.A.**
R.O.
- (3.20) Instructions to remove and treat ivy and stumps from building 103 issued. Arrangements in hand. **R.O.**
- 1.71 (3.22) W.S.A to draft visitors procedure. In hand. **W.S.A.**

2. PROGRESS AND PROGRAMME

- 2.1 R.O. produced a monthly progress report and programme for comment which is attached at Appendix 1 to these minutes.


3. ANY OTHER BUSINESS

- 3.1 A detailed discussion took place regarding waste sampling and analysis. W.S.A. are concerned to undertake only that analysis absolutely necessary. The large body of evidence available should now be considered and a revision to procedure enacted if appropriate. This approach is to be applied to the procedures of classification of waste following analysis. The present arrangements, given the experiences of the last 10 months, would seem to be too onerous. R.O. to discuss aspects with their safety officer, W.S.A. to write to H.S.E. **R.O.
W.S.A.**
- 3.2 The need to revise the present programme to take account of clean/dirty site operations, requirements of planning application and development, expenditure, use of Crooked Mile Site access and infrastructure, was discussed. This to be undertaken before next progress meeting. **R.O.
W.S.A.**
- 3.3 Hire of security guard for Highbridge Street gate requested by W.S.A. This person to be capable of booking in and out vehicles, ascertaining if vehicles are fully loaded with waste on exit and control of general traffic/personnel through the gate. This will release Bray employees from unskilled work. **R.O.**
- 3.4 New Hill pits, now exposed and fenced, sampling by R.O. required for explosives to open space levels. Archaeologist to identify if possible. **R.O.
ARCH.**
- 3.5 Administrative Support R.O. requested admin support be reassessed due to additional load from site presence of Archaeologist and W.S.A. W.S.A. responded any increase in resources must be funded by R.O. **R.O.**
- 3.6 R.O. to locate fuel tanks in North P Area. Use metal detectors if necessary. **R.O.**
- 3.7 R.O. reported previous use of Ammonium Nitrate on site was minimal with the exception of T Area where Ammonia was used in the production of Nitric Acid.
- 3.8 R.O. to provide progress report on sign production and fixing. **R.O.**
- 3.9 R.O. to provide itemised B.T. bills for 651611, 700296 and 713962. **R.O.**
- 3.10 W.S.A. agreed R.O. proposals for propping arrangements to undercroft in L157. **R.O.**
- 3.11 R.O. to investigate production of waste tickets to minimise repetitive and time consuming form filling. **R.O.**
- 3.12 P.M.N. Drying Room quotations received. W.S.A. to respond. **W.S.A.**

- 3.13 P.M.N. R.O.list of unstable buildings and structures received.
W.S.A. to respond. W.S.A.
- 3.14 P.M.N. information on computer rental received. W.S.A. to respond. W.S.A.
- 3.15 R.O. to investigate water consumption/charges and electric tariff
under auspices of the management contract.

4. DATE OF NEXT MEETING

- 4.1 09.00 Hours on 7th December 1993.

 R. E. Watts
November 1993

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
TUESDAY 5TH OCTOBER 1993 AT 08.00 HOURS**

Present:	Mr Graham Vincent	: R.O.	Copies: Mr D. Stanners	: M.O.D. D.L.S.
	Dr Gordon Bulloch	: R.O.	Mr D. Coyle	: M.O.D. P.E.
	Mr Peter Mayell	: R.O.	Mr D. Bone	: CIVIX
	Mr Bob Watts	: W.S.A.	Mr A. Ford	: ARCH.

1. MATTERS ARISING - FROM MEETING OF 2ND SEPTEMBER 1993 ACTION

1.1 (1.1) - *Drain Sampling*

Report ESG28/93 issued. Draft ESG37/93 and ESG41/93 issued.
W.S.A to comment.

W.S.A.

1.2 (1.2) - *Explosives Testing*

A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A. to prepare - outstanding.

W.S.A.

1.3 (1.3) R.O. to provide details of past Tetryl finds around L134.
R.O. reported in hand. P.M.N. information received.

1.4 (1.4) - *Building Index*

Revised version issued.

R.O.

1.5 (1.5) Updating of original C.L.I. report to await W.S.A. response to Clayton Report. R.O. reported P Area update completed.

W.S.A.

1.6 (1.6) Original sample points are to be plotted on MKS survey drawings when C.A.D. input resolved. Area P complete W.S.A. stated a drawing register is required and standard title block. P.M.N. drawing register established.

R.O.

1.7 (1.7) Photographic record of C.L.I. now available. Post C.L.I. photographs to be indexed and stored in Albums for inspection. Video film will be edited. P.M.N. index to C.L.I. required - non urgent W.S.A. will consider labour requirements for indexing post C.L.I. Future photographs to be indexed when taken.

R.O.

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|------|--------|--|----------------|
| 1.8 | (1.8) | Dossiers of buildings identified for retention not yet received from CIVIX. Walton House proposals have been circulated by R.M.A. This task now extended to cover all buildings and remains to meet E.H. requirements for a condition survey. | CIVIX |
| 1.9 | (1.9) | Further investigation required in Southern P Area to W.S.A. plan. Extent will depend on discussions with developers/purchasers and degree of remediation required. | W.S.A |
| 1.10 | (1.10) | Barrel Graveyard to be investigated. Strata of ground to be proved by 1 No. excavator trial pit then area to be gridded for sampling. R.O. reported gridding nearly complete. | R.O.
W.S.A. |
| 1.11 | (1.11) | R.O. to investigate the hire and use of remotely controlled electric saw to cut gas bottles uncovered in tip. R.O. stated intention to pilot drill first then saw. Procurement of saw in hand. Suitable arrangements will be made by R.O. to take account of any chlorine release. Water sprays, breathing apparatus etc... procedure ESG48/93 issued. W.S.A. requested fixed price for this work. | R.O. |
| 1.12 | (1.12) | Water wheel and Press House areas. Confirmatory investigation to await removal of road which is located on fill. Road removal will proceed on completion of Newtons Pool Sluice. Condition survey of buildings 103 and 104 will dictate approach to clearance. R.O. to inform what estimated costs by PJ relating to stabilising spray. | R.O.
W.S.A. |
| 1.13 | (1.13) | Incorporating Mills strip out nearing completion. Some work in L157 and L149 outstanding 2nd stage strip out agreed with English Heritage. L149 to be completed first (Paul Morris + 3 and Bray labourers) then proceed with 2nd stage in L157 and coring to ascertain construction and contamination. | R.O. |
| 1.14 | (1.14) | Update on redrafting of "Asbestos in Buildings" report required. Not received - R.O. to chase, now urgent. Redrafted report handed to W.S.A. | R.O. |
| 1.15 | (1.15) | Phase IV demolition complete contractor to be brought back to rectify defects and deficiencies. Outstanding, Particularly bolting down of sump plates. | |
| 1.16 | (1.16) | Damage to fence in Grand Magazine area will require replacement. R.O. to undertake under maintenance contract. W.S.A. to raise V.O. will appear in valuation but charged to caretaking and maintenance contract | R.O. |
| 1.17 | (1.17) | R.S.C. has recommended September cut, rake and light rolling. R.S.C. letter of 14 July circulated. R.O. to obtain competitive quotations from Bray and Fitzjohn. P.M.N. quotes received, instructions to proceed issued. | R.S.C.
R.O. |

- 1.18 (I.18) Approval to variation on roof works arising from poor quality roof screed on Area C. R.O. to provide details of guarantee and retention. Defects on lead work to be rectified, slate fixing on A201, A202 and A200 to proceed, date required. P.M.N. pending on library roof R.O. to present proposals to rectify. **R.O.**
- 1.19 (I.19) R.O. proposal ESG24/93 approved by W.S.A. License received from N.R.A. to excavate > 300 mm. Work proceeding screen off hire excavation to proceed to 900 mm depth. Quality of lagoon water sampled prior to approval by N.R.A. to disposal. **R.O.**
- 1.20 (I.20) Air monitoring to continue until further notice. Results summary received and distributed to E.H.O. P.M.N. drawing required showing locations of "fixed" monitoring locations. **R.O.**
- 1.21 (I.22) R.O. to produce drawings (which can be incorporated onto C.A.D. survey sheets) of all sampling and soil removal relating to the asbestos contaminated ground below asbestos insulated steam pipe lines including initial work. It may be layers of drawings showing sampling and excavation works will be necessary. W.S.A. reported some steam line location information outstanding on areas in SSSI. Where asbestos visible strip soil to W.S.A. outline method statement before sampling. Destination of stripped soil to be investigated. Use of R.O. South Site staff discussed. P.M.N. W.S.A. to make arrangements for these drawings. **R.O.**
W.S.A.
- 1.22 (I.22) R.O. to produce drawings (which can be incorporated onto C.A.D. survey sheets) of all tip areas discovered, extent of removal and sequence of future operations. This work to be included in the site works programme. Site survey 1:2500 plans to be marked up by A.F. This information to form the basis of S.M.C. applications. P.M.N. W.S.A. to make arrangements for these drawings. **R.O.**
W.S.A.
ARCH.
- 1.23 (I.23) R.O. reported on progress relating to disposal of bagged asbestos and results of explosive sampling. P.M.N. comments received from E.H.O. Ref: ESG/1008/93 procedure. Some positives < 1000 ppm. Further discussions required W.S.A. to respond to E.H.O. **W.S.A.**
- 1.24 (I.25) R.O. to proceed with activating A203 lights and alarm system. Inspection by Fire Prevention Officer to be arranged. Lecture theatre lights and limited power to be costed. Drawings and application to F.P.O. submitted. Lecture Theatre facilities required for 22nd October 1993 P.M.N. approval to proceed with Coteford given. **R.O.**

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| 1.25 | (1.26) | Approval up to £2000 received for preparation of artefact inventory. P.S.A. letter of 26th May 1993 refers. R.O. to action. Visits to be made with A.F. commencing with South Site. Archaeologist has invited National Maritime Museum to inspect barges on site and at Fort Halstead. Preliminary barge report received. Roger Neal will accompany Adam Ford to other R.O. sites to review items which may be available. | R.O.
ARCH. |
| 1.26 | (1.27) | R.O. to complete short identification report on bridges including services bridges and disused pedestrian bridges. P.M.N. Adam Ford Site Archaeologist will now carry out this task. | ARCH. |
| 1.27 | (1.28) | R.O. reported sample preparation in H10 laboratory has commenced. Power provided to kitchen/rest room. | R.O. |
| 1.28 | (1.29) | Removal of timber strutting to canals to enable clearance of contamination from canal banks is to await E.H. decisions. Archaeologist to prepare submission for scheduled monument consent dealing with canals. R.O. report on canals outstanding. P.M.N. R.O. report received, distributed and part of S.M.C. now submitted. | E.H.
R.O.
ARCH. |
| 1.29 | (1.30) | R.O. to purchase asphalt melting plant to process material possibly containing explosives, and hire to client. R.O. to advise hire rate and work procedure. Demonstration by manufacturer to R.O. successful. R.O. reported delivery to W/A North Site imminent for commissioning at R.O. cost. | R.O. |
| 1.30 | (1.31) | Security module in place at High Bridge Street entrance. W.S.A. to obtain quotes for security barrier, R.O. to install stand pipe. Portable toilet in place. | R.O.
W.S.A. |
| 1.31 | (1.32) | Sola Electrics to clip power cable to bridge at rear of A201. P.M.N. complete. | R.O. |
| 1.32 | (1.33) | Reports. W.S.A. to inform R.O. which copy reports are required. Outstanding W.S.A. to action. | W.S.A. |
| 1.33 | (1.34) | Results of explosives analysis to soil samples taken from P Area North of A234 issued. R.O. to copy all results relating to analysis for explosives to W.S.A. simultaneously with their internal distribution. To include selection of waste sample results. Also copies of despatch note to laboratory, including dates, sample numbers, locations etc... required. New reporting procedure proposed by R.O. accepted by R.W. P.M.N. explosives analysis relating to T Area not received by W.S.A. | R.O |

- 1.34 (1.35) Distribution list for all R.O. proposals to be as P.S.A. fax to Roger Neal of 4th June 1993. W.S.A. will distribute to E.F.D.C. Environmental Officer, and his consultant, Clayton Environmental. Please note cost information to David Stanners M.O.D. and W.S.A. only. W.S.A. will distribute to S.S.O. M.O.D. P.E. **R.O.**
- 1.35 (1.36) Basis of soil stripping to areas containing asbestos contaminated soil below former insulated steam mains positions set out in P.S.A. letter to R.O. of the 11th June 1993. R.O. progress in N Area. P.M.N. This work to be held pending consultations with E.H., R.S.C. and W.S.A. **W.S.A.**
- 1.36 (1.37) R.O. to engage engineer short term to complete existing services plotting. Checking by R.O. then later C.A.D. incorporation by external source. R.O. reported P Area complete. R.O. to produce completed drawing for P Area. Task continuing. **R.O.**
- 1.37 (1.38) R.O. reply of 10th August 1993 to P.S.A. letter of the 17th June regarding performance of South Site Laboratory and binding turn around times for the various explosives analysis requires clarification. This now resolved. Recording form agreed. **R.O.**
- 1.38 (1.41) Replacement of gutter to A201/A202 with cast iron, quotations required. Variations in offers to be resolved. **R.O.**
- 1.39 (1.43) Chipped timber off site, logs to be stockpiled. R.O. reported in hand. Storage near E10. P Area trees to be cut long. **R.O.**
- 1.40 (1.44) Shaft by Water Mill cleaned out. R.O. to make safe. R.O. to use hand grab to lower level of internal rubble. **R.O. ARCH.**
- 1.41 (1.45) Stockpiled waste material to be disposed off. Analysis to proceed to classify present and future waste. Alternative sites to be researched. **W.S.A.**
- 1.42 (1.46) Visit by S.S.O. M.O.D. P.E. rearranged 16th September 1993 due to operational requirement. R.O. to make arrangements to weigh, photograph and record cordite and burn on burning ground. R.O. reported Cordite burnt. P.M.N. S.S.O. requested documents supplied by R.O. and collected - comments awaited. **R.O.**
- 1.43 (3.1) R.O. to provide sketch of sample positions and depths in H12 and H8 and H7 mounds. P.M.N. provided. **R.O.**
- 1.44 (3.2) R.W. agreed to R.O. obtaining a costing for a Safety Audit by an independent accredited organisation. Following visit by M.O.D. P.E. such safety audits maybe carried out in house by M.O.D. Following visit to site by Safety Audit Organisation a questionnaire is being completed by R.O. **R.O.**

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| 1.45 | (3.3) | R.W. reminded R.O. that copies of all time sheets (R.O. and contractors), invoices, plant sheets and muckaway tickets are to be provided. variation orders will be renumbered and revised charging arrangements operative from 6th September 1993. | R.O. |
| 1.46 | (3.4) | Asbestos strip out of buildings (not externals) to proceed. | R.O. |
| 1.47 | (3.5) | All R.O. sample analysis to be identified by number in valuations. | R.O. |
| 1.48 | (3.6) | Excavate Northern P Area canal over road, sample and backfill. P.M.N. N.R.A. approval to pump out received, canal pumped out and scraped, temporary road installed to allow excavation of remainder of canal. | R.O. |
| 1.49 | (3.7) | P10 Area - Latest sample analysis results indicate presence of NG in excavated faces. Re-excavation required in co-ordination with Powdermill Lane Housing Site. | R.O. |
| 1.50 | (3.8) | Future fill stripping and demolition of A230,1,2 & 4 buildings to be resolved with developers and client. P.M.N. consultation procedure in hand. Tender preparation by R.O. | W.S.A. |
| 1.51 | (3.9) | R.O. to organise overtime working on screening operations if weather satisfactory. No overtime necessary due to wet weather P.M.N. screen now off site. | R.O. |
| 1.52 | (3.10) | Accumulated material from cordite area which contains minimal shards of cordite to be tested for asbestos content to determine disposal route. Area to be formed in truncated cone shape. Spray paint used to mark grids L.G.C. to sample. P.M.N. L.G.C. sampling complete. Results awaited. | R.O.
L.G.C.
W.S.A. |
| 1.53 | (3.11) | Scaffolding required to carry out strip out and clean to L149 R.O. to obtain quotes. Quote approved. P.M.N. cleaning complete in Tower. | R.O. |
| 1.54 | (3.12) | Newtons Pool preparations in hand. Work at Pool now complete. Remaining clay and silt to be sorted. Football found. P.M.N. report awaited and results of analysis. Carey to start on 18th October 1993. R.O. to set up a syphon between Cornmill Stream and Old River Lea. | R.O. |
| 1.55 | (3.13) | R.O. to provide a copy of Brays order to screen material for R.O. use. Received. | R.O. |
| 1.56 | (3.14) | R.O. to obtain costings for procurement of a rotary suction floor cleaner. R.O. reported on order P.M.N. correct machine awaited. | |

- 1.57 (3.15) R.O. to carry out preliminary removal of demolition arisings and hand pick of waste/asbestos in wooded area adjacent to track south of Edmonsey Sluice. R.O. reported no progress.

2. PROGRESS AND PROGRAMME

- 2.1 R.O. produced a monthly progress report and programme for comment which is attached at Appendix 1 to these minutes.

3. ANY OTHER BUSINESS

- 3.1 Boot wash and drainage to Island car park W.S.A. to comment on R.O. draft proposals. **W.S.A.**
- 3.2 Clean/Dirty site arrangements. W.S.A. and R.O. to discuss proposals. **R.O.
W.S.A.**
- 3.3 Copy of Explosives License Application received from R.O. This item long overdue. R.O. to progress. **R.O.**
- 3.4 R.O. progress Lagoon pump out in T Area and scrape. **R.O.**
- 3.5 Future staffing of project to end of October discussed and agreed.
- 3.6 Conisby instructed to assess structural stability of walls (2 No.) at Newtons Pool and inspection of R.O. occupied buildings. Results awaited. **W.S.A.**
- 3.7 Site vehicles provision agreed. P.M.N. 2 No. vehicles delivered, hire vehicle returned. R.O. to summarise arrangements in a memo. P.M.N. received. **R.O.**
- 3.8 P.M.N. comments on ESG 5/93 part 1 made by W.S.A. 3 No. R.O. sets of Part 2, as amended, requested for W.S.A. & E.H.O. **R.O.**
- 3.9 R.O. offered mound material from South Site for filling in T Area. W.S.A. to arrange a visit with Ed Andrews and sampling by L.G.C.
- 3.10 Copier delivered and installed. Rental will appear in valuations.
- 3.11 P.M.N. camera equipment supplied.
- 3.12 P.M.N. W.S.A. comments made on the following: **R.O.**

- 3.12 ESG 57/93 - Roof Repairs to L157.
ESG 1014/93 - Strip out to L157 **R.O.**
ESG 38/93 - Asbestos Removal P Area.
ESG 54/93 - Coring Building A230 - A234.
ESG 5/93 - Buildings Part 1
ESG 61/93 - Sampling Results P10.
ESG 49/93 - NG Finds Trial Trenches North P Area.
ESG 59/93 - Demolition of Buildings A230 - A234. **R.O.**
- 3.13 Instructions issued by W.S.A. Re: prevention of pollution by oil.
Absorbent material to be obtained by R.O. to deal with any incident.
- 3.14 P.M.N. R.O. to present proposals and costs for explosives analysis
data capture.
- 3.15 Works to No.5 Walton Gardens and grass cutting requested. **R.O.**
- 3.16 P.M.N. note on volatility of NG received from R.O.
- 3.17 Instructions for disposal of transformer issued. Others on site to
be identified. **R.O.**
- 3.18 VO. issued for Tennis Club Hut erection. **R.O.**
- 3.19 Instruction for removal of security lights and associated cable and
fittings issued. **R.O.**
- 3.20 Instructions to remove ivy and stumps from building 102 issued. **R.O.**
- 3.21 Information regarding visit by RARDE employees 22nd October 1993 and
escorting requirements issued to R.O. **R.O.**
- 3.22 W.S.A to draft visitors procedure.

4. DATE OF NEXT MEETING

- 4.1 09.00 Hours on 4th November 1993.

R. E. Watts
2nd November 1993

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
THURSDAY 2ND SEPTEMBER 1993 AT 08.00 HOURS**

Present:	Mr Graham Vincent	: R.O.	Copies: Mr D. Stanners	: MOD. DLS.
	Mr Roger Neal	: R.O.	Mr D. Coyle	: M.O.D. P.E.
	Mr Peter Mayell	: R.O.	Mr D. Bone	: CIVIX
	Mr Bob Watts	: W.S.A.	Mr A. Ford	: ARCH.

1.	<u>MATTERS ARISING - FROM MEETING OF 20TH JULY 1993</u>	<u>ACTION</u>
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1.1 (1.1) - *Drain Sampling*

Report ESG28/93 issued. Draft ESG37/93 and ESG41/93 issued.
W.S.A to comment.

W.S.A.

1.2 (1.4) - *Explosives Testing*

A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. W.S.A. to prepare - outstanding.

W.S.A.

1.3 (1.5) R.O. to provide details of past Tetryl finds around L134.
R.O. reported in hand.

R.O.

1.4 (1.6) - *Building Index*

Revised version issued.

R.O.

1.5 (1.7) Updating of original CLI report to await W.S.A. response to Clayton Report. R.O. reported P Area update completed.

W.S.A.

1.6 (1.8) Original sample points are to be plotted on MKS survey drawings when CAD input resolved. Area P complete P.S.A. stated a drawing register is required and standard title block.

R.O.
W.S.A.

1.7 (1.10) Photographic record of CLI now available. Post CLI photographs to be indexed and stored in Albums for inspection. Video film will be edited.

R.O.

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|------|--------|--|----------------|
| 1.8 | (I.11) | Dossiers of buildings identified for retention not yet received from CIVIX. Walton House proposals have been circulated by R.M.A. This task now extended to cover all buildings and remains to meet E.H. requirements for a condition survey. | CIVIX |
| 1.9 | (I.12) | Further investigation required in Southern P Area to W.S.A. plan. Extent will depend on discussions with developers/purchasers and degree of remediation required. | W.S.A |
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| 1.11 | (I.14) | R.O. to investigate the hire and use of remotely controlled electric saw to cut gas bottles uncovered in tip. R.O. stated intention to pilot drill first then saw. Procurement of saw in hand. Suitable arrangements will be made by R.O. to take account of any chlorine release. Water sprays, breathing apparatus etc... Post meeting note procedure ESG48/93 issued for comment. | R.O. |
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| 1.16 | (I.20) | Damage to fence in Grand Magazine area will require replacement. R.O. to undertake. | R.O. |
| 1.17 | (I.21) | RSC has recommended September cut, rake and light rolling. RSC letter of 14 July circulated. P.M.N. R.O. to obtain compeditive quotations from Bray and Fitzjohn. | R.S.C.
R.O. |
| 1.18 | (I.22) | Approval to variation on roofworks arising from poor quality roof screed on Area C. R.O. to provide details of guarantee and retention. Defects on lead work to be rectified P.M.N. slate fixing on A201, A202 and A200 to proceed. | R.O. |

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| 1.20 | (1.25) | Air monitoring to continue until further notice. Results summary received and distributed to E.H.O. | R.O. |
| 1.21 | (1.26) | R.W. and G.V. to visit Chessington to view drawings. P.M.N. Archaeologist Adam Ford to be invited to attend. Arranged for 29th September 1993. | W.S.A.
R.O.
ARCH. |
| 1.22 | (1.27) | R.O. to produce drawings (which can be incorporated onto CAD survey sheets) of all sampling and soil removal relating to the asbestos contaminated ground below asbestos insulated steam pipe lines including initial work. It may be layers of drawings showing sampling and excavation works will be necessary. W.S.A. reported some steam line location information outstanding on areas in SSSI. Where asbestos visible strip soil to W.S.A. outline method statement before sampling. Destination of stripped soil to be investigated. | R.O.
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| 1.31 | (I.42) | Security module in place at High Bridge Street entrance. W.S.A. to obtain quotes for security barrier stand pipe required. Portable toilet in place. | W.S.A.
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| 1.32 | (I.43) | Sola Electrics to clip power cable to bridge at rear of A201. | R.O. |
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| 1.35 | (I.46) | Distribution list for all R.O. proposals to be as P.S.A. fax to Roger Neal of 4th June 1993. W.S.A. will distribute to E.F.D.C. Environmental Officer, and his consultant, Clayton Environmental. Please note cost information to David Stanners M.O.D. and W.S.A only. | R.O. |
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| 1.39 | (3.1) | Coring through Incorporating Mills slabs in hand. P.M.N. complete. 2nd stage strip in L157 commenced. | R.O. |

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| 1.40 | (3.2) | Coring former R.O. offices. Results complete. R.W. to into incorporate report. | R.O. |
| 1.41 | (3.3) | Replacement of gutter to A201/A202 with cast iron, quotations required. | R.O. |
| 1.42 | (3.4) | Repairs to slates A201, A202 and A200. R.O. to proceed. 1.18 refers. | W.S.A. |
| 1.43 | (3.5) | Chipped timber off site, logs to be stockpiled. R.O. reported in hand. | R.O. |
| 1.44 | (3.6) | Shaft by Water Mill cleaned out. R.O. to make safe. | R.O.
ARCH. |
| 1.45 | (3.7) | Stockpiled waste material to be disposed off. Analysis to proceed to classify present and future waste. Alternative sites to be researched. | W.S.A. |
| 1.46 | (3.8) | Tony Bell visited site Re: Herons 1st September 1993. One nest still occupied. All clear to work normally. | R.O. |
| 1.47 | (3.10) | Visit by M.O.D. P.E. rearranged 16th September 1993 due to operational requirement. R.O. to make arrangements to weigh, photograph and record cordite and burn on burning ground. | R.O. |

2. PROGRESS AND PROGRAMME

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| 2.1 | R.O. produced a monthly progress report and programme for comment which is attached at Appendix 1 to these minutes. |
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3. ANY OTHER BUSINESS

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| 3.1 | R.O. to provide sketch of sample positions and depths in H12 and H8 mounds. | R.O. |
| 3.2 | R.W. agreed to R.O. obtaining a costing for a Safety Audit by an independent accredited organisation. P.M.N. following visit by M.O.D. P.E. such safety audits maybe carried out in house by M.O.D. | |
| 3.3 | R.W. reminded R.O. that copies of all time sheets (R.O. and contractors), invoices, plant sheets and muckaway tickets are to be provided. variation orders will be renumbered and revised charging arrangements operative from 6th September 1993. | R.O. |
| 3.4 | Asbestos strip out of buildings (not externals) to proceed. | R.O. |

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| 3.5 | All R.O. sample analysis to be identified by number in valuations. | R.O. |
| 3.6 | Excavate Northern P Area canal over road, sample and backfill. | R.O. |
| 3.7 | P10 Area - excavate to clean face when archaeology is recorded, sample and when satisfactory results obtained backfill with uncontaminated material. | R.O. |
| 3.8 | Future fill stripping and demolition of A230,1,2 & 4 buildings to be resolved with developers and client. | W.S.A. |
| 3.9 | R.O. to organise overtime working on screening operations if weather satisfactory. | R.O. |
| 3.10 | Accumulated material from cordite area which contains minimal shards of cordite to be tested for asbestos content to determine disposal route. Area to be formed in truncated cone shape. Spray paint used to mark grids L.G.C. to sample. | R.O.
L.G.C.
W.S.A. |
| 3.11 | Scaffolding required to carry out strip out and clean to L149 R.O. to obtain quotes. | R.O. |
| 3.12 | Newtons Pool preparations in hand. | R.O. |
| 3.13 | R.O. to provide a copy of Brays order to screen material for R.O. use. | R.O. |
| 3.14 | P.M.N. R.O. to obtain costings for procurement of a rotary suction floor cleaner. | |
| 3.15 | P.M.N. R.O. to carry out preliminary removal of demolition arisings and hand pick of waste/asbestos in wooded area adjacent to track south of Edmonsey Sluice. | |

4. DATE OF NEXT MEETING

- 4.1 08.00 Hours on 5th October 1993.



21/9/93.

**CONTAMINATED LAND INVESTIGATION AND REMEDIATION
WALTHAM ABBEY RARDE NORTH SITE**

**MINUTES OF MEETING HELD ON SITE
TUESDAY 20 JULY 1993 AT 0800 HOURS**

Present: Mr Graham Vincent - RO Mr Gordon Bulloch - RO Mr Peter Mayell - RO Mr Bob Watts - PSA Mr David Macklin - PSA	Copies: Mr D. Stanners -MOD Mr D. Bone - MOD Mr A. Ford - Arch.
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- | 1. | MATTERS ARISING (From Meeting of 12 May 1993) | ACTION |
|-----------|---|-----------|
| 1.1 (1.1) | - <i>Drain Sampling</i> | |
| | Report ESG28/93 complete and will be issued. New "procedure" ESG41/93 in preparation. | RO |
| 1.2 (1.2) | - <i>Explosives Testing</i> | |
| | New comprehensive procedure ESG39/93 (which replaces ESG23/93) issued in draft for comment. | RO
PSA |
| 1.3 (1.3) | Data packs for P Area buildings in area for sale required. Three copies initially, then 10 copies for potential purchasers. Complete 10 copies on site for collection by CIVIX 4.8.93. | |
| 1.4 (1.4) | A programme of sampling mounds for chemical contamination is required. All samples will be screened for explosives. PSA to prepare when EH requirements are received - outstanding. | PSA |
| 1.5 (1.5) | RO to provide details of NC and Tetryl finds around Incorporating Mills and L134. RO reported in hand. Information will be issued in 2 parts (separate areas). | RO |
| 1.6 (1.6) | - <i>Building Index</i> | |
| | Revised version issued, however still needs further changes and additions. RO reported this was a continuous procedure to reflect site changes. Dates of next revised issue 4.8.93 and 24.8.93. | RO |
| 1.7 (1.8) | Updating of original CLI report to await PSA response to Clayton Report. | PSA |

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1.8 (1.9)	Original sample points are to be plotted on MKS survey drawings as follows:	RO PSA
	<ul style="list-style-type: none"> i) Areas P, H, L, M and T by measurement, either from site grid using co-ordinates or by dimensions from existing buildings. ii) Remaining areas by inspection. 	
	When information available PSA will CAD plot on MKS Survey Drawings. RO reported P Area complete and will be issued - ongoing task.	RO
1.9 (1.11)	Reference document in CLI report still not available to purchase. RO reported problems in availability. PSA stressed some importance attached to this item.	RO
1.10 (1.12)	Photographic record of CLI still not available. RO to provide. Post CLI photographs to be indexed and stored in Albums for inspection. RO reported CLI record complete. PSA to inspect when delivered to North Site.	RO
1.11 (1.14)	Survey drawings and dossiers of buildings identified for retention not yet received from CIVIX and RMA. Walton House proposals have been circulated by RMA. This task now extended to cover all buildings to meet EH requirements for a condition survey.	RMA CIVIX
1.12 (1.16)	Further trial pits required in Southern P Area to PSA plan. Extent will depend on discussions with developers/purchasers and degree of remediation required.	PSA
1.13 (1.17)	Trial pit required by hand, in drum tip in S Area, to ascertain if tip or undisturbed ground. RO to remove steel barrels. RO reported steel barrels removed. Strata of ground to be proved by 1 no. excavator trial pit then area to be gridded for sampling.	RO
1.14 (1.18)	RO to investigate the hire and use of remotely controlled electric saw to cut gas bottles uncovered in tip. RO stated intention to pilot drill first then saw. Procurement of saw in hand. Suitable arrangements will be made by RO to take account of any chlorine release. Water sprays, breathing apparatus etc. Post meeting note - Draft procedure ESG48/93 issued for comment.	RO

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| 1.15 (I.19) | RO to mark up plan indicating extent of clearance and work still to be done in areas west of and including the road around the water wheel and press. Tree stumps to be removed. PSA to design a grid for confirmatory sampling. EH report will be of interest in respect of the canal configuration. Previous investigation did not reveal explosives contamination. Tree stumps & ivy will be treated with "Roundup" not removed. Fill under road and access requirements to be resolved. Results of condition survey of buildings important. Area pegged out. | RO
PSA |
| 1.16 (I.20) | Additional team of 3 labourers employed to carry out unskilled element and clean up of Incorporating Mills strip out. Forward programme required for all buildings for retention outstanding. PMN. RO involvement in buildings now dependent on condition surveys by others. Outstanding actions relate to internal asbestos stripouts and 2nd stage strip for incorporating mills. This work to be programmed and circulated for EH agreement. | RO |
| 1.17 (I.21) | Update on redrafting of "Asbestos in Buildings" report required. Not received - RO to chase, now urgent. | RO |
| 1.18 (I.22) | Phase IV demolition proceeding | |
| 1.19 (I.23) | Update on Thames Water Connection and Chlorination of new water main required, also result of TWA bye-laws compliance inspection. Certificates for chlorination and testing required, PSA to arrange water sample for analysis on completion. Satisfactory water analysis results from LGC. RO certification outstanding (in PSA format). | RO |
| 1.20 (I.24) | 2 no. repairs to fence in New Hill done. Damage to fence in Grand Magazine area will require replacement. RO to confirm completion. | RO |
| 1.21 (I.25) | Grass cutting in Queens Mead complete. RSC has recommended September cut, rake and light rolling. RSC letter of 14 July circulated. PMN, RO to obtain competitive quotations from Bray and Fitzjohn. | RSC
RO |
| 1.22 (I.26) | Approval to variation on roofworks arising from poor quality roof screed on Area 'C'. RO to provide details of guarantee and retention. | RO |
| 1.23 (I.27) | Excavation profiles required for services trenches in 'H' Area. Received, sample positions required. | RO |
| 1.24 (I.28) | RO proposal ESG24/93 approved by PSA. License awaited from NRA to excavate > 300mm. Work to proceed. When cordite area complete, screen can be moved to T area. | |

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|--------------------|--|---------------|
| 1.25 (1.30) | Air monitoring to continue to 6 September 1993 when it will be reviewed. Results Summary received. | RO |
| <u>1.26 (1.33)</u> | RW and GV to arrange a visit to Chessington to view drawings. PMN. <u>Archaeologist Adam Ford to be invited to attend.</u> | PSA
RO/Ar. |
| 1.27 (1.35) | RO to produce drawings (which can be incorporated onto CAD survey sheets) of all sampling and soil removal relating to the Asbestos contaminated ground below asbestos insulated steam pipe lines including initial work. It may be layers of drawings showing sampling and excavation works will be necessary. Removal of asbestos contaminated soil to proceed in Southern P Area. This work included in the site works programme. PSA reported some information outstanding on areas in SSS1. Where asbestos visible strip soil to PSA outline method statement before sampling. | RO |
| 1.28 (1.36) | RO to produce drawings (which can be incorporated onto CAD survey sheets) of all tip areas discovered, extent of removal and sequence of future operations. This work to be included in the site works programme. In hand. | RO |
| 1.29 (1.37) | RO reported on progress relating to disposal of bagged asbestos and results of explosive sampling. Storage and sampling slabs cleared once and now refilled. RO to provide a summary of analytical results and quantities removed. PMN received. | RO |
| 1.30 (1.38) | RO to ensure accommodation in A203, A201 and A202 has functioning fire escapes, notices and appliances (fire extinguishers). Ground floor windows should be capable of opening. Windows complete, escape path to rear complete, fire appliances will be transferred from existing RO accommodation. Prices to be invited from Coteford and Sola for activating the Fire alarm System and connecting A203 lights in library. Signs outstanding. RO reported complete. PSA to comment on costs for Fire Alarm System activation. PMN. RO to obtain competitive quotes for activating the lecture theatre lights and power and remainder of A203. | RO |
| 1.31 (1.39) | Removal of two demolished building slabs on island site complete. Ancient structure revealed beneath. EH to comment. Access road (temporary) constructed. RO to remove solvent pit. | EH
RO |
| <u>1.32 (1.40)</u> | Approval up to £2000 received for <u>preparation of artefact inventory</u> . PSA letter of 26 May 1993 refers. RO to action. RO to update 31 August. <u>Also to inspect Powder Barge at Fort Halstead. Archaeologist has invited National Maritime Museum to inspect barges on site.</u> | RO
Ar. |

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- 1.33 (1.41) LGC engaged as explosives third party confirmatory analyst. Results awaited on first batch. LGC results to hand RO results awaited. RO report received.
- 1.34 (1.42) RO to complete short identification report on bridges including services bridges and disused pedestrian bridges. RO
- 1.35 (1.43) RO agreed to start sample preparation only in HIO laboratory. This will assist south site laboratory. RO reported HIO used from 27.7. RO
- 1.36 (1.44) Mr D Mathias has indicated three areas of possible contamination:
- i) S16 mound (asbestos) PMN. None found after extensive excavation.
 - ii) Burning Ground by L175 (asbestos) investigated, bags of asbestos found. RO
 - iii) Pipes into river from T Area. Will be investigated in T Area remediation.
- 1.37 (1.47) PSA emphasised the need to maintain services to A221 (Directors House). RO reported on site problems relating to water and gas supplies resolved. RO
- 1.38 (1.48) Awaiting response from NRA to data base of borehole water results forwarded 27 April 1993. PMN. Response received. PSA to resolve. PSA
- 1.39 (1.51) Results of explosives analysis to initial H area service trenches required plus other discrete sampling. Incorporating Mills undercrofts for example, RO will summarise. Reported in hand. RO
- 1.40 (1.52) Removal of timber strutting to canals to enable clearance of contamination from canal banks is to await EH decisions. Archaeologist to prepare submission for consent dealing with canals EH Ar.
- 1.41 (1.53) RO to purchase asphalt melting plant to process material possibly containing explosives, and hire to client. RO to advise hire rate and work procedure. Demonstration by manufacturer to RO successful. RO reported tender procedure for procurement in hand. RO

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1.42 (1.55) Terry Pack informs that a power supply is available from the distribution box at Highbridge Street to connect a relocated security post. A decision will be required whether to relocate the existing security kiosk (and possibly barrier) or to relocate H32 (portable office). RO to obtain costs from Sola and Coteford to connect kiosk and repair to barrier motor. Standpipe from new water main also required for drinking water. RO reported work in hand. PSA to obtain quotes for safety barrier.

PSA
RO

1.43 (1.56) Redundant services to be removed from bridge 17 to rear of A203. Gas pipe removed, Sola to clip cables to bridge, live water main needed therefore to remain.

1.44 (1.57) *Reports - (my fax of 4 June 1993 refers)*

Supply for record purposes one copy of:-

- ESG 1/92 Datasheet updated to eliminate manuscript table
- ESG 18A/92 Issued
- ESG 26/92 Issued
- ESG 27/92 Issued
- ESG 36/92 Issued
- ESG 3/93 Issued
- ESG 8/93 Superseded by 21/93

The following draft documents require consideration of my comments where given and issue

ESG 1/93 "instructions for Decontamination/Stripping out of L148" RO informed superseded by 1004/93. Copy to PSA.

ESG 4/93 "Presence of explosives contamination - Mounds" Parts 1 and 2. RO informed in hand.

ESG 5/93 "Presence of explosive contamination - Buildings" Parts 1 and 2. Draft Part 1 issued, part 2 in hand.

ESG 13/93 "Trial pit investigation of former Gas works area". Issued PSA to respond to EHO comments.

ESG 14/93 "Discovery of munitions on site" - issued.

ESG 15/93 "Investigation of Newton Pool". PSA to respond with RSC to EHO comments. Further procedures to follow.

ESG 19/93 "Procedure for the Disposal of Asbestos contaminated by Explosives". RO reported under revision.

ESG 21/93 "Rehabilitation of Buildings contaminated with Explosives". PSA to comment on latest draft.

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ESG 23/93 "Laboratory Determination of Explosives - Residential Threshold Trigger Levels". Superseded by draft ESG 39/93 with PSA for comment.

ESG 24/93 "Procedure for the Rehabilitation of the Tetryl Area. RO reported in hand, redrafting required to include NRA requirements.

ESG 30/93 "Phase IV Demolition. Issued

ESG 28/93 "Trial Decontamination Procedures for Drains". Issued.

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|--------------------|--|-----------------|
| | | RO |
| 1.45 (3.4) | Results awaited of analysis to soil samples taken from P Area North of A234. RO to copy all results relating to analysis for explosives to PSA simultaneously with their internal distribution. PMN. To include waste sample results. Also copies of despatch notes to laboratory, including dates, sample numbers, locations etc. required. | |
| 1.46 (3.6) | Distribution list for all RO proposals to be as PSA fax to Roger Neal of 4 June 1993. PSA will distribute to EFDC Environmental Officer, and his consultant, Clayton Environmental. Please note cost information to David Stanners MOD and PSA only. | RO |
| 1.47 (3.7) | Basis of soil stripping to areas containing asbestos contaminated soil below former insulated steam mains positions set out in PSA letter to RO of 11 June 1993. RO to proceed. | RO |
| 1.48 (3.8) | RO to engage engineer short term to complete existing services plotting. Checking by RO then CAD incorporation by PSA. | RO |
| <u>1.49 (3.12)</u> | <u>Further (Stage 2) stripout of Incorporating Mills awaits PSA letter to EH and EH response from Paul Edwards. PSA/RO to prepare programme of work.</u> | RO
PSA
EH |
| 1.50 (3.15) | Reply to PSA letter of 17 June regarding performance of RO South Site Laboratory and binding turn around times for the various explosives analysis awaited. | |

2. PROGRESS AND PROGRAMME

- 2.1 RO produced a monthly progress report and programme for comment which is attached at Appendix 1 to these minutes.

3. ANY OTHER BUSINESS

- 3.1 Coring through Incorporating Mills slabs - Machine under repair. RO to prepare procedure note. RO

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