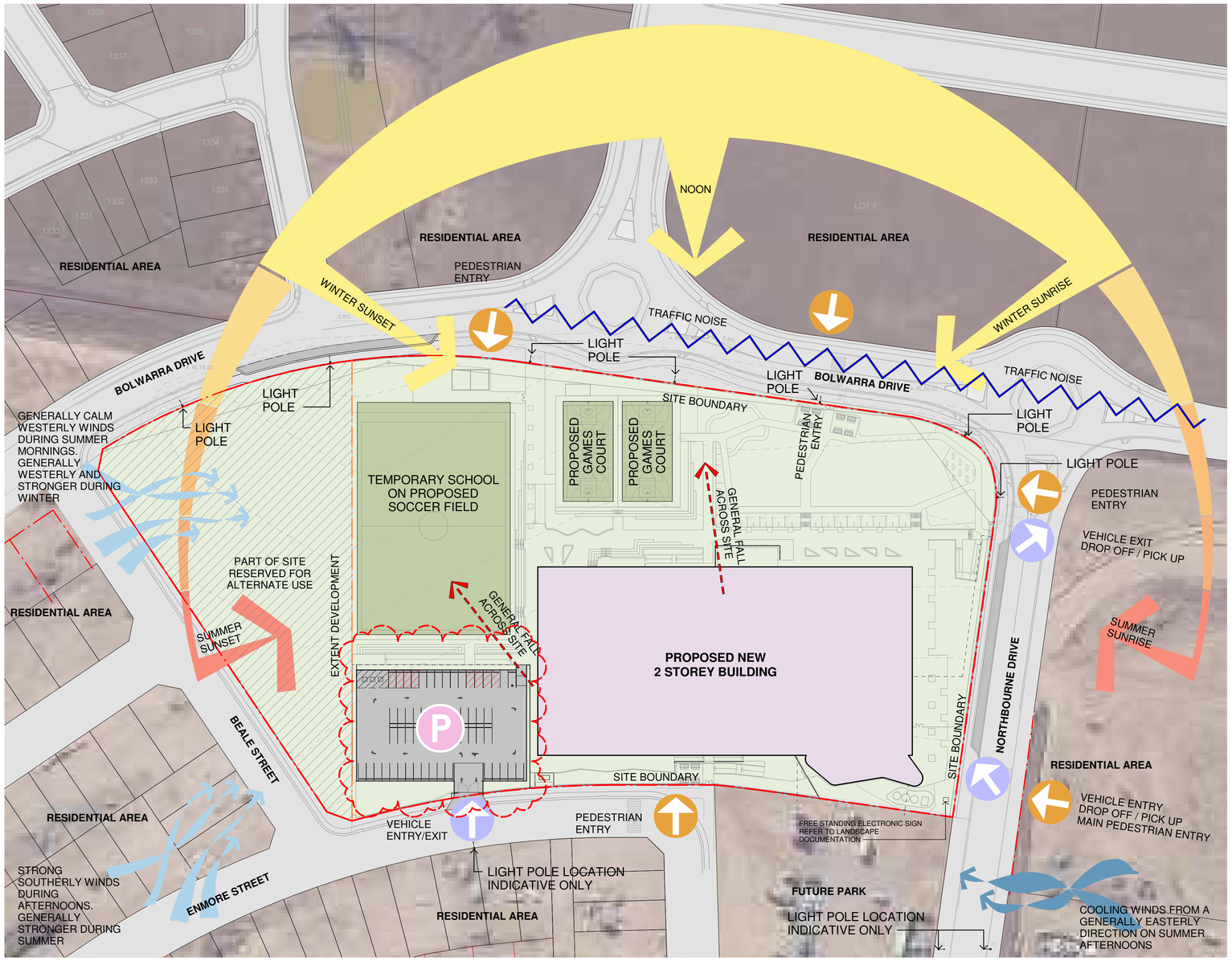
NBRSARCHITECTURE.



1 SITE ANALYSIS PLAN
1 : 750

LEGEND

- = PROPOSED BUILDING
- = PROPOSED CARPARKING
- = POTENTIAL FUTURE ROADS
- = GRASSED / LANDSCAPED AREA
- = GAMES COURT AND SOCCER FIELD
- = BOUNDARY LINE
- = ZONE OF WORKS
- = DIRECTION OF FALL
- = TRAFFIC NOISE
- = PROPOSED PARKING
- = POINT OF VEHICLE ACCESS
- = POINT OF PEDESTRIAN ACCESS

NOTE: RL'S NOTED ARE APPROXIMATE

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Granted on: 17 June 2020 Sheet no: 1 of 35

Issue

No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	26/08/2019	SSD APPLICATION - REVISED	AM
C	04/09/2019	SSD APPLICATION - REVISED	KLC
D	17/02/2020	SSD APPLICATION - REVISED	EK
E	05/03/2020	SSD APPLICATION - REVISED	AH
F	13/03/2020	SSD APPLICATION - REVISED	EK

Drawing Title
SITE ANALYSIS

Project
NEW MARSDEN PARK PUBLIC SCHOOL
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Scale 1:750 @ A1 or 1:1500 @ A3

Drawing Reference 19154-NBRS-A-012
Revision F

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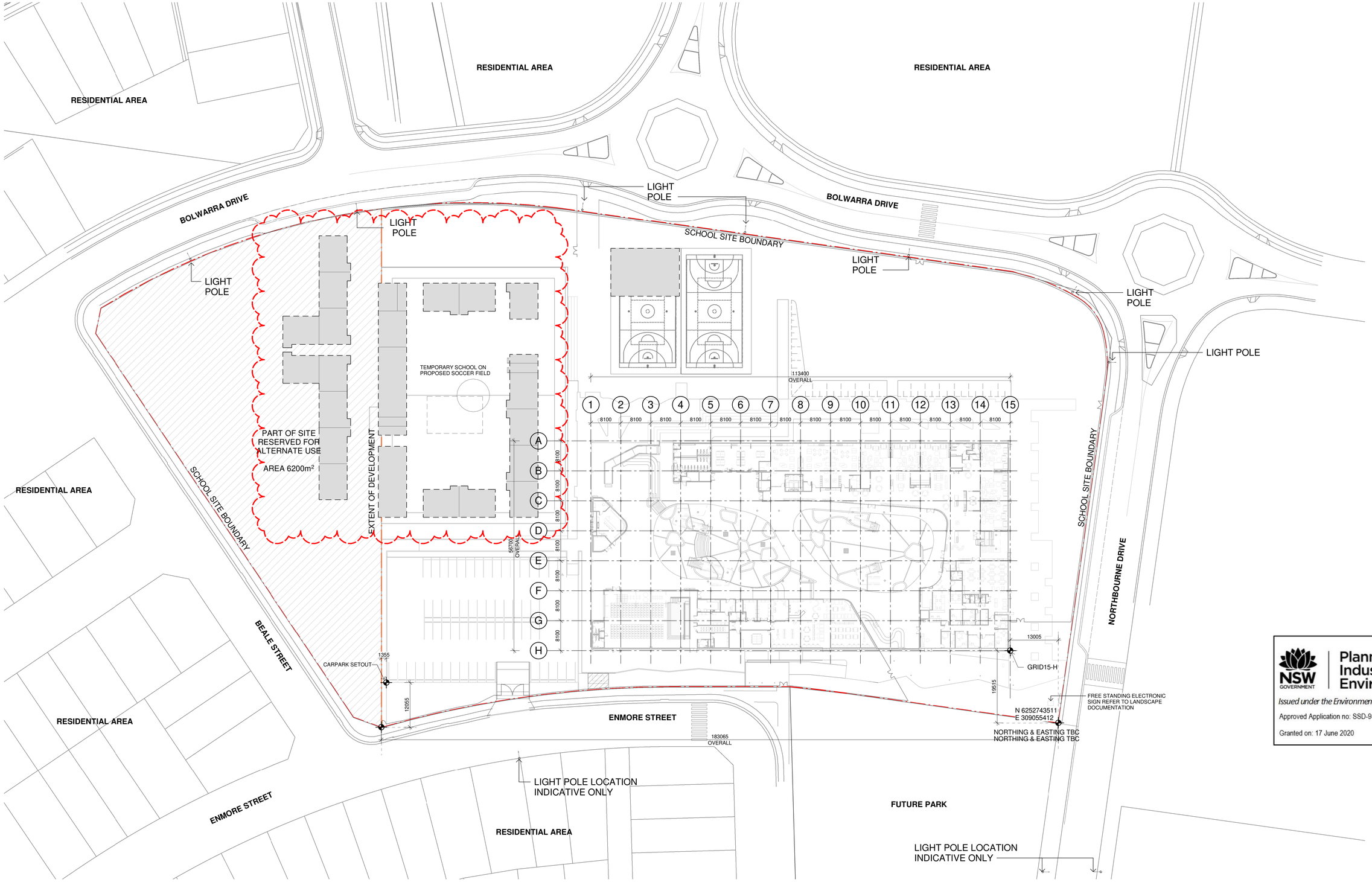

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Granted on: 17 June 2020 Sheet no: 2 of 35

1 BUILDING SETOUT PLAN

1 : 500

Issue

No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	26/08/2019	SSD APPLICATION - REVISED	AM
C	04/09/2019	SSD APPLICATION - REVISED	KLC
D	17/02/2020	SSD APPLICATION - REVISED	EK
E	05/03/2020	SSD APPLICATION - REVISED	AH
F	13/03/2020	SSD APPLICATION - REVISED	EK
G	15/05/2020	LAYOUT REVISED, ASPHAULT WALKWAY BETWEEN HOMEBASES ADDED	AH

Drawing Title
SITE PLAN - BUILDING SETOUT

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Drawing Reference 19154-NBRS-A-050
Revision G

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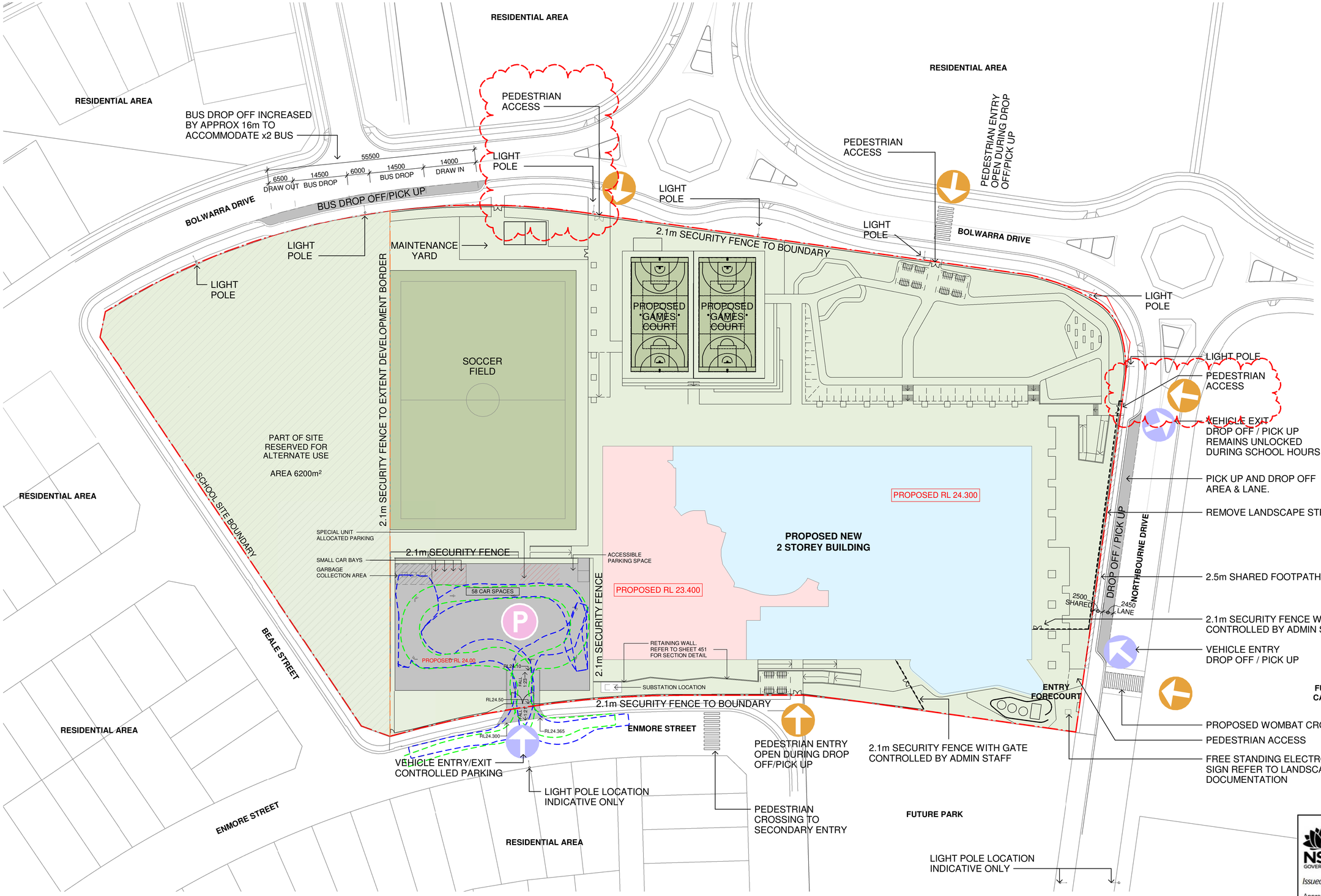

LEGEND

- = PROPOSED BUILDING
- = PROPOSED CARPARKING
- = POTENTIAL FUTURE ROADS
- = GRASSED / LANDSCAPED AREA
- = GAMES COURT AND SOCCER FIELD
- = BOUNDARY LINE
- = ZONE OF WORKS
- = DIRECTION OF FALL
- = TRAFFIC NOISE
- = PROPOSED PARKING
- = POINT OF VEHICLE ACCESS
- = POINT OF PEDESTRIAN ACCESS

NOTE: RL'S NOTED ARE APPROXIMATE

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1 SITE PLAN - ACCESS DIAGRAM

1 : 500

Issue

No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	26/08/2019	SSD APPLICATION - REVISED	AM
C	04/09/2019	SSD APPLICATION - REVISED	KLC
D	17/02/2020	SSD APPLICATION - REVISED	EK
E	05/03/2020	SSD APPLICATION - REVISED	AH
F	13/03/2020	SSD APPLICATION - REVISED	EK
G	18/03/2020	SSD APPLICATION - REVISED	AH
H	25/03/2020	SSD APPLICATION - REVISED	EK
I	08/05/2020	PEDESTRIAN GATES AMENDED	AH

- RL 23.400
- RL 24.300
- EMERGENCY VEHICLE SWEPT PATH
- 11m GARBAGE TRUCK SWEPT PATH

Drawing Title
SITE PLAN - ACCESS DIAGRAM

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Scale 1:500 @ A1 or 1:1000 @ A3

Drawing Reference 19154-NBRS-A-051
Revision I

0 5m 10m 15m 20m 25m 30m 35m 40m 1:500

NBRSARCHITECTURE.

LEGEND

- P = PROPOSED PARKING
- = POINT OF VEHICLE ACCESS
- = POINT OF PEDESTRIAN ACCESS
- = BOUNDARY LINE

Room Schedule

Name	Number	Department	Area
ADMIN		Admin	146 m²
STAFF UNIT		Admin	74 m²
			220 m²
CIRCULATION	18	Circulation	487 m²
Room	20	Circulation	16 m²
Room	24	Circulation	Not Placed
			503 m²
COMMUNAL HALL UNIT		Hall	277 m²
			277 m²
SUPPORT UNIT		Learning	74 m²
TYPICAL HOMEBASE	1	Learning	76 m²
TYPICAL HOMEBASE	2	Learning	76 m²
TYPICAL HOMEBASE	3	Learning	76 m²
TYPICAL HOMEBASE	4	Learning	76 m²
TYPICAL HOMEBASE	5	Learning	76 m²
TYPICAL HOMEBASE	6	Learning	76 m²
TYPICAL HOMEBASE	7	Learning	76 m²
TYPICAL HOMEBASE	8	Learning	76 m²
TYPICAL HOMEBASE	9	Learning	76 m²
TYPICAL HOMEBASE	10	Learning	76 m²
TYPICAL HOMEBASE	11	Learning	76 m²
TYPICAL HOMEBASE	12	Learning	76 m²
TYPICAL HOMEBASE	13	Learning	76 m²
TYPICAL HOMEBASE	14	Learning	76 m²
TYPICAL HOMEBASE	15	Learning	76 m²
TYPICAL HOMEBASE	16	Learning	76 m²
TYPICAL HOMEBASE	17	Learning	76 m²
			1373 m²
LIBRARY		Library	Not Placed
LIBRARY	19	Library	144 m²
			144 m²
CENTRAL PLAY AREA		Outdoor Play Area	Not Enclosed
SUPPORT UNIT OUTDOOR SPACE		Outdoor Play Area	83 m²
SOUTH WEST PLAY AREA		Outdoor Play Area	Not Placed
SPORTS FIELD AND PLAY AREA		Outdoor Play Area	Not Enclosed
			83 m²
SERVERY AREA		Services	19 m²
CANTEEN		Services	38 m²
			57 m²
BOYS WC		Toilets	19 m²
GIRLS WC		Toilets	20 m²
BOYS WC		Toilets	Not Placed
GIRLS WC		Toilets	Not Placed
ACC. WC		Toilets	Not Placed
BOYS WC	21	Toilets	19 m²
GIRLS WC	22	Toilets	19 m²
ACC WC	23	Toilets	19 m²
			94 m²

1 SITE PLAN -TEMPORARY SCHOOL LAYOUT

1 : 500

Issue

No.	Date	Description	Chkd
C	04/09/2019	SSD APPLICATION - REVISED	KLC
D	17/02/2020	SSD APPLICATION - REVISED	EK
E	13/03/2020	SSD APPLICATION - REVISED	EK
F	07/05/2020	CLEARANCE BETWEEN BUILDINGS REDUCED, SECURITY GATE TO TEMPORARY PATH ADDED, HOME BASE 4-7 MOVED TO THE SOUTH	AH
G	15/05/2020	LAYOUT REVISED, ASPHAULT WALKWAY BETWEEN HOMEBASES ADDED	AH

- Admin
- Circulation
- Hall
- Learning
- Library
- Outdoor Play Area
- Services
- Toilets

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Granted on: 17 June 2020 Sheet no: 4 of 35

Drawing Title
SITE PLAN - TEMPORARY SCHOOL LAYOUT

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Drawing Reference 19154-NBRS-A-052
Revision G

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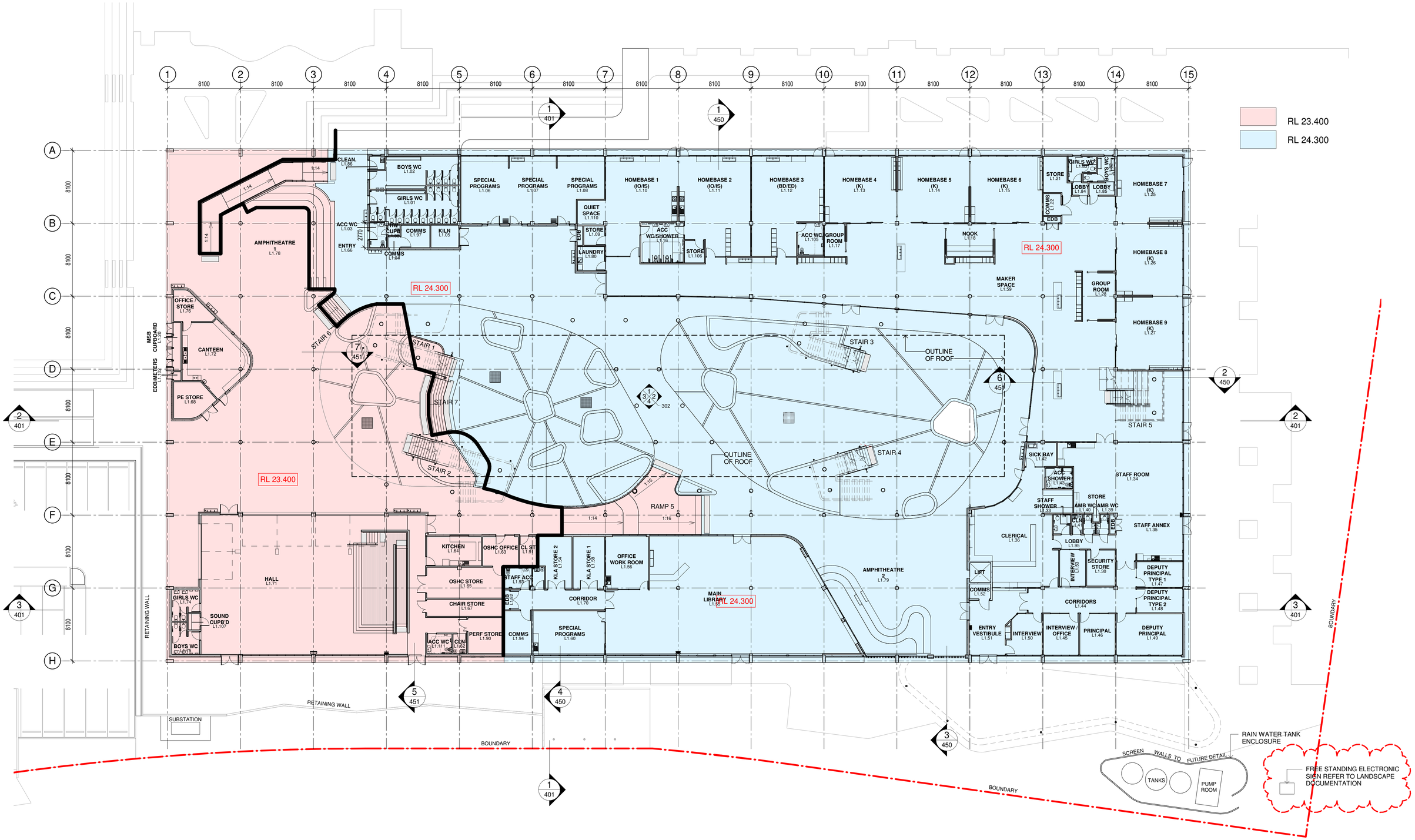

1 LEVEL 1 - FULL PLAN

1 : 200

Issue No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	17/02/2020	SSD APPLICATION - REVISED	EK
C	05/03/2020	SSD APPLICATION - REVISED	AH

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Granted on: 17 June 2020 Sheet no: 5 of 35

Drawing Title
LEVEL 1 - FULL PLAN

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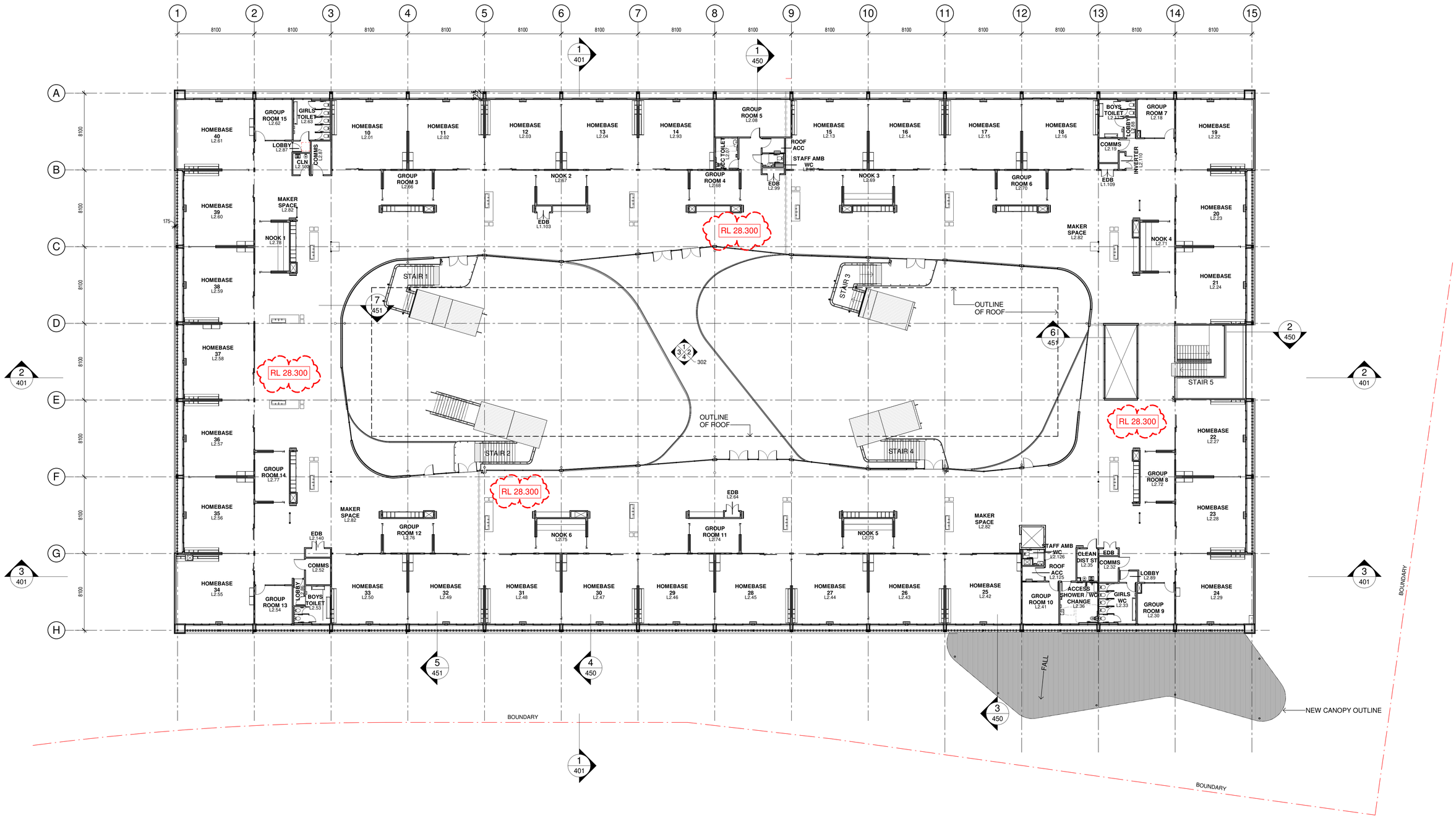
Drawing Reference 19154-NBRS-A-100
Revision C



1 LEVEL 2 - FULL PLAN

1 : 200

Issue No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	17/02/2020	SSD APPLICATION - REVISED	EK

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Granted on: 17 June 2020 Sheet no: 6 of 35

Drawing Title
LEVEL 2 - FULL PLAN

Project
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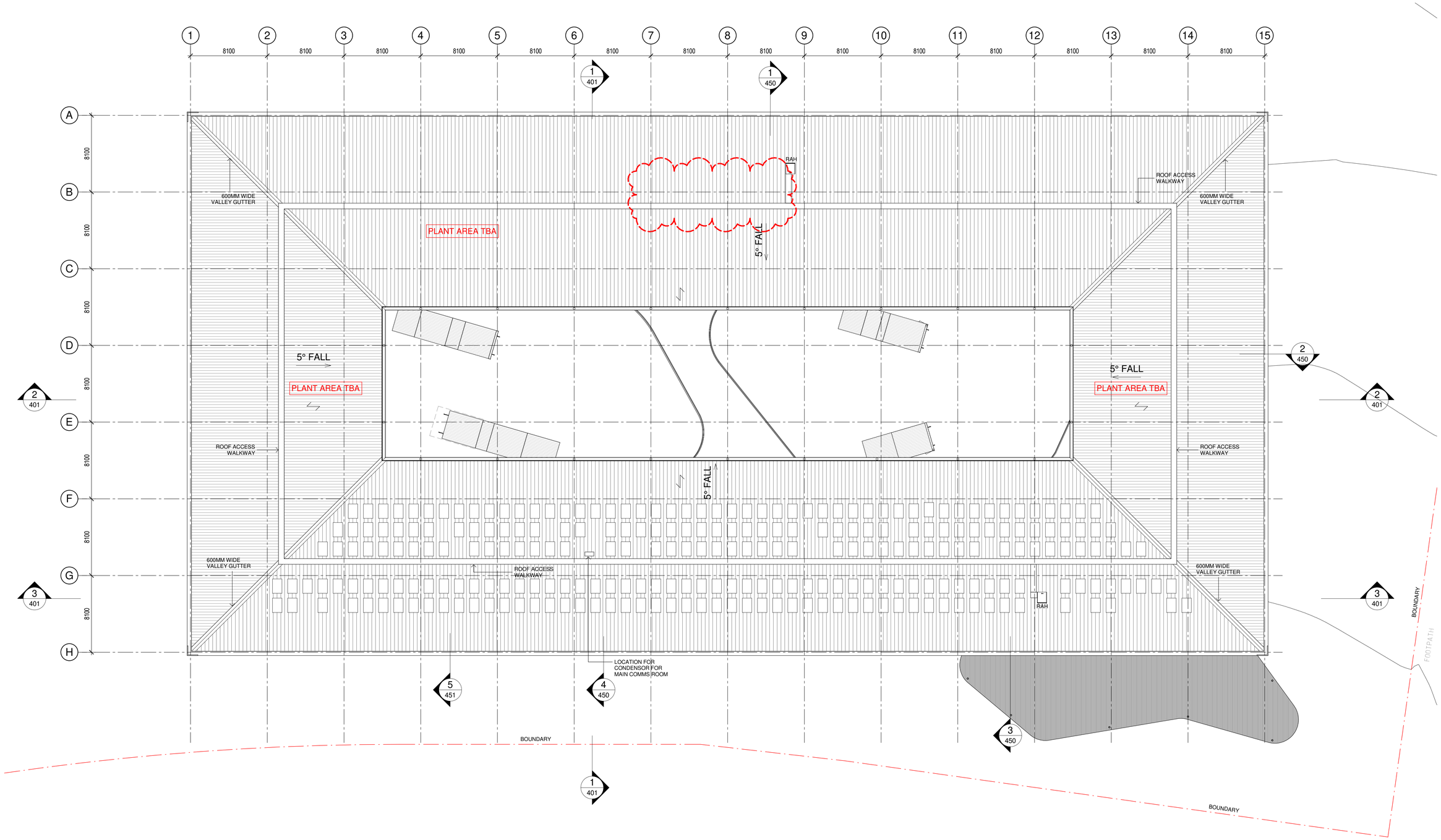
Drawing Reference 19154-NBRS-A-105
Revision B



1 ROOF PLAN

1 : 200

Issue

No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	17/02/2020	SSD APPLICATION - REVISED	EK

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Granted on: 17 June 2020 Sheet no: 7 of 35

Drawing Title
ROOF PLAN

Project
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Drawing Reference 19154-NBRS-A-110
Revision B

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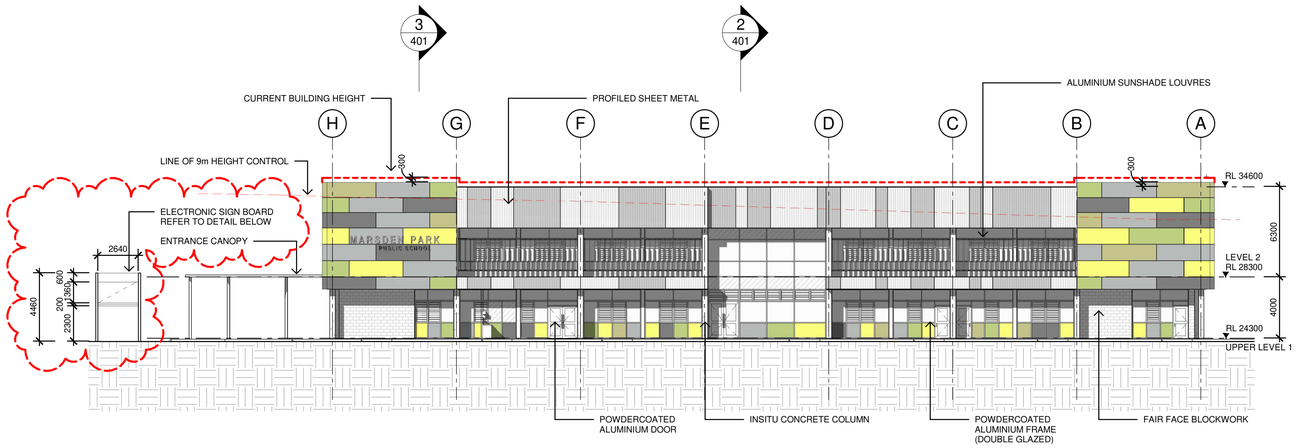
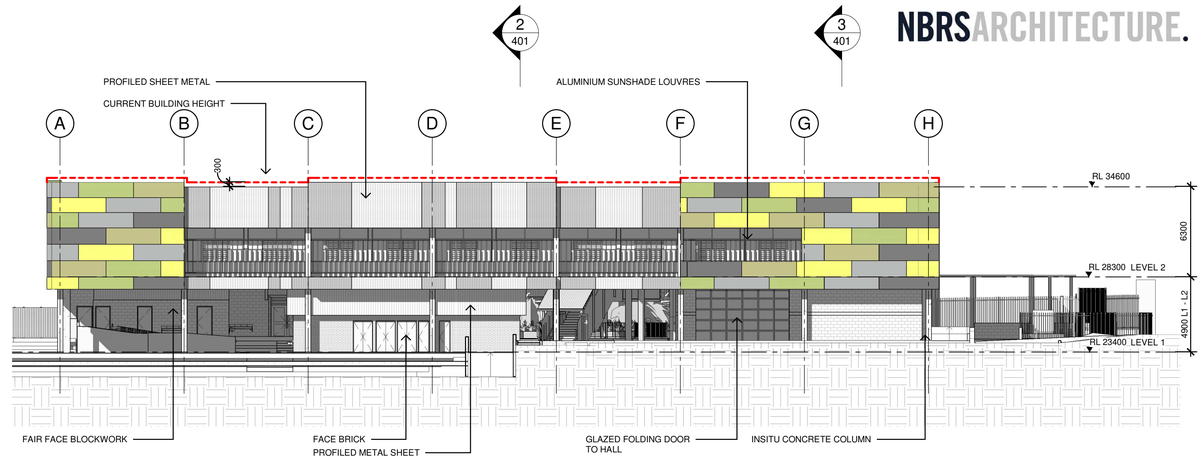
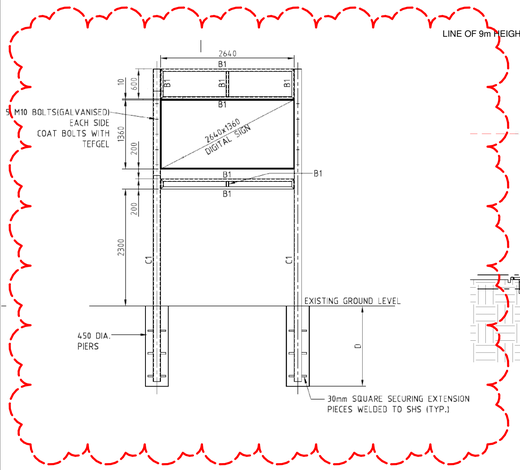
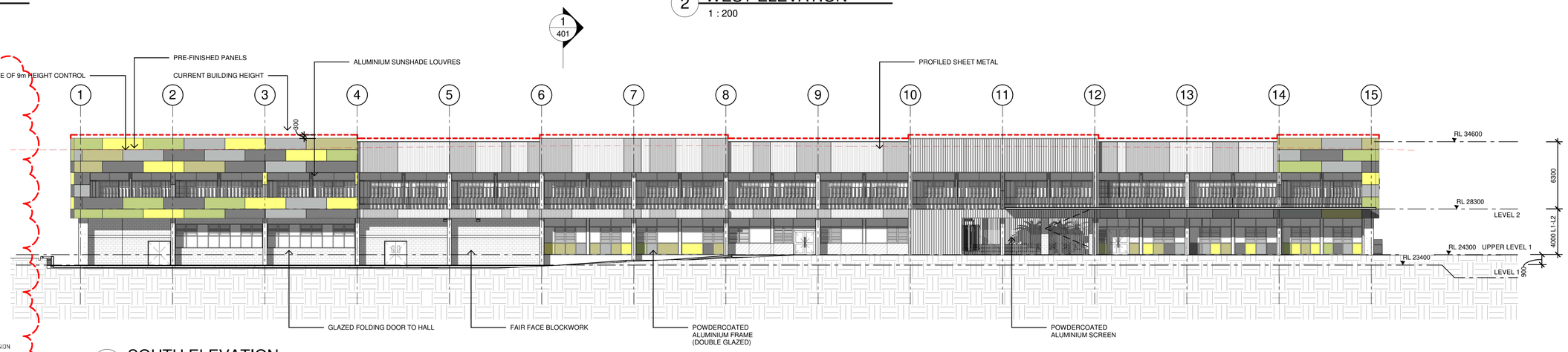


1 EAST ELEVATION
1 : 200

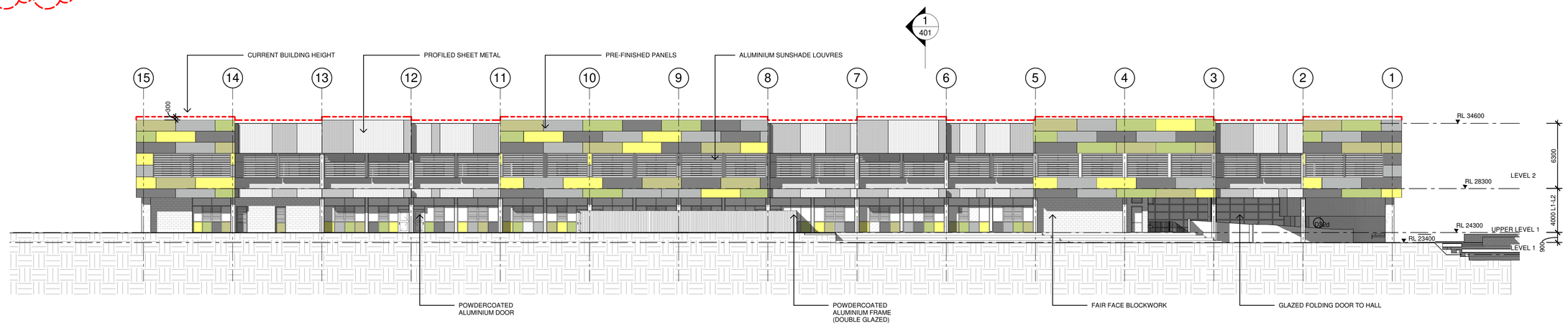


2 WEST ELEVATION
1 : 200





3 SOUTH ELEVATION
1 : 200



4 NORTH ELEVATION
1 : 200

Issue

No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	17/02/2020	SSD APPLICATION - REVISED	EK
C	05/03/2020	SSD APPLICATION - REVISED	AH
D	20/03/2020	SSD APPLICATION - REVISED	AH

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Drawing Title
BUILDING ELEVATIONS

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Revision D

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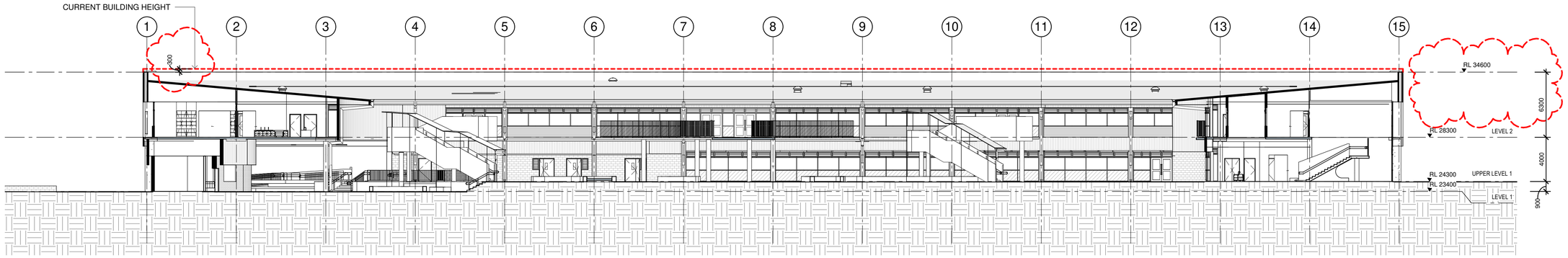
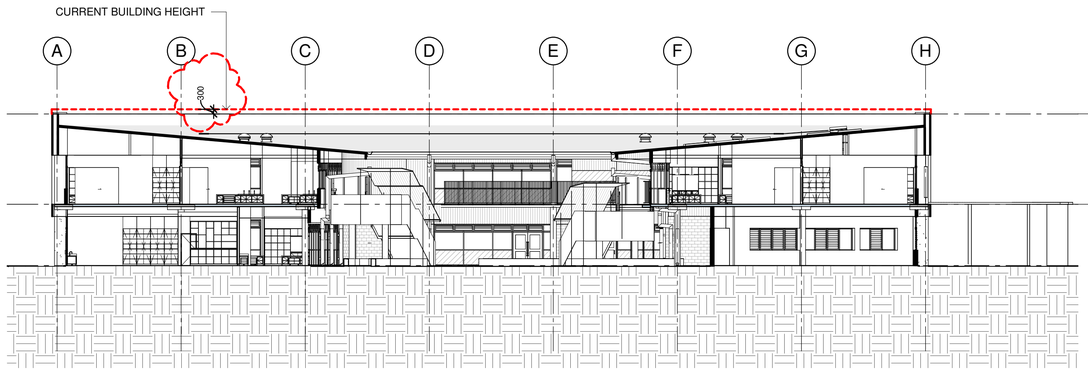
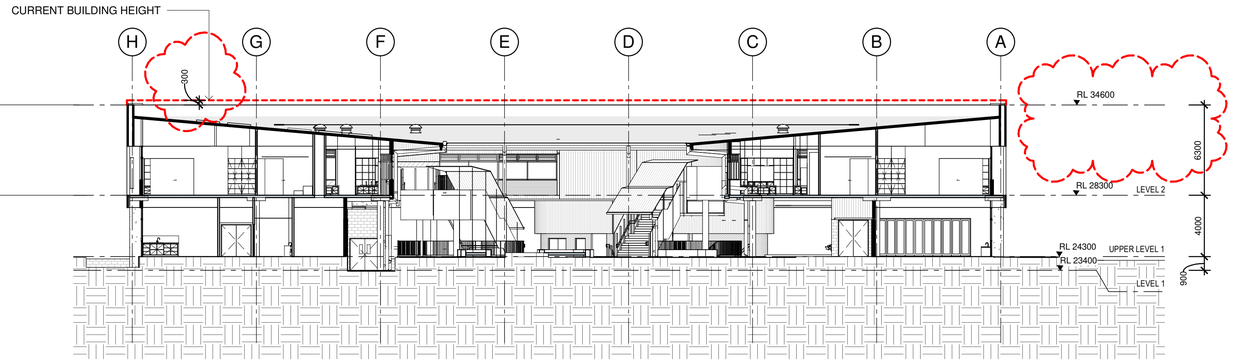


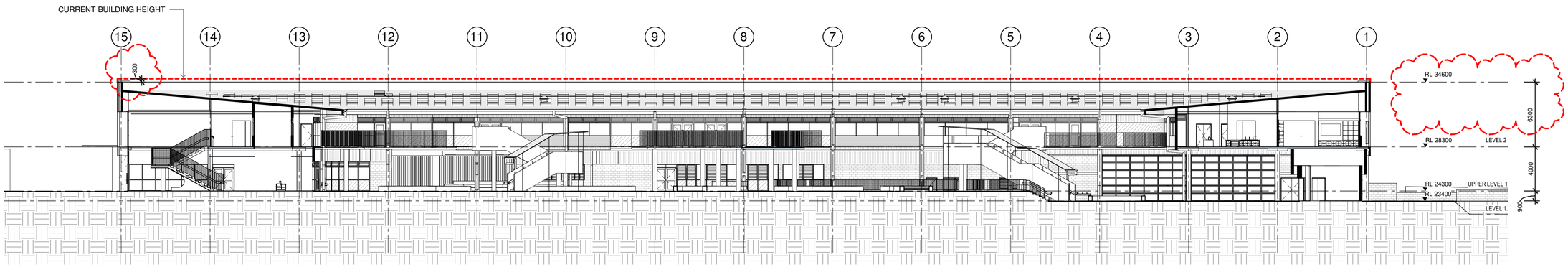
1 COURTYARD ELEVATION - NORTH
1 : 200



2 COURTYARD ELEVATION - EAST
1 : 200



3 COURTYARD ELEVATION - WEST
1 : 200



4 COURTYARD ELEVATION - SOUTH
1 : 200

Issue

No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	17/02/2020	SSD APPLICATION - REVISED	EK
C	04/03/2020	SSD APPLICATION - REVISED	AH

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Granted on: 17 June 2020 Sheet no: 9 of 35

Drawing Title
COURTYARD ELEVATIONS

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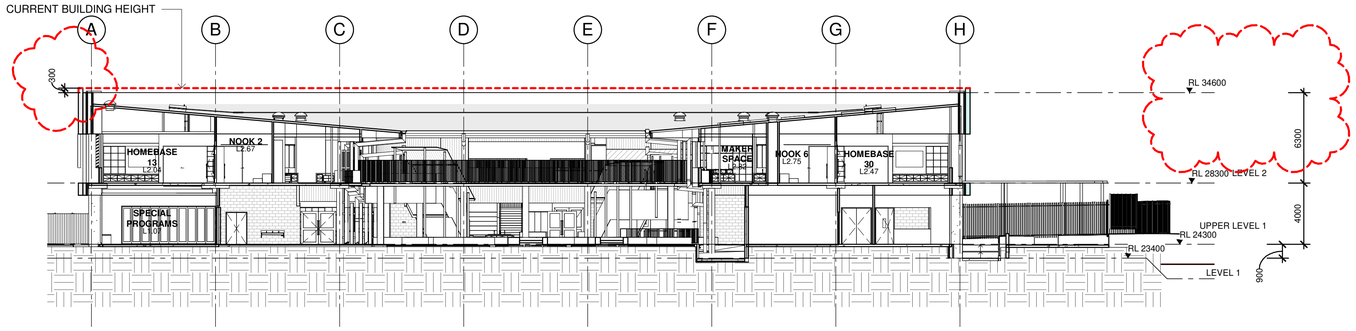
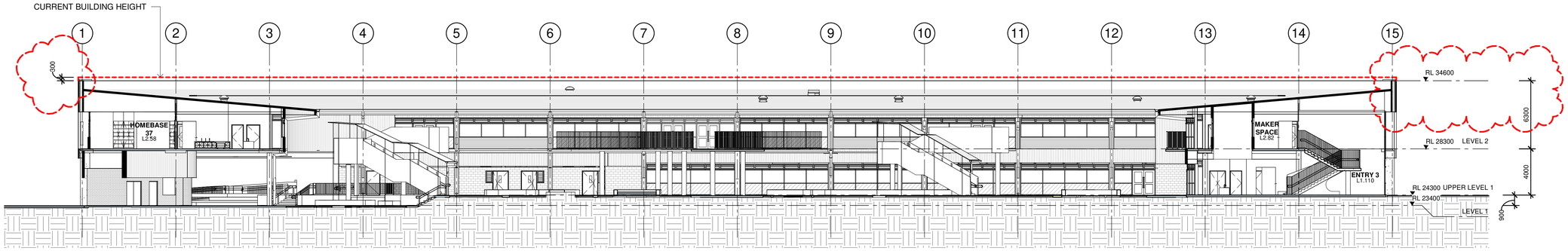
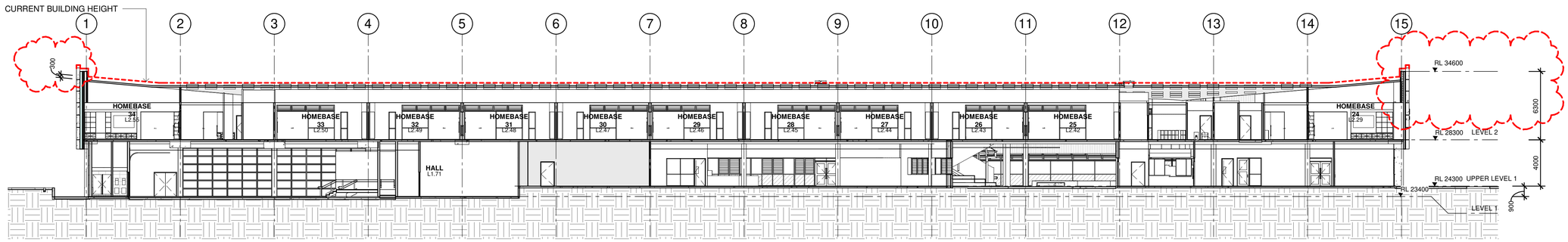
Drawing Reference 19154-NBRS-A-302
Revision C



1 SECTION 01
1 : 200



2 SECTION 02
1 : 200



3 SECTION 03
1 : 200

Issue

No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	17/02/2020	SSD APPLICATION - REVISED	EK
C	04/03/2020	SSD APPLICATION - REVISED	AH

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 10 of 35

Drawing Title
BUILDING SECTIONS

Project
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Drawing Reference
19154-NBRS-A-401

Revision
C

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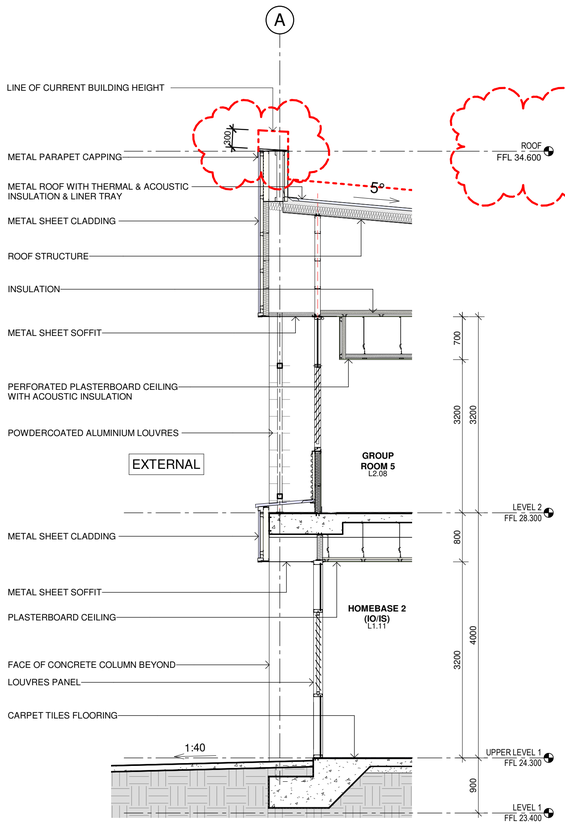
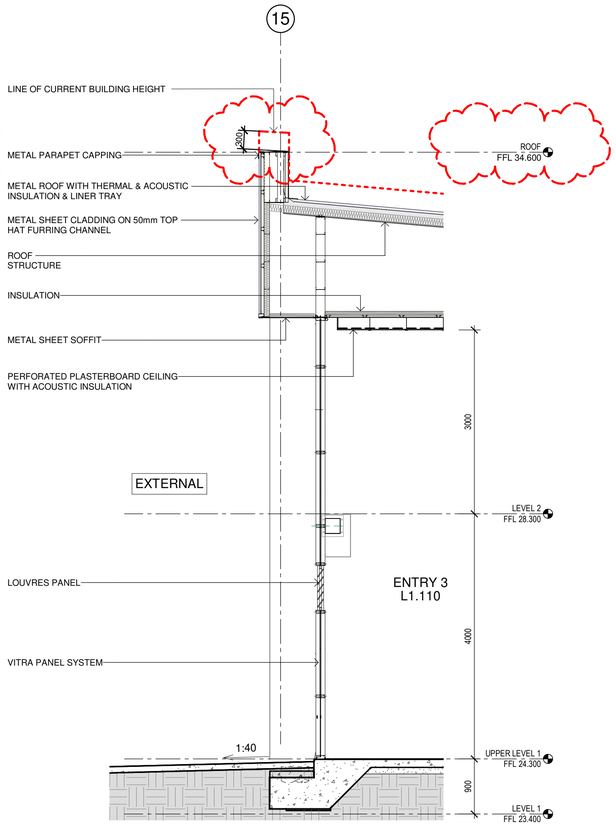
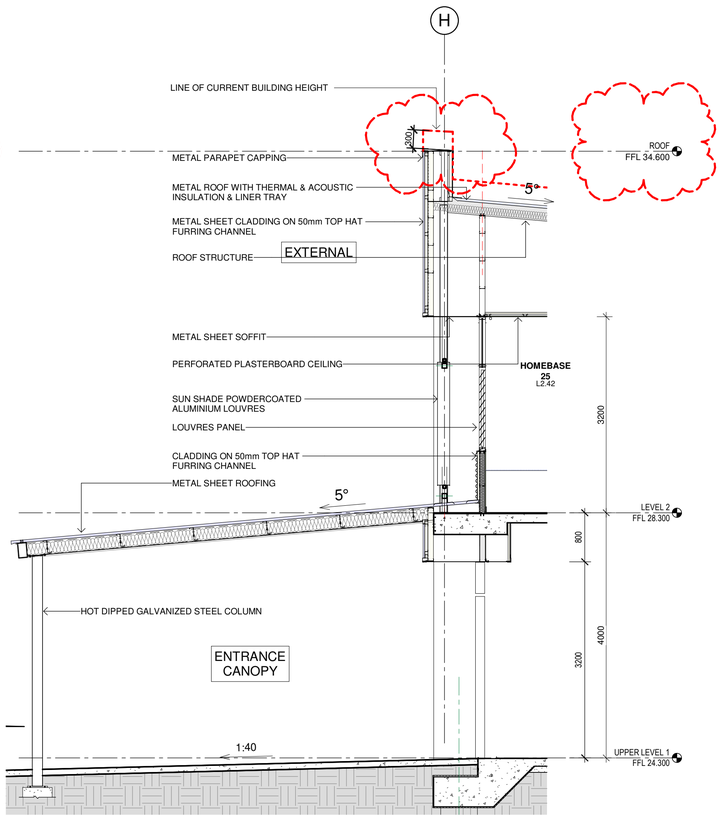


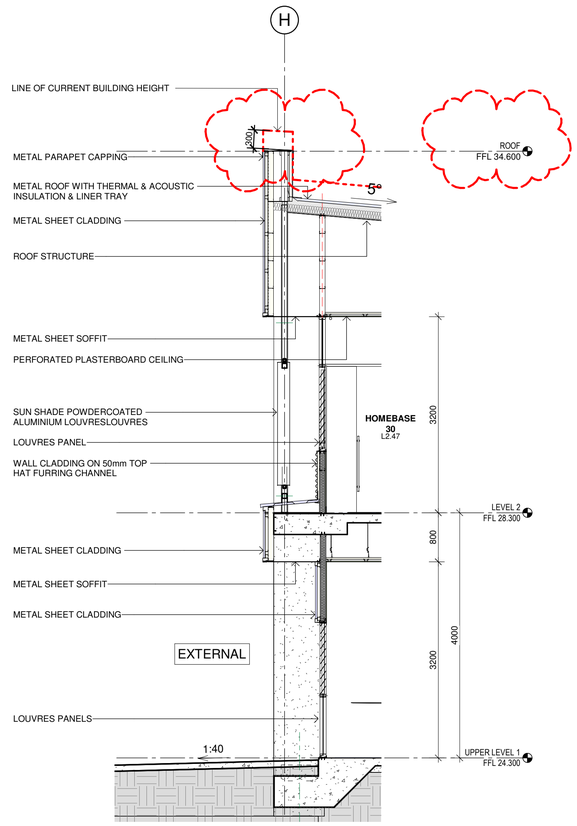
1 Wall Section 01
1 : 50



2 Wall Section 02
1 : 50



3 Wall Section 03
1 : 50



4 Wall Section 04
1 : 50

Issue

No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	17/02/2020	SSD APPLICATION - REVISED	EK
C	04/03/2020	SSD APPLICATION - REVISED	AH

NSW GOVERNMENT | Planning, Industry & Environment

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 11 of 35

Drawing Title
WALL SECTIONS

Project
NEW MARSDEN PARK PUBLIC SCHOOL
at
Marsden Park NSW 2765

Architect
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Sydney
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Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197
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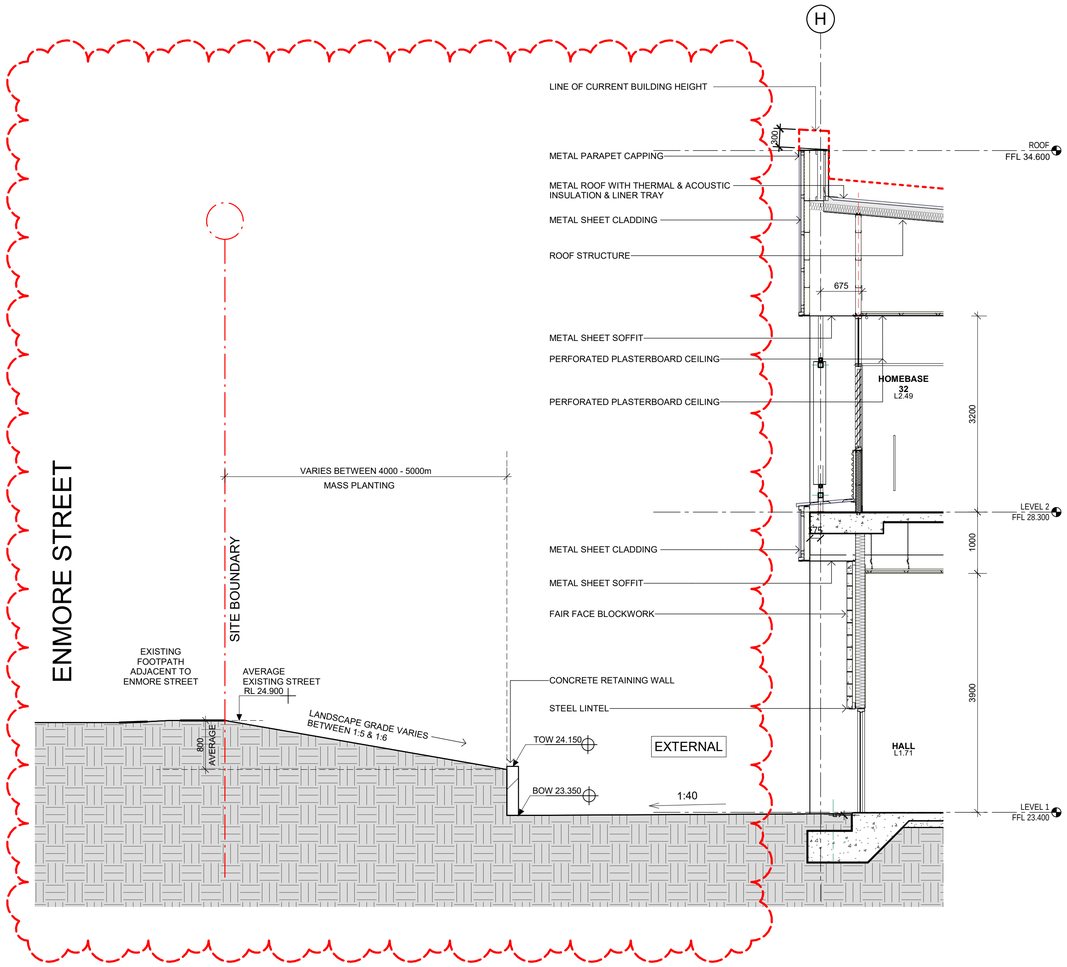
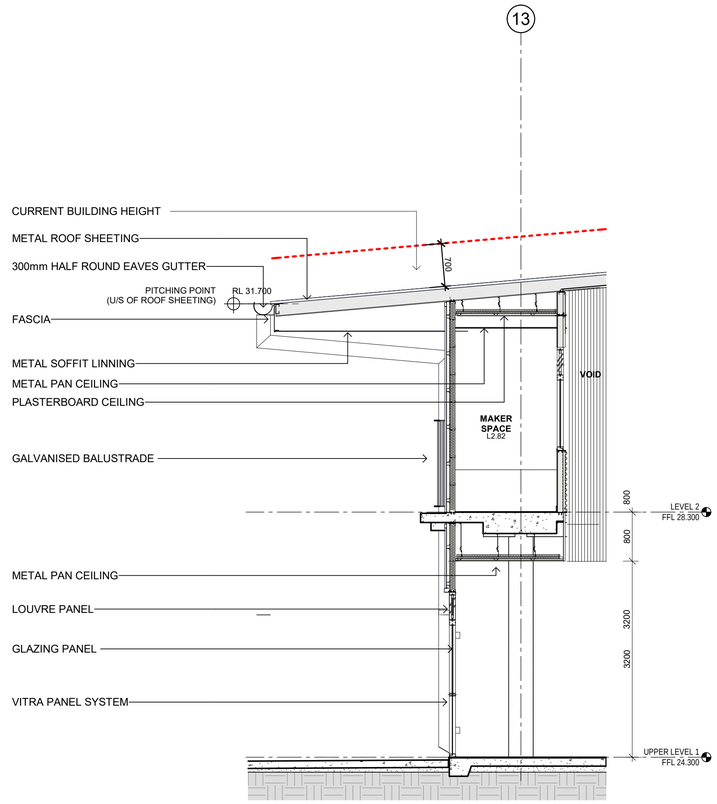
Date 4/03/2020 10:44:41 AM
Scale 1 : 50 @ A1

Drawing Reference 19154-NBRS-A-450
Revision C

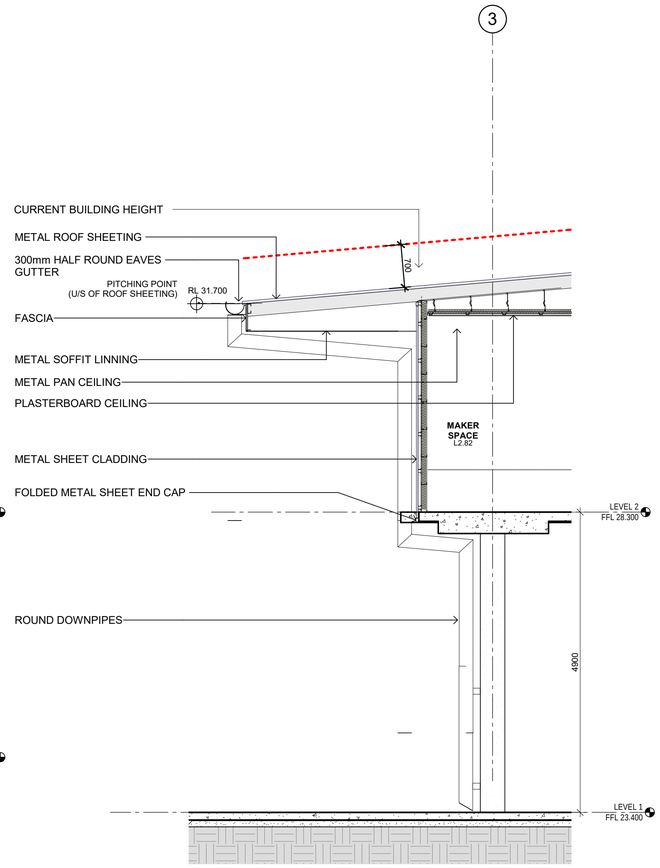
0 1 2 3 4 5 6 7 8 9 10



5 Wall Section 05
1 : 50



6 Wall Section 06
1 : 50



7 Wall Section 07
1 : 50

Issue

No.	Date	Description	Chkd
A	16/08/2019	SSD APPLICATION	AM
B	17/02/2020	SSD APPLICATION - REVISED	EK
C	05/03/2020	SSD APPLICATION - REVISED	AH
D	25/03/2020	SSD APPLICATION - REVISED	EK

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Granted on: 17 June 2020 Sheet no: 12 of 35

Drawing Title
WALL SECTIONS

Project
NEW MARSDEN PARK PUBLIC SCHOOL
at
Marsden Park NSW 2765

Architect
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Sydney
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Date 25/03/2020 5:59:40 PM
Scale 1 : 50 @ A1

Drawing Reference 19154-NBRS-A-451
Revision D

0 1 2 3 4 5 6 7 8 9 10

LEGEND

- SITE BOUNDARY
- 2.1m PALISADE FENCE
- 1.8m DECORATIVE SCREEN FENCE
- COLOURED CONCRETE BLOCK RETAINING WALLS
- TURF
- SYNTHETIC TURF
- MASS PLANTING
- COLOURED CONCRETE
- SPORTS COURTS
- AMPHITHEATRE / SPECTATOR SEATING
- ASPHALT
- SOFTFALL - PLAYGROUND MULCH
- RUBBER SOFTFALL SLOPE
- LARGE TREE PLANTING REFER SCHEDULE
- MEDIUM TREE PLANTING REFER SCHEDULE
- SMALL TREE PLANTING REFER SCHEDULE
- INDICATIVE STREET TREES AS PER SUBDIVISION PLAN

1. SPORTS FIELD WITH SPECTATOR SEATING
2. SPORTS COURT WITH SPECTATOR SEATING AND LUSH PLANTING TO PERIMETER
3. LEARNING BOARDWALK THROUGH LUSH PLANTING
4. AMPHITHEATRE BREAK OUT SPACE
5. NORTHERN ENTRY WITH BIKE STORAGE
6. PLAYGROUND AREA FOR NATURE PLAY ELEMENTS
7. OPEN FREE PLAY TURF AREA
8. VEGGIE GARDENS IN RAISED PLANTERS
9. CLASS BREAKOUT SPACES WITH RAISED PLANTERS AND SEATING
10. RUBBER SOFTFALL ENBANKMENT WITH CLIMBING PLAY ELEMENTS
11. HALL BREAKOUT SPACE WITH LOW SEATING WALLS
12. SOUTHERN ENTRY WITH BIKE STORAGE
13. MAIN ENTRY WITH PLANTING AND FEATURE CANOPY
14. CLASS BREAKOUT SPACES WITH DENSE SHADE TREES AND SEATING
15. INTERNAL BREAKOUT SPACES WITH SYNTHETIC TURF, RAISED PLANTERS AND LOW SEATING WALLS

Issue No.	Date	Description	Chkd.
A	02/07/2019	PRELIM ISSUE FOR INFO	CB
B	04/07/2019	PRELIM ISSUE FOR COORD	CB
C	07/07/2019	PRELIM ISSUE FOR COORD	CB
D	09/07/2019	PRELIM ISSUE FOR COORD	CB
E	15/07/2019	PRELIM ISSUE FOR COORD	CB
F	15/07/2019	PRELIM ISSUE FOR COORD	CB
G	16/07/2019	ISSUED FOR SUBMISSION	CB
H	14/08/2019	ISSUED FOR SUBMISSION	CWP
I	26/08/2019	ISSUED FOR SUBMISSION	CB
J	04/09/2019	ISSUED FOR SUBMISSION	CWP
K	05/03/2020	SCHEMATIC DESIGN	AL
L	12/05/2020	SCHEMATIC DESIGN	AL

NSW GOVERNMENT Planning, Industry & Environment

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 13 of 35

Drawing Title
SITE ARRANGEMENT PLAN

Project
MARSDEN PARK PUBLIC SCHOOL

Location
MARSDEN PARK NSW

Client
SCHOOLS INFRASTRUCTURE NSW

Landscape Architect
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Scale 1:200 @ A0
0 5 10 M

Project No. 19154 Sheet No. LDA100 Revision No. L

MATERIALS PALETTES

COLOURED CONCRETE - CCS PEWTER

COLOURED CONCRETE - CCS BLUE GUM

COLOURED CONCRETE - CCS ONYX

SYNTHETIC TURF

RUBBER SOFTFALL

CONCRETE SEATING WALLS

PRECEDENT IMAGES

RATSED GARDEN + SEATING EDGE

SHADED SEATING

PLAY EMBANKMENT

SPECTATOR SEATING

HERB/VEGETABLE GARDEN

CLEAR CIRCULATION

PLANTING PALETTE

Botanical Name	Common Name	Pot Size	Height	Width	Fire Resistent	Native (N) Exotic (E)	Blacktown Council List	Comments
Large Tree								
Angophora floribunda	Rough Barked Apple	75lt	20m	6m		N	Yes	Positioned outside high activity zone
Eucalyptus crebra	Narrow-leaved Ironbark	75lt	30m	8m		N	Yes	Positioned outside high activity zone
Eucalyptus moluccana	Grey Box	75lt	30m	8m		N	Yes	Positioned outside high activity zone
Flindersia australis	Crows Ash	200lt	15m	8m		N		
Fraxinus 'Raywoodii"	Claret Ash	200lt	20m	8 m		E	Yes	
Lophostemon confertus	Brush Box	200lt	15m	10m	Yes	N		
Medium to Small Trees								
Acmena smithii	Lilly Pilly	200lt	10m	5m		N		
Banksia integrifolia	Coast Banksia	75lt				N	Yes	
Buckinghamiana callcissima	Ivory Curl Tree	100lt	6m	4m	Yes	E		
Bursaria spinosa	Native Blackthorn	100lt	5m	4m		N	Yes	
Cupaniopsis anacardiodes	Tuckeroo	200lt	8m	5m	Yes	N		
Glochidion ferdinandi	Cheese Tree	200lt	12m	6m	Yes	N		
Harpulia pendula	Tulip Tree	200lt	12m	6m		E		
Sapium seberiferum	Chinese Tallow Tree	100lt	8m	7m		E	Yes	
Tristaniopsis laurina	Water Gum	200lt	10m	6m	Yes	N		
Waterhousia floribunda	Weeping Lily Pily	200lt	8m	5m		N		
Shrubs								
Banksia ericifolia	Heath Banksia	25lt	4m	4m	Yes	N		
Banksia spinulosa	Hair Pin Banksia	25lt	4m	4m	Yes	N	Yes	
Callistemon little john	Dwarf Form	5lt	1m	1m		N	Yes	
Doryanthes excelsa	Gymea Lilly	25lt	3m	2m	Yes	N	Yes	
Dodonaea viscosa subsp. cuneata	Sticky Hop Bush	200mm	4m	3m		N	Yes	
Hibbertia diffusa	Guniea Flower	200mm	2m	3m	Yes	N		
Westringia fruticosa	Coastal Rosemary	25lt	1m	1m		N		
Grasses								
Carex appressa	Tall Sedge	140mm	1.0m	0.5m		N	Yes	
Dianella revoluta	native Flax Lily	140mm	0.6m	0.5m	Yes	N	Yes	
Juncas usitatus	Rush	140mm	1.0m	0.5m		N	Yes	
Lomandra longifolia	Mat Rush	140mm	1.0m	0.6m	Yes	N	Yes	
Lomandra tanika	Mat Rush Cv	140mm	0.7m	0.6m		N		
Themeda australis	Kangaroo Grass	140mm	0.5m	0.5m		N	Yes	
Groundcovers								
Banksia spinulosa 'Birthday Candles'	Creeping Banksia	140mm	0.5m	2m	Yes	N		
Grevillea 'Bronze Rambler'	Grevillea	140mm	0.4m	1.5m	Yes	N	Yes	
Hardenbergia violaceae	Purple Coral Pea	140 mm	0.4m	1.5m	Yes	N	Yes	
Trachelospermum jasminoides	Star Jasmine	140 mm	0.4m	1.5m		E	Yes	

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Granted on: 17 June 2020 Sheet no: 14 of 35

Issue

No.	Date	Description	Chkd
A	16/07/2019	PRELIM ISSUE FOR COORD	CB
B	17/07/2019	ISSUED FOR SUBMISSION	CB
C	17/02/2020	SSD APPLICATION REVISED	BS
D	05/03/2020	SCHEMATIC DESIGN	AL
E	12/05/2020	SCHEMATIC DESIGN	AL

Drawing Title
MATERIALS AND PLANTING SCHEDULE

Project
MARSDEN PARK PUBLIC SCHOOL

Location
MARSDEN PARK NSW

Client
SCHOOLS INFRASTRUCTURE NSW

Landscape Architect
NBRS ARCHITECTURE. LANDSCAPE
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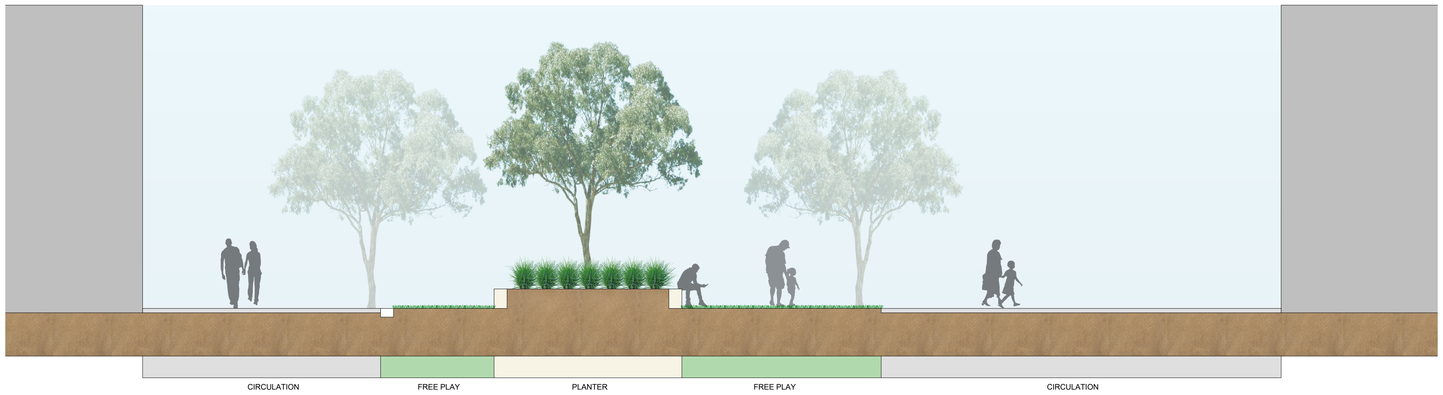
Project No. 19154 Sheet No. LDA102 Revision No. E

1 SITE SECTION 1
1:50



2 SITE SECTION 2
1:50

3 SITE SECTION 3
1:50

4 SITE SECTION 4
1:50

5 SITE SECTION 5
1:50

Issue

No.	Date	Description	Chkd
A	16/07/2019	PRELIM ISSUE FOR COORD	CB
B	17/07/2019	ISSUED FOR SUBMISSION	CB
C	05/03/2020	SCHEMATIC DESIGN	AL
D	12/05/2020	SCHEMATIC DESIGN	AL

NSW GOVERNMENT | Planning, Industry & Environment

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 15 of 35

Drawing Title
SECTIONS

Project
MARSDEN PARK PUBLIC SCHOOL

Location
MARSDEN PARK NSW

Client
SCHOOLS INFRASTRUCTURE NSW

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NBRS ARCHITECTURE. LANDSCAPE
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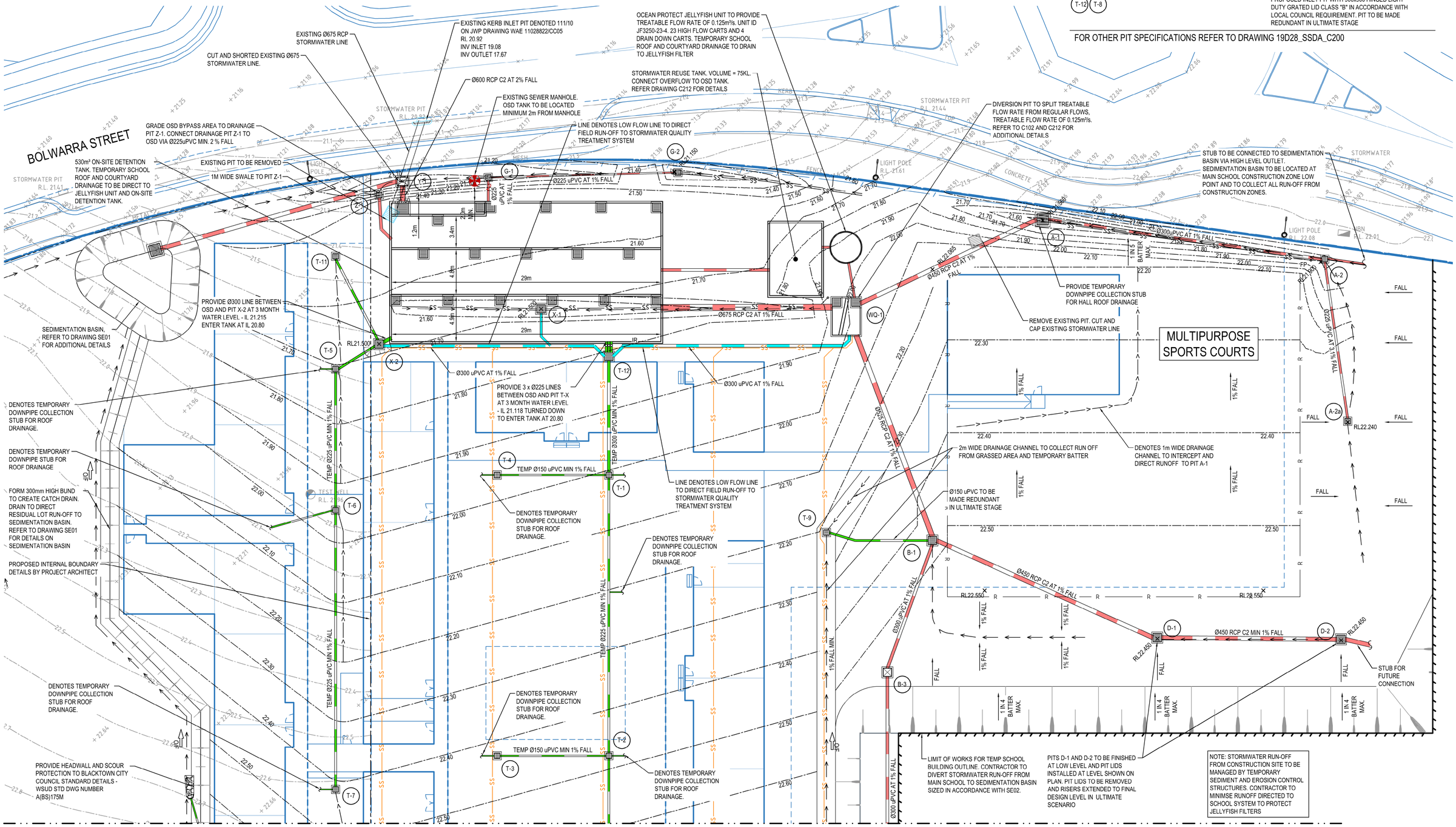
Project No.	Sheet No.	Revision No.
19154	LDA101	D

PIT/STRUCTURE NUMBER	DESCRIPTION
T-1, T-2, T-3, T-4, T-5, T-6, T-7, T-9, T-10, T-11	PROPOSED INLET PIT WITH 600x600 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT. PIT TO BE MADE REDUNDANT IN ULTIMATE STAGE
T-12, T-8	PROPOSED INLET PIT WITH 900x900 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT. PIT TO BE MADE REDUNDANT IN ULTIMATE STAGE

FOR OTHER PIT SPECIFICATIONS REFER TO DRAWING 19D28_SSDA_C200



TEMPORARY SCHOOL PLAN

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 16 of 35

ISSUED FOR APPROVAL

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
04	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020
03	ISSUED FOR COORDINATION	IK	BH	08.05.2020
02	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	25.03.2020
01	PRELIMINARY	IK	NW	14.02.2020

Client: ADCO CONSTRUCTION PTY LID

Architect: NBRS ARCHITECTURE

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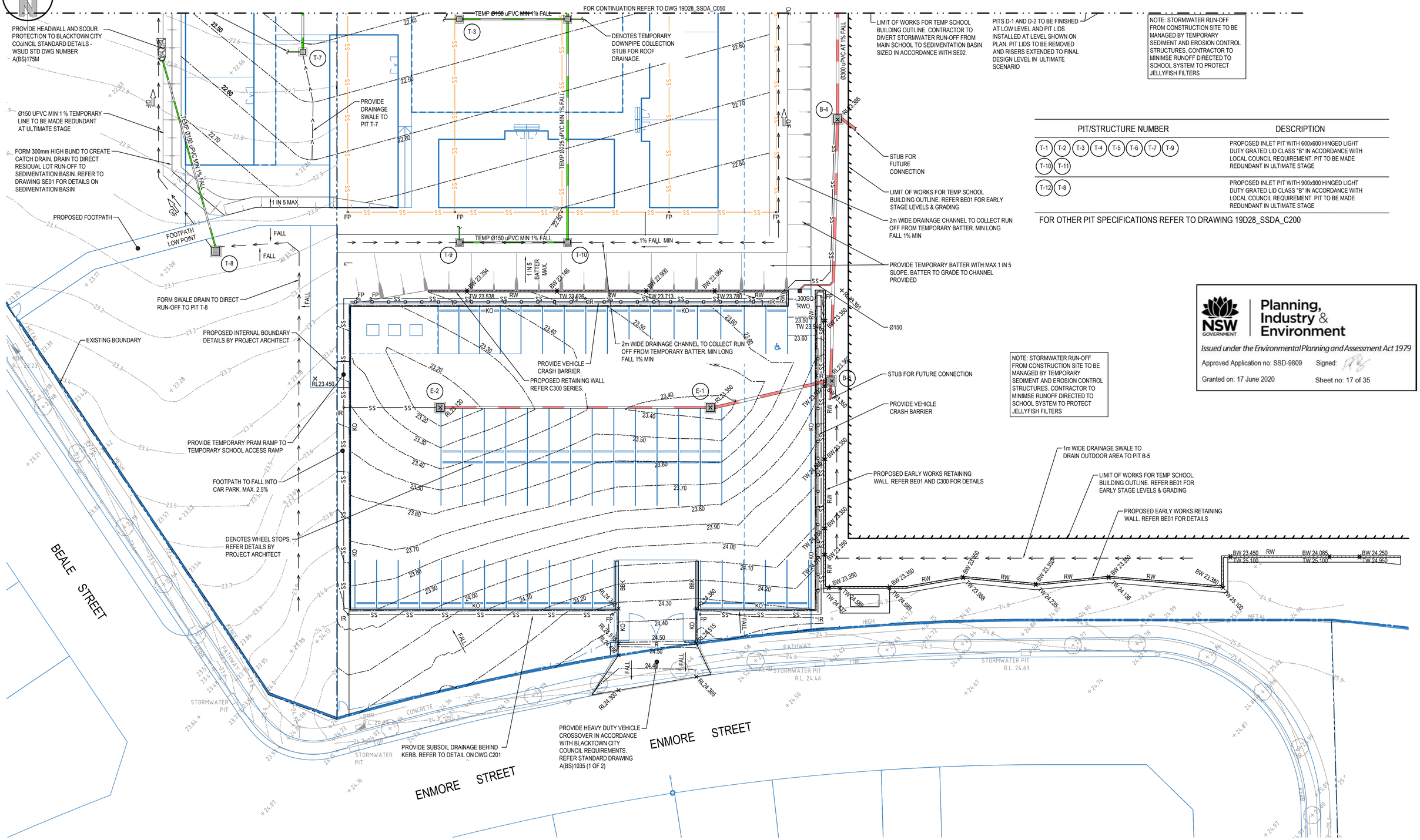
Project: MARSDEN PARK PUBLIC SCHOOL
NORTHBOURNE DR MARSDEN PARK NSW

Title: TEMPORARY SCHOOL PLAN
SHEET 1 OF 2

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:200

Drawing number: 19D28_SSDA_C050

Revision: 04



PIT/STRUCTURE NUMBER	DESCRIPTION
T-1 T-2 T-3 T-4 T-5 T-6 T-7 T-9 T-10 T-11	PROPOSED INLET PIT WITH 600x600 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT. PIT TO BE MADE REDUNDANT IN ULTIMATE STAGE
T-12 T-8	PROPOSED INLET PIT WITH 900x900 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT. PIT TO BE MADE REDUNDANT IN ULTIMATE STAGE

FOR OTHER PIT SPECIFICATIONS REFER TO DRAWING 19D28_SSDA_C200

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Granted on: 17 June 2020 Sheet no: 17 of 35

TEMPORARY SCHOOL PLAN

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

ISSUED FOR APPROVAL

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
04	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020
03	ISSUED FOR COORDINATION	IK	NW	08.05.2020
02	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	24.03.2020
01	PRELIMINARY	IK	NW	14.02.2020

Client: ADCO CONSTRUCTION PTY LID

Architect: NBRS ARCHITECTURE

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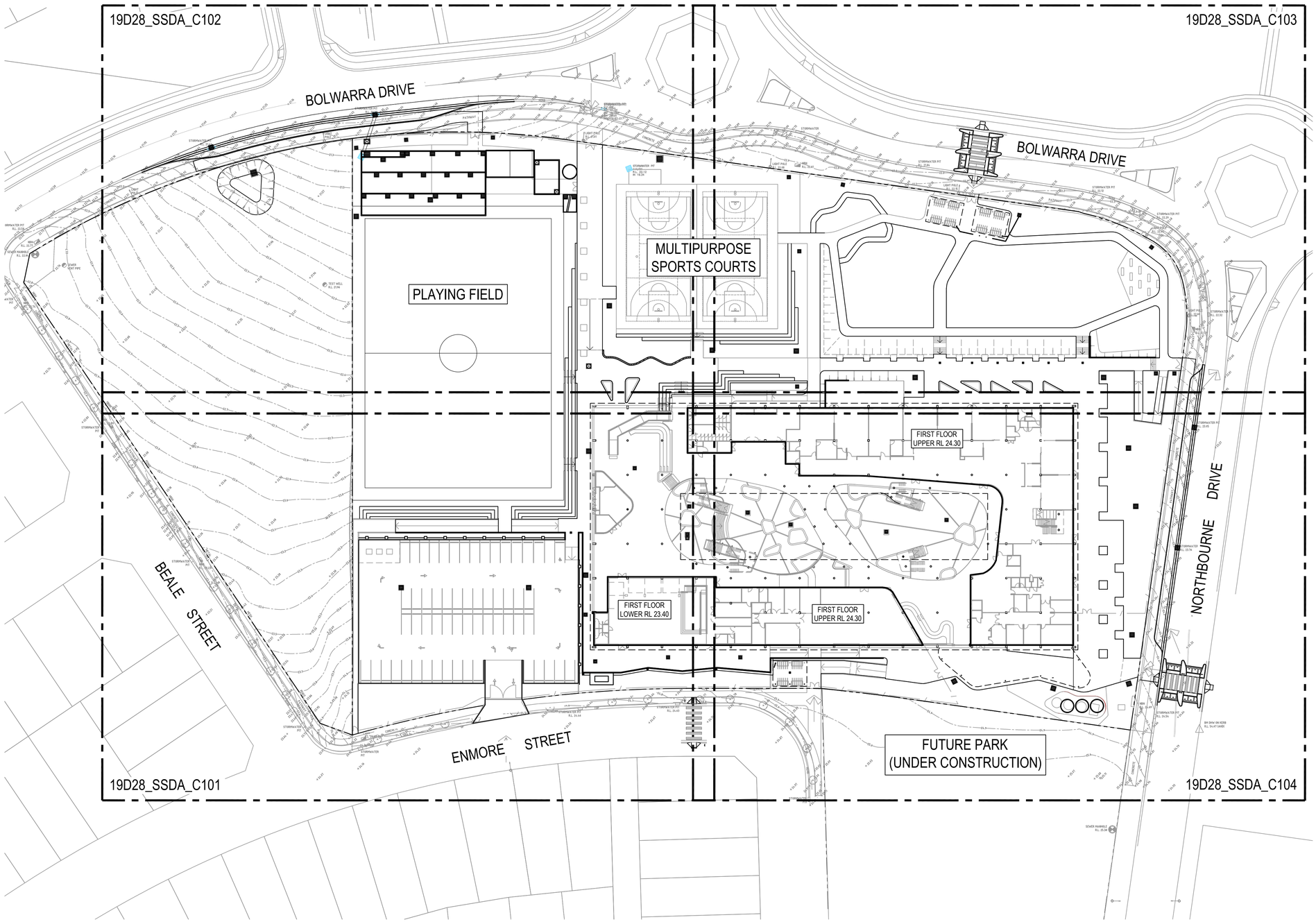
Project: MARSDEN PARK PUBLIC SCHOOL
NORTHBOURNE DR MARSDEN PARK NSW

Title: TEMPORARY SCHOOL PLAN
SHEET 2 OF 2

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:200

Drawing number: 19D28_SSDA_C051

Revision: 04



LEGEND

- EXISTING BOUNDARY
- PROPOSED JUNCTION PITS
- PROPOSED SURFACE INLET PITS
- A-1 — LINE LETTER, PIT NUMBER — PROPOSED PIT TAG
- 40.125 / Ø425RCP / 20.450m / 1.5% / 39.818 — STORMWATER UPSTREAM INVERT RL. / STORMWATER PIPE DIAMETER & CLASS / STORMWATER PIPE LENGTH / STORMWATER PIPE GRADE / STORMWATER DOWNSTREAM INVERT RL.
- PROPOSED GRATED DRAIN
- PROPOSED STORMWATER PIPE
- PROPOSED LOW FLOW STORMWATER PIPE
- STORMWATER LINE TO BE MADE REDUNDANT FOLLOWING CLOSURE OF TEMPORARY SCHOOL
- SS — PROPOSED SUBSOIL LINE
- EXISTING STORMWATER PIPE
- PROPOSED BATTER LINE
- 22.7 — EXISTING CONTOURS
- 22.80 — PROPOSED CONTOURS
- RL24.300 — PROPOSED SPOT LEVEL
- 22.30 — EXISTING SPOT LEVEL
- TW 24.300 — PROPOSED TOP OF WALL LEVEL
- BW 23.300 — PROPOSED BOTTOM OF WALL LEVEL
- RWO — 300 SQ RAINWATER OUTLET WITH Ø150mm OUTLET PIPE
- KO — PROPOSED KERB ONLY
- BKO — BLACKTOWN CITY COUNCIL KERB ONLY
- BBK — PROPOSED BACK TO BACK KERB
- DD — PROPOSED DISH DRAIN
- PROPOSED STORMWATER SWALE
- RW — PROPOSED RETAINING WALL
- R — PROPOSED RIDGE LINE
- FP — SS — PROPOSED FLUSHING POINT (FP)
- SS — IR — SS — PROPOSED INTERMEDIATE RISER (IR)
- DP — PROPOSED DOWNPIPE LOCATION (DP)
- PROPOSED DOWNPIPE COLLECTION LINE
- PROPOSED LIMIT OF WORK

GENERAL ARRANGEMENT PLAN

SCALE 1:500

0 10 20 30 40 50m

10 8 6 4 2

SCALE 1:500

NSW GOVERNMENT | Planning, Industry & Environment

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 18 of 35

ISSUED FOR APPROVAL

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
06	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020
05	ISSUED FOR COORDINATION	IK	NW	08.05.2020
04	ISSUED FOR SSDA APPROVAL ONLY	KR	NW	24.03.2020
03	ISSUED FOR TENDER ONLY	BH	BH	05.03.2020
02	ISSUED FOR TENDER ONLY	KR	NW	24.02.2020
01	PRELIMINARY	IK	NW	12.02.2020

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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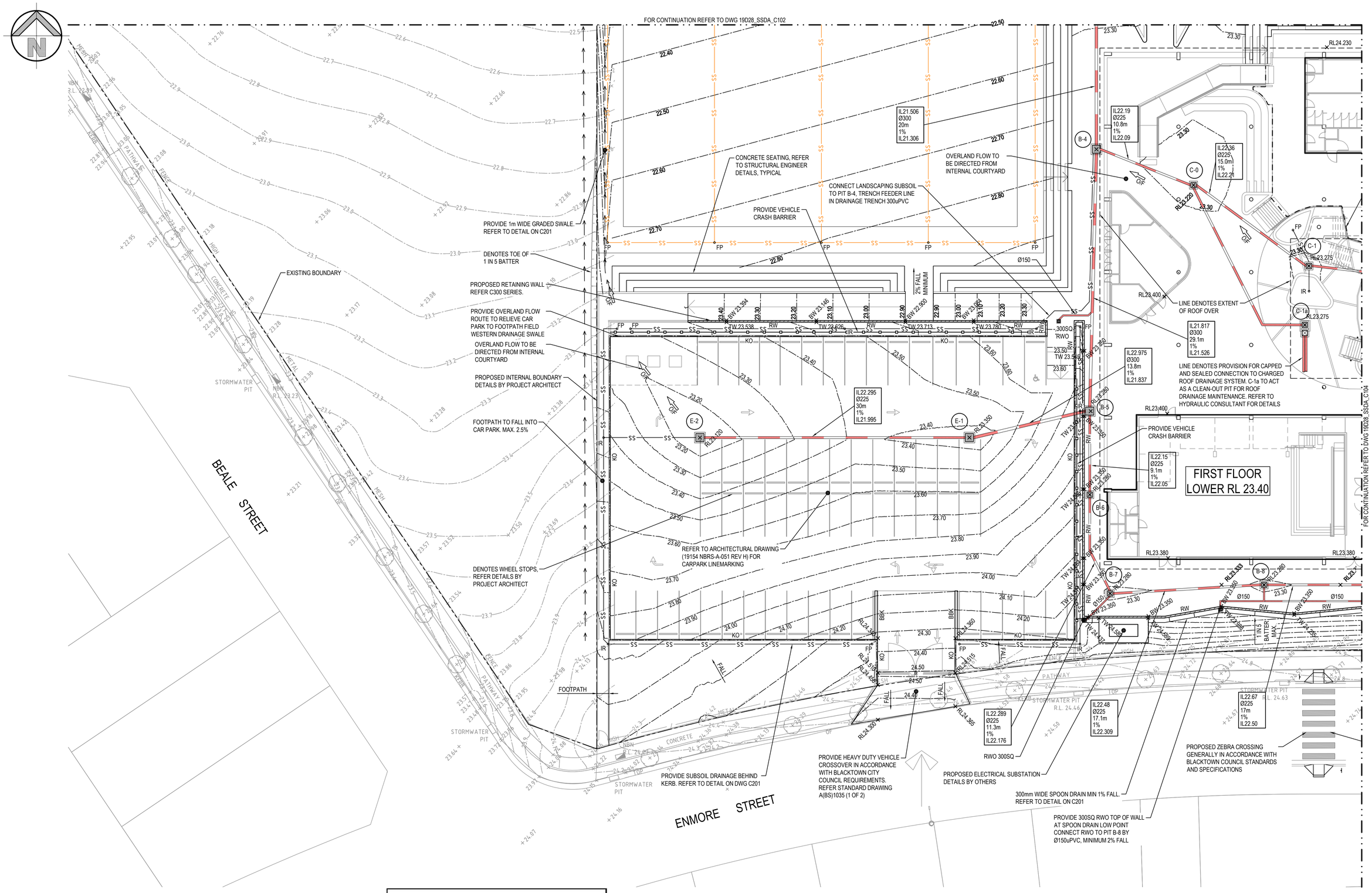
Project: MARSDEN PARK PUBLIC SCHOOL
NORTHBOURNE DR MARSDEN PARK NSW

Title: GENERAL ARRANGEMENT PLAN

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:500

Drawing number: 19D28_SSDA_C100

Revision: 06



DETAIL PLAN

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

ISSUED FOR APPROVAL

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 19 of 35

SURVEY INFORMATION

SURVEYED BY LCG

DATUM: A.H.D.

ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
06	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020
05	ISSUED FOR COORDINATION	IK	NW	08.05.2020
04	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	24.03.2020
03	ISSUED FOR TENDER ONLY	BH	BH	05.03.2020
02	ISSUED FOR TENDER ONLY	KR	NW	24.02.2020
01	PRELIMINARY	IK	NW	12.02.2020

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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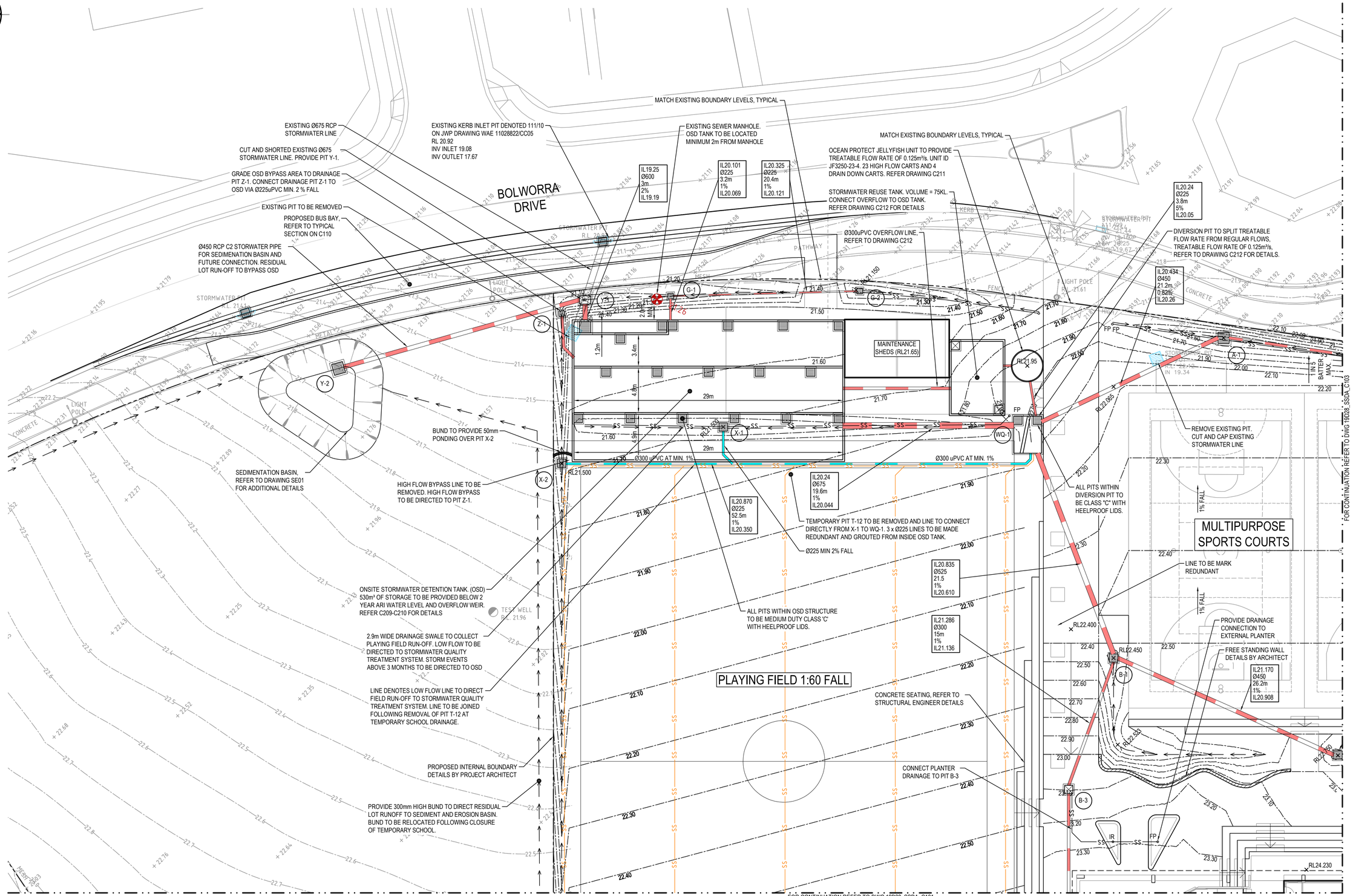
Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: DETAIL PLAN SHEET 1 OF 4

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:200

Drawing number: 19D28_SSDA_C101

Revision: 06



DETAIL PLAN

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

NSW GOVERNMENT | Planning, Industry & Environment

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 20 of 35

ISSUED FOR APPROVAL

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
07	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020
06	ISSUED FOR COORDINATION	IK	NW	08.05.2020
05	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	24.03.2020
04	ISSUED FOR TENDER ONLY	BH	BH	05.03.2020
03	ISSUED FOR TENDER ONLY	KR	NW	24.02.2020
02	PRELIMINARY	IK	NW	14.02.2020
01	PRELIMINARY	IK	NW	12.02.2020

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: DETAIL PLAN SHEET 2 OF 4

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:200

Drawing number: 19D28_SSDA_C102

Revision: 07

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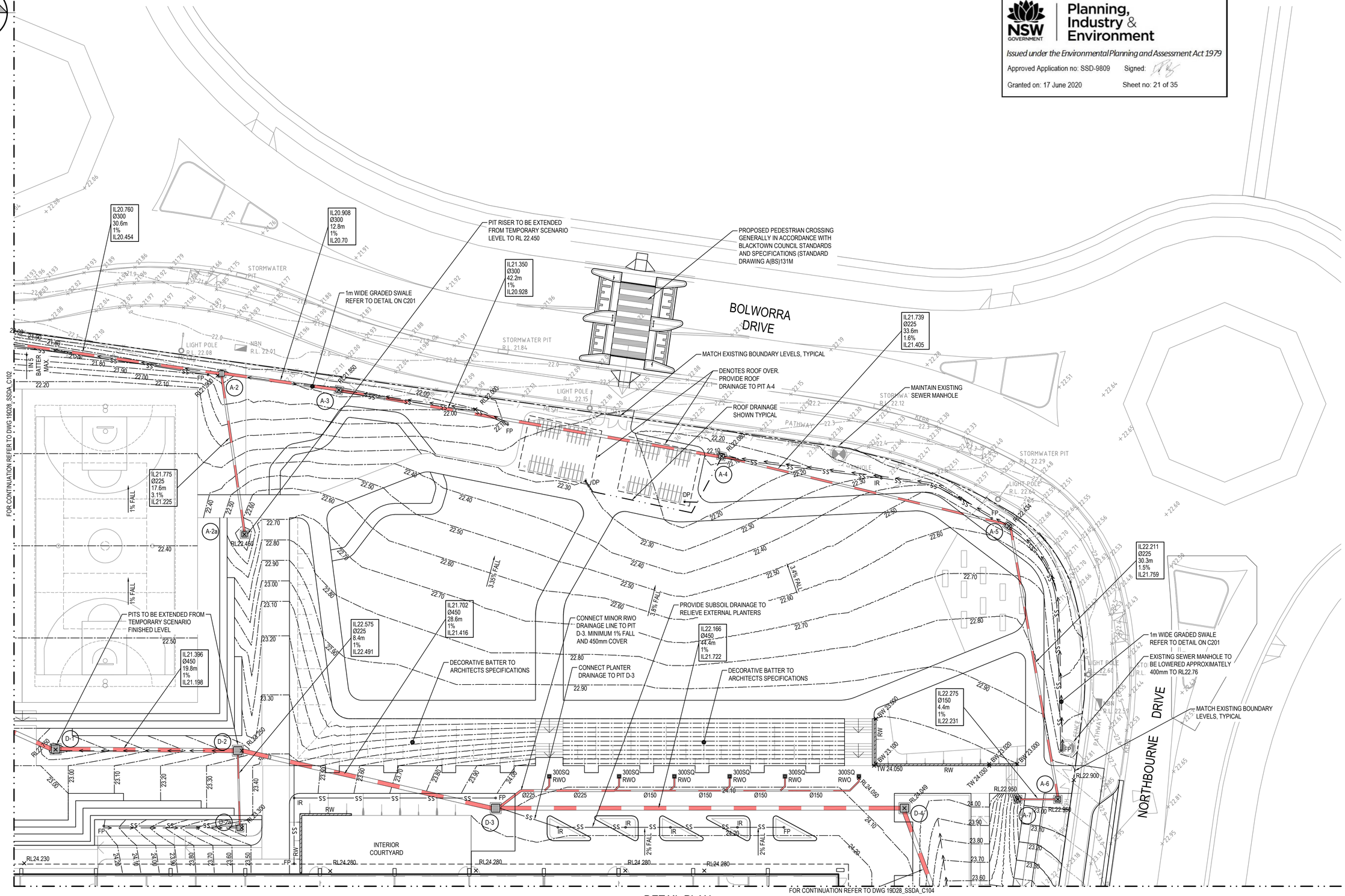
Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 21 of 35



DETAIL PLAN

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

ISSUED FOR APPROVAL

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
06	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020					
05	ISSUED FOR COORDINATION	IK	NW	08.05.2020					
04	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	24.03.2020					
03	ISSUED FOR TENDER ONLY	BH	BH	05.03.2020					
02	ISSUED FOR TENDER ONLY	KR	NW	24.02.2020					
01	PRELIMINARY	IK	NW	12.02.2020					

Client
ADCO CONSTRUCTIONS PTY LTD

Architect
NBRS ARCHITECTURE

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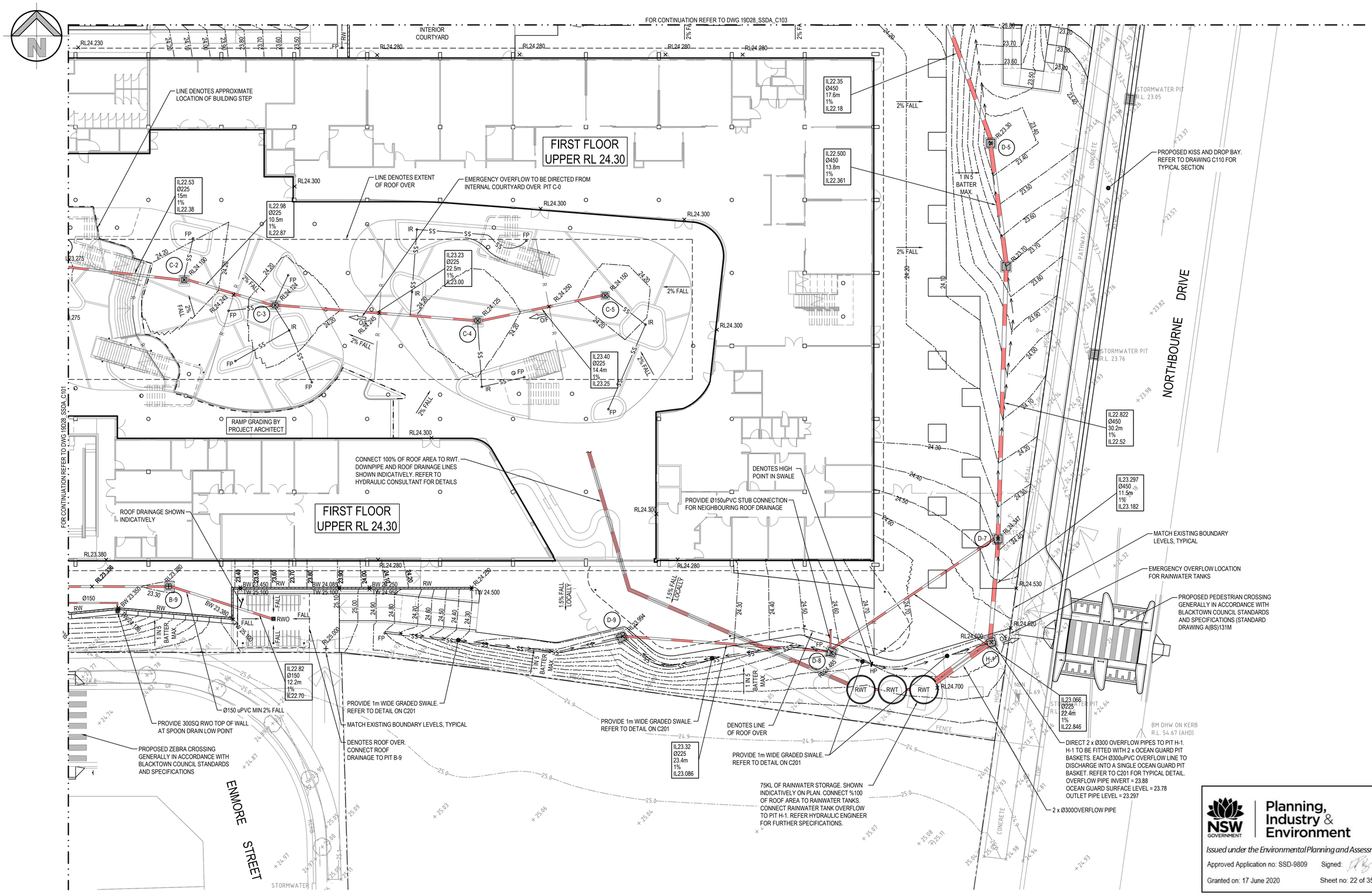
Project
MARSDEN PARK PUBLIC SCHOOL
NORTHBOURNE DR MARSDEN PARK NSW

Title
DETAIL PLAN
SHEET 3 OF 4

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:200

Drawing number 19D28_SSDA_C103

Revision 06



DETAIL PLAN

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 22 of 35

ISSUED FOR APPROVAL

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
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05	ISSUED FOR COORDINATION	IK	NW	08.05.2020
04	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	24.03.2020
03	ISSUED FOR TENDER ONLY	BH	BH	05.03.2020
02	ISSUED FOR TENDER ONLY	KR	NW	24.02.2020
01	PRELIMINARY	IK	NW	12.02.2020

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: DETAIL PLAN SHEET 4 OF 4

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:200

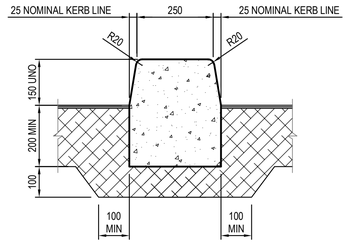
Drawing number: 19D28_SSDA_C104

Revision: 06

KERBING NOTES:

INCLUDES ALL KERBS, GUTTERS, DISH DRAINS, CROSSING AND EDGES.

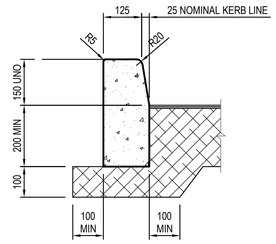
1. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSING TO BE CONSTRUCTED ON MINIMUM 75mm GRANULAR BASE COURSE COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1.
2. EXPANSION JOINTS (EJ) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILTER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATION IN KERBS.
3. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN SLABS.
4. BROAMED FINISHED TO ALL RAMPED AND VEHICULAR CROSSINGS, ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
5. IN THE REPLACEMENT OF KERBS
   EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm FROM LIP OF GUTTER. UPON COMPLETION OF NEW KERBS, NEW BASE COURSE AND SURFACE IS TO BE LAID 900mm WIDE TO MATCH EXISTING MATERIALS AND THICKNESS. EXISTING ALLOTMENT DRAINAGE PIPE ARE TO BE BUILT INTO NEW KERB WITH A 100mm DIA HOLE.
   EXISTING KERBS ARE TO BE COMPLETELY REMOVED WHERE NEW KERBS ARE SHOWN.



BACK TO BACK KERB (BBK)

SCALE 1:10

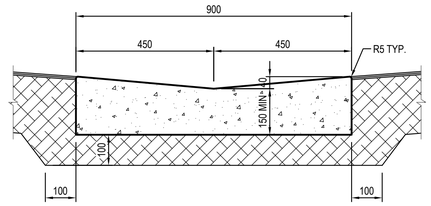
NOTE: INTERNAL USE ONLY



KERB ONLY (KO)

SCALE 1:10

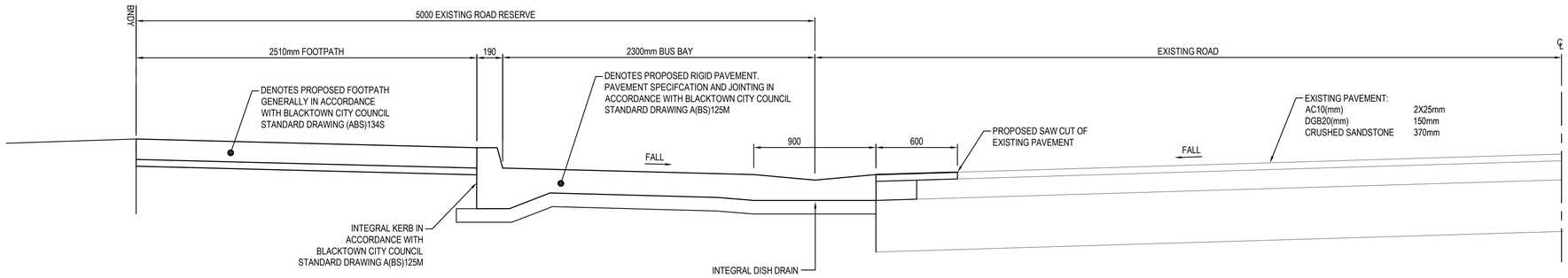
NOTE: INTERNAL USE ONLY



DISH DRAIN (DD)

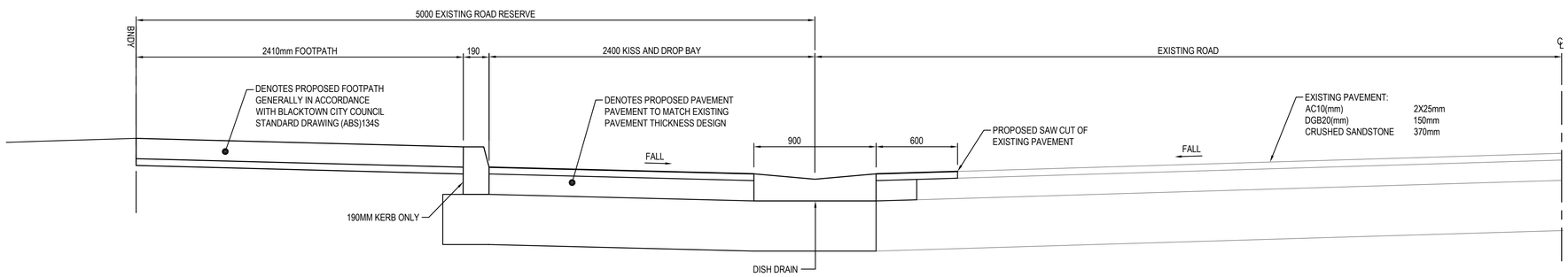
SCALE 1:10l

INTERNAL USE ONLY



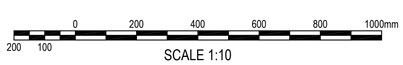
BUS BAY TYPICAL SECTION

SCALE 1:20



KISS & DROP TYPICAL SECTION

SCALE 1:20



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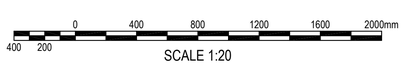

SCALE 1:20

Planning, Industry & Environment

NSW GOVERNMENT

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 23 of 35

ISSUED FOR APPROVAL

SURVEY INFORMATION

SURVEYED BY LCG

DATUM: A.H.D.

ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
04	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020
03	AMMENDED FOOTPATH WIDTHS - ISSUED FOR COORDINATION	IK	NW	11.05.2020
02	ISSUED FOR COORDINATION	IK	NW	08.05.2020
01	ISSUED FOR SSDA APPROVAL ONLY	NW	BH	24.03.2020

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: ROADWORKS DETAILS SHEET

Drawn	Designed	Date
B.Hurlstone	B.Hurlstone	MAR 2020
Checked	Approved	Scale
N.Wetzlar	A.Francis	AS NOTED

Drawing number: 19D28_SSDA_C110

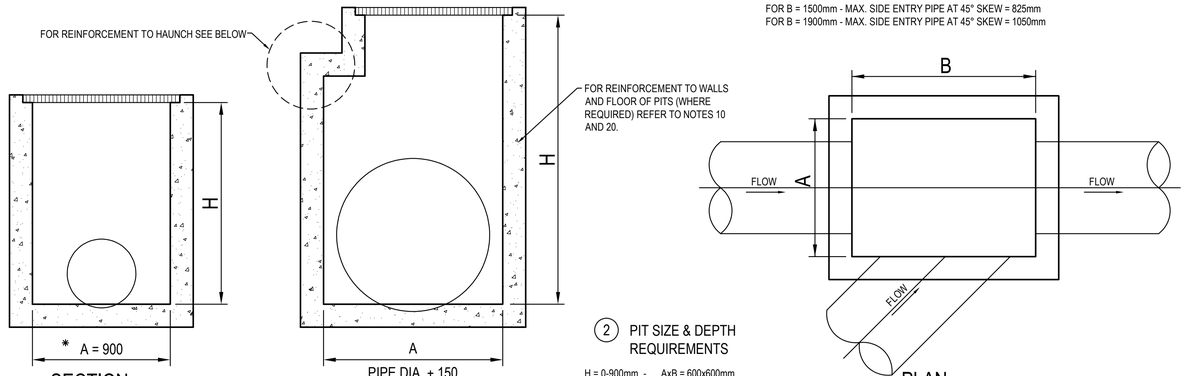
Revision: 04

TYPICAL PIT CHAMBER SIZES

IT IS THE CONTRACTORS RESPONSIBILITY TO SELECT PIT CHAMBER SIZE WITH REGARDS TO PIPE SIZE, DEPTH TO INVERT AND SKEW ANGLE. REFER SKETCHES BELOW.

1. SELECT PIT CHAMBER USING THE STEPS BELOW:
2. SELECT PIT CHAMBER SIZE DEPENDING ON THE PIPE DIAMETERS.
3. CHECK PIT CHAMBER SIZE TO SATISFY DEPTH TO INVERT REQUIREMENTS.
   CHECK PIT CHAMBER DIMENSIONS TO SATISFY THE SKEW ANGLE IN THE TABLE.

FOR B = 600mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 225mm
FOR B = 900mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 375mm
FOR B = 1200mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 600mm
FOR B = 1500mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 825mm
FOR B = 1900mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 1050mm



SECTION
NTS

*A = 600 FOR PIPES UP TO 375 DIA.

1 PIT CHAMBER DIMENSIONS FOR PIPES UP TO 600 DIA.

SECTION
NTS

1 PIT CHAMBER FOR PIPES GREATER THAN 600 DIA.

2 PIT SIZE & DEPTH REQUIREMENTS

H = 0-900mm - AxB = 600x600mm
H = 900-1200mm - AxB = 900x600mm
H = >1200mm - AxB = 900x900mm

PLAN
NTS

3 PIT CHAMBER FOR SIDE ENTRY ON SKEW

TABLE 1	
SIEVE SIZE (MM)	WEIGHT PASISNG (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0

TABLE 2	
SIEVE SIZE (MM)	WEIGHT PASISNG (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

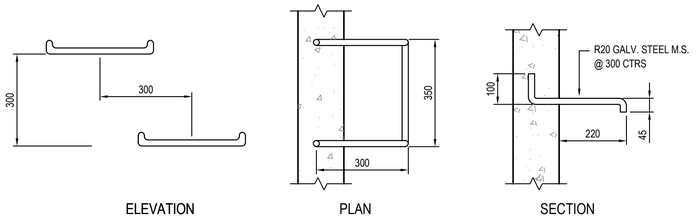
TABLE 3				
SUPPORT TYPE	BED ZONE X	HAUNCH ZONE Y	BED AND HAUNCH ZONES COMPACTION	MAX BEDDING FACTOR
HS1	100 IF D<=1500, OR 150 IF D>=1500	0.1D	50	2.0
HS2		0.3D	60	2.5
HS3		0.3D	70	4.0

PIT LID SCHEDULE

PIT/STRUCTURE NUMBER	DESCRIPTION
B-3	PROPOSED JUNCTION PIT WITH 900x900 MEDIUM DUTY SEALED LID CLASS "C" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT.
A-2, A-2a, A-3, A-4, A-5, A-6, A-7, B-6, B-7, B-8, B-9, C-0, C-1, C-1a, C-2, C-3, C-4, C-5, D-9, D-2a, G-1, G-2, Z-1	PROPOSED INLET PIT WITH 600x600 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT.
D-1, D-2, D-4, D-5, D-6, D-7, D-8, B-5, A-1, B-1, X-1, X-2	PROPOSED INLET PIT WITH 900x900 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT.
H-1	PROPOSED INLET PIT WITH 600x1200 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT.
E-1, E-2	PROPOSED INLET PIT WITH 900x900 HINGED HEAVY DUTY GRATED LID CLASS "D" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT.
B-4, D-3	PROPOSED INLET PIT WITH 900x900 HINGED MEDIUM DUTY GRATED LID CLASS "C" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT.
WQ-1	PROPOSED INLET PIT WITH 900x900 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT. PIT DIMENSIONS TO BE CUSTOMISED TO SUIT INTERNAL WEIR DIVERTING TREATABLE FLOW RATE.
Y-1	PROPOSED JUNCTION PIT WITH 1200x900 LIGHT DUTY SEALED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT.
Y-2	PROPOSED INLET PIT WITH 900x900 HINGED LIGHT DUTY SURCHARGE STYLE GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT.
Z-1	PROPOSED INLET PIT WITH 600x600 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENT.

NOTE:

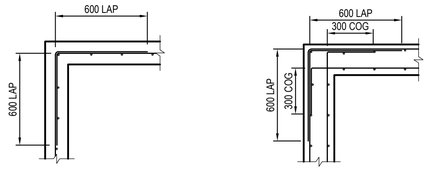
REFER TO C050 & C051 FOR TEMPORARY SCHOOL PITS LID SPECIFICATION.



ELEVATION PLAN SECTION

TYPICAL STEP IRON DETAIL

SCALE 1:10

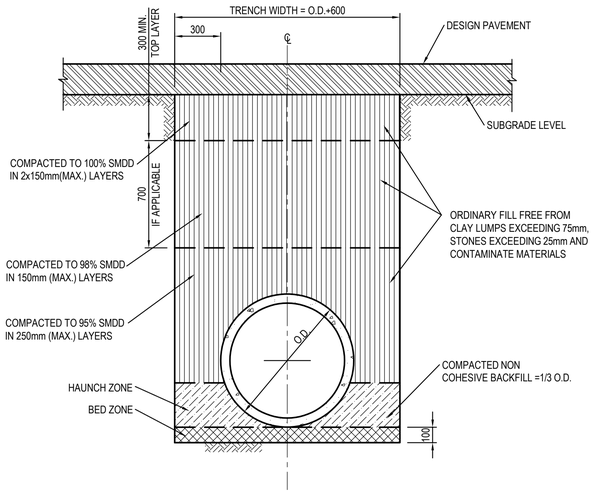


150 WALL - CORNER DETAIL

SCALE 1:20

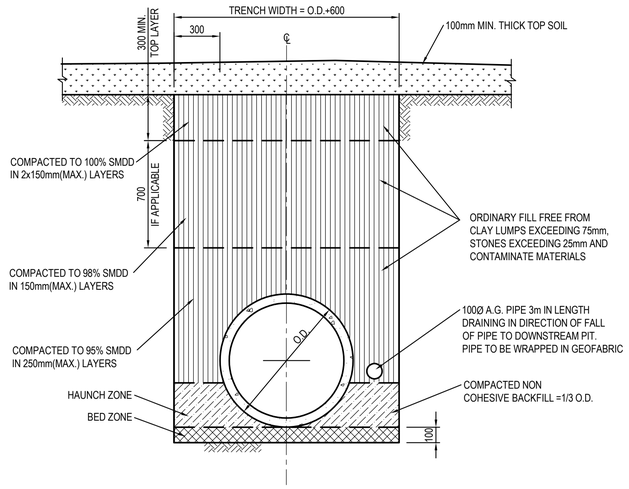
200 WALL - CORNER DETAIL

SCALE 1:20



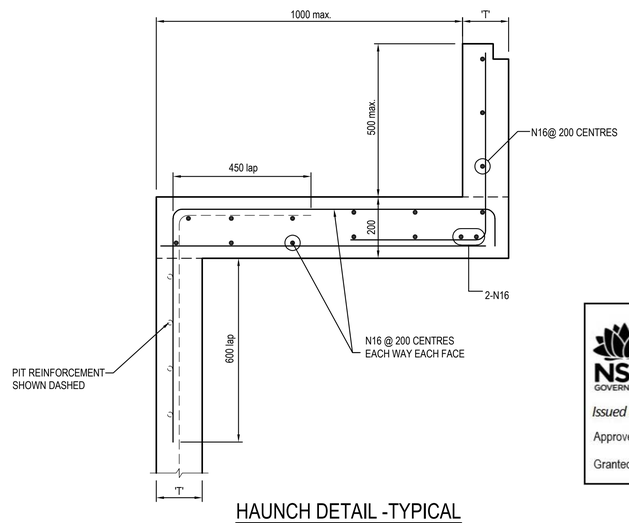
PIPE TRENCH INSTALLATION BENEATH PAVEMENT

(H1 & H2 SUPPORT)
SCALE 1:20



PIPE TRENCH INSTALLATION IN LANDSCAPE AREAS

(H1 & H2 SUPPORT)
SCALE 1:20



HAUNCH DETAIL -TYPICAL

SCALE 1:10

NOTES:

- ALL GRATED INLET PITS TO CONTAIN OCEAN PROTECT 200 MICRON PIT BASKETS OR APPROVED EQUIVALENT UNLESS NOTED ON PLAN. REFER DRAWING C201 & C250 FOR DETAILS.
- ALL PITS IN FOOTPATH TO BE FITTED WITH SLIP RESISTANT HEELGUARD LID.
- PIT SCHEDULE ABOVE DOES NOT INCLUDE PIT LIDS FOR WATER QUALITY DEVICES OR BELOW GROUND OSD TANKS, REFER DRAWINGS C210 AND C211.

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 24 of 35

0 400 800 1200 1600 2000mm
400 200
SCALE 1:20

0 200 400 600 800 1000mm
200 100
SCALE 1:10

ISSUED FOR APPROVAL

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

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01	PRELIMINARY	IK	NW	12.02.2020

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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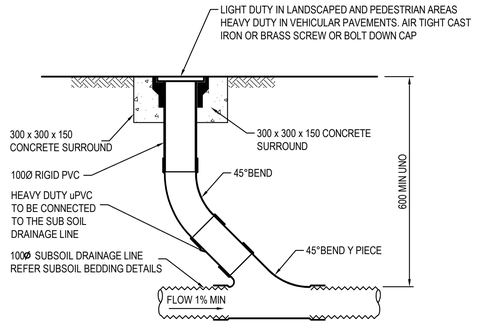
Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: STORMWATER MISCELLANEOUS DETAILS & PIT LID SCHEDULE

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JUNE 2019
Checked	Approved	Scale
N.Wetzlar	A.Francis	AS NOTED

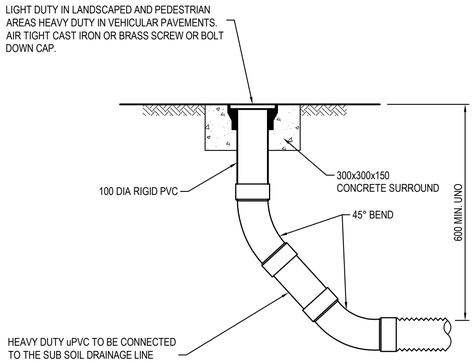
Drawing number: 19D28_SSDA_C200 Revision: 05



INTERMEDIATE RISER (IR)

SCALE 1:10

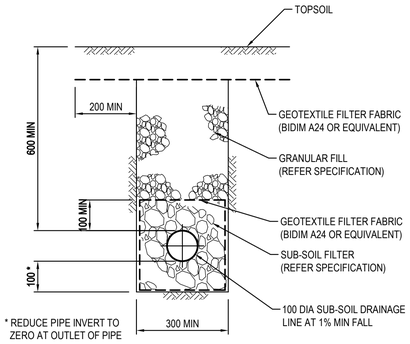
NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED



FLUSHING POINT (FP)

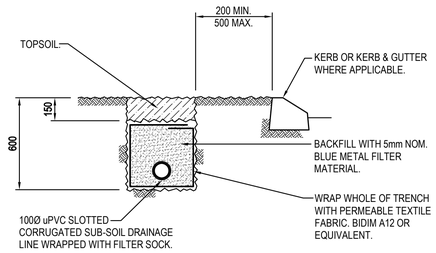
SCALE 1:10

NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED



SUB-SOIL IN LANDSCAPED AREAS

SCALE 1:10



SUB-SOIL DRAIN DETAIL

SCALE 1:20

SUBSOIL DRAINAGE NOTES

1. GENERALY PROVIDE SUBSOIL DRAINS TO INTERCEPT GROUNDWATER SEEPAGE AND PREVENT WATER BUILD-UP BEHIND WALLS AND UNDER FLOORS AND PAVEMENTS. CONNECT SUBSOIL TO SURFACE DRAINS OR TO THE STORMWATER DRAINAGE SYSTEM AS APPLICABLE.

2. PIPE DEPTH:
PROVIDE THE FOLLOWING MINIMUM CLEAR DEPTH, MEASURED TO THE CROWN OF THE PIPE, WHERE THE PIPE PASSES BELOW THE FOLLOWING ELEMENTS:

- 100mm BELOW FORMATION LEVEL OF THE PAVEMENT, KERB OR CHANNEL.
- 100mm BELOW THE AVERAGE GRADIENT OF THE BOTTOM OF FOOTINGS.

3. JOINTING:
AT JUNCTIONS OF SUBSOIL PIPES PROVIDE TEES, COUPLINGS OR ADAPTORS TO AS2439.1.

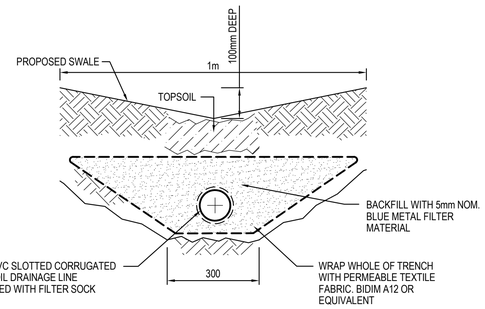
4. TRENCH WIDTH MINIMUM 300mm.

5. PIPE UNDERLAY
GENERAL: GRADE THE TRENCH FLOOR EVENLY TO THE GRADIENT OF THE PIPELINE. IF THE TRENCH FLOOR IS ROCK, CORRECT ANY IRREGULARITIES WITH COMPACTED BEDDING MATERIAL. BED PIPING ON A CONTINUOUS UNDERLAY OF BEDDING MATERIAL, AT LEAST 75mm THICK AFTER COMPACTION. LAY THE PIPE WITH ONE LINE OF PERFORATIONS AT THE BOTTOM.

CHASES: IF NECESSARY TO PREVENT PROJECTIONS SUCH AS SOCKETS AND FLANGES FROM BEARING ON THE TRENCH BOTTOM OR UNDERLAY.

6. PIPE SURROUNDS:
GENERAL: PLACE THE MATERIAL IN THE PIPE SURROUND IN LAYERS SMALLER THAN OR EQUAL TO 200mm LOOSE THICKNESS, AND COMPACT WITHOUT DAMAGING OR DISPLACING PIPING.
DEPTH OF OVERLAY: TO THE UNDERSIDE OF THE BASE OF OVERLYING STRUCTURES SUCH AS PAVEMENTS, SLABS AND CHANNELS TO WITHIN 150mm OF THE FINISHED SURFACE OF UNPAVED OR LANDSCAPED AREAS.

7. FILTER SOCKS:
PROVIDE POLYESTER PERMEABLE SOCKS CAPABLE OF RETAINING PARTICLES OF 0.25mm SIZES. SECURELY FIT OR JOIN THE SOCK AT EACH JOINT.



SUBSOIL DRAIN DETAIL IN SWALES

SCALE 1:10

0 200 400 600 800 1000mm
200 100
SCALE 1:10

0 400 800 1200 1600 2000mm
400 200
SCALE 1:20

DRAINAGE NOTES:

1. ALL STORMWATER WORK TO COMPLY WITH AS 3500 PART 3.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE MINIMUM COVER OF 600mm ON ALL PIPES.

3. PROTECTION OF PIPES DUE TO LOADS EXCEEDING W7 WHEEL LOAD SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

4. BEDDING TYPE SHALL BE TYPE H2 FOR RCP. WHERE NECESSARY THE OVERLAY ZONE SHALL BE REDUCED TO ACCOMMODATE PAVEMENT REQUIREMENTS. REFER TO THIS DRAWING FOR DETAILS.

5. MINIMUM COVER OVER EXISTING PIPES FOR PROTECTION DURING CONSTRUCTION SHALL BE 800mm.

6. NO CONSTRUCTION LOADS SHALL BE APPLIED TO PLASTIC PIPES.

7. FINISHED SURFACE LEVELS SHOWN ON LAYOUT PLAN DRGS TAKE PRECEDENCE OVER DESIGN DRAINAGE SURFACE LEVELS.

8. ALL PIPES UP TO AND INCLUDING 300 DIA. SHALL BE SOLVENT OR RUBBER RING JOINTED PVC CLASS SH PIPE TO AS1260. ALL OTHER PIPES TO BE RCP USING CLASS 2 RUBBER RING JOINTED PIPE. HARDIES FRC PIPE MAY BE USED IN LIEU OF RCP IF DESIRED IN GROUND. ALL AERIAL PIPES TO BE PVC CLASS SH.

9. ALL PITS IN NON TRAFFICABLE AREAS TO BE PREFABRICATED POLYESTER CONCRETE "POLYCRETE" WITH "LIGHT DUTY" CLASS B GALV. MILD STEEL GRATING AND FRAME.
ALL PITS IN TRAFFICABLE AREAS (CLASS "D" LOADING MAX) TO HAVE 150mm THICK CONCRETE WALLS AND BASE CAST IN-SITU f'c=32 MPa, REINFORCED WITH N12-200 BOTH LOADING WAYS CENTRALLY PLACE .U.N.O. ON SEPARATE DESIGN DRAWINGS IN THIS SET. GALV.MILD STEEL GRATING AND FRAME TO SUIT DESIGN LOADING. PRECAST PITS, RECTANGULAR OR CIRCULAR IN SHAPE, MAY BE USED IN LIEU AND SHALL COMPLY WITH RELEVANT AUSTRALIAN STANDARDS.

10. ALL PITS, GRATINGS AND FRAMES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION AND TO BE IN ACCORDANCE WITH AS3500.3 AND AS3996.

11. PIT CHAMBER DIMENSIONS ARE TO BE SELECTED TO SATISFY THE FOLLOWING:
- PIPE SIZE
- DEPTH TO INVERT
- SKEW ANGLE
REFER TYPICAL PIT CHAMBER DETAILS BELOW
IF PIT LID SIZE IS SMALLER THAN THE PIT CHAMBER SIZE THEN THE PIT LID IS TO BE CONSTRUCTED ON THE CORNER OF THE PIT CHAMBER WITH THE STEP IRONS DIRECTLY BELOW. ALTERNATIVELY THE PIT LID TO BE USED, IS TO BE THE SAME SIZE AS THE PIT CHAMBER.

12. FOR PIPE SIZES GREATER THAN Ø300mm, PIT FLOOR IS TO BE BENCHED TO FACILITATE FLOW.

13. GALVANISED STEP IRONS SHALL BE PROVIDED AT 300 CTS FOR PITS HAVING A DEPTH EXCEEDING 1200mm. SUBSOIL DRAINAGE PIPE SHALL BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES. (MINIMUM LENGTH 3m).

14. ALL SUBSOIL PIPES SHALL BE 100mm SLOTTED PVC IN A FILTER SOCK, UNO, WITH 3m INSTALLED UPSTREAM OF ALL PITS.

15. ALL PIPEWORK SHALL HAVE MINIMUM DIAMETER 100.

16. MINIMUM GRADE FOR ROOFWATER DRAINAGE LINES SHALL BE 1%.

17. ALL PIPE JUNCTIONS AND TAPER UP TO AND INCLUDING 300 DIA. SHALL BE VIA PURPOSE MADE FITTINGS.

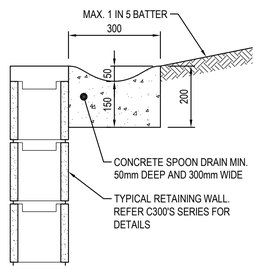
18. ALL ROOF DRAINAGE TO BE INSTALLED IN ACCORDANCE WITH AS3500, PART 3. TESTING TO BE UNDERTAKEN AND REPORTS PROVIDED TO THE SUPERINTENDENT.

19. LOCATION OF THE DIRECT DOWN PIPE CONNECTIONS MAY VARY ON SITE TO SUIT SITE CONDITIONS, WHERE CONNECTION SHOWN ON LONG SECTIONS CHAINAGES ARE INDICATIVE ONLY.

20. PITS IN EXCESS OF 1.5 m DEEP TO HAVE WALL AND FLOOR THICKNESS INCREASED TO 200mm. REINFORCED WITH N12@200 CTS CENTRALLY PLACED BOTH WAYS THROUGHOUT U.N.O.ON SEPARATE DESIGN DRAWINGS IN THIS SET. IF DEPTH EXCEEDS 5m CONTACT ENGINEER.

21. SUBSOIL DRAINAGE LINES FOR LANDSCAPE AREA NOT SHOWN ON THESE DRAWINGS. REFER TO LANDSCAPING PLANS FOR DETAILS.

22. ALL STORMWATER PITS TO HAVE Ø100 uPVC SLOTTED SUBSOIL PIPES CONNECTED TO THEM. THESE SUBSOILS TO EXTEND 3m UPSTREAM OF THE PIT AT A MINIMUM GRADE.



RW SPOON DRAIN DETAIL

SCALE 1:10

PLAN ID	MAXIMUM PIT PLAN DIMENSIONS
S	450mm x 450mm
M	600mm x 600mm
L	900mm x 900mm
XL	1200mm x 1200mm

DEPTH ID	BAG DEPTH	OVERALL DEPTH
1	170	270
2	300	450
3	600	700

		DEPTH ID		
		1	2	3
PLAN ID	S	■		
	M	■	■	
	L	■	■	■
	XL	■	■	■

GENERAL NOTES

1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
3. OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
4. DRAWINGS NOT TO SCALE.

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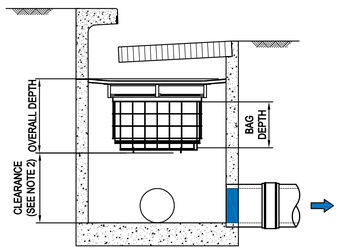
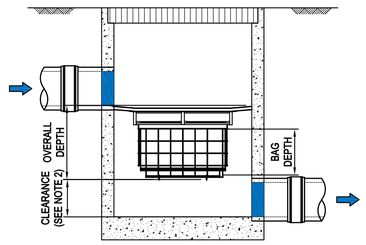
SPECIFICATION DRAWING



SURFACE FLOW CONFIGURATION

SCALE: 1:20



PIPE FLOW CONFIGURATION

SCALE: 1:20

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Granted on: 17 June 2020 Sheet no: 25 of 35

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SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
05	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020					
04	ISSUED FOR COORDINATION	IK	NW	08.05.2020					
03	ISSUED FOR SSDA APPROVAL ONLY	KR	NW	24.03.2020					
02	ISSUED FOR TENDER ONLY	KR	NW	24.02.2020					
01	PRELIMINARY	IK	NW	12.02.2020					

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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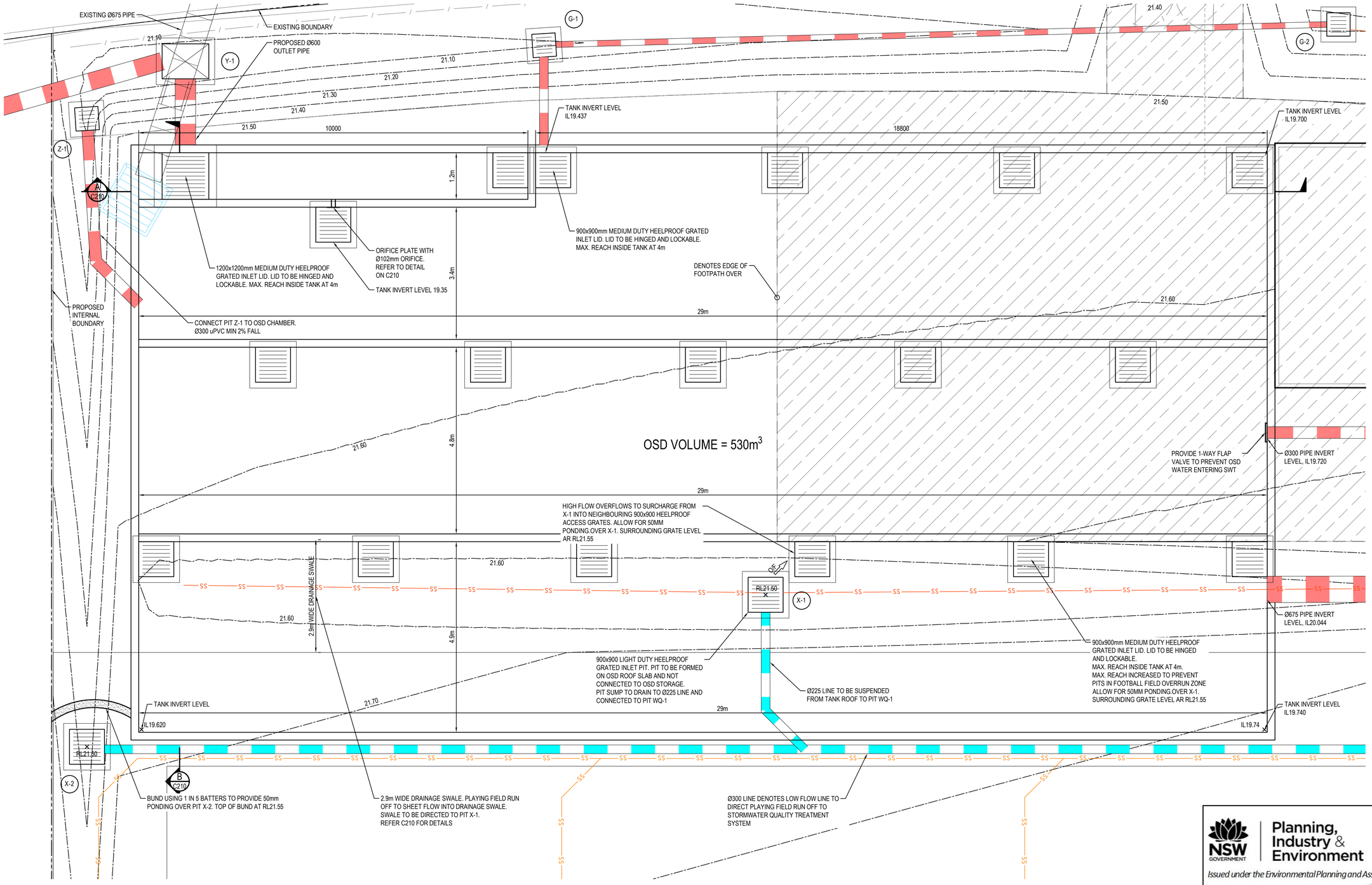
Project: MARSDEN PARK PUBLIC SCHOOL
NORTHBOURNE DR MARSDEN PARK NSW

Title: STORMWATER MISCELLANEOUS DETAILS

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JUNE 2019
Checked	Approved	Scale
N.Wetzlar	A.Francis	AS NOTED

Drawing number: 19D28_SSDA_C201
Revision: 05



OSD TANK PLAN

SCALE 1:50

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 26 of 35

0 1000 2000 3000 4000 5000mm

1000 600 200

SCALE 1:50

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SURVEY INFORMATION

SURVEYED BY LCG

DATUM: A.H.D.

ORIGIN OF LEVELS: SSM191370

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02	ISSUED FOR COORDINATION	IK	NW	08.05.2020					
01	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	24.03.2020					

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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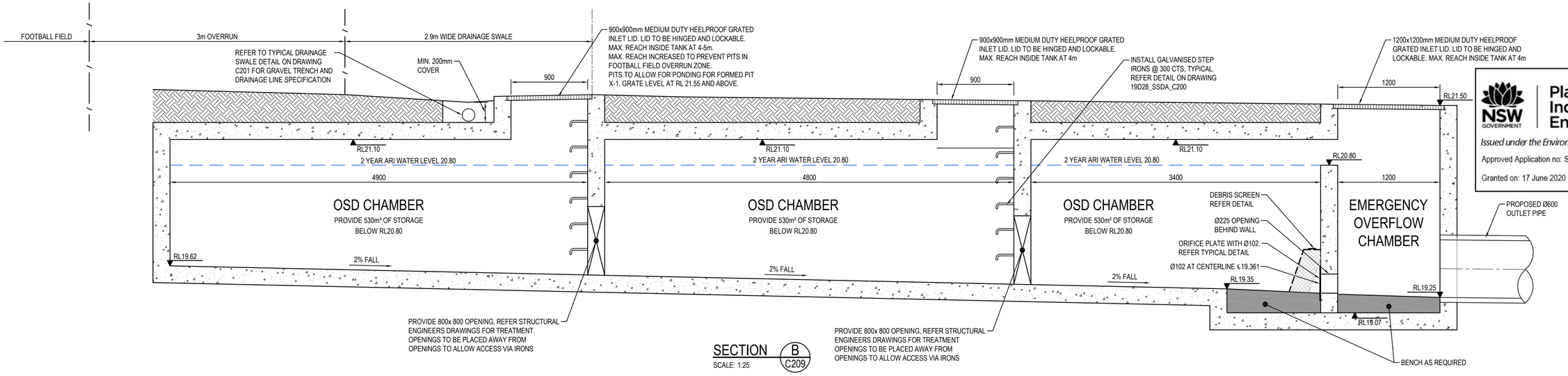
Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: OSD TANK PLAN

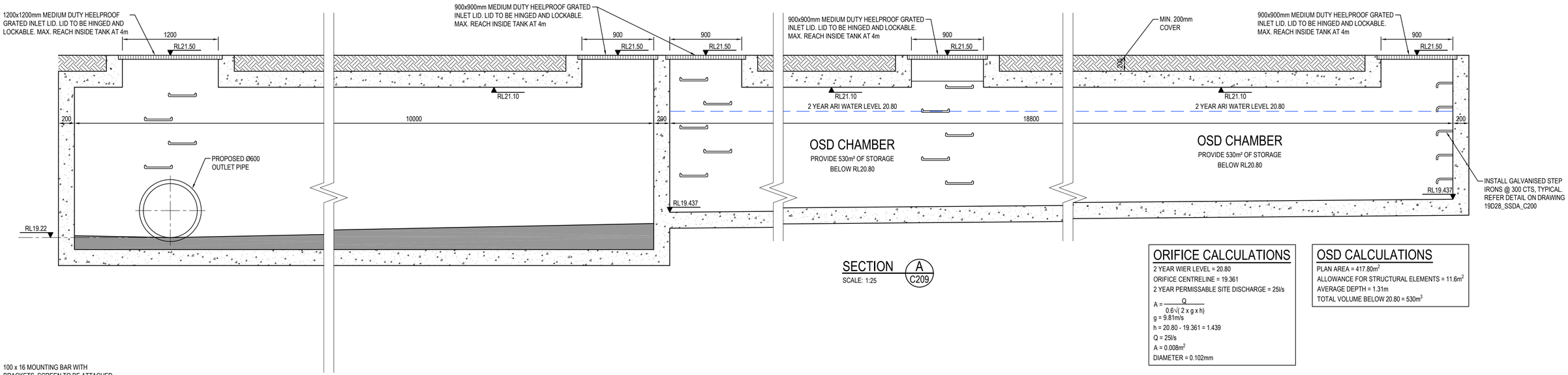
Drawn	Designed	Date
I.Khachab	N.Wetzlar	JUNE 2019
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	AS NOTED

Drawing number: 19D28_SSDA_C209

Revision: 03



SECTION B C209
SCALE: 1:25



SECTION A C209
SCALE: 1:25

ORIFICE CALCULATIONS

2 YEAR WIER LEVEL = 20.80
ORIFICE CENTRELINE = 19.361
2 YEAR PERMISSABLE SITE DISCHARGE = 25l/s

$$A = \frac{Q}{0.6\sqrt{(2 \times g \times h)}}$$

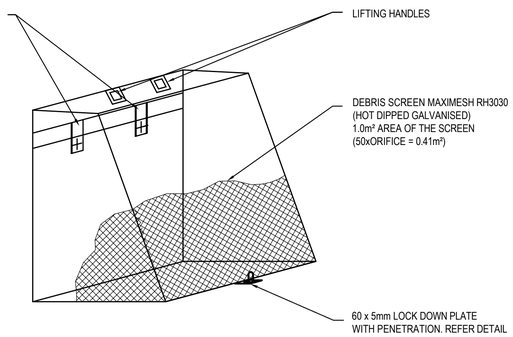
g = 9.81m/s
h = 20.80 - 19.361 = 1.439
Q = 25l/s
A = 0.008m²
DIAMETER = 0.102mm

OSD CALCULATIONS

PLAN AREA = 417.80m²
ALLOWANCE FOR STRUCTURAL ELEMENTS = 11.6m²
AVERAGE DEPTH = 1.31m
TOTAL VOLUME BELOW 20.80 = 530m³

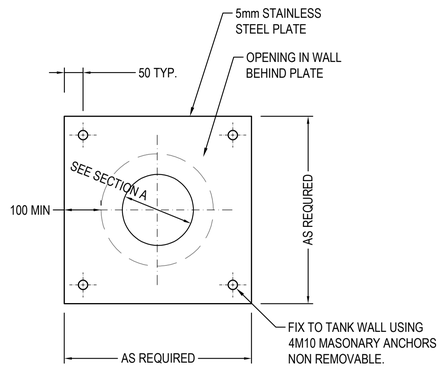
100 x 16 MOUNTING BAR WITH BRACKETS, SCREEN TO BE ATTACHED (GENERALLY ON A SLIDING MECHANISM) TO THE WALL, BUT SHOULD BE REMOVABLE (WITHOUT THE USE OF TOOLS) TO PERMIT CLEANSING AND EASY INSPECTION OF THE OUTLET CONTROL. ALL STEEL TO BE HOT DIPPED GALVANISED.

MAXIMESH RH3030 IS RECOMMENDED FOR ORIFICES LESS THAN 150mm IN DIAMETER AND SCREEN AREA 50xTHE ORIFICE AREA REFER BLACKTOWN CITY COUNCIL STANDARD DRAWINGS FOR DETAILS



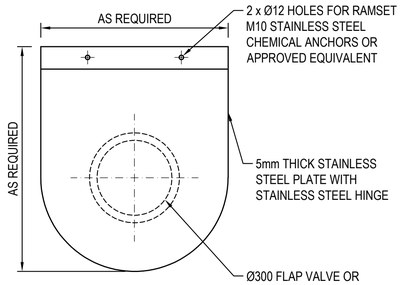
DEBRIS SCREEN DETAIL

NOT TO SCALE
ALL STEEL TO BE HOT DIPPED GALVANISED



ORIFICE PLATE

SCALE 1:10



FLAP VALVE DETAIL

SCALE 1:10

CONFINED SPACE DANGER SIGN

DANGER

CONFINED SPACE
NO ENTRY WITHOUT CONFINED SPACE TRAINING

COLOURS:	DANGER AND BACKGROUND	WHITE
	ELLIPTICAL AREA	RED
	RECTANGLE CONTAINING ELLIPSE	BLACK
	OTHER LETTERING AND BOARDER	BLACK

A) A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANKS/ CONFINED SPACE AT ALL ACCESS POINTS OF THE TANK/ CONFINED SPACE.

B) SIGN TO BE MINIMUM DIMENSIONS:- 300mm x 450mm (LARGE ENTRIES SUCH AS DOORS)
250mm x 180mm (SMALL ENTRIES I.E.. GRATES, MANHOLES)

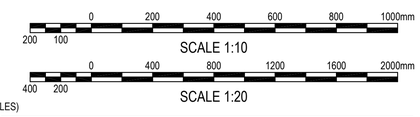
C) SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED METAL OR POLYPROPYLENE

D) SIGN SHALL BE AFFIXED TO A SURFACE WITH SCREWS AT EACH CORNER.

OSD SIGN

THIS IS AN
ON-SITE STORMWATER DETENTION SYSTEM
REQUIRED BY YOUR LOCAL COUNCIL
IT IS AN OFFENCE TO REDUCE THE VOLUME OF THE TANK OR BASIN OR TO INTERFERE WITH THE ORIFICE PLATE THAT CONTROLS THE OUTFLOW
THE BASE OF THE OUTLET CONTROL PIT AND THE DEBRIS SCREEN MUST BE CLEANED OF DEBRIS AND SEDIMENT ON A REGULAR BASIS BY THE OWNER
THIS PLATE MUST NOT BE REMOVED

SIZE: 110mm X 80mm
CORNERS: SQUARE
COLOUR: ETCHED AND FILLED BLACK LEGEND ON NATURAL SILVER BACKGROUND
MATERIAL: ALUMINIUM 0.9MM MILL



ISSUED FOR APPROVAL

Planning, Industry & Environment
NSW GOVERNMENT
Issued under the Environmental Planning and Assessment Act 1979
Approved Application no: SSD-9809 Signed:
Granted on: 17 June 2020 Sheet no: 27 of 35

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

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05	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020
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03	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	24.03.2020
02	ISSUED FOR TENDER ONLY	KR	NW	24.02.2020
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Client: ADCO CONSTRUCTIONS PTY LTD
Architect: NBRS ARCHITECTURE

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Project: MARSDEN PARK PUBLIC SCHOOL
NORTHBOURNE DR MARSDEN PARK NSW
Title: OSD TANK SECTIONS AND DETAILS

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JUNE 2019
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	AS NOTED

Drawing number: 19D28_SSDA_C210
Revision: 05

Circular culvert / Throttling pipe flow estimator

Based on chapters 9.1 - 9.33 , Willi H Hager "Wastewater Hydraulics" Springer 1999

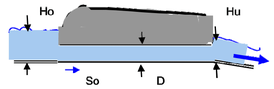
D	Ho	Hu	So	n	L	χ	Yo	Flow type
m	m	m	m/m		m	full pipe		
0.3	0.66	0.61	0.05	0.013	3.8	4.493	2.200	pressurised
Up IL	20.24	20.05	Down IL					N/A
R*d	Rd	jd	Hd	h/l culvert	qd	Q	χ	
			m	m		cub.m/sec	free	transitional flow type
0.0509	0.0314	0.6333	0.24	0.3981	N/A	0.130	4.455	N/A

Project No	19D28
Date	11.05.2020

For SSDA

Qc max	Qcr	Q uni	Qgate tr	Qpress tr	Qpress	Qgate	Quni
							free
N/A	0.245	0.064	0.137	0.174	0.130	0.137	0.222
f	Yt	Cd	Q simple culvert	Qor	Sf	Fd	Qunifull
0.166	2.27	0.64	N/A	0.098	0.1048	N/A	0.222

Operational Diagram



Logic:

Ho and Hu are Energy Heads u/s and d/s of culvert respectively. **So** and **Sf** are Energy and pipe's gradients respectively. D is a pipe diameter.
χ is pipe roughness characteristic (5.31). **L** is culvert's length. **Yo** =Ho/D **and Fd** is pipe Froude number
Free Flow in the culvert can be either critical, uniform or gated. Flow is critical whenever χ >2. Maximum filling ratio should be 95%. Yo is generally lower than 1.20.
If **Sf** exceeds **So** hydraulic jump may develop in the pipe leading to the formation of standing waves and if filling ratio is larger than 90% to choking of the pipe (usually near the outlet).
For larger approach level 1.2<Yo<1.5 and free culvert flow, gated flow appears when the u/s section is submerged sealing the culvert's inlet against airflow.
Pressurised flow develops when outlet of the culvert is submerged (choked) and Yo is equal or larger than 1.0.
Transition between gated and pressurised flow is analysed using roughness characteristics **Rd** and **Rd*** as per chapter 9.33 as well as possibilities of outlet choking due to hydraulic jump formation and/or high filling ratio. Then the choice is made between gated and pressurised flow for a transitional flow type (this selection is automatic).
It is a well known fact that for the culvert flow situation a free surface flow often needs more head than pressurised flow. Also supercritical flow in the pipe is unstable leading to formation of waves,h/jumps etc thus discharge under these conditions (described as "critical" in the program) may be lower than that under the "uniform" flow conditions.
Please note that the sharp-crested inlet configuration (Cd=0.64) is considered for transitional gated flow. For **Qgate** coefficient **Cd** can be changed in cell C15.
The approach taken in this spreadsheet is based on formulas valid for a long culvert (L/D>=10).
This spreadsheet is set up to automatically compute the discharge through the pipe/culvert for the flow situation described by the input parameters(Ho;Hu;n;So;D;L;Cd).
The final flow rate appears in cell G9 (brown font).
Flowrates for each flow situation are displayed in cells A13-H13 and D15,E15 and H15. It allows the user to compare the floweret selected by the program to other relevant Flowrates and make his/her own judgements. The Flowrates calculated by this spreadsheet are on the conservative side.

To use this program please follow these easy steps:

1 Type input data in yellow cells
2 Read flow type in cells I5 and I9
3 Read culvert discharge in cell G9

Good luck

Abbreviations and formulas used in the spreadsheet

Qcmax	Maximum free flow discharge for this situation (9.6)
Qcr	Discharge for "critical" flow situation
Quni	Discharge for "uniform" flow situation
Qgate tr.	Discharge for transitional-gated flow situation
Q press. tr	Discharge for transitional-pressurised flow situation
Q press. tr	Discharge for "pressurised" flow situation
Qgate	Discharge for "gated" flow situation
Q uni free	Free uniform discharge
Q uni full	Uniform discharge for the 95% full pipe
Q simple culvert	Discharge calculated using formulas for a "simple culvert" (9.9 - 9.13)
Qor	Discharge calculated using small orifice formulae with Cor = 0.64

χ > 2

1. Free flow

Uniform flow

$$\frac{Hon}{D}=\frac{2}{\sqrt{3}}\left(\frac{nQ}{So^{\frac{1}{2}}D^{\frac{8}{3}}}\right)^{\frac{1}{2}}\frac{1}{2}\left[1+\left(\frac{9}{16}\chi^2\right)\right] \quad (5.31)$$

Critical flow

$$\frac{Hoc}{D}=\frac{5}{3}\left[\frac{Q}{\left(gD^5\right)^{\frac{1}{2}}}\right]^{\frac{3}{5}};Qcmax=0.61\left(gD^5\right)^{\frac{1}{2}}$$

2. Gate flow

$$Q=Cd\left(\frac{\pi}{4}\right)D^2\left[2g(Ho-CdD)\right]^{\frac{1}{2}}$$

3. Pressurised flow

$$Qp=\left(\frac{\pi}{4}\right)D^2\left[\frac{2gHd}{1+\sum\xi}\right]^{\frac{1}{2}}$$

5. Other formulas used

$$q_n=\frac{nQ}{So^{\frac{1}{2}}D^{\frac{8}{3}}}=\frac{3}{4}y_n^2\left(1-\frac{7}{12}y_n^2\right) \quad (5.14)$$

$$\chi(roughness)=\frac{So^{\frac{1}{2}}D^{\frac{1}{6}}}{ng^{\frac{1}{2}}}$$

$$Fd=\frac{Q}{(gDh^4)^{\frac{1}{2}}} \quad (6.35;9.9-9.13)$$

$$h/l\,culvert=\sum\xi=12.64\left(\frac{gLn^2}{D^{\frac{4}{3}}}\right)$$

$$Hd=Ho+SoLd-Hu$$

$$flow\ is\ critical\ if\ \chi\geq 2$$

$$for\ trans.\ flow\ regime$$

$$Rd<R*d-gated\ flow$$

$$Rd>R*d-pressur.\ flow$$

4. Transitional flow

$$R*d=\frac{1}{9}\left[1.75\frac{Yo-0.90}{Yo-0.64}-1\right]$$

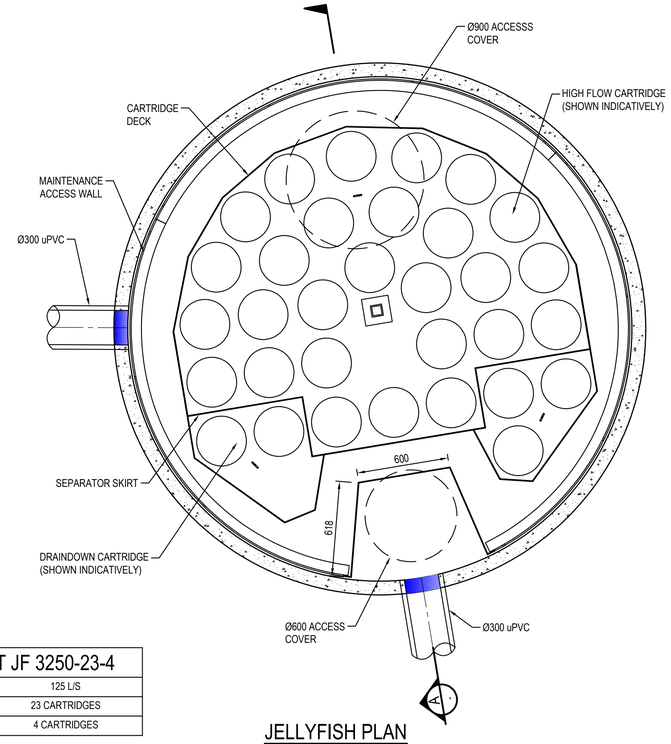
$$Rd=\frac{gL_dn^2}{D^{\frac{4}{3}}}$$

$$Q=q_d(gD^5)^{\frac{1}{2}};$$

$$gated\ flow\ q_d=0.71(Yo-0.64)^{\frac{1}{2}}$$

$$Pressurised\ flow\ q_d=0.94\left[\frac{Yo+j_d-1}{1+9j_d\chi_d^{-2}}\right]^{\frac{1}{2}}$$

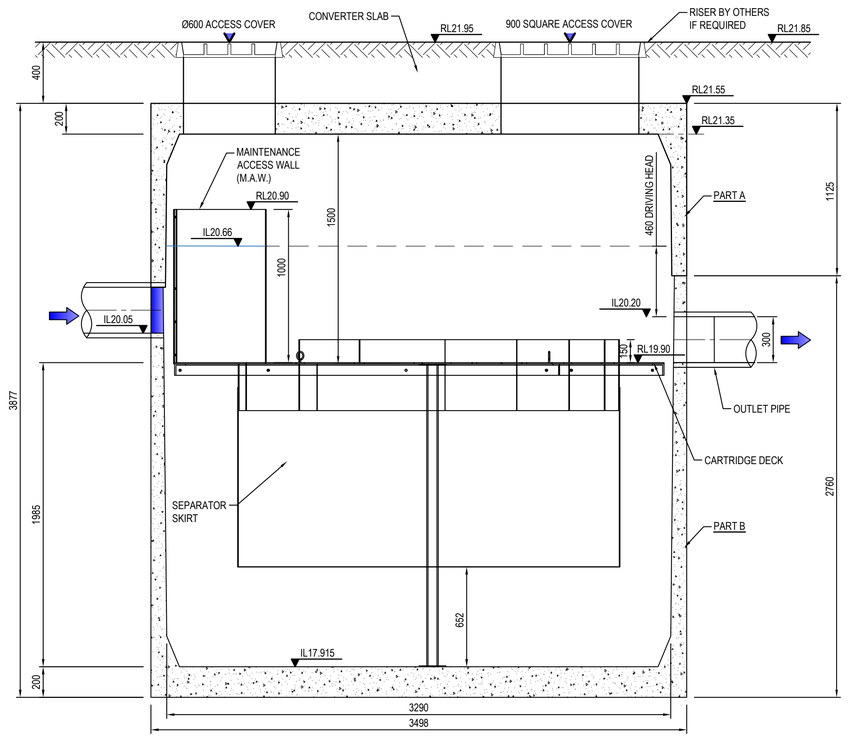
$$Yo=\frac{Ho}{D},\ j_d=So\frac{L_d}{D}$$



JELLY FISH UNIT JF 3250-23-4	
TREATABLE FLOW RATE	125 L/S
HIGH FLOW CARTRIDGES	23 CARTRIDGES
DRAINDOWN CARTRIDGES	4 CARTRIDGES

JELLYFISH PLAN

SCALE: 1:20



SECTION A
SCALE: 1:20

ISSUED FOR APPROVAL

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 28 of 35

0 400 800 1200 1600 2000mm
400 200
SCALE 1:20

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
06	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020					
05	ISSUED FOR COORDINATION	IK	NW	11.05.2020					
04	ISSUED FOR COORDINATION	IK	NW	08.05.2020					
03	ISSUED FOR SSDA APPROVAL ONLY	KR	NW	24.03.2020					
02	ISSUED FOR TENDER ONLY	KR	NW	24.02.2020					
01	PRELIMINARY	IK	NW	13.02.2020					

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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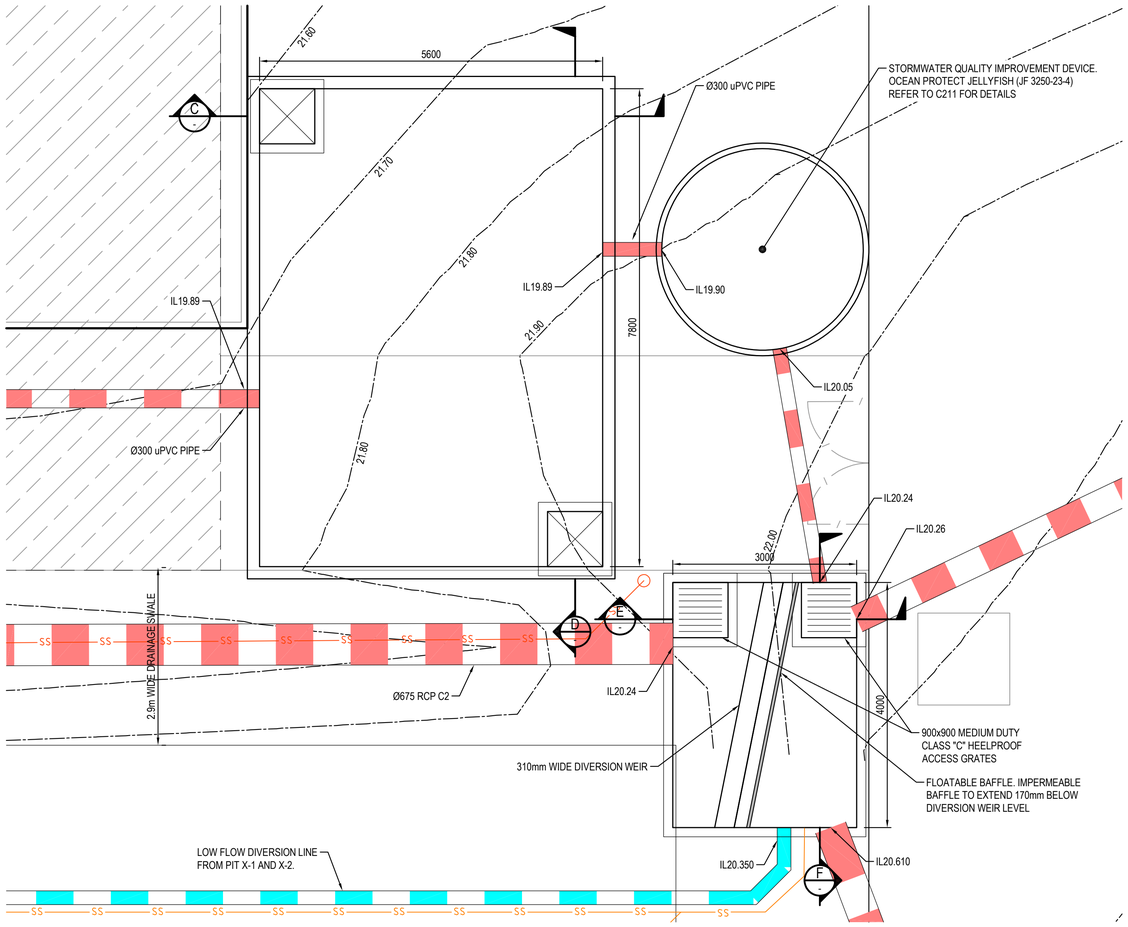
Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: JELLY FISH DETAILS AND SECTION

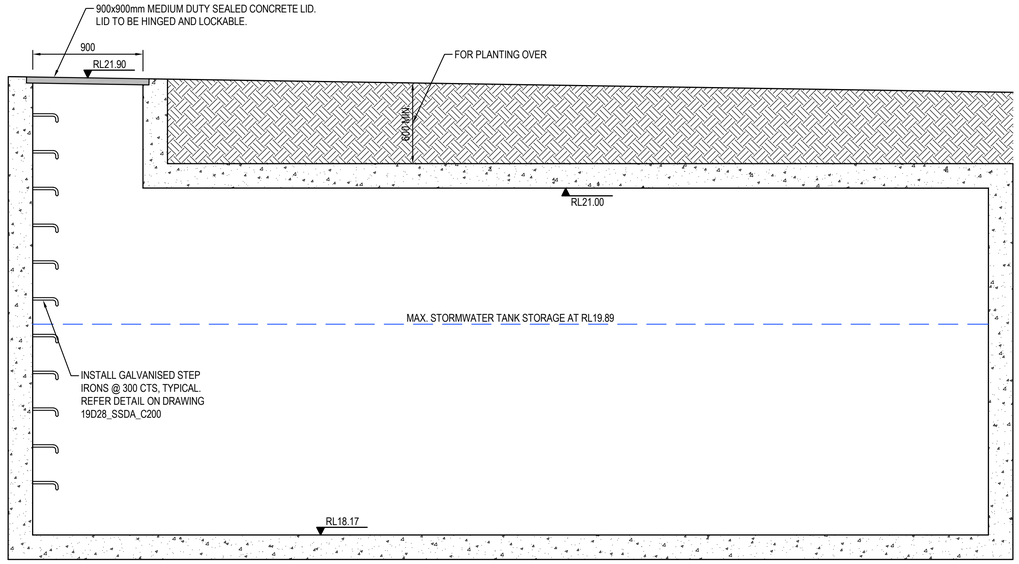
Drawn	Designed	Date
I.Khachab	N.Wetzlar	JUNE 2019
Checked	Approved	Scale
N.Wetzlar	A.Francis	AS NOTED

Drawing number: 19D28_SSDA_C211 Revision: 06



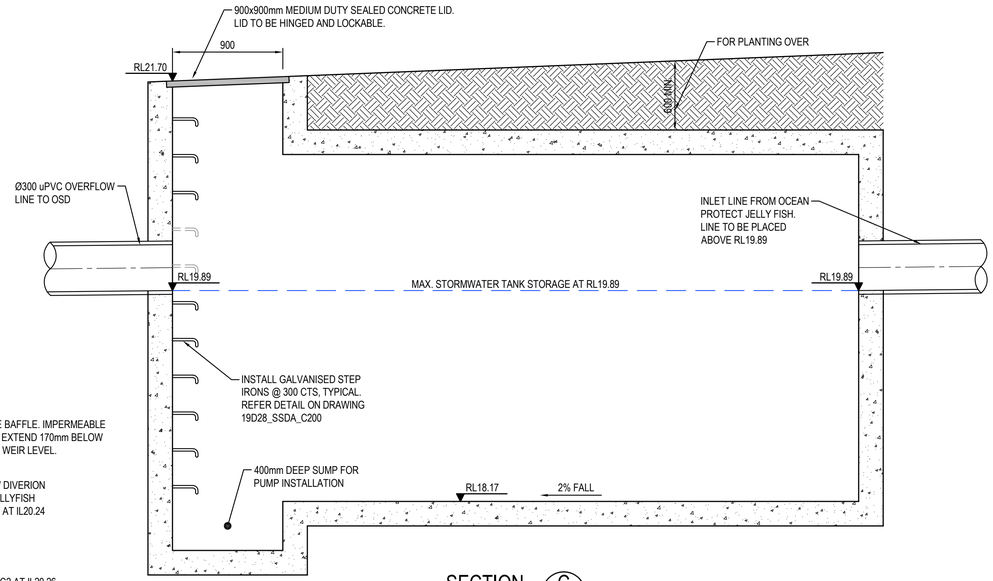
RAINWATER TANK

SCALE: 1:50



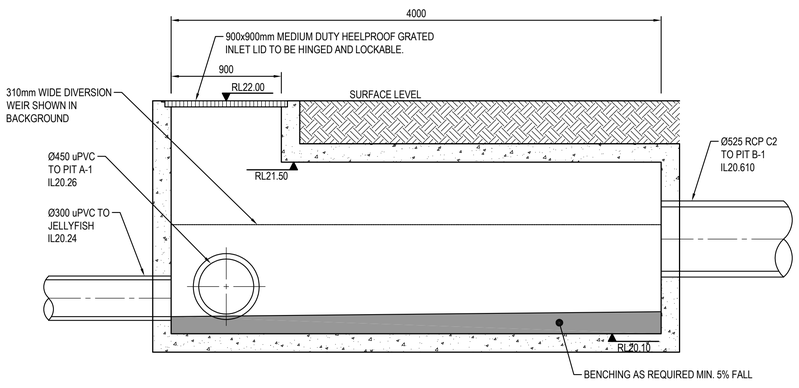
SECTION D

SCALE: 1:25



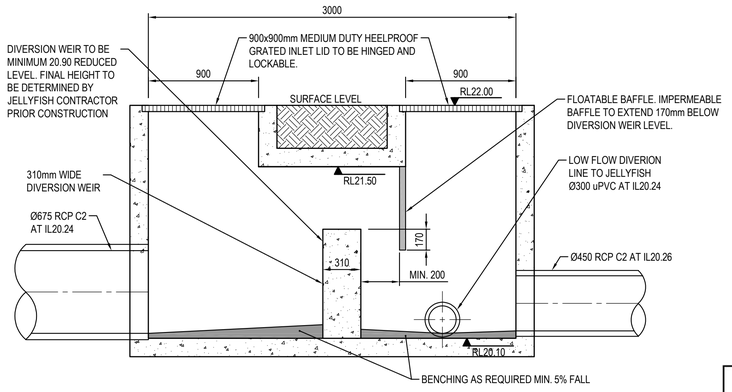
SECTION C

SCALE: 1:25



SECTION F

SCALE: 1:25



SECTION E

SCALE: 1:25

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 29 of 35

400 200 0 400 800 1200 1600 2000mm

SCALE 1:20

ISSUED FOR APPROVAL

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SURVEYED BY LCG
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ORIGIN OF LEVELS: SSM191370

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Client
ADCO CONSTRUCTIONS PTY LTD

Architect
NBRS ARCHITECTURE

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Project
MARSDEN PARK PUBLIC SCHOOL
NORTHBOURNE DR MARSDEN PARK NSW

Title
RAINWATER TANK PLAN AND SECTIONS

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JUNE 2019
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	AS NOTED

Drawing number: 19D28_SSDA_C212
Revision: 04

NSW GOVERNMENT | Planning, Industry & Environment

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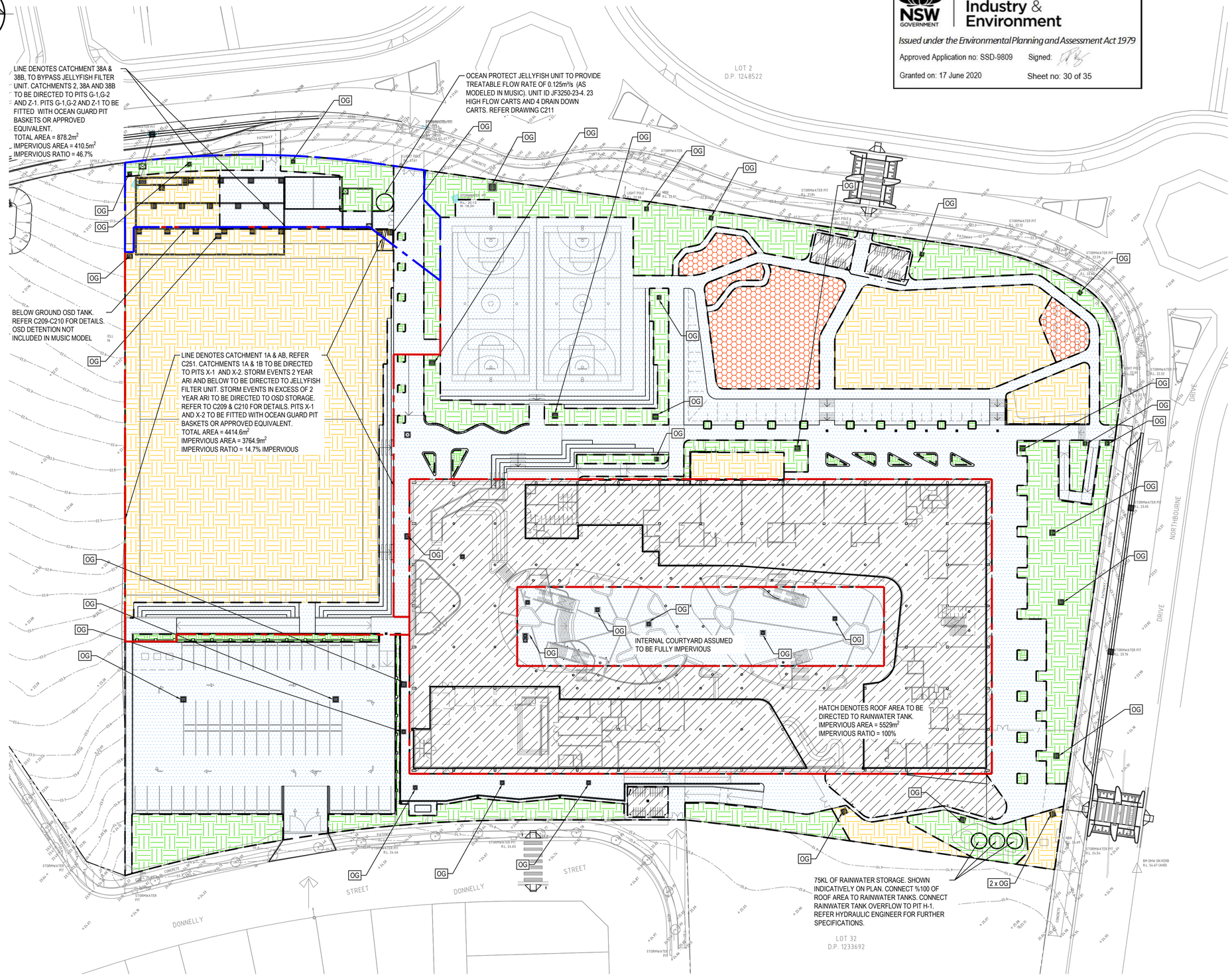
Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 30 of 35



CATCHMENT PLAN

SCALE 1:400

0 8 16 24 32 40m

8 6 4 2

SCALE 1:400

LEGEND

EXISTING BOUNDARY

OG — OCEAN GUARD PIT BASKET, 200 MICRON MESH PIT INSERT OR APPROVED EQUIVALENT

TOTAL SITE AREA: 23947m²

ROOF AREA
AREA= 5916m²
5529m² OF ROOF AREA DIRECTED TO RWT

IMPERVIOUS AREA
AREA= 9123m²

TOTAL PERVIOUS AREA = 8908m²

TURFED AREA
AREA= 5174m²

LANDSCAPING AREA PLANTED
AREA= 3069m²

LANDSCAPING AREA NON PLANTED
AREA= 665m²

CATCHMENT DIRECTED TO JELLYFISH SYSTEM = 18,654.2m²

1 YEAR FLOW = 0.298m³/S
3 MONTH FLOW = 0.149m³/S
TREATABLE FLOW RATE REQUIRED IN MUSIC = 0.125m³/S

CATCHMENT DIRECTED TO JELLYFISH SYSTEM (FIELD LOW FLOW DIVERSION SYSTEM) = 4414.6m²

1 YEAR FLOW = 0.042m³/S
3 MONTH FLOW = 0.021m³/S
TREATABLE FLOW RATE REQUIRED IN MUSIC = 0.125m³/S

CATCHMENT TO BYPASS JELLYFISH SYSTEM = 878.2m²

REFER TO C251 FOR CATCHMENTS

ISSUED FOR APPROVAL

SURVEY INFORMATION
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ORIGIN OF LEVELS: SSM191370

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01	ISSUED FOR TENDER ONLY	KR	NW	24.02.2020

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: CATCHMENT PLAN

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:400

Drawing number: 19D28_SSDA_C250

Revision: 04

Planning, Industry & Environment

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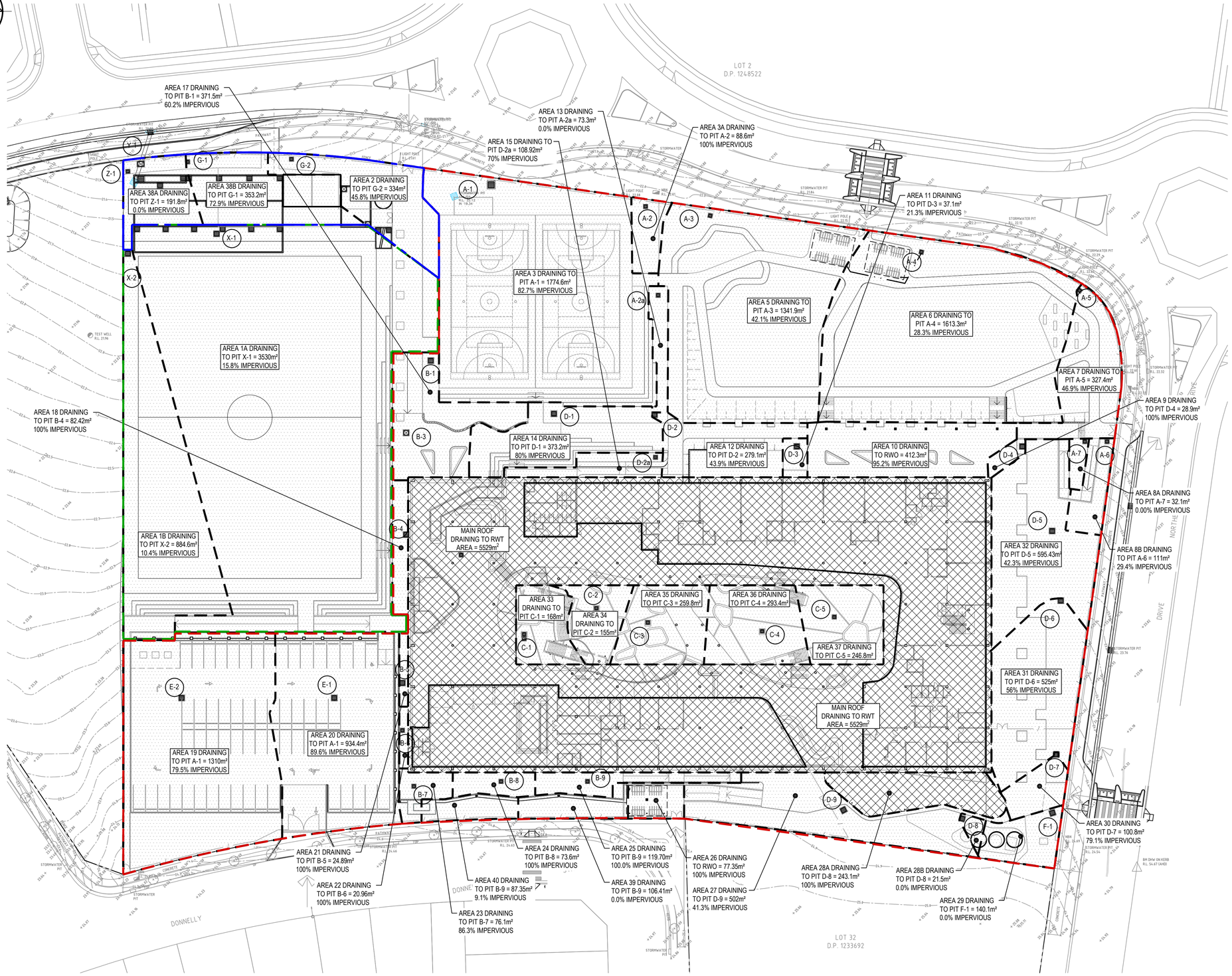
Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 31 of 35



DETAIL CATCHMENT PLAN

SCALE 1:400

0 8 16 24 32 40m

8 6 4 2

SCALE 1:400

ROOF AREA

SURFACE DRAINAGE AREA

C1 - CATHCMENT DIRECTED TO JELLYFISH SYSTEM = 18,654.2m^2

1 YEAR FLOW = 0.298m^3/S
3 MONTH FLOW = 0.149m^3/S

C2 - CATCHMENTS DIRECTED TO JELLYFISH SYSTEM (FIELD LOW FLOW DIVERSION SYSTEM) = 4414.6m^2

1 YEAR FLOW = 0.042m^3/S
3 MONTH FLOW = 0.021m^3/S

C3 - CATCHMENT TO BYPASS JELLYFISH SYSTEM = 878.2m^2

ISSUED FOR APPROVAL

SURVEY INFORMATION
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DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

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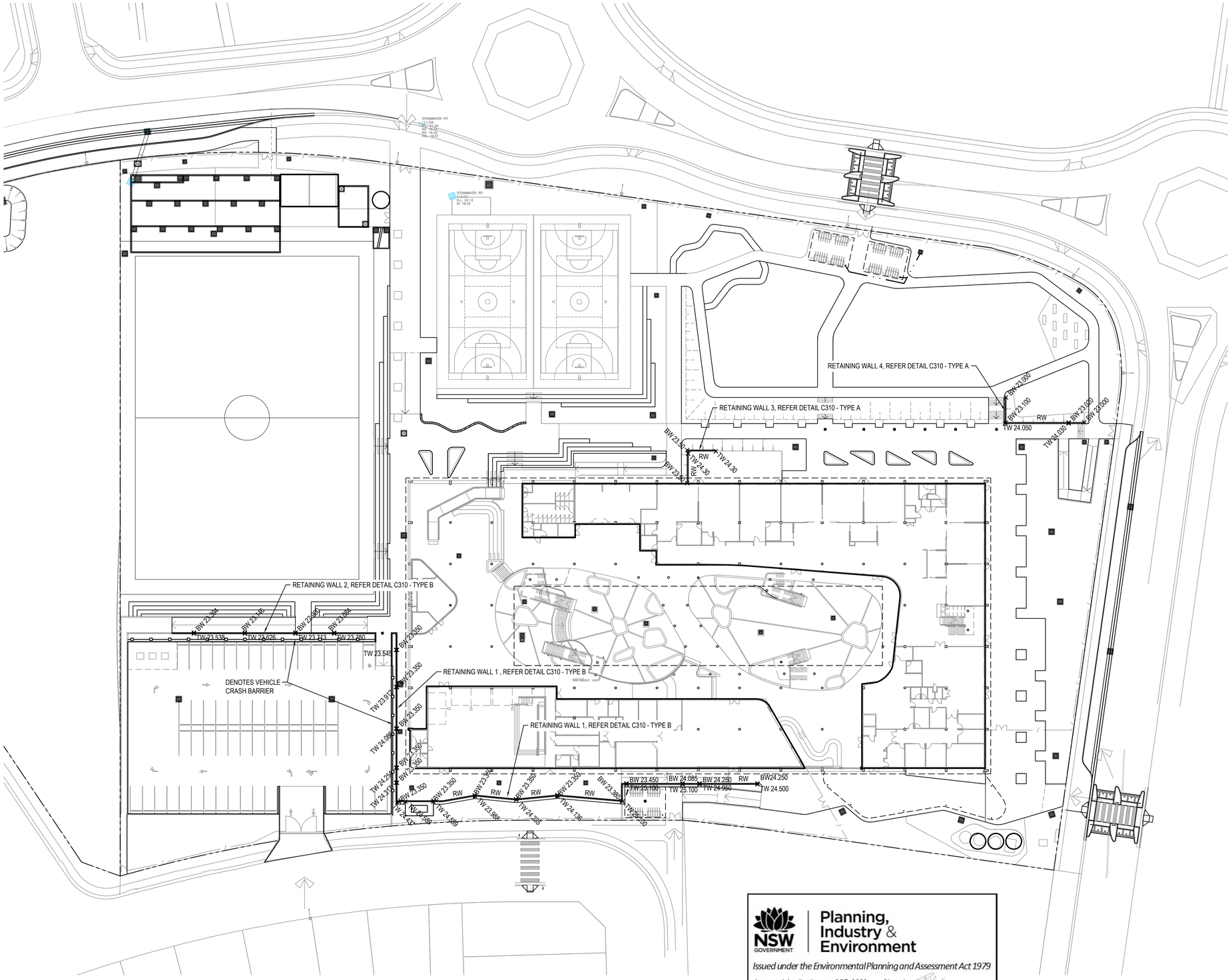
Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: DETAIL CATCHMENT PLAN

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:400

Drawing number: 19D28_SSDA_C251

Revision: 04



RETAINING WALL PLAN

SCALE 1:400

0 8 16 24 32 40m

8 6 4 2

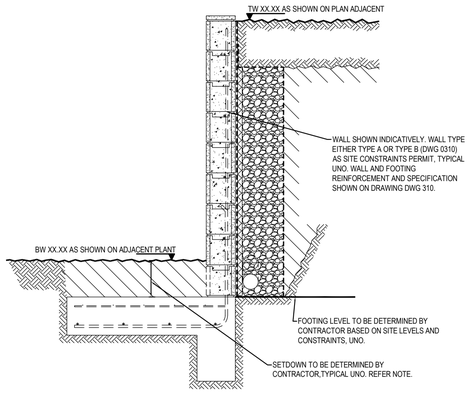
SCALE 1:400

LEGEND

RW — PROPOSED 190 BLOCK WORK RETAINING WALL

RETAINING WALLS NOTES

1. DRAINAGE SHALL BE PROVIDED AS SHOWN ON THE DRAINAGE DRAWINGS.
2. BACKFILLING SHALL BE CARRIED OUT AFTER GROUT OR CONCRETE HAS REACHED A MINIMUM STRENGTH OF 0.85fc. BACKFILLING SHALL BE APPROVED GRANULAR MATERIAL COMPACTED IN LAYERS NOT EXCEEDING 200mm TO 95% STANDARD COMPACTION UNLESS NOTED OTHERWISE.
3. PROVIDE WATERPROOFING TO BACK WALLS AS SPECIFIED OR NOTED.
4. WHERE RETAINING WALLS RELY ON CONNECTING STRUCTURAL ELEMENTS FOR STABILITY, DO NOT BACKFILL AGAINST THE WALL UNLESS IT IS ADEQUATELY PROPPED OR THE ELEMENTS HAVE BEEN CONSTRUCTED AND HAVE SUFFICIENT STRENGTH TO WITHSTAND THE LOADS.
5. FOR ALL TEMPORARY BATTERS OBTAIN GEOTECHNICAL ENGINEERS RECOMMENDATIONS.



FOOTING SETDOWN AND STEPS TO BE DETERMINED ON-SITE BY CONTRACTOR TO SUIT SITE CONDITIONS AND CONSTRAINTS. IF REQUIRED, CONTACT LANDSCAPE ARCHITECT FOR PLANTING SETDOWN ALLOWANCES AND CIVIL ENGINEER FOR PAVEMENT AND SERVICE SETDOWN ALLOWANCES.

NSW GOVERNMENT | Planning, Industry & Environment

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Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 32 of 35

ISSUED FOR APPROVAL

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Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: RETAINING WALL PLAN

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:400

Drawing number: 19D28_SSDA_C300

Revision: 05

MASONRY CONSTRUCTION:

B1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700 AND AS NOTED ON THE DRAWINGS.

B2 BRICK AND BLOCK COMPRESSIVE STRENGTH (f'uc) SHALL BE 15 MPa MINIMUM UNO. STRENGTH GRADE SHALL BE CLEARLY INDICATED ON THE DELIVERY DOCKETS.

B3 JOINT MORTAR SHALL BE OF CLASS M3 WITH 1:1:6 (CEMENT: LIME: SAND) PROPORTIONS BY VOLUME AND COMPLY WITH AS3700. MORTAR JOINTS SHALL BE 10 mm THICK AND HAVE A MAXIMUM TOOLED DEPTH OF 3 mm UNO.

B4 NON-LOAD BEARING WALLS SHALL BE SEPARATED FROM THE LOAD-BEARING ELEMENTS BY 15 mm THICK 'CANEITE' OR EXPANDED POLYSTYRENE UNO AT BOTH HORIZONTAL AND VERTICAL FACES.

NON-LOAD BEARING WALLS SHALL BE TIED TO THE SOFFITS OF BEAMS OR SLABS OVER BY USING 'MET 4-1' TIES (OR APPROVED EQUIVALENT), AT 800 mm MAX. CENTRES, UNO ON THE DRAWINGS, TO MANUFACTURER'S SPECIFICATIONS

B5 WHERE CONCRETE SLABS BEAR ON UNREINFORCED MASONRY, INCLUDING CLAY BRICKS, RENDER THE BEARING SURFACE OF THE MASONRY WALL WITH 1:3 (CEMENT : SAND) MORTAR TO ACHIEVE A LEVEL SURFACE AND PLACE A PRE-GREASED METAL SLIP JOINT PROTECTED BY 0.2 mm POLYETHYLENE SHEET TAPED TO THE FORMWORK BEFORE PLACING CONCRETE. SPECIAL DETAILS SUCH AS WATER-PROOFING MAY APPLY FOR ROOF SLABS OR SIMILARLY EXPOSED ELEMENTS.

B6 CONTROL JOINTS

1. CONTROL JOINTS SHALL BE PROVIDED IN MASONRY WALLS AS PER THE TABLE BELOW UNLESS CLOSER SPACINGS ARE SPECIFIED ELSEWHERE IN THE DOCUMENTATION.

MASONRY TYPE	LOCATION	JOINT SIZE (mm)	SPACING (m)
CONCRETE MASONRY	- EXTERNAL	10	7.0
	- EXTERNAL (WITH OPENINGS > 900mm IN HEIGHT)	10	5.0
	- INTERNAL (FACE FINISHED)	10	6.0
	- INTERNAL (RENDERED)	10	5.0
LIGHT-WEIGHT MASONRY	- INTERNAL / EXTERNAL	10	6.0
CLAY MASONRY	- INTERNAL / EXTERNAL	15	6.0 *
	- PARAPET WALLS	15	4.0

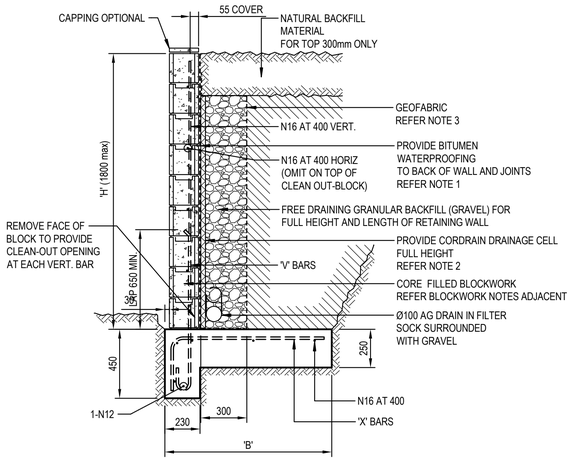
* - FOR REACTIVE ' CLASS M' SITES ONLY. REFER TABLE 4.3 OF AS3700.2011 FOR ARTICULATION JOINTS IN CLAY MASONRY.

2. CONTROL JOINTS SHALL BE PLACED AT HALF THE SPECIFIED SPACING FROM A CORNER. PROVIDE JOINTS TO MATCH JOINTS IN THE SUPPORTING STRUCTURE.
3. CONTROL JOINTS MUST BE KEPT FREE OF MORTAR AND SEALED WITH A POLYETHYLENE FOAM BACKING ROD SQUEEZED INTO THE GAP AND A GUNNED-IN MASTIC SEALANT. IF THE WALL IS TO BE FIRE-RATED, A FIRE-RATED SEALING SYSTEM WILL BE REQUIRED INSTEAD.

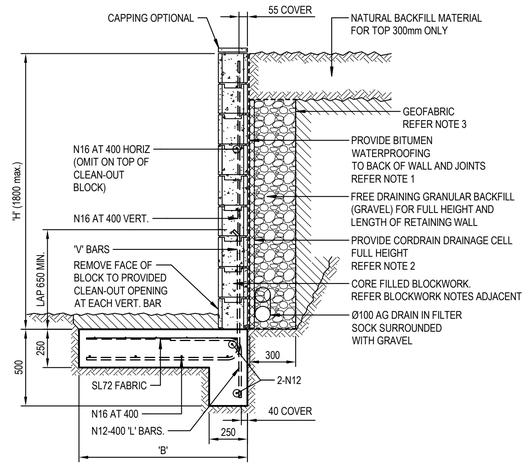
B7 BLOCKWORK

1. IN CORE-FILLED BLOCKWORK, EXCESS MORTAR PROTRUDING INTO THE CORES SHALL BE REMOVED BY RODDING AFTER EACH COURSE IS LAID. EVERY CORE FILLED WITH GROUT SHALL HAVE A CLEANOUT BLOCK IN THE BOTTOM COURSE.
2. REINFORCEMENT SHALL BE PLACED AND SECURELY TIED IN POSITION AS SHOWN ON THE DRAWINGS. STARTER BARS SHALL BE HELD IN PLACE BY TYING TO HORIZONTAL BARS AT CLEANOUT BLOCKS. PROVIDE COVER TO REINFORCEMENT AS SHOWN IN THE DETAILS.
3. CORE FILLING GROUT SHALL BE AS NOTED IN CONCRETE NOTES IN LIFTS NO MORE THAN 1200mm IN HEIGHT.

Element	Slump	Max. Agg. Size	Cement Type	Exposure Classifn.	Min. Conc. Grade (f'c) MPa U.N.O	Conc. Cover (U.N.O.)
Core Filling Grout	230±30	10	GP	-	20	-



200 SERIES BLOCK WALL - TYPE A



200 SERIES BLOCK WALL - TYPE B

RETAINING WALL SECHEDULE - TYPE A

TOTAL HEIGHT 'H' (mm)	HEIGHT OF BLOCK TYPE			'B' (mm)	'V' & 'X' BARS	'K' BARS
	150 SERIES	200 SERIES	300 SERIES			
800	800	-	-	800	N12 AT 400	-
1000	1000	-	-	900	N12 AT 400	-
1200	1200	-	-	1000	N12 AT 400	-
1400	-	1400	-	1100	N16 AT 400	-
1600	-	1600	-	1200	N16 AT 400	-
1800	-	1800	-	1400	N16 AT 400	-

NOTES:

1. ENSURE REAR FACE OF RETAINING WALL IS FULLY WATERPROOFED. USE EMER-PROOF ECOFLEX OR APPROVED EQUIVALENT IN ACCORDANCE WITH MANUFACTURERS SPECIFICATION. EG: 2 COATS min. APPLIED IN OPPOSITE DIRECTIONS AND ALLOWED TO CURE FOR 7 DAYS. (TO BE CONIRMED BY THE ARCHITECT)
2. INSTALL FULL HEIGHT DRAINAGE CELL TO REAR OF WALL, USE NYLEX CORDRAIN/18 OR APPROVED EQUIVALENT, AT 1500 CENTRES.
3. PROVIDE GEOFABRIC MATERIAL AS SEPARATION BETWEEN GRANULAR BACKFILL (GRAVEL) AND NATURAL BACKFILL MATERIAL. USE BIDIM A24 OR APPROVED EQUIVALENT.
4. MINIMUM ALLOWABLE BEARING PRESSURE AT BASE = 150 kPa

RETAINING WALL SCHEDULE - TYPE B

TOTAL HEIGHT 'H' (mm)	HEIGHT OF BLOCK TYPE		'B' (mm)	'V' & 'X' BARS	'K' BARS
	200 SERIES	300 SERIES			
800	800	-	800	N16 AT 400	-
1000	1000	-	1200	N16 AT 400	-
1200	1200	-	1500	N16 AT 400	-
1400	1400	-	1800	N16 AT 400	-
1600	1600	-	2100	N16 AT 400	-
1800	1800	-	2300	N16 AT 200	-

NOTES:

1. ENSURE REAR FACE OF RETAINING WALL IS FULLY WATERPROOFED. USE EMER-PROOF ECOFLEX OR APPROVED EQUIVALENT IN ACCORDANCE WITH MANUFACTURERS SPECIFICATION. EG: 2 COATS min. APPLIED IN OPPOSITE DIRECTIONS AND ALLOWED TO CURE FOR 7 DAYS. (TO BE CONIRMED BY THE ARCHITECT)
2. INSTALL FULL HEIGHT DRAINAGE CELL TO REAR OF WALL, USE NYLEX CORDRAIN/18 OR APPROVED EQUIVALENT, AT 1500 CENTRES.
3. PROVIDE GEOFABRIC MATERIAL AS SEPARATION BETWEEN GRANULAR BACKFILL (GRAVEL) AND NATURAL BACKFILL MATERIAL. USE BIDIM A24 OR APPROVED EQUIVALENT.
4. MINIMUM ALLOWABLE BEARING PRESSURE AT BASE = 150 kPa

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0 400 800 1200 1600 2000mm

400 200

SCALE 1:20

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Project: MARSDEN PARK PUBLIC SCHOOL
NORTHBOURNE DR MARSDEN PARK NSW

Title: RETAINING WALL DETAILS

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
Checked	Approved	Scale @A1
N.Wetzlar	A.Francis	1:20

Drawing number: 19D28_SSDA_C310

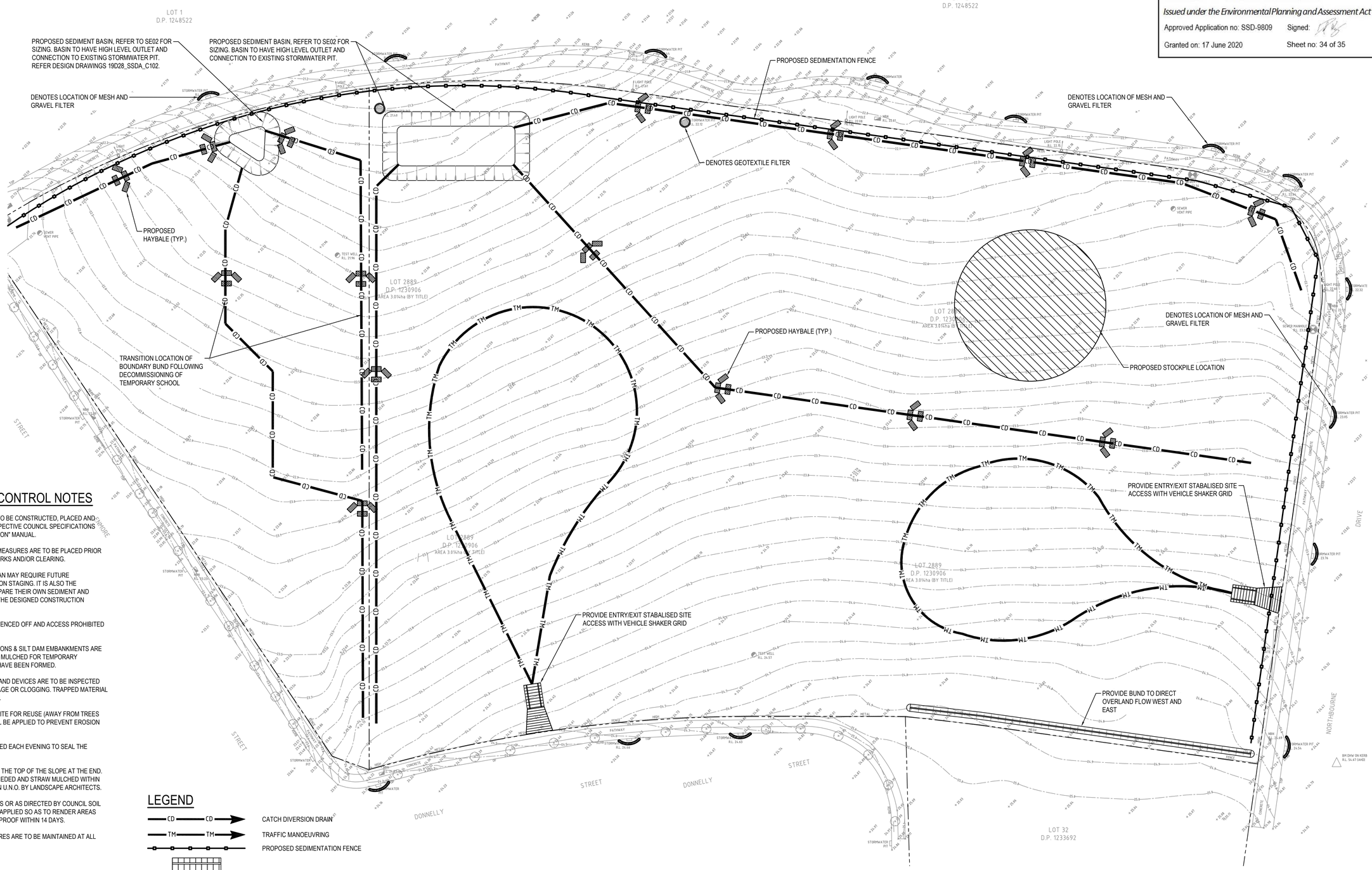
Revision: 05

Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application no: SSD-9809 Signed:

Granted on: 17 June 2020 Sheet no: 34 of 35



SEDIMENT & EROSION CONTROL NOTES

- ALL SEDIMENT CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH RESPECTIVE COUNCIL SPECIFICATIONS AND LANDCOM'S "SOIL AND CONSTRUCTION" MANUAL.
- ALL PERIMETER & SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN EARTH WORKS AND/OR CLEARING.
- THE SEDIMENT & EROSION CONTROL PLAN MAY REQUIRE FUTURE ADJUSTMENT TO REFLECT CONSTRUCTION STAGING. IT IS ALSO THE CONTRACTORS RESPONSIBILTY TO PREPARE THEIR OWN SEDIMENT AND EROSION CONTROL PLAN WHICH SUITS THE DESIGNED CONSTRUCTION STAGING.
- FILTRATION BUFFER ZONES ARE TO BE FENCED OFF AND ACCESS PROHIBITED TO ALL PLANT AND MACHINERY.
- ALL TEMPORARY EARTH BERMS, DIVERSIONS & SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED & MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
- ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING. TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE LOCATION.
- ALL TOPSOIL IS TO BE STOCKPILED ON SITE FOR REUSE (AWAY FROM TREES AND DRAINAGE LINES). MEASURES SHALL BE APPLIED TO PREVENT EROSION OF THE STOCKPILES.
- ALL EARTHWORK AREAS SHALL BE ROLLED EACH EVENING TO SEAL THE EARTHWORKS.
- ALL FILLS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND STRAW MULCHED WITHIN 14 DAYS OF COMPLETION OF FORMATION U.N.O. BY LANDSCAPE ARCHITECTS.
- UPON COMPLETION OF ALL EARTHWORKS OR AS DIRECTED BY COUNCIL SOIL CONSERVATION TREATMENTS SHALL BE APPLIED SO AS TO RENDER AREAS THAT HAVE BEEN DISTURBED, EROSION PROOF WITHIN 14 DAYS.
- EROSION AND SILT PROTECTION MEASURES ARE TO BE MAINTAINED AT ALL TIMES.

LEGEND

- CD — CATCH DIVERSION DRAIN
- TM — TRAFFIC MANOEUVRING
- PROPOSED SEDIMENTATION FENCE
- PROPOSED VEHICLE SHAKER GRID
- PROPOSED STOCKPILE LOCATION
- PROPOSED STABILISED SITE ACCESS
- PROPOSED HAYBALE FILTER

SEDIMENT & EROSION CONTROL PLAN

SCALE 1:400

0 8 16 24 32 40m

8 6 4 2

SCALE 1:400

ISSUED FOR APPROVAL

SURVEY INFORMATION
SURVEYED BY LCG
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM191370

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
05	ISSUED FOR SSDA APPROVAL ONLY	IK	NW	15.05.2020
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01	PRELIMINARY	IK	NW	13.02.2020

Client: ADCO CONSTRUCTIONS PTY LTD

Architect: NBRS ARCHITECTURE

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Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW

Title: SEDIMENT & EROSION CONTROL PLAN

Drawn	Designed	Date
I.Khachab	N.Wetzlar	JAN 2020
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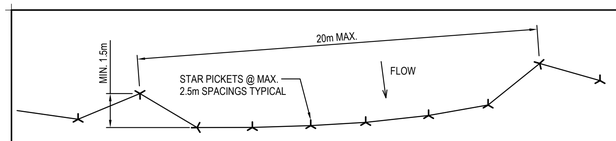
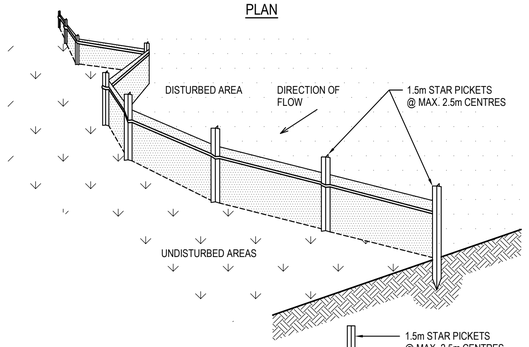
N.Wetzlar	A.Francis	1:400

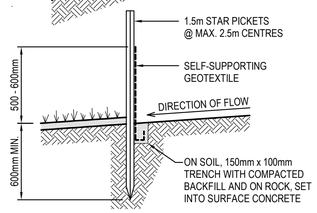
Drawing number: 19D28_SSDA_SE01

Revision: 05



PLAN





SECTION DETAIL

SEDIMENT FENCE

N.T.S.

SEDIMENT FENCE CONSTRUCTION NOTES:

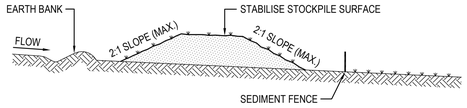
1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.

2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.

3. 3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND @ 2.5m INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.

4. 4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.

5. 5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP. 6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.



STOCKPILE CONSTRUCTION NOTES:

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE PLACED FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED E.S.C.P. OR S.W.M.P. TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWNSLOPE.

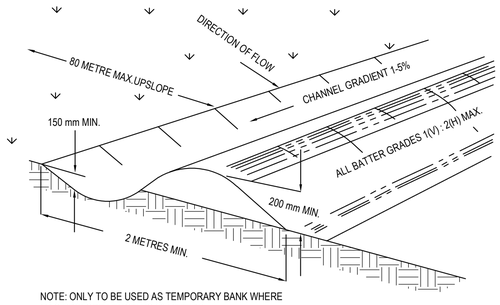
STOCKPILES

N.T.S.

CONSTRUCTION SEQUENCE

WORKS SHALL BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:

1. INSTALL SEDIMENT FENCING AND CUT DRAINS TO MEET THE REQUIREMENTS OF THE SEDIMENT AND EROSION CONTROL PLAN. WASTE COLLECTION BINS SHALL BE INSTALLED ADJACENT TO SITE OFFICE.
2. CONSTRUCT STABILISED SITE ACCESS IN ACCORDANCE WITH LOCAL COUNCIL'S REQUIREMENTS.
3. REDIRECT CLEAN WATER AROUND THE CONSTRUCTION SITE.
4. INSTALL SEDIMENT CONTROL PROTECTION MEASURES AT ALL NATURAL AND MAN-MADE DRAINAGE STRUCTURES. MAINTAIN UNTIL ALL THE DISTURBED AREAS ARE STABILISED.
5. CLEAR AND STRIP THE WORK AREAS. MINIMISE THE DAMAGE TO THE GRASS AND LOW GROUND COVER OF NON-DISTURBED AREAS.
6. ANY DISTURBED AREAS, OTHER THAN BUILDING PAD AREAS, SHALL IMMEDIATELY BE COVERED WITH SITE TOPSOIL WITHIN 7 DAYS OF CLEARING. BUILDING PAD AREAS SHALL BE COVERED WITH BITUMEN EMULSION AS SPECIFIED.
7. APPLY PERMANENT STABILISATION TO SITE (LANDSCAPING).



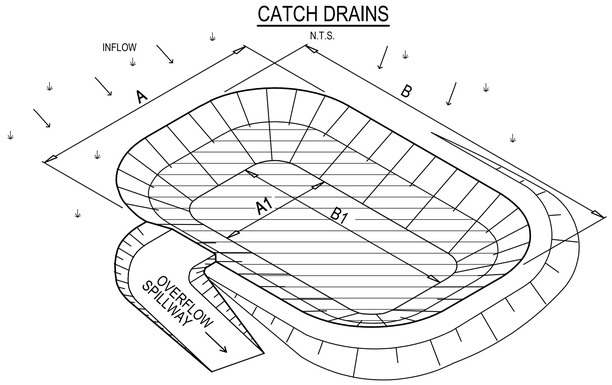
NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAC.UPSLOPE LENGTH IS 80 METERS.

CATCH DRAIN CONSTRUCTION NOTES:

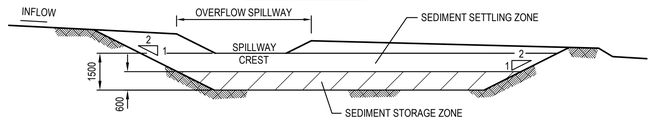
1. CONSTRUCT ALONG GRADIENT AS SPECIFIED.
2. MAXIMUM SPACING BETWEEN BANKS SHALL BE 80 METRES.
3. DRAINS TO BE OF PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
4. EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
5. CONSTRUCTION IS OF A TEMPRORARY NATURE AND SHALL BE COMPACTED AT THE END A DAYS WORK OR IMMEDIATELY PRIOR RAIN.
6. ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED INTO SEDIMENT BASIN OR SIMILAR.
7. DISCHARGE RUNOFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILISED OR AN UNDISTURBED DISPOSAL AISTE WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.
8. COMPACT WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION FOR MORE THAN FIVE DAYS.
9. EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.

CATCH DRAINS

N.T.S.



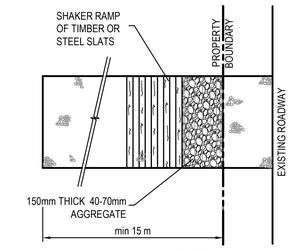
PERSPECTIVE VIEW



TYPICAL SECTION

TYPE 'D' & 'F' SEDIMENTATION BASIN

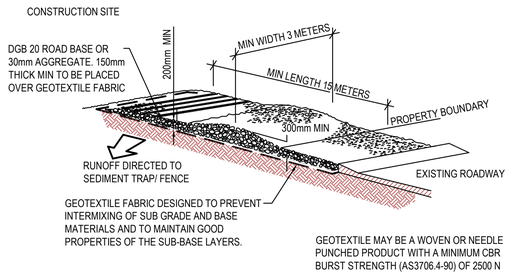
N.T.S.



PLAN

STABILISED SITE ACCESS WITH SHAKER RAMP

N.T.S.

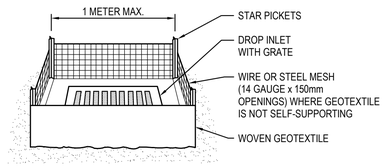


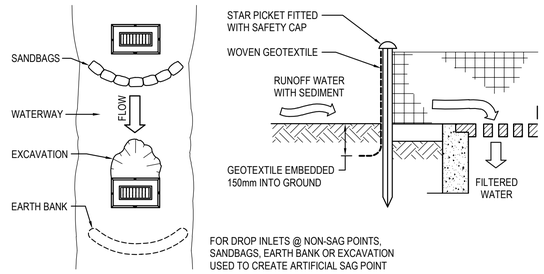
STABILISED SITE ACCESS WITH SHAKER RAMP

N.T.S.

NOTES:

1. THIS DEVICE IS TO BE LOCATED AT ALL EXITS FROM CONSTRUCTION SITE.
2. THIS DEVICE IS TO BE REGULARLY CLEANED OF DEPOSITED MATERIAL SO AS TO MAINTAIN A 50mm DEEP SPACE BETWEEN PLANKS.
3. ANY UNSEALED ROAD BETWEEN THIS DEVICE AND NEAREST ROADWAY IS TO BE TOPPED WITH 100mm THICK 40-70mm SIZE AGGREGATE.
4. ALTERNATIVELY, THREE(3) PRECAST CONCRETE CATTLE GRIDS (AS MANUFACTURED BY "HUMES CONCRETE MAY BE USED. 1, 2 & 3 ABOVE ALSO APPLY.



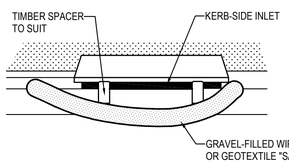


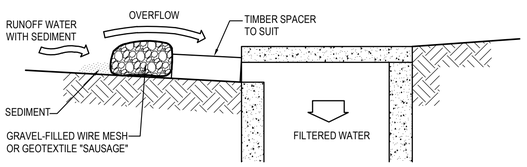
GEOTEXTILE INLET FILTER CONSTRUCTION NOTES:

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE.
2. PICKET SPACING TO BE MAXIMUM 1.0m.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILES UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER

N.T.S.



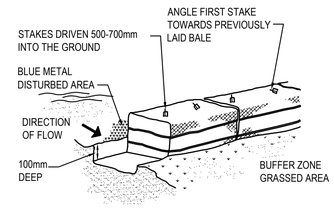


MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:

1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
2. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
3. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
4. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
5. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY CAN FIRMLY ABUT EACH OTHER AND SEDIMENT / LADEN WATERS CANNOT PASS BETWEEN.

MESH & GRAVEL INLET FILTER

N.T.S.



HAYBALE BARRIERS

N.T.S.

SEDIMENT BASIN SIZING

1. THE SEDIMENT BASIN SHALL BE CONSTRUCTED ON A RATE PER HECTARE BASIS AND HAS BEEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE LANDCOM MANUAL "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", FOR SEDIMENTATION **TYPE D** SOILS. THE DISTURBED AREA WITHIN THIS CATCHMENT AT ANY ONE TIME SHOULD BE LIMITED TO AN AREA FOR WHICH EACH SEDIMENT BASIN CAN HANDLE. EACH BASIN SHALL BE SIZED IN ACCORDANCE WITH THE TABLE BELOW.

SEDIMENT BASIN SIZING TYPE D SOILS	
VOLUMETRIC RUNOFF COEFFICIENT, CV	0.25 (APPENDIX F - TABLE F2)
75TH PERCENTILE 5 DAY TOTAL RAINFALL DEPTH, R	19.00 mm
CATCHMENT AREA, A	1 Ha (UNIT AREA)
SETTLING ZONE VOLUME (PER HECTARE) 10 CV A R	47.50 m^3
DISTURBED CATCHMENT AREA	1 Ha (UNIT AREA)
R K LS P C	110.87 m^3
SEDIMENT ZONE VOLUME (0.17 A (R K LS P C)/1.3	14.5m^3 < 50% SETTLING VOL.ADOPT 48.3 m^3 PER HECTARE
TOTAL SEDIMENT BASIN VOLUME REQUIRED :	71.25 m^3/Ha

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

2. THE FOLLOWING DESIGN PARAMETERS HAVE BEEN ASSESSED FOR THE SITE:

CONSTRAINT	VALUE	(SOURCE)*
RAINFALL EROSIVITY (R-FACTOR)	2350	APPENDIX B
LENGTH/SLOPE GRADIENT FACTOR, LS	0.955	APPENDIX A - TABLE A1
SOIL ERODIBILITY (K-FACTOR)	0.038	(ASSUMED BASED ON SOIL TYPE)
EROSION CONTROL PRACTICE FACTOR (P-FACTOR)	1.3 (COMPACTED)	APPENDIX A - TABLE A2
COVER FACTOR (C-FACTOR)	1.0 (DURING EARTHWORKS)	APPENDIX A - FIGURE A5
CALCULATED SOIL LOSS, A (RUSLE EQUATION)	110.87 t/Ha/YR	A = R K LS P C
SOIL HYDROLOGIC GROUP	GROUP C	(ASSUMED BASED ON SOIL TYPE)
SEDIMENT TYPE	TYPE D	(ASSUMED BASED ON SOIL TYPE)
75TH PERCENTILE 5-DAY RAINFALL EVENT	19.0 mm (BLACKTOWN)	TABLE 6.3A

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

BASIN MANAGEMENT

1. THE CAPTURED STORMWATER IN THE SETTLING ZONE SHOULD BE DRAINED TO MEET THE MINIMUM STORAGE CAPACITY REQUIRED WITHIN A FIVE (5) DAY PERIOD FOLLOWING RAINFALL, PROVIDED THE ACCEPTABLE WATER QUALITY (NFR) AND TURBIDITY HAVE BEEN ACHIEVED.

2. CHEMICAL FLOCCULENT SUCH AS GYPSUM MAY BE DOSED TO AID SETTLING WITHIN 24 HOURS OF CONCLUSION OF EACH STORM. THE APPLIED DOSING RATES SHOULD ACHIEVE THE TARGET QUALITY WITHIN 36 TO 72 HOURS OF THE STORM EVENT.

3. INSPECT THE SEDIMENT BASINS AFTER EACH RAINFALL EVENT AND/OR WEEKLY. ENSURE THAT ALL SEDIMENT IS REMOVED ONCE THE SEDIMENT STORAGE ZONE IS FULL (REFER TO PEGS INSTALLED IN BASINS IN ACCORDANCE WITH THE SWMP). ENSURE THAT OUTLET AND EMERGENCY SPILLWAY WORKS ARE MAINTAINED IN A FULLY OPERATIONAL CONDITION AT ALL TIMES.

SOWING SEASON	SEED MIX
AUTUMN/WINTER	OATS@40KG/Ha + JAPANESE MILLET@10kg/Ha
SPRING/SUMMER	OATS@20kg/Ha + JAPANESE MILLET@20kg/Ha

NOTE : THESE PLANT SPECIES ARE FOR TEMPORARY REVEGETATION ONLY. THEY WILL ONLY PROVIDE PROTECTION FROM EROSION FOR SIX MONTHS. WHERE THE LOTS ARE TO BE LEFT UNDEVELOPED FOR A LONGER PERIOD, THE CONTRACTOR SHALL SEEK ADVICE FROM THE SITE SUPERINTENDENT AS TO MORE APPROPRIATE REVEGETATION METHODS.

REVEGETATION IN ACCORDANCE WITH THE ABOVE TABLE WILL BE ENHANCED BY ADDING LIME AT A RATE OF 4kg/TONNE OF TOPSOIL AND 7.5kg/TONNE OF SUBSOIL.

4. THE LONG TERM GROUND COVER FACTORS FOR THE CONSTRUCTION WORKS IS NOT TO EXCEED THE FOLLOWING LIMITS:

LAND	MAXIMUM C-FACTOR	REMARKS
WATERWAYS AND OTHER AREAS OF CONCENTRATED FLOWS, POST CONSTRUCTION	0.05	APPLIES AFTER TEN WORKING DAYS OF COMPLETION OF FORMATION AND BEFORE CONCENTRATED FLOWS ARE APPLIED. FOOT AND VEHICULAR TRAFFIC IS PROHIBITED IN THIS AREA AND 70% GROUND COVER IS REQUIRED.
STOCKPILES, POST CONSTRUCTION	0.10	APPLIES AFTER TEN WORKING DAYS FROM COMPLETION OF FORMATION. 60% GROUND COVER IS REQUIRED.
ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION.	0.15	APPLIES AFTER 20 DAYS OF INACTIVITY, EVEN THOUGH WORKS MAY BE INCOMPLETE. 50% GROUND COVER IS REQUIRED.

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Granted on: 17 June 2020 Sheet no: 35 of 35

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Project: MARSDEN PARK PUBLIC SCHOOL NORTHBOURNE DR MARSDEN PARK NSW
Title: SEDIMENT & EROSION CONTROL TYPICAL SECTIONS & DETAILS

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