N

* BASE SURVEY HARD + FORESTER
  113903 AD. DWG, 10 NOV 2009
* HASSELL ARCHITECTURAL LAYOUT
  AX001942_B1. DWG, 11 NOV 2009

UNIVERSITY OVAL
No.2

UNIVERSITY OVAL
No.1

LEGEND

0 5 10 20 Metres
Scale 1:500

S EXISTING SEWER

Issue	Date	By	Chkd	Appd

Client
ARC

Job Title
ARC INFRASTRUCTURE RERVIEW

Scale at A1 1:200

Discipline
Civil

ARUP
Arup, Level 10, 201 Kent St
Sydney, NSW, 2000
Tel +61(02)9320 9320 Fax +61(02)9320 9321
www.arup.com.au

Drawing Title
SERVICE COORDINATION
SEWER

Drawing Status
PRELIMINARY

Job No	Drawing No	Issue
206771	CS005	1

Do not scale

A1

N

* BASE SURVEY HARDT FORESTER
113903AD.DWG, 10 NOV 2009
* HASSELL ARCHITECTURAL LAYOUT
AX001942-B1.DWG, 11 NOV 2009

UNIVERSITY OVAL
No.2

UNIVERSITY OVAL
No.1

UNI COMMS

LEGEND

0 5 10 20 Metres
Scale 1:500

T EXISTING COMMUNICATIONS
CD EXISTING COMMS DATA

Issue	Date	By	Chkd	Appd

Client
ARC

Job Title
ARC INFRASTRUCTURE RERVIEW

Scale at A1 1:200

Discipline Civil

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Drawing Title
SERVICE COORDINATION
COMMUNICATIONS

Drawing Status
PRELIMINARY

Job No	Drawing No	Issue
206771	CS006	1

Do not scale

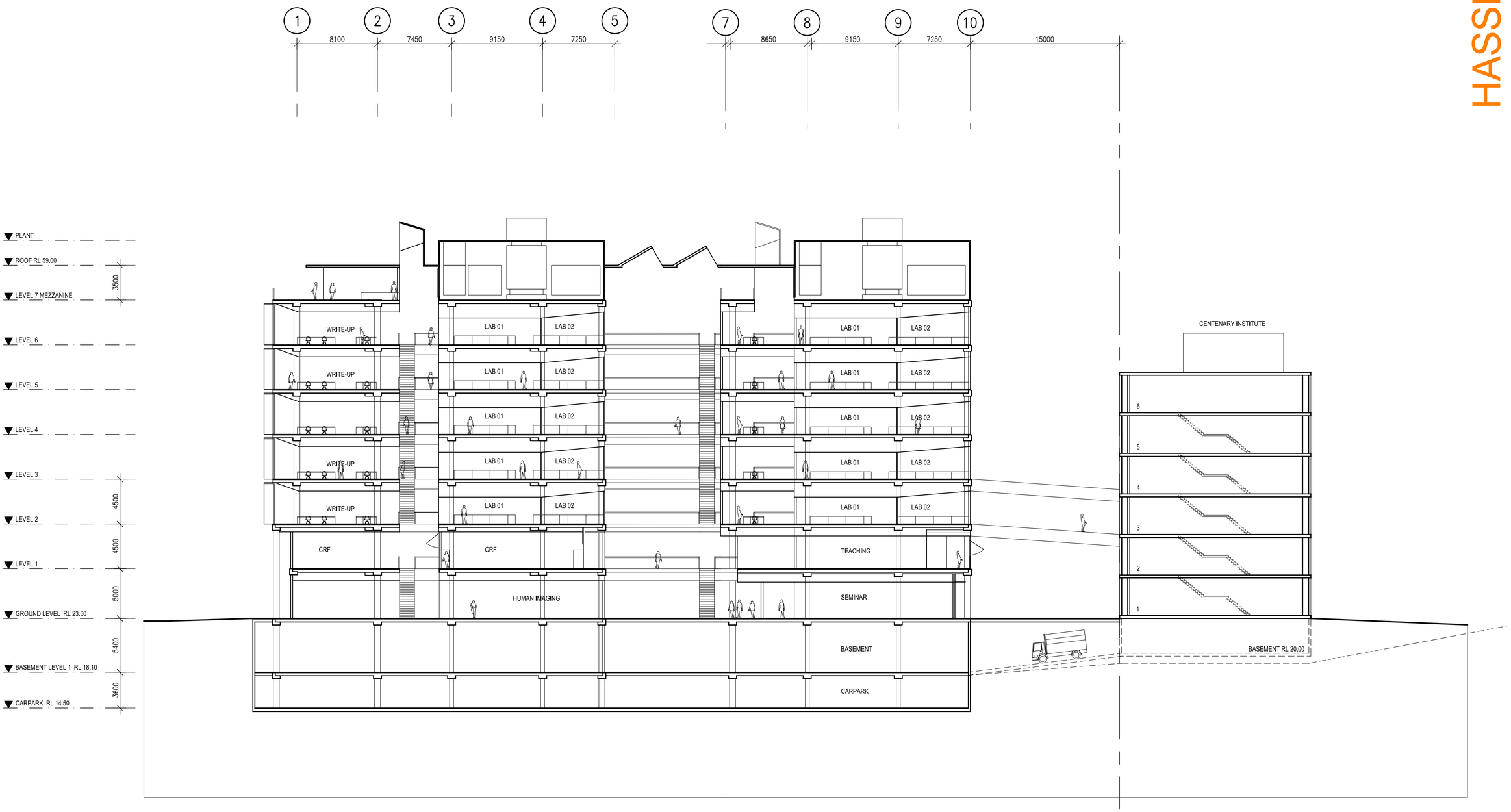
Appendix B

Hassell Architectural Plans and Sections

HASSELL

Client	Project	Drawing	Drawing No	Project No	Date	Scale	Drawn By
The University of Sydney	CODCD	LEVEL B1 BASEMENT PLAN	SK-102_01	AX001942	29.10.09	1:200 @ A1	CG

HASSELL



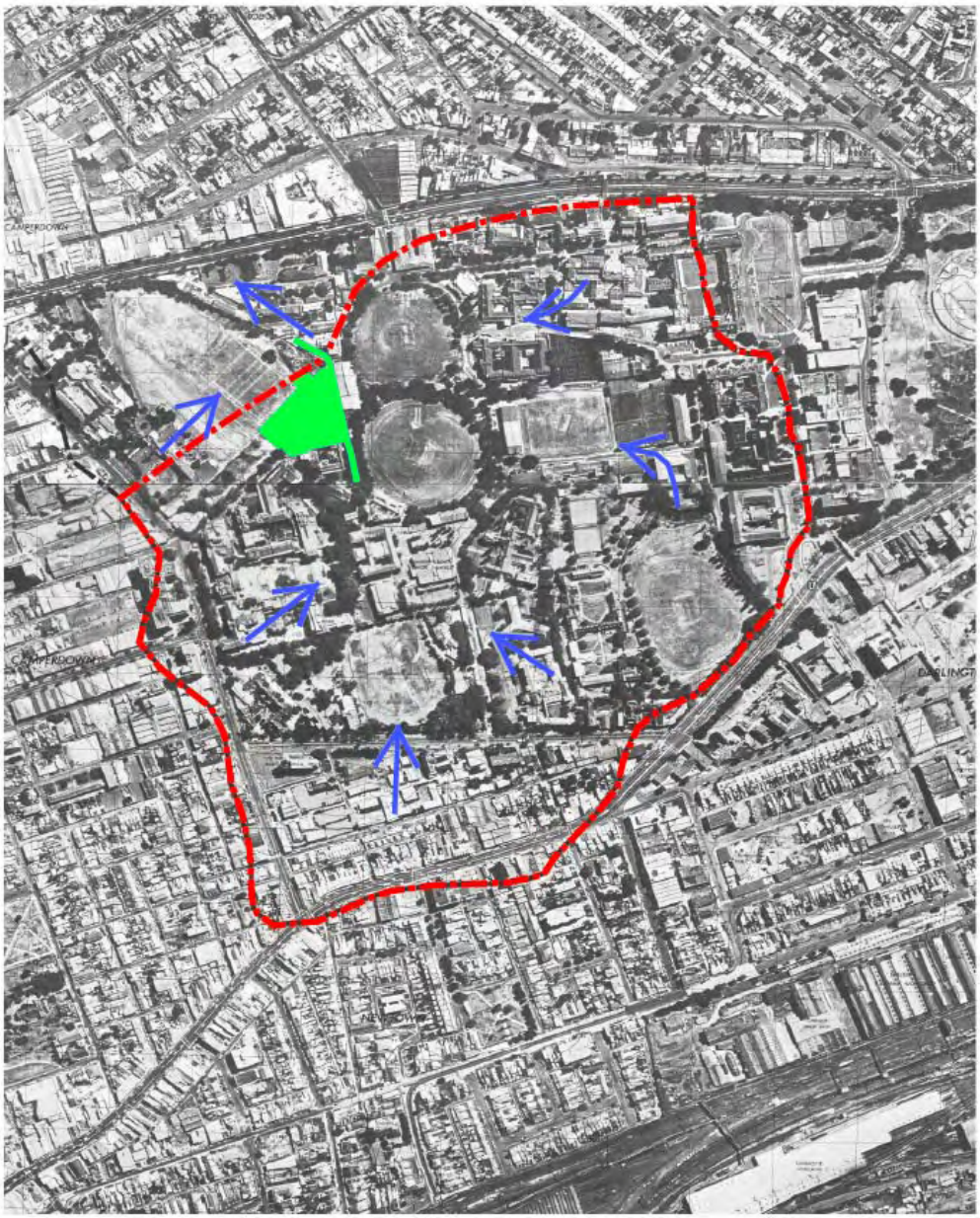
Client	Project	Drawing	Drawing No	Project No	Date	Scale	Drawn By
The University of Sydney	CODCD	SECTION AA	SK-200_01	AX001942	27.10.09	1:200 @ A1	NH

Appendix C

Catchment Plan

CODCD DEVELOPMENT - CATCHMENT PLAN

ARUP
11/11/09
SCALE APPROX 1:8000 AT A4



LEGEND

CATCHMENT BOUNDARY

GENERAL DIRECTION OF OVERLAND FLOW

CODCD DEVELOPMENT AREA

Appendix D

Sydney Water Corporation Consultation

Project title	CODCD Building - Sydney University	Job number	206771
Meeting name & number	Consultation with Sydney Water Corporation	File reference	
Location	Sydney Water Corporation Office, Parramatta	Time & date	12 August 2009
Purpose of meeting	Consultation with Sydney Water regarding existing Stormwater		
Present	Ray Parsell, Sydney Water Jeya Jeyadevan, Sydney Water David Colpo, DJC Consulting Pty Ltd David Longman, Arup		
Apologies			
Circulation	Those present		

Action

1. Introduction

- Sydney University is in the planning phase for a new building at their Camperdown Campus. The site is to the south east of St John's oval near the corner of Missenden and Parramatta Roads.
- The proposed building will be a major development at the University.
- David Colpo is the Project Manager for this project.
- Arup are providing technical services during the planning phase of this development.
- As part of the planning phase, the Project Team seek Sydney Water Corporation's (SWC) input with regard to the constraints and requirements for development works in the vicinity of SWC's assets.

2. Proposal

- As tabled, Arup sketch 206771-MEP-002 shows the preliminary building outline for the development. The proposed building is current over an existing ∅1050mm stormwater main.
- SWC confirmed that the ∅1050mm stormwater main is a SWC asset. The smaller stormwater line that feeds into the ∅1050mm is not a SWC asset and would be either owned by Sydney University or City of Sydney Council.
- Other mains shown on the sketch, 850*910 and 910mm mains, are SWC assets, though the current proposal does not appear to impact directly on these assets.

Project title	Job number	Date of Meeting
CODCD Building - Sydney University	206771	12 August 2009

3. Development Options

- Build over the asset: As the current buildings in the vicinity are not built over the existing stormwater main, SWC will not permit new development over their existing asset.
- Deviate the main: SWC may permit this option provided that they are satisfied with the planned deviation. Refer to details in *4. Deviation Requirements.*
- Project Team to alter building layout
- SWC to "sell" asset to Sydney Univerity: Not SWC's preferred option and would not be possible if the upstream catchment included public areas.

4. Deviation Requirements

- All costs associated with deviation of a SWC asset would need to be covered by Sydney University.
- Deviation design should:
    - Allow SWC to maintain and/or rebuild the asset as required,
    - Not impair the capacity of the drainage network,
    - Maintain/provide adequate 100 year ARI overland flow paths,
    - Include provision for the creation of an easement over the deviated asset,
    - Have service crossings at preferred angles, (ie 90°).
    - Demonstrate adequate self cleansing velocity, adequate grade and clearances,
    - Include plans and longsections to document the above requirements are meant.

Prepared by	David Longman
Date of circulation	14 August 2009
Date of next meeting	TBC

Sydney WATER

Telephone: 9350 4473
Fax: 9350 4228
Officer: Jeya Jeyadevan
Our Ref.: 2007/02503F

29 May 2007

Arup
PO Box 76
Millers Point NSW 2000

Attention: Ms Karen Richardson

Dear Madam,

On Site Detention Requirements
The University of Sydney

Further to your email dated 09 May 2007 regarding the above subject.

Please find the following estimated On Site Detention requirements as per the submitted information based on the current Sydney Water's On Site Detention policy.

The OSD requirements for the **Camperdown East Catchment and the Darlington Catchment** have been calculated as follows:

Percent impervious existing:	0%
Percent Impervious proposed:	100%
On-site storage:	24.99 m^3 per 1000m^2 of total catchment area
Maximum Permissible Site Discharge:	29.04 L/s per 1000m^2 of total catchment area

Percent impervious existing:	50%
Percent Impervious proposed:	100%
On-site storage:	19.17 m^3 per 1000m^2 of total catchment area
Maximum Permissible Site Discharge:	36.23 L/s per 1000m^2 of total catchment area

Percent impervious existing:	100%
Percent Impervious proposed:	100%
On-site storage:	13.35 m^3 per 1000m^2 of total catchment area
Maximum Permissible Site Discharge:	43.42 L/s per 1000m^2 of total catchment area

The OSD requirements for the **Camperdown West Catchment** has been calculated using the existing Sydney Water spreadsheet calculator as follows:

Percent impervious existing:	0%
Percent Impervious proposed:	100%
On-site storage:	46.81 m^3 per 1000m^2 of total catchment area
Maximum Permissible Site Discharge:	16.80 L/s per 1000m^2 of total catchment area

Percent impervious existing:	50%
Percent Impervious proposed:	100%
On-site storage:	36.82 m^3 per 1000m^2 of total catchment area
Maximum Permissible Site Discharge:	21.21 L/s per 1000m^2 of total catchment area

Percent impervious existing:	100%
Percent Impervious proposed:	100%
On-site storage:	28.44 m^3 per 1000m^2 of total catchment area
Maximum Permissible Site Discharge:	25.63 L/s per 1000m^2 of total catchment area

Development of the above site presents an excellent opportunity to integrate the passage and treatment of stormwater using Water Sensitive Urban Design (WSUD). WSUD links water infrastructure, landscape design and the urban built form and is more attuned to natural hydrological and ecological process than conventional stormwater design.

Sydney Water is developing Stormwater Quality Policies and Guidelines and in the interim encourages all developers to implement best practice urban stormwater management using WSUD as summarised below:

1. Treat stormwater runoff to NSW EPA draft best practice treatment objectives:
   - 80% reduction in Total Suspended Solids
   - 45% reduction in Total Phosphorus
   - 45% reduction in Total Nitrogen

2. Maximise stormwater reuse through integrated water cycle management, which can reduce potable water demand and assist in achieving the above pollutant load reduction objectives.

To encourage WSUD, Sydney Water allows up to 50% of the required On-Site Detention volume to be offset by installing rainwater tanks. The maximum volume of the rainwater tank that can be used for the offset is 50%. The rainwater tanks must be connected to toilets in addition to external uses such as garden watering and washing cars. The off set volume of the On Site Detention is 50% volume of the Rain Water tank.

The following link provides further detail on the NSW EPA's best practice treatment objectives in Table 8.1 (attached) of the draft Managing Urban Stormwater: Council Handbook –
http://www.epa.nsw.gov.au/resources/chbody.pdf

Further information on WSUD in the Sydney Region can be obtained by visiting the following website –
http://www.wsud.org/

If you have any queries please do not hesitate to contact me on the above number.

Yours sincerely

Jeyadevan

Jeya Jeyadevan

Table 8.1 – Potential Stormwater Treatment Objectives

Pollutant:	Goal/Vision:	ESD Treatment Objective:
Post construction phase:		
Suspended solids (SS)	Suspended solids loads equal to that which would have been exported from the equivalent forested catchment	80% retention of the average annual load**
Total phosphorus (TP)	The load of phosphorus from the catchment that results in the attainment of the ambient water quality concentration objective	45% retention of the average annual load**
Total nitrogen (TN)	The load of nitrogen from the catchment that results in the attainment of the ambient water quality concentration objective	45% retention of the average annual load**
Litter	No anthropogenic litter in waterbodies. Input of organic litter equal to that which would have occurred from the equivalent forested catchment	Retention of litter greater than 50 mm for flows up to 25% of the 1 year ARI peak flow
Coarse sediment	Coarse sediment loads equal to those which would have been exported from the equivalent forested catchment	Retention of sediment coarser than 0.125 mm* for flows up to 25% of the 1 year ARI peak flow
Oil and grease (hydrocarbons)	No visible oil and grease (anthropogenic hydrocarbons) in waterbodies	In areas with concentrated hydrocarbon deposition, no visible oils for flows up to 25% of the 1 year ARI peak flow
Construction phase:		
Suspended solids	Suspended solids loads equal to those which would have been exported from the equivalent forested catchment	Maximum SS concentration of 50 mg/L for all 5 day rainfalls up to the 75th percentile depth. All practical measures to reduce pollution are to be taken beyond this event.
Other pollutants	No export of toxicants (eg pesticides, petroleum products, construction chemicals) from the site	Limit the application, generation and migration of toxic substances to the maximum extent practicable

* based on idealised settling characteristics
** a design storm of 25% of the 1 year ARI flow is to be adopted for the design of certain elements of some stormwater treatment measures which can be used to meet this objective

Appendix E

IFD Table

Intensity-Frequency-Duration Table

Location: 33.900S 151.175E NEAR.. Sydney University - CODCD Issued: 16/11/2009

Rainfall intensity in mm/h for various durations and Average Recurrence Interval

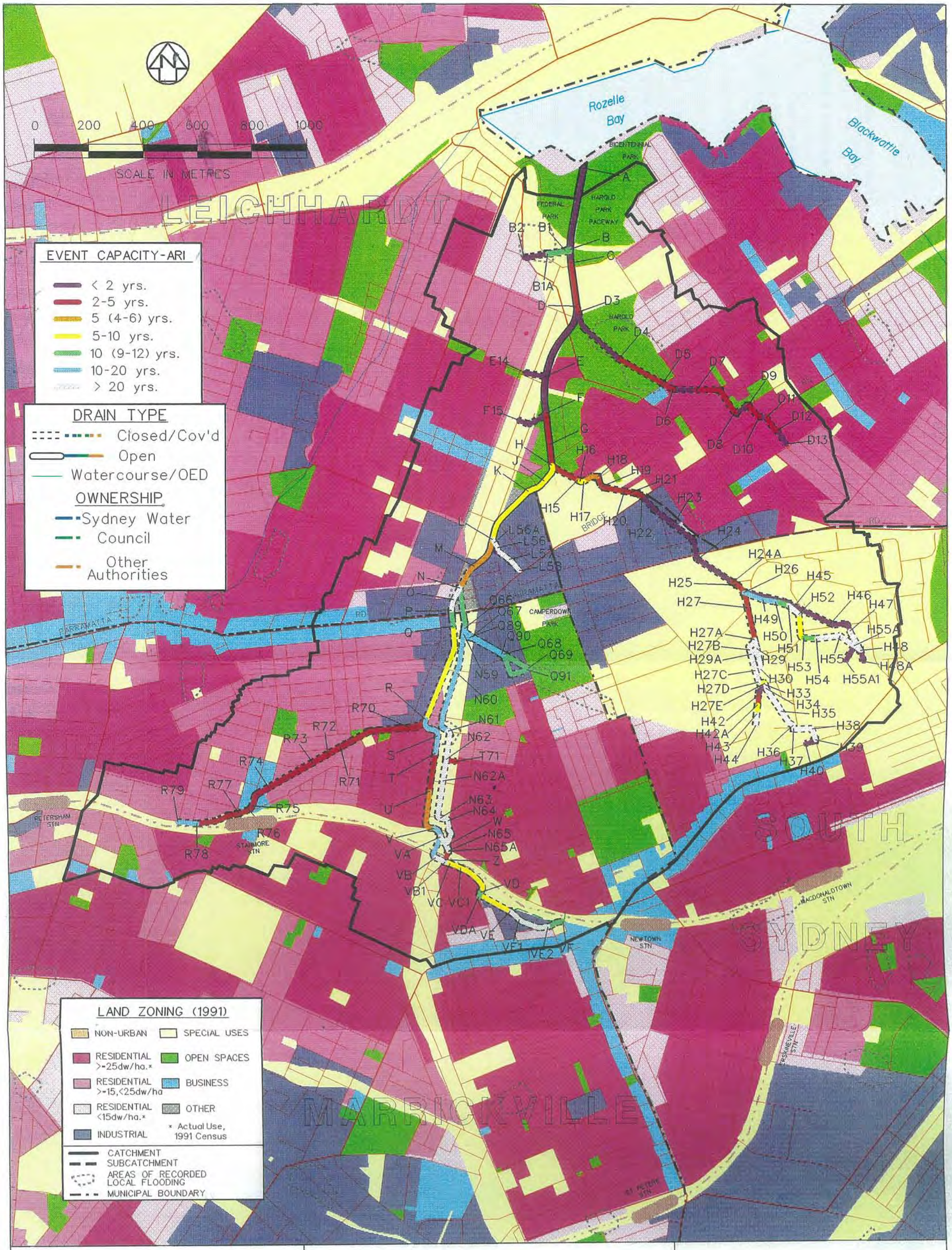
Average Recurrence Interval

Duration	1 YEAR	2 YEARS	5 YEARS	10 YEARS	20 YEARS	50 YEARS	100 YEARS
5Mins	98.7	126	161	180	206	240	266
6Mins	92.4	118	151	169	194	225	250
10Mins	75.7	97.3	125	140	161	188	209
20Mins	55.4	71.6	93.0	106	122	144	160
30Mins	45.1	58.5	76.6	87.2	101	119	133
1Hr	30.5	39.7	52.4	60.0	69.8	82.8	92.8
2Hrs	19.9	25.9	34.2	39.2	45.7	54.2	60.8
3Hrs	15.3	19.9	26.3	30.1	35.1	41.6	46.6
6Hrs	9.74	12.7	16.7	19.0	22.1	26.2	29.3
12Hrs	6.26	8.12	10.7	12.1	14.1	16.6	18.6
24Hrs	4.08	5.28	6.93	7.90	9.16	10.8	12.1
48Hrs	2.62	3.39	4.45	5.08	5.90	6.99	7.81
72Hrs	1.95	2.53	3.32	3.79	4.39	5.19	5.81

(Raw data: 39.98, 8.11, 2.53, 84.19, 16.64, 5.2, skew=0.00, F2=4.29, F50=15.86)

Appendix F

Sydney Water Information - Johnston Creek Catchment



Sydney WATER
SYDNEY WATER CORPORATION LIMITED
ACN 063 279 649
UTILITIES PLANNING SERVICES

JOHNSTONS CREEK SWC 55 CAPACITY ASSESSMENT

JAN 96

FIGURE **2-1**
STORM EVENT CAPACITY

USER: gis DATE: 5-JAN-1996 17:44 PTB: a3.ptb FILE: /usr5/prj/ifisdrn/dgn/johnston/55swfig.d

TABLE 2-1. SUMMARY FOR JOHNSTONS CREEK SWC 55

No.	MAIN DRAIN or BRANCH Name	INCOMING BRANCH, SUB-BRANCH or Land Feature	Own If not Sydw	SECTION NODES according to: HSD McIll (Vol A2)	Region	UPS	LENGTH Section (m)	RatedEq (m)	CROSS SECTION No. off	Width (mm)	Ht (mm)	Dia. (mm)	Type	Mtl	HYDRAULIC CAPACITY "n_0" Manning	Capacity (cumecs)	CATCH-MENT AREA (ha)	RUNOFF 5 yr ARI PeakFlow (cumecs)	RATIO Capacity 5yr Peak	Ratio x $F_S I_S$ x $(ToC+5)^m_y$ = $K_y F_y$	ARI Storm Event Capacity (years)	Landuse Design ARI (years)	See Note
55B	LILLIE BRIDGE BRANCH			D-D3	D-D3	D-D3	12.12		1				CT	C	0.014	Not Applic	48.2	10.36			2-3	10	
55B	LILLIE BRIDGE BRANC	Harold Park		D3-D4	D3-D4	D3-D4	204.03	204.03	1	2440	925		CV	C	0.014	3.46	44.8	9.74	0.355	225	0.5-1	10	
55B	LILLIE BRIDGE BRANC	Harold Park		D4-D5	D4-D5	D4-D5	194.73	194.73	1			1350	P	C	0.013	5.92	34.1	7.64	0.774	478	2-3	10	
55B	LILLIE BRIDGE BRANC	Wigram Rd		D5-D6	D5-D6	D5-D6	50.49	50.49	1			1200	P	C	0.013	4.33	24.4	5.47	0.791	488	2-3	5	
55B	LILLIE BRIDGE BRANCH			D6-D7	D6-D7	D6-D7	82.84	82.84	1			1050	P	C	0.013	3.03	24.4	5.47	0.554	351	1-2	5	
55B	LILLIE BRIDGE BRANC	Hegarty St		D7-D8	D7-D8	D7-D8	185.18	185.18	1			900	P	C	0.013	4.22	22.4	5.02	0.840	502	3-4	5	
55B	LILLIE BRIDGE BRANC	John St		D8-D9	D8-D9	D8-D9	57.43	57.43	1			900	P	C	0.013	2.18	15.6	3.50	0.623	395	1-2	5	
55B	LILLIE BRIDGE BRANC	Clare St		D9-D10	D9-D10	D9-D10	60.65	60.65	1			750	P	C	0.013	2.49	14.5	3.25	0.767	473	2-3	5	
55B	LILLIE BRIDGE BRANC	Pyrmont Bridge Rd		D10-D11	D10-D11	D10-D11	27.94	27.94	1			750	P	C	0.013	2.03	14.5	3.25	0.625	396	1-2	10	
55B	LILLIE BRIDGE BRANCH			D11-D12	D11-D12	D11-D12	65.32	65.32	1			750	P	C	0.013	1.65	9.7	2.17	0.760	469	2-3	5	
55B	LILLIE BRIDGE BRANCH			D12-D13	D12-D13	D12-D13	70.27	70.27	1	595	840		OV	C	0.014	1.23	8.1	1.81	0.677	429	1-2	5	
55C	PIPER ST BRANCH			E-E14	E-E14	E-E14	61.99	61.99	1			600	P	C	0.013	0.45	5.2	1.17	0.388	246	0.5-1	10	
55D	TAYLOR ST BRANCH			F-F15	F-F15	F-F15	103.09	103.09	1	1080	830		CV	C	0.014	1.21	9.6	2.26	0.534	338	1-2	10	5
55E	ORPHAN SCHOOL CREEK BRANCH			H-H15	H-H15	H-H15	106.12	106.12	1	2820	1370		CV	C	0.014	15.40	94.9	19.26	0.800	494	2-3	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H15-H16	H15-H16	H15-H16	13.36	13.36	1	2820	1370		CV	C	0.014	17.20	90.6	18.49	0.930	544	4-5	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H16-H17	H16-H17	H16-H17	12.79	12.79	1	2820	1370		CV	C	0.014	21.50	90.6	18.51	1.161	651	8-9	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H17-H18	H17-H18	H17-H18	60.35	60.35	1	2820	1370		CV	C	0.014	17.20	90.6	18.53	0.928	543	4-5	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H18-H19	H18-H19	H18-H19	44.26	44.26	1	2285	1370		CV	C	0.014	15.90	89.3	18.35	0.866	518	3-4	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H19-H20	H19-H20	H19-H20	75.32	75.32	1	2210	1370		CV	C	0.014	13.10	89.0	18.35	0.714	441	2-3	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H20-	H20-H21	H20-H21	37.29	37.29	1	1905	1370		CV	C	0.014	15.10	85.4	17.63	0.856	512	3-4	10	
55E	ORPHAN SCHOOL CREEK BRANCH			-H22	H21-H22	H21-H22	40.18	40.18	1	1830	1370		B	C	0.014	15.30	85.4	17.68	0.865	517	3-4	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H22-H23	H22-H23	H22-H23	160.93	160.93	1	1525	1370		B	C	0.014	11.30	78.8	16.20	0.697	430	1-2	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H23-H24	H23-H24	H23-H24	170.99	170.99	1	1370	1220		B	C	0.014	8.30	72.9	14.92	0.556	352	1-2	10	
55E	ORPHAN SCHOOL CK	BRANCH 55F		H24-	H24-H24A	H24-H24A	134.90	134.90	1	1370	1065		CV	C	0.014	6.96	50.1	10.47	0.665	421	1-2	5	
55E	ORPHAN SCHOOL CK	Sydney Uni		-H25	H24A-H25	H24A-H25	20.34	20.34	1	1370	1065		CV	C	0.014	6.96	47.3	9.83	0.708	449	2-3	5	
55E	ORPHAN SCHOOL CK	BRCH 55G & 55H		H25-H26	H25-H26	H25-H26	39.03	39.03	1			1350	P	C	0.013	7.19	47.3	9.83	0.731	451	2-3	5	
55E	ORPHAN SCHOOL CK	Sydney Uni		H26-H27	H26-H27	H26-H27	50.49	50.49	1			1350	P	C	0.013	3.94	23.4	4.86	0.811	485	2-3	5	
55E	ORPHAN SCHOOL CK	BRANCH		H27-H27A	H27-H27A	H27-H27A	117.48	117.48	1			1050	P	C	0.013	3.84	23.4	4.86	0.791	488	2-3	5	
55E	ORPHAN SCHOOL CK	Sydney Uni		H27A-H27B	H27A-H27B	H27A-H27B	48.77	48.77	1			1050	P	C	0.013	5.24	12.1	2.64	1.983	1031	50-100	5	
55E	ORPHAN SCHOOL CK	BRANCH 55L		H27B-H27C	H27B-H27C	H27B-H27C	78.64	78.64	1			1200	P	C	0.013	4.54	12.1	2.64	1.718	916	25-50	5	
55E	ORPHAN SCHOOL CK	Sydney Uni		H27C-H27D	H27C-H27D	H27C-H27D	42.92	42.92	1			1050	P	C	0.013	3.97	11.3	2.49	1.597	852	25-50	5	
55E	ORPHAN SCHOOL CK	Sydney Uni		H27D-H27E	H27D-H27E	H27D-H27E	24.59	24.59	1			900	P	C	0.013	2.64	11.3	2.49	1.062	605	6-7	5	
55E	ORPHAN SCHOOL CK	BRANCH 55N		H27E-H33	H27E-H33	H27E-H33	3.11	3.11	1			900	P	C	0.013	1.47	11.3	2.49	0.591	374	1-2	5	

TABLE 2-1. SUMMARY FOR JOHNSTONS CREEK SWC 55

MAIN DRAIN or BRANCH No.	Name	INCOMING BRANCH, SUB-BRANCH or Land Feature	Own If not SydW	SECTION NODES according to: HSD McIII (Vol A2)	Region	UPS	LENGTH Section (m)	RatedEq (m)	CROSS SECTION No. off	Width (mm)	Ht (mm)	Dia. (mm)	Type	Mtl	HYDRAULIC CAPACITY "n_o" Manning	Capacity (cumecs)	CATCH-MENT AREA (ha)	RUNOFF 5 yr ARI PeakFlow (cumecs)	RATIO Capacity 5yr Peak	Ratio x F_5I_5 x $(ToC+5)^{m}_{y}$ = $K_y.F_y$	ARI Storm Event Capacity (years)	Landuse Design ARI (years)	See Note
55E	ORPHAN SCHOOL CK	Sydney Uni		H33-H34	H33-H34	H33-H34	10.97	10.97	1			750	P	C	0.013	1.96	2.9	0.67	2.945	1496	100 &>	5	
55E	ORPHAN SCHOOL CK	Sydney Uni		H34-H35	H34-H35	H34-H35	103.20	103.20	1			750	P	C	0.013	1.96	2.9	0.67	2.945	1496	100 &>	5	
55E	ORPHAN SCHOOL CK	Sydney Uni		H35-H36	H35-H36	H35-H36	72.36	72.36	1			750	P	C	0.013	1.96	2.9	0.67	2.945	1496	100 &>	5	
55E	ORPHAN SCHOOL CK		C	H36-H37	H36-H37	H36-H37	12.27	12.27	1			600	P	C	0.013	1.44	2.6	0.61	2.379	1209	100 &>	5	
55E	ORPHAN SCHOOL CREEK BRANCH			H37-H38	H37-H38	H37-H38	68.60	68.60	1			450	P	C	0.013	0.88	2.4	0.55	1.598	852	25-50	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H38-H39	H38-H39	H38-H39	41.84	41.84	1			450	P	C	0.013	0.49	1.3	0.31	1.584	845	25-50	10	
55E	ORPHAN SCHOOL CREEK BRANCH			H39-H40	H39-H40	H39-H40	40.25	40.25	1			450	P	C	0.013	0.61	0.8	0.19	3.174	1613	100 &>	5	
55F	SCIENCE RD SUB-BRA	Sydney Uni			H24A-H24A1	H24A-H24A1	145.00		1			300	P	C	0.013	0.12	0.8	0.19	0.624	395	1-2	5	
55G	HOCKEY FIELD SUB-B	Sydney Uni		H26-H45	H26-H45	H26-H45	191.91	191.91	1	915	915		B	C	0.013	Not Avail	2.8	0.63				5	
55G	HOCKEY FIELD SUB-B	Sydney Uni		H45-H46	H45-H46	H45-H46	146.85	146.85	1			600	P	C	0.014	2.07	16.5	3.57	0.579	367	1-2	5	
55G	HOCKEY FIELD SUB-B	Sydney Uni		H46-H47	H46-H47	H46-H47	105.14	105.14	1			525	P	C	0.013	0.97	7.5	1.62	0.598	379	1-2	5	
55G	HOCKEY FIELD SUB-B	Sydney Uni		H47-H48	H47-H48	H47-H48	74.03	74.03	1			525	P	C	0.013	0.62	4.6	1.01	0.615	390	1-2	5	
55H	PHYSICS SCHOOL REL	Sydney Uni		H26-H49	H26-H49	H26-H49	76.13	76.13	1			900	P	C	0.013	0.76	1.5	0.32	2.349	1193	100 &>	5	
55H	PHYSICS SCHOOL REL	Sydney Uni		H49-H50	H49-H50	H49-H50	40.20	40.20	1			900	P	C	0.013	1.96	7.5	1.40	1.397	761	15-20	5	
55H	PHYSICS SCHOOL REL	Sydney Uni		H50-H51	H50-H51	H50-H51	55.08	55.08	1			900	P	C	0.013	1.87	7.5	1.40	1.333	733	12-15	5	
55H	PHYSICS SCHOOL REL	Sydney Uni		H51-H52	H51-H52	H51-H52	49.16	49.16	1			900	P	C	0.013	1.74	7.5	1.40	1.240	687	10-12	5	
55H	PHYSICS SCHOOL REL	Sydney Uni		H52-H53	H52-H53	H52-H53	95.54	95.54	1			900	P	C	0.013	2.25	7.5	1.40	1.604	856	25-50	5	
55H	PHYSICS SCHOOL REL	Sydney Uni		H53-H54	H53-H54	H53-H54	41.96	41.96	1			900	P	C	0.013	1.62	7.5	1.40	1.155	648	8-9	5	
55H	PHYSICS SCHOOL REL	Sydney Uni		H54-H55	H54-H55	H54-H55	85.22	85.22	1			900	P	C	0.013	1.65	7.5	1.40	1.176	656	9-10	5	
55H	PHYSICS SCHOOL REL	BRANCH 55J		H55-	H55-H55A	H55-H55A	58.96	58.96	1			900	P	C	0.013	2.13	7.5	1.40	1.518	816	20-25	5	
55H	PHYSICS SCHOOL REL	Sydney Uni		-H48	H55A-H48	H55A-H48	36.42	36.42	1			900	P	C	0.013	2.13	7.5	1.40	1.518	816	20-25	5	
55H	PHYSICS SCHOOL REL	Sydney Uni			H48-H48A	H48-H48A	56.30	56.30	1			375	P	C	0.013	0.32	2.6	0.60	3.534	1795	100 &>	5	
55J	SUB-BRANCH OFF PHYSICS SCHOOL RELIE				H55A-H55A1	H55A-H55A1	36.00	36.00	1			450	P	C	0.013	0.34	2.1	0.49	0.640	406	1-2	5	
55E	ORPHAN SCHOOL CREEK SUB-BRANCH			H27A-	H27A-H28	H27A-H28	15.59	15.59	1			1050	P	C	0.013	3.83	11.3	2.21	1.729	922	25-50	5	
55E	ORPHAN SCHOOL CREEK SUB-BRANCH				H28-H29	H28-H29	18.90	18.90	1			900	P	C	0.013	3.28	5.0	0.99	3.324	1889	100 &>	5	
55E	ORPHAN SCHOOL CREEK SUB-BRANCH				H29-H30	H29-H30	81.30	81.30	1			900	P	C	0.013	3.28	0.9	0.18	17.845	9066	100 &>	5	
55L	NEW MEDICAL SCHOOL RELIEF SUB-BRANC				H29-H29A	H29-H29A	94.55	94.55	1			600	P	C	0.013	0.62	0.3	0.07	9.155	4651	100 &>	5	
55N	ST ANDREWS COLLEGE SUB-BRANCH			H33-H42	H33-H42	H33-H42	45.72	45.72	1			675	P	C	0.013	1.18	8.5	1.82	0.648	411	1-2	5	
55N	ST ANDREWS COLLEGE SUB-BRANCH			H42-	H42-	H42-H42A	36.58	36.58	1			675	P	C	0.013	1.27	7.5	1.63	0.778	480	2-3	5	
55N	ST ANDREWS COLLEGE SUB-BRANCH			-H43	-H43	H42A-H43	39.62	39.62	1			600	P	C	0.013	1.21	4.5	1.07	1.128	633	7-8	5	
55N	ST ANDREWS COLLEGE SUB-BRANCH			H43-H44	H43-H44	H43-H44	41.33	41.33	1			600	P	C	0.013	1.66	4.5	1.07	1.548	826	20-25	5	

Appendix G

Extract from Site Topographical Survey

D08
H.K. WARD
GYMNASIUM
MISSENDEN
PSYCH UNIT
CENTENARY
INSTITUTE
D09
BULLI
SOIL
SHED
D10
RESIDENCE
(ADJ.TO OVALS 1&2)
D11
CHAPLAINCY
GROSE FARM LANE
WESTERN
AVENUE
D03
TURNSTILE
OVAL NO.1
(WESTERN AV.)
UNIVERSITY OVAL
No.1
D01
BRUCE WILLIAMS
PAVILION
D02
QUEEN ELIZABETH II RES. INST. &
VICTOR COPPLESON BUILDING
D13
NO.1 OVAL
WORKSHED
CHAPEL
M.G.A.
81° 35' 45" 28.345
110.78
62.465
60.96