

BASIX[®]Certificate

Building Sustainability Index www.basix.nsw.gov.au

Multi Dwelling

Certificate number: 967335M_02




This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 06/10/2017 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary

Date of issue: Friday, 22 March 2019

To be valid, this certificate must be lodged within 3 months of the date of issue.



Project summary		
Project name	SGCH Flowerdale Road_02	
Street address	127-129 Flowerdale Road Liverpool 2170	
Local Government Area	Liverpool City Council	
Plan type and plan number	deposited 373524	
Lot no.	3	
Section no.	-	
No. of residential flat buildings	1	
No. of units in residential flat buildings	39	
No. of multi-dwelling houses	0	
No. of single dwelling houses	0	
Project score		
Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 44	Target 35

Certificate Prepared by
Name / Company Name: Northrop Consulting Engineers Pty Ltd
ABN (if applicable): 81094433100

Description of project

Project address

Project name	SGCH Flowerdale Road_02
Street address	127-129 Flowerdale Road Liverpool 2170
Local Government Area	Liverpool City Council
Plan type and plan number	deposited 373524
Lot no.	3
Section no.	-

Project type

No. of residential flat buildings	1
No. of units in residential flat buildings	39
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Site details

Site area (m ²)	1907
Roof area (m ²)	953.5
Non-residential floor area (m ²)	0.0
Residential car spaces	19
Non-residential car spaces	0

Common area landscape

Common area lawn (m ²)	388.0
Common area garden (m ²)	646.0
Area of indigenous or low water use species (m ²)	0.0

Assessor details

Assessor number	20579
Certificate number	0003712600
Climate zone	28

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 44	Target 35

Description of project

The tables below describe the dwellings and common areas within the project

Residential flat buildings - Building1, 39 dwellings, 5 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
101	1	42.4	9.4	0.0	0.0
105	2	62.7	6.8	0.0	0.0
109	1	41.0	10.3	0.0	0.0
203	2	63.5	7.2	0.0	0.0
207	2	64.6	7.2	0.0	0.0
301	1	41.0	10.3	0.0	0.0
305	2	63.0	6.6	0.0	0.0
309	1	41.0	10.3	0.0	0.0
403	2	58.5	6.6	0.0	0.0
G03	2	63.2	7.5	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
102	2	61.9	8.5	0.0	0.0
106	2	62.7	6.8	0.0	0.0
110	1	42.4	9.4	0.0	0.0
204	2	63.8	6.3	0.0	0.0
208	2	63.1	7.8	0.0	0.0
302	2	61.8	8.0	0.0	0.0
306	2	63.0	6.6	0.0	0.0
310	1	41.0	10.3	0.0	0.0
404	2	59.7	6.8	0.0	0.0
G04	2	63.8	6.8	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
103	2	63.2	7.5	0.0	0.0
107	2	64.6	7.2	0.0	0.0
201	1	41.0	10.3	0.0	0.0
205	2	63.0	6.6	0.0	0.0
209	1	41.0	10.3	0.0	0.0
303	2	63.5	7.2	0.0	0.0
307	2	64.6	7.2	0.0	0.0
401	1	36.2	8.5	0.0	0.0
G01	1	42.4	9.4	0.0	0.0
G05	2	64.9	7.4	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
104	2	63.8	6.8	0.0	0.0
108	2	63.9	7.0	0.0	0.0
202	2	61.8	8.0	0.0	0.0
206	2	63.0	6.6	0.0	0.0
210	1	41.0	10.3	0.0	0.0
304	2	63.8	6.3	0.0	0.0
308	2	63.1	7.8	0.0	0.0
402	2	56.8	7.1	0.0	0.0
G02	2	63.4	8.0	0.0	0.0

Description of project

The tables below describe the dwellings and common areas within the project

Common areas of unit building - Building1

Common area	Floor area (m²)
Lift car (No.1)	-
Bin Room	32.3
Ground Floor Lobby	46.5

Common area	Floor area (m²)
Lift car (No.2)	-
Pump Room	18.32
Hallways	194.1

Common area	Floor area (m²)
Switch/Main Comms Room	17.11
Fire Stair	132.2

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building1

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for multi-dwelling houses

3. Commitments for single dwelling houses

4. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

1. Commitments for Residential flat buildings - Building1

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install:			
(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and		✓	✓
(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 4.5 but <= 6 L/min)	4 star	4 star	4 star	no	-	-	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	gas instantaneous 6 star	individual fan, ducted to façade or roof	manual on / timer off	individual fan, ducted to façade or roof	manual on / timer off	individual fan, ducted to façade or roof	manual on / timer off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
104, 105, 106, 204, 205, 206, 304, 305, 306, 310, G01	ceiling fans	ceiling fans	-	-	1	1	yes	yes	yes	yes	0	no
All other dwellings	ceiling fans	ceiling fans	-	-	2	1	yes	yes	yes	yes	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	yes	-	-	-	no	no

(iii) Thermal Comfort								Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.										
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.										

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
101	5.8	27.1
102	14.4	26.8
103	10.6	27.1
104	44.5	34.1
105	40.8	21.4
106	52.0	20.4
107	38.6	30.8
108	11.9	25.6
109	6.1	26.5

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
110	7.9	25.9
201	6.0	26.9
202	14.7	26.7
203	11.0	27.6
204	44.7	34.0
205	39.1	22.1
206	38.5	23.0
207	28.1	32.7
208	8.9	28.5
209	5.3	28.2
210	6.1	27.1
301	6.1	25.5
302	15.0	26.1
303	11.4	26.4
304	45.5	34.3
305	38.0	30.8
306	48.2	30.1
307	39.3	39.9
308	17.0	33.8
309	14.4	34.4
310	14.6	33.0
401	15.6	31.2
402	25.6	29.0
403	21.3	32.0
404	59.2	42.6
G01	23.9	21.0
G02	16.1	19.5

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
G03	20.1	17.8
G04	56.7	24.2
All other dwellings	46.6	13.1

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	5000.0	To collect run-off from at least: - 450.0 square metres of roof area of buildings in the development - 0.0 square metres of impervious area in the development - 0.0 square metres of garden/lawn area in the development - 0.0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 646.0 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No.1)	-	-	light-emitting diode	connected to lift call button	No
Lift car (No.2)	-	-	light-emitting diode	connected to lift call button	No
Switch/Main Comms Room	ventilation exhaust only	interlocked to light	light-emitting diode	manual on / manual off	No
Bin Room	ventilation exhaust only	-	light-emitting diode	manual on / manual off	No
Pump Room	no mechanical ventilation	-	light-emitting diode	manual on / manual off	No
Fire Stair	no mechanical ventilation	-	light-emitting diode	motion sensors	No
Ground Floor Lobby	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	No
Hallways	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	No

Central energy systems	Type	Specification
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 5
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 5

4. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 5.0 peak kW

Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

Legend

1. Commitments identified with a "✓" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✓" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✓" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

Nationwide House Energy Rating Scheme* — Class 2 summary

Certificate number: 0003712600

Certificate Date: 22 Mar 2019

★ Average Star rating: 7.7



Assessor details

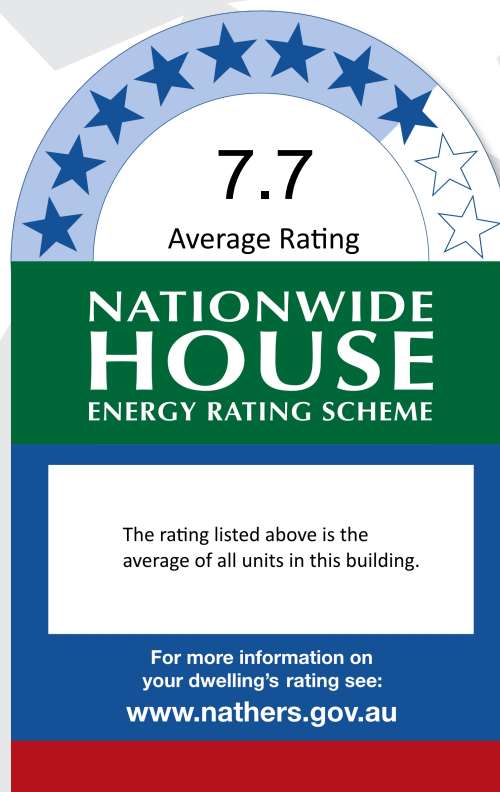
Accreditation number: **20579**
Name: **Amir Girgis**
Organisation: **Northrop Consulting Engineers**
Email: **agirgis@northrop.com.au**
Phone: **02 9241 4188**
Declaration of interest: **The Assessor has been engaged in the project design or development**
Software: **BERS Pro v4.3.0.2d (3.13)**

AAO: **ABSA**

Dwelling details

Street: **Flowerdale Road**
Suburb: **Liverpool**
State: **NSW**
Postcode: **2170**

Scan to access this certificate online and confirm this is valid.



Summary of all dwellings

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0003569787-01	G01	23.9	21.0	44.9	7.9
0003569746-01	G02	16.1	19.5	35.6	8.4
0003569738-01	G03	20.1	17.8	37.9	8.4
0003569696-01	G04	56.7	24.2	81.0	6.4
0003569662-01	G05	46.6	13.1	59.7	7.3
0003569647-01	101	5.8	27.1	32.9	8.6
0003569548-01	102	14.4	26.8	41.3	8.2
0003569506-01	103	10.6	27.1	37.7	8.4
0003569498-01	104	44.5	34.1	78.6	6.4
0003569803-01	105	40.8	21.4	62.3	7.2
0003569779-01	106	52.0	20.4	72.4	6.8
0003569753-01	107	38.6	30.8	69.4	6.9
0003569712-01	108	11.9	25.6	37.5	8.4
0003569688-01	109	6.1	26.5	32.7	8.6
0003569654-01	110	7.9	25.9	33.8	8.5

Nationwide House Energy Rating Scheme* - Class 2 summary

Certificate number: **0003712600**

Certificate Date:

22 Mar 2019

★ Average Star rating: **7.7**



Summary of all dwellings continued

Certificate Details

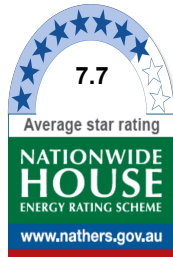
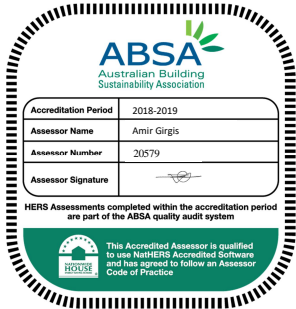
Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0003569605-01	201	6.0	26.9	32.9	8.6
0003569621-01	202	14.7	26.7	41.4	8.2
0003569597-01	203	11.0	27.6	38.5	8.3
0003569852-01	204	44.7	34.0	78.7	6.4
0003569589-01	205	39.1	22.1	61.2	7.3
0003569555-01	206	38.5	23.0	61.5	7.3
0003569480-01	207	28.1	32.7	60.9	7.3
0003569845-01	208	8.9	28.5	37.4	8.4
0003569795-01	209	5.3	28.2	33.6	8.5
0003569720-01	210	6.1	27.1	33.2	8.6
0003569571-01	301	6.1	25.5	31.6	8.7
0003569670-01	302	15.0	26.1	41.1	8.2
0003569639-01	303	11.4	26.4	37.7	8.4
0003569837-01	304	45.5	34.3	79.9	6.4
0003569613-01	305	38.0	30.8	68.9	6.9
0003569514-01	306	48.2	30.1	78.3	6.4
0003569878-01	307	39.3	39.9	79.2	6.4
0003569829-01	308	17.0	33.8	50.9	7.7
0003569761-01	309	14.4	34.4	48.8	7.8
0003569704-01	310	14.6	33.0	47.6	7.9
0003569563-01	401	15.6	31.2	46.8	7.9
0003569530-01	402	25.6	29.0	54.6	7.5
0003569522-01	403	21.3	32.0	53.3	7.6
0003569472-01	404	59.2	42.6	101.9	5.4

DEVELOPMENT APPLICATION

127-129 FLOWERDALE ROAD, LIVERPOOL, NSW



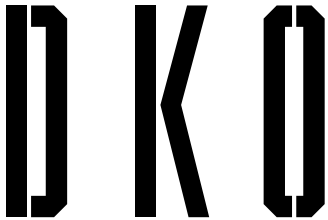
Sheet Index		
Layout ID	Layout Name	Revision
DA000	Title Page	A
DA100	Site Context	A
DA101	Site Analysis	A
DA103	Site Plan	A
DA107	Demolition Plan	A
DA200	Ground Floor Plan	A
DA201	Level 1	A
DA202	Level 2-3 Typical	A
DA203	Level 4	A
DA204	Roof plan	A
DA300	Elevations	A
DA301	Elevations	A
DA302	Elevations	A
DA303	Sections	A
DA304	Sections	A
DA400	Shadows - Jun 21	A
DA401	Eye of the Sun	A
DA402	Height Plane Diagram	A
DA403	Artists Impression	A
DA404	Artists Impression	A
DA405	Material Finish	A
DA500	Development Summary	A
DA501	Solar Access Calc	A
DA502	Cross Ventilation Calc	A
DA503	FSR Calculation	A
DA504	Landscape & Deepsoil	A
DA505	Communal Open Space	A
DA506	Storage Plans	A
DA507	Apartment types	A
DA508	Apartment typologies	A
DA509	DDA Apartments	A
DA600	Notification Site Plan	A
DA601	Notification Elevations	A



Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019
Dwelling Address: Flowerdale Road
Liverpool, NSW 2170



www.nathers.gov.au



DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.

Rev.	Date	By	Ckd	Description
TP1	5/12/2018	PP	IL	Issue for Coordination
TP5	15/02/2019	PP, RY	IL	Issue for Coordination
A	6/03/2019	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

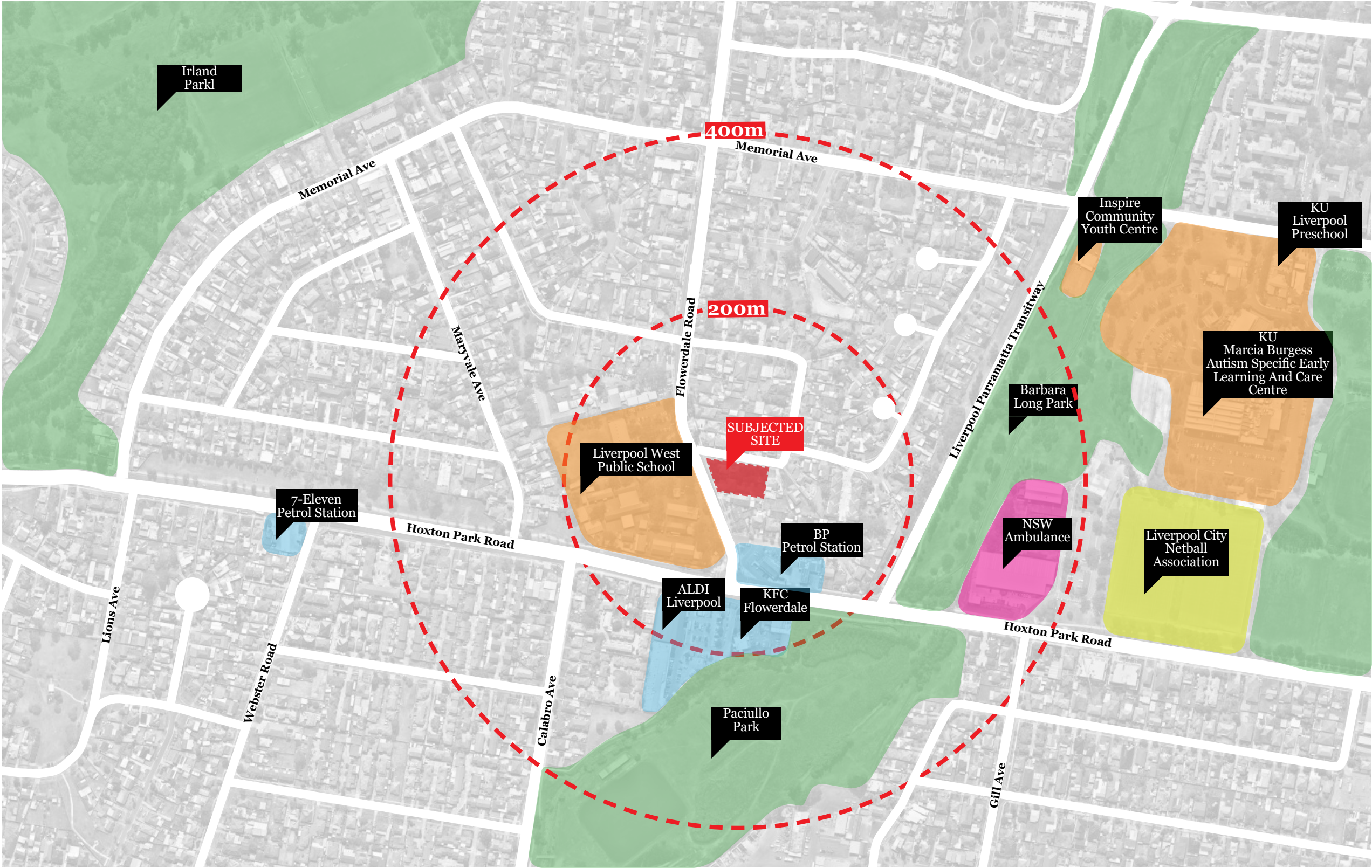
00012087
Title Page
@A3
September 2018

Client

SGCH

Drawing Number
Revision

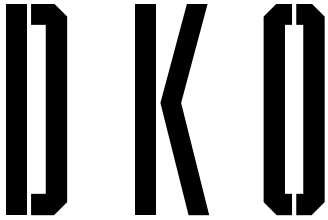
DA000
A



- Key
- Public
 - Health
 - Commerical / Retail
 - Education / Culture
 - Public Open Space



Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019
Dwelling Address: Flowerdale Road
Liverpool, NSW
2170



DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.



Rev.	Date	By	Ckd	Description
TP1	5/12/2018	PP	IL	Issue for Coordination
TP5	15/02/2019	PP, RY	IL	Issue for Coordination
A	6/03/2019	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Site Context
@A3
September 2018

Client

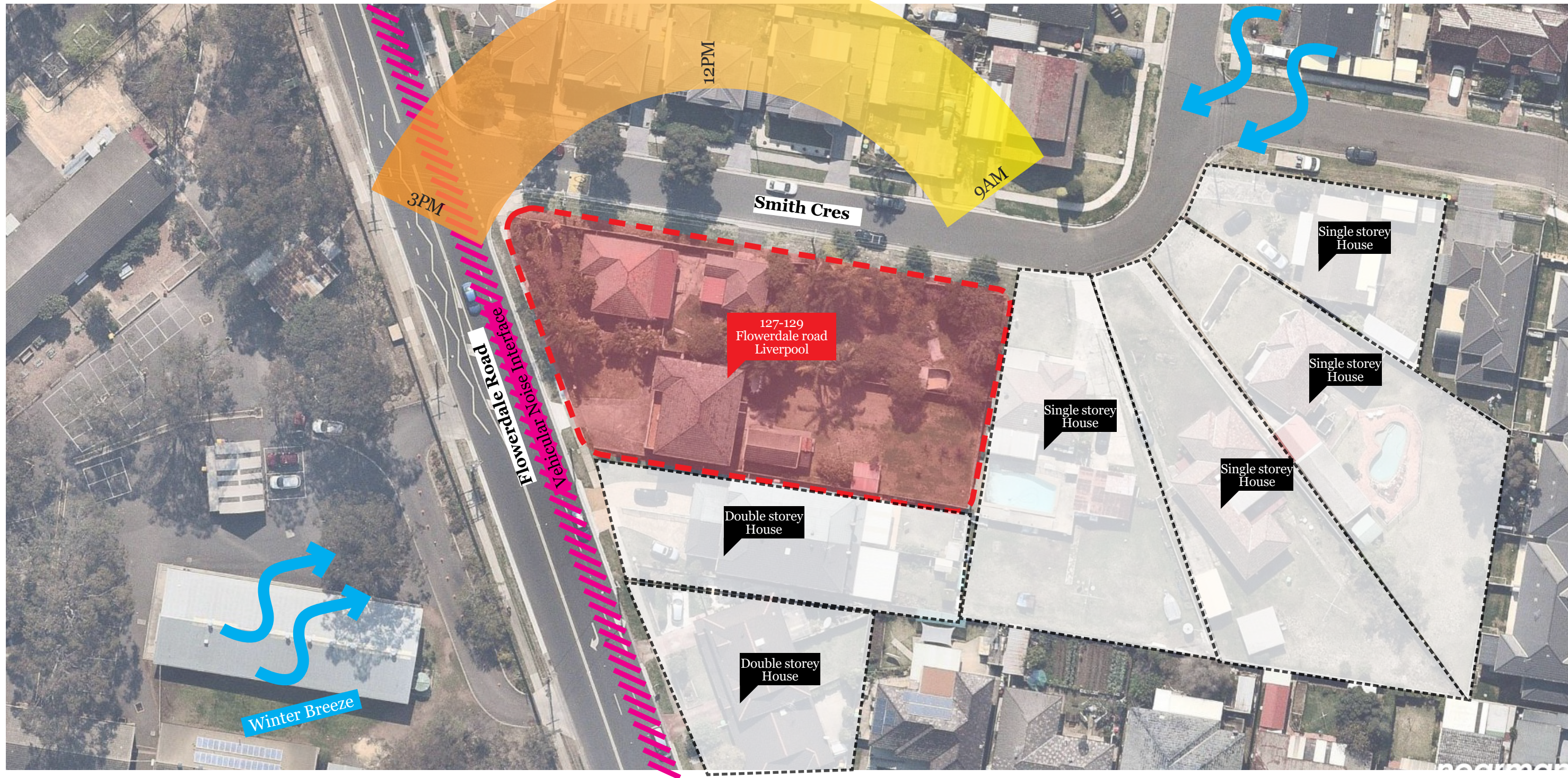
SGCH

Drawing Number
Revision

DA100
A



Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019
Dwelling Address: Flowerdale Road
Liverpool, NSW
2170
www.nathers.gov.au



DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.



Rev.	Date	By	Ckd	Description
TP1	5/12/2018	PP	IL	Issue for Coordination
TP5	15/02/2019	PP, RY	IL	Issue for Coordination
A	6/03/2019	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

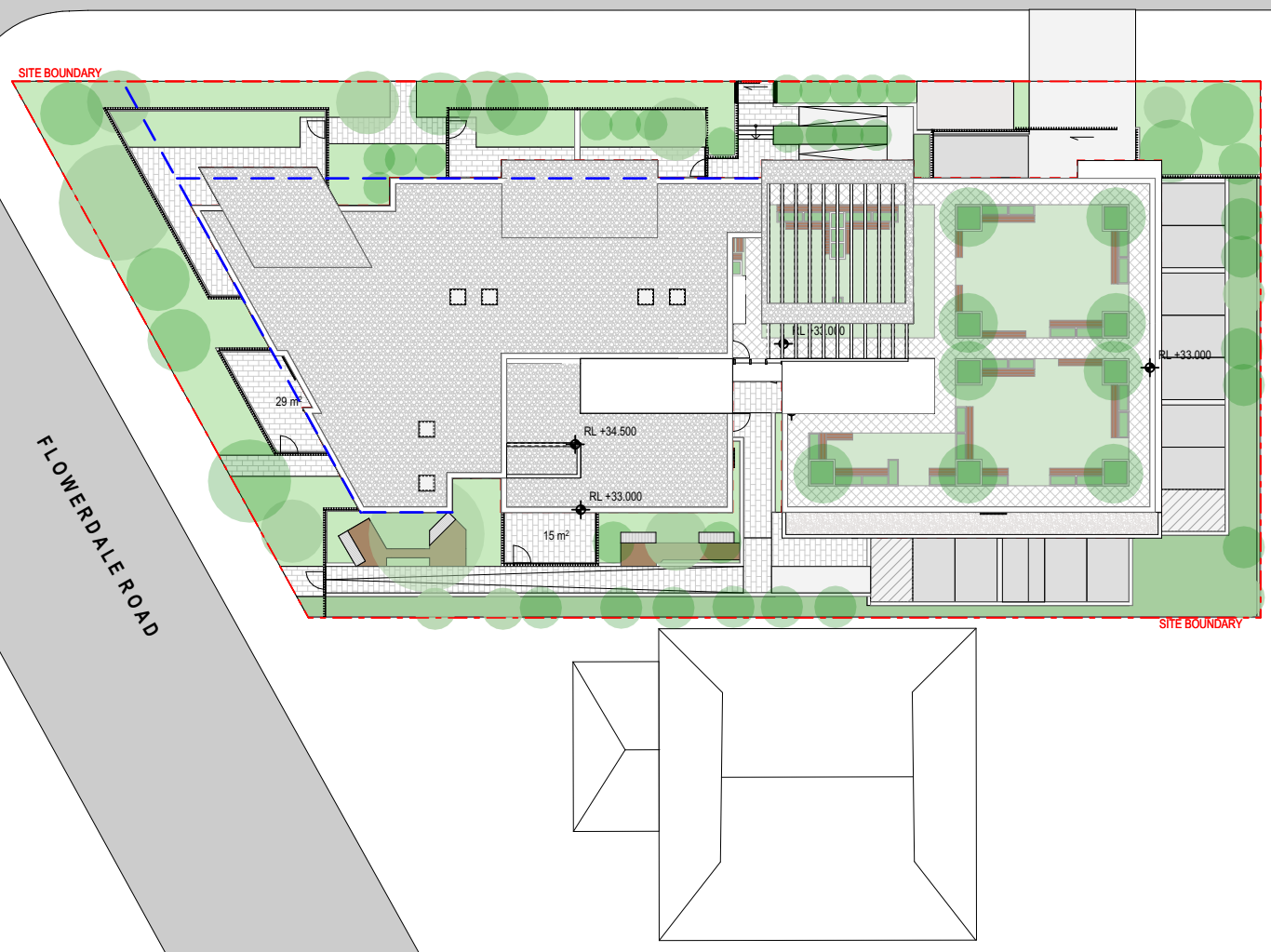
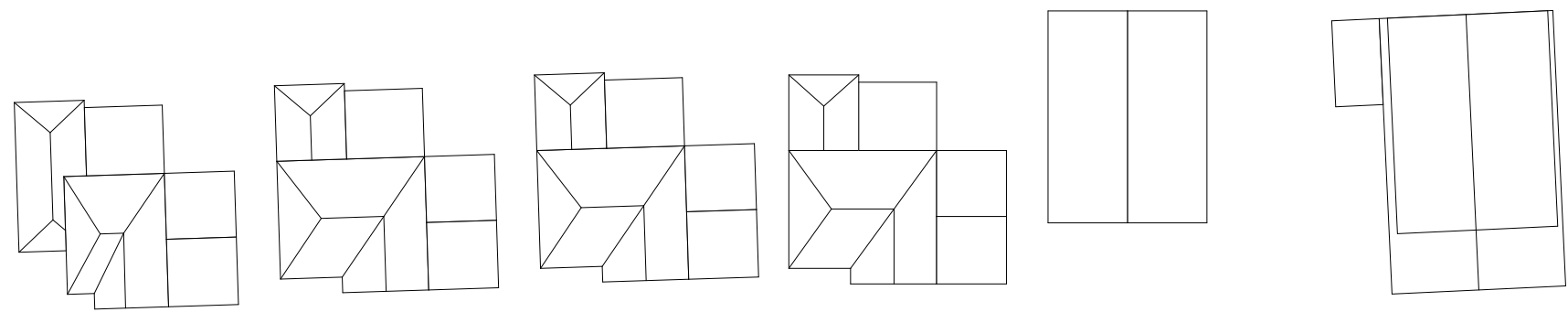
00012087
Site Analysis
@A3
September 2018

Client

SGCH

Drawing Number
Revision

DA101
A



1 Site Plan
1:400



DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.



Rev.	Date	By	Ckd	Description
TP1	5/12/2018	PP	IL	Issue for Coordination
TP5	15/02/2019	PP, RY	IL	Issue for Coordination
A	6/03/2019	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Site Plan
1:400@A3
September 2018

Client
SGCH

Drawing Number
Revision
DA103
A

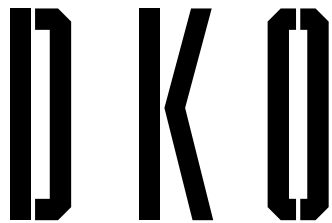


Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019
Dwelling Address: Flowerdale Road
Liverpool, NSW
2170
www.nathers.gov.au





1 DEMOLITION PLAN
1:250



DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.



Rev.	Date	By	Ckd	Description
TP1	5/12/2018	PP	IL	Issue for Coordination
TP5	15/02/2019	PP, RY	IL	Issue for Coordination
A	6/03/2019	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Demolition Plan
1:250@A3
September 2018

Client

SGCH

Drawing Number
Revision

DA107
A



Certificate no.:
Assessor Name:
Accreditation no.:
Certificate date:
Dwelling Address:

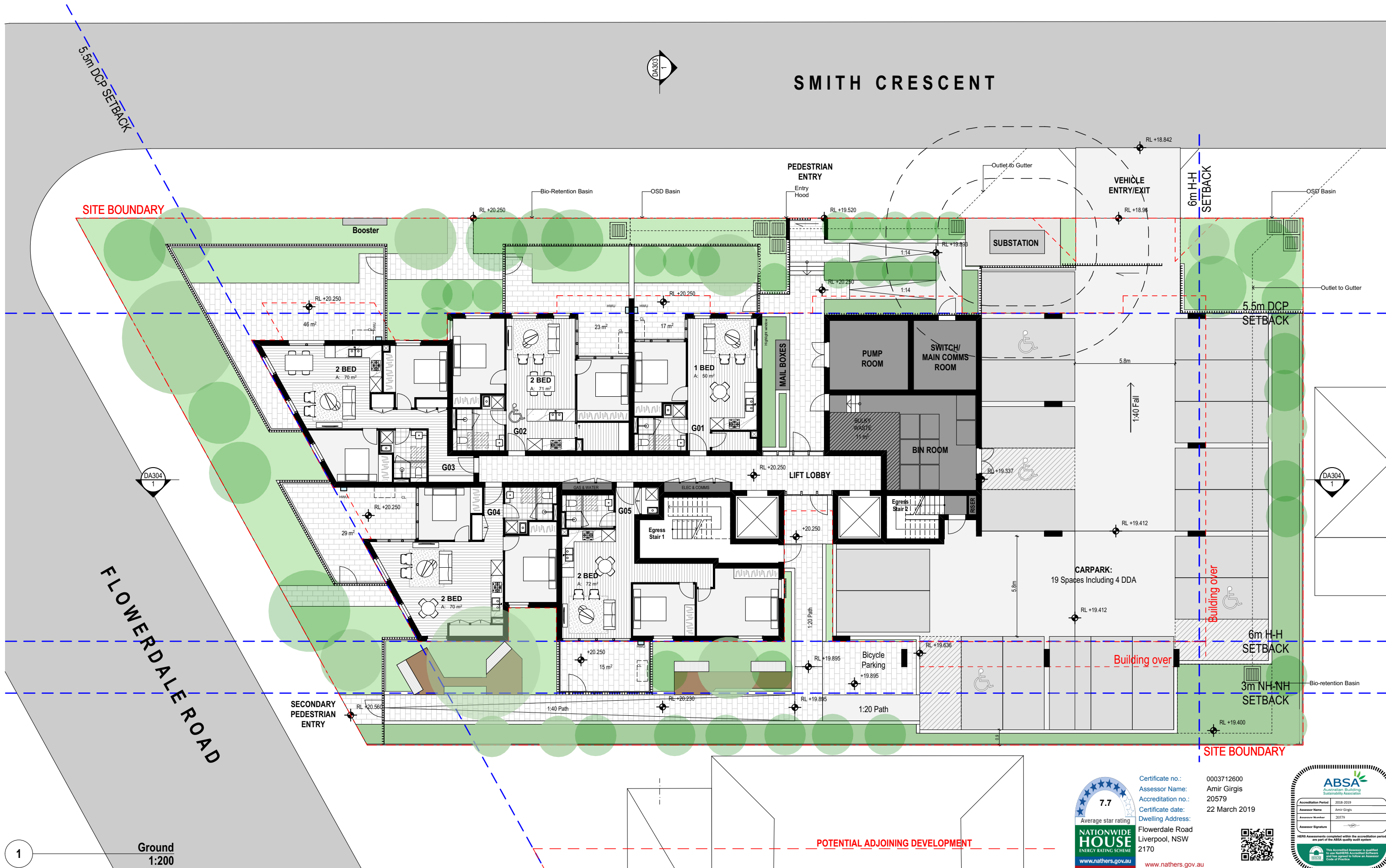
0003712600
Amir Girgis
20579
22 March 2019



Flowerdale Road
Liverpool, NSW
2170

www.nathers.gov.au





DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.

Rev.	Date	By	Ckd	Description
TP2	27/09/18	PP	IL	Issue for Information
TP3	31/10/18	PP	IL	Issue for Coordination
TP4	05/12/18	PP	IL	Issue for Coordination
TP5	15/02/19	PP, RY	IL	Issue for Coordination
A	22/03/19	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Ground Floor Plan
1:200@A3
September 2018

Client

SGCH

Drawing Number
Revision

DA200
A

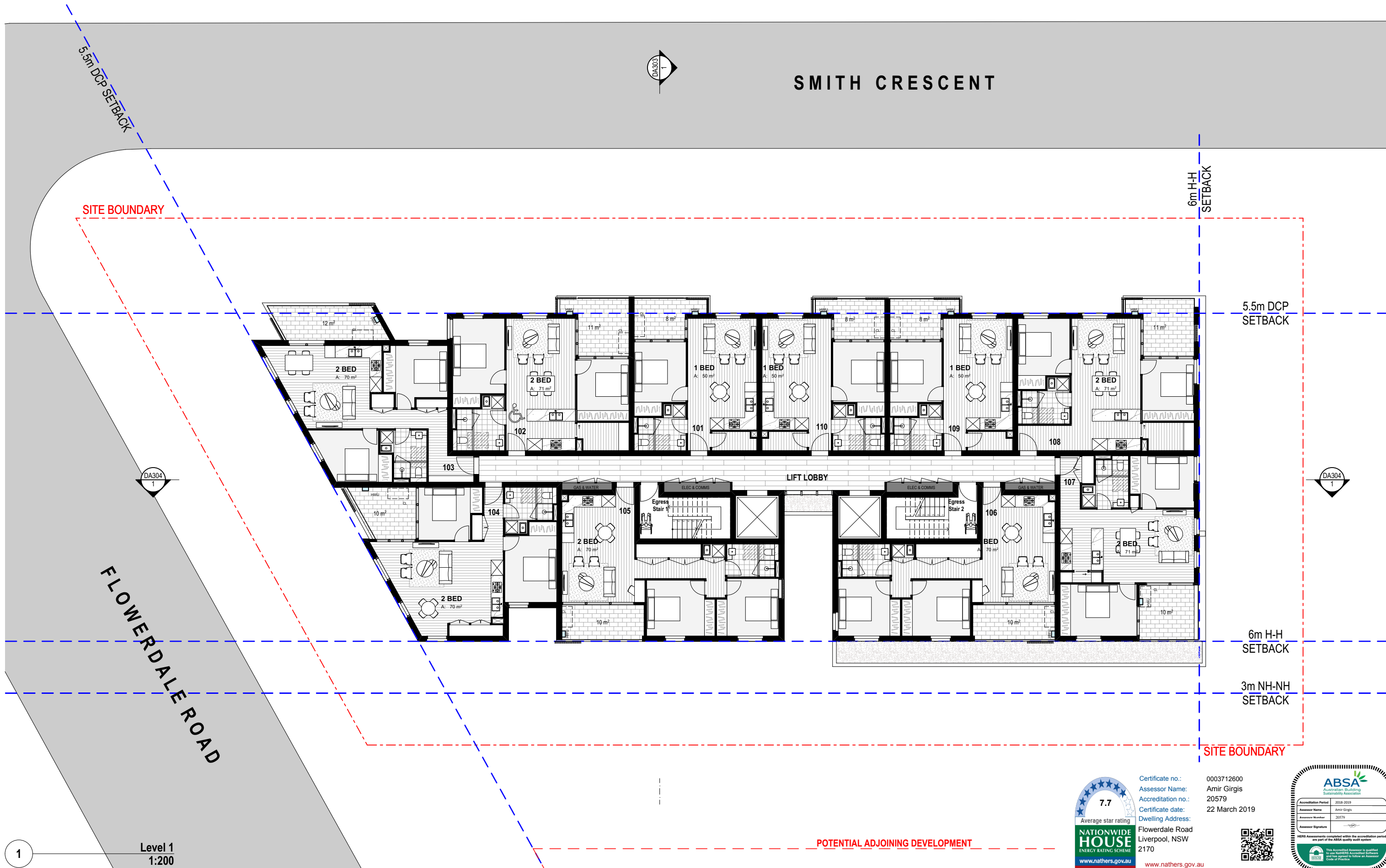


Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019

Dwelling Address:
Flowerdale Road
Liverpool, NSW
2170

www.nathers.gov.au





DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.



Rev.	Date	By	Ckd	Description
TP2	27/09/18	PP	IL	Issue for Information
TP3	31/10/18	PP	IL	Issue for Coordination
TP4	05/12/18	PP	IL	Issue for Coordination
TP5	15/02/19	PP, RY	IL	Issue for Coordination
A	22/03/19	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Client

SGCH

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Level 1
1:200@A3
September 2018

Drawing Number
Revision

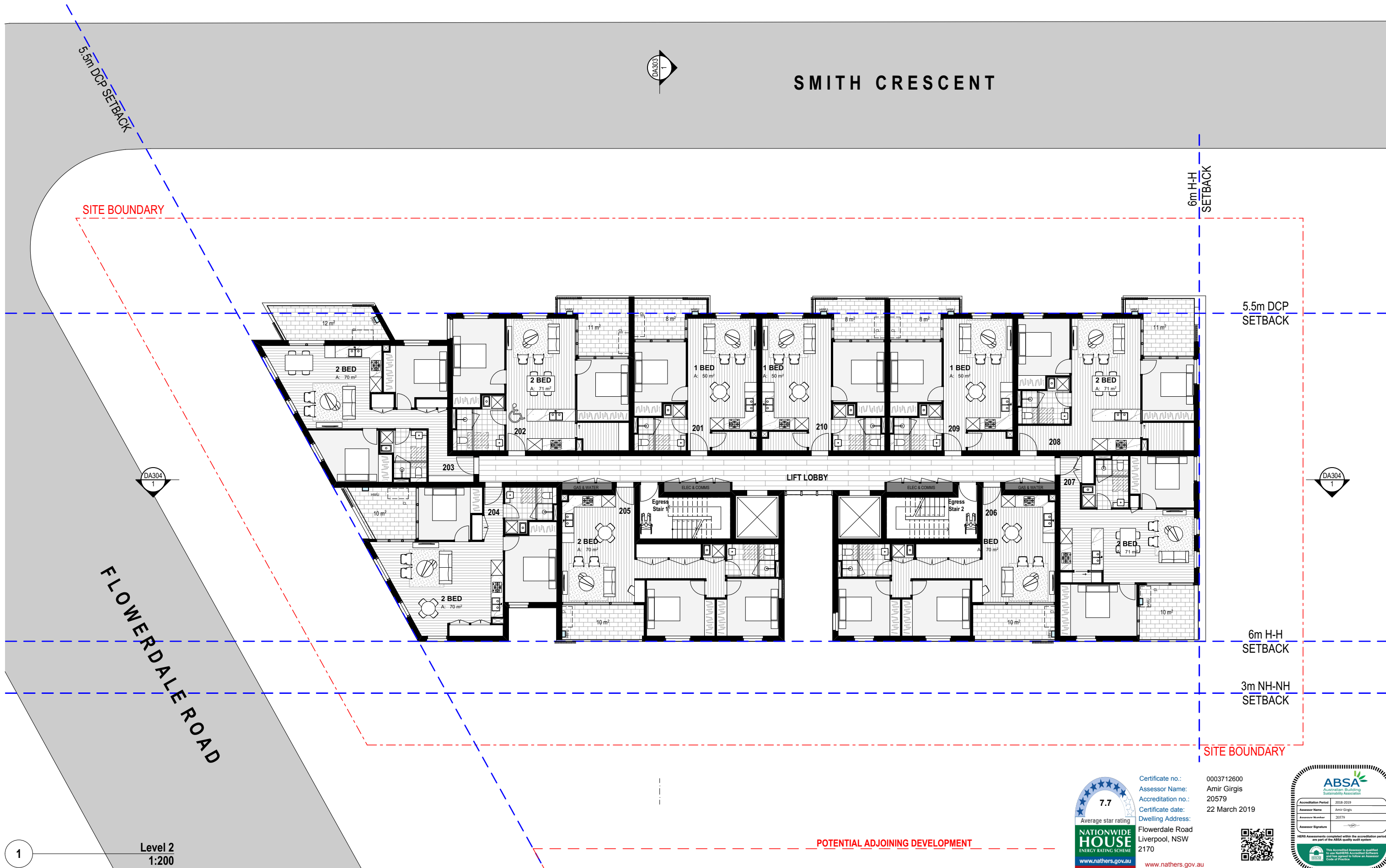
DA201
A



Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019
Dwelling Address: Flowerdale Road
Liverpool, NSW
2170

www.nathers.gov.au





DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.



Rev.	Date	By	Ckd	Description
TP5	15/02/19	PP, RY	IL	Issue for Coordination
A	22/03/19	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Level 2-3 Typical
1:200@A3
September 2018

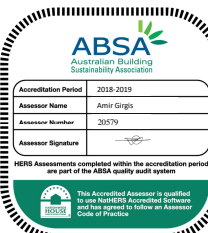
Client

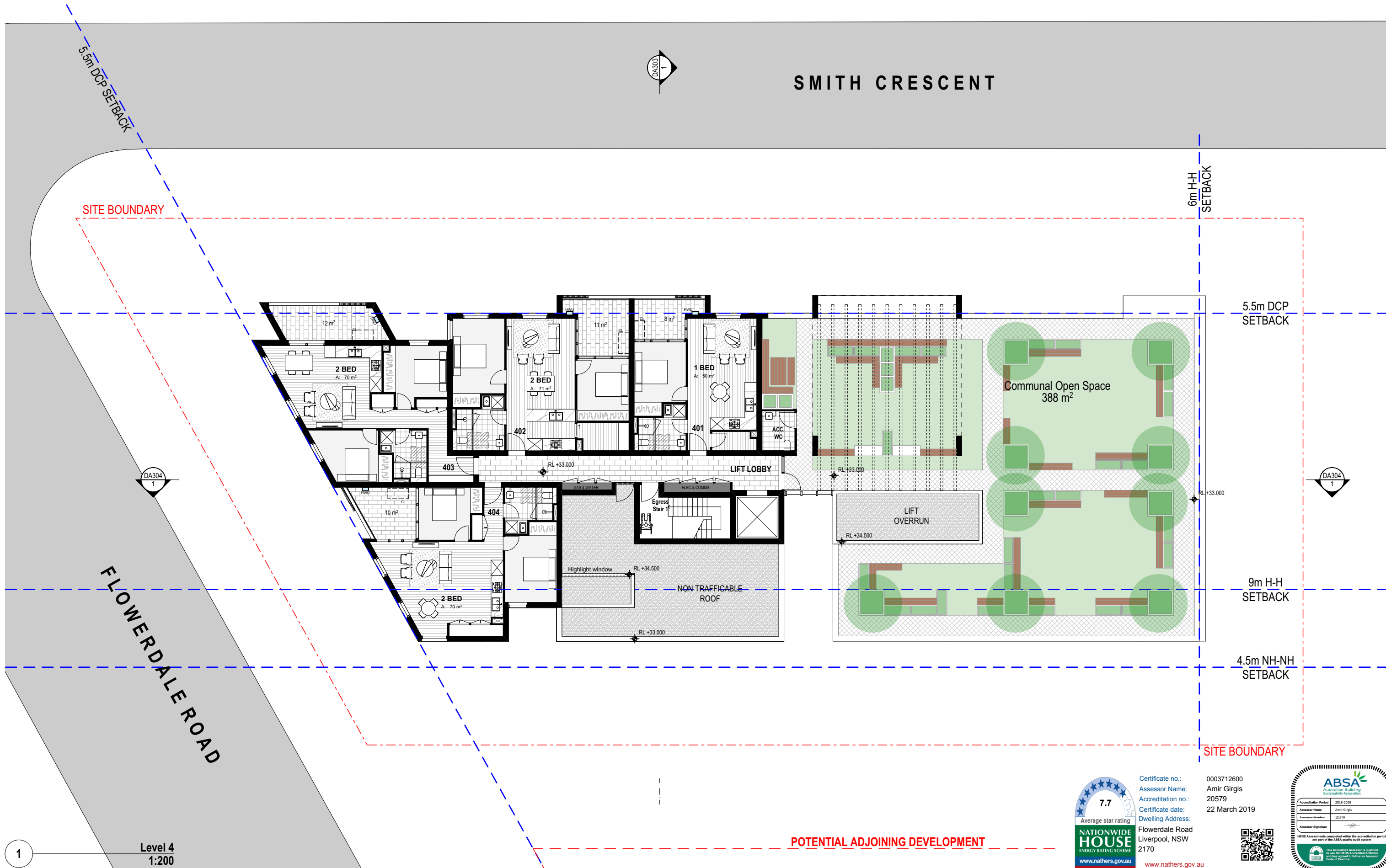
SGCH

Drawing Number
Revision
DA202
A



Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019
Dwelling Address: Flowerdale Road
Liverpool, NSW
2170
www.nathers.gov.au





DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.



Rev.	Date	By	Ckd	Description
TP2	27/09/18	PP	IL	Issue for Information
TP3	31/10/18	PP	IL	Issue for Coordination
TP4	05/12/18	PP	IL	Issue for Coordination
TP5	15/02/19	PP, RY	IL	Issue for Coordination
A	22/03/19	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Client

SGCH

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Level 4
1:10, 1:200@A3
September 2018

Drawing Number
Revision

DA203
A

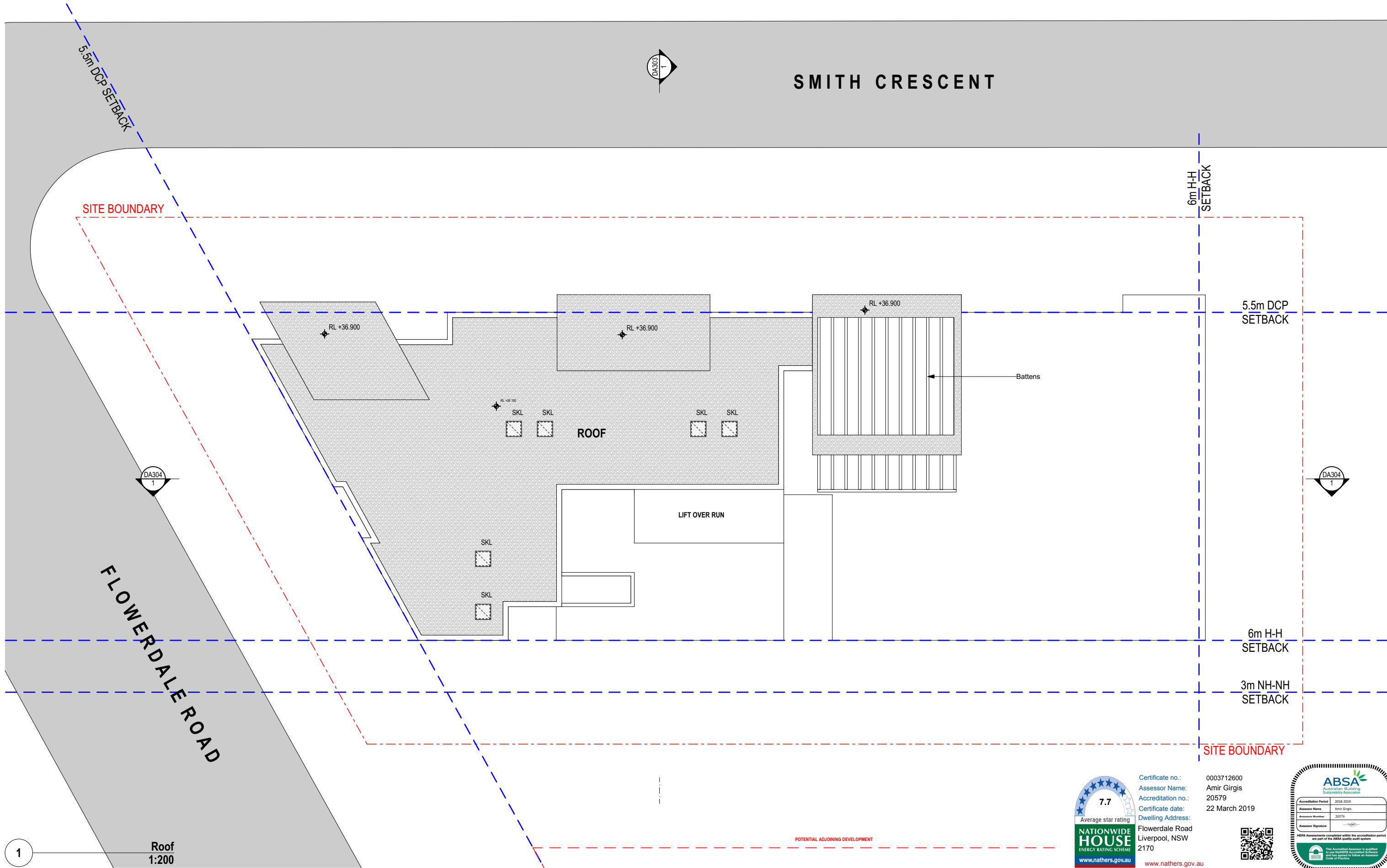


Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019

Dwelling Address:
Flowerdale Road
Liverpool, NSW
2170

www.nathers.gov.au





DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.



Rev.	Date	By	Ckd	Description
TP1	05/12/18	PP	IL	Issue for Coordination
TP5	15/02/19	PP, RY	IL	Issue for Coordination
A	22/03/19	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Roof plan
1:200@A3
September 2018

Client

SGCH

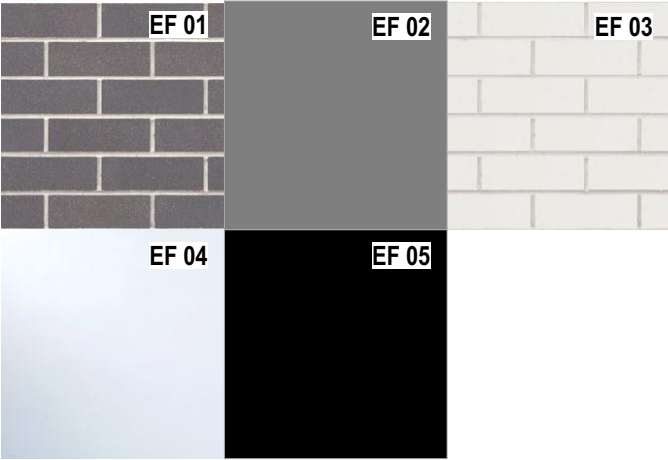
Drawing Number
Revision
DA204
A



Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019
Dwelling Address: Flowerdale Road
Liverpool, NSW
2170

www.nathers.gov.au





- EF 01: Dark Grey Brick
- EF 02: Concrete
- EF 03: Nature White Brick
- EF 04: Glazing
- EF 05: Aluminium Screen

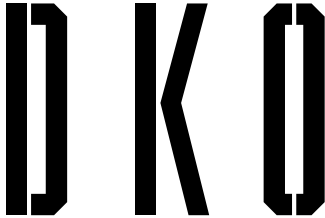


1 North Elevation - Smith Crescent
1:200



Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019
Dwelling Address: Flowerdale Road
Liverpool, NSW
2170

www.nathers.gov.au



DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.

Rev.	Date	By	Ckd	Description
TP1	5/12/2018	PP	IL	Issue for Coordination
TP5	15/02/2019	PP, RY	IL	Issue for Coordination
A	6/03/2019	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Elevations
1:200@A3
September 2018

Client

SGCH

Drawing Number
Revision

DA300
A



Certificate no.: 0003712600
Assessor Name: Amir Girgis
Accreditation no.: 20579
Certificate date: 22 March 2019
Dwelling Address: Flowerdale Road
Liverpool, NSW 2170
www.nathers.gov.au



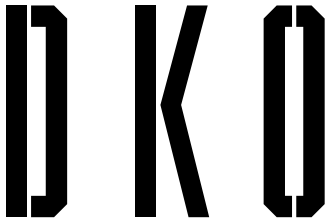
EF 01: Dark Grey Brick
EF 02: Concrete
EF 03: Nature White Brick
EF 04: Glazing
EF 05: Aluminium Screen



1 East Elevation
1:200



2 West Elevation - Flowerdale Street
1:200



DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.

Rev.	Date	By	Ckd	Description
TP1	5/12/2018	PP	IL	Issue for Coordination
TP5	15/02/2019	PP, RY	IL	Issue for Coordination
A	6/03/2019	PP	IL	Issue for Development Application

Project Name
Project Address

SGCH Flowerdale Road
127-129 Flowerdale Rd,
Liverpool, NSW, 2170

Project Number
Drawing Name
Scale
Date Commenced:

00012087
Elevations
1:200@A3
September 2018

Client

SGCH

Drawing Number
Revision

DA301
A

7.7

Average star rating

NATIONWIDE HOUSE

ENERGY RATING SCHEME

www.nathers.gov.au

Certificate no.: 0003712600

Assessor Name: Amir Girgis

Accreditation no.: 20579

Certificate date: 22 March 2019

Dwelling Address: Flowerdale Road
Liverpool, NSW
2170

www.nathers.gov.au



EF 01

EF 02

EF 03

EF 04

EF 05

EF 01: Dark Grey Brick

EF 02: Concrete

EF 03: Nature White Brick

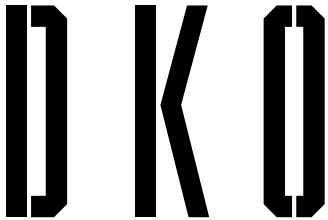
EF 04: Glazing

EF 05: Aluminium Screen



1

South Elevation
1:200



DKO Architecture (NSW) Pty Ltd
119 Redfern Street
Redfern, NSW 2016
ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767 | David Randerson 8542

T +61 2 8346 4500
info@DKO.com.au
www.DKO.com.au

© DKO Architecture (VIC) Pty Ltd
Except as allowed under copyright act, no part of this
drawing may be reproduced or otherwise dealt with
without written permission of DKO Architecture.

Rev.	Date	By	Ckd	Description
TP1	5/12/2018	PP	IL	Issue for Coordination
TP5	15/02/2019	PP, RY	IL	Issue for Coordination
A	6/03/2019	PP	IL	Issue for Development Application

Project Name	SGCH Flowerdale Road	Project Number	00012087
Project Address	127-129 Flowerdale Rd, Liverpool, NSW, 2170	Drawing Name	Elevations
		Scale	1:200@A3
		Date Commenced:	September 2018
Client	SGCH	Drawing Number	DA302
		Revision	A

