EARTHWORKS QUANTITIES

(APPROXIMATE ONLY)
NOT TO BE USED FOR CONTRACTUAL PURPOSES. TENDERERS TO DETERMINE VOLUMES USING THEIR OWN METHOD OF CALCULATION.

- EARTHWORKS QUANTITIES -	
TOTAL AREA (19.00 ha)	
CUT	38340 m³
FILL	166735 m³
SHORT FALL	128395 m³
TOPSOIL STRIPPING "100mm" OF 19000m² NOT INCLUDED IN CALCULATION	
EXCAVATION FOR SERVICE TRENCHES NOT INCLUDED IN CALCULATION	

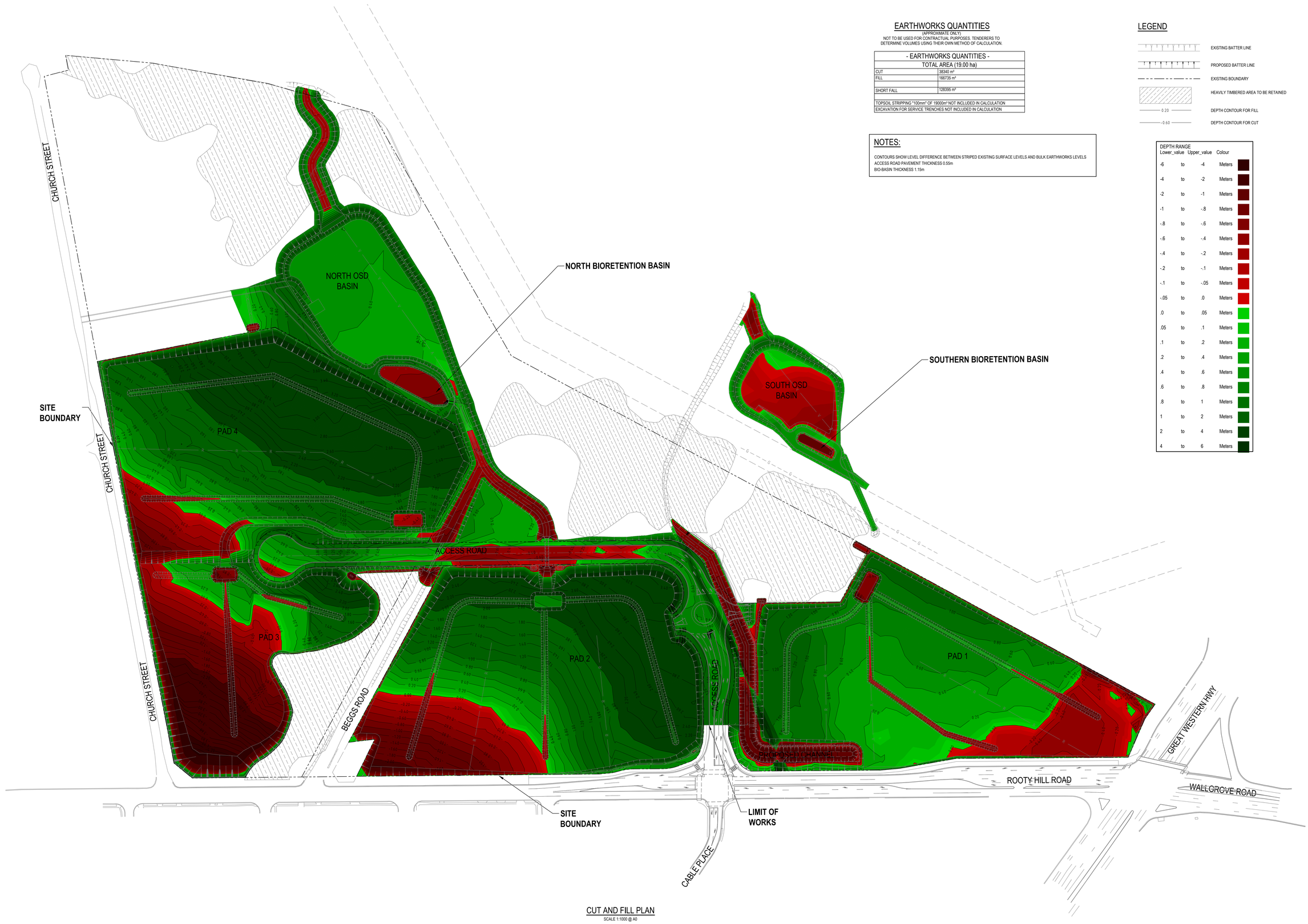
NOTES:

CONTOURS SHOW LEVEL DIFFERENCE BETWEEN STRIPED EXISTING SURFACE LEVELS AND BULK EARTHWORKS LEVELS
ACCESS ROAD PAVEMENT THICKNESS 0.55m
BIO-BASIN THICKNESS 1.15m

LEGEND

EXISTING BATTER LINE
PROPOSED BATTER LINE
EXISTING BOUNDARY
HEAVILY TIMBERED AREA TO BE RETAINED
0.20 DEPTH CONTOUR FOR FILL
-0.60 DEPTH CONTOUR FOR CUT

DEPTH RANGE Lower_value		Upper_value	Colour
-6	to	-4	Meters
-4	to	-2	Meters
-2	to	-1	Meters
-1	to	-.8	Meters
-.8	to	-.6	Meters
-.6	to	-.4	Meters
-.4	to	-.2	Meters
-.2	to	-.1	Meters
-.1	to	-.05	Meters
-.05	to	.0	Meters
.0	to	.05	Meters
.05	to	.1	Meters
.1	to	.2	Meters
.2	to	.4	Meters
.4	to	.6	Meters
.6	to	.8	Meters
.8	to	1	Meters
1	to	2	Meters
2	to	4	Meters
4	to	6	Meters



CUT AND FILL PLAN
SCALE 1:1000 @ A0

0 20 40 60 80 100m
20 15 10 5
SCALE 1:1000

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS
Title: CUT AND FILL PLAN

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:1000 @A0

Drawing number: 17D83_S96_BE01
Revision: 02

PROPOSED BUSINESS HUB
ROOTY HILL ROAD SOUTH, EASTERN CREEK, NSW
CIVIL ENGINEERING WORKS FOR S96

GENERAL NOTES:

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S SPECIFICATION. CONTRACTOR TO OBTAIN AND RETAIN A COPY ON SITE DURING THE COURSE OF THE WORKS.
2. ALL NEW WORKS ARE TO MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS AND MARRY IN A 'WORKMANLIKE' MANNER.
3. THE CONTRACTOR IS TO VERIFY THE LOCATION OF ALL SERVICES WITH EACH RELEVANT AUTHORITY. ANY DAMAGE TO SERVICES SHALL BE RECTIFIED BY THE CONTRACTOR OR THE RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE. SERVICES SHOWN ON THESE CIVIL PLAN ARE ONLY THOSE EVIDENT AT THE TIME OF SURVEY OR AS DETERMINED FROM SERVICE DIAGRAMS. HENRY AND HYMAS CONSULTING PTY. LTD. CANNOT GUARANTEE THE INFORMATION SHOWN NOR ACCEPT ANY RESPONSIBILITY FOR INACCURACIES OR INCOMPLETE DATA.
4. SERVICES & ACCESSES TO THE EXISTING PROPERTIES ARE TO BE MAINTAINED IN WORKING ORDER AT ALL TIMES DURING CONSTRUCTION.
5. ADJUST EXISTING SERVICE COVERS TO SUIT NEW FINISHED LEVELS TO RELEVANT AUTHORITY REQUIREMENTS WHERE NECESSARY.
6. REINSTATE AND STABILISE ALL DISTURBED LANDSCAPED AREAS.
7. MINIMUM GRADE OF SUBSOIL SHALL BE 0.5% (1:200) FALL TO OUTLETS.
8. ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS, EROSION AND SEDIMENTATION CONTROL PLAN AND BLACKTOWN CITY COUNCIL'S REQUIREMENTS WHERE APPLICABLE.
9. CONTRACTOR TO CHECK AND CONFIRM SITE DRAINAGE CONNECTIONS ACROSS THE VERGE PRIOR TO COMMENCEMENT OF SITE DRAINAGE WORKS.
10. PROPERTIES AFFECTED BY THE WORKS ARE TO BE NOTIFIED IN ADVANCE WHERE DISRUPTION TO EXISTING ACCESS IS LIKELY.

EXISTING SERVICES & FEATURES

- THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA OR AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT.
- THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
- PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF HIS PROGRAM FOR THE RELOCATION/ CONSTRUCTION OF TEMPORARY SERVICES.
- CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN SUPPLY TO EXISTING BUILDING REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED, THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
- INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE PRINCIPAL. CONTRACTOR TO GAIN APPROVAL FROM THE SUPERINTENDENT FOR TIME OF INTERRUPTION.
- EXISTING SERVICES, BUILDINGS, EXTERNAL STRUCTURES AND TREES SHOWN ON THESE DRAWINGS ARE EXISTING FEATURES PRIOR TO ANY DEMOLITION WORKS.
- EXISTING SERVICES UNLESS SHOWN ON SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH CIVIL PLAN AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE A DIAL BEFORE YOU DIG SEARCH AND TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN Ø80 uPVC SEWER GRADE CONDUITS EXTENDING A MINIMUM OF 500mm BEYOND EDGE OF PAVING.



LOCALITY PLAN
SCALE: NTS

DRAWING SCHEDULE

17D83_S96_BE01	CUT AND FILL PLAN
17D83_S96_C000	COVER SHEET, DRAWING SCHEDULE, NOTES AND LOCALITY SKETCH
17D83_S96_C100	GENERAL ARRANGEMENT PLAN
17D83_S96_C101	DETAIL CIVIL PLAN, SHEET 1 OF 7
17D83_S96_C102	DETAIL CIVIL PLAN, SHEET 2 OF 7
17D83_S96_C103	DETAIL CIVIL PLAN, SHEET 3 OF 7
17D83_S96_C104	DETAIL CIVIL PLAN, SHEET 4 OF 7
17D83_S96_C105	DETAIL CIVIL PLAN, SHEET 5 OF 7
17D83_S96_C106	DETAIL CIVIL PLAN, SHEET 6 OF 7
17D83_S96_C107	DETAIL CIVIL PLAN, SHEET 7 OF 7
17D83_S96_C110	TYPICAL SITE SECTIONS, SHEET 1 OF 2
17D83_S96_C111	TYPICAL SITE SECTIONS, SHEET 2 OF 2
17D83_S96_C115	STORMWATER CHANNELS TYPICAL SECTIONS
17D83_S96_C130	ACCESS ROAD CL 1 LONG SECTION AND CHAINAGES PLAN
17D83_S96_C131	ACCESS ROAD CL 2 LONG SECTION AND CHAINAGES PLAN
17D83_S96_C200	STORMWATER MISCELLANEOUS DETAILS AND PIT LID SCHEDULE
17D83_S96_C220	STORMWATER LONGITUDINAL SECTIONS SHEET 1 OF 2
17D83_S96_C221	STORMWATER LONGITUDINAL SECTIONS SHEET 2 OF 2
17D83_S96_C230	NORTH BASIN PLAN AND SECTIONS
17D83_S96_C231	NORTH BASIN DETAILS
17D83_S96_C240	SOUTH BASIN PLAN AND SECTIONS
17D83_S96_C241	SOUTH BASIN DETAILS
17D83_S96_C250	CATCHMENT PLAN - WATER QUANTITY
17D83_S96_C251	CATCHMENT PLAN - WATER QUALITY
17D83_S96_C255	ACCESS ROAD CATCHMENT PLAN
17D83_S96_C300	RETAINING WALL OVERALL PLAN
17D83_S96_C301	RETAINING WALL LONG SECTIONS
17D83_S96_C302	RETAINING WALL SECTIONS
17D83_S96_C700	GENERAL ARRANGEMENT PLAN - STAGE 1
17D83_S96_C701	DETAIL CIVIL PLAN - STAGE 1, SHEET 1 OF 7
17D83_S96_C702	DETAIL CIVIL PLAN - STAGE 1, SHEET 2 OF 7
17D83_S96_C703	DETAIL CIVIL PLAN - STAGE 1, SHEET 3 OF 7
17D83_S96_C704	DETAIL CIVIL PLAN - STAGE 1, SHEET 4 OF 7
17D83_S96_C705	DETAIL CIVIL PLAN - STAGE 1, SHEET 5 OF 7
17D83_S96_C706	DETAIL CIVIL PLAN - STAGE 1, SHEET 6 OF 7
17D83_S96_C707	DETAIL CIVIL PLAN - STAGE 1, SHEET 7 OF 7
17D83_S96_C710	TYPICAL SITE SECTIONS - STAGE 1, SHEET 1 OF 2
17D83_S96_C711	TYPICAL SITE SECTIONS - STAGE 1, SHEET 2 OF 2
17D83_S96_C720	STORMWATER LONGITUDINAL SECTIONS, SHEET 1 OF 2, STAGE 1
17D83_S96_C721	STORMWATER LONGITUDINAL SECTIONS, SHEET 2 OF 2, STAGE 1
17D83_S96_C730	ACCESS ROAD CL1 LONG SECTION AND CHAINAGES PLAN, STAGE 1
17D83_S96_C731	ACCESS ROAD CL2 LONG SECTION AND CHAINAGES PLAN, STAGE 1
17D83_S96_C770	RETAINING WALL OVERALL PLAN, STAGE 1
17D83_S96_C771	RETAINING WALL LONG SECTIONS, STAGE 1
17D83_S96_S772	RETAINING WALL SECTIONS, STAGE 1
17D83_S96_SE01	SEDIMENT AND EROSION CONTROL PLAN
17D83_S96_SE02	SEDIMENT AND EROSION CONTROL DETAILS

SITEWORKS NOTES

- DATUM : A.H.D.
- ORIGIN OF LEVELS : REFER TO BENCH OR STATE SURVEY MARKS WHERE SHOWN ON PLAN.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO THE COMMENCEMENT OF WORK.
- ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS & THE DIRECTIONS OF THE SUPERINTENDENT.
- EXISTING SERVICES UNLESS SHOWN ON THE SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE FREE FROM ABRUPT CHANGES IS ACHIEVED.
- THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATION IS TO BE UNDERTAKEN OVER TELSTRA OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
- CONTRACTOR TO OBTAIN AUTHORITY APPROVALS WHERE APPLICABLE.
- MAKE SMOOTH TRANSITION TO EXISTING SURFACES AND MAKE GOOD.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED LANDSCAPE, ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS
  OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED RELATING TO DEVELOPMENT AT THE SITE.
- TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MINIMUM OF 50mm IN BITUMINOUS PAVING.
- ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN Ø80 uPVC SEWER GRADE CONDUITS EXTENDING A MINIMUM OF 500mm BEYOND EDGE OF PAVING.
- GRADES TO PAVEMENTS TO BE AS IMPLIED BY RL'S ON PLAN . GRADE EVENLY BETWEEN NOMINATED RL'S. AREAS EXHIBITING PONDING GREATER THAN 5mm DEPTH WILL NOT BE ACCEPTED UNLESS IN A DESIGNATED SAG POINT.
- ALL COVERS AND GRATES ETC TO EXISTING SERVICE UTILITIES ARE TO BE ADJUSTED TO SUIT NEW FINISHED SURFACE LEVELS WHERE APPLICABLE.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY THE SURVEYOR SPECIFIED IN THE TITLE BLOCK.
THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. HENRY AND HYMAS PTY. LTD. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT HENRY AND HYMAS PTY. LTD. THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM ORIGINAL SURVEY DOCUMENTS.

ORIGIN OF LEVELS	PM 30122 - RL 43.58
DATUM	A.H.D

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	ISSUED FOR S96	MS	LC	30.05.2018
02	ISSUED FOR S96	MC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: HB+B PROPERTY
Surveyor: LANDPARTNERS

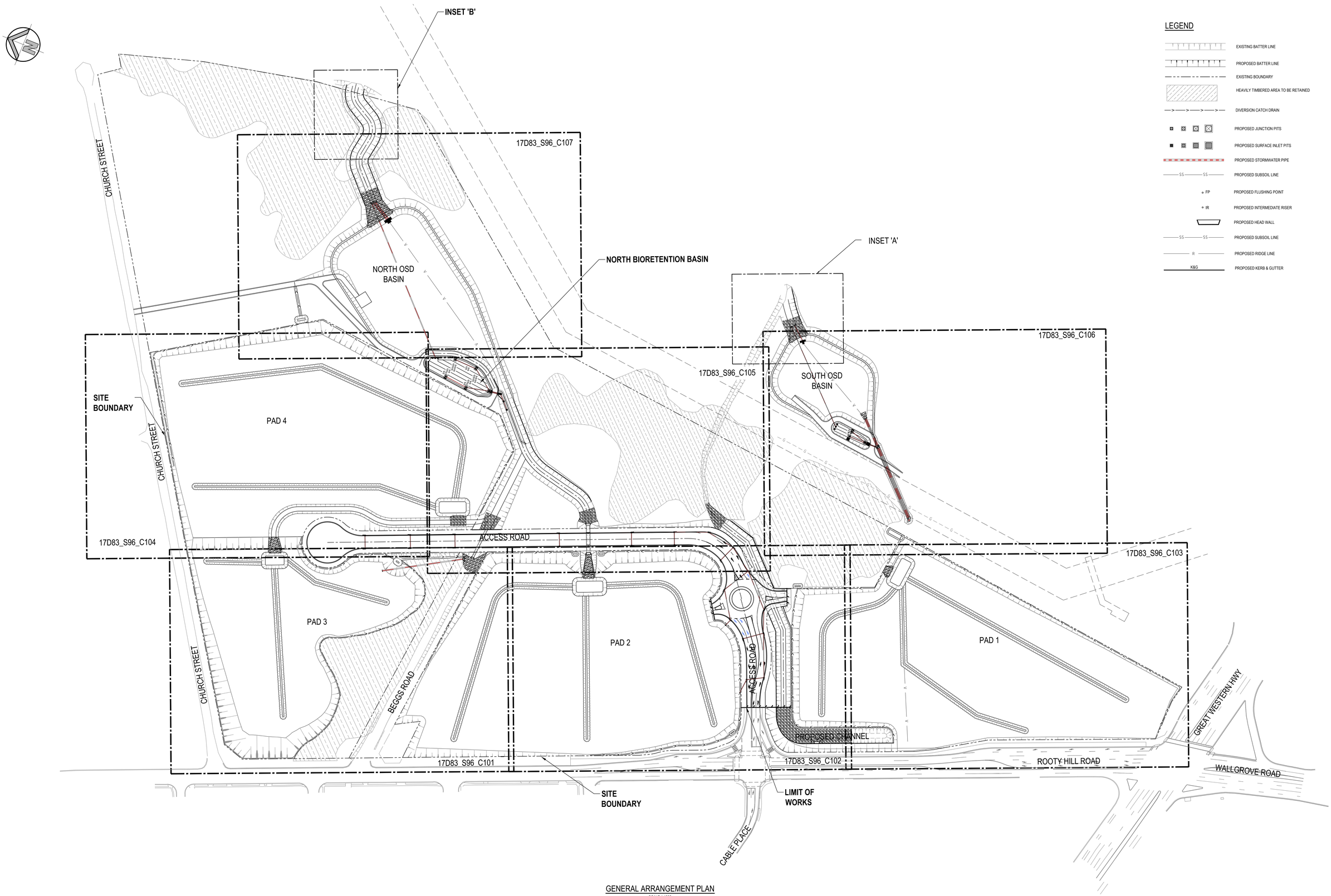
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Drawn	Designed	Date
M.Cerna	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	NTS @A0

Title: COVER SHEET, DRAWING SCHEDULE, AND LOCALITY SKETCH
Drawing number: 17D83_S96_C000
Revision: 03



LEGEND

- EXISTING BATTER LINE
- PROPOSED BATTER LINE
- EXISTING BOUNDARY
- HEAVILY TIMBERED AREA TO BE RETAINED
- DIVERSION CATCH DRAIN
- PROPOSED JUNCTION PITS
- PROPOSED SURFACE INLET PITS
- PROPOSED STORMWATER PIPE
- SS — PROPOSED SUBSOIL LINE
- FP — PROPOSED FLUSHING POINT
- IR — PROPOSED INTERMEDIATE RISER
- PROPOSED HEAD WALL
- SS — PROPOSED SUBSOIL LINE
- R — PROPOSED RIDGE LINE
- K&G — PROPOSED KERB & GUTTER

GENERAL ARRANGEMENT PLAN
SCALE 1:1000

0 20 40 60 80 100m
20 15 10 5
SCALE 1:1000

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	MC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: GENERAL ARRANGEMENT PLAN

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:1000 @A0

Drawing number: 17D83_S96_C100
Revision: 02

FOR CONTINUATION REFER TO DWG.17D83_S96_C104

PAD 3

PAD 2

BASIN "PAD 3"
V = 217m³

PROPOSED 1.2m WIDE TEMPORARY SWALE
REFER DRAWING C115 FOR DETAILS

PROPOSED SEDIMENTATION BASIN
REFER DRAWING SE01 FOR DETAILS

PROPOSED SEDIMENTATION BASIN
REFER DRAWING SE02 FOR DETAILS

PROPOSED 0.2m DEEP TEMPORARY
GRASSED SWALE

PROPOSED 0.2m DEEP
TEMPORARY GRASSED
SWALE

SCOUR PROTECTION
STONE SIZE D_{50}=200mm - 400mm
(TRICK OVER GEOFABRIC (BIDIM A34
OR APPROVED EQUIVALENT)
LENGTH 5m MIN.

PROPOSED 1500x450
RCBC

PROPOSED
HEADWALL

Ø750 RCP C2 FUTURE
CONNECTION LINE FOR
PAD 3 STORMWATER

PROPOSED 0.3m DEEP 1.2m WIDE
TEMPORARY GRASSED
SWALE

SITE BOUNDARY

PROPOSED BOUNDARY

PAD BOUNDARY

0.5m MIN. HIGH EARTH MOUND
REFER DRAWING C115 FOR DETAILS

PROPOSED SITE BOUNDARY

FUTURE ROAD WIDENING
EXISTING BOUNDARY

7.66m

EXISTING KERB AND GUTTER

EDGE OF BITUMEN

CHURCH STREET

BEGGS ROAD

ROOTY HILL ROAD SOUTH

FOR CONTINUATION REFER TO DWG.17D83_S96_C102

0 5 10 15 20 25m
SCALE 1:250

DETAIL CIVIL PLAN
SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	MC	LC	13.04.2018
01	ISSUED FOR S96	LC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN
SHEET 1 OF 7

Drawn	Designed	Date
L.Calha	L.Calha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C101
Revision: 02

FOR CONTINUATION REFER TO DWG.17D83_S96_C105

FOR CONTINUATION REFER TO DWG.17D83_S96_C101

FOR CONTINUATION REFER TO DWG.17D83_S96_C103

PROPOSED 0.2m DEEP TEMPORARY GRASSED SWALE

PROPOSED SEDIMENTATION BASIN REFER DRAWING SE02 FOR DETAILS

PROPOSED HEADWALL

SCOUR PROTECTION STONE SIZE D_{50}=300mm, 400mm THICK OVER GEOFABRIC (BIDIM A34 OR APPROVED EQUIVALENT) LENGTH 10m MIN

BASIN "PAD 4" V = 340m³

PAD 2

PROPOSED 1.2m WIDE TEMPORARY SWALE REFER DRAWING C115 FOR DETAILS

PROPOSED 0.2m DEEP TEMPORARY GRASSED SWALE

PROPOSED 1.2m WIDE TEMPORARY SWALE REFER DRAWING C115 FOR DETAILS

ACCESS ROAD

0.1m HIGH MOUNT WITH 1 IN 3 BATTERS

PROPOSED SEDIMENTATION BASIN REFER DRAWING SE02 FOR DETAILS

PROPOSED 0.2m DEEP GRASSED SWALE

SITE BOUNDARY

PROPOSED 0.2m DEEP GRASSED SWALE

PROPOSED 5.2m WIDE SWALE REFER DRAWING C115 FOR DETAILS

0.25m HIGH MOUNT WITH 1 IN 3 BATTERS

PROPOSED 4.0m WIDE PERMANENT CHANNEL 'A' REFER DRAWING C115 FOR DETAILS

PAD 1

SCOUR PROTECTION STONE SIZE D_{50}=400mm, 400mm THICK OVER GEOFABRIC (BIDIM A34 OR APPROVED EQUIVALENT) LENGTH 60m MIN

0.25m HIGH MOUNT WITH 1 IN 3 BATTERS

PROPOSED 0.2m DEEP GRASSED SWALE

LIMIT OF WORKS FOR ACCESS ROAD

PROPOSED SITE BOUNDARY

EXISTING KERB AND GUTTER

ROOTY HILL ROAD SOUTH

DETAIL CIVIL PLAN
SCALE 1:250

0 5 10 15 20 25m
SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA

Surveyor: LANDPARTNERS

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henry&hymas

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN
SHEET 2 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing Number: 17D83_S96_C102
Revision: 02

SCOUR PROTECTION
STONE SIZE D_{50}=200mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)

BASIN "PAD 1"
V = 333m³

PROPOSED SEDIMENTATION
BASIN
REFER DRAWING SE02 FOR DETAILS

HEAVILY TIMBERED AREA

PAD BOUNDARY

PROPOSED 1.2m WIDE TEMPORARY SWALE
REFER DRAWING C115 FOR DETAILS

GAS EASEMENT

SITE BOUNDARY

PROPOSED 0.2m DEEP TEMPORARY
GRASSED SWALE

EXISTING MOUND TO BE REMOVED

PAD 1

0.25m HIGH MOUNT
WITH 1 IN 3 BATTERS

PROPOSED 0.2m DEEP GRASSED
SWALE

PROPOSED 4.0m WIDE PERMANENT CHANNEL 'A'
REFER DRAWING C115 FOR DETAILS

PROPOSED SITE BOUNDARY

BATTER 1 IN 3 MAX

GREAT WESTERN HWY

ROOTY HILL ROAD SOUTH

FOR CONTINUATION REFER TO DWG (TBD) S96_C101

DETAIL CIVIL PLAN
SCALE 1:250

SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	MC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
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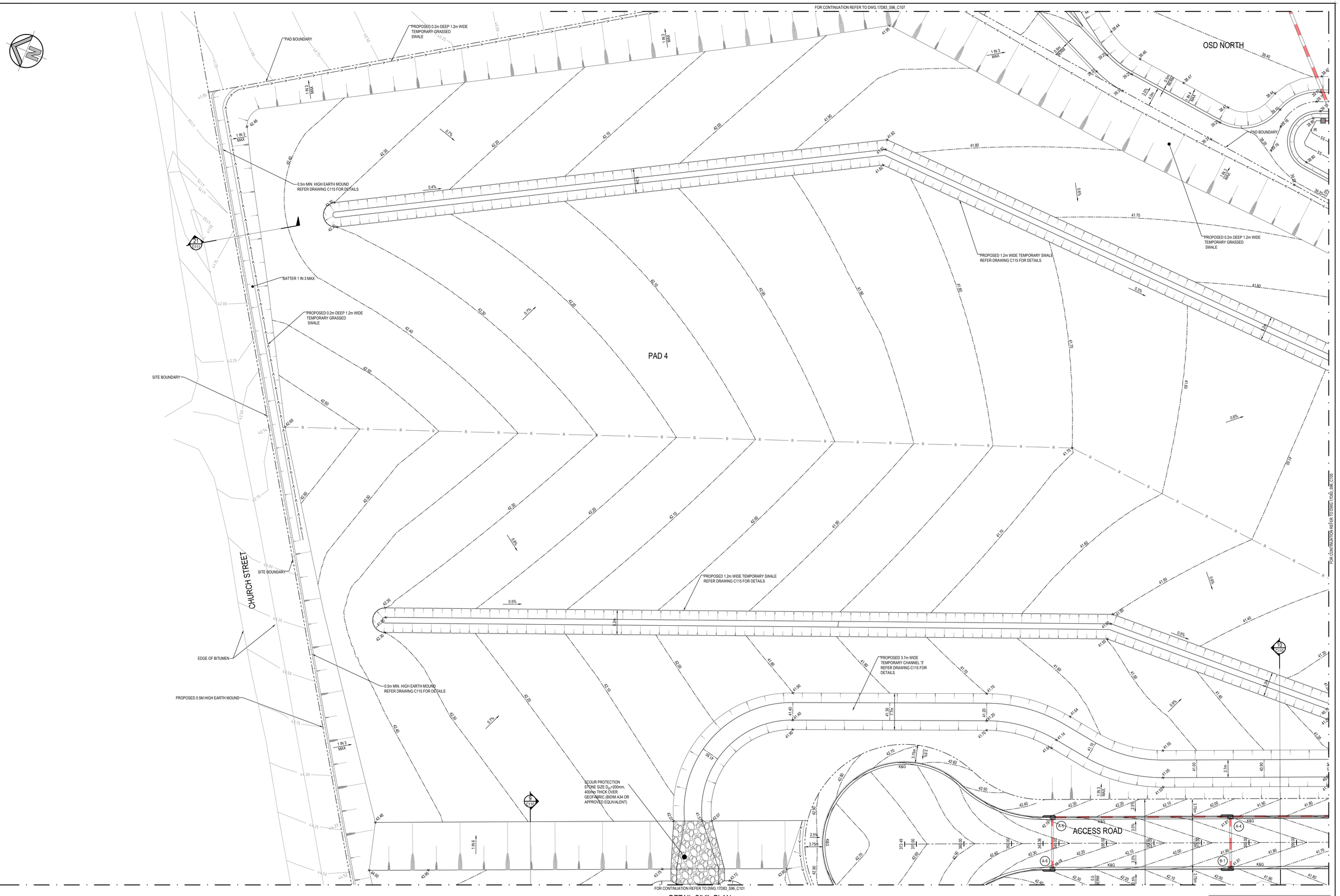
henry&hymas

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN
SHEET 3 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C103
Revision: 02



DETAIL CIVIL PLAN
SCALE 1:250

0 5 10 15 20 25m
5 4 3 2 1
SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS
Title: DETAIL CIVIL PLAN
SHEET 4 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C104
Revision: 02

FOR CONTINUATION REFER TO DWG.17D83_S96_C107

FOR CONTINUATION REFER TO DWG.17D83_S96_C104

FOR CONTINUATION REFER TO DWG.17D83_S96_C108

FOR CONTINUATION REFER TO DWG.17D83_S96_C102

PAD 4

BASIN "PAD 4"
V = 343m³

NORTH BASIN FILTER AREA
900m². REFER TO DETAILS ON
DWGS SERIES_C230

PROPOSED 0.2m DEEP 1.2m WIDE
TEMPORARY GRASSED
SWALE

PROPOSED 0.2m DEEP 1.2m WIDE
TEMPORARY GRASSED
SWALE

PROPOSED 1.2m WIDE TEMPORARY SWALE
REFER DRAWING C115 FOR DETAILS

PROPOSED 5.0m WIDE PERMANENT CHANNEL '1'
REFER DRAWING C115 FOR DETAILS

PROPOSED 5.0m WIDE PERMANENT CHANNEL '2'
REFER DRAWING C115 FOR DETAILS

EXISTING CHANNEL

GAS EASEMENT

SCOUR PROTECTION
STONE SIZE D_{50}=200mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)

SCOUR PROTECTION
STONE SIZE D_{50}=200mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 5m MIN

SCOUR PROTECTION
STONE SIZE D_{50}=200mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 5m MIN

SCOUR PROTECTION
STONE SIZE D_{50}=300mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 10m MIN

SCOUR PROTECTION
STONE SIZE D_{50}=300mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 10m MIN

SCOUR PROTECTION
STONE SIZE D_{50}=400mm,
600mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 10m MIN

PROPOSED
HEADWALL

PROPOSED 2700 x 600
RCBC

PROPOSED 1500x450
RCBC

PROPOSED
HEADWALL

PROPOSED
HEADWALL

PROPOSED 0.2m DEEP TEMPORARY
GRASSED SWALE

PROPOSED 0.2m DEEP TEMPORARY
GRASSED SWALE

PROPOSED SEDIMENTATION BASIN
REFER DRAWING SE02 FOR DETAILS

PROPOSED SEDIMENTATION BASIN
REFER DRAWING SE02 FOR DETAILS

0.1m HIGH MOUNT
WITH 1 IN 3 BATTERS

ACCESS ROAD

ACCESS ROAD

K&G

RW

1.2m
BERM

0.5
BERM

0.3m
BERM

1.2m
BERM

1 IN 4
MAX

1 IN 3
MAX

1 IN 1
MAX

DETAIL CIVIL PLAN

SCALE 1:250

0 5 10 15 20 25m
5 4 3 2 1
SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN
SHEET 5 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C105
Revision: 02

FOR CONTINUATION REFER TO INSET 'A'

OSD SOUTH

SCOUR PROTECTION
STONE SIZE D_{50}=300mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 5m MIN

ACCESS TRACK

SOUTH BASIN. FILTER AREA
170m². REFER TO DETAILS ON
DWG. C240 SERIES

EDGE OF EXISTING EASEMENT

BATTER 1 IN 4 MAX.

BATTER 1 IN 4 MAX.

BATTER 1 IN 4 MAX.

GMT EASEMENT

HEAVILY TIMBERED AREA

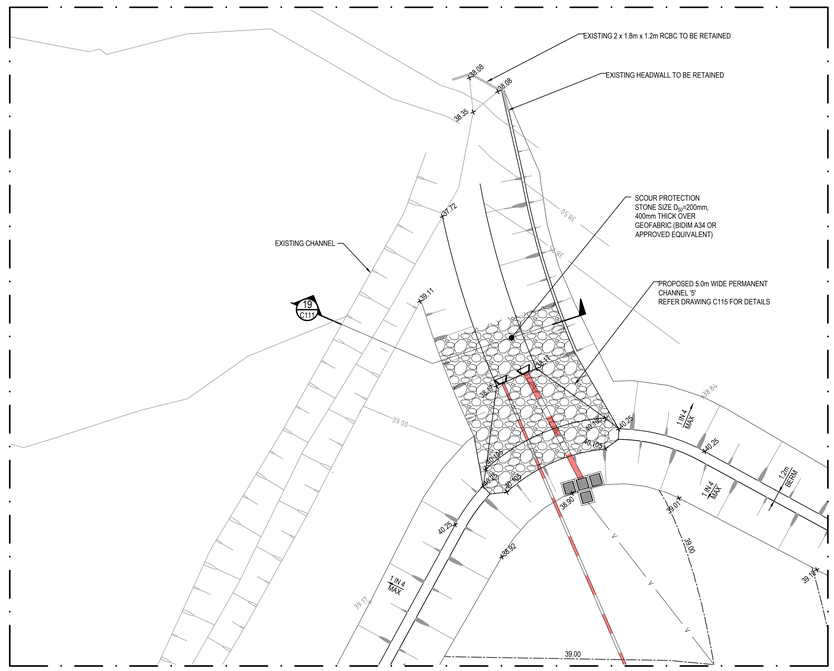
Ø900 STUB FOR FUTURE PAD 1 DRAINAGE.
LOCATION OF STUB HAS BEEN BASED ON FUTURE PAD 1 LAYOUT.
THIS Ø900mm PIPE TO BE CONSTRUCTED AND EXTENDED AT THE
TIME OF PAD DEVELOPMENT

PROPOSED SEDIMENTATION BASIN
REFER DRAWING SE02 FOR DETAILS

FOR CONTINUATION REFER TO DWG:17D83_S96_C105

FOR CONTINUATION REFER TO DWG:17D83_S96_C103

DETAIL CIVIL PLAN
SCALE 1:250



INSET 'A'
SCALE: 1:250 @A0

0 5 10 15 20 25m
5 4 3 2 1
SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN
SHEET 6 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C106
Revision: 02

FOR CONTINUATION REFER TO INSET 'A'

FOR CONTINUATION REFER TO DWG.17D83_S96_C105

PROPOSED 5.0m WIDE PERMANENT CHANNEL 'B' REFER DRAWING C115 FOR DETAILS

SCOUR PROTECTION STONE SIZE D_{50}=300mm, 400mm THICK OVER GEOFABRIC (BIDIM A34 OR APPROVED EQUIVALENT)

PROPOSED SERVICES TRACK

PROPOSED SEDIMENTATION BASIN REFER DRAWING SE02 FOR DETAILS

OSD NORTH

FOR CONTINUATION REFER TO DWG.17D83_S96_C103

DETAIL CIVIL PLAN
SCALE 1:250

0 5 10 15 20 25m
SCALE 1:250

"EXISTING BOX CULVERTS

"EXISTING HEADWALL

"PROPOSED 5.0m WIDE PERMANENT CHANNEL 'B' REFER DRAWING C115 FOR DETAILS

SITE BOUNDARY

INSET 'B'
SCALE: 1:250 @A0

SITE BOUNDARY

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	MC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA

Surveyor: LANDPARTNERS

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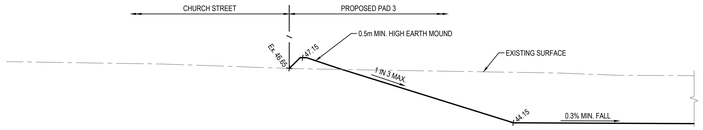
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

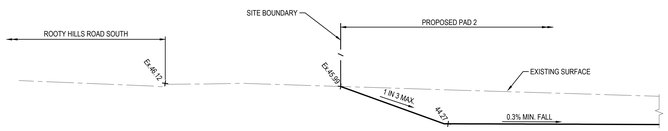
Title: DETAIL CIVIL PLAN
SHEET 7 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

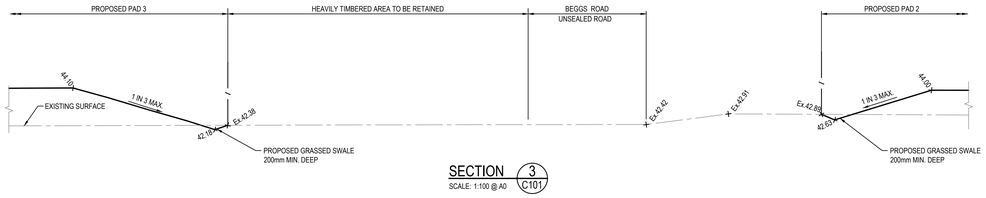
Drawing number: 17D83_S96_C107
Revision: 02



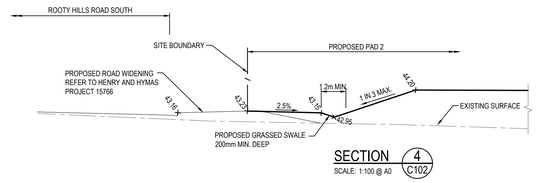
SECTION 1 C101
SCALE: 1:100 @ A0



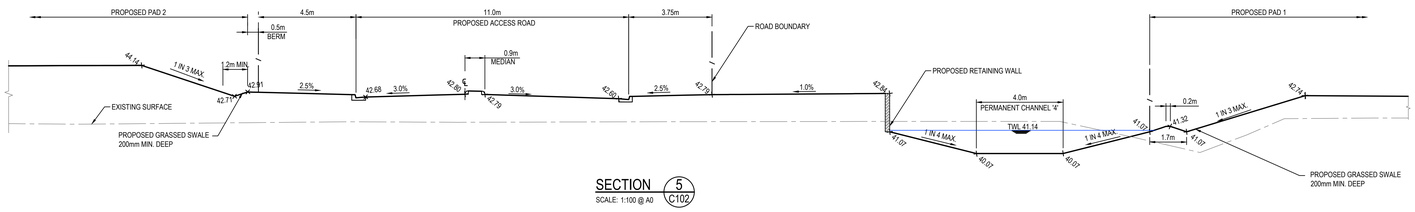
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SCALE: 1:100 @ A0



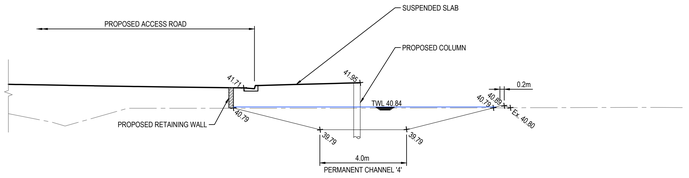
SECTION 3 C101
SCALE: 1:100 @ A0



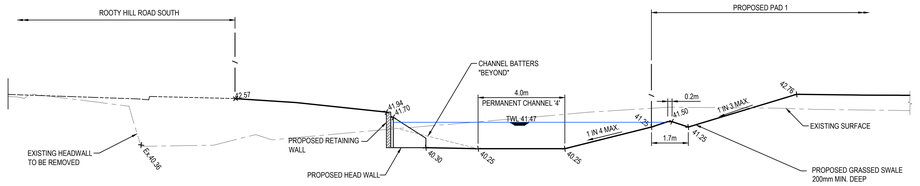
SECTION 4 C102
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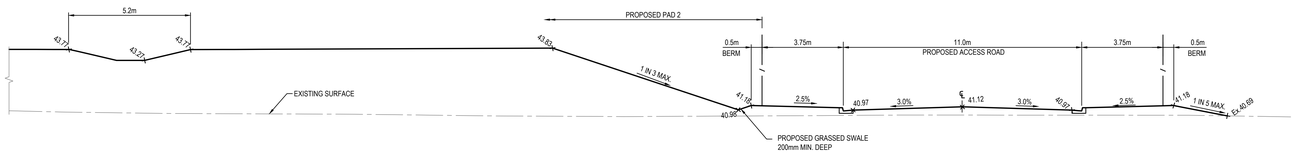
SECTION 5 C102
SCALE: 1:100 @ A0



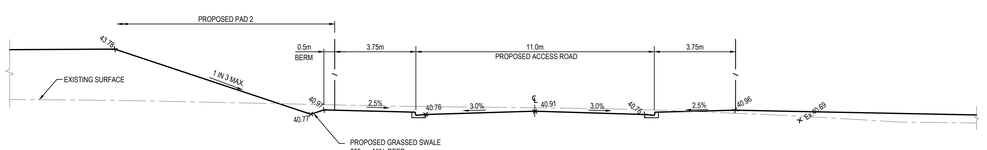
SECTION 6 C102
SCALE: 1:100 @ A0



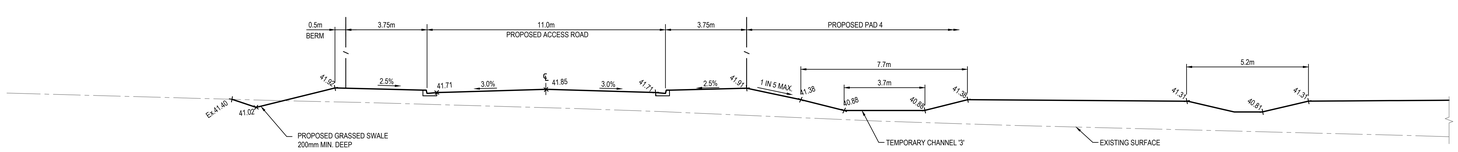
SECTION 7 C102
SCALE: 1:100 @ A0



SECTION 8 C102
SCALE: 1:100 @ A0



SECTION 9 C102
SCALE: 1:100 @ A0



SECTION 10 C104
SCALE: 1:100 @ A0

0 2 3 4 6 8 10m
2 1
SCALE 1:100

ISSUED FOR S96

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	LC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

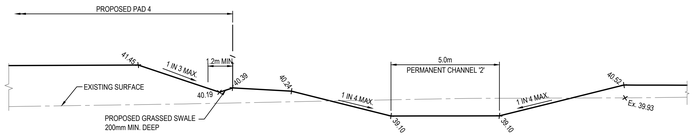
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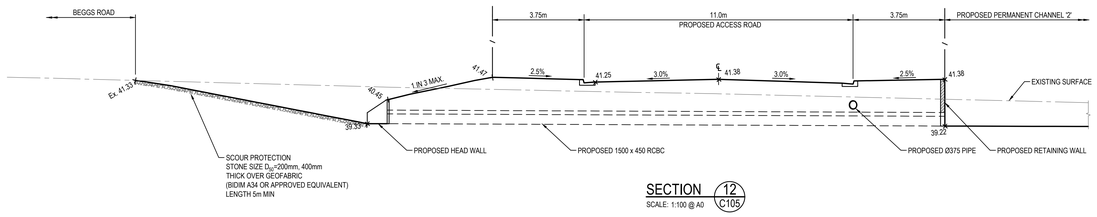
Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS
Title: TYPICAL SITE SECTIONS
SHEET 1 OF 2

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @ A0

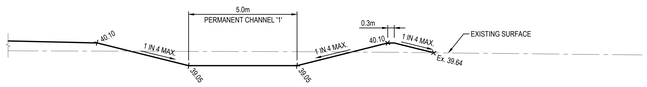
Drawing Number: 17D83_S96_C110
Revision: 02



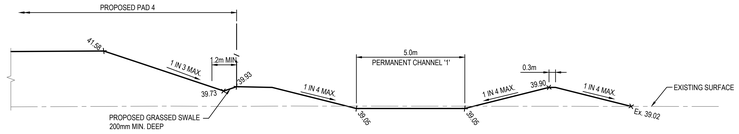
SECTION 11 C105
SCALE: 1:100 @ A0



SECTION 12 C105
SCALE: 1:100 @ A0

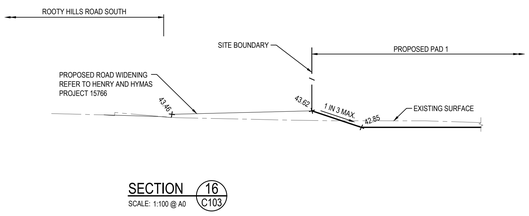


SECTION 13 C105
SCALE: 1:100 @ A0

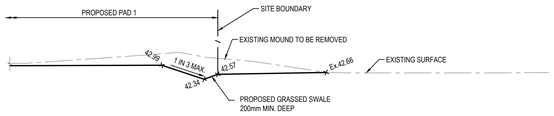


SECTION 14 C105
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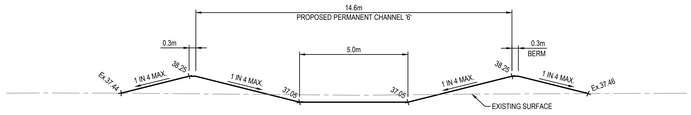
SECTION 15 C102
SCALE: 1:100 @ A0



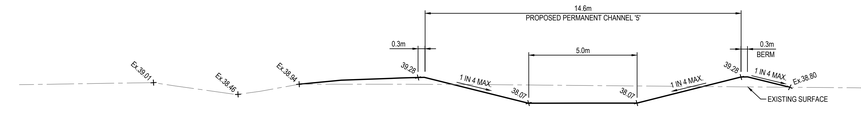
SECTION 16 C103
SCALE: 1:100 @ A0



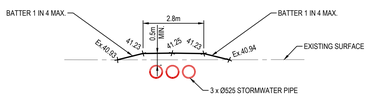
SECTION 17 C103
SCALE: 1:100 @ A0



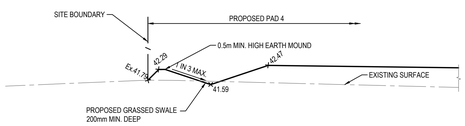
SECTION 18 C107
SCALE: 1:100 @ A0



SECTION 19 C106
SCALE: 1:100 @ A0



SECTION 20 C106
SCALE: 1:100 @ A0



SECTION 21 C104
SCALE: 1:100 @ A0

0 2 4 6 8 10m
2 1
SCALE 1:100

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	LC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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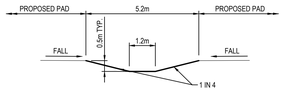
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henry&hymas

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: TYPICAL SITE SECTIONS
SHEET 1 OF 2

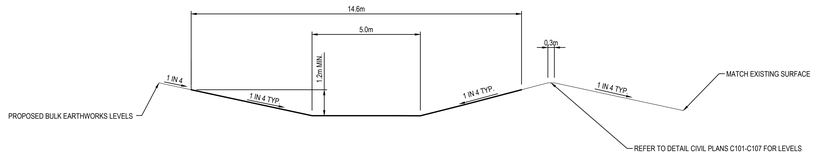
Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @ A0

Drawing number: 17D83_S96_C111
Revision: 02



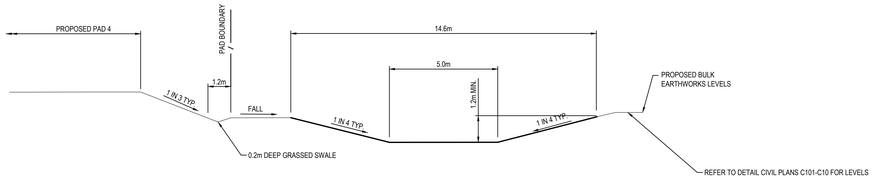
1.2m WIDE TEMPORARY SWALE

SCALE 1:100



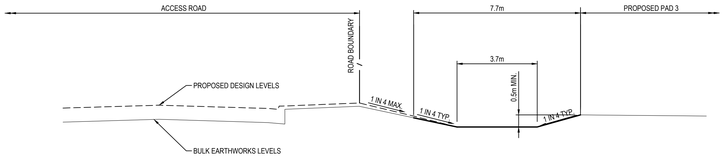
5.0m WIDE PERMANENT CHANNEL '1'

SCALE 1:100



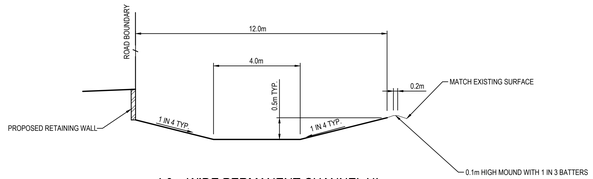
5.0m WIDE PERMANENT CHANNEL '2'

SCALE 1:100



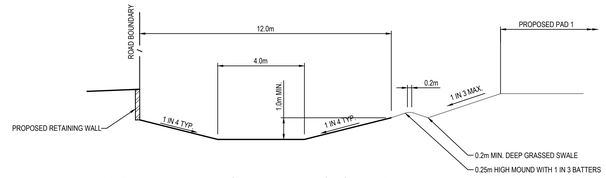
3.7m WIDE TEMPORARY CHANNEL '3'

SCALE 1:100



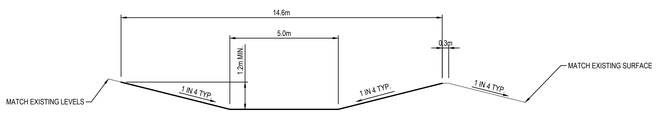
4.0m WIDE PERMANENT CHANNEL '4'

SCALE 1:100



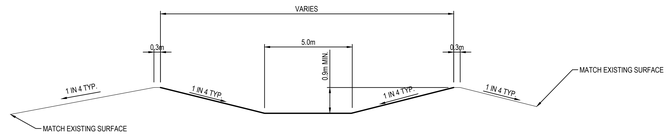
4.0m WIDE PERMANENT CHANNEL '4' ALONG PAD 1

SCALE 1:100



5.0m WIDE PERMANENT CHANNEL '5'

SCALE 1:100



5.0m WIDE PERMANENT CHANNEL '6'

SCALE 1:100



SCALE 1:100

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS

DATUM: AHD

ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	LC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA

Surveyor: LANDPARTNERS

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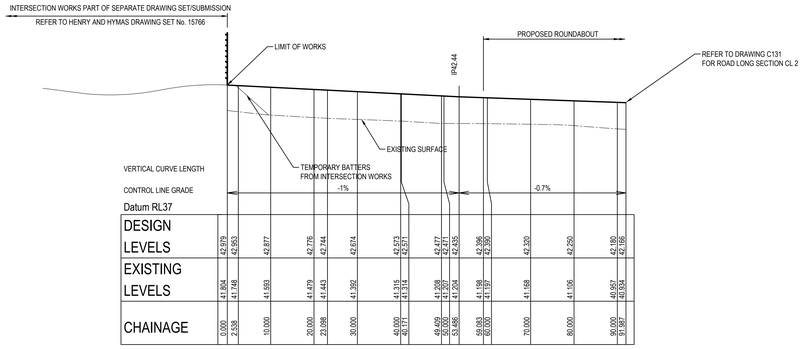
Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: STORMWATER CHANNELS
TYPICAL SECTIONS

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @A0

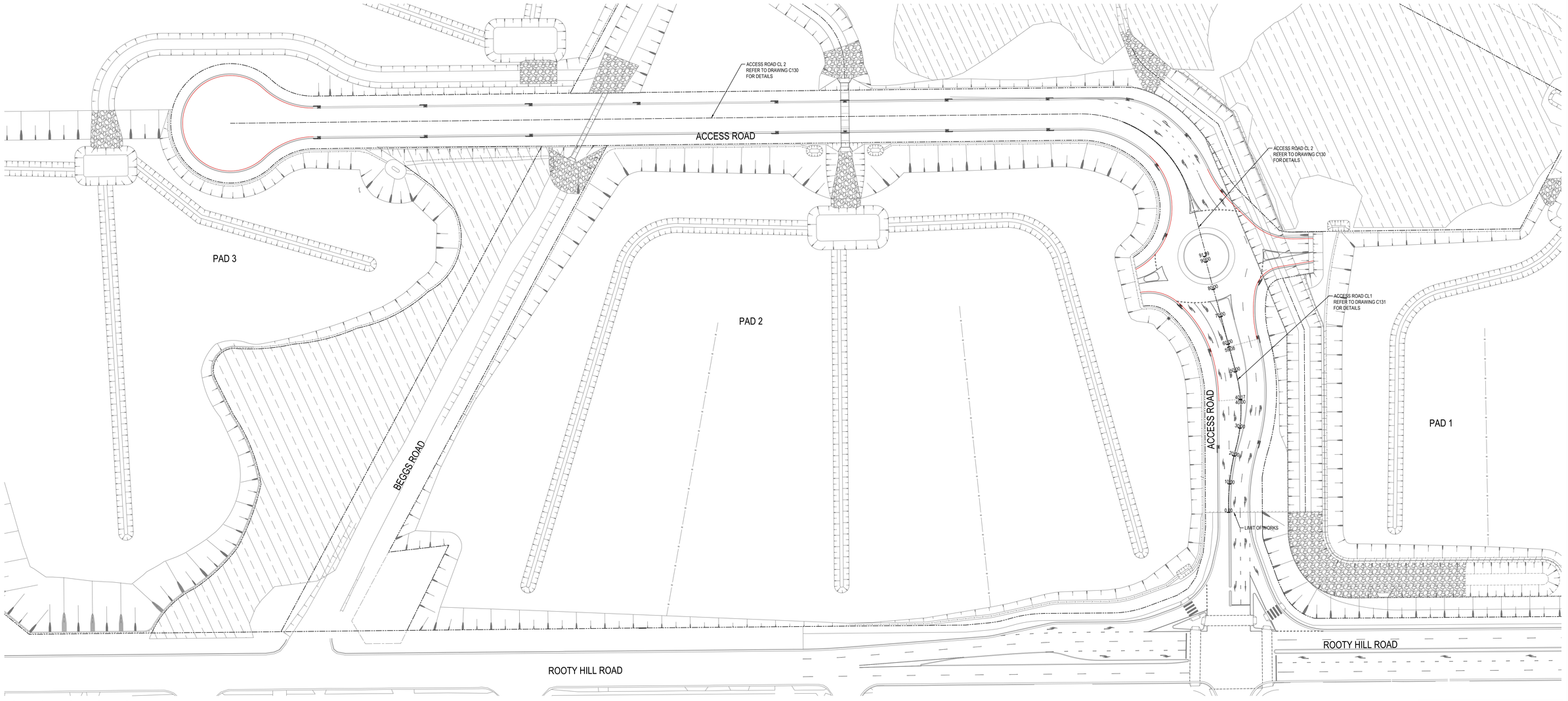
Drawing number: 17D83_S96_C115

Revision: 02



ACCESS ROAD CL 1 LONGITUDINAL SECTION

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



ACCESS ROAD CHAINAGES PLAN

SCALE: 1:500

0 2 4 6 8 10m
SCALE 1:100

0 10 20 30 40 50m
SCALE 1:500

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

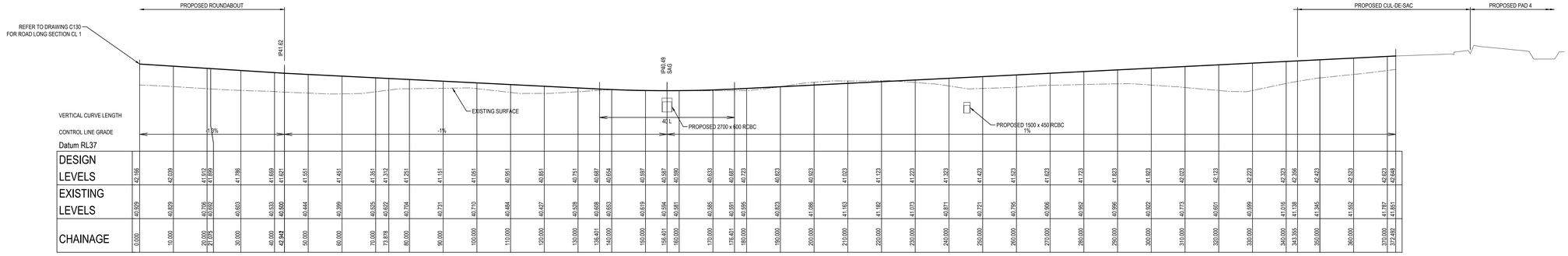
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS
Title: ACCESS ROAD CL 1 LONG SECTION AND CHAINAGES PLAN

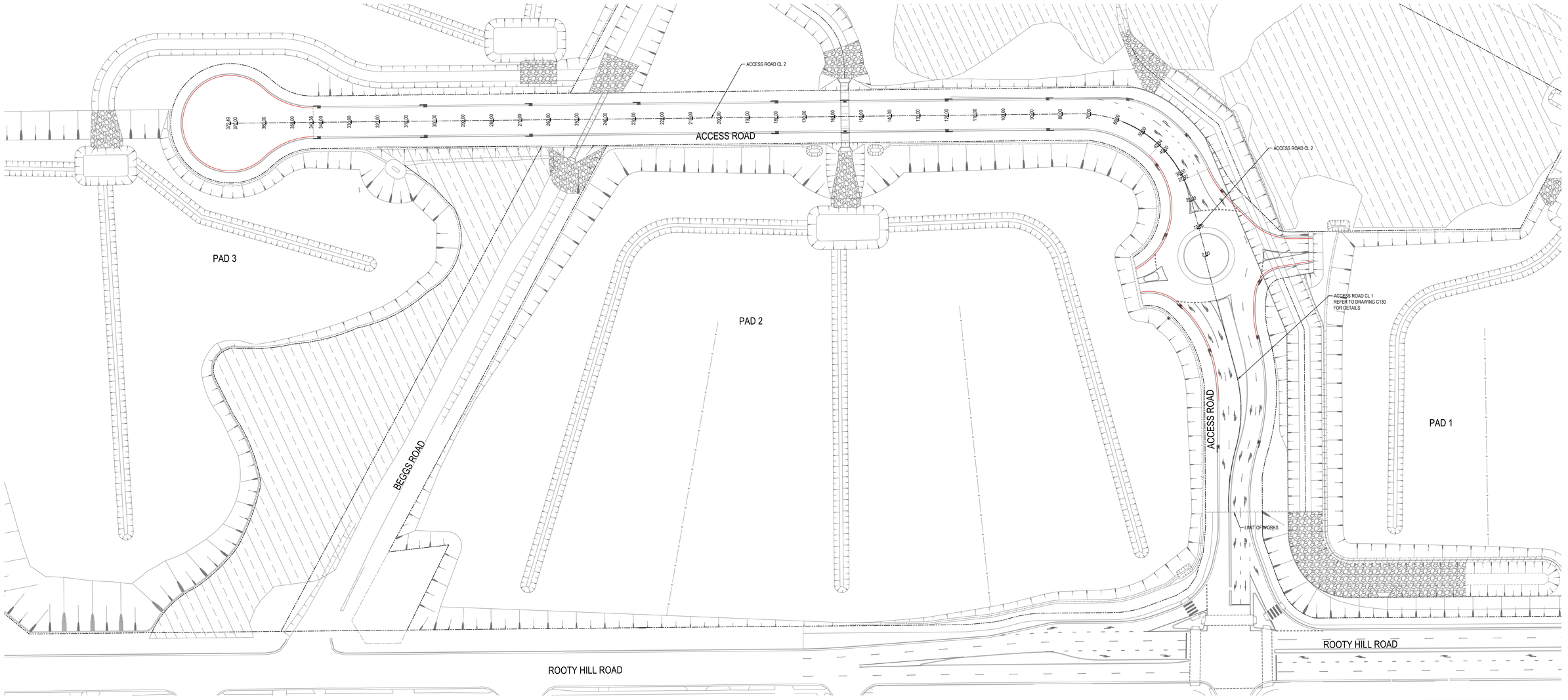
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L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

Drawing number: 17D83_S96_C130
Revision: 02



ACCESS ROAD CL 2 LONGITUDINAL SECTION

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



ACCESS ROAD CHAINAGES PLAN

SCALE: 1:500

0 2 4 6 8 10m
SCALE 1:100

0 10 20 30 40 50m
SCALE 1:500

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	13.04.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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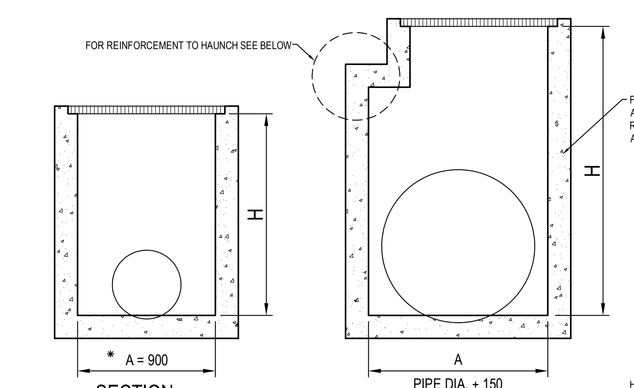
Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS
Title: ACCESS ROAD CL 2 LONG SECTION AND CHAINAGES PLAN

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

Drawing number: 17D83_S96_C131
Revision: 01

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.



SECTION
NTS

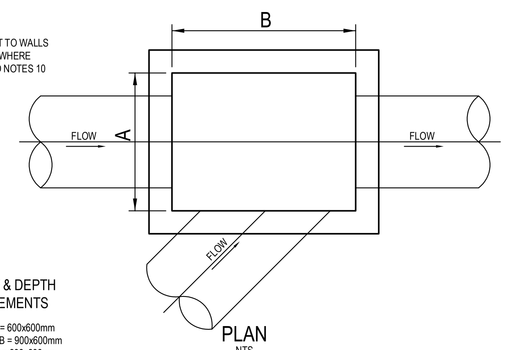
*A = 600 FOR PIPES UP TO 375 DIA.

(1) PIT CHAMBER DIMENSIONS FOR PIPES UP TO 600 DIA.

PIPE DIA. + 150
SECTION
NTS

(1) PIT CHAMBER FOR PIPES GREATER THAN 600 DIA.

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

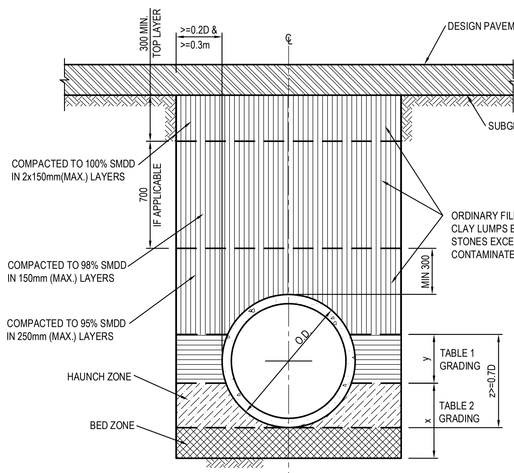


PLAN
NTS

(2) PIT SIZE & DEPTH REQUIREMENTS

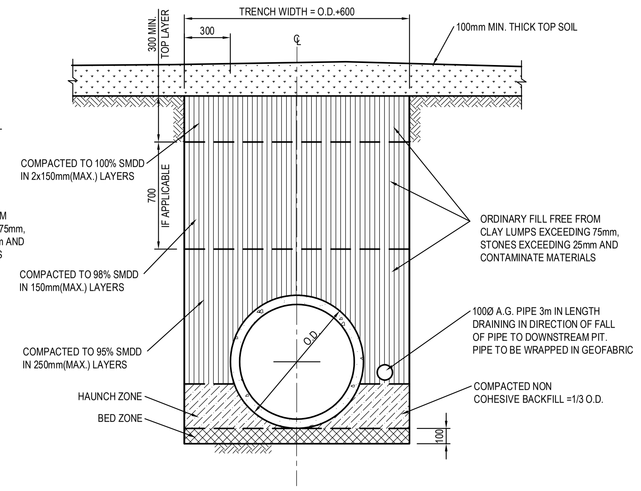
H = 0-900mm - AxB = 600x600mm
H = 900-1200mm - AxB = 900x600mm
H = >1200mm - AxB = 900x900mm

(3) PIT CHAMBER FOR SIDE ENTRY ON SKEW

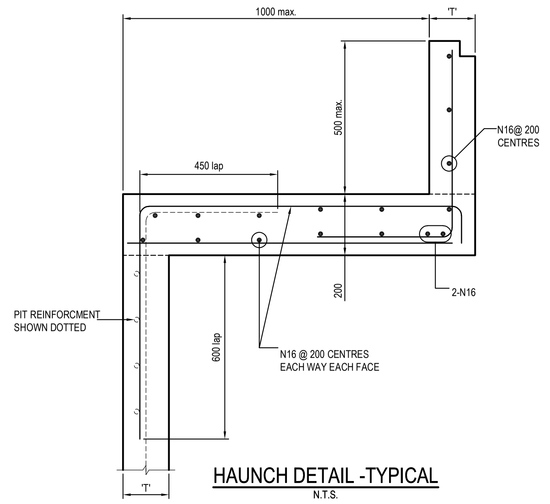


PIPE TRENCH INSTALLATION BENEATH PAVEMENT
(HS SUPPORT TO BE USED UNDER ROADWAY)
SCALE 1:20

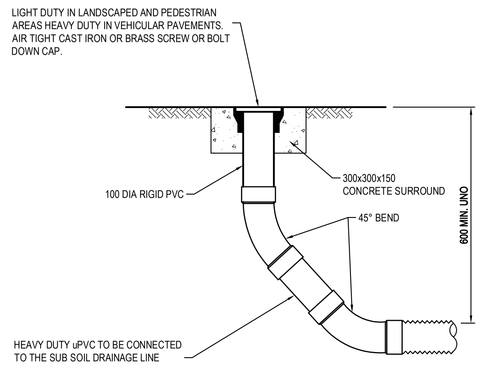
NOTE:
TYPE HS2 TO BE USED AS A TYPICAL SUPPORT FOR TRENCHES UNDER ROADWAY UNLESS SPECIFIED SEPERATELY



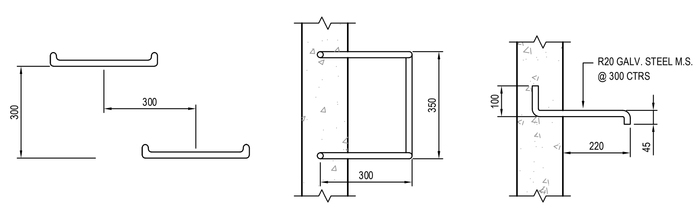
PIPE TRENCH INSTALLATION IN LANDSCAPE AREAS
(H1 & H2 SUPPORT)
SCALE 1:20



HAUNCH DETAIL -TYPICAL
N.T.S.

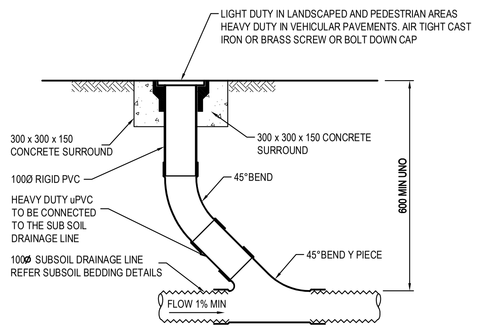


FLUSHING POINT (FP)
SCALE 1:10
NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED

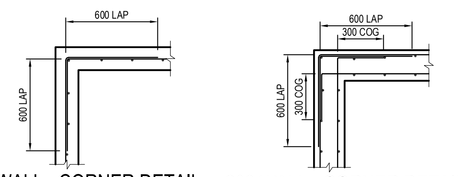


ELEVATION PLAN SECTION

TYPICAL STEP IRON DETAIL
SCALE 1:10



INTERMEDIATE RISER (IR)
SCALE 1:10
NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED

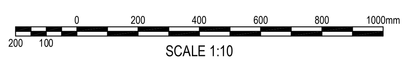


150 WALL - CORNER DETAIL
SCALE 1:20

200 WALL - CORNER DETAIL
SCALE 1:20



SCALE 1:20



SCALE 1:10

PIT LID SCHEDULE

PIT/STRUCTURE NUMBER	DESCRIPTION
A-5 A-6 B-1 C-1 D-1 E-1 E-2 E-3 K-1 E-4 E-5 E-6 E-7 E-8 F-1 G-1 H-1 J-1 E-9	ON GRADE KERB INLET PIT WITH 1.8m LINTEL AND HEAVY DUTY GRATED LID CLASS "D" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL REQUIREMENT. PITS TO BE FITTED WITH "ENVIROPOD" 200 MICRON PIT BASKET WITH OILSORBS OR EQUAL APPROVED EQUIVALENT.
L-2 L-3 G-2 E-6	SAG KERB INLET PIT WITH 2.4m LINTEL AND HEAVY DUTY GRATED LID CLASS "D" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL REQUIREMENT. PITS TO BE FITTED WITH "ENVIROPOD" 200 MICRON PIT BASKET WITH OILSORBS OR EQUAL APPROVED EQUIVALENT.
M-1 M-2 L-1 L-4	CONCRETE HEADWALL TO SUIT BOX CULVERTS AS SPECIFIED ON DETAIL PLANS
N-1	CONCRETE HEADWALL TO SUIT 3x525mm CONCRETE PIPES AS SPECIFIED ON DETAIL PLANS
N-2 N-3	JUNCTION PIT WITH 900x900 HINGED HEAVY DUTY CONCRETE LID CLASS "D" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL REQUIREMENT.
G-3	GRATED INLET PIT WITH 900x900 HINGED MEDIUM DUTY GRATED LID CLASS "C" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL REQUIREMENT.

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

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.

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 fc=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.

ISSUED FOR S96

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	MC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: HB+B PROPERTY
Surveyor: LANDPARTNERS

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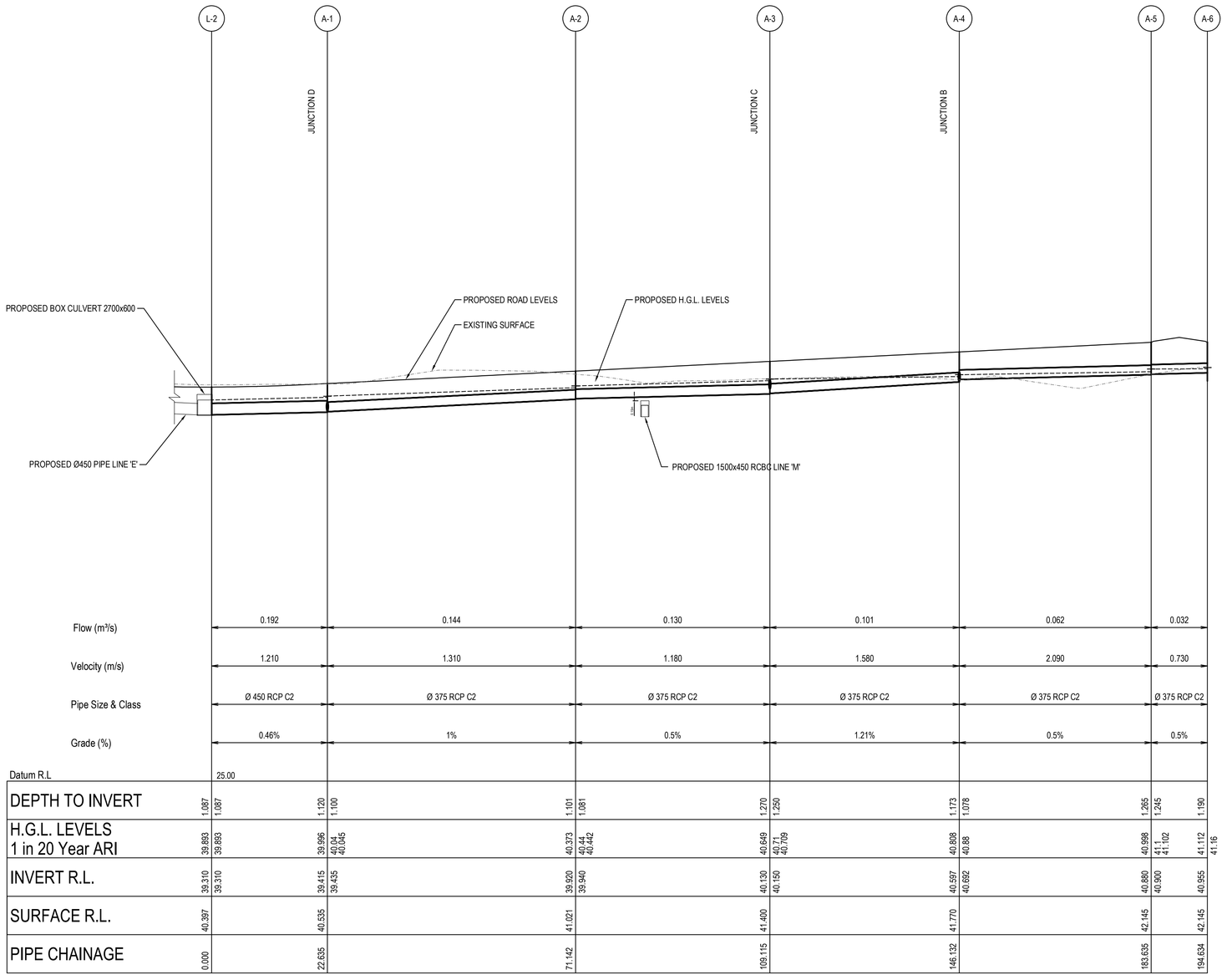
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: STORMWATER MISCELLANEOUS DETAILS & PIT LID SCHEDULE

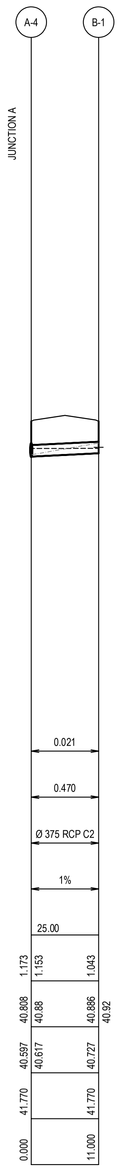
Drawn	Designed	Date
M.Cerna	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

Drawing number: 17D83_S96_C200
Revision: 02



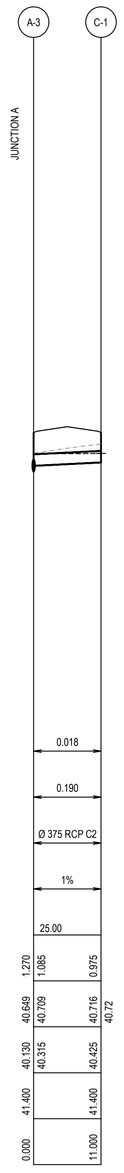
LINE A

SCALE: H 1:500
V 1:100



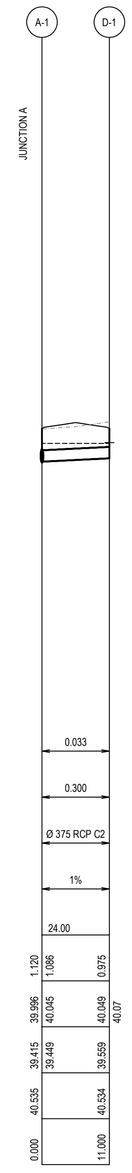
LINE B

SCALE: H 1:500
V 1:100



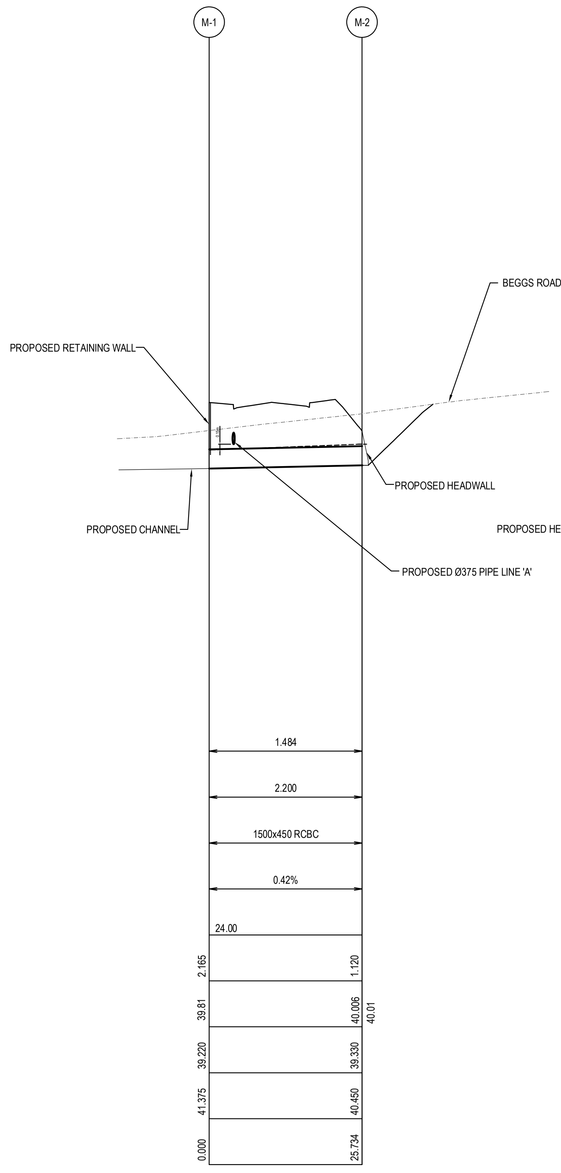
LINE C

SCALE: H 1:500
V 1:100



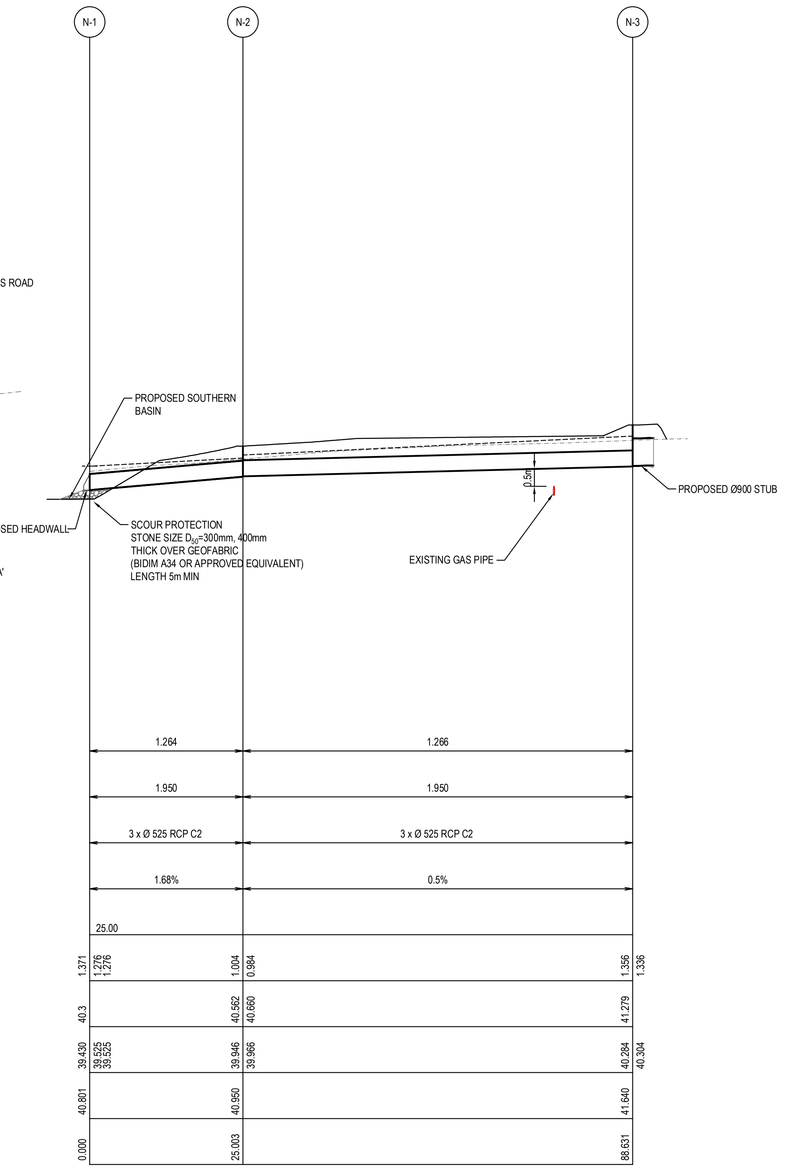
LINE D

SCALE: H 1:500
V 1:100



LINE M

SCALE: H 1:500
V 1:100



LINE N

SCALE: H 1:500
V 1:100

SCALE 1:100

SCALE 1:500

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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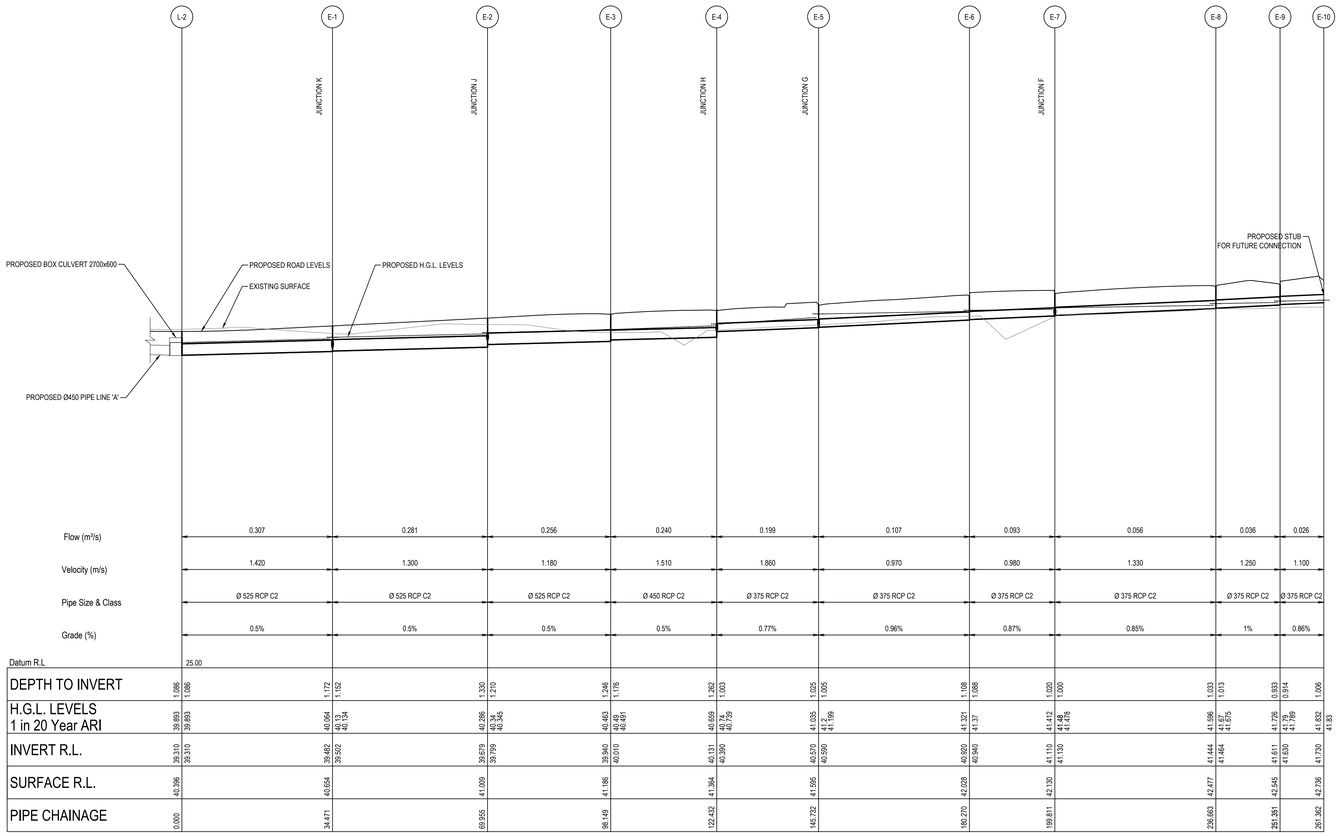
henry&hymas

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: STORMWATER LONGITUDINAL SECTIONS
SHEET 1 OF 2

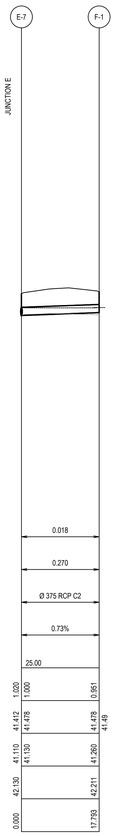
Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

Drawing number: 17D83_S96_C220
Revision: 02



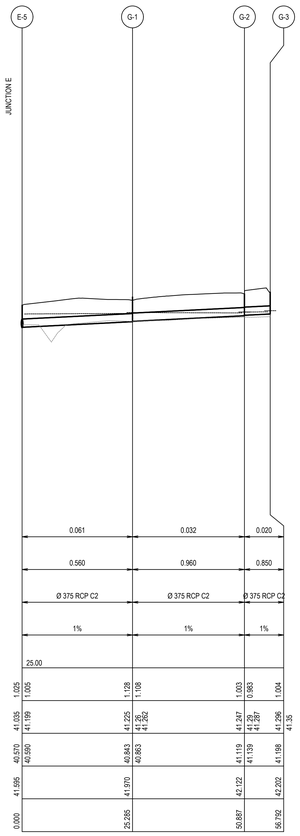
LINE E

SCALE: H 1:500
V 1:100



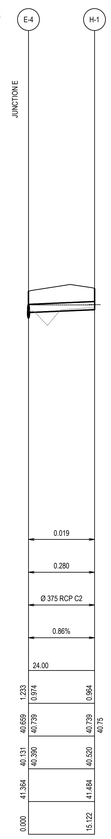
LINE F

SCALE: H 1:500
V 1:100



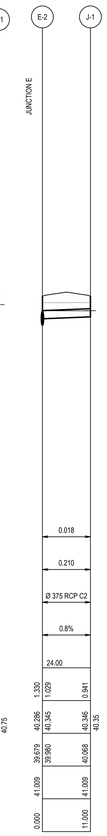
LINE G

SCALE: H 1:500
V 1:100



LINE H

SCALE: H 1:500
V 1:100



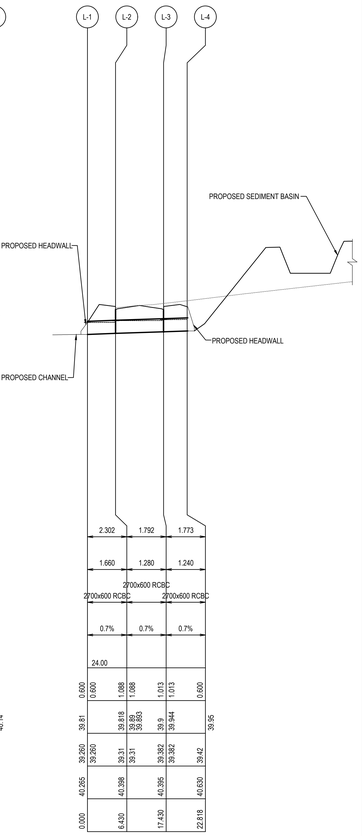
LINE J

SCALE: H 1:500
V 1:100



LINE K

SCALE: H 1:500
V 1:100



LINE L

SCALE: H 1:500
V 1:100

2 1 0 2 4 6 8 10m
SCALE 1:100

10 8 6 4 2 0 10 20 30 40 50m
SCALE 1:500

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Web www.henryandhymas.com.au
henry&hymas

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: STORMWATER LONGITUDINAL SECTIONS
SHEET 2 OF 2

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

Drawing number: 17D83_S96_C221
Revision: 02

SCOUR PROTECTION
STONE SIZE D_{50}=300mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)

IL37.218
Ø=D900
17.0m
0.41%
IL37.15

DISCHARGE CONTROL PIT
2x1.2mx1.2m SURCHARGE STYLE GRATE @ RL 37.90
1x1.8mx1.6m SURCHARGE STYLE GRATE @ RL38.695
REFER TO DETAIL ON DWG.C231

Ø925 RCP

LOW FLOW DIVERSION SYSTEM TO DIRECT BIORETENTION TREATABLE FLOW RATE OF 870m/s TO SYSTEM INLET PIT.

APPROX.300mm LOW FLOW DIVERSION BUND

UPFLOW PIT, REFER TO DRAWING C231 FOR DETAILS

BIO-RETENTION OUTLET PITS REFER TO DRAWING C231 FOR DETAILS

BIORETENTION FILTER AREA = 900m²

BIO-RETENTION SYSTEM INLET PIT, REFER TO DRAWING C231 FOR DETAILS

BIORETENTION FILTER PROFILE INCLUDING PERMEABLE PIPE, REFER TO DETAIL ON DWG.C231

DENOTES 150mm COMPACTED CRUSHED CEMENT STABILISED GRANITE ON BATTER ADJACENT TO PIT FOR FULL BATTER WIDTH AS SHOWN.

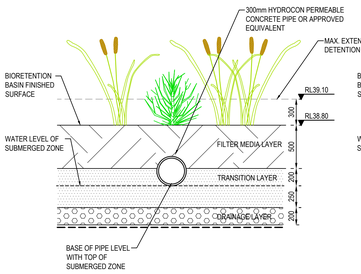
4m WIDE MAINTENANCE PATH REFER TO DETAILS ON DWG.C241

1 in 4 MAX

1.2m

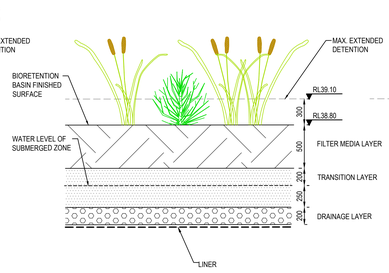
1.2m

1.2m



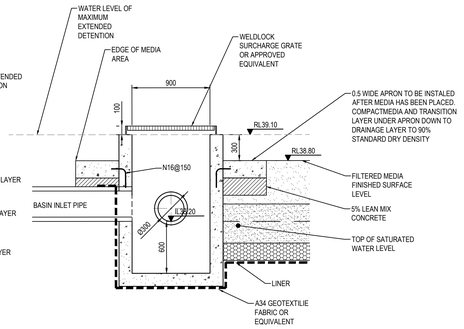
BIO-RETENTION FILTER PROFILE INCUDING PERMEABLE CONCRETE PIPE

SCALE 1:25



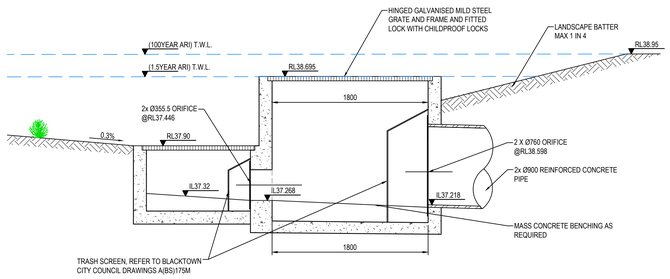
BIO-RETENTION FILTER PROFILE

SCALE 1:25



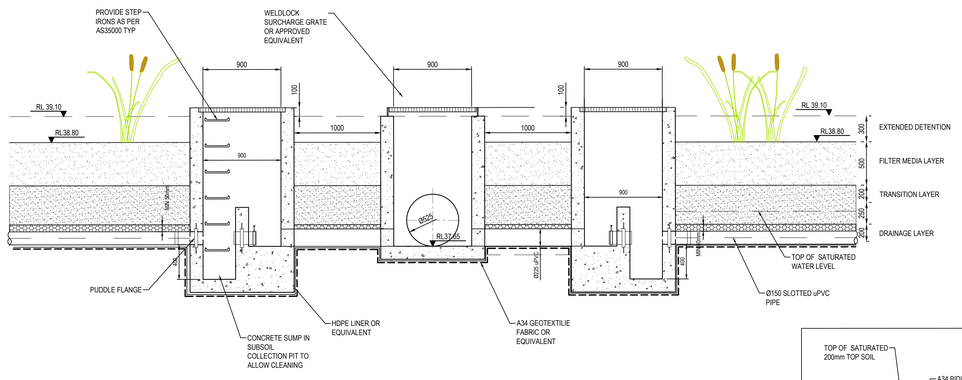
BIO-RETENTION SYSTEM INLET PIT

SCALE 1:25



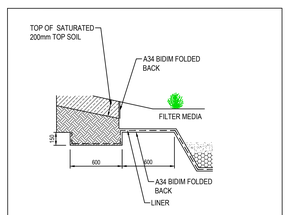
DISCHARGE CONTROL PIT

SCALE 1:25



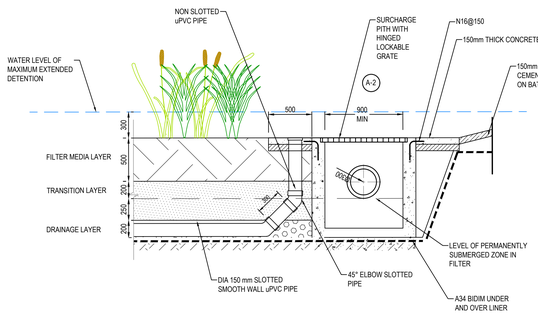
OUTLET FOR LARGE BIO-RETENTION SYSTEM

SCALE 1:25



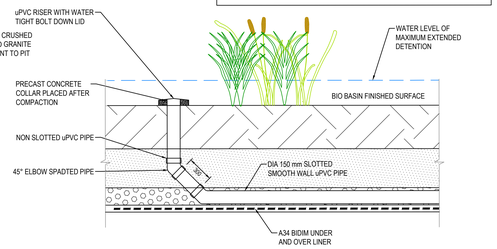
BIO-RETENTION LINER DETAIL

NTS



TYPICAL UPFLOW OUTLET PIT LOCATED IN BIORETENTION BASIN

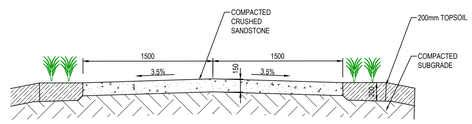
NTS



FLUSHING POINT

NTS

Above Ground OSD Summary with calculated values	
Site:	
Site Area	149860 m²
Site Area NOT Draining to OSD	0 m²
Reduced Levels (AHD):	
RL of Top of Tank	39.25
RL of Bottom of OSD Tank	38.2
RL of 1.5 Year ARI Overflow Weir	38.695
RL of Emergency Overflow Weir	38.95
RL of 1.5 Year ARI Orifice Centerline	37.446
RL of 100 Year ARI Orifice Centreline	37.598
RL of Invert of Discharge to Council Drainage Pit	37.15
RL of obvert of Pit outlet pipe	37.68
Minium RL of Garage Floor	39.34
Minium RL of House Floor	39.44
OSD Volume:	
Required Storage BELOW 1.5 Year ARI Overflow Weir	4684.6 m³
Required Storage BELOW Emergency Overflow Weir	7105.0 m³
Discharge Details:	
Using Filter Cartridges to Manage Water Quality	No
Discharge Location	Council Drainage Pit
Length of Emergency Overflow Weir	22.00 m
Maximum 1.5 Year ARI Site Discharge	599.44 L/s
1.5 Year ARI Orifice Discharge	599.44 L/s
Maximum 100 Year ARI Site Discharge	2847.34
100 Year ARI Orifice Discharge	2847.34 L/s
	0.00 L/s
Orifice Details:	
Number of 1.5 Year ARI Orifices	2
Number of 100 Year ARI Orifices	2
1.5 Year ARI Orifice Size (mm)	355.5 mm
100 Year ARI Orifice Size (mm)	759.5 mm
Notifications:	
Due to the Outlet Orifice being drowned by 14% during 100 ARI event an extra 4.2% of Storage volume has been added.	



MAINTENANCE ACCESS TRACK

SCALE 1:25

0 500 1000 1500 2000 2500mm
500 300 100
SCALE 1:25

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

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	MC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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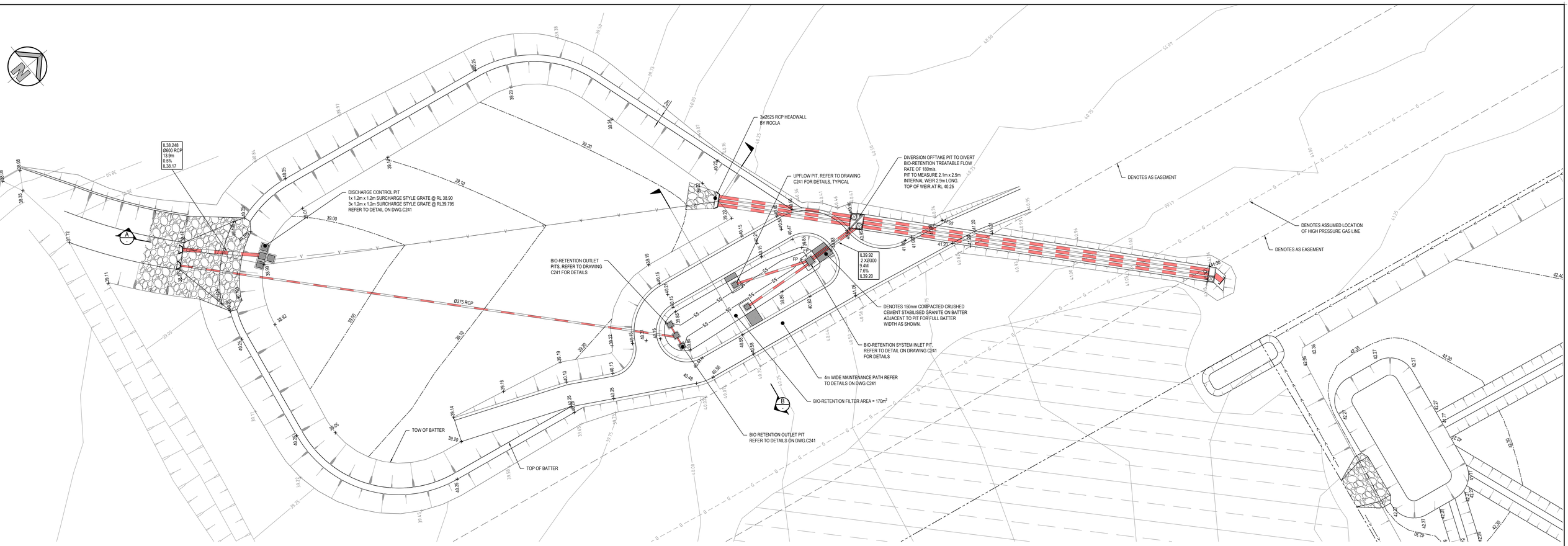
ISSUED FOR S96

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: NORTH BASIN DETAILS

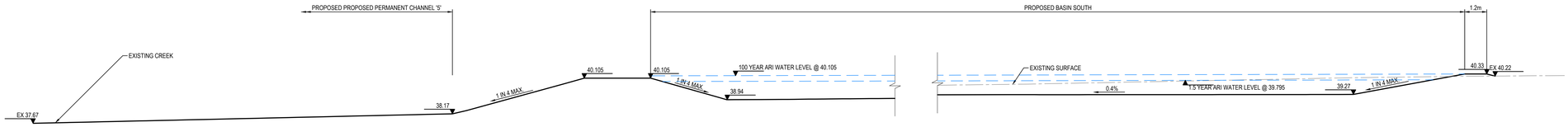
Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS SHOWN @A0

Drawing number: 17D83_S96_C231
Revision: 02



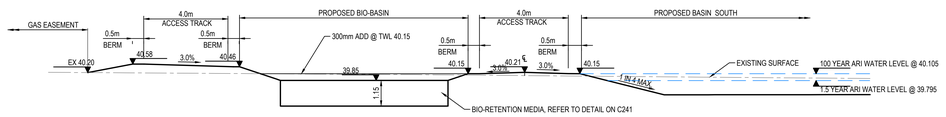
SOUTH BASIN PLAN

SCALE 1:250 @ A0



SECTION A

SCALE: 1:100 @ A0



SECTION B

SCALE: 1:100 @ A0

0 2 4 6 8 10m
SCALE 1:100

0 5 10 15 20 25m
SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
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01	ISSUED FOR S96	MC	LC	09.02.2018

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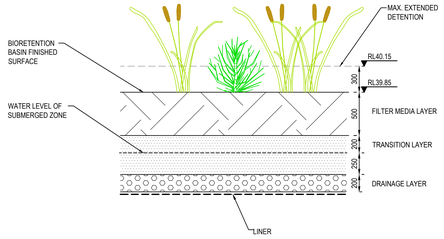
henry&hymas

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: SOUTH BASIN
PLAN AND SECTIONS

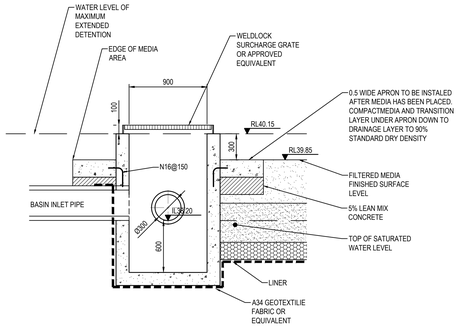
Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS SHOWN @A0

Drawing number: 17D83_S96_C240
Revision: 02



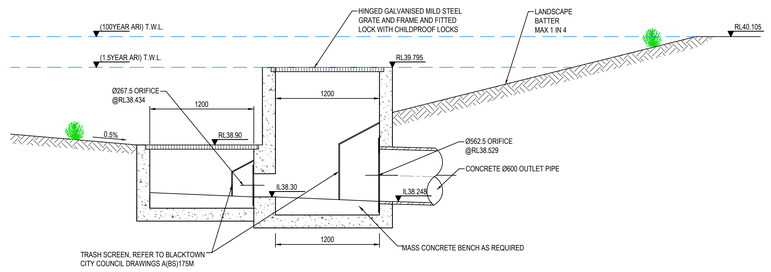
BIO-RETENTION FILTER PROFILE

SCALE 1:25



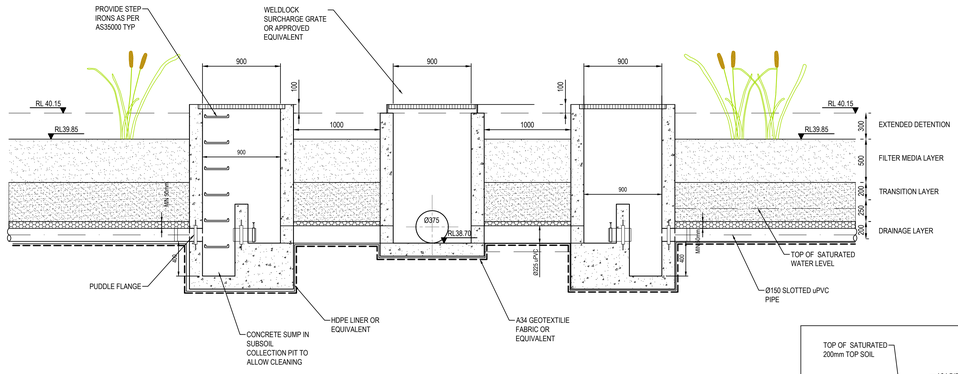
BIO-RETENTION SYSTEM INLET PIT

SCALE 1:25



DISCHARGE CONTROL PIT

SCALE 1:25



OUTLET FOR LARGE BIO-RETENTION SYSTEM

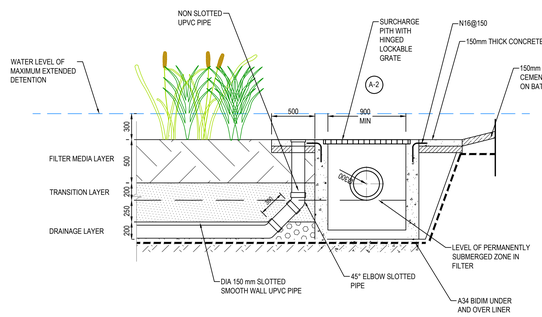
SCALE 1:25

Above Ground OSD Summary with calculated values	
Site:	
Site Area	44350 m²
Site Area NOT Draining to OSD	0 m²
Reduced Levels (AHD):	
RL of Top of Tank	40.25
RL of Bottom of OSD Tank	39.2
RL of 1.5 Year ARI Overflow Weir	39.795
RL of Emergency Overflow Weir	40.105
RL of 1.5 Year ARI Orifice Centerline	38.434
RL of 100 Year ARI Orifice Centreline	38.529
RL of Invert of Discharge to Council Drainage Pit	38.17
RL of obvert of Pit outlet pipe	39.05
Minium RL of Garage Floor	40.34
Minium RL of House Floor	40.44
OSD Volume:	
Required Storage BELOW 1.5 Year ARI Overflow Weir	2122.1 m³
Required Storage BELOW Emergency Overflow Weir	3218.6 m³
Discharge Details:	
Using Filter Cartridges to Manage Water Quality	No
Discharge Location	Council Drainage Pit
Length of Emergency Overflow Weir	20.00 m
Maximum 1.5 Year ARI Site Discharge	177.40 L/s
1.5 Year ARI Orifice Discharge	177.40 L/s
Maximum 100 Year ARI Site Discharge	842.65
100 Year ARI Orifice Discharge	842.65 L/s
	0.00 L/s
Orifice Details:	
Number of 1.5 Year ARI Orifices	1
Number of 100 Year ARI Orifices	1
1.5 Year ARI Orifice Size (mm)	267.5 mm
100 Year ARI Orifice Size (mm)	562.5 mm
Notifications:	
Due to the Outlet Orifice being drowned by 39% during 100 ARI event an extra 59.5% of Storage volume has been added.	



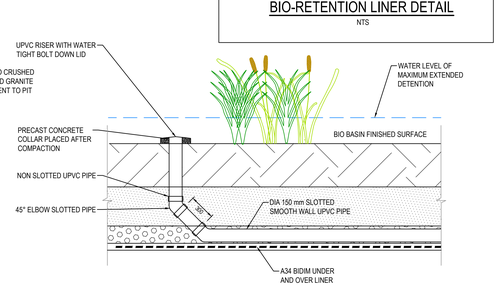
BIO-RETENTION LINER DETAIL

NTS



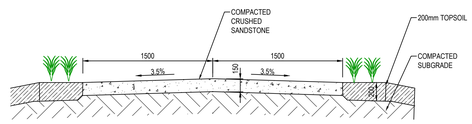
TYPICAL UPFLOW OUTLET PIT LOCATED IN BIORETENTION BASIN

NTS



FLUSHING POINT

NTS



MAINTENANCE ACCESS TRACK

SCALE 1:25

0 2 4 6 8 10m

SCALE 1:100

0 5 10 15 20 25m

SCALE 1:250

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS

DATUM: AHD

ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
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01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA

Surveyor: LANDPARTNERS

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ISSUED FOR S96

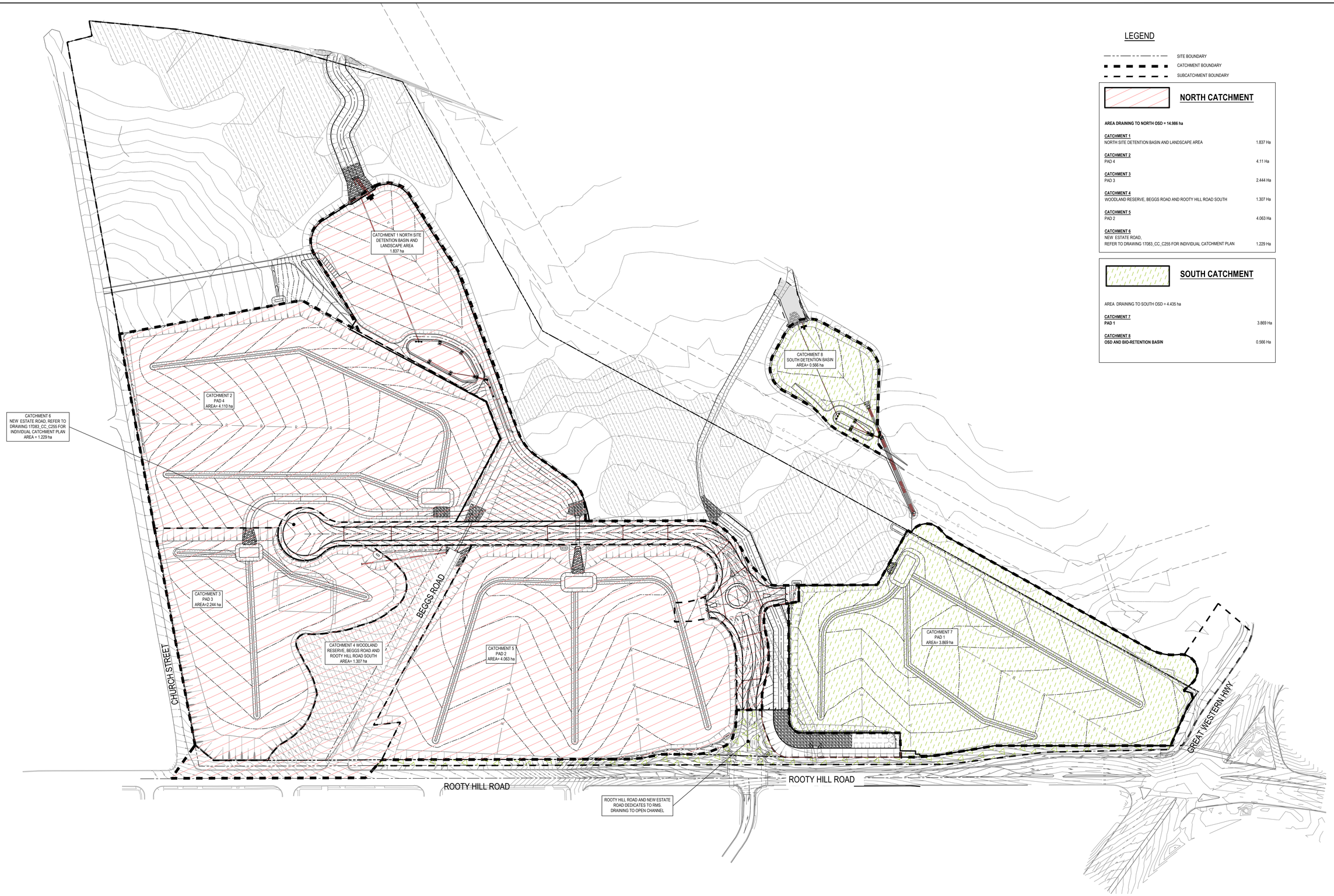
Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: SOUTH BASIN
DETAILS

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS SHOWN @A0

Drawing number: 17D83_S96_C241

Revision: 02



LEGEND

SITE BOUNDARY

CATCHMENT BOUNDARY

SUBCATCHMENT BOUNDARY

NORTH CATCHMENT

AREA DRAINING TO NORTH OSD = 14.986 ha

CATCHMENT 1 NORTH SITE DETENTION BASIN AND LANDSCAPE AREA	1.837 Ha
CATCHMENT 2 PAD 4	4.11 Ha
CATCHMENT 3 PAD 3	2.444 Ha
CATCHMENT 4 WOODLAND RESERVE, BEGGS ROAD AND ROOTY HILL ROAD SOUTH	1.307 Ha
CATCHMENT 5 PAD 2	4.063 Ha
CATCHMENT 6 NEW ESTATE ROAD, REFER TO DRAWING 17083_CC_C255 FOR INDIVIDUAL CATCHMENT PLAN	1.229 Ha

SOUTH CATCHMENT

AREA DRAINING TO SOUTH OSD = 4.435 ha

CATCHMENT 7 **PAD 1**	3.869 Ha
CATCHMENT 8 **OSD AND BIO-RETENTION BASIN**	0.566 Ha

CATCHMENT PLAN - WATER QUANTITY

SCALE: 1:1000

0 20 40 60 80 100m

20 15 10 5

SCALE 1:1000

ISSUED FOR S96

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS

DATUM: AHD

ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
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01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA

Subject: LANDPARTNERS

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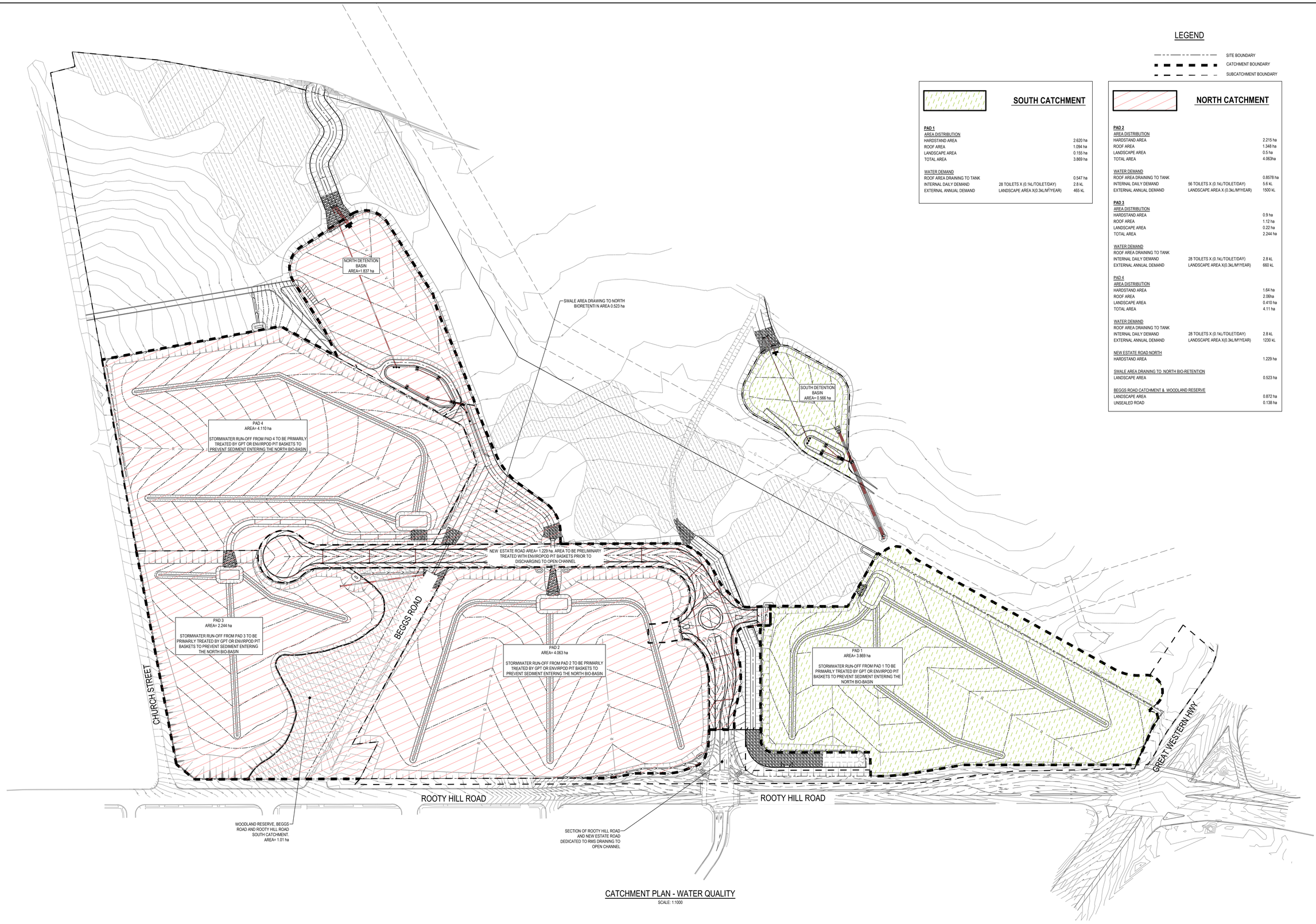
Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: CATCHMENT PLAN - WATER QUANTITY

Drawn	Designed	Date
M.Cerna	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:1000 @A0

Drawing number: 17D83_S96_C250

Revision: 02



LEGEND

- SITE BOUNDARY
- CATCHMENT BOUNDARY
- SUBCATCHMENT BOUNDARY

SOUTH CATCHMENT

PAD 1

AREA DISTRIBUTION		
HARDSTAND AREA		2.620 ha
ROOF AREA		1.094 ha
LANDSCAPE AREA		0.155 ha
TOTAL AREA		3.869 ha
WATER DEMAND		
ROOF AREA DRAINING TO TANK		0.547 ha
INTERNAL DAILY DEMAND	28 TOILETS X (0.1KL/TOILET/DAY)	2.8 kL
EXTERNAL ANNUAL DEMAND	LANDSCAPE AREA X(0.3kL/M²/YEAR)	465 kL

NORTH CATCHMENT

PAD 2

AREA DISTRIBUTION		
HARDSTAND AREA		2.215 ha
ROOF AREA		1.348 ha
LANDSCAPE AREA		0.5 ha
TOTAL AREA		4.063ha
WATER DEMAND		
ROOF AREA DRAINING TO TANK		0.8578 ha
INTERNAL DAILY DEMAND	56 TOILETS X (0.1kL/TOILET/DAY)	5.6 kL
EXTERNAL ANNUAL DEMAND	LANDSCAPE AREA X (0.3kL/M²/YEAR)	1500 kL

PAD 3

AREA DISTRIBUTION		
HARDSTAND AREA		0.9 ha
ROOF AREA		1.12 ha
LANDSCAPE AREA		0.22 ha
TOTAL AREA		2.244 ha
WATER DEMAND		
ROOF AREA DRAINING TO TANK		
INTERNAL DAILY DEMAND	28 TOILETS X (0.1kL/TOILET/DAY)	2.8 kL
EXTERNAL ANNUAL DEMAND	LANDSCAPE AREA X(0.3kL/M²/YEAR)	660 kL

PAD 4

AREA DISTRIBUTION		
HARDSTAND AREA		1.64 ha
ROOF AREA		2.06ha
LANDSCAPE AREA		0.410 ha
TOTAL AREA		4.11 ha
WATER DEMAND		
ROOF AREA DRAINING TO TANK		
INTERNAL DAILY DEMAND	28 TOILETS X (0.1kL/TOILET/DAY)	2.8 kL
EXTERNAL ANNUAL DEMAND	LANDSCAPE AREA X(0.3kL/M²/YEAR)	1230 kL
NEW ESTATE ROAD NORTH		
HARDSTAND AREA		1.229 ha
SWALE AREA DRAINING TO NORTH BIO-RETENTION		
LANDSCAPE AREA		0.523 ha
BEGGS ROAD CATCHMENT & WOODLAND RESERVE		
LANDSCAPE AREA		0.872 ha
UNSEALED ROAD		0.138 ha

CATCHMENT PLAN - WATER QUALITY

SCALE: 1:1000

0 20 40 60 80 100m
20 15 10 5
SCALE 1:1000

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	MC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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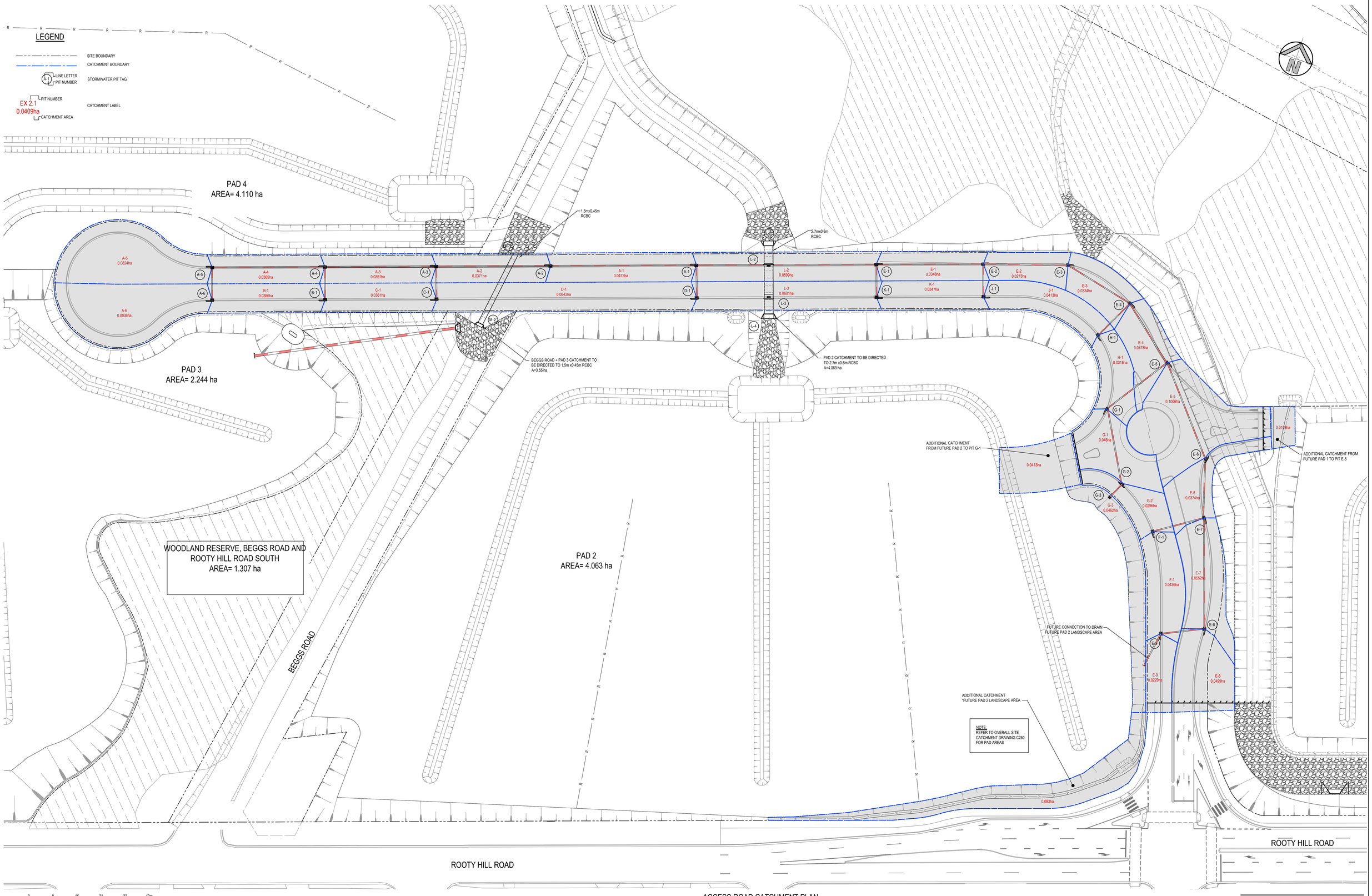
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: CATCHMENT PLAN - WATER QUALITY

Drawn	Designed	Date
M.Cerna	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:1000 @A0

Drawing number: 17D83_S96_C251
Revision: 02



ACCESS ROAD CATCHMENT PLAN

SCALE: 1:400

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	LC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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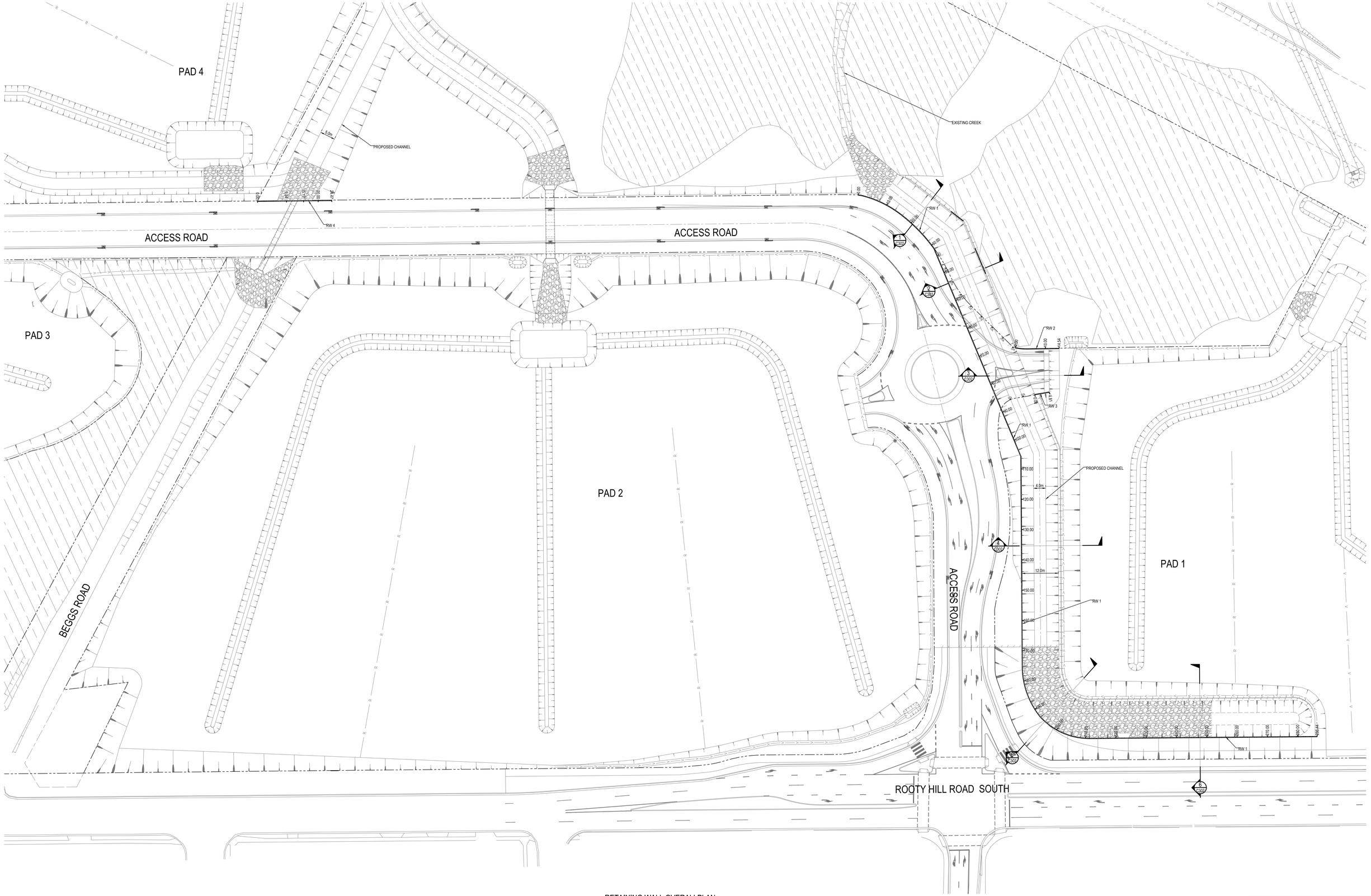
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: ACCESS ROAD CATCHMENT PLAN

Drawn	Designed	Date
M.Cerna	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:400 @A0

Drawing number: 17D83_S96_C255
Revision: 02



0 8 16 24 32 40m
8 6 4 2
SCALE 1:400

RETAINING WALL OVERALLPLAN
SCALE: 1:400

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client
FRASER PROPERTY AUSTRALIA
Surveyor
LANDPARTNERS

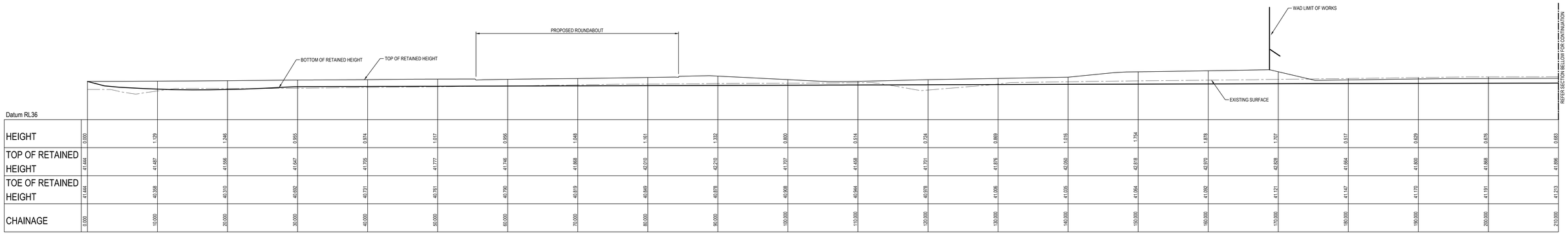
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Project
EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS
Title
RETAINING WALL OVERALL PLAN

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:400 @A0

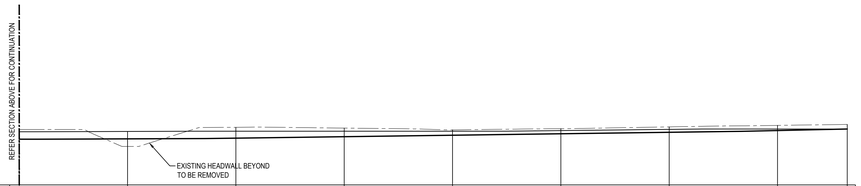
Drawing number
17D83_S96_C300
Revision
02



Datum RL36

HEIGHT	0.000	1.129	1.246	0.955	0.974	1.017	0.956	1.048	1.161	1.392	0.800	0.514	0.724	0.869	1.016	1.754	1.878	1.707	0.517	0.629	0.676	0.683
TOP OF RETAINED HEIGHT	41.444	41.487	41.566	41.647	41.705	41.777	41.746	41.868	42.010	42.210	41.707	41.458	41.701	41.876	42.050	42.618	42.870	42.638	41.664	41.800	41.868	41.896
TOE OF RETAINED HEIGHT	41.444	40.358	40.310	40.692	40.731	40.761	40.790	40.819	40.849	40.878	40.908	40.944	40.978	41.006	41.035	41.064	41.092	41.121	41.147	41.170	41.191	41.213
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000

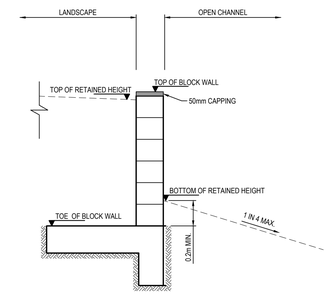
RETAINING WALL - RW 1
HORIZONATL SCALE 1:200 @ A0
VERTICAL SCALE 1:200 @ A0



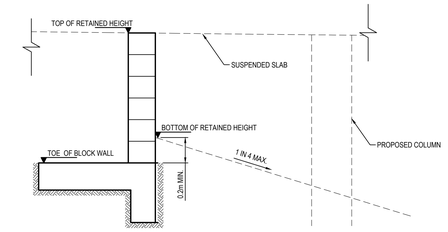
Datum RL37

HEIGHT	0.683	0.684	0.636	0.501	0.365	0.287	0.261	0.135	0.000
TOP OF RETAINED HEIGHT	41.896	41.929	41.950	41.950	41.950	42.007	42.117	42.150	42.150
TOE OF RETAINED HEIGHT	41.213	41.244	41.314	41.449	41.585	41.720	41.856	42.015	42.150
CHAINAGE	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	286.436

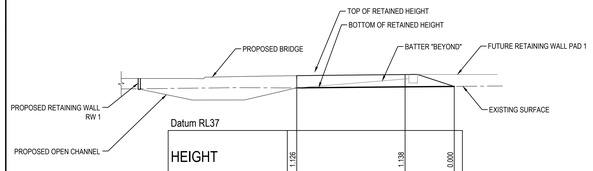
RETAINING WALL - RW 1 - CONTINUATION
HORIZONATL SCALE 1:200 @ A0
VERTICAL SCALE 1:200 @ A0



TYPICAL BLOCK RETAINING WALL RW 1
SCALE: NTS



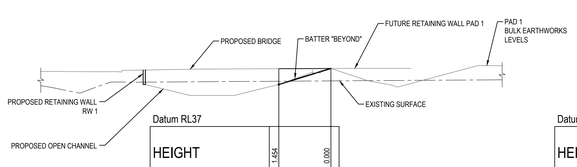
TYPICAL BLOCK RETAINING WALL RW 1 UNDER ROAD
SCALE: NTS



Datum RL37

HEIGHT	1.126	1.138	0.000
TOP OF RETAINED HEIGHT	42.061	42.167	41.069
TOE OF RETAINED HEIGHT	40.935	41.029	41.069
CHAINAGE	0.000	10.000	14.539

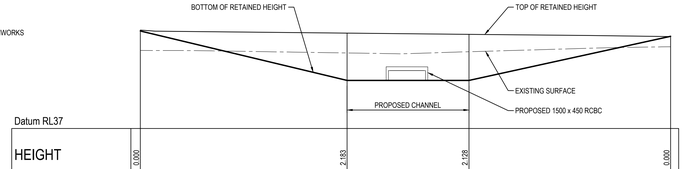
RETAINING WALL - RW 2
HORIZONATL SCALE 1:200 @ A0
VERTICAL SCALE 1:200 @ A0



Datum RL37

HEIGHT	1.454	0.000	
TOP OF RETAINED HEIGHT	42.334	42.357	
TOE OF RETAINED HEIGHT	40.881	42.357	
CHAINAGE	0.000	4.811	

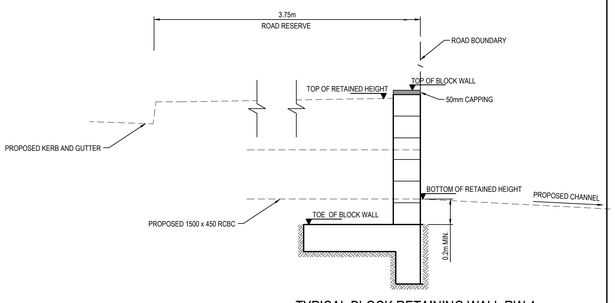
RETAINING WALL - RW 3
HORIZONATL SCALE 1:200 @ A0
VERTICAL SCALE 1:200 @ A0



Datum RL37

HEIGHT	0.000	2.183	2.128	0.000	
TOP OF RETAINED HEIGHT	41.499	41.483	41.348	41.254	
TOE OF RETAINED HEIGHT	41.499	39.220	39.220	41.254	
CHAINAGE	0.000	9.541	15.169	24.473	

RETAINING WALL - RW 4
HORIZONATL SCALE 1:100 @ A0
VERTICAL SCALE 1:100 @ A0



TYPICAL BLOCK RETAINING WALL RW 4
SCALE: NTS

NOTE:
RETAINING WALL SECTIONS SHOWN ON THIS PLAN ARE TYPICAL ONLY. FULL STRUCTURAL DETAILS TO BE PROVIDED AT CC STAGE.

0 2 4 6 8 10m
2 1
SCALE 1:100

0 4 8 12 16 20m
4 3 2 1
SCALE 1:200

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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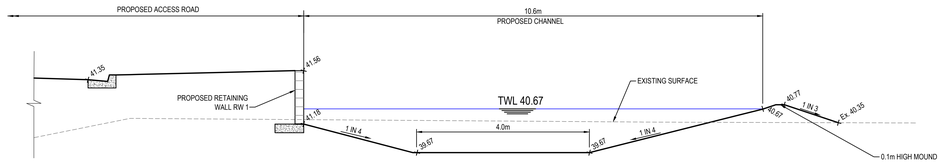
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ISSUED FOR S96

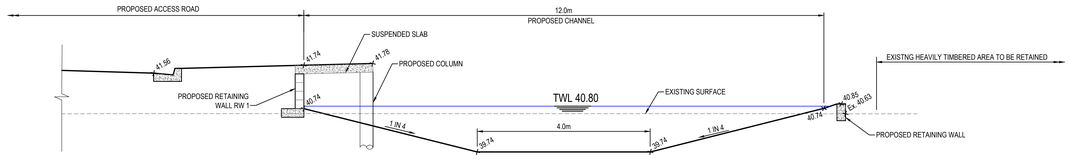
Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

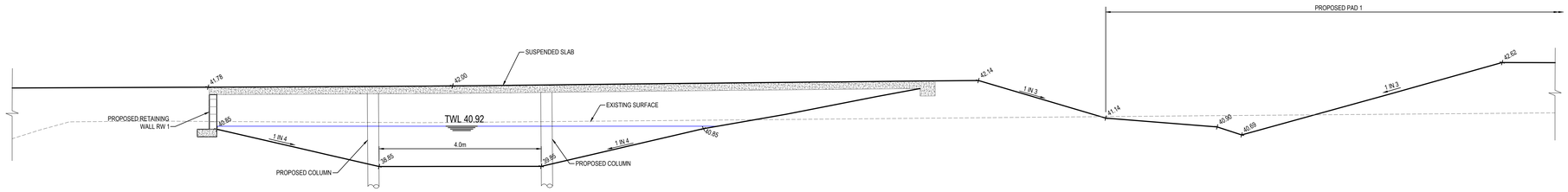
Title: RETAINING WALL LONG SECTIONS
Drawing number: 17D83_S96_C301
Revision: 02



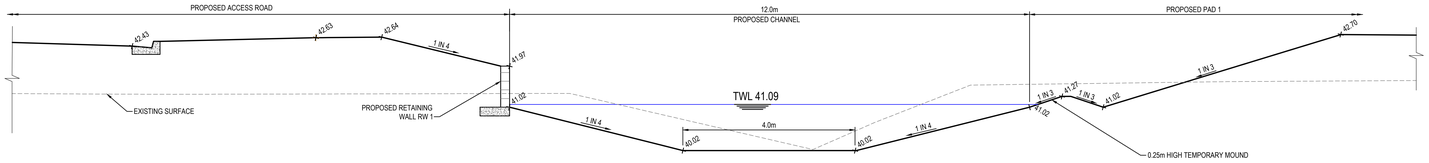
SECTION 1 C300
SCALE: 1:50 @ A1



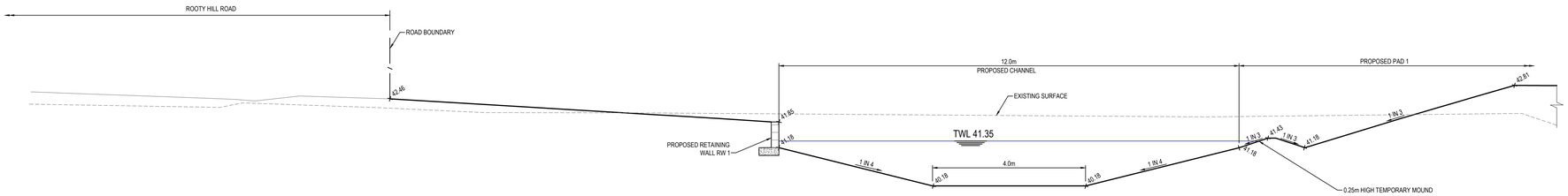
SECTION 2 C300
SCALE: 1:50 @ A1



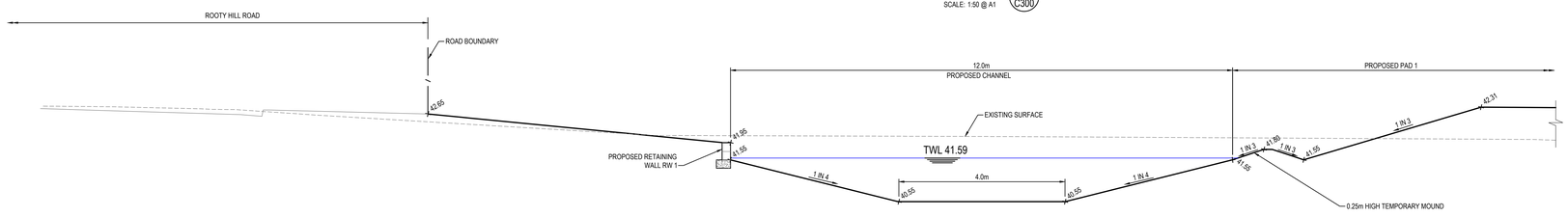
SECTION 3 C300
SCALE: 1:50 @ A1



SECTION 4 C300
SCALE: 1:50 @ A1



SECTION 5 C300
SCALE: 1:50 @ A1



SECTION 6 C300
SCALE: 1:50 @ A1

0 1000 2000 3000 4000 5000mm
1000 600 200
SCALE 1:50

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	13.04.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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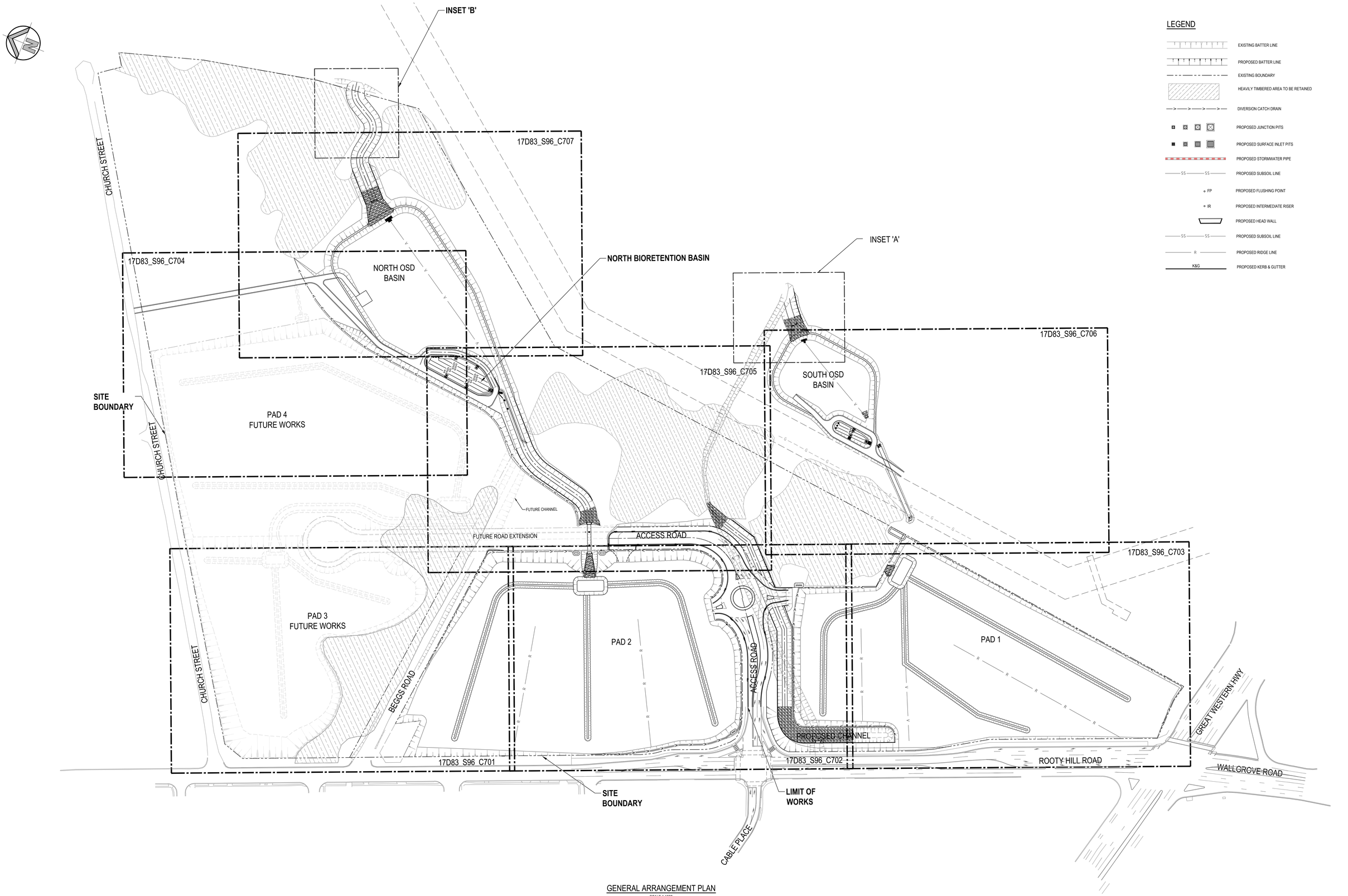
ISSUED FOR S96

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: RETAINING WALL SECTIONS

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:50 @ A0

Drawing number: 17D83_S96_C302
Revision: 01



LEGEND

- EXISTING BATTER LINE
- PROPOSED BATTER LINE
- EXISTING BOUNDARY
- HEAVILY TIMBERED AREA TO BE RETAINED
- DIVERSION CATCH DRAIN
- PROPOSED JUNCTION PITS
- PROPOSED SURFACE INLET PITS
- PROPOSED STORMWATER PIPE
- PROPOSED SUBSOIL LINE
- FP PROPOSED FLUSHING POINT
- IR PROPOSED INTERMEDIATE RISER
- PROPOSED HEAD WALL
- PROPOSED SUBSOIL LINE
- R PROPOSED RIDGE LINE
- K&G PROPOSED KERB & GUTTER

GENERAL ARRANGEMENT PLAN
SCALE 1:1000

0 20 40 60 80 100m
20 15 10 5
SCALE 1:1000

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: GENERAL ARRANGEMENT PLAN
STAGE 1

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:1000 @A0

Drawing number: 17D83_S96_C700
Revision: 01

FOR CONTINUATION REFER TO DWG.17D83_S96_C704

FUTURE ROAD/ PAD BOUNDARY

FUTURE PAD 3

SITE BOUNDARY

FUTURE PAD BOUNDARY

PAD 2

PROPOSED 0.2m DEEP 1.2m WIDE TEMPORARY GRASSED SWALE

SITE BOUNDARY

PROPOSED 1.2m WIDE TEMPORARY SWALE REFER DRAWING C115 FOR DETAILS

BEGGS ROAD

CHURCH STREET

SITE BOUNDARY

EDGE OF BITUMEN

PROPOSED SITE BOUNDARY

FUTURE ROAD WIDENING EXISTING BOUNDARY

7.56m

EXISTING KERB AND GUTTER

PROPOSED BOUNDARY

EXISTING KERB AND GUTTER

ROOTY HILL ROAD SOUTH

FOR CONTINUATION REFER TO DWG.17D83_S96_C702

0 5 10 15 20 25m

5 4 3 2 1

SCALE 1:250

DETAIL CIVIL PLAN

SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS

DATUM: AHD

ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.09.2018

Client: FRASER PROPERTY AUSTRALIA

Surveyor: LANDPARTNERS

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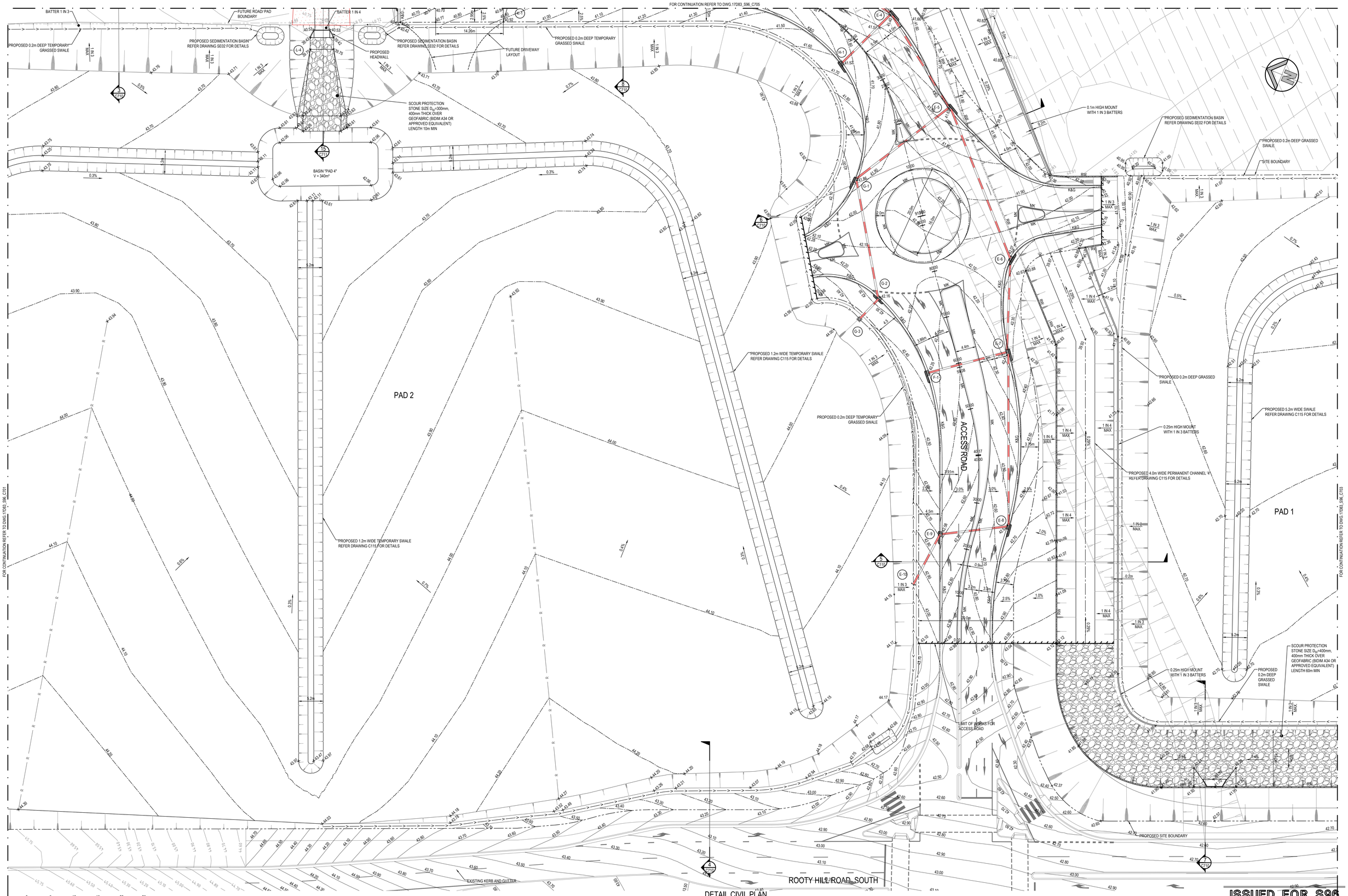
Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN - STAGE 1
SHEET 1 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C701

Revision: 01



SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN - STAGE 1
SHEET 2 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C102
Revision: 02

SCOUR PROTECTION
STONE SIZE D_{50}=200mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)

BASIN "PAD 1"
V = 333m³

PROPOSED SEDIMENTATION
BASIN
REFER DRAWING SE02 FOR DETAILS

HEAVILY TIMBERED AREA

PAD BOUNDARY

PROPOSED 1.2m WIDE TEMPORARY SWALE
REFER DRAWING C115 FOR DETAILS

GAS EASEMENT

SITE BOUNDARY

PROPOSED 0.2m DEEP TEMPORARY
GRASSED SWALE

EXISTING MOUND TO BE REMOVED

PAD 1

0.25m HIGH MOUNT
WITH 1 IN 3 BATTERS

PROPOSED 0.2m DEEP GRASSED
SWALE

PROPOSED 4.0m WIDE PERMANENT CHANNEL '4'
REFER DRAWING C115 FOR DETAILS

PROPOSED SITE BOUNDARY

BATTER 1 IN 3 MAX.

GREAT WESTERN HWY

ROOTY HILL ROAD SOUTH

FOR CONTINUATION REFER TO DWG (T/DB) S96_C102

DETAIL CIVIL PLAN
SCALE 1:250

0 5 10 15 20 25m
SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.06.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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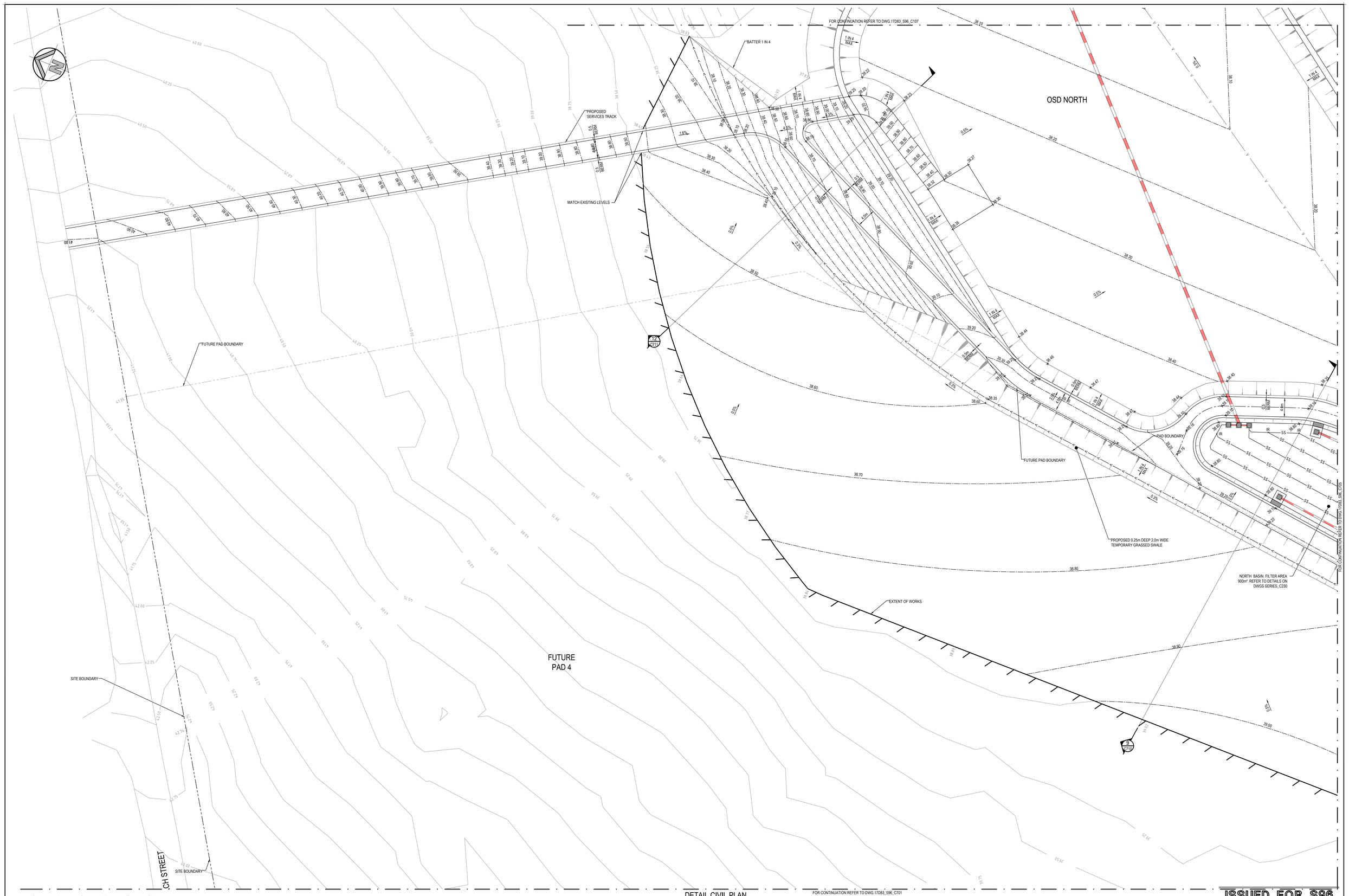
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN - STAGE 1
SHEET 3 OF 7

Drawn	Designed	Date
L.Calha	L.Calha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C703
Revision: 01



DETAIL CIVIL PLAN

SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS

DATUM: AHD

ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA

Surveyor: LANDPARTNERS

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henry & hymas

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN - STAGE 1
SHEET 4 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing Number: 17D83_S96_C704

Revision: 01

FOR CONTINUATION REFER TO DWG.17D83_S96_C707

FOR CONTINUATION REFER TO DWG.17D83_S96_C704

FOR CONTINUATION REFER TO DWG.17D83_S96_C708

NORTH BASIN FILTER AREA
900m² REFER TO DETAILS ON
DWGS SERIES_C230

OAS EASEMENT

EXISTING CHANNEL

PROPOSED 5.0m WIDE PERMANENT CHANNEL 'I'
REFER DRAWING C115 FOR DETAILS

BATTER 1 IN 4 MAX

SCOUR PROTECTION
STONE SIZE D_{50}=300mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 10m MIN

PROPOSED
HEADWALL

PROPOSED 2700 x 600
RCBC

FUTURE ROAD BOUNDARY

EXISTING LEVELS TO BE
REINSTATED HATCHED AREA

BATTER 1 IN 3

FUTURE ROAD/ PAD
BOUNDARY

BATTER 1 IN 4

PROPOSED 0.2m DEEP TEMPORARY
GRASSED SWALE

PROPOSED SEDIMENTATION BASIN
REFER DRAWING SE02 FOR DETAILS

PROPOSED
HEADWALL

ACCESS ROAD

K&G

PROPOSED
ENEMARKING E1

PROPOSED SEDIMENTATION BASIN
REFER DRAWING SE02 FOR DETAILS

FUTURE DRIVEWAY
LAYOUT

PROPOSED 0.2m DEEP TEMPORARY
GRASSED SWALE

SCOUR PROTECTION
STONE SIZE D_{50}=300mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 10m MIN

FOR CONTINUATION REFER TO DWG.17D83_S96_C702

SCOUR PROTECTION
STONE SIZE D_{50}=400mm,
600mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 10m MIN

0.1m HIGH MOUNT
WITH 1 IN 3 BATTERS

DETAIL CIVIL PLAN

SCALE 1:250

0 5 10 15 20 25m

5 4 3 2 1

SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS

DATUM: AHD

ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	ISSUED FOR S96	LC	LC	13.04.2018
01	ISSUED FOR S96	LC	LC	30.05.2018

Client
FRASER PROPERTY AUSTRALIA

Surveyor
LANDPARTNERS

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henry&hymas

Project
EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title
DETAIL CIVIL PLAN - STAGE 1
SHEET 5 OF 7

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number
17D83_S96_C705

Revision
01

FOR CONTINUATION REFER TO INSET 'A'

OSD SOUTH

SCOUR PROTECTION
STONE SIZE D_{50}=300mm,
400mm THICK OVER
GEOFABRIC (BIDIM A34 OR
APPROVED EQUIVALENT)
LENGTH 5m MIN

ACCESS TRACK

SOUTH BASIN. FILTER AREA
170m². REFER TO DETAILS ON
DWG. C240 SERIES

EDGE OF EXISTING EASEMENT

BATTER 1 IN 4 MAX.

BATTER 1 IN 4 MAX.

BATTER 1 IN 4 MAX.

GAS EASEMENT

HEAVILY TIMBERED AREA

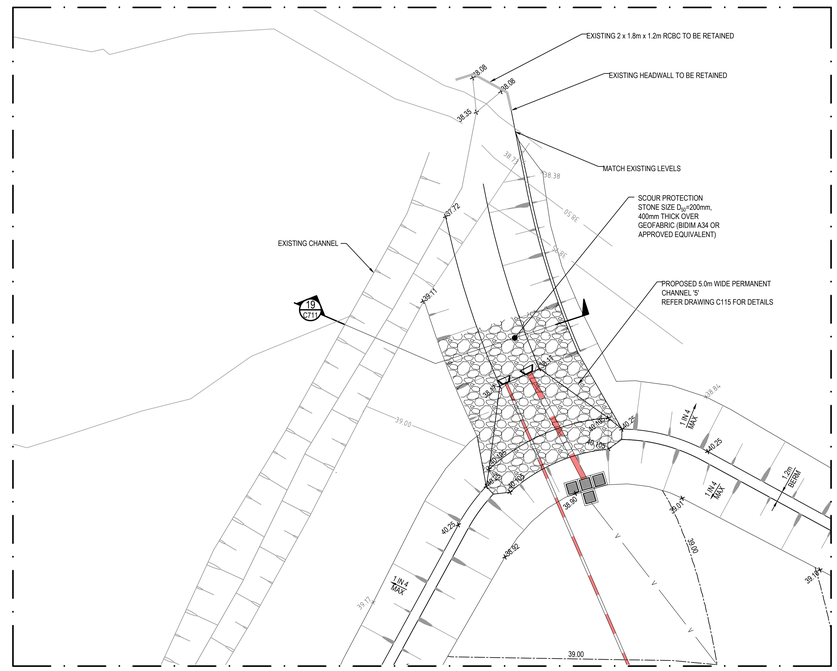
Ø900 STUB FOR FUTURE PAD 1 DRAINAGE.
LOCATION OF STUB HAS BEEN BASED ON FUTURE PAD 1 LAYOUT.
THIS Ø900mm PIPE TO BE CONSTRUCTED AND EXTENDED AT THE
TIME OF PAD DEVELOPMENT

PROPOSED SEDIMENTATION BASIN
REFER DRAWING SE02 FOR DETAILS

FOR CONTINUATION REFER TO DWG:17D83_S96_C705

FOR CONTINUATION REFER TO DWG:17D83_S96_C703

DETAIL CIVIL PLAN
SCALE 1:250



INSET 'A'
SCALE: 1:250 @A0

0 5 10 15 20 25m
5 4 3 2 1
SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN - STAGE 1
SHEET 6 OF 7

Drawn	Designed	Date
L.Caña	L.Caña	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C706
Revision: 01

FOR CONTINUATION REFER TO INSET 'A'

FOR CONTINUATION REFER TO DWG.17D83_S96_C705

MATCH EXISTING LEVELS

MATCH EXISTING LEVELS

"PROPOSED 5.0m WIDE PERMANENT CHANNEL 'B' REFER DRAWING C115 FOR DETAILS

SCOUR PROTECTION STONE SIZE D_{50}=300mm, 400mm THICK OVER GEOFABRIC (BIDIM A34 OR APPROVED EQUIVALENT)

BATTER 1 IN 4

PROPOSED SERVICES TRACK

MATCH EXISTING LEVELS

OSD NORTH

FOR CONTINUATION REFER TO DWG.17D83_S96_C703

"EXISTING BOX CULVERTS

"EXISTING HEADWALL

"PROPOSED 5.0m WIDE PERMANENT CHANNEL 'B' REFER DRAWING C115 FOR DETAILS

SITE BOUNDARY

MATCH EXISTING LEVELS

MATCH EXISTING LEVELS

INSET 'B'

SCALE: 1:250 @A0

SITE BOUNDARY

DETAIL CIVIL PLAN

SCALE 1:250

0 5 10 15 20 25m

SCALE 1:250

ISSUED FOR S96

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS

DATUM: AHD

ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	MC	LC	30.06.2018

Client: FRASER PROPERTY AUSTRALIA

Surveyor: LANDPARTNERS

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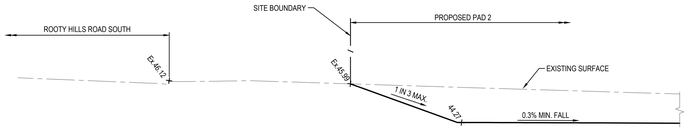
Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: DETAIL CIVIL PLAN - STAGE 1
SHEET 7 OF 7

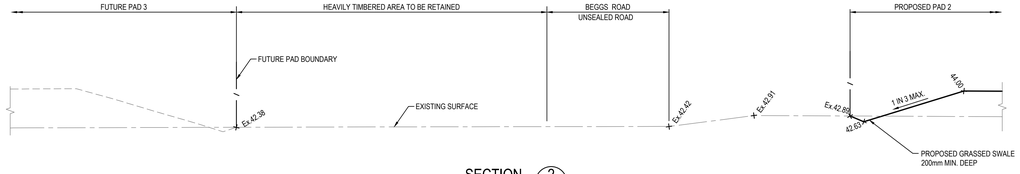
Drawn	Designed	Date
L.Calha	L.Calha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:250 @A0

Drawing number: 17D83_S96_C707

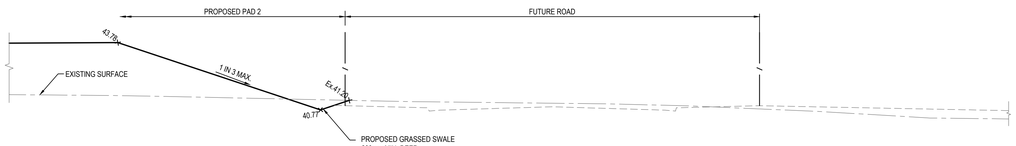
Revision: 01



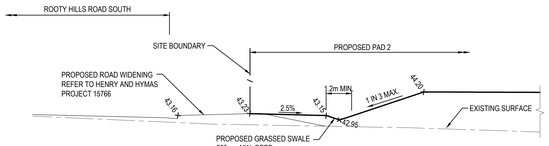
SECTION 1 C701
SCALE: 1:100 @ A0



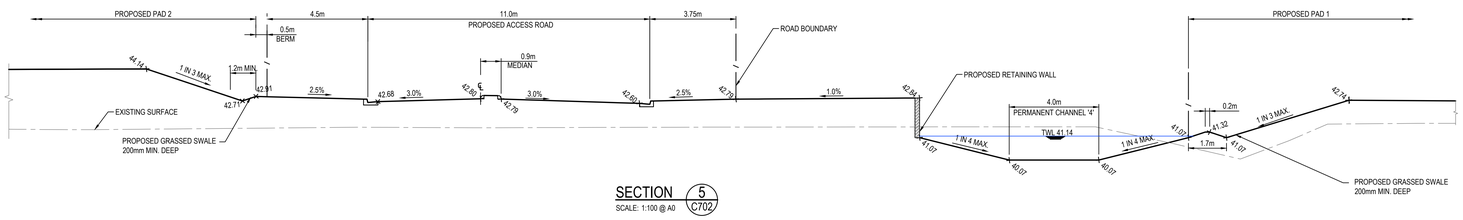
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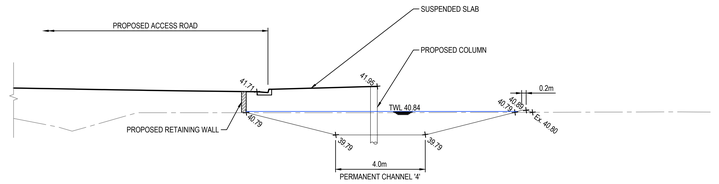
SECTION 3 C702
SCALE: 1:100 @ A0



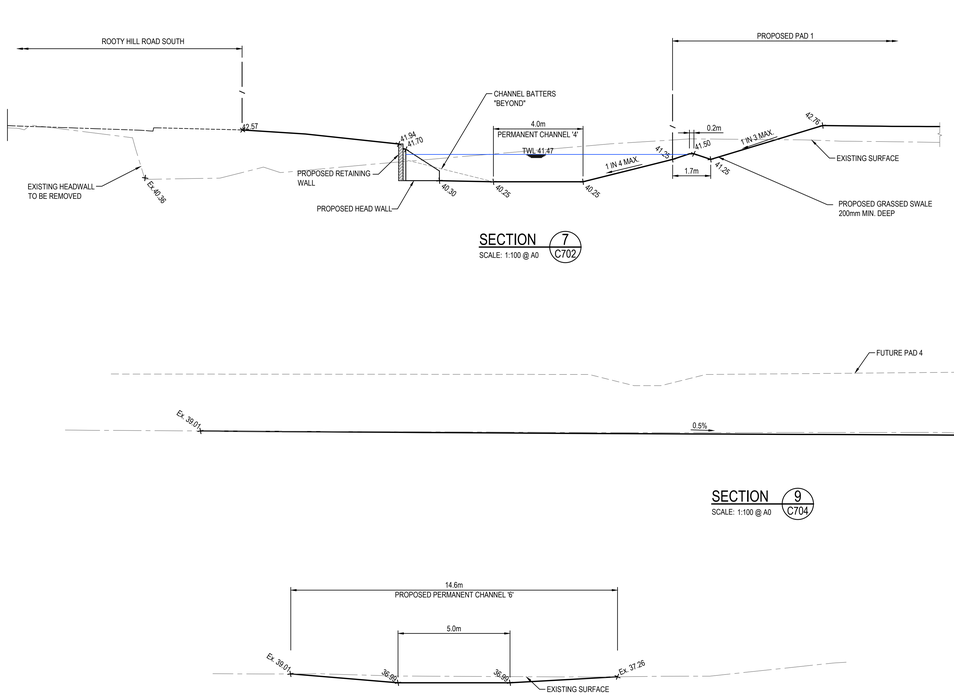
SECTION 4 C702
SCALE: 1:100 @ A0



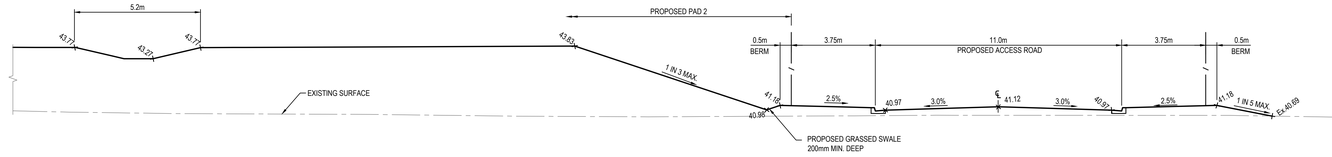
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SCALE: 1:100 @ A0



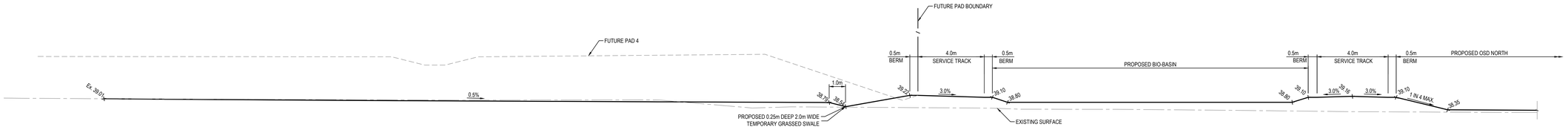
SECTION 6 C702
SCALE: 1:100 @ A0



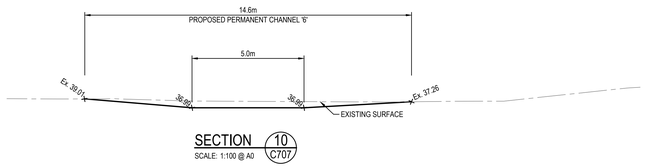
SECTION 7 C702
SCALE: 1:100 @ A0



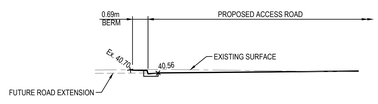
SECTION 8 C702
SCALE: 1:100 @ A0



SECTION 9 C704
SCALE: 1:100 @ A0



SECTION 10 C707
SCALE: 1:100 @ A0



SECTION 11 C705
SCALE: 1:100 @ A0

0 2 4 6 8 10m
2 1
SCALE 1:100

ISSUED FOR S96

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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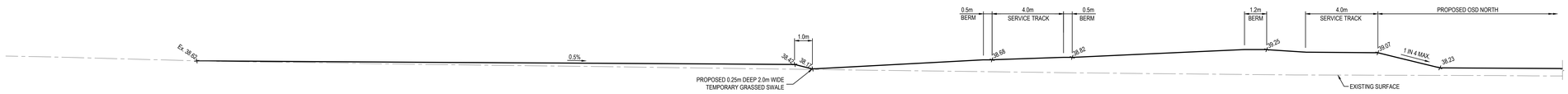
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

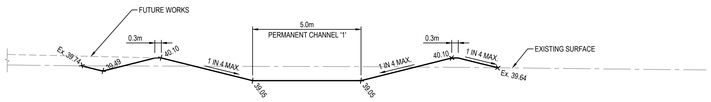
Title: TYPICAL SITE SECTIONS - STAGE 1
SHEET 1 OF 2

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @ A0

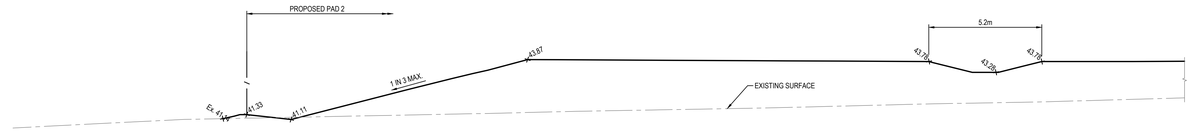
Drawing number: 17D83_S96_C710
Revision: 01



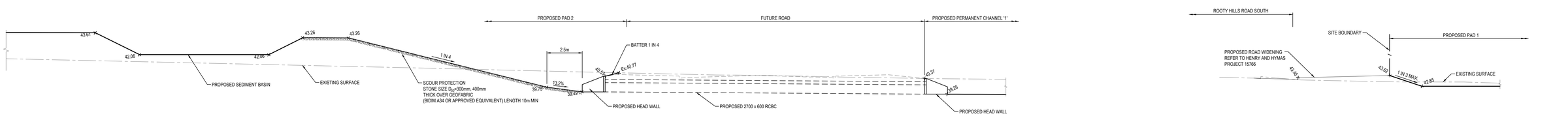
SECTION 12
SCALE: 1:100 @ A0 C704



SECTION 13
SCALE: 1:100 @ A0 C705

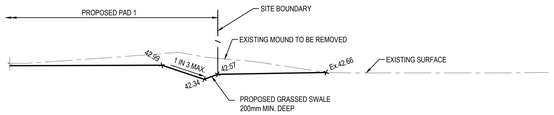


SECTION 14
SCALE: 1:100 @ A0 C705

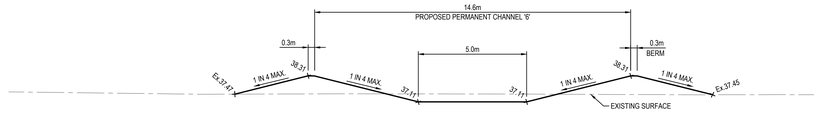


SECTION 15
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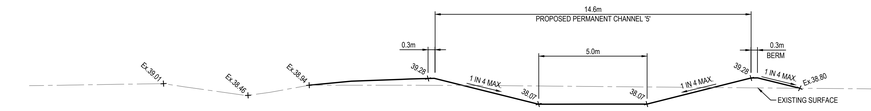
SECTION 16
SCALE: 1:100 @ A0 C703



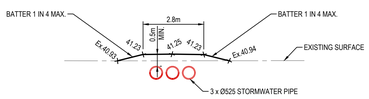
SECTION 17
SCALE: 1:100 @ A0 C703



SECTION 18
SCALE: 1:100 @ A0 C706



SECTION 19
SCALE: 1:100 @ A0 C706



SECTION 20
SCALE: 1:100 @ A0 C706

0 2 4 6 8 10m
SCALE 1:100

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

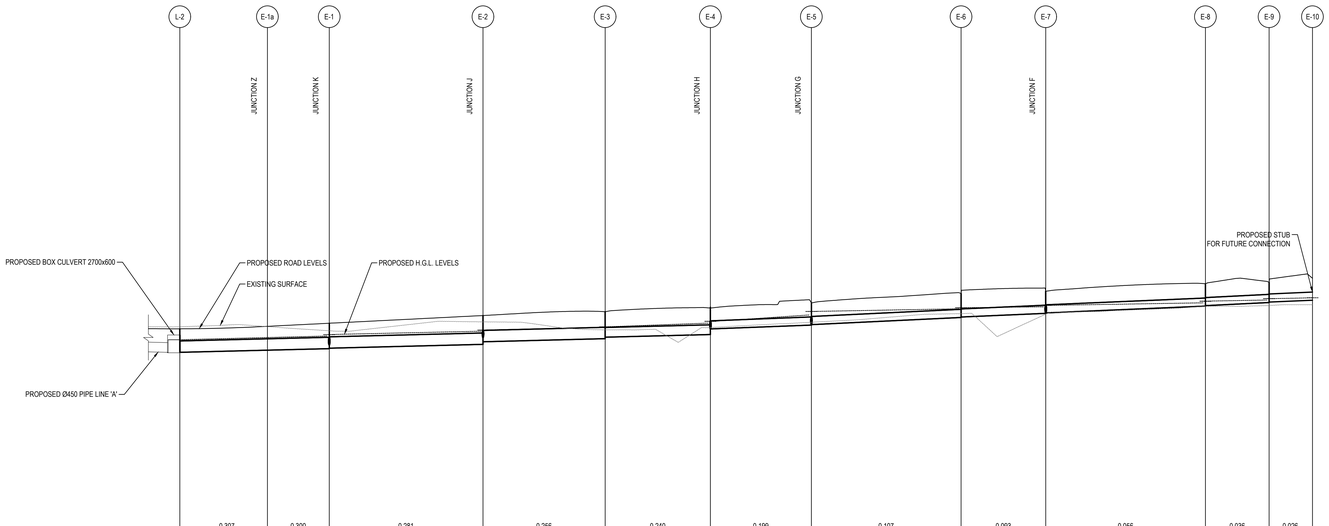
Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS
Title: TYPICAL SITE SECTIONS - STAGE 1
SHEET 2 OF 2

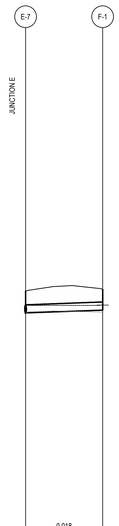
Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @ A0
Drawing number		Revision
17D83_S96_C711		01



Flow (m³/s)		0.307	0.300	0.281	0.256	0.240	0.199	0.107	0.093	0.056	0.036	0.026		
Velocity (m/s)		1.420	1.400	1.300	1.180	1.510	1.860	0.970	0.980	1.330	1.250	1.100		
Pipe Size & Class		Ø 525 RCP C2	Ø 525 RCP C2	Ø 525 RCP C2	Ø 525 RCP C2	Ø 450 RCP C2	Ø 375 RCP C2	Ø 375 RCP C2	Ø 375 RCP C2	Ø 375 RCP C2	Ø 375 RCP C2	Ø 375 RCP C2		
Grade (%)		0.5%	0.5%	0.5%	0.5%	0.5%	0.77%	0.96%	0.87%	0.85%	1%	0.86%		
Datum R.L		25.00												
DEPTH TO INVERT	1.086	1.086	1.100	1.094	1.172	1.182	1.230	1.210	1.246	1.176	1.262	1.003	1.025	1.005
H.G.L. LEVELS 1 in 20 Year ARI	39.893	39.893	40.064	40.064	40.113	40.134	40.286	40.345	40.463	40.491	40.659	40.729	41.035	41.199
INVERT R.L.	39.310	39.310	39.411	39.417	39.482	39.502	39.879	39.799	39.940	40.010	40.131	40.390	40.570	40.590
SURFACE R.L.	40.396		40.511	40.654			41.009		41.186		41.364		41.595	
PIPE CHAINAGE	0.000		20.212	34.471			69.955		98.149		122.432		145.732	

LINE E

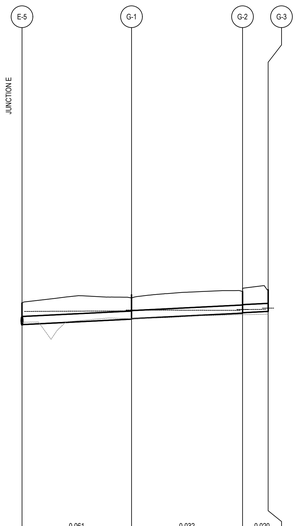
SCALE: H 1:500
V 1:100



Flow (m³/s)		0.018	
Velocity (m/s)		0.270	
Pipe Size & Class		Ø 375 RCP C2	
Grade (%)		0.73%	
Datum R.L		25.00	
DEPTH TO INVERT	1.020	1.000	0.951
H.G.L. LEVELS 1 in 20 Year ARI	41.412	41.478	41.478
INVERT R.L.	41.110	41.130	41.260
SURFACE R.L.	42.130		42.211
PIPE CHAINAGE	0.000		17.793

LINE F

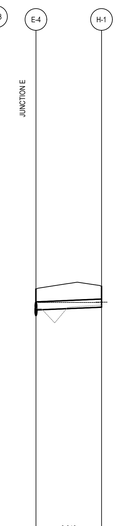
SCALE: H 1:500
V 1:100



Flow (m³/s)		0.061	0.032	0.020
Velocity (m/s)		0.560	0.960	0.850
Pipe Size & Class		Ø 375 RCP C2	Ø 375 RCP C2	Ø 375 RCP C2
Grade (%)		1%	1%	1%
Datum R.L		25.00		
DEPTH TO INVERT	1.025	1.005	1.128	1.108	1.003	1.004
H.G.L. LEVELS 1 in 20 Year ARI	41.035	41.199	41.225	41.282	41.287	41.296
INVERT R.L.	40.570	40.590	40.843	40.883	41.119	41.198
SURFACE R.L.	41.595		41.970		42.122	42.202
PIPE CHAINAGE	0.000		25.285		50.697	56.792

LINE G

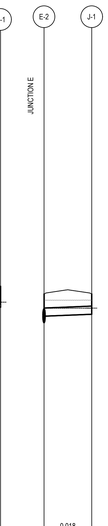
SCALE: H 1:500
V 1:100



Flow (m³/s)		0.019	
Velocity (m/s)		0.280	
Pipe Size & Class		Ø 375 RCP C2	
Grade (%)		0.86%	
Datum R.L		24.00	
DEPTH TO INVERT	1.233	0.974	0.964
H.G.L. LEVELS 1 in 20 Year ARI	40.659	40.729	40.75
INVERT R.L.	40.131	40.390	40.520
SURFACE R.L.	41.364		41.484
PIPE CHAINAGE	0.000		15.122

LINE H

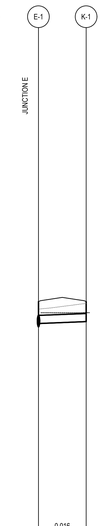
SCALE: H 1:500
V 1:100



Flow (m³/s)		0.018	
Velocity (m/s)		0.210	
Pipe Size & Class		Ø 375 RCP C2	
Grade (%)		0.8%	
Datum R.L		24.00	
DEPTH TO INVERT	1.330	1.029	0.941
H.G.L. LEVELS 1 in 20 Year ARI	40.286	40.345	40.346
INVERT R.L.	39.679	39.980	40.068
SURFACE R.L.	41.009		41.099
PIPE CHAINAGE	0.000		11.000

LINE J

SCALE: H 1:500
V 1:100



Flow (m³/s)		0.016	
Velocity (m/s)		0.140	
Pipe Size & Class		Ø 375 RCP C2	
Grade (%)		0.8%	
Datum R.L		24.00	
DEPTH TO INVERT	1.172	1.014	0.026
H.G.L. LEVELS 1 in 20 Year ARI	40.064	40.134	40.137
INVERT R.L.	39.482	39.640	39.728
SURFACE R.L.	40.654		40.654
PIPE CHAINAGE	0.000		10.999

LINE K

SCALE: H 1:500
V 1:100

0 2 4 6 8 10m
-2 -1
SCALE 1:100

0 10 20 30 40 50m
10 8 6 4 2 0
SCALE 1:500

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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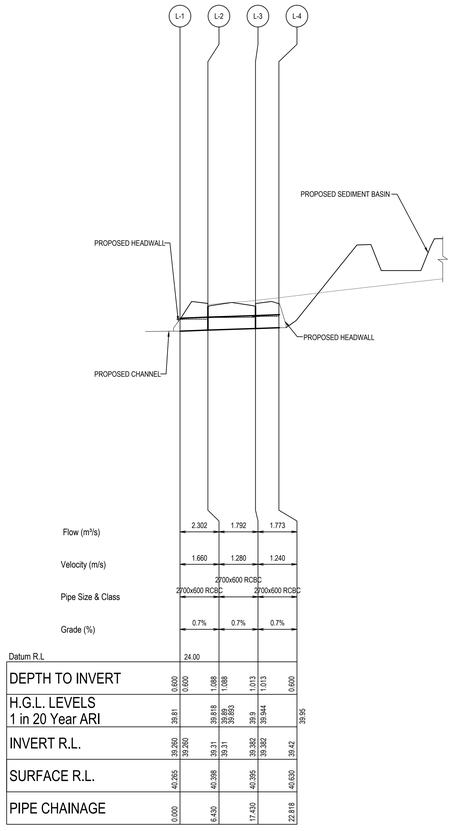
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: STORMWATER LONGITUDINAL SECTIONS
SHEET 1 OF 2 - STAGE 1

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

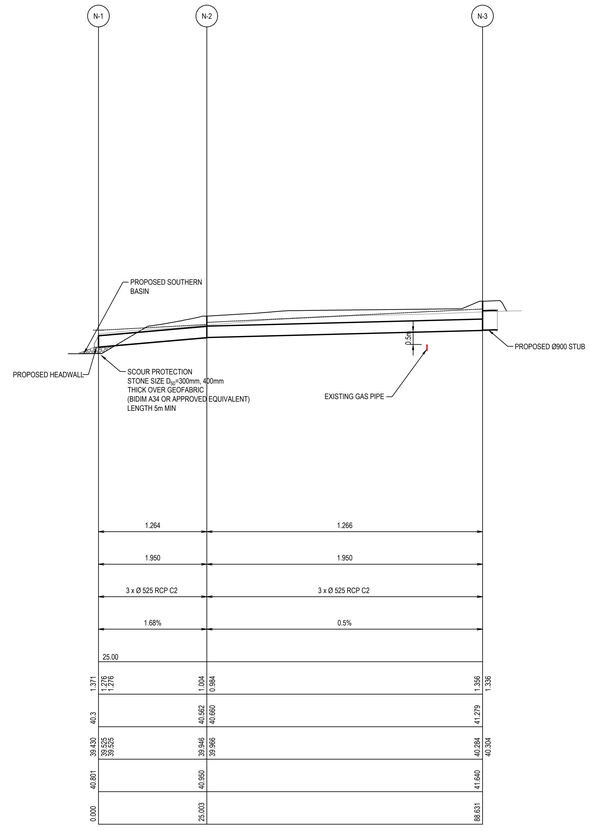
Drawing number: 17D83_S96_C720
Revision: 01



Flow (m³/s)		2.302	1.792	1.773	
Velocity (m/s)		1.660	1.280	1.240	
Pipe Size & Class		2700x600 RCBC	2700x600 RCBC	2700x600 RCBC	
Grade (%)		0.7%	0.7%	0.7%	
Datum R.L		24.00			
DEPTH TO INVERT	0.600	0.600	1.088	1.013	0.600
H.G.L. LEVELS 1 in 20 Year ARI	39.81	39.818	39.89	39.944	39.95
			39.853		
INVERT R.L.	39.760	39.268	39.31	39.382	39.42
SURFACE R.L.	40.265	40.398		40.395	40.630
PIPE CHAINAGE	0.000	6.430		17.430	22.818

LINE L

SCALE: H 1:500
V 1:100



		1.264	1.266
		1.950	1.950
		3 x Ø 525 RCP C2	3 x Ø 525 RCP C2
		1.68%	0.5%
	25.00		
1.371	1.276	1.004	0.984
	1.276		1.336
40.3		40.062	40.660
			41.279
39.430	39.525	39.946	40.284
	39.525	39.966	40.304
40.801		40.560	41.640
0.000		25.033	88.631

LINE N

SCALE: H 1:500
V 1:100



		Ø 375 RCP C2
		0.66%
	24.00	
1.100	1.081	0.912
39.411	39.430	39.512
40.511		40.424
0.000		12.298

LINE Z

SCALE: H 1:500
V 1:100

0 2 4 6 8 10m
2 1
SCALE 1:100

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

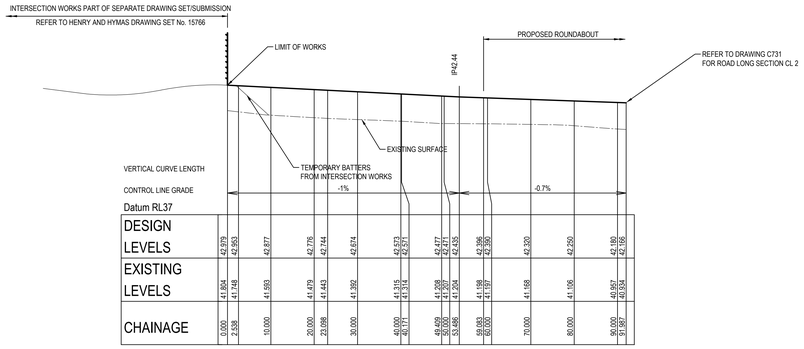
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

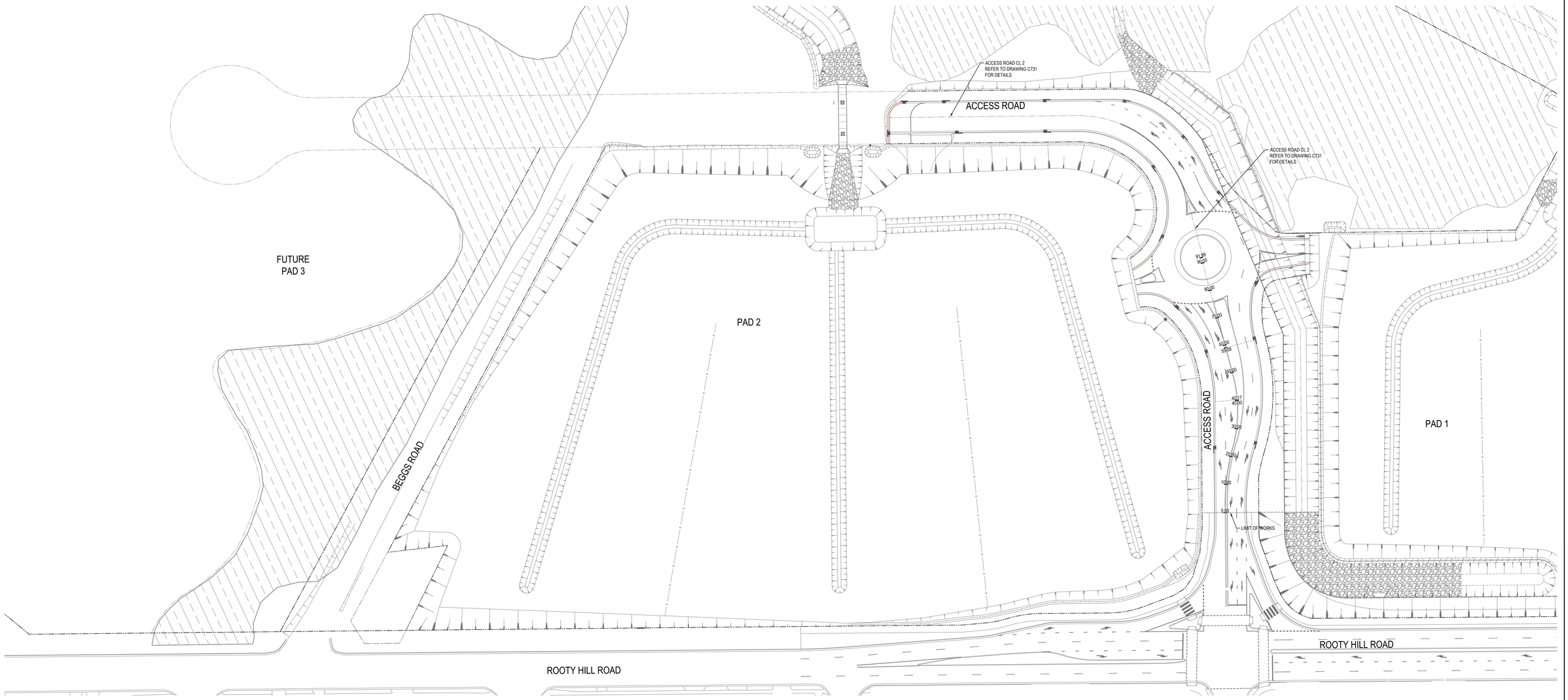
Title: STORMWATER LONGITUDINAL SECTIONS
SHEET 2 OF 2 - STAGE 1

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0
Drawing number		Revision
17D83_S96_C721		01



ACCESS ROAD CL 1 LONGITUDINAL SECTION

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



ACCESS ROAD CHAINAGES PLAN

SCALE: 1:500

SCALE 1:100

SCALE 1:500

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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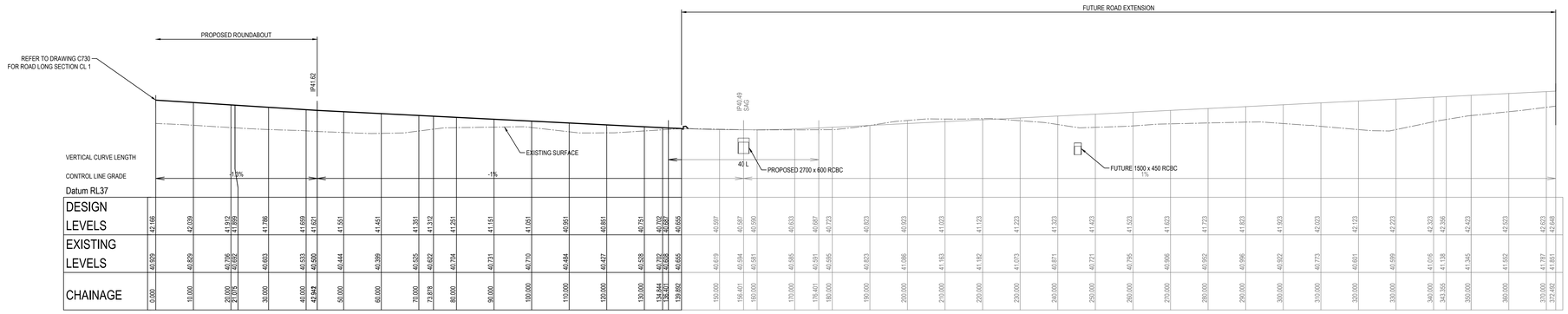
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: ACCESS ROAD CL 1 LONG SECTION AND CHAINAGES PLAN

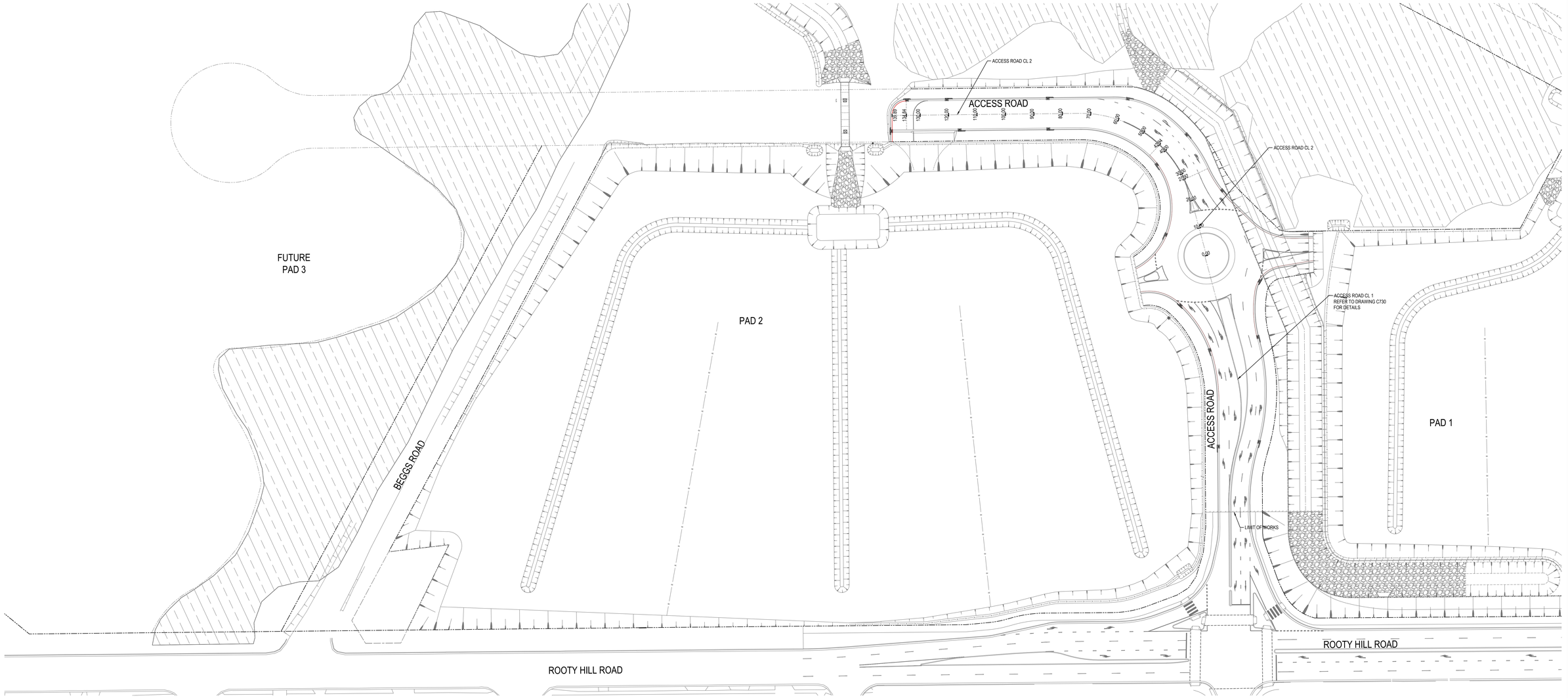
Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

Drawing number: 17D83_S96_C730
Revision: 01



ACCESS ROAD CL 2 LONGITUDINAL SECTION

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



ACCESS ROAD CHAINAGES PLAN

SCALE: 1:500

SCALE 1:100

SCALE 1:500

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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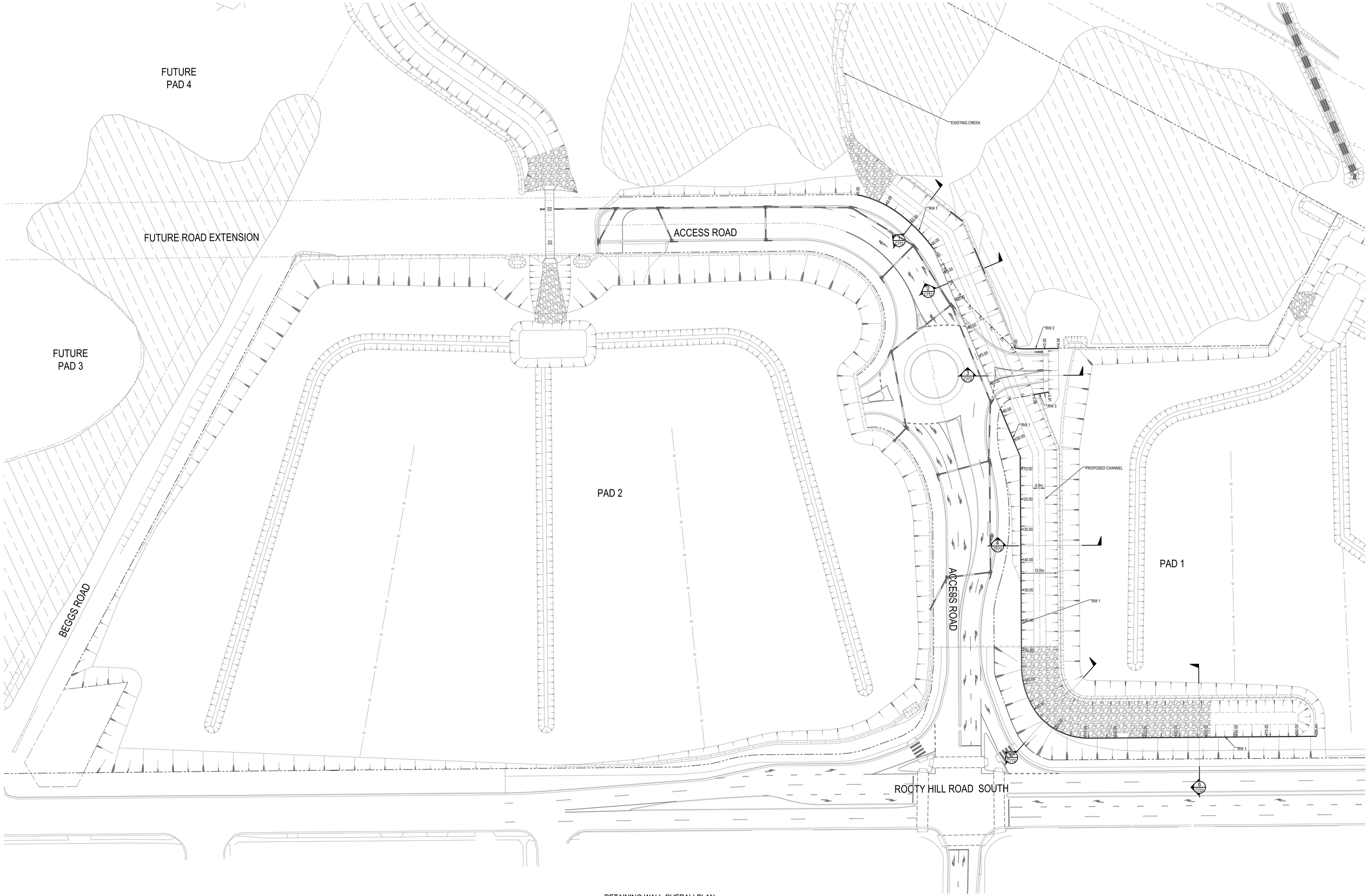
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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: ACCESS ROAD CL 2 LONG SECTION AND CHAINAGES PLAN - STAGE 1

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

Drawing number: 17D83_S96_C731
Revision: 01



0 8 16 24 32 40m
8 6 4 2
SCALE 1:400

RETAINING WALL OVERALLPLAN

SCALE: 1:400

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client
FRASER PROPERTY AUSTRALIA

Surveyor
LANDPARTNERS

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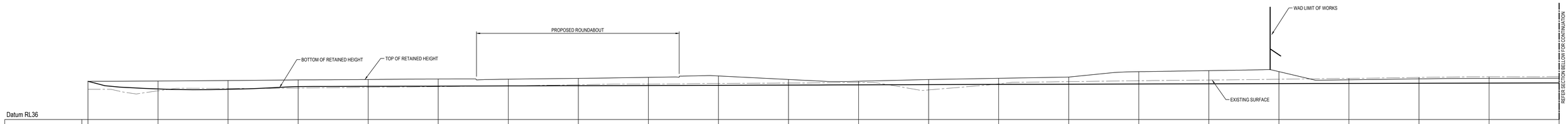
Project
EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title
RETAINING WALL OVERALL PLAN
STAGE 1

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:400 @A0

Drawing number
17D83_S96_C770

Revision
01



Datum RL36

HEIGHT	0.000	1.729	1.246	0.955	0.974	1.017	0.956	1.048	1.161	1.332	0.850	0.514	0.724	0.899	1.016	1.754	1.878	1.707	0.517	0.629	0.676	0.883		
TOP OF RETAINED HEIGHT	41.444	41.487	41.586	41.647	41.705	41.777	41.746	41.868	42.010	42.210	41.707	41.458	41.701	41.876	42.050	42.818	42.970	42.828	41.684	41.800	41.868	41.866		
TOE OF RETAINED HEIGHT	41.444	40.598	40.310	40.692	40.731	40.761	40.790	40.819	40.849	40.878	40.908	40.944	40.978	41.006	41.035	41.064	41.092	41.121	41.147	41.170	41.191	41.213		
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000		

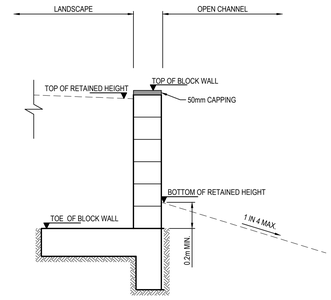
RETAINING WALL - RW 1
HORIZONATL SCALE 1:200 @ A0
VERTICAL SCALE 1:200 @ A0



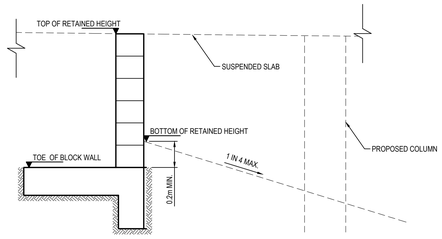
Datum RL37

HEIGHT	0.883	0.884	0.606	0.601	0.965	0.957	0.951	0.135	0.000
TOP OF RETAINED HEIGHT	41.896	41.929	41.960	41.960	41.960	42.007	42.117	42.150	42.160
TOE OF RETAINED HEIGHT	41.213	41.244	41.314	41.449	41.585	41.720	41.866	42.015	42.160
CHAINAGE	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	286.436

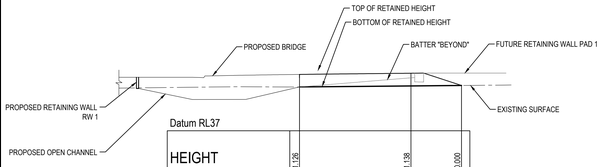
RETAINING WALL - RW 1 - CONTINUATION
HORIZONATL SCALE 1:200 @ A0
VERTICAL SCALE 1:200 @ A0



TYPICAL BLOCK RETAINING WALL RW 1
SCALE: NTS



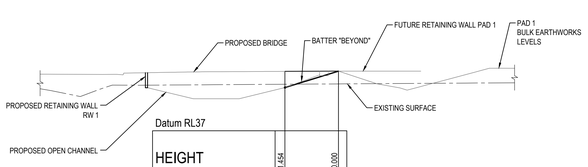
TYPICAL BLOCK RETAINING WALL RW 1 UNDER ROAD
SCALE: NTS



Datum RL37

HEIGHT	1.76	1.38	0.000
TOP OF RETAINED HEIGHT	42.861	42.457	41.069
TOE OF RETAINED HEIGHT	40.955	41.029	41.069
CHAINAGE	0.000	10.000	14.539

RETAINING WALL - RW 2
HORIZONATL SCALE 1:200 @ A0
VERTICAL SCALE 1:200 @ A0



Datum RL37

HEIGHT	1.454		0.000
TOP OF RETAINED HEIGHT	42.334		42.367
TOE OF RETAINED HEIGHT	40.881		42.367
CHAINAGE	0.000		4.811

RETAINING WALL - RW 3
HORIZONATL SCALE 1:200 @ A0
VERTICAL SCALE 1:200 @ A0

NOTE:
RETAINING WALL SECTIONS SHOWN ON THIS PLAN ARE TYPICAL ONLY. FULL STRUCTURAL DETAILS TO BE PROVIDED AT CC STAGE.

0 2 4 6 8 10m
SCALE 1:100

0 4 8 12 16 20m
SCALE 1:200

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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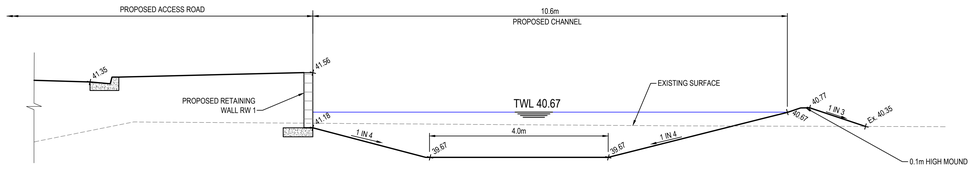
ISSUED FOR S96

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

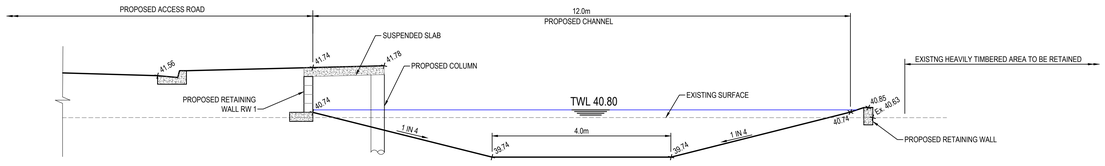
Title: RETAINING WALL LONG SECTIONS
STAGE 1

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @A0

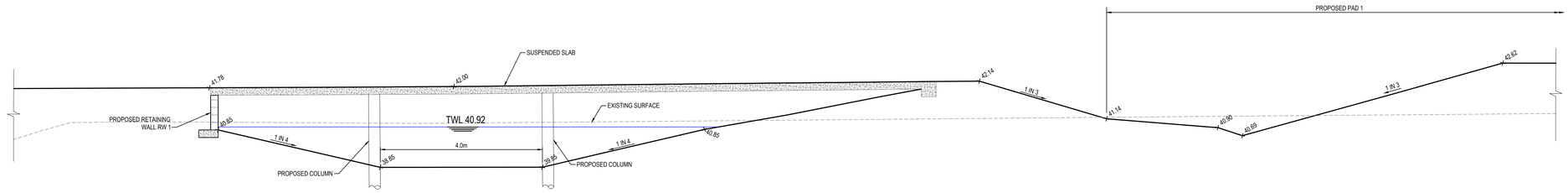
Drawing number: 17D83_S96_C771
Revision: 01



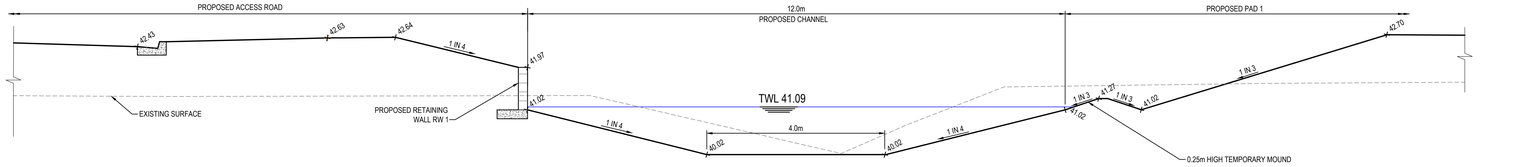
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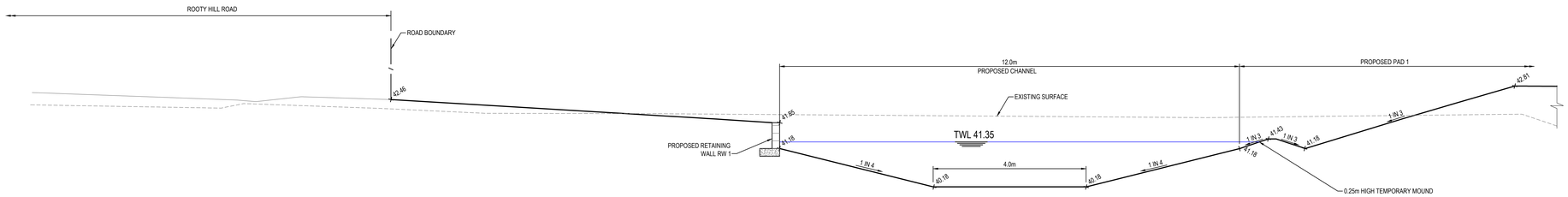
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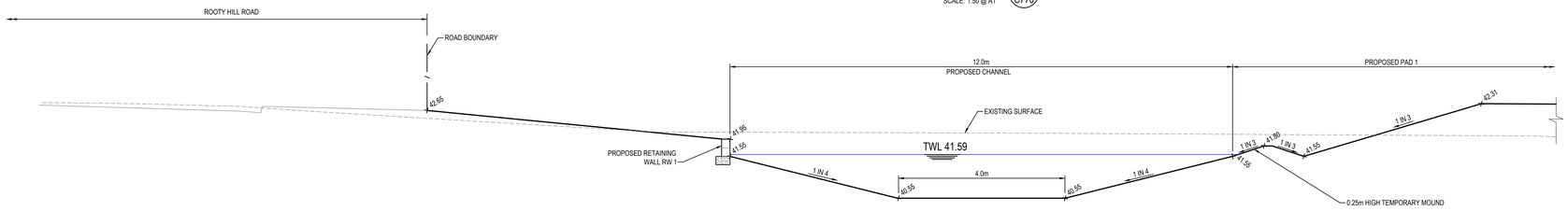
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SCALE: 1:50 @ A1



SECTION 4 C770
SCALE: 1:50 @ A1



SECTION 5 C770
SCALE: 1:50 @ A1



SECTION 6 C770
SCALE: 1:50 @ A1

0 1000 2000 3000 4000 5000mm
1000 600 200
SCALE 1:50

SURVEY INFORMATION

SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	LC	LC	30.05.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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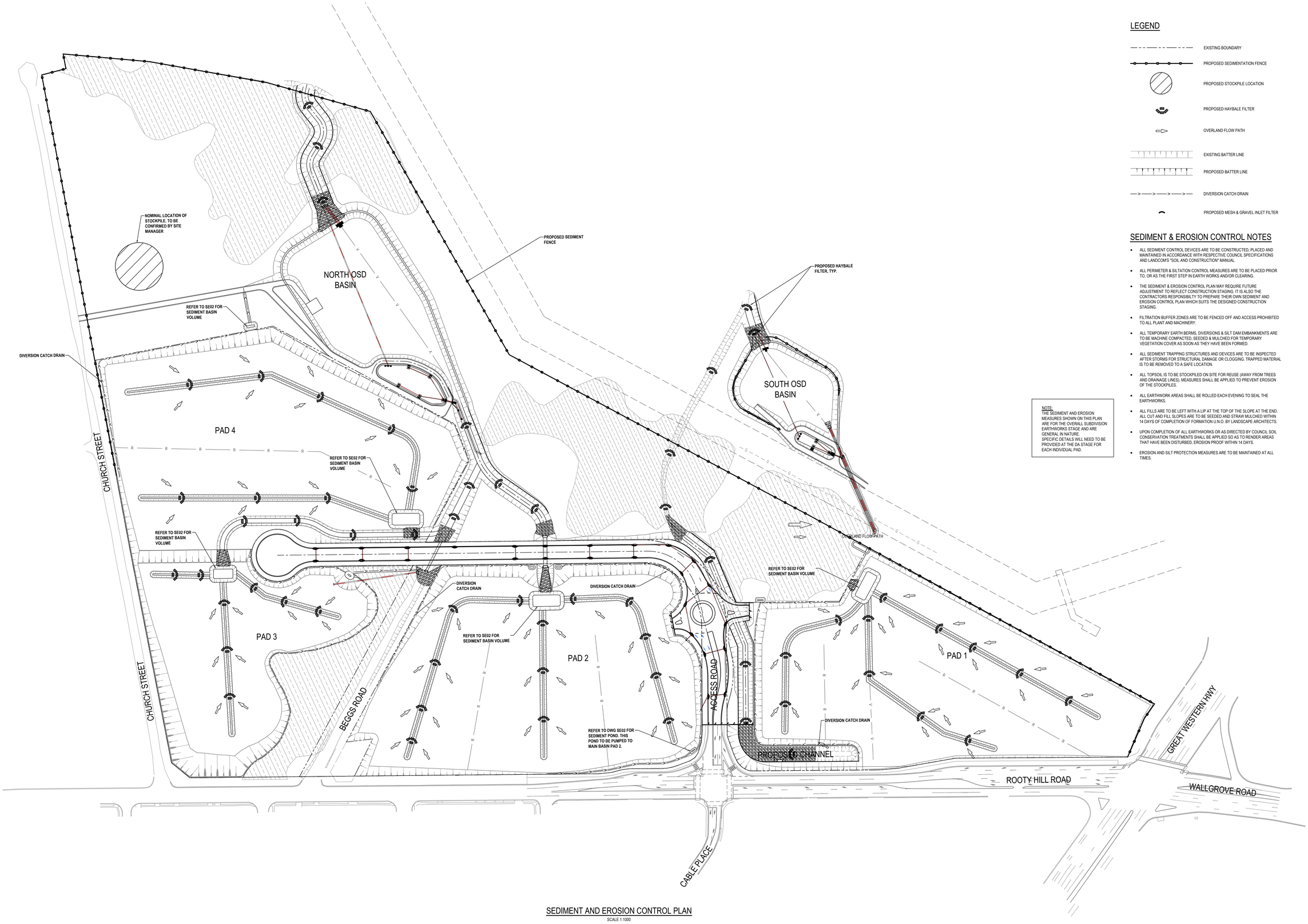
ISSUED FOR S96

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:50 @ A0

Title: RETAINING WALL SECTIONS
STAGE 1

Drawing number: 17D83_S96_C772
Revision: 01



SEDIMENT AND EROSION CONTROL PLAN

SCALE 1:1000

0 20 40 60 80 100m

20 15 10 5

SCALE 1:1000

LEGEND

- EXISTING BOUNDARY
- PROPOSED SEDIMENTATION FENCE
- PROPOSED STOCKPILE LOCATION
- PROPOSED HAYBALE FILTER
- OVERLAND FLOW PATH
- EXISTING BATTER LINE
- PROPOSED BATTER LINE
- DIVERSION CATCH DRAIN
- PROPOSED MESH & GRAVEL INLET FILTER

NOTE:
THE SEDIMENT AND EROSION MEASURES SHOWN ON THIS PLAN ARE FOR THE OVERALL SUBDIVISION EARTHWORKS STAGE AND ARE GENERAL IN NATURE.
SPECIFIC DETAILS WILL NEED TO BE PROVIDED AT THE DA STAGE FOR EACH INDIVIDUAL PAD.

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 RESPONSIBILITY 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.

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

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02	ISSUED FOR S96	MC	LC	13.04.2018
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Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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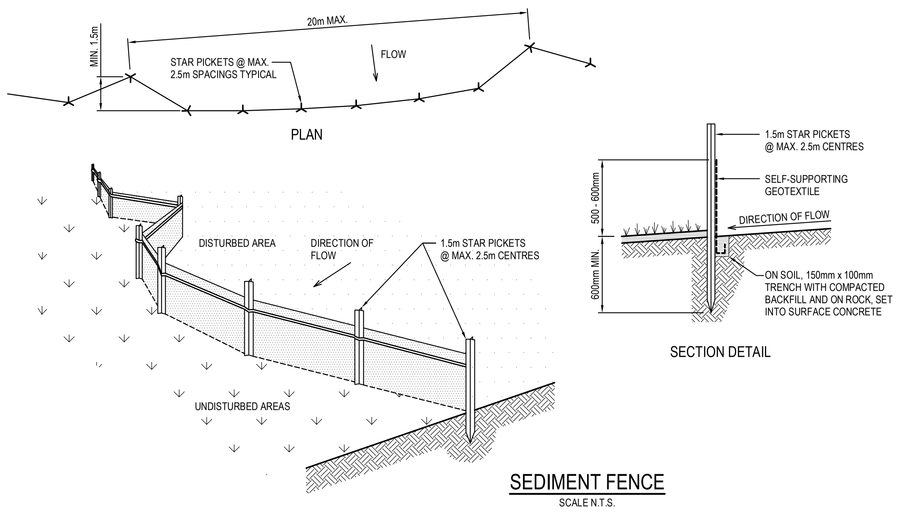
henry&hymas

Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: SEDIMENT AND EROSION CONTROL PLAN

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	1:1000 @A0

Drawing number: 17D83_S96_SE01
Revision: 02

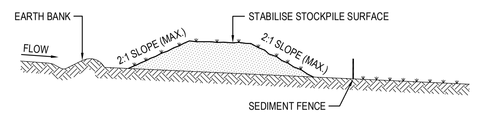


SEDIMENT FENCE

SCALE 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.

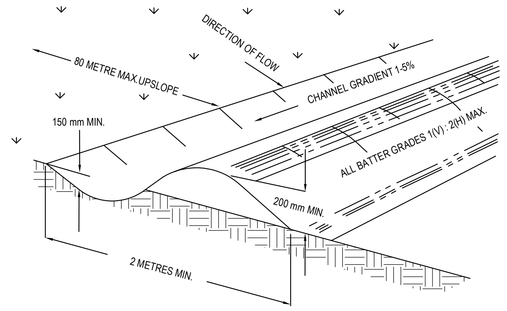


STOCKPILE CONSTRUCTION NOTES:

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

SCALE N.T.S.



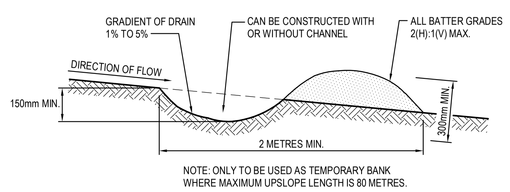
NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAC.UPSLOPE LENGTH IS 80 METERS.

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 SD 5-8

SCALE N.T.S.



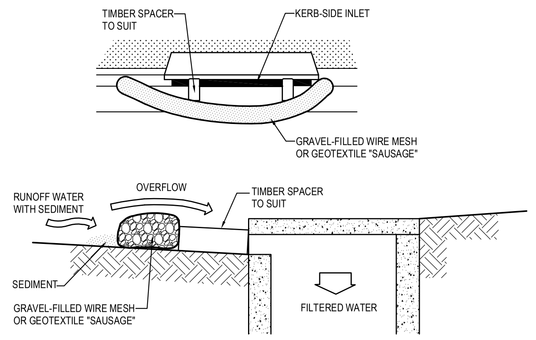
NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES.

EARTH BANK CONSTRUCTION NOTES:

1. BUILD WITH GRADIENTS BETWEEN 1% AND 5%.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS-SECTIONS, NOT "V" SHAPED.
5. ENSURE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

EARTH BANK (LOW FLOW)

SCALE N.T.S.

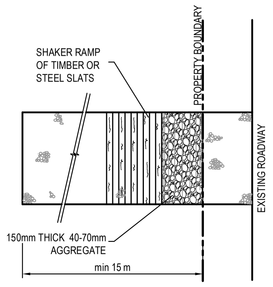


MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:

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

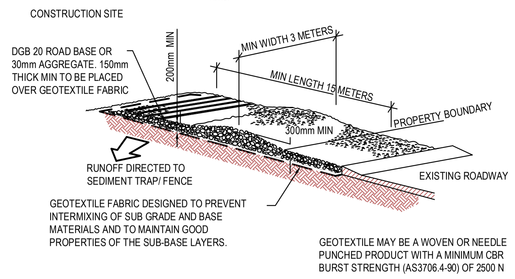
SCALE N.T.S.



PLAN

STABILISED SITE ACCESS WITH SHAKER RAMP

N.T.S.



STABILISED SITE ACCESS WITH SHAKER RAMP

N.T.S.

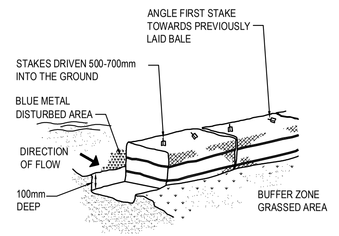
NOTES:

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.

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 BLACKTOWN CITY 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).



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	19.0 mm
CATCHMENT AREA, A	1 Ha (UNIT AREA)
SETTLING ZONE VOLUME (PER HECTARE) 10 CV A R	47.5 m³
DISTURBED CATCHMENT AREA	1 Ha (UNIT AREA)
R K LS P C	110.87m³
SEDIMENT ZONE VOLUME (0.17 A (R K LS P C)^1.3	14.5m³ < 50% SETTLING VOL
TOTAL SEDIMENT BASIN VOLUME REQUIRED :	71.25 m³/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	(TABLE C20 - BLACKTOWN)
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)	110.87t/Ha/YR	A = R K LS P C
SOIL HYDROLOGIC GROUP	GROUP C	APPENDIX C TABLE 20
SEDIMENT TYPE	TYPE D	APPENDIX C TABLE 4
75TH PERCENTILE 5-DAY RAINFALL EVENT	19.0mm (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.

ISSUED FOR S96

SURVEY INFORMATION
SURVEYED BY: LAND PARTNERS
DATUM: AHD
ORIGIN OF LEVELS: PM 30122 RL 43.58

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR S96	MC	LC	09.02.2018

Client: FRASER PROPERTY AUSTRALIA
Surveyor: LANDPARTNERS

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Project: EASTERN CREEK BUSINESS HUB
WESTERN SYDNEY PARKLANDS

Title: SEDIMENT AND EROSION CONTROL
TYPICAL SECTIONS AND DETAILS

Drawn	Designed	Date
L.Caha	L.Caha	FEB 18
Checked	Approved	Scale
T.Dempsey	A.Francis	NTS @A0

Drawing number: 17D83_S96_SE02
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