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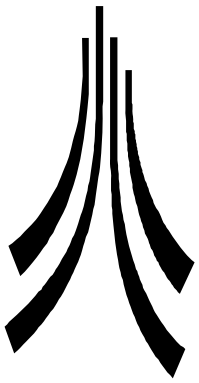

August 1997

ALSCOT PARK HYDRO-ELECTRIC GENERATING STATION, WARWICKSHIRE

Archaeological Survey

Commissioned and funded by:

The Environment Agency

Alscot Park Hydro-Electric Generating Station
Stratford
Warwickshire

Archaeological Survey Report

Report no 1997-98/002/7714

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The project was directed by Michael Trueman, who also carried out the site photography and compiled the gazetteer and report. The site survey was carried out by Jonathan Godfrey and Michael Trueman; CAD work was carried out by Jonathan Godfrey. The report was edited by James Quartermaine and Richard Newman. The project was managed was by James Quartermaine.

The project was funded by the Environment Agency.

EXECUTIVE SUMMARY

This report presents the results of an archaeological survey of a hydro-electric power installation, of *c*1912 date, on the Alscot Park estate near Stratford-upon-Avon, Warwickshire (grid reference SP 2080 5066). At the time of survey, the structures of this small, private installation stood intact and included the original water turbine and power take-off mechanism. The work was carried out by the Lancaster University Archaeological Unit on the instruction of Branch Landscape Associates for the Environment Agency.

The survey record comprised appropriate plans, sections and elevations, together with archive photography and this archive report, which includes a detailed description of the site components.

The survey revealed clear evidence for the mode of construction of the various structures, and allowed interpretation of the basic operation of the hydro-electric installation. It was also possible to identify the surviving water turbine as a vertical-shaft reaction-type, although it was not possible to confirm the specific manufacturer. The function of certain features (notably items 9 and 10), however, remained unresolved.

This record constitutes a level 3 survey (LUAU 1993); that is a comprehensive record of archaeological features in relation to surface topography, and which fulfils a mitigation requirement in respect of the impact of the proposed development. However, because access could not be gained to certain parts of the site, the record is incomplete and, in the event of development work taking place, it is strongly recommended that a watching brief be undertaken to ensure that the identified gaps in the record are properly filled.

1. INTRODUCTION

1.1 An archaeological survey was undertaken by Lancaster University Archaeological Unit (LUAU), on behalf of the Environment Agency, ahead of a programme of redevelopment of the Hydro-electric generating station, which is within the grounds of the Alscot Park estate, near Stratford-upon-Avon in Warwickshire (grid reference SP 2080 5066).

1.2 The aim of the work was to assess the impact that the conversion or redevelopment proposals would have upon the structural remains and to provide a mitigation record of the structures in advance of the development. This was achieved by undertaking a level 3 fabric survey (LUAU 1993) of the buildings and their immediate environs.

1.3 The field survey was undertaken between 17th and 19th June 1997.

1.4 This report sets out the results of the work as a gazetteer in conjunction with a methodology statement, a textual description of the desk based and field results, and an assessment of the impact that the proposed development will have upon the archaeological resource.

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 The work was carried out in fulfilment of a project design (Appendix 1) prepared by LUAU at the request of Branch Landscape Associates for an archaeological survey of the hydro-electric installation at Alscot Park. The work has been carried out entirely in accordance with the project design and the results are presented within this report.

2.2 DOCUMENTARY STUDY

2.2.1 As set out in the project design, the documentary research about the site was restricted to the task of locating and copying an extract from each of the relevant Ordnance Survey map editions. These maps were obtained from the Warwickshire Record Offices at Stratford and Warwick. No other documentary information for this site was held within the Record Office.

2.3 FIELD SURVEY

2.3.1 The field survey involved the production of a Level 3 topographic and fabric survey (LUAU 1993) of the study area which incorporated interpretative drawings of the structures in plan and profile as well as a contextual general site plan. It was produced in conjunction with both an objective and an interpretative description of individual features (*Section 4*)

2.3.2 The fabric and topographic detail were surveyed using a total station and data-logger and the data was transferred into a CAD system (FastCAD). The archaeological detail was drawn up in the field with respect to field plots of the survey data and these edits were then drawn onto the raw survey data within the CAD system. The survey data was superimposed with selected topographic by Total Surveys Ltd (drawing number NRA/TS/476127/5). Manual survey techniques were used to augment the instrument survey in areas of limited access.

2.3.3 ***Photographic Survey:*** A general oblique photographic record was produced of the internal elements of the buildings as well as all external elevations in both colour and black and white 35mm formats.

2.4 ARCHIVE

2.4.1 The archaeological record is provided as a full project archive, produced to a professional standard in accordance with the current English Heritage guidelines (Management of Archaeological Projects, 2nd edition 1991). This archive will be deposited with Warwickshire County Record Office and comprises the following:

- This analytical report - including a gazetteer of site components; an academic interpretation of the remains; reproductions of the survey drawings, a catalogue

of survey photographs; reproduction of selected historical illustrative material; and a summary of documentary sources relevant to the study.

- A set of survey drawings in hard copy and digital format - These were generated from LUAU's instrument and hand survey, although some wider topographical detail was added from a previous survey by Total Surveys Ltd.

- A set of survey photographs (as black and white negatives with accompanying contact prints, and colour slides).

3. HISTORICAL BACKGROUND

3.1 GENERAL

3.1.1 The archaeology of electric power generation in England has recently been summarised by LUAU (1994 and 1995) and an assessment of early hydro-electric sites is currently being undertaken by LUAU. There is a wide literature on the history of this industry, but one of most useful introductions is Brian Bower's *A History of Electric Light and Power*. Useful archaeological work on the West Midlands and on hydro-electric power was carried out and published in the 1970s by Gordon Tucker (Tucker 1977a and b).

3.2 SITE

3.2.1 Prior to the survey, staff of Branch Landscape Associates examined family records at Alscot Park and report that there is a reference to '*Two plans for a dynamo and turbine house at Alscot Park by P Dove March 1912*'; although the plans could not be located. This reference, however, would imply the construction of the hydro-electric installation in 1912 and the evidence of the OS map editions is consistent with this. The installation was clearly not in place when the second edition was revised, in 1900, but is clearly marked on the third edition, revised in 1922.

3.2.2 The weir predates the hydro-electric station, and is shown on the 1884 OS map, together with an adjacent sluice and a series of 'posts'.

4. GAZETTEER OF SITE COMPONENTS

In this gazetteer, each site component is represented by a number. For each entry the remains of the site component are described, and their condition stated. The latter is an assessment of condition as archaeological remains and is not a comment on their structural integrity.

Number **1**
Site type Power house
Period *c*1912
Form Roofed Building
Description

General Form: The power house is a rectangular, single-storey building, with a basement under its eastern side. The ground floor has a single room which housed the power take-off (*in situ*), the generating equipment and a distribution board, whilst the basement level housed the turbine (*in situ*). The building is architecturally quite simple in red brick and blue tiles, but expresses a high degree of craftsmanship.

The bricks used in the walling are of an orange-red fabric, measuring 9" x 4¼" x 2¾", and frogged. Each course has a repeating pattern of a single header and three stretchers ('Flemish garden wall' bond). At the base of the ground floor is a single course of blue bricks and in the south wall (adjacent to the water damping chamber), the brickwork below this course is on slightly different alignment, which probably reflects a minor modification during construction rather than a significant phasing. There is a single window in both gable walls; each window is under a segmental arch, has a chamfered sill, and a wooden casement. The single entrance is on the east side and is composed of a rectangular opening with inward-opening wooden double doors.

The gabled roof is of blue clay plain tiles with red clay ridge tiles. The roof structure has a single, central, wooden roof truss, which is a 'through-purlin, tie-beam' type with an angled brace under each purlin and a central vertical iron strut. The underside of the rafters is clad with tongue and groove boarding. All the wood is machine-sawn and planed to a good finish.

Ground Floor: The floor construction divides in two: the western half (on which sit the belt drive and generator mounting) is concrete. The eastern half, over the basement-level turbine chamber, is of tongue and groove floorboards set over east/west laid wooden joists. At the north end of the room is a surviving power take-off (with 'J131' inscribed on the underside), a drive shaft and a belt-drive pulley. The power take-off is supported on a pair of 'H'-section steel joists and a two-piece wooden hatch here gives access to the turbine below. A substantial wooden beam at purlin level was presumably to aid with lifting this machinery for maintenance purposes. A control wheel (or 'regulator') for opening and closing the turbine guide vanes, stands immediately south of the power take-off. Adjacent to this, against the east wall, is a metal frame of jointed tubing that would have held the distribution board (a pair of cables under the east wall remain in place). At the south end of the building, opposite the doorway, is a rectangular concrete block with four holding-down bolts. This aligns with the belt-drive pulley and would have held the generator.
Lower Floor: The lower floor consists of a single rectangular chamber with, at its south end, an arched opening from the water damping pit. At the north end, around the *in situ* turbine,

the chamber narrows slightly and the walls have a gypsum plaster lining. The floor here is of wood; to the south it is brick.

The turbine itself has a central vertical shaft set within a metal casing and at the top, immediately below the power take-off, is a bearing. Around the base of the shaft a pair of large circular discs hold a series of metal 'guide vanes'. The shaft from the regulator wheel is bolted to an outer ring of each disk thus, when turned, causing the guide vanes to be opened and closed. The vanes would have directed water onto a 'runner' encased within the turbine. Although this could not be viewed, it may be expected to consist of a series of curved metal blades. The lowest part of the turbine is a large iron outflow bell, known as the 'discharge pipe' or 'draught tube'. This is housed below the wooden floor, within a brick lined chamber which opens, via a brick arch, onto the tail-race.

Water Damping Pit: At south end of the power house is a deep, rectangular, brick-built pit. Its north wall is the south wall of the power house. The other three walls are finished with brick coping of square, sloped bricks (each 12" square, with an inner thickness of 4" thick, and outer thickness of 2½"). Three courses of brick below the coping is an internal ledge of a single brick width. This is at the same level as two slots in the south wall of the main building, implying a hinged lid. At the base of the pit, in its south wall, is an arched opening from the head-race and, in the north wall, the arched opening into the turbine chamber.

Condition
The building has substantial subsidence cracks in its north and west walls. Otherwise it is water-tight and the fabric and plant appear to be in very good condition.

Number **2**
Site type Culvert (head race)
Period c1912
Form Standing structure
Description
This is formed of two structurally distinct lengths. Between the river and the sluice (3), the culvert has a rectangular profile with brick sides (it was not possible to inspect the floor), and a ceiling formed of a series of concrete slabs resting on iron lintels. At the river bank, the entrance is blocked by soil. However, from the limited features visible above ground, it appeared to be formed of a sloping brick revetment. A stack of five square iron grills standing loose on the ground surface above the entrance, were probably were part of a 'strainer', placed over the sloping entrance to prevent detritus from entering the culvert and potentially jamming the turbine. Between the sluice and the damping chamber, the culvert is formed entirely of brick and is in the form of a tunnel vault.

Condition
The head race appears to be intact and in excellent condition along its full length.

Number **3**
Site type Sluice (on head race)
Period c1912
Form Standing structure
Description
The sluice gate was accessed from the eastern half of the head race (2). It is a tongue and groove plank construction within an iron frame. The gate is set within vertical slots formed of

substantial timbers with iron guide pieces. Bolted to these vertical members are horizontal timbers which formerly held the lifting mechanism, these are now detached and lying on the ground nearby.

Condition
The basic timber structure appears to be in excellent condition. The plank gate is essentially intact although much of the wood is decayed and delicate. Although the winding mechanism is detached all the components appear to be present.

Number **4**
Site type Culvert (tail race)
Period c1912
Form Standing structure
Description
This component of the site was inaccessible at the time of survey due to the high river level. In the turbine pit, the culvert entrance appeared to be an intact brick arch, which was just visible from the lower floor of the power house. At the outflow to the river, behind a heavy growth of ivy, there appeared to be an intact arch in blue brick, with a red brick vault behind.

Condition
Although inaccessible, the culvert appears to be intact and in excellent condition.

Number **5**
Site type Weir
Period post 1922 on site of pre 1884 weir
Form Standing structure
Description
The weir is a concrete structure running between two concrete piers. A wooden 'NRA river level measurement station', now presumably maintained by the Environment Agency, is on the east pier.

Condition
This feature appears intact.

Number **6**
Site type Revetment
Period pre 1884?
Form Standing structure
Description
This is largely masked by thick ivy growth. At its east end the wall is a red brick construction with stone coping.

Condition

As far as could be seen, this feature is intact and in good condition.

Number **7**
Site type Culvert (weir bypass) - to drain river behind weir
Period pre 1884?

Form Standing structure

Description

Only the entrance to this culvert could be viewed, immediately behind the sluice (8), controlling the water flow. This entrance is formed as a brick archway. The exit to the culvert is presumed to be within the revetment (6), opposite the small island to the north-east of the weir.

Condition

Entrance appears intact, otherwise unknown.

Number **8**
Site type Sluice - on weir bypass
Period pre 1884?
Form Standing structure

Description

This consists of a wooden sluice gate set in vertical slots formed by stone-capped brick piers. Horizontal timbers are bolted to vertical members and hold the *in situ* lifting mechanism. Gearing and the handle are on the east side, away from the river. A modern timber structure has been fixed against the brick piers to hold back the river water.

Condition

The sluice appears in good condition, although the gate clearly does not have sufficient strength to function.

Number **9**
Site type Small sluice - on weir bypass
Period pre 1884?
Form Standing structure

Description

This feature consists of a small, brick-lined slot with four holding down bolts (one at each corner) that held timbers, the decayed remnants of which still survive. The function of this feature is unclear; the possibilities are a) a means of monitoring water level of flow in the culvert, or b) a means of diverting water, perhaps to the tank, (10).

Condition

The timbers are rotted, but the brick lining is in a reasonable condition.

Number **10**
Site type Feature - underground tank west of power house
Period uncertain
Form Standing structure

Description

To the west of the power house, the ground forms a low mound under thick vegetation. Within this area is a pair of large slabs (of concrete or stone) overlying a void, possibly a tank.

Condition

The condition of the slabs appears good, but that of the putative tank is uncertain

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5. SITE INTERPRETATION

5.1 CHRONOLOGY

5.1.1 A weir and bypass culvert were present in this location prior to the survey of the first edition Ordnance Survey map in 1884. On this map and on the second (1900) and third (1922) editions, the form of the bypass culvert is markedly different from that shown on the 1968 map, and appears to equate to the present arrangement on the ground.

5.1.2 The evidence of the Ordnance Survey maps dates the construction of the hydro-electric station to between 1900 and 1922. This is consistent with the specified date of 1912 which is implied by family records. The appearance and materials of the power house and associated culverts and sluices is equally consistent with this date.

5.2 THE WEIR

5.2.1 The original purpose of the weir (5) and revetment (6) was presumably to maintain the water level over a *c*400m stretch of river that runs in front of the main house (it is into this stretch of the river that a series of fish ponds flow at SP 2082 5066). The purpose of the bypass culvert (7) and sluice (8) would have been to allow the lowering of the water behind the weir, so that maintenance work could be carried out. The purpose of the small sluice (9) on the bypass culvert is not clear; one possibility is that it was used for monitoring water level within the culvert. A second possibility is that it diverted water into the nearby tank (10), although what purpose this may have served is also unclear. Equally the purpose of this tank is unknown, although it presumably relates to the weir rather than to the power house. The NRA river level measurement station is a modern feature.

5.3 THE HYDRO-ELECTRIC STATION

5.3.1 The hydro-electric station was clearly sited to make use of the existing weir and was also sited at a distance from the house that was convenient for conveying the generated supply without being too conspicuous. The hydro-electric system is well preserved and its basic mode of operation is easily understood from inspection of the remains.

5.3.2 Inflow from the river is through a dog-leg in the head race (2); grills stacked here are presumably a remnant of a sieving arrangement to keep detritus from entering the system and jamming the turbine. The manually-operated wooden sluice (3), situated mid-way along the length of the race, provided the basic control for allowing water to flow into the base of the powerhouse. The second, brick-vaulted, part of the culvert runs into a large brick pit on the south end of the powerhouse. This presumably acted as a baffle, damping the flow of water prior to it entering the turbine chamber in the base of the power house.

5.3.3 The north end of the turbine chamber is narrowed slightly by a thickening of the east wall, and has remnants of a plaster lining. The vertical-shaft reaction turbine is *in situ* here. Water would have filled the chamber to about two-thirds full, and entered the

turbine through a circle of iron 'guide vanes', that could be opened and closed by turning a 'regulator' wheel in the generator room above. Water then dropped through the blades of the turbine's 'runner', causing the turbine shaft to rotate. Outflow from the turbine was through a steel 'draught tube', into a large rectangular pit, which connected with the tail race.

5.3.4 In the ground-floor room of the power house, the power take-off mechanism transferred the turbine's rotational energy to a belt drive on the west side of the building. In line with this belt drive, at the south end of the building, a concrete block, with four holding-down bolts, would have held the generator. The concrete floor over the western half of the building would have minimised vibration from the belt drive and the generator.

5.3.5 The eastern half of the floor is wooden and a hatchway, immediately above the turbine, gave direct access between the generator room and the turbine room. The control wheel for opening and closing the guide vanes is immediately south of this, and adjacent to it, against the east wall is a metal frame, of jointed hollow tubing, that would have held the distribution board. Hence all the controls for operating the power house were situated close together in the north-east corner of the generator room.

5.4 THE TURBINE

5.4.1 No manufacturer's plate or identification number could be located on the turbine. However, the specific type of the turbine was readily identified by comparison with published and archive material. Studies of early turbine manufacture were published in the 1950s and 1970s by Paul Wilson of Gilkes (Wilson 1957/8, 1958/9, 1974/5). In addition, the firm of Gilbert Gilkes and Gordon Ltd of Kendal in Cumbria maintains extensive archives from its long running business. These archives include old catalogues of turbines that were manufactured and supplied by Gilkes.

5.4.2 From comparison with entries in Gilkes 1924 catalogue, it is clear that the Alscot turbine is a vertical-shaft reaction-type (uncased), which closely resembles Gilkes' 'Vertical Shaft Gilkes-Francis' model, and it is set in an arrangement that matches the Gilkes standard arrangement V2, apparently used for 'medium power units where a belt drive is required' (Gilkes 1924 Catalogue, 12, 21-3: *Appendix 3*). However, this identification does not demonstrate that the turbine was manufactured or installed by Gilkes. There were several companies operating at this time who produced turbines of a similar design. Indeed, for example, the current firm of Gilbert Gilkes and Gordon Ltd was only formed by the merger, in 1928, of Gilbert Gilkes and Co of Kendal with that of James Gordon of London.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 IMPORTANCE

6.1.1 The surviving elements of the hydro-electric station at Alscot Park constitute a well-preserved example of an early twentieth-century, small-scale, estate-based, hydro-electric power system. Of particular note is the *in situ* survival of the water turbine and power take-off system although the generator and distribution board are missing. The power house is a plain, functional building, constructed to a high degree of craftsmanship, using good quality materials.

6.1.2 The installation dates from a period when private estate systems were widely used. After the establishment of the national grid in the 1930s, they were gradually made redundant as owners went over to a more convenient and cheaper option. The extent of survival of these installations has not been established through systematic survey, although several are currently being examined under the Monuments Protection Programme (by LUAU). From a technological point of view, this type of installation is well understood, it is clearly recorded in historical documents, and the remains suggest a standard arrangement for the time. However, the quality of the remains is very high and the site could be easily interpreted to the general public. The likely conclusion of an MPP assessment of the site would therefore be that it is of borderline national importance as a well-preserved example of a common type of its period. As such it might be considered favourably in a listing or scheduling proposal (the latter would be the most appropriate designation to cover the sluices and weir as well as the power house).

6.2 RECOMMENDATIONS

6.2.1 Certain features on the site were inaccessible at the time of survey due to the nature of the topography, river level and vegetation cover. In the event of development work taking place, it is strongly recommended that further survey of these features be carried out, as a watching brief. Specific features to which this recommendation apply are as follows.

- Turbine base and outfall pit (1) - Access here was largely blocked by the floor of the turbine chamber (taped measurements were taken through a gap on the west side). The profile of the draught tube and pit should be checked and photographed. The turbine should also be inspected for a manufacturer's plate or mark.

- Tail race (4) - This was inaccessible due to the high river level. Clearance of ivy would allow a photographic record and measured survey to be made of the arched outflow opening in the revetment. Access here would also allow a check to be made of the line of the culvert between the opening and the power house.

- Head race (2) (from river to sluice (3)). Access to the head race was blocked, from the power house end, by the sluice gate, and, from the river end, by earth. The river end opening should be cleared and recorded, the nature of the culvert floor should be determined and the culvert profile checked (during the survey, this was gauged by counting bricks from a vantage point within the adjacent tunnel vault and by measurement down, through the sluice, from the ground surface).

- Tank (10) west of power house. This area was under thick vegetation that currently provides a habitat for grass snakes. Further investigation here would require clearance of the vegetation and possibly minor excavation to reveal surface form. If the feature is to be removed or infilled, an appropriate record, in the form of a measured profile and plan, may help to establish the function of the feature.

- Small sluice (9) and Weir bypass outfall (7). The weir bypass was inaccessible due to its depth with respect to the river. The location of the outfall within the revetment should be located and if possible the nature of the small sluice investigated further.

- Revetment (6). This was largely masked by ivy. Clearance of this vegetation would allow a check to be made on the survey record and, more importantly, a photographic record to be completed.

6.2.2 Any specification for a watching brief should also include provision to check for, and record, any additional features.

6.2.3 The various plant (turbine and power take-off) are in a condition which offers the potential for salvage and restoration.

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APPENDIX 1
PROJECT DESIGN

APPENDIX 2
CATALOGUE OF SURVEY PHOTOGRAPHS

SURVEY PHOTOGRAPHS - BLACK AND WHITE

Fi	Fr	Comp	Description	From
1	0	5	NRA river measurement station with Alscot House in background.	N
1	1	1	Power house from east pier of weir.	W
1	2	8	Sluice for weir.	SW
1	3	8	Sluice for weir.	NW
1	4	5	Weir	E
1	5	5	Weir.	E
1	6	9	Small sluice.	S
1	7	9	Small sluice.	S
1	8	3, 5	Power house and sluice on head race.	SW
1	9	3	Sluice on head race.	SW
1	10	3	Sluice on head race.	SW
1	11	3	Sluice on head race.	NE
1	12	2	Head race inflow with stack of iron grills.	NE
1	13	1	Power house from wooded area to north east.	NE
1	14	1	North window of power house.	NW
1	18	1	Power house interior - showing power take-off and belt drive in generator room.	S
1	19	1	Power house interior - showing power take-off and belt drive in generator room.	S
1	20	1	Power house interior - showing power take-off and belt drive in generator room.	S
1	21	1	Power house interior - roof structure.	S
1	22	1	Power house interior - roof structure.	S
1	23	1	Power house interior - showing generator mounting and doorway in generator rc	N
1	24	1	Power house interior - showing generator mounting and doorway in generator rc	N
1	25	1	Power house interior - view of turbine in lower floor.	S
1	26	1	Power house interior - view of turbine in lower floor.	S
1	27	1	Power house interior - view of turbine in lower floor.	S
1	28	1	Power house interior - view of turbine in lower floor.	S
1	29	1	Power house interior - view of turbine in lower floor.	S
1	30	1	Power house interior - view of turbine in lower floor.	S
2	1	2	Power house - arched entrance to turbine chamber, from water damping chambe	SW
2	2	2	Power house - arched entrance to turbine chamber, from water damping chambe	SW
2	3	2	Tail race - arched opening in water damping chamber.	NE
2	4	2, 3	Tailrace - inside tunnel vault showing wooden sluice gate.	NE
2	5	2, 3	Tailrace - inside tunnel vault showing wooden sluice gate.	NE
2	6	2, 3	Tailrace - inside tunnel vault showing wooden sluice gate.	NE
2	7	2, 3	Tailrace - inside tunnel vault showing wooden sluice gate.	NE
2	8	1	Water damping chamber.	W
2	9	1	Water damping chamber.	W
2	10	1	Water damping chamber.	E
2	11	1	Water damping chamber.	E
2	12	1	Power house and water damping chamber.	SW
2	13	1	Power house from wooded area to east.	E
2	14	4, 6	Tail race outflow within river revetment.	NE
2	15	4, 6	Tail race outflow within river revetment.	NE
2	16	10	Slabs over possible water tank.	NE
2	17	10	Slabs over possible water tank.	NE

SURVEY PHOTOGRAPHS - COLOUR SLIDE

No	Comp	Description	From
1	5	Weir.	E
2	8	Sluice for weir.	W
3	10	Slabs over possible water tank.	NE
4	1	Power house.	W
5	1	Power house and water damping chamber.	SW
6	1	Power house.	E
7	1	Power house interior - showing power take-off and belt drive in generator room.	S
8	1	Power house interior - showing power take-off, guide vane regulator and mounting fo distribution board in generator room..	SW
9	1	Power house interior - showing generator mounting and doorway in generator room.	N
10	1	Power house interior - doorway in generator room.	W
11	1, 3	Power house and sluice on head race.	SW
12	1	Water damping chamber.	E
13	2, 3	Tailrace - inside tunnel vault showing wooden sluice gate.	NE
14	2	Tail race - arched opening in water damping chamber.	NE
15	1	Water damping chamber.	W
16	1	Power house - arched entrance to turbine chamber, from water damping chamber.	SW
17	1	Power house interior - view of turbine in lower floor.	S
18	4, 6	Tail race outflow within river revetment.	NE

APPENDIX 3
REPRODUCTIONS FROM GILKES 1924 CATALOGUE

- p12 - 'Fig 406 - Vertical Shaft Gilkes Francis Turbine'
- p15 - 'Fig 410 - Arrangement of small low fall vertical shaft Turbine'
- p24 - 'Standard Arrangements of Vertical Shaft Turbines'

ILLUSTRATIONS

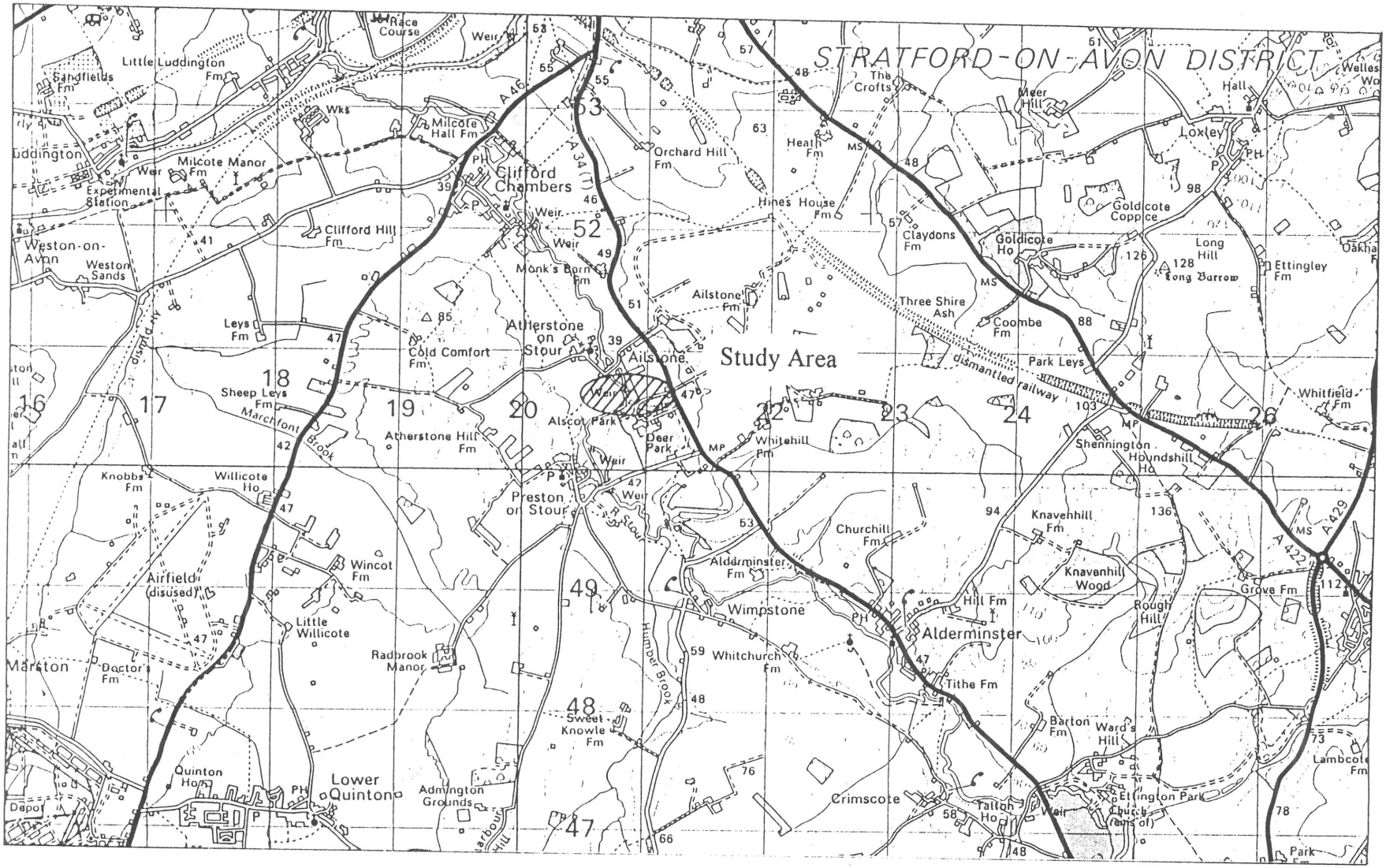


Fig 1 Location Map (based on OS 1:50,000) sheet SP25SW

Key:

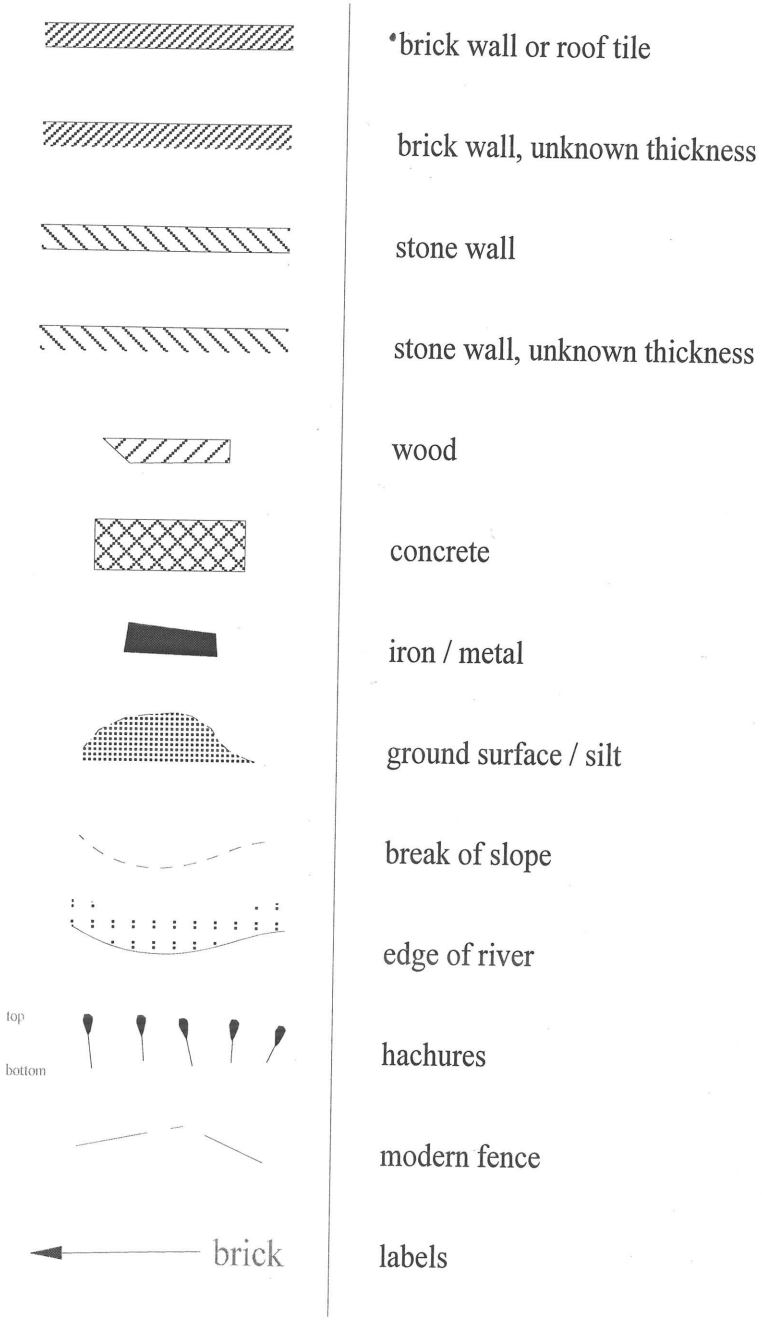


Fig 2 Key for all Plans and Sections

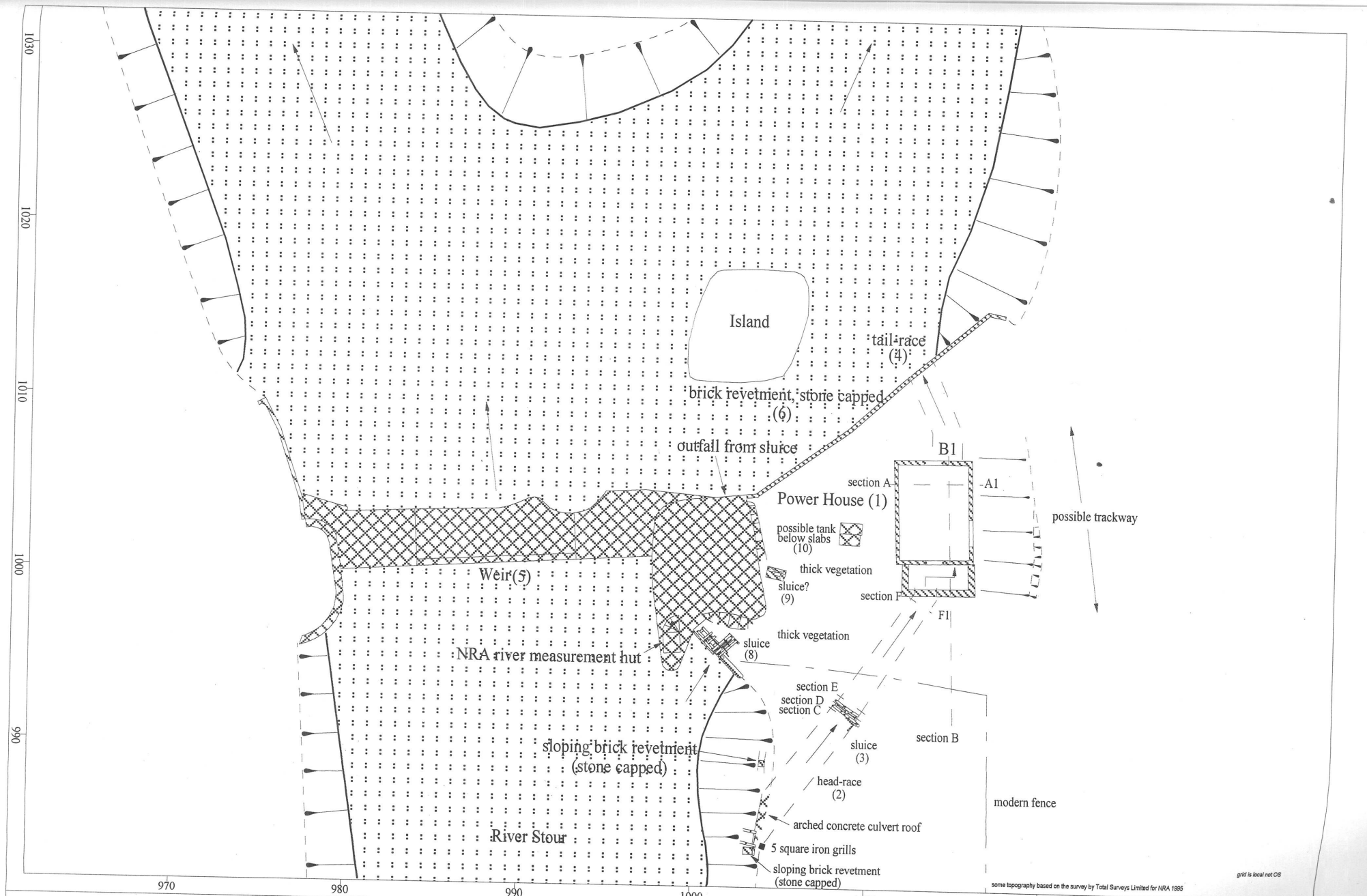
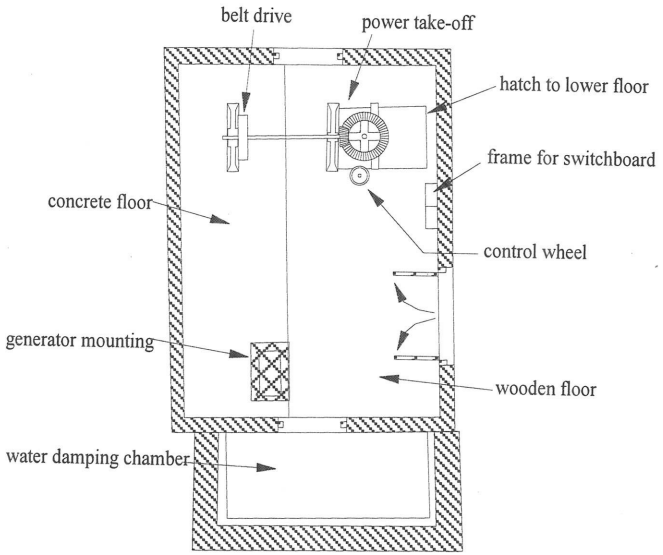
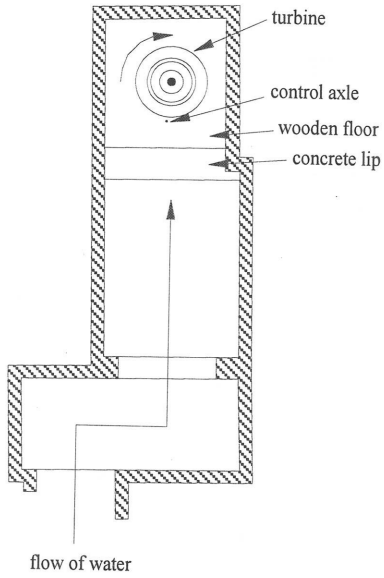


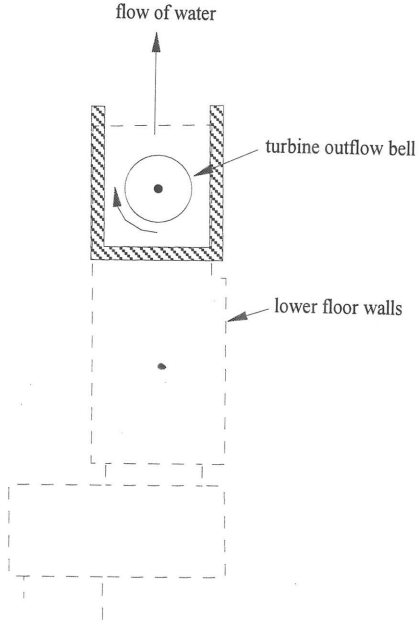
Fig 3 Site Plan



Ground Floor



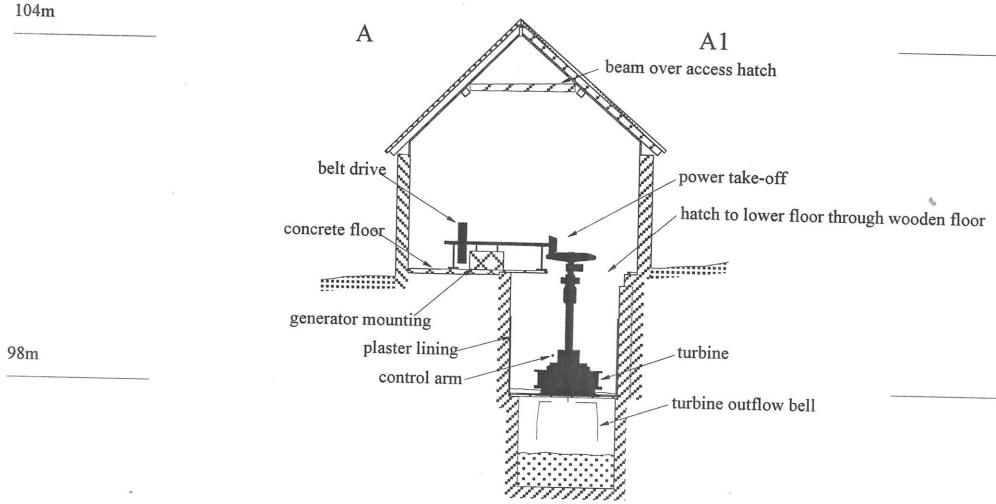
Lower Floor (turbine housing)



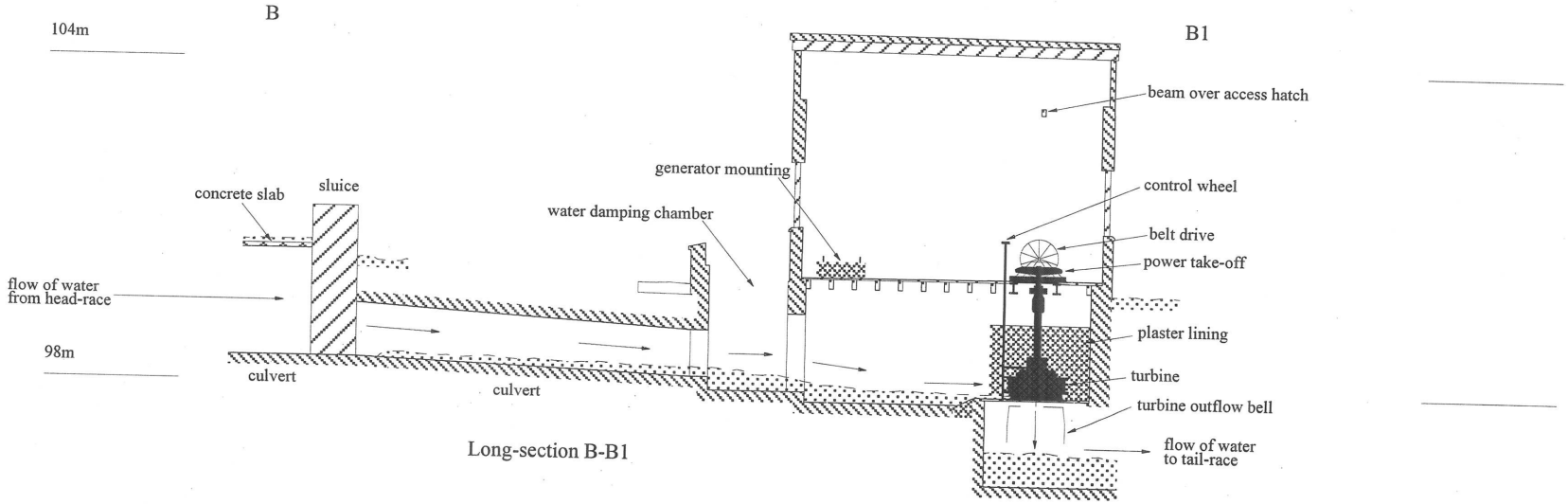
Turbine Outflow Pit

ALSCOT PARK HYDRO-ELECTRIC GENERATING STATION, WARWICKSHIRE	PLAN: POWER HOUSE - FLOOR PLANS	COMMISSIONED & FUNDED BY: BRANCH LANDSCAPE ASSOCIATES	0 2m	DRAWN BY JG	SCALE: 1:50 @ A1
				DATE 06/97	OS 1:10,000 LOCATION: SP 25 SW
			LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT		SHEET 4

Fig 4 Plans of Power House (Ground Floor and Lower Floor)



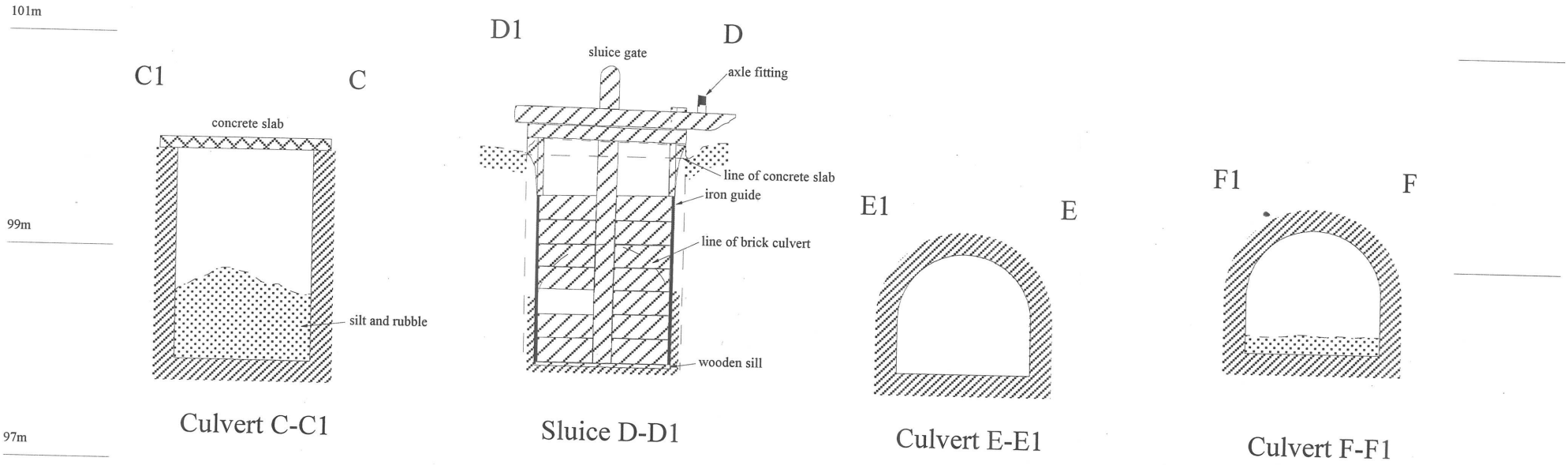
Cross-section A-A1



Long-section B-B1

ALSCOT PARK HYDRO-ELECTRIC GENERATING STATION, WARWICKSHIRE	SECTION: POWER HOUSE - LONG & CROSS SECTIONS	COMMISSIONED & FUNDED BY: BRANCH LANDSCAPE ASSOCIATES	DRAWING BASED ON: INSTRUMENT AND HAND MEASURED SURVEY	for approx. heights OD deduct 60.56m 4m	DRAWN BY: JG DATE: 06/97 SHEET 5
				LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT	

Fig 5 Cross Sections of Power House (east/west and north/south)



ALSCOT PARK HYDRO-ELECTRIC GENERATING STATION, WARWICKSHIRE	SECTION: POWER HOUSE - CULVERTS & SLUICE	COMMISSIONED & FUNDED BY: BRANCH LANDSCAPE ASSOCIATES	DRAWING BASED ON: INSTRUMENT AND HAND MEASURED SURVEY	for approx. heights OD deduct 60.56m 2 m LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT	DRAWN BY: JG DATE: 06/97 SHEET 6

Fig 6 Sections of Power House Culverts and Sluice

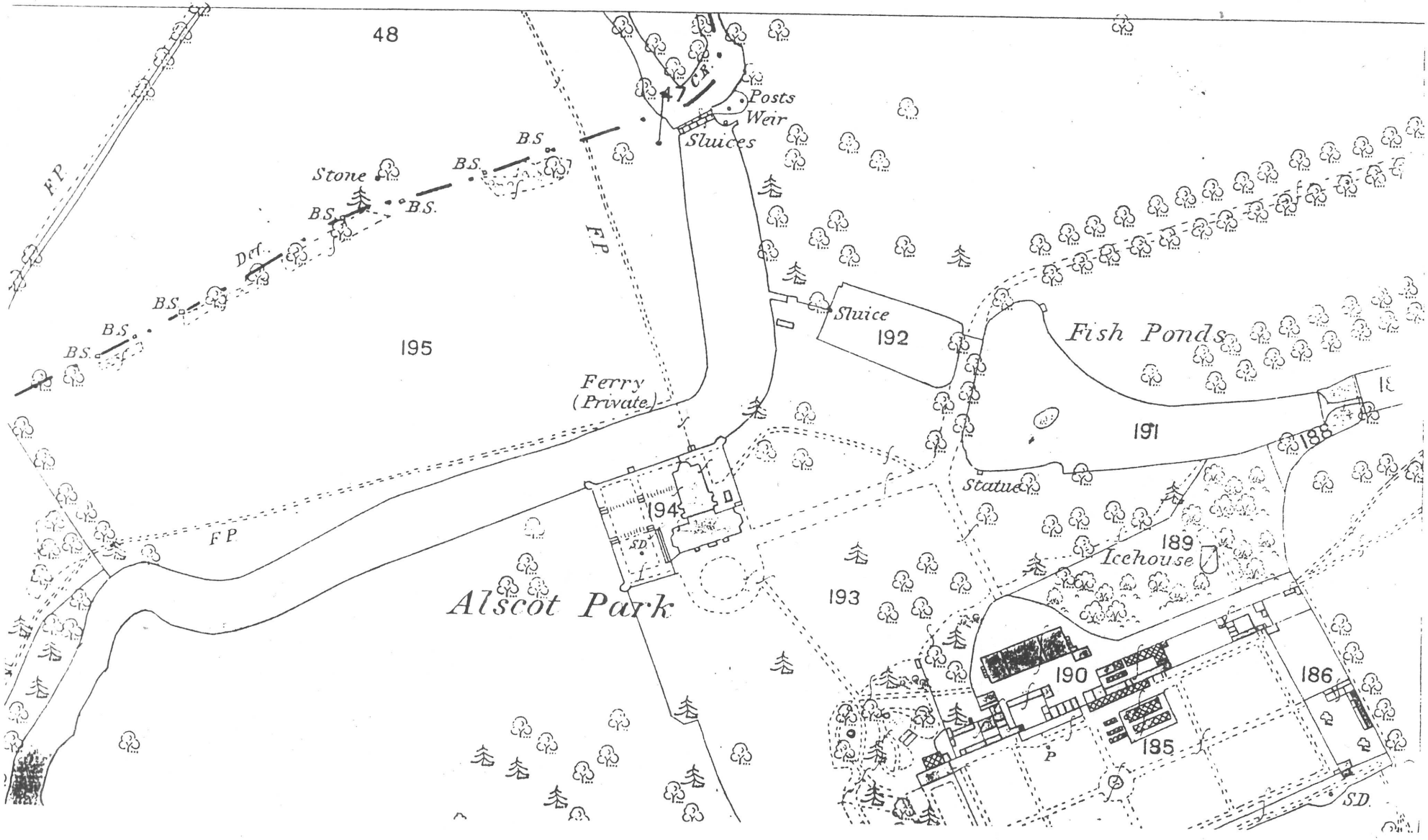


Fig 7 Ordnance Survey 1st edn 25" (1:2500) Warwickshire sheet 50.2 (1885)

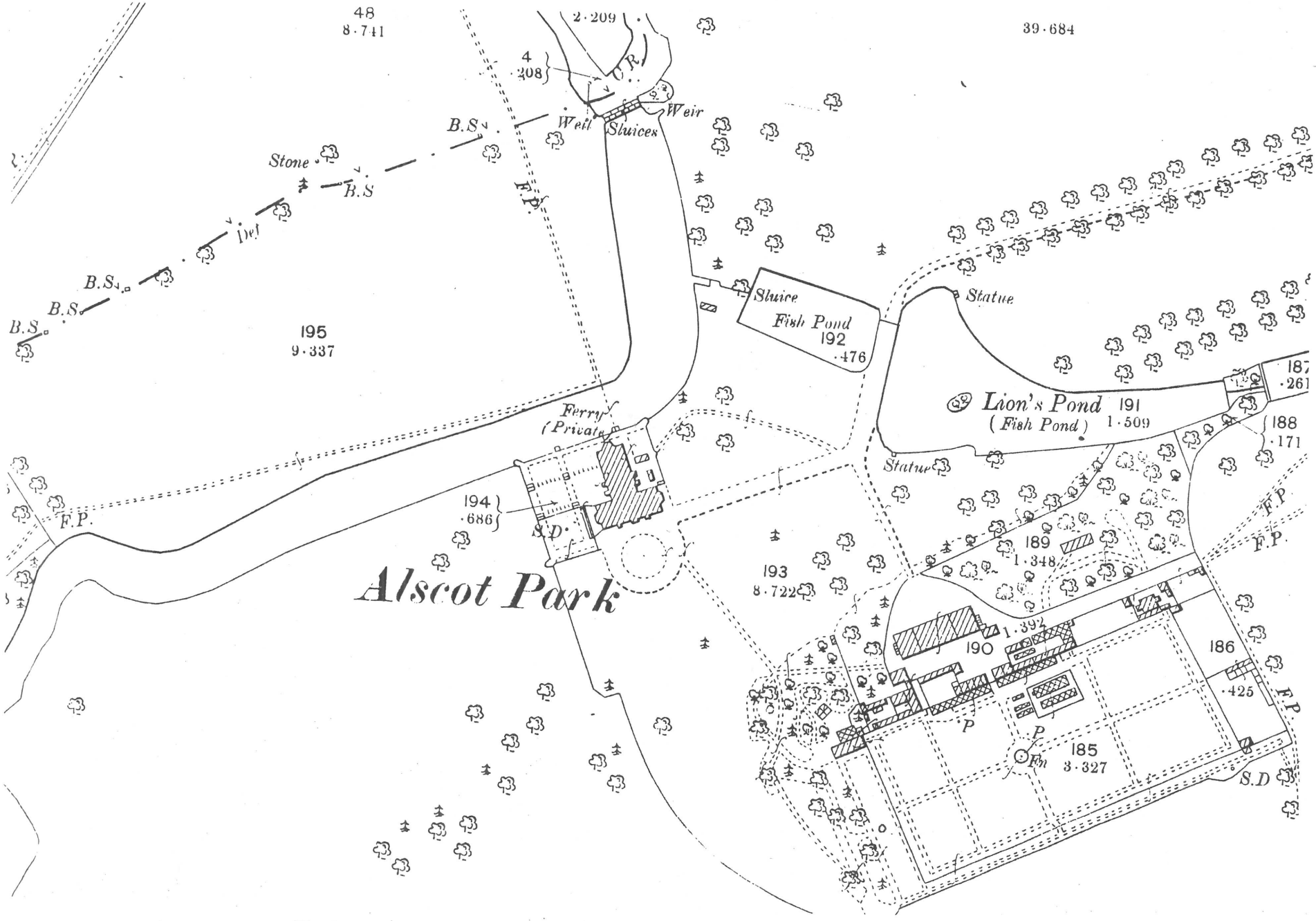


Fig 8 Ordnance Survey 2nd edn 25" (1:2500) Warwickshire sheet 50.2 (1902)

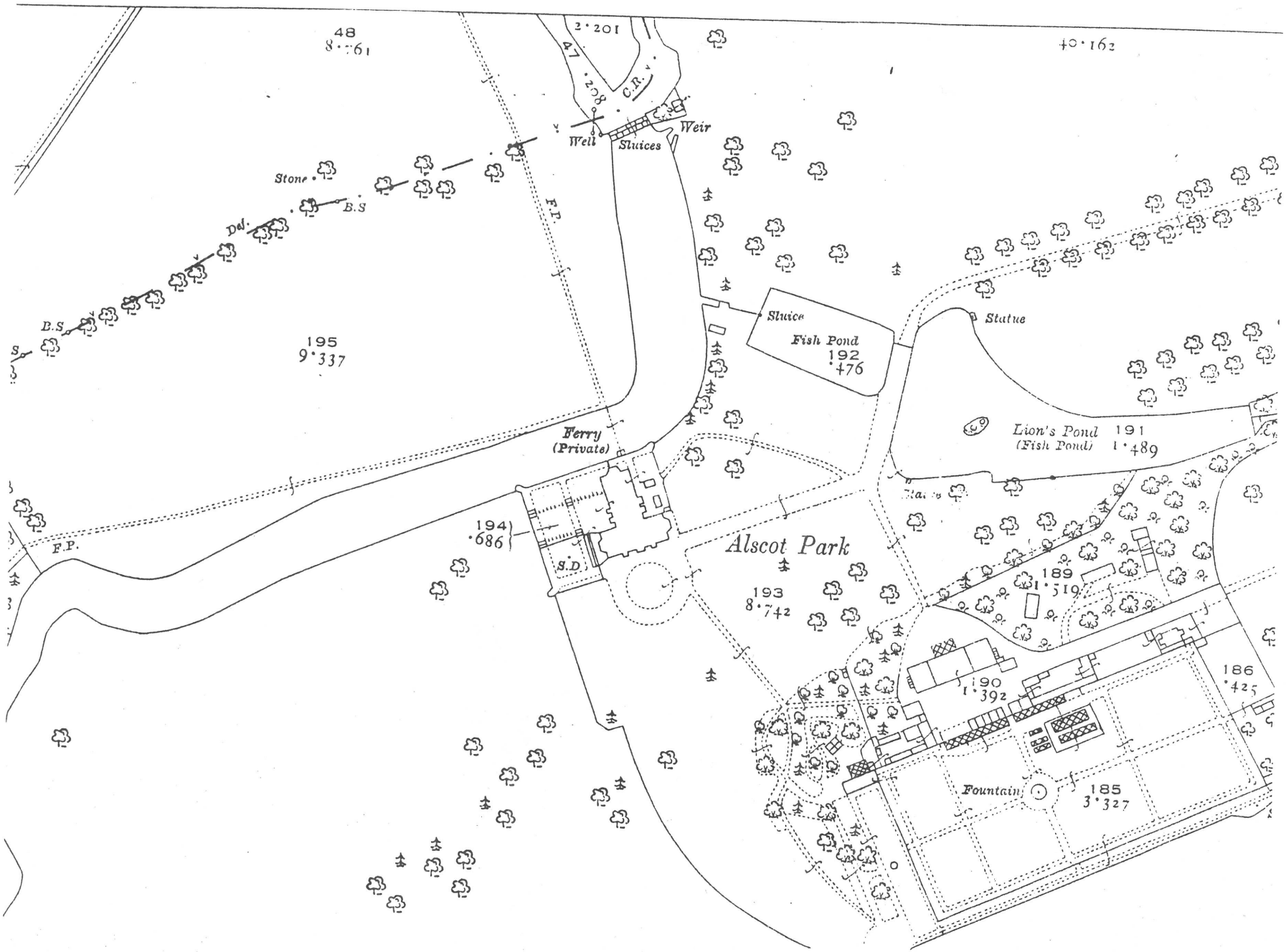


Fig 9 Ordnance Survey 3rd edn 25" (1:2500) Warwickshire sheet 50.2 (1923)

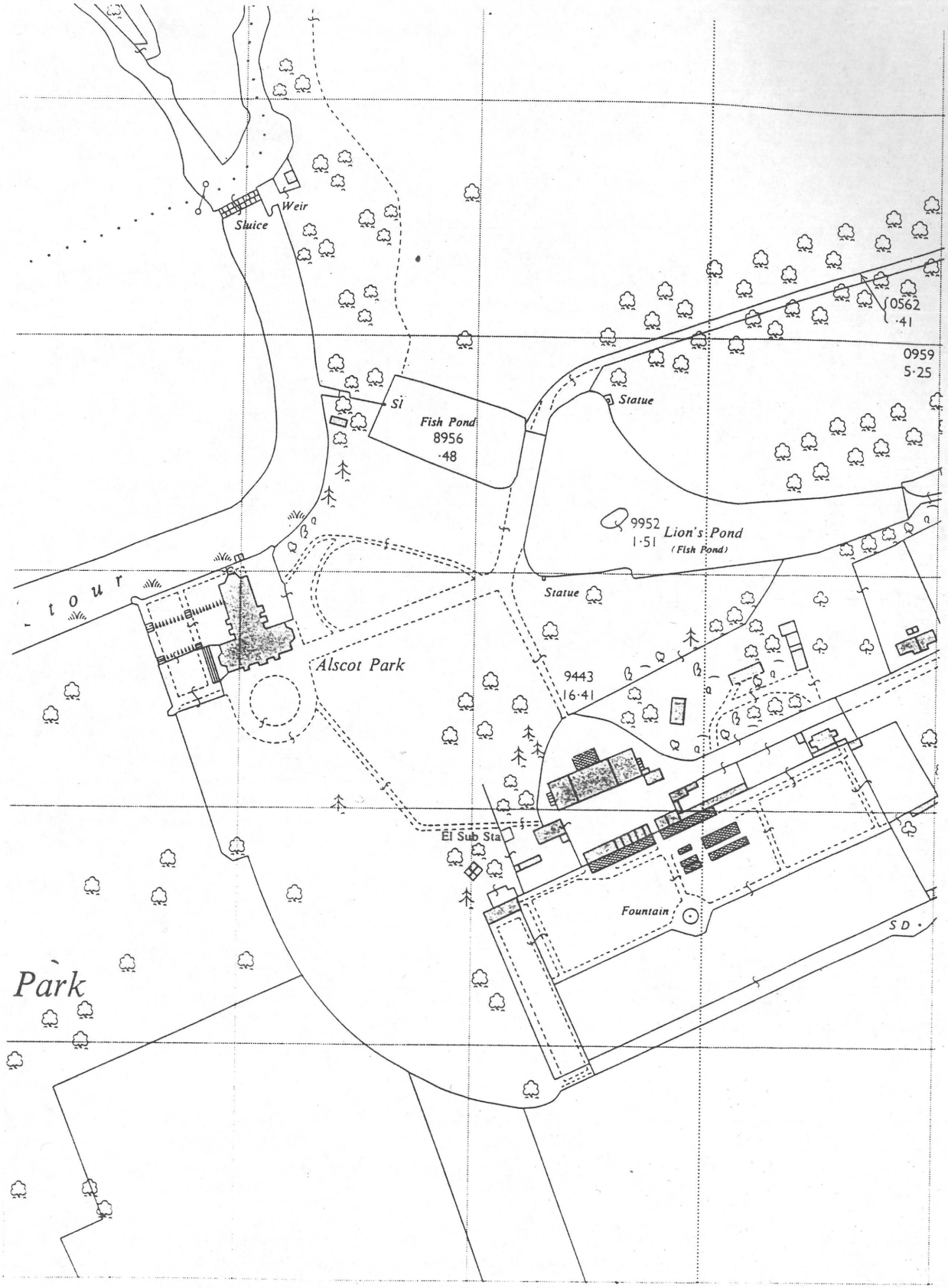


Fig 10 Ordnance Survey 1968 edn 25" (1:2500) sheet SP 2050-2150