SEMP NOTE:
THESE PLANS RELATE TO SURFACE WATER MANAGEMENT AND SHOULD BE READ IN CONJUNCTION WITH A BROADER SEMP DOCUMENT (ENVIRONMENTAL ASSESSMENT AND WORKS) PROPOSED FOR THE SITE BY GLENVILL TO ADDRESS BROADER MANAGEMENT ISSUES RELATED TO:

- **TREE HEALTH**
- **BANK SLUMPING**
- **GROUNDWATER MANAGEMENT**

HEIDELBERG ROAD
CLIVE STREET
HEIDELBERG ROAD
CHANDLER HIGHWAY
ARCARE SEMP BY OTHERS
PARKVIEW APARTMENTS SEMP BY OTHERS
LPD
LPD (TBC)
MILLS BOULEVARD
MUSSEN PLACE
ALPHA LOT SEMP BY OTHERS
EXISTING STORMWATER PIPE DEMOLISHED
DEEP EXCAVATION
LPD
BOULEVARD
PARKVIEW ROAD
UHOMES WORKS AS PER APPROVED SEMP
END OF EXISTING PIPE TO BE BLOCKED OFF
LPD
POTTER WALK
STAGE ARTISAN WORKS AS PER APPROVED SEMP
EXISTING STORMWATER PIPE DEMOLISHED
LPD
LPD
MILLS BOULEVARD
MILLS BOULEVARD
WOOD & GRIEVE WORKS COMPLETED AS PER APPROVED SEMP
LPD
DESBROWE WALK
BEKWITH AVENUE
DEEP EXCAVATION
STAGE WORKSHOP NORTH WORKS AS PER APPROVED SEMP
CHANDLER HIGHWAY
LATROBE AVENUE
BECKWITH AVENUE
PARKVIEW ROAD
EXISTING STORMWATER PIPE DEMOLISHED
LPD
CHARLES
STREET
STAGE HOUSE & LAND WORKS COMPLETED AS PER APPROVED SEMP
BARRIER KERB (B3)
BALANCE OF SITE WORKS AS PER APPROVED SEMP
LPD
LPD
LATROBE AVENUE
BECKWITH AVENUE
PARKVIEW ROAD
LUGTON STREET
GPT
STAGE RIVERFRONT AS PER APPROVED SEMP
ALPHINGTON PAPERMILL INTERNAL DRAINAGE BASED ON OPERATIONAL PLANS (NOT VISABLE ON SITE)
LPD
LPD
LPD
BOUNDARY
30m
RIVERFRONT
WET AREA
WET AREA
M2
EX. BANK SLIPPAGE
EX. BANK SLIPPAGE
CHANDLER HIGHWAY
YARRA RIVER
EXISTING STORMWATER PIPE OUTFALLS COMPLETELY BLOCKED AS INSPECTED ON SITE 13/09/2019

LEGEND

- SEMP BY OTHERS (NOT GLENVILL)
- TEMPORARY SEDIMENT CAPTURE PONDS
- DEEP EXCAVATION
- EXISTING BANK SLIPPAGE AREA AS INSPECTED ON SITE 13/09/2019
- WET AREA EXTENTS AS INSPECTED ON SITE 13/09/2019
- COMPLETED WORKS
- CONSTRUCTED DRAINAGE
- INTERNAL AMCOR PAPER MILL DRAINAGE TO BE DECOMMISSIONED OR GROUTED DURING DEVELOPMENT (CONDITION OF DRAINS NOT VERIFIED)
- EXISTING EXTERNAL COUNCIL DRAINAGE
- INTERNAL AMCOR PAPER MILL DRAINS (DEMOLISHED)
- FUTURE DRAINAGE (INCLUDING CURRENTLY UNDER CONSTRUCTION)
- ALPHINGTON PAPERMILL INTERNAL DRAINAGE AS SHOWN ON AMCOR OPERATIONAL PLANS (NOT VISIBLE ON SITE)
- LPD — ULTIMATE LEGAL POINT OF DISCHARGE AS PER REEDS R&D PLANS
- INDICATIVE EXISTING TEMPORARY SEMP DRAINAGE SWALES
- INTERNAL SEMP AREA CATCHMENT BOUNDARY
- GPT
- M2 — EXISTING DRAINAGE PIT No.
- EX. BANK SLIPPAGE — INDICATIVE LOCATIONS OF BANK SLIPPAGES (DETAILED LOCATIONS REFER REEDS FEATURE SURVEY PLAN 22185-G-FL-M-D)

0 10 20 40
Scale 1:1000 @ A1

PRELIMINARY PLAN ONLY
NOT APPROVED FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE COPIED OR SCALED

VERSION	REMARKS		
E	SEMP NOTE ADDED COUNCIL COMMENTS	03.03.20	SJ
D	MINOR UPDATES, SHEETS 3 AND 4 ADDED	25.11.19	MW
C	MINOR REVISIONS FOR CLARITY	07.11.19	SJ
B	AMENDED AS PER COMMENTS DATED 03/10/19	11.10.19	PB
A	PRELIMINARY ISSUE	24.09.19	PB

DRAWN BY	P. BRACOULIAS	DESIGNED BY	S. JELICIC
MELWAY	31, B11	CHECKED BY	J. MCKERNAN
DATUM	AHD	AUTHORISED BY	S. RAVIDA

REEDS CONSULTING
LAND SURVEYING
CIVIL ENGINEERING
PLANNING
DEVELOPMENT CONSULTING
www.reedsconsulting.com.au
engineering@reedsconsulting.com.au
Lvl 6, 440 Elizabeth Street Melbourne Victoria 3000
p [03] 8660 3000

CITY OF YARRA
YARRABEND - PARK PRECINCT
RECORD OF EXISTING SITE & SEMP CONDITIONS
REEDS CONSULTING & CSC SITE VISIT 13/09/2019

DRAWING No. SEMP1 | VERSION E
REFERENCE 22185G/SEMP
SHEET 1 OF 4

CONSTRUCTION MANAGEMENT PLAN (CMP) / SEMP INDEX				
STAGE	**CMP/SEMP DOCUMENT**	**REVISION**	**COUNCIL APPROVED (Y/N)**	**APPROVAL DATE**
ALPHA LOT *(Not owned by Glenvill)*				
CAYDON *(Not owned by Glenvill)*				
ARTISAN	Artisan East, 81 Latrobe Street	Rev 02	Y - *(CMP Issued Jan 2020)*	TBA
ARCARE *(Not owned by Glenvill)*				
PARKVIEW APARTMENTS	(Stage 1) Parkview Apartments, 680 Heidelberg Road, Alphington	Rev 1 (01-06-2019)	Y	Jul-19
	(Stage 2) Parkview Apartments, 680 Heidelberg Road, Alphington	Rev 5 (05-09-2019)	Y	Jan-20
U-HOME *(Not owned by Glenvill)*				
HOUSE & LAND *(Works Complete)*				
TERRACE HOUSES *(Works Complete)*				
WORKSHOP NORTH	Yarrabend The Mills Stage 4.1 & 4.2 - 1 Latrobe Avenue	Rev 4 (09-12-2019)	Y - *(CMP Issued Jan 2020)*	TBA
WORKSHOP SOUTH				
OUTER CIRCLE NORTH				
OUTER CIRCLE SOUTH				
WETLAP NORTH				
WETLAP SOUTH				
BOILER HOUSE WEST				
BOILER HOUSE EAST				
RIVERFRONT CENTRAL				
RIVERFRONT EAST				
RIVERFRONT WEST				

N

ALPHA LOT & CAYDON SEMP BY OTHERS. LOT TO BE SHAPED TO MANAGE OVERLAND FLOW & INSTALL TEMPORARY DRAIN TO DISCHARGE TO LPD

ARCARE SEMP BY OTHERS SHAPE LAND TO LPD WHERE PRACTICAL

PARKVIEW APARTMENTS SEMP BY OTHERS SHAPE LAND TO LPD WHERE PRACTICAL

UHOMES WORKS AS PER APPROVED SEMP. SHAPE LAND TO LPD WHERE PRACTICAL

END OF EXISTING PIPE TO BE BLOCKED OFF

DEEP EXCAVATION

FILL IN EXISTING LOW AREA AND RESHAPE SITE TO ALLOW GRAVITY DISCHARGE TO IPD

STAGE ARTISAN WORKS AS PER APPROVED SEMP

FILL IN EXISTING LOW AREA AND RESHAPE SITE TO ALLOW GRAVITY DISCHARGE TO IPD

WOOD & GRIEVE WORKS COMPLETED AS PER APPROVED SEMP

DEEP EXCAVATION

STAGE WORKSHOP NORTH WORKS AS PER APPROVED SEMP

STAGE WORKSHOP TO DIRECT FLOWS TO IPD AS SHOWN

BALANCE OF SITE WORKS AS PER APPROVED SEMP. DETAILS REFER SHEET 3 SHAPE LAND TO INDICATIVE TEMPORARY SEMP DRAINAGE SWALES

STAGE HOUSE & LAND WORKS COMPLETED AS PER APPROVED SEMP

EXISTING SEDIMENT CAPTURE PONDS TO BE REMOVED IN ACCORDANCE TO GEOTECH RECOMMENDATIONS AND RESHAPED TO SEDIMENT POND A AS SHOWN

STAGE RIVERFRONT AS PER APPROVED SEMP

PROVIDE 375ø PIPE

976

SEDIMENT POND A INDICATIVE SIZING AND DETAILS REFER SHEET 3 IN ACCORDANCE WITH EPA GUIDELINES (INDICATIVE EXTENT SHOWN TO BE DESIGNED BY OTHERS)

BLANK OFF EXISTING AMCOR OUTFALL DRAINAGE PIPE TO ALLOW INTERNAL FLOWS TO DISCHARGE TO SEDIMENT POND A

INDICATIVE SEDIMENT POND A INTERIM OUTFALL PIPE TO EXISTING PIT 'M2'

LOWTHER STREET
CLIVE STREET
HEIDELBERG ROAD
MILLS
MUSSEN PLACE
PARKVIEW ROAD
BOULEVARD
POTTER WALK
MILLS BOULEVARD
DESBROWE WALK
BEKWITH AVENUE
CHANDLER HIGHWAY
LATROBE AVENUE
CHARLES
STREET
LUGTON STREET
GPT
BOUNDARY
RIVERFRONT
30m
WET AREA
WET AREA
EX. BANK SLIPPAGE
EX. BANK SLIPPAGE
YARRA RIVER
M2
LPD
IPD

OVERALL SITE SEMP NOTES

- IT IS THE RELEVANT DEVELOPER AND CONTRACTOR RESPONSIBILITY TO IMPLEMENT THE PROPOSALS SHOWN ON THIS STRATEGY PLAN AS PART OF DETAILED STAGE-SPECIFIC SEMP PLANS WITH DUE CONSIDERATION FOR SITE CONSTRAINTS AND SPECIFIC COUNCIL AND EPA REQUIREMENTS
- SEMP PLANS TO SATISFY EPA "ENVIRONMENTAL GUIDELINES FOR MAJOR CONSTRUCTION SITES"
- DURING CONSTRUCTION INDIVIDUAL STAGES TO DISCHARGE TO NOMINATED LEGAL POINTS OF DISCHARGE (LPD) OR INTERIM POINT OF DISCHARGE (IPD) AS SHOWN ON THIS PLAN
- STAGE SPECIFIC SEMP MEASURES TO COUNCILS & EPA SATISFACTION
- WHERE INDIVIDUAL STAGES DO NOT MEET EPA DISCHARGE REQUIREMENTS, THE RELEVANT SEMP IS TO DETAIL ADDITIONAL MEASURES TO MANAGE THE DISCHARGE REQUIREMENTS, INCLUDING POTENTIAL TRADE WASTE AGREEMENTS FOR DISPOSAL OF STORMWATER.

MAINTENANCE INSPECTION

- MAINTENANCE OF SWALES AND SEDIMENT POND WITHIN A GIVEN SEMP BOUNDARY IS THE RESPONSIBILITY OF THE RELEVANT MANAGING CONTRACTOR
- SWALES AND SEDIMENT POND TO BE CHECKED AFTER EVERY STORM EVENT OR ON A MINIMUM MONTHLY BASIS, WHICHEVER OCCURS FIRST

SEMP NOTE
THESE PLANS RELATE TO SURFACE WATER MANAGEMENT AND SHOULD BE READ IN CONJUNCTION WITH A BROADER SEMP DOCUMENT (ENVIRONMENTAL ASSESSMENT AND WORKS) PROPOSED FOR THE SITE BY GLENVILL TO ADDRESS BROADER MANAGEMENT ISSUES RELATED TO:
- TREE HEALTH
- BANK SLUMPING
- GROUNDWATER MANAGEMENT

LEGEND

- SEMP BY OTHERS (NOT GLENVILL)
- TEMPORARY SEDIMENT CAPTURE PONDS
- DEEP EXCAVATION
- EXISTING BANK SLIPPAGE AREA AS INSPECTED ON SITE 13/09/2019
- WET AREA EXTENTS AS INSPECTED ON SITE 13/09/2019
- COMPLETED WORKS
- CONSTRUCTED DRAINAGE
- POTENTIAL INTERIM OUTFALL DRAINAGE PIPE (INDICATIVELY SHOWN)
- INTERNAL AMCOR PAPER MILL DRAINAGE TO BE DECOMMISSIONED OR GROUTED DURING DEVELOPMENT (CONDITION OF DRAINS NOT VERIFIED)
- EXISTING EXTERNAL COUNCIL DRAINAGE
- INTERNAL AMCOR PAPER MILL DRAINS (DEMOLISHED)
- FUTURE DRAINAGE (INCLUDING CURRENTLY UNDER CONSTRUCTION)
- (M2) EXISTING DRAINAGE PIT No.
- LPD ULTIMATE LEGAL POINT OF DISCHARGE AS PER REEDS R&D PLANS
- IPD INTERIM POINT OF DISCHARGE TO ENABLE SEMP MANAGEMENT
- INDICATIVE TEMPORARY SEMP DRAINAGE SWALES DETAILS REFER SHEET 3
- INTERNAL SEMP AREA CATCHMENT BOUNDARY
- GPT

0 10 20 40
Scale 1:1000 @ A1

PRELIMINARY PLAN ONLY
NOT APPROVED FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE COPIED OR SCALED

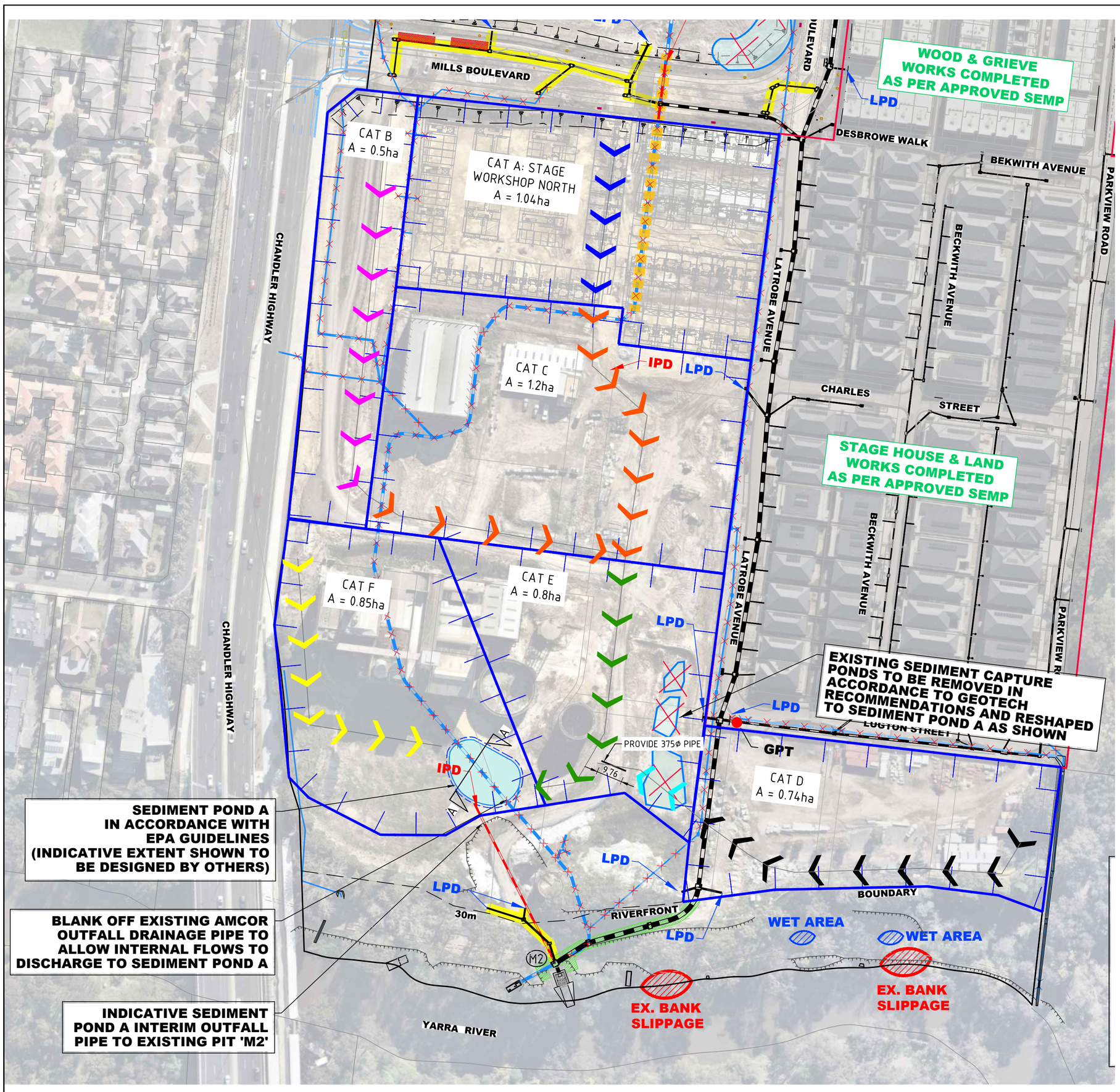
VERSION	REMARKS		
H	SEMP NOTE AMENDED COUNCIL COMMENTS	03.03.20	SJ
G	OVERALL SEMP NOTES AMENDED	24.02.20	SJ
F	ADDED CMP/SEMP INDEX TABLE	17.01.20	PB
E	UPDATED AS PER COMMENTS FROM COUNCIL/GLENVILL	27.11.19	MW
D	UPDATED NOTES AND SWALES LAYOUT, SHEETS ADDED	25.11.19	MW

DRAWN BY	P. BRACOULIAS	DESIGNED BY	S. JELICIC
MELWAY	31, B11	CHECKED BY	J. MCKERNAN
DATUM	AHD	AUTHORISED BY	S. RAVIDA

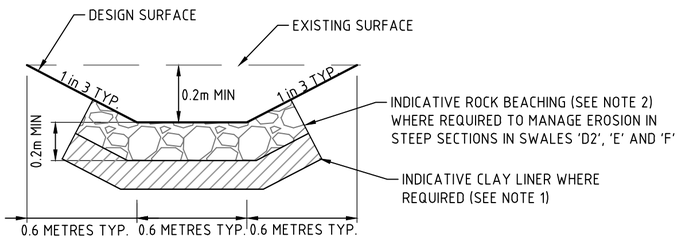
REEDS CONSULTING
LAND SURVEYING
CIVIL ENGINEERING
PLANNING
DEVELOPMENT CONSULTING
www.reedsconsulting.com.au
engineering@reedsconsulting.com.au
Lvl 6, 440 Elizabeth Street Melbourne Victoria 3000
p [03] 8660 3000

CITY OF YARRA
YARRABEND - PARK PRECINCT
OVERALL SEMP STRATEGY PLAN

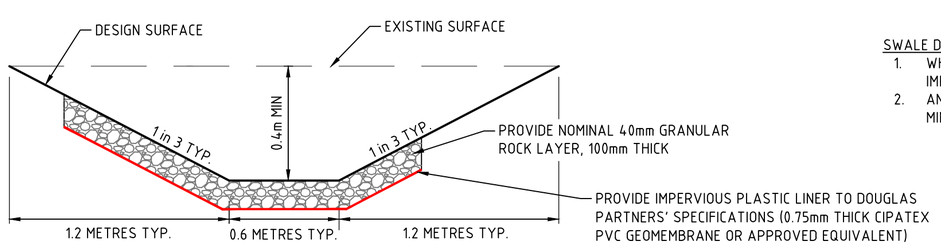
DRAWING No.	VERSION
SEMP2	H
REFERENCE	
22185G/SEMP	
SHEET	
2 OF 4	



SEMP NOTE
THESE PLANS RELATE TO SURFACE WATER MANAGEMENT AND SHOULD BE READ IN CONJUNCTION WITH A BROADER SEMP DOCUMENT (ENVIRONMENTAL ASSESSMENT AND WORKS) PROPOSED FOR THE SITE BY GLENVILL TO ADDRESS BROADER MANAGEMENT ISSUES RELATED TO:
- **TREE HEALTH**
- **BANK SLUMPING**
- **GROUNDWATER MANAGEMENT**



TYPICAL SWALE SECTION
NOT TO SCALE

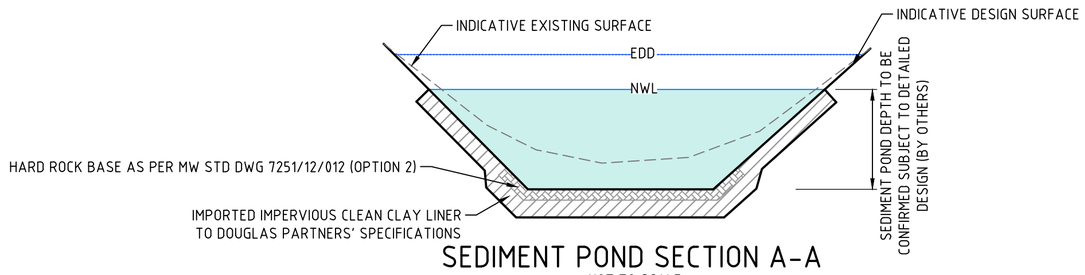


TYPICAL SWALE SECTION D1
NOT TO SCALE

SWALE DESIGN NOTES
1. WHERE GROUND CONDITIONS ARE PERVIOUS, INSTALL APPROVED LINER OR ALTERNATE SELECT IMPERVIOUS CLEAN FILL TO 98% STANDARD COMPACTION TO A MINIMUM DEPTH OF 150mm
2. ANY SWALES STEEPER THAN 1 IN 20 ARE TO BE ROCK BEACHED USING 50-100mm CLEAN ROCK TO A MINIMUM DEPTH OF 200mm TO MANAGE POTENTIAL EROSION

	AVERAGE GRADE 1 in	AVERAGE VELOCITY m/sec	MINIMUM SWALE DEPTH (m)	COMMENTS
SWALE B	55	0.6	**0.20**	Contractor to monitor swale for erosion after every significant rainfall event and place localised beaching as shown in typical swale section if required
SWALE A	60	0.7	**0.20**	Contractor to monitor swale for erosion after every significant rainfall event and place localised beaching as shown in typical swale section if required
SWALE C	90	0.9	**0.20**	Contractor to monitor swale for erosion after every significant rainfall event and place localised beaching as shown in typical swale section if required
SWALE D1	150	0.5	**0.40**	Swale of depth 0.4m to intercept near surface lateral flow, contractor to monitor swale for erosion after every significant rainfall event and place localised beaching as shown in typical swale section if required
SWALE D2	20	0.9	**0.20**	Recommend rock beaching in base of swale to mitigate potential erosion subject to advice from Douglas Partners
SWALE E	12	1.8	**0.20**	Recommend rock beaching in base of swale to mitigate potential erosion subject to advice from Douglas Partners
SWALE F	12	1.0	**0.20**	Recommend rock beaching in base of swale to mitigate potential erosion subject to advice from Douglas Partners

TABLE 1: SWALE FLOW AND SIZING



SEDIMENT POND SECTION A-A
NOT TO SCALE

SEDIMENT POND NOTES
- THIS SEDIMENT POND SECTION IS SHOWN INDICATIVELY. IT IS TO BE DETAILED BY OTHERS ON SITE AT TIME OF CONSTRUCTION
- STAGE-SPECIFIC SEMP TO ENSURE SUITABLE SITE SUPERVISION DURING MAINTENANCE OF SEDIMENT POND TO ENSURE PROTECTION AND RETENTION OF CLAY LINER

	MIN. REQUIRED SEDIMENT POND AREA (m^2)
SEDIMENT POND TO CATER FOR CATCHMENTS A - F	400
SEDIMENT POND TO CATER FOR CATCHMENTS B - F. EXCLUDES CATCHMENT A (STAGE WORKSHOP NORTH)	300

TABLE 2: SEDIMENT POND SIZING

LEGEND

- CATCHMENT AREA CONTRIBUTING TO EACH SWALE
- TEMPORARY DRAINAGE SWALE A
- TEMPORARY DRAINAGE SWALE B
- TEMPORARY DRAINAGE SWALE C
- TEMPORARY DRAINAGE SWALE D1
- TEMPORARY DRAINAGE SWALE D2
- TEMPORARY DRAINAGE SWALE E
- TEMPORARY DRAINAGE SWALE F
- SEMP BY OTHERS (NOT GLENVILL)
- TEMPORARY SEDIMENT CAPTURE PONDS
- DEEP EXCAVATION
- EXISTING BANK SLIPPAGE AREA AS INSPECTED ON SITE 13/09/2019
- WET AREA EXTENTS AS INSPECTED ON SITE 13/09/2019
- COMPLETED WORKS NOT CONTRIBUTING TO SED POND A
- CONSTRUCTED DRAINAGE
- POTENTIAL INTERIM OUTFALL DRAINAGE PIPE (INDICATIVELY SHOWN)
- INTERNAL AMCOR PAPER MILL DRAINAGE TO BE DECOMMISSIONED OR GROUTED DURING DEVELOPMENT (CONDITION OF DRAINS NOT VERIFIED)
- EXISTING EXTERNAL COUNCIL DRAINAGE
- INTERNAL AMCOR PAPER MILL DRAINS (DEMOLISHED)
- FUTURE DRAINAGE (INCLUDING CURRENTLY UNDER CONSTRUCTION)
- (M2) EXISTING DRAINAGE PIT No.
- LPD — ULTIMATE LEGAL POINT OF DISCHARGE AS PER REEDS R&D PLANS
- IPD — INTERIM POINT OF DISCHARGE TO ENABLE SEMP MANAGEMENT
- GPT

0 10 20 40
Scale 1:1000 @ A1

PRELIMINARY PLAN ONLY
NOT APPROVED FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE COPIED OR SCALED

VERSION	REMARKS		
E	SED POND AND SEMP NOTE ADDED COUNCIL COMMENTS	03.03.20	SJ
D	AMENDED ALLUVIUM COMMENTS	24.02.20	SJ
C	UPDATED AS PER COUNCIL/GLENVILL COMMENTS	27.11.19	MW
B	UPDATED SWALE DETAILS/NEW SHEET ADDED	25.11.19	MW
A	PRELIMINARY ISSUE	21.11.19	MW

DRAWN BY	P. BRACOULIAS	DESIGNED BY	S. JELICIC
MELWAY	31, B11	CHECKED BY	J. MCKERNAN
DATUM	AHD	AUTHORISED BY	S. RAVIDA

REEDS CONSULTING
LAND SURVEYING
CIVIL ENGINEERING
PLANNING
DEVELOPMENT CONSULTING
www.reedsconsulting.com.au
engineering@reedsconsulting.com.au
Lvl 6, 440 Elizabeth Street Melbourne Victoria 3000
p (03) 8660 3000

CITY OF YARRA
YARRABEND - PARK PRECINCT
SEMP SWALES AND SEDIMENT POND DETAILS

DRAWING No.	VERSION
SEMP3	E

REFERENCE 22185G/SEMP
SHEET 3 OF 4

	TIME min	INTENSITY mm/hr	AREA ha	TOTAL AREA ha	RoC	EFFECTIVE AREA ha	TOTAL EFFECTIVE AREA ha	$Q_{2YR\ ARI}$ l/sec	AVERAGE GRADE 1 in	AVERAGE VELOCITY m/sec	2YR ARI FLOW DEPTH OF SWALE (m)	DISTANCE (m)	OVERLAND TIME (min)	COMMENTS
CATCHMENT B	11.17	52.62	0.50	0.50	0.4	0.200	0.200	29	55	0.6	0.07	150.0	4.17	THE 2YR ARI FLOW DEPTH IS THE MODELLED DEPTH OF A 0.6m BASE SWALE WITH 1 IN 3 BATTERS FOR THE RELEVANT 2YR ARI FLOW AND AVERAGE LONGITUDINAL GRADE OF THE SWALE. FOR CONSTRUCTABILITY THE MINIMUM SWALE CONSTRUCTION DEPTH IS DEEPER. REFER SHEET SEMP3.
CATCHMENT A	8.43	60.13	1.04	1.04	0.4	0.416	0.416	69	60	0.7	0.10	60.0	1.43	
CATCHMENT C	13.17	48.30	1.20	2.74	0.4	0.480	1.096	147	90	0.9	0.15	108.0	2.00	
CATCHMENT D	11.17	52.62	0.74	0.74	0.4	0.296	0.296	43	150	0.5	0.12	125.0	4.17	
CATCHMENT E	14.23	46.41	0.75	4.23	0.4	0.300	1.692	218	12	1.8	0.14	115.0	1.06	
CATCHMENT F	8.25	60.70	0.85	0.85	0.4	0.340	0.340	57	12	1.0	0.08	75.0	1.25	
			5.08	**5.08**			**2.032**							
								Sediment Pond 2 year ARI design flow for all catchments has been adopted as 280L/s						

TABLE 1: FLOW COMPUTATIONS FOR SWALES AND SEDIMENT POND (ALL CATCHMENTS)

	TIME min	INTENSITY mm/hr	AREA ha	TOTAL AREA ha	RoC	EFFECTIVE AREA ha	TOTAL EFFECTIVE AREA ha	$Q_{2YR\ ARI}$ l/sec	AVERAGE GRADE 1 in	AVERAGE VELOCITY m/sec	2YR ARI FLOW DEPTH OF SWALE (m)	DISTANCE (m)	OVERLAND TIME (min)	COMMENTS
CATCHMENT B	11.17	52.62	0.50	0.50	0.4	0.200	0.200	29	55	0.60	0.07	150.0	4.17	THE 2YR ARI FLOW DEPTH IS THE MODELLED DEPTH OF A 0.6m BASE SWALE WITH 1 IN 3 BATTERS FOR THE RELEVANT 2YR ARI FLOW AND AVERAGE LONGITUDINAL GRADE OF THE SWALE. FOR CONSTRUCTABILITY THE MINIMUM SWALE CONSTRUCTION DEPTH IS DEEPER. REFER SHEET SEMP3.
CATCHMENT C	13.17	48.30	1.20	1.70	0.4	0.480	0.680	91	90	0.90	0.15	108.0	2.00	
CATCHMENT D	11.17	52.62	0.74	0.74	0.4	0.296	0.296	43	150	0.50	0.12	125.0	4.17	
CATCHMENT E	14.23	46.41	0.75	3.19	0.4	0.300	1.276	164	12	1.80	0.14	115.0	1.06	
CATCHMENT F	8.25	60.70	0.85	0.85	0.4	0.340	0.340	57	12	1.00	0.08	75.0	1.25	
			4.04	**4.04**			**1.616**							
								Sediment Pond 2 year ARI design flow for catchments not including Catchment B: Stage Workshop North has been adopted as 230L/s						

TABLE 2: FLOW COMPUTATIONS FOR SWALES AND SEDIMENT POND (EXCLUDES CATCHMENT A:STAGE WORKSHOP NORTH)

Sediment Pond sizing/Sediment removal

$$R = 1 - \left[1 + \frac{1}{n} \cdot \frac{v_s}{Q/A} \cdot \frac{(d_e + d_p)}{(d_e + d^*)}\right]^{-n} \qquad \lambda = 1 - 1/n; \qquad n = \frac{1}{1-\lambda}$$

Fair and Geyer Equation

R = fraction of target sediment removed
n = turbulence parameter
v_s = settling velocity of 125 µm diameter particle
Q = sediment pond design flow
A = surface area at normal water level (m2)
d_e = extended detention depth (m)
d_p = permanent pool depth (m)
d* = depth below the permanent pool level that is sufficient to retain the target sediment

Vs =	0.011	m/s
d_e =	0.35	m
d_p =	1.0	m
d* =	1.0	m
(d_e+d_p) =	1.00	
(d_e+d^*)		
Q 2 year =	0.28	m^3/s
A =	400	m^2
V_s =	15.7	
Q/A		
λ =	0.11	Hydraulic efficiency assumption
n =	1.12	

Fraction of Initial Solids Removed
R = 95% **OK. ACHIEVES MELBOURNE WATER'S REQUIREMENT OF 95% CAPTURE FOR SEDIMENTS <125µm**

SEDIMENT POND SIZED FOR ALL CATCHMENTS
(REFER TABLE 1 FOR FLOW COMPUTATIONS)

REFERENCE: MELBOURNE WATER WETLAND DESIGN MANUAL

Sediment Pond sizing/Sediment removal

$$R = 1 - \left[1 + \frac{1}{n} \cdot \frac{v_s}{Q/A} \cdot \frac{(d_e + d_p)}{(d_e + d^*)}\right]^{-n} \qquad \lambda = 1 - 1/n; \qquad n = \frac{1}{1-\lambda}$$

Fair and Geyer Equation

R = fraction of target sediment removed
n = turbulence parameter
v_s = settling velocity of 125 µm diameter particle
Q = sediment pond design flow
A = surface area at normal water level (m2)
d_e = extended detention depth (m)
d_p = permanent pool depth (m)
d* = depth below the permanent pool level that is sufficient to retain the target sediment

Vs =	0.011	m/s
d_e =	0.35	m
d_p =	1.0	m
d* =	1.0	m
(d_e+d_p) =	1.00	
(d_e+d^*)		
Q 2 year =	0.23	m^3/s
A =	300	m^2
V_s =	14.3	
Q/A		
λ =	0.11	Hydraulic efficiency assumption
n =	1.12	

Fraction of Initial Solids Removed
R = 95% **OK. ACHIEVES MELBOURNE WATER'S REQUIREMENT OF 95% CAPTURE FOR SEDIMENTS <125µm**

SEDIMENT POND SIZED FOR CATCHMENTS (EXCLUDES CATCHMENT A: STAGE WORKSHOP NORTH)
(REFER TABLE 2 FOR FLOW COMPUTATIONS)

REFERENCE: MELBOURNE WATER WETLAND DESIGN MANUAL

SEMP NOTE
THESE PLANS RELATE TO SURFACE WATER MANAGEMENT AND SHOULD BE READ IN CONJUNCTION WITH A BROADER SEMP DOCUMENT (ENVIRONMENTAL ASSESSMENT AND WORKS) PROPOSED FOR THE SITE BY GLENVILL TO ADDRESS BROADER MANAGEMENT ISSUES RELATED TO:
- **TREE HEALTH**
- **BANK SLUMPING**
- **GROUNDWATER MANAGEMENT**

PRELIMINARY PLAN ONLY
NOT APPROVED FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE COPIED OR SCALED

VERSION	REMARKS		
B	SEMP NOTE ADDED COUNCIL COMMENTS	03.03.20	SJ
A	PRELIMINARY ISSUE, NEW SHEET ADDED	25.11.19	MW

DRAWN BY	P. BRACOULIAS	DESIGNED BY	S. JELICIC
MELWAY	31, B11	CHECKED BY	J. MCKERNAN
DATUM	AHD	AUTHORISED BY	S. RAVIDA

REEDS CONSULTING
LAND SURVEYING
CIVIL ENGINEERING
PLANNING
DEVELOPMENT CONSULTING
www.reedsconsulting.com.au
engineering@reedsconsulting.com.au
Lvl 6, 440 Elizabeth Street Melbourne Victoria 3000
p (03) 8660 3000

CITY OF YARRA
YARRABEND - PARK PRECINCT
FLOW COMPS AND SEDIMENT POND SIZING COMPS

DRAWING No.	VERSION
SEMP4	B
REFERENCE	
22185G/SEMP	
SHEET	
4 OF 4	