

GRAY PUKSAND

DRAWING LIST - DEVELOPMENT APPROVAL	
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DA001	COVER SHEET
DA010	SITE ANALYSIS PLAN
DA020	EXISTING SITE PLAN
DA030	PROPOSED SITE PLAN
DA050	SITE DEMOLITION PLAN
DA060	GFA PLANS
DA100	LOWER GROUND FLOOR PLAN
DA101	GROUND FLOOR PLAN
DA102	LEVEL 1 FLOOR PLAN
DA103	ROOF PLAN
DA200	BUILDING ELEVATION
DA210	BUILDING SECTIONS
DA211	BUILDING SECTIONS
DA300	VISUALISATION IMAGE
DA301	VISUALISATION IMAGE
DA302	VISUALISATION IMAGE
DA310	SHADOW DIAGRAMS
DA311	SHADOW DIAGRAMS
DA400	NOTIFICATION PLAN

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Figured Dimensions take precedence over Scaled Dimensions.
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All work to comply with N.C.C. Statutory Authorities & Relevant Australian Standards.

NSW Nominated Architects Scott Moylan 7147 Craig Saltmarsh 6569



REV	DESCRIPTION	DATE
A	DA ISSUE	06/11/2020

PROJECT NO	218024
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

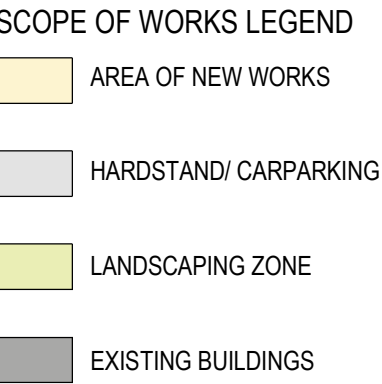
West End Mazda Dealership

574 - 584 Church Street,
Parramatta NSW

DA APPROVAL ISSUE

COVER SHEET

DWG # **DA001** REV **A**



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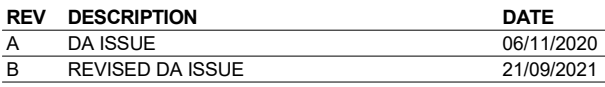
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PROJECT NO **218024**

DRAWN **Author**

CHECKED **Checker**

APPROVED **Approver**



574 - 584 Church Street,
Parramatta NSW

SITE ANALYSIS PLAN

DWG # **DA010** REV **B**
SCALE @ A1 As indicated



 EXISTING BUILDINGS

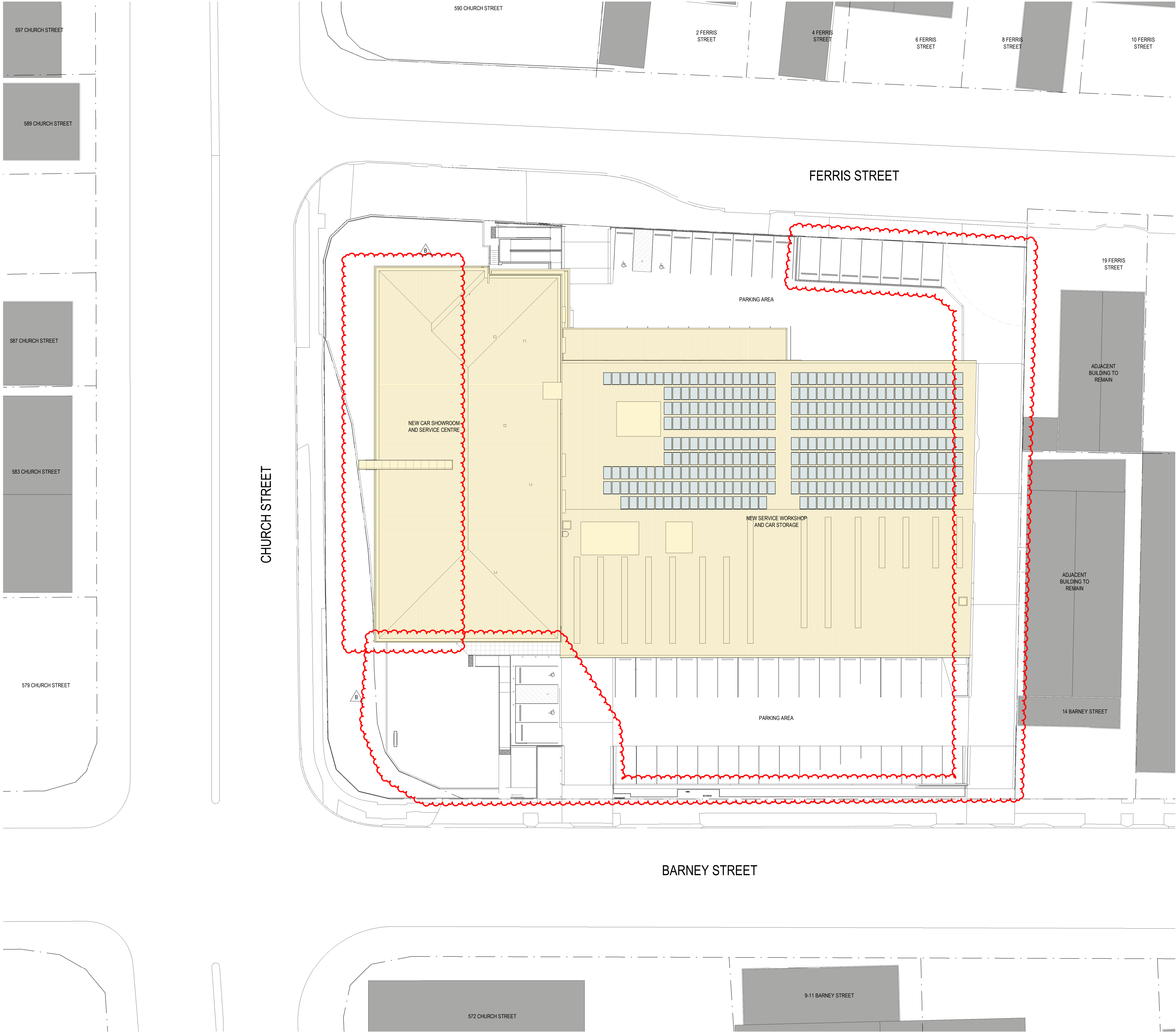
NSW Nominated Architects Scott Moylan 7147 Craig Saltmarsh 6563



PROJECT NO	218024
DRAWN	Author
CHECKED	Checker
APPROVED	Approve

SCALE @ A1 As indicated

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22/09/2021 1:27:40 PM



1 PROPOSED SITE PLAN
A200 1:250

SCOPE OF WORKS LEGEND

- AREA OF NEW WORKS
- HARDSTAND/ CARPARKING
- LANDSCAPING ZONE
- EXISTING BUILDINGS

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WEST END MAZDA

MAZDA

REV	DESCRIPTION	DATE
A	DA ISSUE	06/11/2020
B	REVISED DA ISSUE	21/09/2021

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West End Mazda Dealership

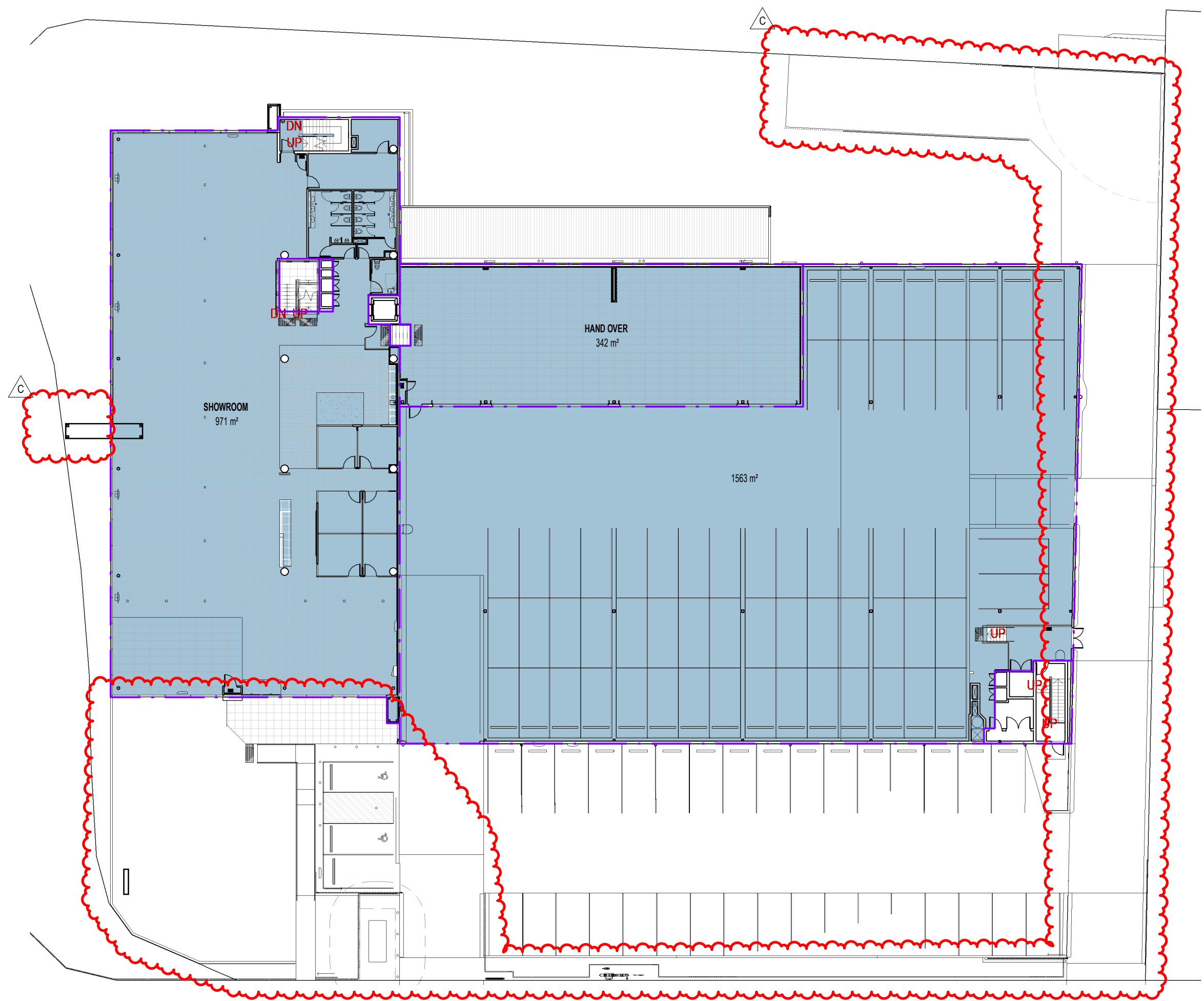
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Parramatta NSW

DA APPROVAL ISSUE

PROPOSED SITE PLAN

DWG # DA030 REV B

SCALE @ A1 As indicated



GROUND FLOOR - GFA

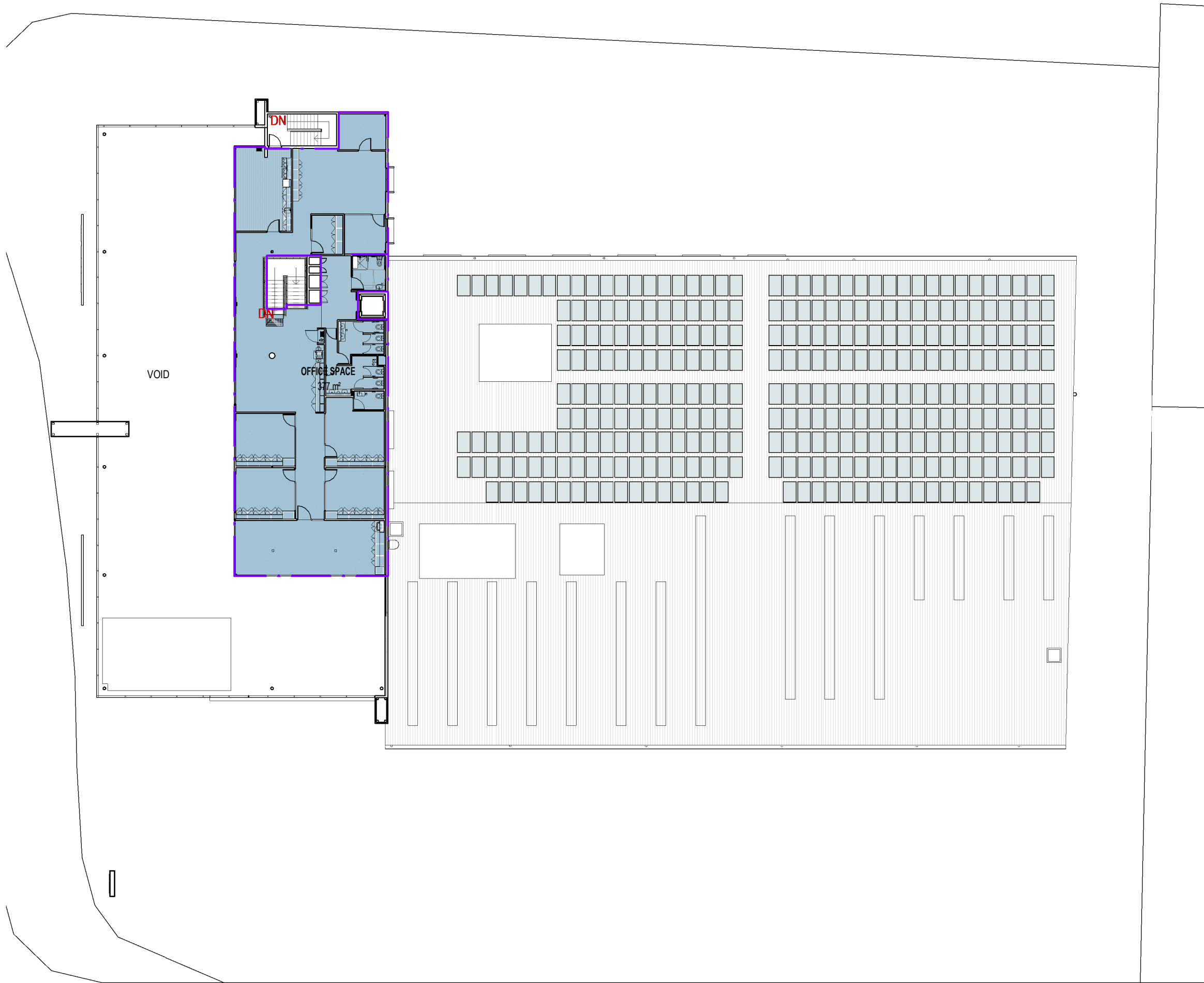
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SITE INFORMATION	
SITE AREA - (current site area)	6387m²
SITE AREA - (proposed SP2 zone subtracted)	6088m²
BUILDING GFA	
(total building area not excluding LEP definition)	
LOWER GROUND FLOOR	1508m²
GROUND FLOOR	2880m²
LEVEL 1	377m²
total	4765m²
PROPOSED FSR: (SP2 zone subtracted)	1.078
REQUIRED CAR PARKING	
(0.75 spaces per 100m² site area plus workbay requirements) refer to traffic report	
TOTAL PARKING PROVIDED	138 spaces



LOWER GROUND FLOOR - GFA

1:300



LEVEL 1 - GFA

1:300

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REV	DESCRIPTION	DATE
A	DA ISSUE	06/11/2020
B	REVISED DA ISSUE	30/11/2020
C	REVISED DA ISSUE	21/09/2021

PROJECT NO	218024
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

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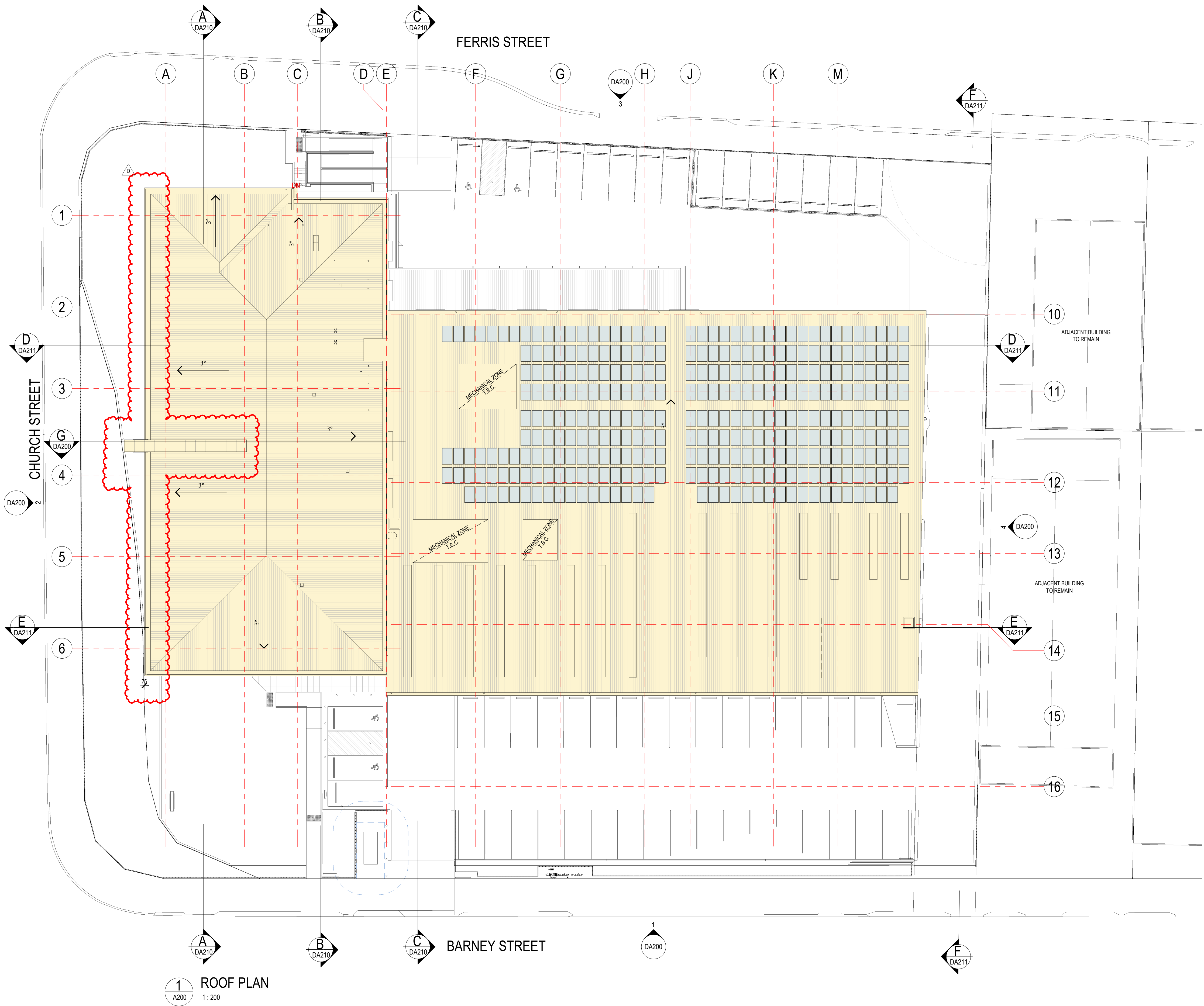
DA APPROVAL ISSUE

GFA PLANS

DWG #	DA060	REV	C
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SCALE @ A1 As indicated

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SCOPE OF WORKS LEGEND

- AREA OF NEW WORKS
- HARDSTAND/ CARPARKING
- LANDSCAPING ZONE
- EXISTING BUILDINGS

SITE INFORMATION

SITE AREA - (current site area) 6387m²
SITE AREA - (proposed SP2 zone subtracted) 6088m²

BUILDING GFA
(total building area not excluding LEP definition)
LOWER GROUND FLOOR 1508m²
GROUND FLOOR 2880m²
LEVEL 1 377m²
total 4765m²

PROPOSED FSR: (SP2 zone subtracted) 1.0.78

REQUIRED CAR PARKING
(0.75 spaces per 100m² site area plus workbay
requirements) refer to traffic report
TOTAL PARKING PROVIDED 138 spaces

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REV	DESCRIPTION	DATE
A	DA ISSUE	06/11/2020
B	REVISED DA ISSUE	30/11/2020
C	FOR SERVICES CO-ORDINATION	19/03/2021
D	REVISED DA ISSUE	21/09/2021

PROJECT NO 218024
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West End Mazda Dealership

574 - 584 Church Street,
Parramatta NSW

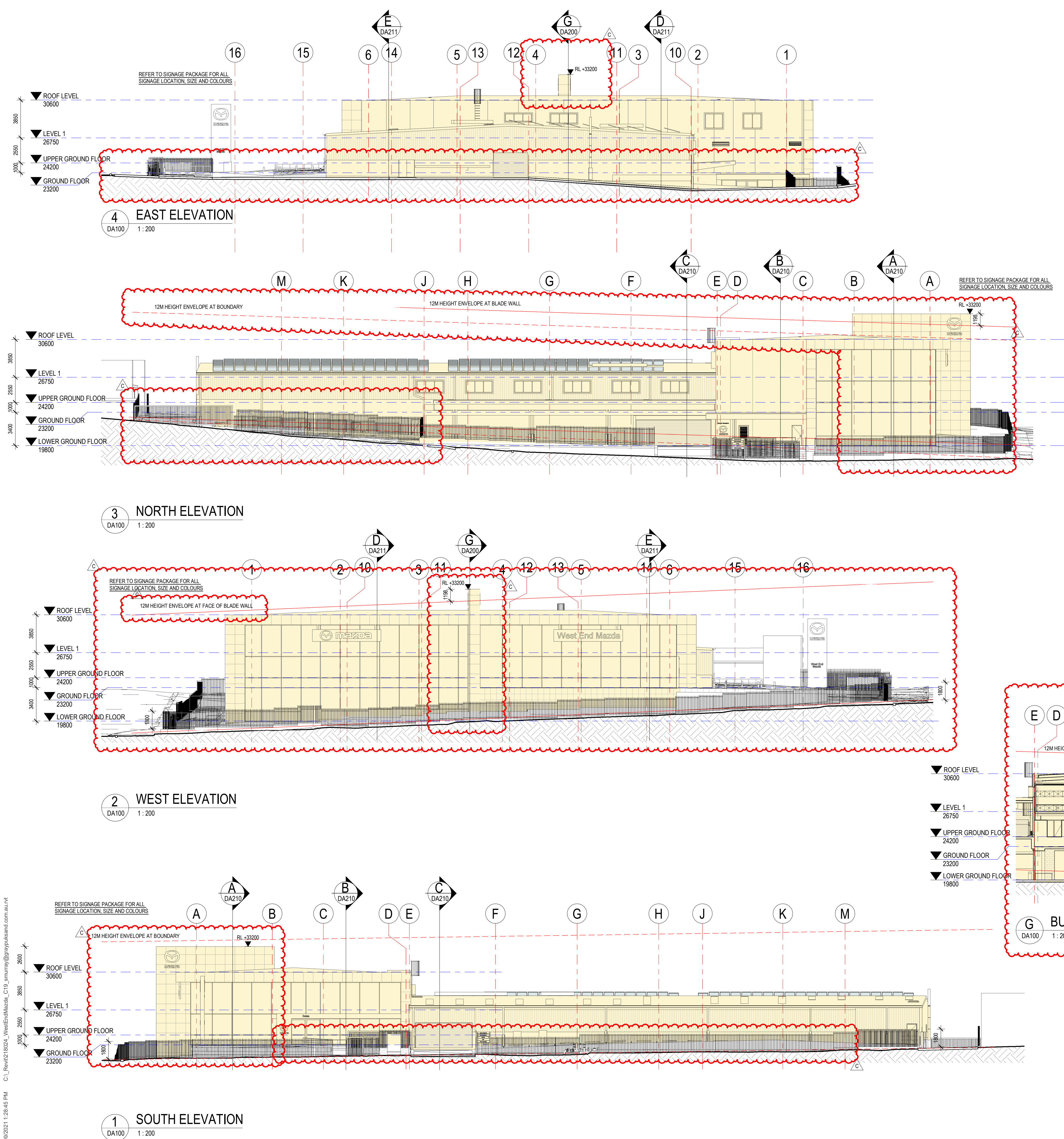
FOR INFORMATION FOR SERVICES CO-ORDINATION

ROOF PLAN

DWG # DA103 REV D

SCALE @ A1 As indicated

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SCOPE OF WORKS LEGEND

- AREA OF NEW WORKS
- HARDSTAND/ CARPARKING
- LANDSCAPING ZONE
- EXISTING BUILDINGS

SCHEDULE OF FINISHES AND MATERIALS

COLOUR	MATERIAL	MATERIAL DESCRIPTION	LOCATION
		3mm FOLDED ALUMINIUM CLADDING PANEL TYPICAL 1000x1000 CONCEAL FIXED - SILVER METALLIC	GENERAL SHOWROOM CLADDING
		3mm FOLDED ALUMINIUM CLADDING PANEL TYPICAL 1000x1000 CONCEAL FIXED - DARK GREY METALLIC	CLADDING TO SHOWROOM BLADE PERFORMANCE WALL
		EXTERNAL WALL PAINT - DULUX - TERRACE WHITE - PN2H2	GENERAL WALL PAINT COLOUR
		EXTERNAL FEATURE WALL PAINT - RESENE METALLIC PAINT 'BLAST GREY 3 11M530'	LOWER WALL FINISH COLOUR TO SERVICE PARKING AND CAR STORAGE BUILDING
		EXTERNAL CEILING SOFFITS - DULUX - WHITE ON WHITE	GENERAL PAINT FINISH TO CEILING SOFFITS
		POWDERCOAT FINISH TO METAL ELEMENTS - BLACK POWDERCOAT	SHOWROOM AND SERVICE WINDOW MULLIONS, PALISADE FENCE TO PERIMETER, SERVICE AWNING, ENTRY PORTALS AND SHADING DEVICE
		TRIMDEK WALL CLADDING VERTICAL - COLORBOND - SHALE GREY	CAR STORAGE BUILDING FROM 300mm ABOVE UPPER GROUND FLOOR LEVEL AS EXTERNAL LEVELS VARY AND ACOUSTIC SCREEN
		TRIMDEK ROOF CLADDING - COLORBOND - SHALE GREY	GENERAL ROOF CLADDING MATERIAL AND COLOUR FINISH
		ROLLER SHUTTERS - COLORBOND - SHALE GREY	ALL ROLLER SHUTTERS AND FRAME
		PRECAST CONCRETE PANEL	GENERAL BUILDING WALL CONSTRUCTION WITH PAINT FINISH
		STAINLESS STEEL HANDRAILS	EXTERNAL HANDRAILS TO SALES AND SERVICES DEPARTMENT
		MAZDA BLUE - PMS PROCESS BLUE 'C100-M30'	SIGNAGE COLOUR TO MAZDA STANDARDS BUILDING SIGNAGE AND BLADE SIGNAGE
		POLISHED CHROME PLATED FINISH - SIGNAGE	SIGNAGE COLOUR TO MAZDA STANDARDS BUILDING SIGNAGE, PERFORMANCE WALL SIGNAGE AND BLADE SIGNAGE

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NSW Nominated Architects Scott Moylan 7147 Craig Saltmarsh 6569



REV	DESCRIPTION	DATE
A	DA ISSUE	06/11/2020
B	REVISED DA ISSUE	30/11/2020
C	REVISED DA ISSUE	21/09/2021

PROJECT NO	218024
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

West End Mazda Dealership

574 - 584 Church Street,
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DA APPROVAL ISSUE

BUILDING ELEVATION

DWG # **DA200** REV **C**

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1:1

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[illegible]

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Parramatta NSW

DWG # **DA300** REV **B**

SCALE @ A1 As indicated



VISUALISATION IMAGE

1:1

SCHEDULE OF FINISHES AND MATERIALS			
COLOUR	MATERIAL	MATERIAL DESCRIPTION	LOCATION
		3mm FOLDED ALUMINIUM CLADDING PANEL TYPICAL 1000x1000 CONCEAL FIXED - SILVER METALLIC	GENERAL SHOWROOM CLADDING
		3mm FOLDED ALUMINIUM CLADDING PANEL TYPICAL 1000x1000 CONCEAL FIXED - DARK GREY METALLIC	CLADDING TO SHOWROOM BLADE PERFORMANCE WALL
		EXTERNAL WALL PAINT - DULUX® - 'TERRACE WHITE - PN2H2'	GENERAL WALL PAINT COLOUR
		EXTERNAL FEATURE WALL PAINT - RESENE METALLIC PAINT 'BLAST GREY 3 11MB30'	LOWER WALL FINISH COLOUR TO SERVICE PARKING AND CAR STORAGE BUILDING
		EXTERNAL CEILING SOFFITS - DULUX® - WHITE ON WHITE	GENERAL PAINT FINISH TO CEILING SOFFITS
		POWDERCOAT FINISH TO METAL ELEMENTS - BLACK POWDERCOAT	SHOWROOM AND SERVICE WINDOW MULLIONS, PALISADE FENCE TO PERIMETER, SERVICE AWNING, ENTRY PORTALS AND SHADING DEVICE
		TRIMDEK WALL CLADDING VERTICAL - COLORBOND® - SHALE GREY	CAR STORAGE BUILDING FROM 300mm ABOVE UPPER GROUND FLOOR LEVEL AS EXTERNAL LEVELS VARY AND ACOUSTIC SCREEN
		TRIMDEK ROOF CLADDING - COLORBOND® - SHALE GREY	GENERAL ROOF CLADDING MATERIAL AND COLOUR FINISH
		ROLLER SHUTTERS - COLORBOND® - SHALE GREY	ALL ROLLER SHUTTERS AND FRAME
		PRECAST CONCRETE PANEL	GENERAL BUILDING WALL CONSTRUCTION WITH PAINT FINISH
		STAINLESS STEEL HANDRAILS	EXTERNAL HANDRAILS TO SALES AND SERVICES DEPARTMENT
		MAZDA BLUE - PMS PROCESS BLUE 'C100+M30'	SIGNAGE COLOUR TO MAZDA STANDARDS BUILDING SIGNAGE AND BLADE SIGNAGE
		POLISHED CHROME PLATED FINISH - SIGNAGE	SIGNAGE COLOUR TO MAZDA STANDARDS BUILDING SIGNAGE, PERFORMANCE WALL SIGNAGE AND BLADE SIGNAGE

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B	REVISED DA ISSUE	21/09/2021

PROJECT NO	218024
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

West End Mazda Dealership

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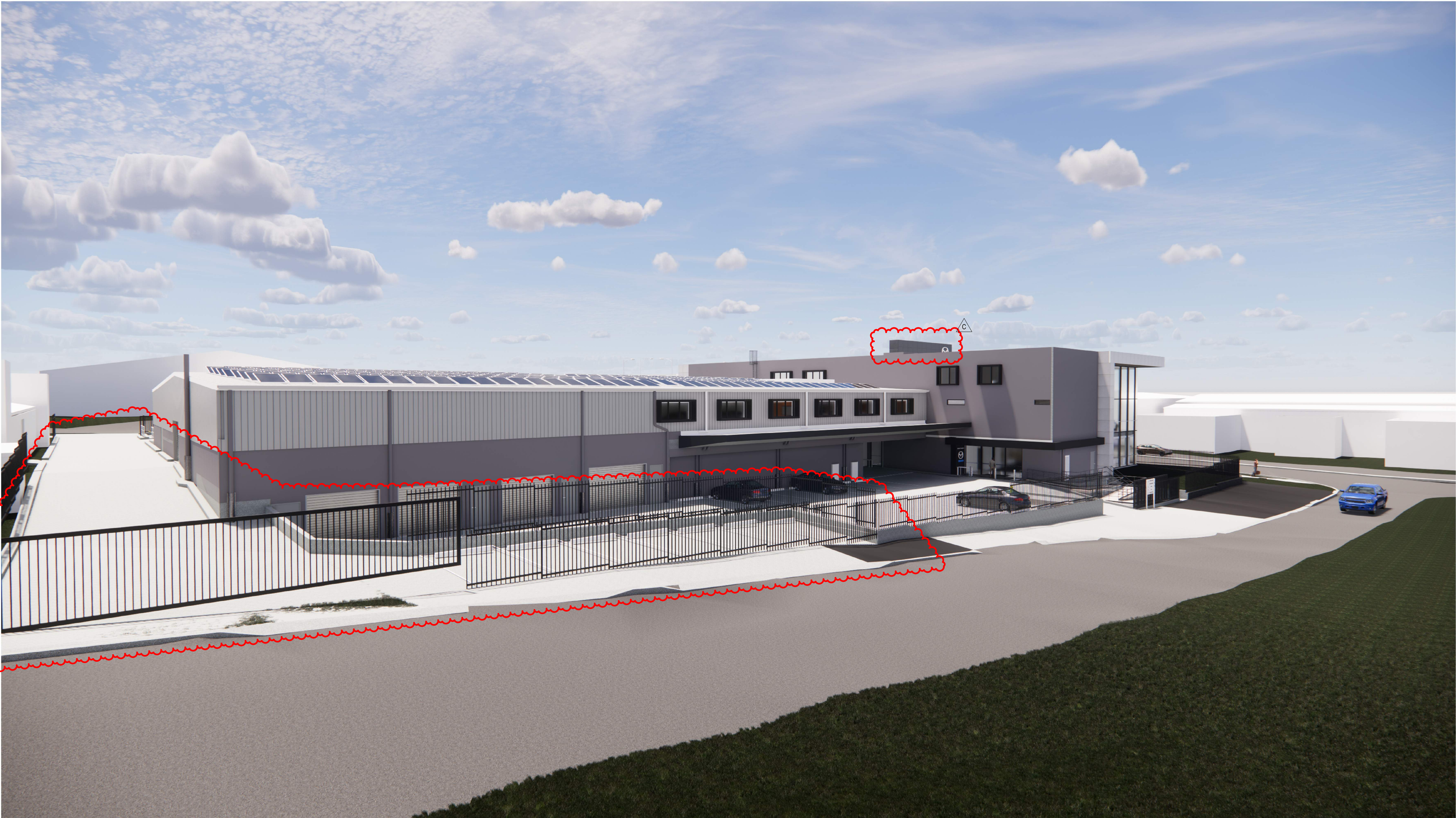
DA APPROVAL ISSUE

VISUALISATION IMAGE

DWG #	DA301	REV	B
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













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VISUALISATION IMAGE

1:1

SCHEDULE OF FINISHES AND MATERIALS			
COLOUR	MATERIAL	MATERIAL DESCRIPTION	LOCATION
		3mm FOLDED ALUMINIUM CLADDING PANEL TYPICAL 1000x1000 CONCEAL FIXED - SILVER METALLIC	GENERAL SHOWROOM CLADDING
		3mm FOLDED ALUMINIUM CLADDING PANEL TYPICAL 1000x1000 CONCEAL FIXED - DARK GREY METALLIC	CLADDING TO SHOWROOM BLADE PERFORMANCE WALL
		EXTERNAL WALL PAINT - DULUX® - TERRACE WHITE - PN2H2	GENERAL WALL PAINT COLOUR
		EXTERNAL FEATURE WALL PAINT - RESENE METALLIC PAINT 'BLAST GREY 3 11MB30'	LOWER WALL FINISH COLOUR TO SERVICE PARKING AND CAR STORAGE BUILDING
		EXTERNAL CEILING SOFFITS - DULUX® - WHITE ON WHITE	GENERAL PAINT FINISH TO CEILING SOFFITS
		POWDERCOAT FINISH TO METAL ELEMENTS - BLACK POWDERCOAT	SHOWROOM AND SERVICE WINDOW MULLIONS, PALISADE FENCE TO PERIMETER, SERVICE AWNING, ENTRY PORTALS AND SHADING DEVICE
		TRIMDEK WALL CLADDING VERTICAL - COLORBOND® - SHALE GREY	CAR STORAGE BUILDING FROM 300mm ABOVE UPPER GROUND FLOOR LEVEL AS EXTERNAL LEVELS VARY AND ACOUSTIC SCREEN
		TRIMDEK ROOF CLADDING - COLORBOND® - SHALE GREY	GENERAL ROOF CLADDING MATERIAL AND COLOUR FINISH
		ROLLER SHUTTERS - COLORBOND® - SHALE GREY	ALL ROLLER SHUTTERS AND FRAME
		PRECAST CONCRETE PANEL	GENERAL BUILDING WALL CONSTRUCTION WITH PAINT FINISH
		STAINLESS STEEL HANDRAILS	EXTERNAL HANDRAILS TO SALES AND SERVICES DEPARTMENT
		MAZDA BLUE - PMS PROCESS BLUE® C100-M30®	SIGNAGE COLOUR TO MAZDA STANDARDS BUILDING SIGNAGE AND BLADE SIGNAGE
		POLISHED CHROME PLATED FINISH - SIGNAGE	SIGNAGE COLOUR TO MAZDA STANDARDS BUILDING SIGNAGE, PERFORMANCE WALL SIGNAGE AND BLADE SIGNAGE

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NSW Nominated Architects Scott Moylan 7147 Craig Saltmarsh 6569



REV	DESCRIPTION	DATE
A	DA ISSUE	06/11/2020
B	REVISED DA ISSUE	30/11/2020
C	REVISED DA ISSUE	21/09/2021

PROJECT NO	218024
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

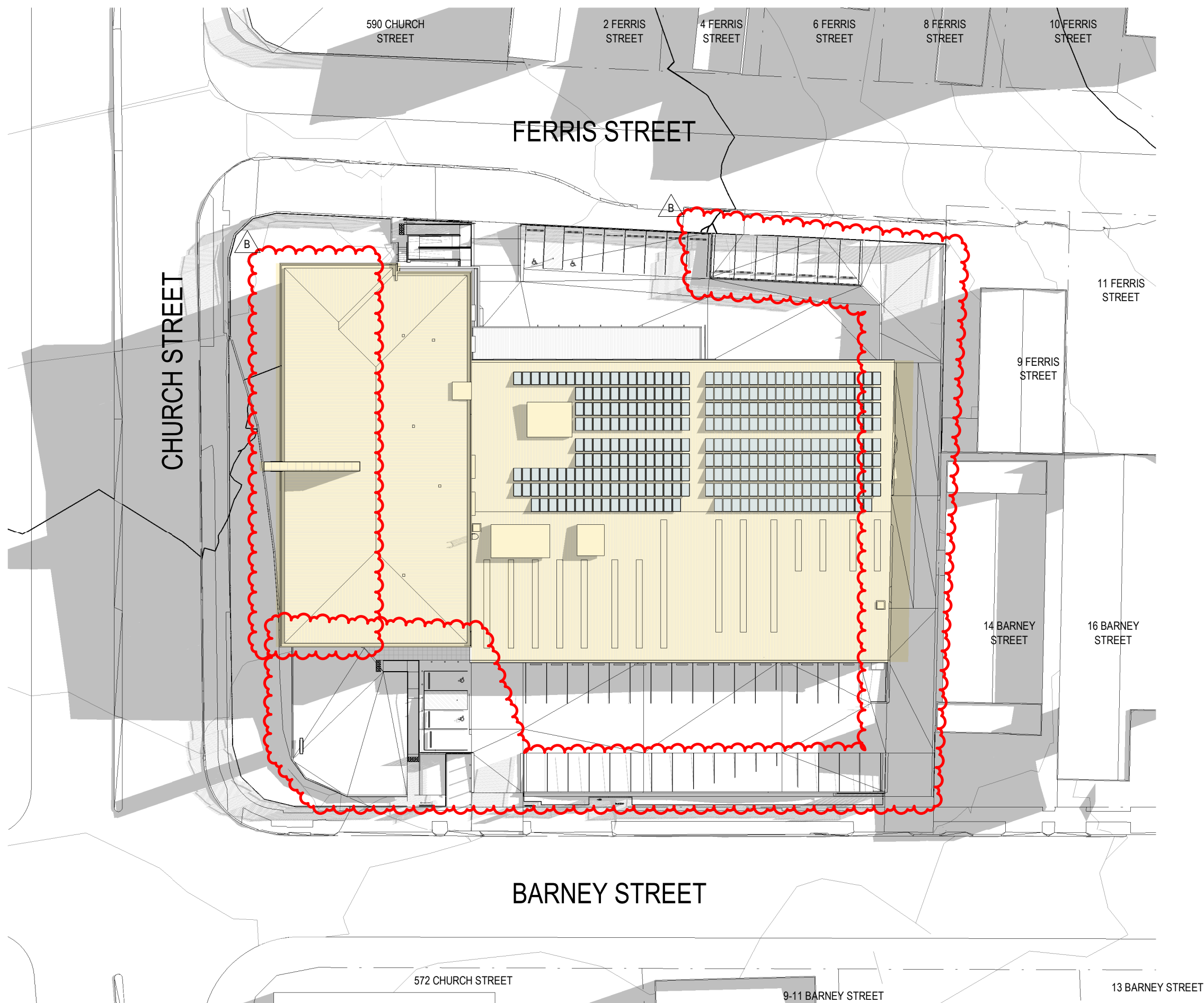
West End Mazda Dealership

574 - 584 Church Street,
Parramatta NSW

DA APPROVAL ISSUE

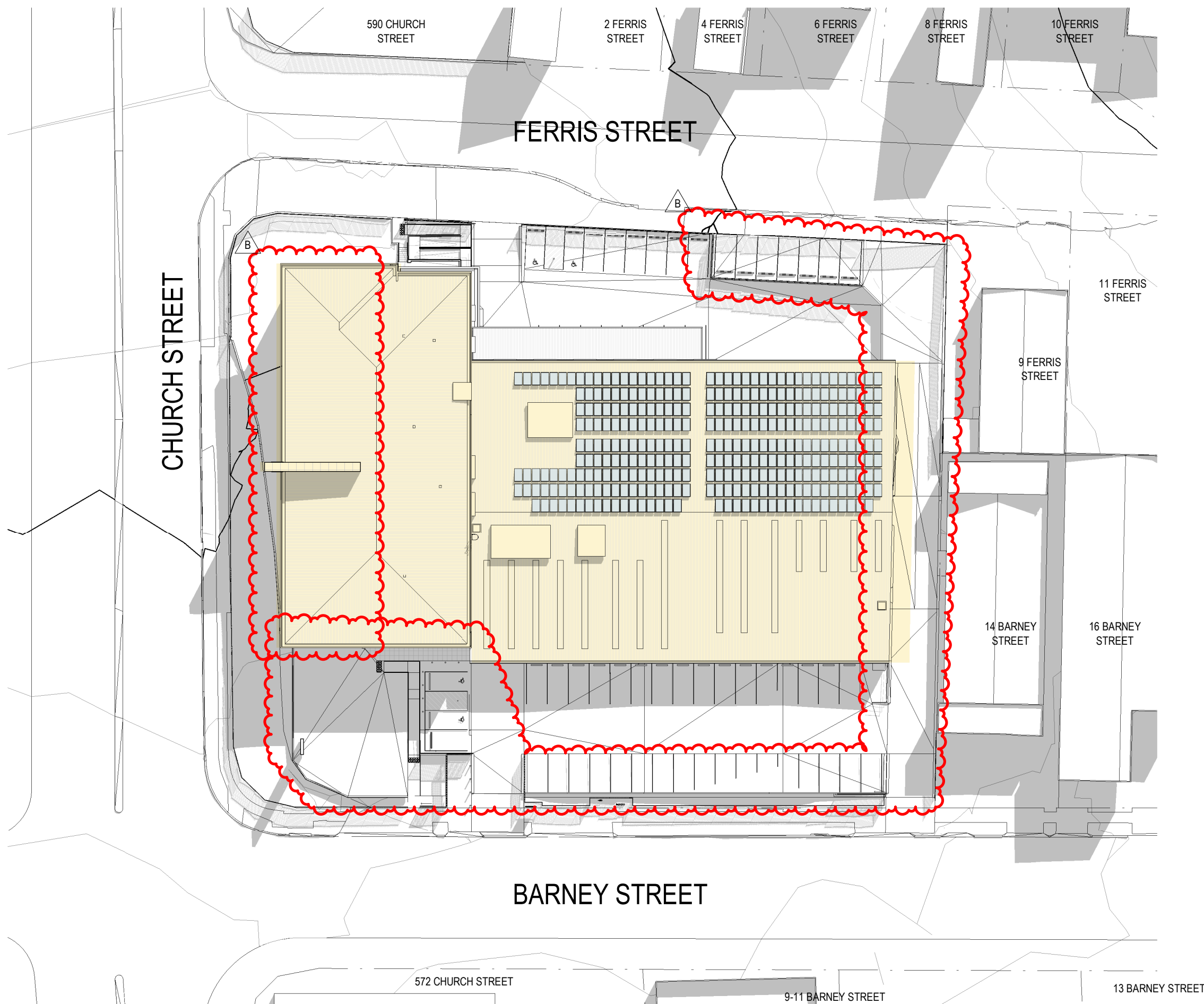
VISUALISATION IMAGE

DWG #	DA302	REV	C
SCALE @ A1	As indicated		



PROPOSED SHADOW DIAGRAM - WINTER SOLSTICE 9am

1 : 500



PROPOSED SHADOW DIAGRAM - WINTER SOLSTICE NOON

1 : 500



EXISTING SHADOW DIAGRAM - WINTER SOLSTICE 9am

1 : 500



EXISTING SHADOW DIAGRAM - WINTER SOLSTICE NOON

1 : 500

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West End Mazda Dealership

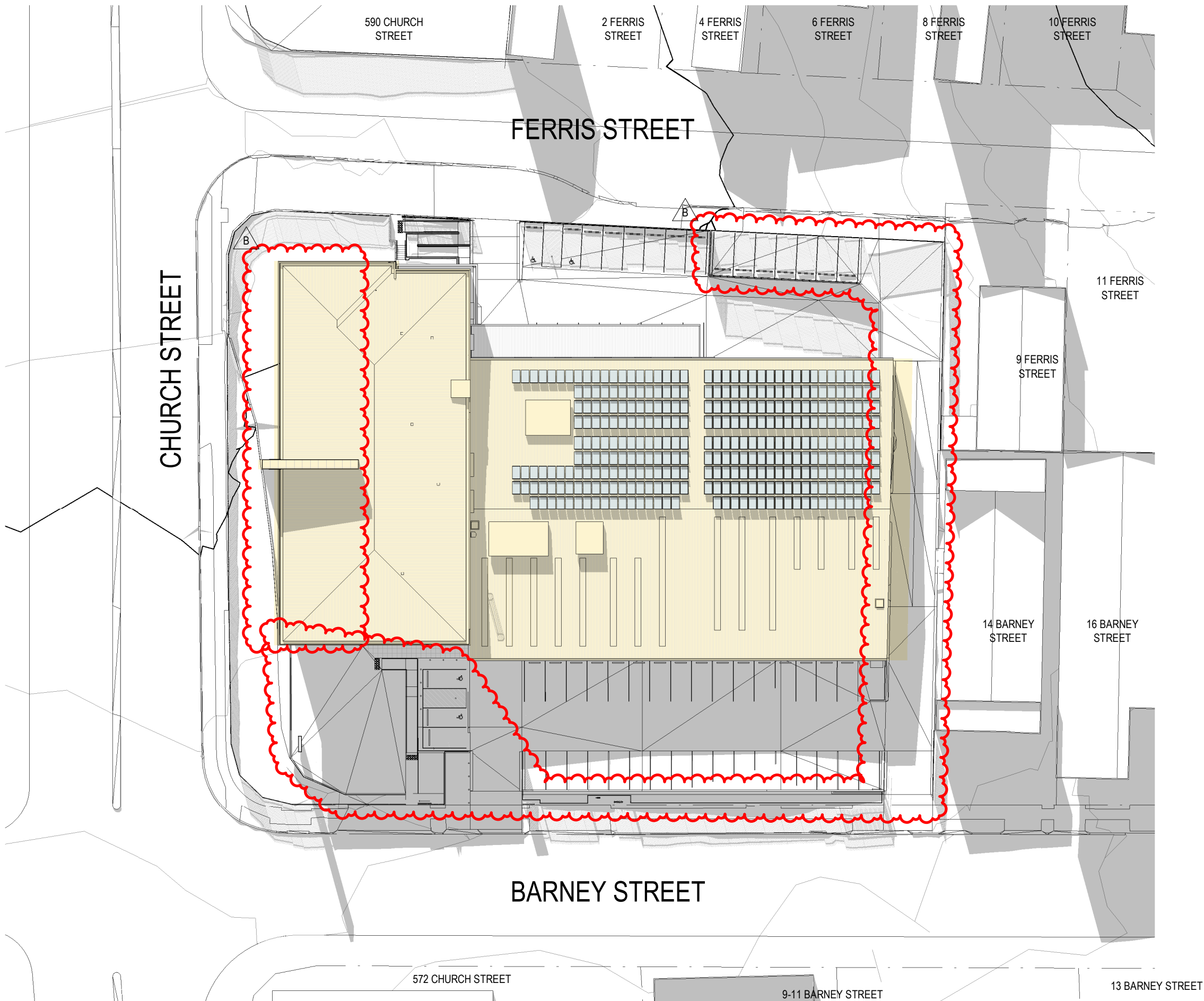
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DA APPROVAL ISSUE

SHADOW DIAGRAMS

DWG # **DA310** REV **B**

SCALE @ A1 1 : 500



PROPOSED SHADOW DIAGRAM - WINTER SOLSTICE 3pm

1 : 500



EXISTING SHADOW DIAGRAM - WINTER SOLSTICE 3pm

1 : 500

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REV	DESCRIPTION	DATE
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B	REVISED DA ISSUE	21/09/2021

PROJECT NO	218024
DRAWN	Author
CHECKED	Checker
APPROVED	Approver



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Parramatta NSW

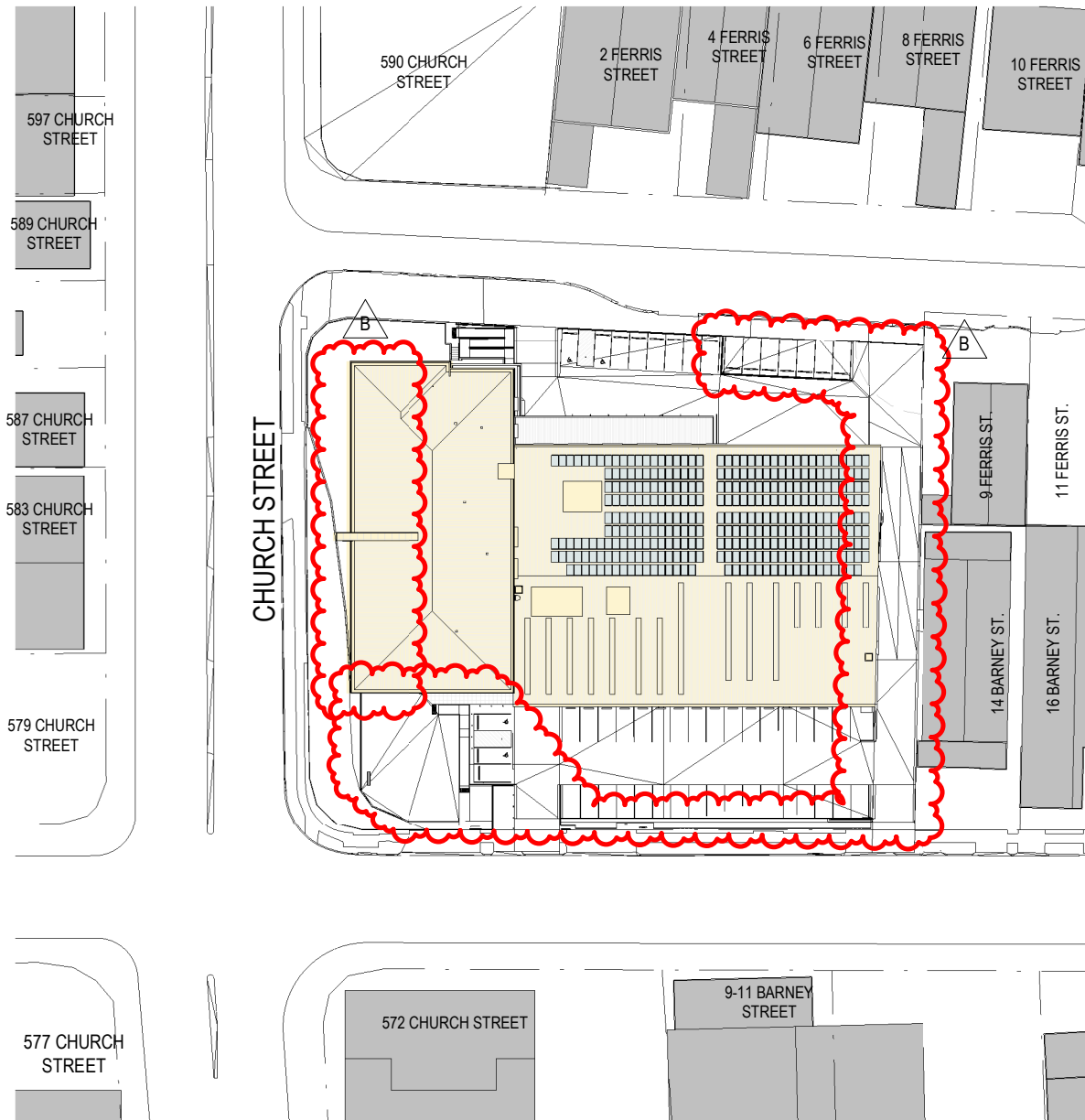
DA APPROVAL ISSUE

SHADOW DIAGRAMS

DWG # **DA311** REV **B**

SCALE @ A1 1 : 500

22/09/2021 1:30:54 PM



PLAN - GROUND FLOOR

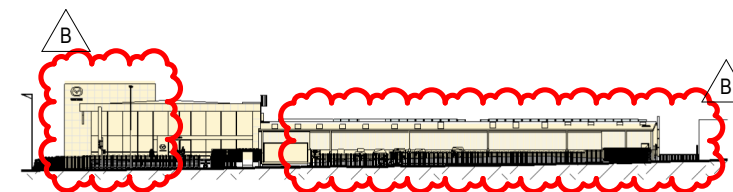
SCOPE OF WORKS LEGEND

AREA OF NEW WORKS

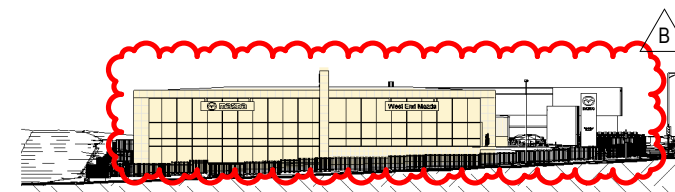
EXISTING BUILDINGS



ELEVATION - FERRIS STREET



ELEVATION - BARNEY STREET



ELEVATION - CHURCH STREET



SKETCH
NOTIFICATION PLAN

West End Mazda Dealership 574 - 584 Church Street, Parramatta NSW

GRAY PUKSAND

218024

DWG NO. DA400

As
indicated @ A4

B

WEST END MAZDA - NORTH PARRAMATTA

DEVELOPMENT APPLICATION DOCUMENTATION CIVIL ENGINEERING PACKAGE



LOCALITY PLAN

SOURCE : NEARMAP.COM.AU (©2020)

CIVIL DRAWING SCHEDULE

DWG No.	DRAWING TITLE
C01.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
C01.11	SPECIFICATION NOTES - SHEET 01
C01.12	SPECIFICATION NOTES - SHEET 02
C02.01	SEDIMENT AND SOIL EROSION CONTROL PLAN
C02.11	SEDIMENT AND SOIL EROSION CONTROL DETAILS
C03.01	BULK EARTHWORKS CUT TO FILL PLAN
C03.11	BULK EARTHWORKS CUT TO FILL SECTIONS - SHEET 01
C04.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 01
C04.02	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 02
C04.03	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 03
C04.31	STORMWATER MANAGEMENT DEVICES
C12.01	DETAILS - SHEET 01
C12.02	DETAILS - SHEET 02

DRAWN: A.SUWAN
DESIGNED: T.BUCAEV
JOB MANAGER: J.GILLIGAN
VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	TB		JG	20.09.21
02	RE-ISSUED FOR INFORMATION	CP		JG	22.09.21



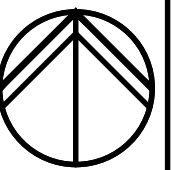
WEST END
mazda

DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS
VERIFICATION SIGNATURE HAS BEEN ADDED

ARCHITECT

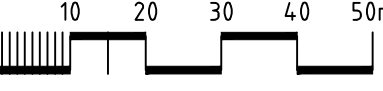
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SCALE 1:1000 @ A1





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Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

**WEST END MAZDA -
NORTH PARRAMATTA**

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

**COVER SHEET, DRAWING
SCHEDULE AND LOCALITY PLAN**

JOB NUMBER

190111

DRAWING NUMBER

C01.01

REVISION

02

DRAWING SHEET SIZE = A1

NOTE: ALL CIVIL ENGINEERING CONSTRUCTION WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CITY OF PARRAMATTA DEVELOPMENT GUIDELINES .THE AFOREMENTIONED GUIDELINES INCLUSIVE OF ALL SPECIFICATIONS TAKE PRECEDENCE OVER NOTES PROVIDED BELOW.

ACCESS AND SAFETY	
1.	THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.
2.	THE CONTRACTOR SHALL PROVIDE TRAFFIC MANAGEMENT PLANS FOR THE PROPOSED WORKS COMPLETED BY A SUITABLY QUALIFIED PERSON AND APPROVED BY COUNCIL / REGULATORY AUTHORITY. WORK IS NOT TO COMMENCE ON SITE PRIOR TO APPROVAL OF TRAFFIC MANAGEMENT SCHEME.
3.	THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO BUILDINGS ADJACENT THE WORKS IS NOT DISRUPTED.
4.	WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.
5.	THE CONTRACTOR SHALL ENSURE PUBLIC ACCESS EXTERNAL TO THE SITE IS IN ACCORDANCE WITH COUNCILS / AUTHORITY / SITE MANAGERS REQUIREMENTS.

TREE PROTECTION	
1.	REFER TO LANDSCAPE PLAN FOR TREES TO BE RETAINED AND PROTECTED.
2.	ANY EXISTING/PROPOSED TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY: 2.1. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE. 2.2. ENSURING THAT NOTHING IS NAILED TO ANY PART OF THE TREE. 2.3. CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY. COUNCILS AND/OR INDEPENDENT ARBORISTS TO BE CONSULTED WHERE TREE ROOTS ARE TO BE REMOVED AND/OR CUT.

SEDIMENT AND SOIL EROSION	
1.	THE SEDIMENT & EROSION CONTROL PLAN PRESENTS CONCEPTS ONLY. THE CONTRACTOR SHALL AT ALL TIMES BE RESPONSIBLE FOR THE ESTABLISHMENT & MANAGEMENT OF A DETAILED SCHEME MEETING COUNCILS AND OTHER REGULATORY AUTHORITY REQUIREMENTS AND MAKE PAYMENT OF ALL FEES.
2.	THE CONTRACTOR SHALL INSTIGATE ALL SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH STATUTORY REQUIREMENTS AND IN PARTICULAR THE 'BLUE BOOK' (MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION), PRODUCED BY THE DEPARTMENT OF HOUSING AND COUNCILS POLICIES. THESE MEASURES ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS.
3.	THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS INSTRUCTED IN THE DRAWINGS AND ADHERE TO ALL REGULATORY AUTHORITY REQUIREMENTS.
4.	THE CONTRACTOR SHALL INFORM ALL SUB CONTRACTORS OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSTREAM LANDS AND WATERWAYS.
5.	WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE SHALL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE; 5.1.CONSTRUCT TEMPORARY STABILISED SITE ACCESS INCLUSIVE OF SHAKE DOWN / WASH PAD. 5.2.INSTALL ALL TEMPORARY SEDIMENT FENCES AND BARRIER FENCES. WHERE FENCES ADJACENT EACH OTHER, THE SEDIMENT FENCE CAN BE INCORPORATED INTO THE BARRIER FENCE. 5.3.INSTALL SEDIMENT CONTROL MEASURES AS OUTLINED ON THE APPROVED PLANS.
6.	UNDERTAKE SITE DEVELOPMENT WORKS SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF MINIMUM WORKABLE SIZE.
7.	AT ALL TIMES AND IN PARTICULAR DURING WINDY AND DRY WEATHER, LARGE UNPROTECTED AREAS WILL BE STABILISED / KEPT MOIST (NOT WET) TO KEEP DUST UNDER CONTROL ENSURING CONFORMITY TO REGULATORY AUTHORITY REQUIREMENTS.
8.	ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) SHALL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
9.	WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN STABILISED AND/OR ANY LIKELY SEDIMENT BEEN FILTERED OUT.
10.	TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES SHALL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED / REHABILITATED.
11.	ALLOW FOR GRASS STABILISATION OF EXPOSED AREAS, OPEN CHANNELS AND ROCK BATTERS DURING ALL PHASES OF CONSTRUCTION.
12.	EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED TO ENSURE THAT THEY OPERATE EFFECTIVELY. REPAIRS AND/OR MAINTENANCE SHALL BE UNDERTAKEN REGULARLY AND AS REQUIRED, PARTICULARLY FOLLOWING RAIN EVENTS.
13.	RECEPTORS FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER SHALL BE DISPOSED OF IN ACCORDANCE WITH REGULATORY AUTHORITY REQUIREMENTS. CONTRACTOR TO PAY ALL FEES AND PROVIDE EVIDENCE OF SAFE DISPOSAL.

EXISTING SERVICES	
1.	ALL UTILITY SERVICES INDICATED ON THE DRAWINGS ORIGINATE FROM SUPPLIED DATA OR DIAL BEFORE YOU DIG SEARCHES, THEREFORE THEIR ACCURACY AND COMPLETENESS IS NOT GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AND CONFIRM 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. NOTE SERVICE AUTHORITY REQUIREMENTS FOR LOCATING OF SERVICES PRIOR TO COMMENCEMENT OF WORKS.
2.	CARE TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER COMMUNICATION, GAS OR ELECTRICAL SERVICES. HAND EXCAVATION ONLY IN THESE AREAS.
3.	THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING SERVICES THAT ARE TO BE RETAINED IN THE VICINITY OF THE PROPOSED WORKS. ANY AND ALL DAMAGE TO THESE SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT AT THE CONTRACTORS EXPENSE.
4.	THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.
5.	THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS UNLESS DIRECTED OTHERWISE ON THE DRAWINGS OR BY THE SUPERINTENDENT.
6.	THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS ARE NOT AFFECTED BY THE WORKS AND ARE MAINTAINED AND NOT DISRUPTED.
7.	PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF THE PROGRAM FOR THE RELOCATION AND/OR CONSTRUCTION OF TEMPORARY SERVICES AND FOR ANY ASSOCIATED INTERRUPTION OF SUPPLY.
8.	THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS 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.
9.	THE CONTRACTOR IS TO ALLOW TO POTHOLE ANY SERVICES WITHIN A PUBLIC RESERVE. WITHIN THE EXTENT OF WORKS (E.G. STORMWATER CROSSINGS).

EARTHWORKS									
1.	AT THE COMMENCEMENT OF FILLING OPERATIONS FOR BULK EARTHWORKS A GEOTECHNICAL ENGINEER IS TO VISIT THE SITE & CONFIRM THE SUITABILITY OF THE METHODOLOGY OF ACHIEVING THE REQUIRED COMPACTION EARTHWORKS REQUIREMENTS.								
2.	STRIP TOPSOIL, VEGETABLE MATTER AND RUBBLE TO EXPOSE NATURALLY OCCURRING MATERIAL AND STOCKPILE ON SITE AS DIRECTED BY THE SUPERINTENDENT.								
3.	WHERE FILLING IS REQUIRED TO ACHIEVE DESIGN SUBGRADE, PROOF ROLL EXPOSED NATURAL SURFACE WITH A MINIMUM OF TEN PASSES OF A VIBRATING ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) IN THE PRESENCE OF THE SUPERINTENDENT OR CERTIFYING ENGINEER.								
4.	THE CONTRACTOR IS TO ALLOW FOR A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO PROVIDE ADVICE AND CERTIFICATION OF ANY WORKS ASSOCIATED WITH TREATING OR MANAGING UNSUITABLE GROUND CONDITIONS THROUGHOUT THE CONTRACT (e.g. STABILITY OF EXCAVATIONS, POOR SUBGRADE, THE EXISTING QUARRY AREA etc).								
5.	ALL SOFT, WET OR UNSUITABLE MATERIAL IS TO BE REMOVED AS DIRECTED BY THE SUPERINTENDENT AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS BELOW.								
6.	PROVIDE CERTIFICATES VERIFYING THE QUALITY OF IMPORTED MATERIAL FOR THE SUPERINTENDENTS APPROVAL.								
7.	ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200mm THICK LAYERS (LOOSE) AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS1289.2.1.1, AS1289.5.7.1 AND AS1289.5.8.8 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITY;								
	<table><tr><th>LOCATION</th><th>COMPACTION REQUIREMENT</th></tr><tr><td>LANDSCAPED AREAS</td><td>98% SMD0</td></tr><tr><td>ROADS</td><td>100% SMD0 IN ACCORDANCE WITH COUNCIL SPECIFICATIONS)</td></tr><tr><td>PAVED AREAS</td><td>100% SMD0 IN ACCORDANCE WITH COUNCIL SPECIFICATIONS)</td></tr></table>	LOCATION	COMPACTION REQUIREMENT	LANDSCAPED AREAS	98% SMD0	ROADS	100% SMD0 IN ACCORDANCE WITH COUNCIL SPECIFICATIONS)	PAVED AREAS	100% SMD0 IN ACCORDANCE WITH COUNCIL SPECIFICATIONS)
LOCATION	COMPACTION REQUIREMENT								
LANDSCAPED AREAS	98% SMD0								
ROADS	100% SMD0 IN ACCORDANCE WITH COUNCIL SPECIFICATIONS)								
PAVED AREAS	100% SMD0 IN ACCORDANCE WITH COUNCIL SPECIFICATIONS)								
8.	TESTING OF THE SUBGRADE SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. REGISTERED LABORATORY AT THE CONTRACTORS EXPENSE UNLESS AGREED DIFFERENTLY WITH THE PRINCIPAL.								
9.	ALLOW THE FOLLOWING COMPACTION TESTING BY N.A.T.A. REGISTERED LABORATORY FOR PLATFORMS AND FILL LAYERS IN ACCORDANCE WITH THE LATEST VERSION OF AS3798. (MINIMUM 3 TESTS PER LAYER) OR 1 TEST PER MATERIAL TYPE PER 2500sq.m OR 1 TEST.								
10.	WHERE TEST RESULTS ARE BELOW THE SPECIFIED COMPACTION, RECOMPACT (TYNING FIRST AS NECESSARY) AND RETEST UNTIL SPECIFIED COMPACTION STANDARDS ARE ACHIEVED, OTHERWISE SUBGRADE REPLACEMENT IS REQUIRED IF COMPACTION STANDARDS ARE NOT ACHIEVED.								
11.	ALLOW FOR EXCAVATION IN ALL MATERIALS AS FOUND U.N.O. NO ADDITIONAL PAYMENTS WILL BE MADE FOR EXCAVATION IN WET OR HARD GROUND.								

EARTHWORKS (cont)	
12.	WHERE THERE IS INSUFFICIENT EXCAVATED MATERIAL SUITABLE FOR FILLING OR SUBGRADE REPLACEMENT, THE CONTRACTOR IS TO ALLOW TO IMPORT FILL. IMPORTED FILL SHALL COMPLY WITH THE FOLLOWING; 1.1. BE OF VIRGIN EXCAVATED NATURAL MATERIAL OR 1.2. CONTRACTOR TO PROVIDE EVIDENCE IMPORT IS SUITABLE FOR USE 1.3. PLASTICITY INDEX BETWEEN 2-15% AND CBR = 8 1.4. FREE FROM ORGANIC AND PERISHABLE MATTER 1.5. MAXIMUM SIZE 50mm, PASSING 75 MICRON SIEVE (-25%)
2.	THE CONTRACTOR SHALL PROGRAM THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLERS MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED AT THEIR COST.
12.	IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE AND MAINTAIN THE INTEGRITY OF ALL SERVICES, CONDUITS AND PIPES DURING CONSTRUCTION, SPECIFICALLY DURING THE BACKFILLING AND COMPACTION PROCEDURE. ANY AND ALL DAMAGE TO NEW OR EXISTING SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST.
DEEP EXCAVATIONS	
13.	PRIOR TO THE COMMENCEMENT OF EXCAVATION WORKS GREATER THAN 15m IN DEPTH, THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO DETERMINE THE STABILITY OF MATERIAL BEING EXCAVATED AND BENCHING REQUIREMENTS / MINIMUM BATTER SLOPES.
14.	THE CONTRACTOR MUST PROVIDE THE SUPERINTENDENT AND OR THE DESIGN ENGINEER WITH A COPY OF THE GEOTECHNICAL ENGINEERS REPORT PRIOR TO PRACTICAL COMPLETION.
15.	THE CONTRACTOR IS TO PROVIDE SAFETY BARRIERS, FENCING AND THE LIKE IN ACCORDANCE WITH OH&S AND REGULATORY AUTHORITY REQUIREMENTS AND TO ENSURE THE WORK SITE IS SAFE AT ALL TIMES.

LANDSCAPING	
1.	REFER TO DRAWINGS BY OTHERS FOR DETAILS OF PROPOSED LANDSCAPING TREATMENT.
2.	IF NO LANDSCAPING PLANS EXIST OR PLANS DO NOT SPECIFY GENERAL SURFACE STABILISATION THEN ALL DISTURBED SURFACE TO BE TEMPORARILY STABILISED WITH HYDROMULCH UPON COMPLETION OF WORKS. A 500mm STRIP OF TURF (CT2 COUCH) IS TO BE PLACED BEHIND ALL NEW KERB.

PRECAST STORMWATER PITS	
1.	THE USE OF PRE-CAST STORMWATER DRAINAGE PITS IS NOT ACCEPTED WITHOUT CONFIRMATION BETWEEN NORTHROP ENGINEERS AND THE CONTRACTOR REGARDING QUALITY CONTROL AND CERTIFICATION OF FINISHES.
2.	REFER MANUFACTURERS SPECIFICATIONS FOR INSTALLATION GUIDELINES.
3.	PRECAST PIT TO BE PLACED ON MINIMUM 150mm THICK CONCRETE PAD AND BED MINIMUM 50mm WHILST CONCRETE IS STILL PARTIALLY WET.
4.	ENSURE PENETRATION IS CORED THROUGH PIT FACE TO ALLOW CONNECTION AND IS NOT OVERSIZED.
5.	ENSURE A SEALED FINISH AT PIPE CONNECTIONS BY HAND-APPLYING MINIMUM 150mm THICK CONCRETE AROUND PIPE AT THE EXTERNAL FACE OF THE PIT. ENSURE CONCRETE DOES NOT AFFECT THE INTEGRITY OF THE SUBSOIL DRAINAGE CONNECTED TO THE PIT.
6.	ENSURE A SMOOTH SEALED FINISH AT PIPE CONNECTIONS BY HAND APPLYING CONCRETE AROUND THE PIPE ON THE INTERNAL FACE OF THE PIT TO FILL IN ANY VOIDS CREATED WHEN PENETRATION FOR THE PIPE WAS CORED.
7.	ENSURE PIPEWORK DOES NOT PROTRUDE BEYOND THE INSIDE FACE OF THE PIT WALL. PIPEWORK IS TO FINISH FLUSH WITH INTERNAL WALL UNLESS OTHERWISE NOTED OR DETAILED). CONNECTION TO BE RENDERED AND MADE NEAT ON THE INSIDE FACE OF THE PIT.
8.	ENSURE THE OUTLET PIPE IS CONNECTED AT THE INVERT LEVEL OF THE PIT TO DRAIN. ALTERNATIVELY FILL THE BASE OF THE PIT WITH MASS CONCRETE (MIN 50mm THICK) OR APPROVED GROUTING COMPOUND (LESS THAN 50mm THICK) TO DRAIN.
9.	PROVIDE CONCRETE BENCHING TO SIDES OF PIT TO SUIT PIPE DIAMETER. HEIGHT TO MATCH MINIMUM 1/3 PIPE DIAMETER.



STORMWATER DRAINAGE	
1.	ALL PIPES SHALL BE CLASS 2 RUBBER-RING JOINTED RCP U.N.O. WHERE uPVC PIPES HAVE BEEN SPECIFIED, THE FOLLOWING CLASS PIPEWORK IS TO BE ADOPTED U.N.O. Ø100mm OR LESS TO BE CLASS 'SN10' AND ABOVE Ø100mm TO BE CLASS 'SN8'. CLASS 4 PIPES ARE TO BE USED WHERE COVER OVER THE PIPE IS BELOW 600mm AND BENEATH A TRAFFICABLE PAVEMENT.
2.	uPVC STORMWATER LINES PASSING UNDER FLOOR SLABS TO BE CONCRETE ENCASED.
3.	FRC PIPES EQUAL TO THAT OF THE STEEL REINFORCED CONCRETE PIPE CLASS SPECIFIED ON THE DRAWINGS MAY BE USED SUBJECT TO APPROVAL FROM THE SUPERINTENDENT.
4.	ALL PIPE ARE TO BE LAID AT 1.0% MIN GRADE U.N.O.
5.	<u>COVERS</u> 5.1. USE HOT DIPPED GALVANISED COVERS AND GRATES COMPLYING WITH RELEVANT COUNCIL AND AUSTRALIAN STANDARDS. 5.2. ALL COVERS AND GRATES TO BE POSITIONED IN A FRAME AND MANUFACTURED AS A UNIT. 5.3. ALL COVERS AND GRATES TO BE FITTING WITH POSITIVE COVER LIFTING KEYS 5.4. OBTAIN SUPERINTENDENTS APPROVAL FOR THE USE OF CAST IRON SOLID COVERS AND GRATES. CAST IRON SOLID COVERS (IF APPROVED) TO CONSIST OF CROSS-WEBBED, CELLULAR CONSTRUCTION WITH THE RIBS UPPERMOST TO ALLOW INFILLING WITH CONCRETE. INSTALL POSITIVE COVER LIFTING KEYS AND PLASTIC PLUGS. 5.5. UNLESS DETAILED OR SPECIFIED OTHERWISE, COVERS AND GRATES TO BE CLASS 'D' IN VEHICULAR PAVEMENTS AND CLASS 'B' ELSEWHERE. 5.6. ALL GRATED TRENCH DRAINS SHOULD BE 'CLASS D' CAST IRON WITHIN VEHICULAR PAVEMENTS AND CLASS 'B' HEEL SAFE WITHIN PEDESTRIAN PAVEMENTS.
6.	ALL PIPE BENDS, JUNCTIONS, ETC ARE TO BE PROVIDED USING PURPOSE MADE FITTINGS OR STORMWATER PITS.
7.	ALL CONNECTIONS TO EXISTING DRAINAGE STRUCTURES SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
7.	ENSURE PIPEWORK DOES NOT PROTRUDE BEYOND THE INSIDE FACE OF THE PIT WALL. PIPEWORK IS TO FINISH FLUSH WITH INTERNAL WALL (UNLESS OTHERWISE NOTED OR DETAILED). CONNECTION TO BE RENDERED AND MADE NEAT ON THE INSIDE FACE OF THE PIT
8.	THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
9.	U.N.O. MATERIAL USED FOR BEDDING OF PIPES SHALL BE APPROVED NON-COHESIVE GRANULAR MATERIAL HAVING HIGH PERMEABILITY AND HIGH STABILITY WHEN SATURATED AND FREE OF ORGANIC AND CLAY MATERIAL.
10.	BEDDING SHALL BE U.N.O TYPE HS2 UNDER ROADS AND H2 UNDER GENERAL AREAS IN ACCORDANCE WITH CURRENT RELEVANT INDUSTRY STANDARDS AND GUIDELINES.
11.	THE CONTRACTOR SHALL ENSURE AND PROTECT THE INTEGRITY OF ALL STORMWATER PIPES DURING CONSTRUCTION. ANY AND ALL DAMAGE TO THESE PIPES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT AND AT NO EXTRA COST TO THE CONTRACT.
12.	NOTE THAT THE PIT COVER LEVEL NOMINATED IN GUTTERS ARE TO THE INVERT OF THE GUTTER WHICH ARE 40mm LOWER THAN THE PAVEMENT LEVEL AT LIP OF GUTTER. REFER KERB DETAILS FOR CONFIRMATION.
<u>SUBSOIL DRAINAGE</u>	
13.	Ø100mm SUBSOIL DRAINAGE LINES WITH NON-WOVEN GEOTEXTILE FILTER SOCK SURROUND SHALL BE CONNECTED TO A STORMWATER DRAINAGE PIT (AT MIN 1% LONGITUDINAL GRADE) AND PROVIDED IN THE FOLLOWING LOCATIONS: 13.1. THE HIGH SIDE OF PROPOSED TRAFFICKED PAVEMENT AREAS. 13.2. ALL PLANTER AND TREE BEDS PROPOSED ADJACENT TO PAVEMENT AREAS. 13.3. BEHIND RETAINING WALLS (IN ACCORDANCE WITH RETAINING WALL DETAILS). 13.4. UPSTREAM OF STORMWATER PITS 13.5. BENEATH FLEXIBLE PAVEMENT ALONG A SAG PROFILE 13.6. ALL OTHER AREAS SHOWN ON DRAWINGS. 13.7. CONTRACTOR IS TO MAKE ALLOWANCE IN BOTH TENDER AND CONSTRUCTION COSTING TO ALLOW FOR SUBSURFACE DRAINAGE BEHIND ALL RETAINING WALLS / ABOVE LOCATIONS AND TO MAKE CONNECTION TO STORMWATER SYSTEM.
14.	WHERE SUBSOIL DRAINAGE PASSES BENEATH BUILDINGS / PAVED AREAS AND/OR PAVEMENTS. CONTRACTOR TO ENSURE Ø100mm CLASS 'SN10' uPVC DRAINAGE LINE IS USED AND THAT PROPRIETARY FITTINGS ARE USED TO RECONNECT SUBSOIL DRAINAGE LINE.
15.	THE CONTRACTOR SHALL INSTALL INSPECTION OPENINGS / CLEAROUTS TO ALL SUBSOIL DRAINAGE LINES AND DOWNPIPE LINES AS SPECIFIED ON DRAWINGS AND IN ACCORDANCE WITH COUNCIL SPECIFICATIONS. HOWEVER AS A MINIMUM THEY ARE TO BE PLACED AT MAXIMUM 30m CENTRES AND AT ALL UPSTREAM ENDPOINTS.
16.	PROVIDE 3.0m LENGTH OF Ø100 SUBSOIL DRAINAGE LINE WRAPPED IN NON-WOVEN GEOTEXTILE FILTER FABRIC TO THE UPSTREAM SIDE OF STORMWATER PITS, LAID IN STORMWATER PIPE TRENCHES AND CONNECTED TO DRAINAGE PIT.
17.	IN AREAS WHERE DUMPED / HAND PLACED ROCK IS USED AS A MEANS OF SCOUR PROTECTION, CONTRACTOR IS TO EXCAVATE A MINIMUM OF 100mm FROM PROPOSED SURFACE. LEVEL AND COMPACT SUBGRADE AS SPECIFIED. ROCK TO THEN BE PLACED ON GEOTEXTILE FILTER FABRIC A34.
18.	THE CONTRACTOR IS TO ENSURE THAT A MINIMUM 150mm CLEARANCE IS PROVIDED BETWEEN THE INTERNAL FACE OF PIPE AND ADJACENT INTERNAL PIT WALLS
19.	WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN 50mm CONCRETE BED (OR 75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR ON THE ROCK. (E.G. CLEAN 5-12mm AGGREGATE)

SITEWORKS	
1.	ALL WORKS TO BE IN ACCORDANCE WITH RELEVANT LOCAL COUNCIL / REGULATORY AUTHORITIES REQUIREMENTS, ALL SPECIFICATIONS AND AUSTRALIAN STANDARDS. CONFLICTS BETWEEN SAID DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR DIRECTION.
2.	THE CONTRACTOR IS TO REVIEW THE DRAWINGS PRIOR TO PRICING AND COMMENCEMENT AND REPORT ANY DISCREPANCIES TO NORTHROP
3.	ANY PRODUCTS SPECIFIED OR USED TO BE VERIFIED BY THE CONTRACTOR AS BEING SAFE AND APPROPRIATE FOR USE. NORTHROP DO NOT TAKE ANY RESPONSIBILITY FOR THE USE OF UNSAFE PRODUCTS
4.	THE CONTRACTOR IS TO DESIGN, OBTAIN APPROVALS AND CARRY OUT REQUIRED TEMPORARY TRAFFIC CONTROL PROCEDURES DURING CONSTRUCTION IN ACCORDANCE WITH ALL REGULATORY AUTHORITIES, INCLUSIVE OF LOCAL COUNCIL REGULATIONS AND REQUIREMENTS.
5.	THE CONTRACTOR IS TO OBTAIN ALL AUTHORITY APPROVALS AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
6.	RESTORE ALL PAVED, COVERED, GRASSED AND LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION OR AS DIRECTED BY THE SITE SUPERINTENDENT ON COMPLETION OF WORKS. WHERE PLANTING OF NEW GRASS IS NECESSARY REFER TO LANDSCAPE ARCHITECT AND / OR ARCHITECT DOCUMENTATION.
7.	ON COMPLETION OF ANY TRENCHING WORKS, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR AS DIRECTED BY THE SITE SUPERINTENDENT, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL, GRASSED AREAS AND ROAD PAVEMENTS.
8.	THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR PRIOR TO COMMENCEMENT OF WORKS.THE CONTRACTOR IS TO ENSURE THAT SURVEY BOUNDARIES ARE DERIVED FROM A CADASTRAL SURVEY RATHER THAN A DETAIL SURVEY.
9.	THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ONSITE PRIOR TO LODGMET OF TENDER AND ONSITE WORKS. THE PRICE AS TENDERED SHALL BE INCLUSIVE OF ALL WORKS SHOWN ON THE TENDER PROJECT DRAWINGS. ADDITIONAL PAYMENTS FOR WORKS SHOWN ON THE TENDER PROJECT DRAWINGS WILL NOT BE APPROVED.
10.	DO NOT OBTAIN DIMENSIONS BY SCALING DRAWINGS.
11.	IN CASE OF DOUBT OR DISCREPANCY REFER TO SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
12.	WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED. MAKE SMOOTH TRANSITION TO EXISTING FEATURES AND MAKE GOOD WHERE JOINED.
13.	TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.
14.	ALL CIVIL ENGINEERING DESIGN HAS BEEN DOCUMENTED UNDER THE ASSUMPTION THAT ALL NECESSARY SITE CONTAMINATION REMEDIATION WORKS HAVE BEEN SATISFACTORILY COMPLETED (IF APPLICABLE) AND THAT THE SITE IS NOT AFFECTED BY ANY SOIL STRATA OR GROUNDWATER TABLE CONTAMINATION.
15.	NOTES ON DETAILS PROVIDED TAKE PRECEDENCE OVER SPECIFICATION NOTES UNLESS IN CONTRADICTION WITH COUNCIL/AUTHORITY SPECIFICATIONS/DETAILS. CONTRACTOR TO CONSULT WITH NORTHROP FOR ANY DISCREPANCIES.
16.	IF THE CONTRACTOR DISCOVERS HAZARDOUS/CONTAMINATED MATERIAL THE CONTRACTOR SHALL CONSULT WITH AN ENVIRONMENTAL SPECIALIST.
17.	THE CONTRACTOR IS RESPONSIBLE FOR DEALING WITH COMMUNITY COMPLAINTS ASSOCIATED WITH THE WORKS UNDER THE CONTRACT AND TO COMPENSATE FOR/RECTIFY ANY DAMAGE REASONABLY CAUSED BY THE CONTRACTOR.
18.	THE TERM 'MAKE GOOD' OR 'MAKE NEAT' IS IN REFERENCE TO THE SATISFACTION OF NORTHROP OR CERTIFYING ENGINEER. THE CONTRACTOR IS TO SEEK CLARIFICATION FROM NORTHROP OR THE CERTIFYING ENGINEER IF NECESSARY
<u>SERVICE TRENCHES</u>	
19.	SAWCUT EXISTING SURFACES PRIOR TO EXCAVATION. BACKFILL ALL TRENCHES UNDER EXISTING ROADS, PAVEMENTS AND PATHS WITH STABILISED SAND 5% CEMENT OR DGS4.0 MATERIAL (5% CEMENT) COMPACTED IN 200mm THICK LAYERS TO 98% MMD0 TO UNDERSIDE OF PAVEMENT.
20.	BACKFILL ALL TRENCHES NOT UNDER ROADS, PAVEMENTS, PATHS AND BUILDINGS WITH APPROVED EXCAVATED OR IMPORTED MATERIAL COMPACTED TO 95% SMD0.

BITUMEN SEALING	
1.	<u>PAVEMENT PREPARATION</u> 1.1. THE SURFACE TO BE SEALED SHALL BE DRY AND BROOMED BEFORE COMMENCEMENT OF WORK TO ENSURE COMPLETE REMOVAL OF ALL SUPERFICIAL, FOREIGN OR LOOSE MATTER. 1.2. IF APPROVED BY THE MANAGING CONTRACTOR, ALL DEPRESSIONS OR UNEVEN AREAS ARE TO BE TACK-COATED AND BROUGHT TO GENERAL LEVEL OF PAVEMENT WITH ASPHALT CONCRETE BEFORE SEALING COMMENCES.
2.	<u>MATERIALS</u> 2.1. BINDER SHALL BE CLASS 170 TO AS 2008 OR APPROVED PROPRIETARY MATERIAL FOR PRIMING AND PRIME SEALING. 2.2. AGGREGATE SHAPE, DURABILITY AND WET TO DRY STRENGTH SHALL COMPLY TO AS2758 FOR CLASS 'N' AGGREGATES. A 20kg SAMPLE TO BE APPROVED BY THE MANAGING CONTRACTOR PRIOR TO USE. 2.3. AGGREGATES SHALL BE DELIVERED UNIFORMLY PRECOATED. EXCESSIVE PRECOATING WILL RESULT IN AGGREGATES BEING REJECTED. 2.4. FOR TWO COAT FLUSH SEALS, THE SIZE OF THE AGGREGATE FOR THE SECOND COAT, WHILE NORMALLY HALF THAT OF THE FIRST COAT, SHALL BE DIMENSIONALLY COMPATIBLE WITH THAT OF THE FIRST COAT. 2.5. PRECOATING AGENTS SHALL BE COMPATIBLE WITH THE AGGREGATES AND BINDER TO BE USED.
3.	<u>DESIGN</u> 3.1. DESIGN OF SPRAYED BITUMINOUS SEALS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE AUSTRROADS (INAAASRA) PUBLICATION "PRINCIPLES AND PRACTICE OF BITUMINOUS SURFACING, VOLUME 1 - 'SPRAYED WORK', WHERE NOT INDICATED ON THE DRAWINGS, PRIMES AND PRIMER SEALS SHALL BE DESIGNED TO REMAIN INTACT UNTIL FINAL SEALING TAKES PLACE, HAVING REGARD FOR THE TRAFFIC AND CLIMATIC CONDITIONS. UNLESS OTHERWISE SPECIFIED, BINDER APPLICATION RATES SHALL BE SELECTED TO FILL 85% OF THE THEORETICAL VOIDS OF THE MAT.
4.	<u>BITUMEN FLUSH SEALING</u> 4.1. BITUMEN FLUSH SEALS SHALL BE EITHER SINGLE OR DOUBLE COAT AS SHOWN ON THE DRAWINGS. eg 14/7 INDICATES A DOUBLE COAT FLUSH SEAL USING TWO APPLICATIONS OF BITUMEN AND AGGREGATE. THE FIRST AGGREGATE LAYER BEING OF 14mm NOMINAL SIZE, THE SECOND 7mm. 4.2. COVER AGGREGATE SHALL BE SPREAD IMMEDIATELY AFTER SPRAYING OF BINDER. IN NO CASE SHALL SPREADING BE DELAYED MORE THAN 8 MINUTES.
5.	<u>RECORDS</u> 5.1. ALL SPRAY RECORDS AND AGGREGATE SUPPLY TONNAGE RECEIPTS SHALL BE RETAINED AND PASSED ON TO THE CONSULTING ENGINEER AS PART OF QUALITY ASSURANCE PROCEDURES. 5.2. GENERALLY FLUSH SEALING SHALL BE CARRIED OUT COMPLETE AND IN ACCORDANCE WITH THE RELEVANT RMS STANDARD.

ASPHALTIC CONCRETE	
1.	<u>GENERAL</u> 1.1. ALL ASPHALTIC CONCRETE (AC) WORK TO BE PREPARED AND CARRIED OUT IN ACCORDANCE WITH GOOD ASPHALTIC PAVING PRACTICE AS DESCRIBED IN AS2150-2005 "ASPHALT (HOT-MIXED) PAVING - GUIDE TO GOOD PRACTICE" AND CURRENT RMS SPECIFICATIONS.
2.	<u>PAVEMENT PREPARATION</u> 2.1. THE FINISHED PAVEMENT SURFACE TO BE SEALED SHALL BE WITHIN +/- 2% OF THE OPTIMUM AND BROOMED BEFORE COMMENCEMENT OF WORK TO ENSURE COMPLETE REMOVAL OF ALL SUPERFICIAL FOREIGN MATTER. 2.2. PRIME ALL SURFACES TO BE SEALED. ALLOW PRIME TO SETTLE FOR A MINIMUM OF 3 DAYS BEFORE APPLYING TACK COAT AND ASPHALT. 2.3. SWEEP PRIMED SURFACES BEFORE APPLYING TACK COAT. 2.4. ALL DEPRESSIONS OR UNEVEN AREAS ARE TO BE TACK-COATED AND BROUGHT UP TO GENERAL LEVEL OF PAVEMENT WITH ASPHALTIC CONCRETE BEFORE LAYING OF MAIN COURSE. 2.5. ALL DEFECTS IN THE BASE COURSE INCLUDING CRACKS, SURFACE DEFORMATION AND THE LIKE SHALL BE REPAIRED AS DIRECTED BY THE SUPERINTENDENT PRIOR TO PLACEMENT OF TACK COAT AND/OR AC COURSES.
3.	<u>PLACEMENTS</u> 3.1. ALL ASPHALT SHALL BE PLACED UTILISING APPROVED MECHANICAL PAVING MACHINES. DO NOT HAND PLACE ASPHALT WITHOUT PRIOR APPROVAL FROM ENGINEER.
4.	<u>JOINTS</u> 4.1. THE DENSITY AND SURFACE FINISH AT JOINTS SHALL BE SIMILAR TO THOSE OF THE REMAINDER OF THE LAYER.
5.	<u>COMPACTION</u> 5.1. ALL COMPACTION SHALL BE UNDERTAKEN USING SELF PROPELLED ROLLERS. 5.2. INITIAL ROLLING SHALL BE COMPLETED BEFORE THE MIX TEMPERATURE FALLS BELOW 105°C USING A STEEL DRUM ROLLER HAVING A MINIMUM WEIGHT OF 8 TONNES AND A MAXIMUM UNIT LOAD ON THE REAR DRUM EQUIVALENT TO 55kN/m WIDTH OF DRUM. 5.3. SECONDARY ROLLING SHALL BE COMPLETED BEFORE THE MIX TEMPERATURE FALLS BELOW 80°C USING A PNEUMATIC TYRED ROLLER OF AT LEAST 10 TONNES MASS. A MINIMUM TYRE PRESSURE OF 550kPa AND A MINIMUM TOTAL LOAD OF 1 TONNE ON EACH TYRE. 5.4. ROLLED SURFACES SHALL BE SMOOTH AND FREE OF UNDULATIONS. BONY AND/OR UNEVEN SURFACES WILL BE REJECTED. 5.5. PROVIDE 2 No. MINIMUM COMPACTION TESTS.
6.	<u>FINISHED SURFACE PROPERTIES</u> 6.1. FINISHED SURFACES SHALL BE SMOOTH, DENSE AND TRUE OF SHAPE AND SHALL NOT VARY MORE THAN; 6.1.1. 3mm FROM THE SPECIFIED PLAN LEVEL AT ANY POINT. 6.1.2. 3mm FROM THE BOTTOM OF A STRAIGHT EDGE LAID TRANSVERSELY. 6.1.3. 5mm FROM THE BOTTOM OF A STRAIGHT EDGE LAID LONGITUDINALLY. 6.1.4. MINUS 0 TO PLUS 2mm ADJACENT TO OTHER ELEMENTS SUCH AS KERBS AND THE LIKE TO AVOID POOLING OF SURFACE WATER. 6.1.5. MINUS 0 FROM THE SPECIFIED THICKNESS.
7.	DO NOT STORE PLANT EQUIPMENT OR TRAFFIC NEWLY LAID ASPHALTIC CONCRETE PAVEMENTS WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
8.	DO NOT APPLY MARKING PAINTS UNTIL ASPHALT HAS CURED IN ACCORDANCE WITH PAINT MANUFACTURERS SPECIFICATIONS.

NOT FOR CONSTRUCTION

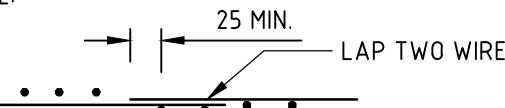
REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE	PROJECT	DRAWING TITLE	JOB NUMBER	
01	ISSUED FOR INFORMATION	TB		JG	20.09.21		GRAY PUKSAND	 Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	WEST END MAZDA - NORTH PARRAMATTA	CIVIL ENGINEERING PACKAGE SPECIFICATION NOTES - SHEET 01	190111	
											DRAWING NUMBER	REVISION
											C01.11	01
											DRAWING SHEET SIZE = A1	
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED											THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD	

NOTE: ALL CIVIL ENGINEERING CONSTRUCTION WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CITY OF PARRAMATTA DEVELOPMENT GUIDELINES. THE AFOREMENTIONED GUIDELINES INCLUSIVE OF ALL SPECIFICATIONS TAKE PRECEDENCE OVER NOTES PROVIDED BELOW

CONCRETE PAVEMENTS

1. THIS SECTION REFERS TO CIVIL CONCRETE WORKS AND DOES NOT INCLUDE STRUCTURAL ELEMENTS SUCH AS BUILDINGS, BELOW GROUND STRUCTURES OR RETAINING WALLS.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
3. CONCRETE QUALITY AND REINFORCING COVER
ALL REQUIREMENTS OF THE CURRENT ASCE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	CONCRETE STRENGTH f'c (MPa)	SPECIFIED SLUMP	NOMINAL AGGREGATE SIZE	MAX. 56 DAY DRYING SHRINKAGE	COVER (mm)
KERBS AND PATHS	25	60	20	650microns	TOP 40
PITS AND VEHICULAR PAVEMENTS	32	80	20	650microns	TOP 40

- CONCRETE PROPERTIES SHALL BE VARIED FROM NORMAL CLASS AS FOLLOWS
- 4.1 MINIMUM CEMENT CONTENT 250 kg/m³
- 4.2 MAXIMUM 56 DAY SHRINKAGE STRAIN = AS NOMINATED ABOVE
- 4.3 PRIOR TO COMMENCEMENT CONCRETE SUPPLIER TO PROVIDE DRYING SHRINKAGE TEST RESULTS FROM PRODUCTION ASSESSMENT AS EVIDENCE THAT SPECIFIED DRYING SHRINKAGE LIMITS CAN BE ACHIEVED USING NORMAL MIX DESIGN.
5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
6. CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL.
7. PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379. TEST CYLINDERS ARE TO BE KEPT ON SITE.
8. ALL COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO THE CIVIL ENGINEER FOR REVIEW.
9. ALL CONCRETE IS TO BE CONTINUOUSLY CURED FOR A MINIMUM PERIOD OF 10 DAYS AFTER PLACING. CURING TO COMMENCE IMMEDIATELY AFTER FINISHING. SPRAY ON CURING COMPOUNDS TO COMPLY WITH AS3799.
10. PLACE CONCRETE CONTINUOUSLY BETWEEN CONSTRUCTION JOINTS SHOWN ON PLAN. DO NOT BREAK OR INTERRUPT SUCCESSIVE POURS SUCH THAT COLD JOINTS OCCUR. ANY REVISIONS OR ADDITIONS TO CONSTRUCTION JOINTS SHOWN ON PLAN REQUIRE APPROVAL FROM THE CIVIL ENGINEER.
11. FALLS IN SLAB AS SHOWN ON PLAN MAINTAIN MINIMUM SLAB THICKNESS AS SHOWN.
12. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY THE DESIGN ENGINEER.
13. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS.
14. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:
- 
- FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS1304.
15. ALL PENETRATIONS TO HAVE 2 #12 TRIMMER BARS TOP AND BOTTOM TO EACH FACE UN.O. EXCEED TRIMMERS 700 BEYOND PENETRATION. MAINTAIN 40mm COVER TOP AND BOTTOM.
16. FORMWORK CLASS SHALL BE IN ACCORDANCE WITH AS3600.
17. SURFACE FINISHES:
- | ELEMENT | FORMWORK CLASS |
|----------------|-------------------------------|
| STORMWATER PIT | OFF FORM |
| PAVEMENTS | MACHINE FLOAT OR BROOM FINISH |
| KERBS | STEEL FLOAT OR TROWEL |
- AUTHORITY SPECIFICATIONS TAKE PRECEDENCE

NUMBER OF BARS IN GROUP NOMINAL BAR SIZE IN mm

BAR GRADE AND TYPE _____ SPACING IN mm THE FIGURE _____
CONCRETE CURING _____

19. THE CURING PROCESS FOR NEW CONCRETE IS TO INCORPORATE THE FOLLOWING ASPECTS, GENERALLY AS ORDERED;
 - 19.1. SPRAY CURING COMPOUND
 - 19.2. SAWCUT JOINTS AS LOCATED AND SPECIFIED AS SOON AS CURING PERMITS.
- COVER NEW PAVING WITH HESSIAN AND BLACK PLASTIC SHEETS TAPED AT JOINTS ON COMPLETION OF SAWCUTTING. NOTE COVERING IS TO EXTEND MIN 5m BEYOND PAVEMENT BEING CURED. OVER ADJOINING (EXISTING) PAVEMENT AREAS, MAINTAIN CURING AS SPECIFIED.

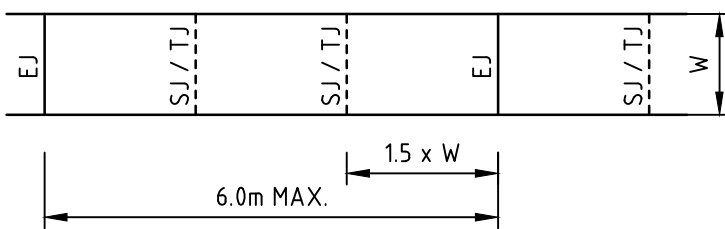
PAVEMENTS

ALL PAVEMENT MATERIALS SHALL COMPLY WITH CURRENT RMS SPECIFICATIONS. PROVIDE MECHANICAL ANALYSIS FOR EACH BATCH OF PAVEMENT MATERIAL TO ENSURE CONFORMITY.

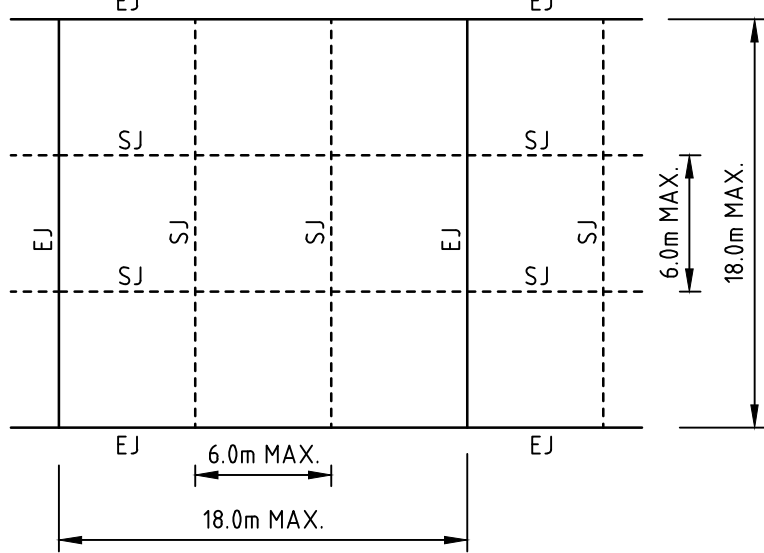
1. **COMPACTION STANDARDS**
 - BASE 98% MODIFIED MAXIMUM DRY DENSITY
 - SUBBASE 98% MODIFIED MAXIMUM DRY DENSITY
 - SUBGRADE 100% STANDARD MAXIMUM DRY DENSITY
2. THE CONTRACTOR SHALL CONFIRM THE DESIGN CBR WITH A MINIMUM OF 3 TESTS TAKEN AT SUBGRADE LEVEL. WHERE DISCREPANCY IS FOUND, CONTACT THE DESIGN ENGINEER.
3. ALLOW FOR COMPACTION TESTING BY A N.A.T.A. REGISTERED LABORATORY FOR BASE LAYER, SUBBASE LAYER AND SUBGRADE LAYER IN ACCORDANCE WITH THE LATEST VERSION OF A53798 FOR PAVEMENTS (MINIMUM 2 TESTS PER LAYER). ALLOW FOR AT LEAST TWO SUCCESSFUL COMPACTION TESTS IN EACH LAYER.
4. MATCH NEW PAVEMENTS NEATLY AND FLUSH WITH EXISTING
5. AFTER BASE IS APPROVED, SWEEP CLEAN AND PRIME AT NOMINAL RATE OF 10L PER 10 sq.m.
6. **PAVEMENT HOLD POINTS**
 - 6.1. SUB-GRADE PROOF ROLL PRIOR TO SET-UP AND FORM FOR CONCRETE POUR.
 - 6.2. INSPECTION OF FORMWORK / STEEL PRIOR TO CONCRETE POUR.

PAVEMENT JOINTS

1. PROVIDE 10mm ABLEFLEX BETWEEN NEW CONCRETE WORKS AND EXISTING STRUCTURES.
2. LOCAL AUTHORITY REQUIREMENTS SHALL TAKE PRECEDENCE WITHIN THE PUBLIC ROAD RESERVE.
3. DOWELS TO BE PLACED ON PROPRIETARY CRADLES TO ENSURE CORRECT SPACING AND ALIGNMENT.
4. **PEDESTRIAN PAVEMENTS**
ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINED AS FOLLOWS U.N.O. ON THE DESIGN DRAWINGS.
5. EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 6.0m CENTRES.
6. WEAKENED PLANE JOINTS (SAWN OR TOOL JOINTS) ARE TO BE LOCATED AT A MAX. SPACING OF 15m x WIDTH OF THE PAVEMENT.
7. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
8. TYPICAL PEDESTRIAN PAVEMENT JOINT DETAIL



9. **VEHICULAR PAVEMENTS**
ALL VEHICULAR PAVEMENTS TO BE JOINED AS FOLLOWS U.N.O. ON THE DESIGN DRAWINGS.
10. **TIED KEYED CONSTRUCTION JOINTS SHOULD GENERALLY BE LOCATED LONGITUDINALLY AT A MAX. OF 6.0m CENTRES.**
11. **SAWN JOINTS SHOULD GENERALLY BE LOCATED Laterally AT A MAX. OF 6.0m CENTRES WITH DOWELED EXPANSION JOINTS AT MAX. 18.0m CENTRES.**
12. **TYPICAL VEHICULAR PAVEMENT JOINT DETAIL.**



13. KERB EXPANSION JOINTS SHALL BE FORMED FROM 10mm ABLEFLEX FOR FULL DEPTH OF SECTION.
14. KERB EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, TANGENT POINTS OF CURVES / CORNERS AND AT 12m MAX CENTRES.
15. KERB TOoled JOINTS TO BE MIN 3mm WIDE AND LOCATED AT MAX 3m CENTRES.
16. INTEGRAL KERB JOINTS SHALL MATCH THE LOCATION OF PAVEMENT JOINTS.

CONCRETE

1. CARRY OUT ALL CONCRETE WORK IN ACCORDANCE WITH AS3600 AND NATSPEC CONCRETE STANDARDS.
2. CONCRETE PROPERTIES AND COVER TO REINFORCING:

ELEMENT	CONCRETE STRENGTH f'c (MPa)	MAX. 56 DAY DRYING SHRINKAGE	COVER (mm)	
SLABS ON GROUND	32	650microns	TOP 40	BTM 40
TANK LID	40	700microns	TOP 40	BTM 40

MAXIMUM AGGREGATE SIZE = 20mm U.N.O.
SLUMP DURING PLACING = 75mm
EXPOSURE CLASSIFICATION = B1
NO ADMIXTURES SHALL BE USED IN CONCRETE MIX UNLESS APPROVED
BY STRUCTURAL ENGINEER IN WRITING.

- CONCRETE PROPERTIES FOR SLABS AND BEAMS SHALL BE VARIED FROM NORMAL CLASS AS FOLLOWS:
- MINIMUM CEMENT CONTENT 250kg/cu.m
 - PRIOR TO COMMENCEMENT CONCRETE SUPPLIER TO PROVIDE DRYING SHRINKAGE TEST
- RESULTS FROM PRODUCTION ASSESSMENT AS EVIDENCE THAT SPECIFIED DRYING SHRINKAGE LIMITS CAN BE ACHIEVED USING NORMAL MIX DESIGN.
4. SUBMIT FOR APPROVAL THE FOLLOWING TO THE STRUCTURAL ENGINEER
- CURING PROCEDURE (PYA MEMBRANES NOT PERMITTED)
 - STRIPPING PROCEDURE
 - DETAILS AND LOCATION OF CAST IN SERVICES
 - CONDUITS, PENETRATIONS AND CONSTRUCTION JOINT LOCATIONS
5. ALL CONCRETE MIXES SHALL BE DESIGNED BY A RECOGNISED TESTING LAB AND SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER.
6. ALL COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW.
7. PROJECT CONTROL TESTING SHALL BE CARRIED OUT ON ALL CONCRETE IN ACCORDANCE WITH AS1379. TEST CYLINDERS ARE TO BE KEPT ON SITE.
8. ALL CONCRETE IS TO BE CONTINUOUSLY CURED FOR A MINIMUM PERIOD OF 10 DAYS AFTER PLACING. CURING TO COMMENCE IMMEDIATELY AFTER FINISHING. SPRAY ON CURING COMPOUNDS TO COMPLY WITH AS3799.
9. FOR TENDER PURPOSES ASSUME MINIMUM STRIPPING TIMES AND EXTENT OF BACK PROPPING AS PER AS3610-1995 SECTION 5.0 AND AS PER GENERAL NOTES FOR FORMWORK AND PROPPING.
10. FORMWORK FINISH CLASSIFICATION TO AS3600:
- | ELEMENT | CLASS |
|---------------------|----------------|
| - INGROUND FOOTINGS | 5 |
| - RETAINING WALLS | 5 EXPOSED FACE |
| - RETAINING WALLS | 3 EXPOSED FACE |
| - COLUMNS | 2 |
| - BEAMS AND SLABS | 2 |
11. SURFACE FINISHES:
- COLUMNS AND WALLS OFF FORM
12. COMPACT ALL CONCRETE INCLUDING FOOTINGS AND SLABS, USING MECHANICAL VIBRATORS.
13. PLACE CONCRETE CONTINUOUSLY BETWEEN CONSTRUCTION JOINTS SHOWN ON PLAN. DO NOT BREAK OR INTERRUPT SUCCESSIVE POURS SUCH THAT COLD JOINTS OCCUR. ANY REVISIONS OR ADDITIONS TO CONSTRUCTION JOINTS SHOWN ON PLAN REQUIRE APPROVAL FROM THE STRUCTURAL ENGINEER.
14. CONCRETE PROFILES:
- BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE THE SLAB THICKNESS.
 - SIZE OF CONCRETE ELEMENTS MUST NOT INCLUDE THICKNESS OF APPLIED FINISHES.
 - NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN SHOWN IN THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
 - PROVIDE DRIP GROOVES AT ALL EXPOSED EDGES, CHAMFERS, DRIP GROOVES, REGLETS ETC TO BE TO ARCHITECTS DETAILS.
15. ALL PENETRATIONS TO HAVE 2-N16 TRIMMER BARS TOP AND BOTTOM TO EACH FACE U.N.O. EXTEND TRIMMERS 600 BEYOND PENETRATION.
16. SETDOWS OR FALLS IN FLOOR SURFACES ARE NOT PERMITTED UNLESS SHOWN ON DRAWINGS. MAINTAIN MINIMUM SLAB THICKNESS SHOWN ON PLAN WHERE FALLS OCCUR.

3D INFORMATION DISCLAIMER

PLEASE BE ADVISED 12D DESIGN FILE, IF SUPPLIED, IS DEEMED TO BE AN ACCURATE REFLECTION OF NORTHROP'S DESIGN AT THE TIME OF FINAL DESIGN DEVELOPMENT AND MAY NOT FULLY REFLECT THE DESIGN SURFACE AS PRESENTED. HOWEVER THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INCORPORATION IN THE CONSTRUCTION WORKS.

YOU ARE FURTHER ADVISED THAT ISSUED HARDCOPY/PDF PLANS AND DOCUMENTS TAKE PRECEDENCE OVER THE SUPPLIED ELECTRONIC INFORMATION AND ANY INCONSISTENCIES SHOULD IMMEDIATELY BE REPORTED TO NORTHPOR CONSULTING ENGINEERS FOR VERIFICATION PRIOR TO THEIR INCORPORATION IN THE WORKS.

NORTHROP CONSULTING ENGINEERS TAKES NO RESPONSIBILITY FOR USE OF NON-VERIFIED 3D DESIGN INFORMATION USED IN THE WORKS.

THE USE OF THE 3D MODEL INFORMATION SHALL CONSTITUTE
ACKNOWLEDGMENT AND ACCEPTANCE OF THE ABOVE STATEMENTS BY
THE RECIPIENT.

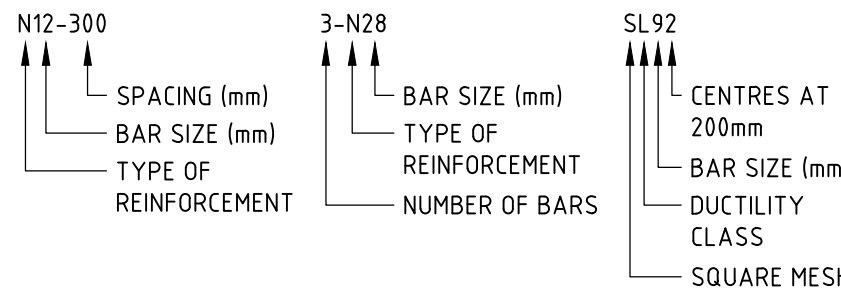
CONCRETE (cont)

17. REINFORCEMENT GRADE AND NOTATION:

SYMBOL	BAR SHAPE	STRENGTH GRADE (MPa)	DUCTILITY CLASS	TO COMPLY WITH AUST STANDARD
N	DEFORMED RIB BAR	500	NORMAL	AS 4671
R	PLAIN ROUND BAR	250	NORMAL	AS 4671
RL	RECTANGULAR MESH OF DEFORMED RIB BAR	500	LOW	AS 4671
SL	SQUARE MESH OF DEFORMED RIB BAR	500	LOW	AS 4671
L-TM	TRENCH MESH	500	LOW	AS 4671

ALL REINFORCING BARS SHALL BE GRADE D500N TO AS4671 AND ALL
MESH SHALL BE GRADE 500L TO AS4671 U.N.O. CLASS L
REINFORCEMENT SHALL NOT BE USED U.N.O.

REINFORCEMENT LABELS:

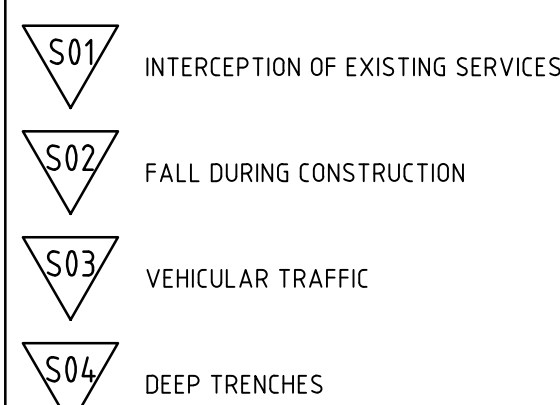


18. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY, AND NOT NECESSARILY IN TRUE PROJECTION. BARS SHOWN ARE INDICATIVE ONLY AND LENGTHS MAY VARY. BEAM ELEVATIONS TAKE PRECEDENCE OVER SECTIONS. SLAB PLANS TAKE PRECEDENCE OVER SECTIONS. REFER TO SECTIONS FOR EXTRA BARS THAT MAY BE REQUIRED.
19. USE ONLY ALL PLASTIC OR CONCRETE CHAIRS AT EXTERNAL SURFACES.
20. SITE BENDING OF REINFORCEMENT BARS SHALL BE DONE WITHOUT HEATING USING A RE-BENDING TOOL. THE BARS SHALL BE RE-BENT AGAINST A FLAT SURFACE OR A PIN WITH A DIAMETER NOT LESS THAN THE MINIMUM PIN SIZE PRESCRIBED IN A3600-2001.
21. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN ON THE STRUCTURAL DRAWINGS OR IN POSITIONS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER. LAPS SHALL BE IN ACCORDANCE WITH A3600 SECTION 13 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR.
22. FOR LAPS IN MESH REFER TO SLAB ON GROUND NOTES.
23. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER
24. AT EXTERNALLY EXPOSED SURFACES NO METALLIC ITEMS INCLUDING FORM BOLTS, FORT SPACERS, METALLIC BAR CHAIRS AND TIE WIRE ARE TO BE PLACED IN THE COVER ZONE.
25. ALL REINFORCEMENT, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION AND INSPECTED BY THE STRUCTURAL ENGINEER PRIOR TO PLACING CONCRETE.
26. HOLD DOWN BOLTS SHALL BE HOT DIPPED GALVANISED.
27. UNO. ALL MASONRY ANCHORS INTO CONCRETE SHALL BE RAMSEY TRIBULOTS (LONGEST VERSION) OR APPROVED EQUIVALENT. BOLTS SHALL BE GALVANISED WHERE THEY ARE ADJOINING NON FERROUS OR PREPARED MEMBERS, PROVIDE STAINLESS STEEL BOLTS FOR ALL EXTERNAL CONDITIONS, OR WHERE EXPOSED TO THE WEATHER.

SAFETY IN DESIGN



THE FOLLOWING ITEMS HAVE BEEN IDENTIFIED AS SAFETY RISKS





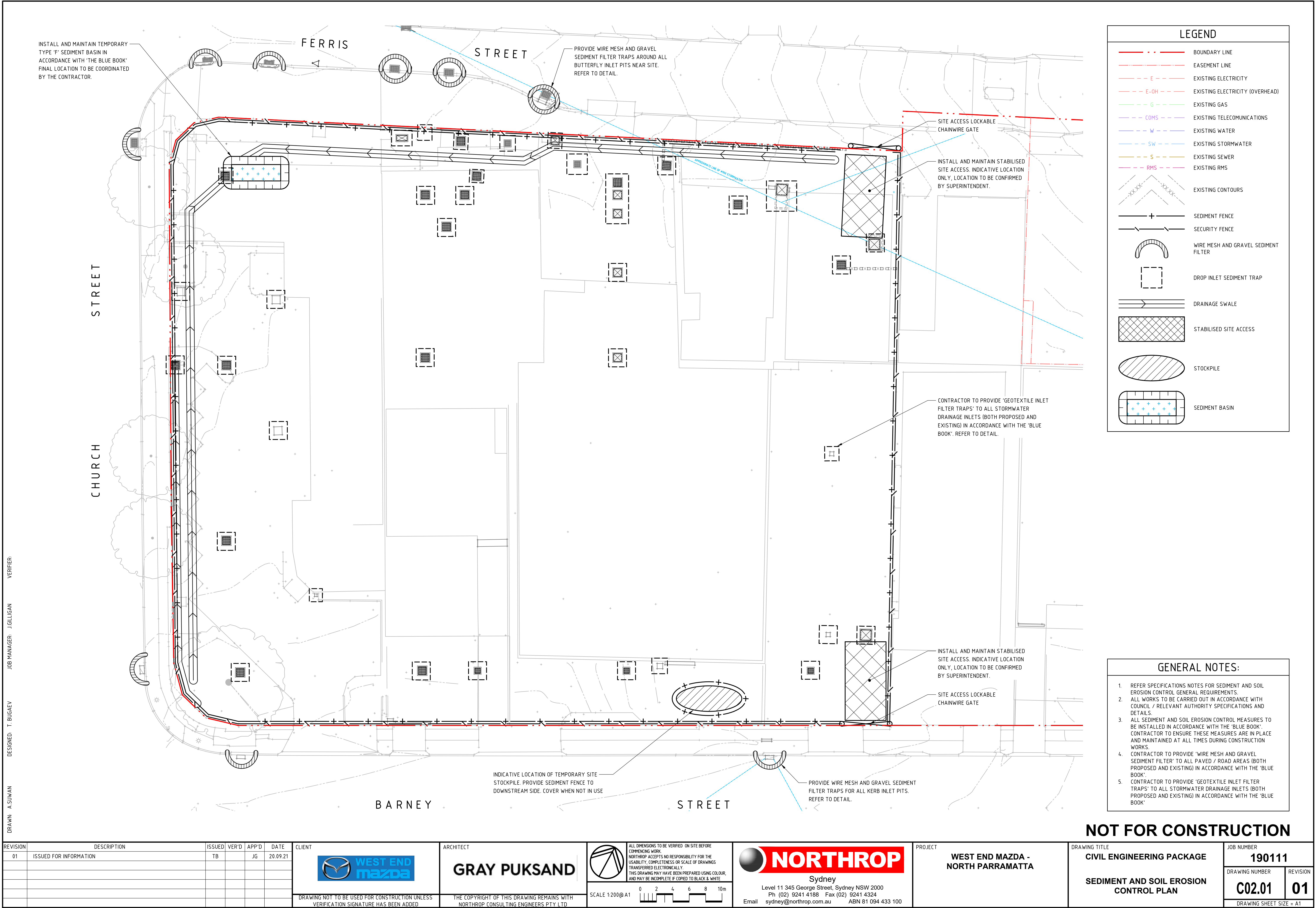
STANDARD DETAILS

ANY DISCREPANCIES TO BE REPORTED IMMEDIATELY TO NORTHPROF
ENGINEERS FOR CLARIFICATION

COUNCIL DETAILS - CITY OF PARRAMATTA

<u>COMPONENT</u>	<u>DWG REFERENCE</u>	<u>DRAWING TITLE</u>
VEHICULAR CROSSING	DS9	HEAVY DUTY VEHICULAR CROSSING
VEHICULAR CROSSING	DS1	KERBS AND LAYBACK
KERB AND GUTTER	DS1	KERBS AND LAYBACK

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		PROJECT	DRAWING TITLE	JOB NUMBER	
01	ISSUED FOR INFORMATION	TB		JG	20.09.21		GRAY PUKSAND	<div>ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE</div>	 <div>Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100</div>	WEST END MAZDA - NORTH PARRAMATTA	CIVIL ENGINEERING PACKAGE	190111
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD					



DRAWN: A.SUWAN
DESIGNED: T.BUGAEV
JOB MANAGER: J.GILLIGAN
VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	TB		JG	20.09.21

CLIENT



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ARCHITECT

GRAY PUKSAND

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SCALE 1:200@A1

0 2 4 6 8 10m



Sydney

Level 11 345 George Street, Sydney NSW 2000
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Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

WEST END MAZDA - NORTH PARRAMATTA

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

SEDIMENT AND SOIL EROSION CONTROL PLAN

JOB NUMBER

190111

DRAWING NUMBER

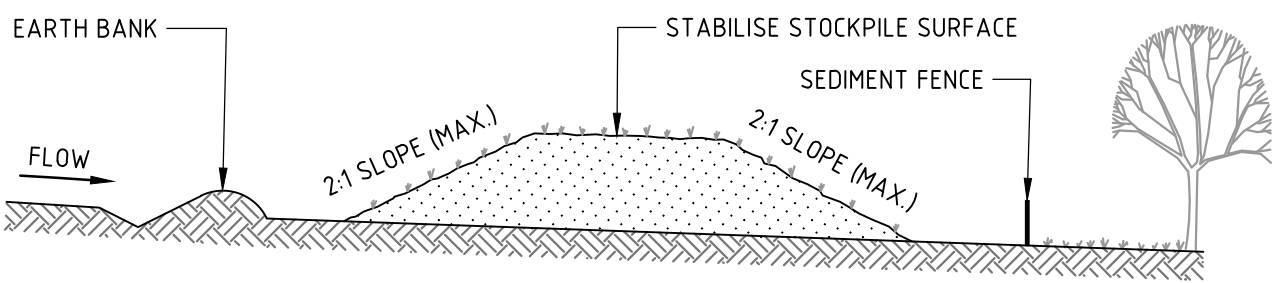
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REVISION

01

DRAWING SHEET SIZE = A1

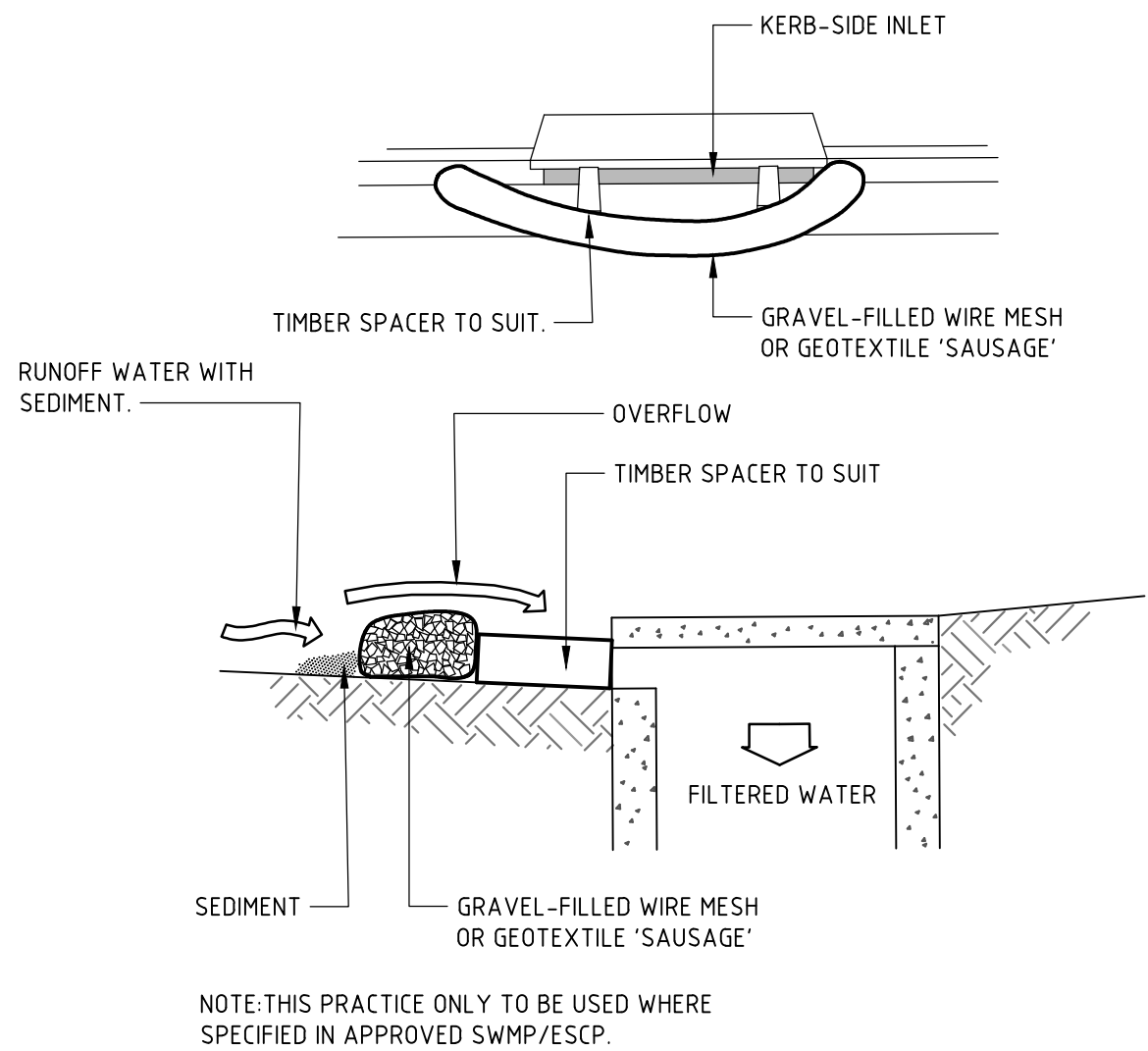
DESIGNED: T. BUGAEV
JOB MANAGER: J.GILLIGAN
VERIFIER:



CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) 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 2m IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

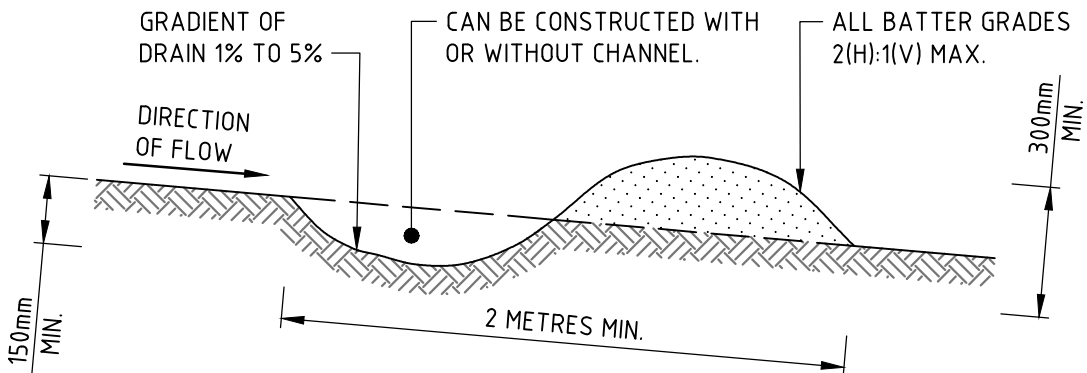
STOCKPILE



CONSTRUCTION NOTES

1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
2. 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.
3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

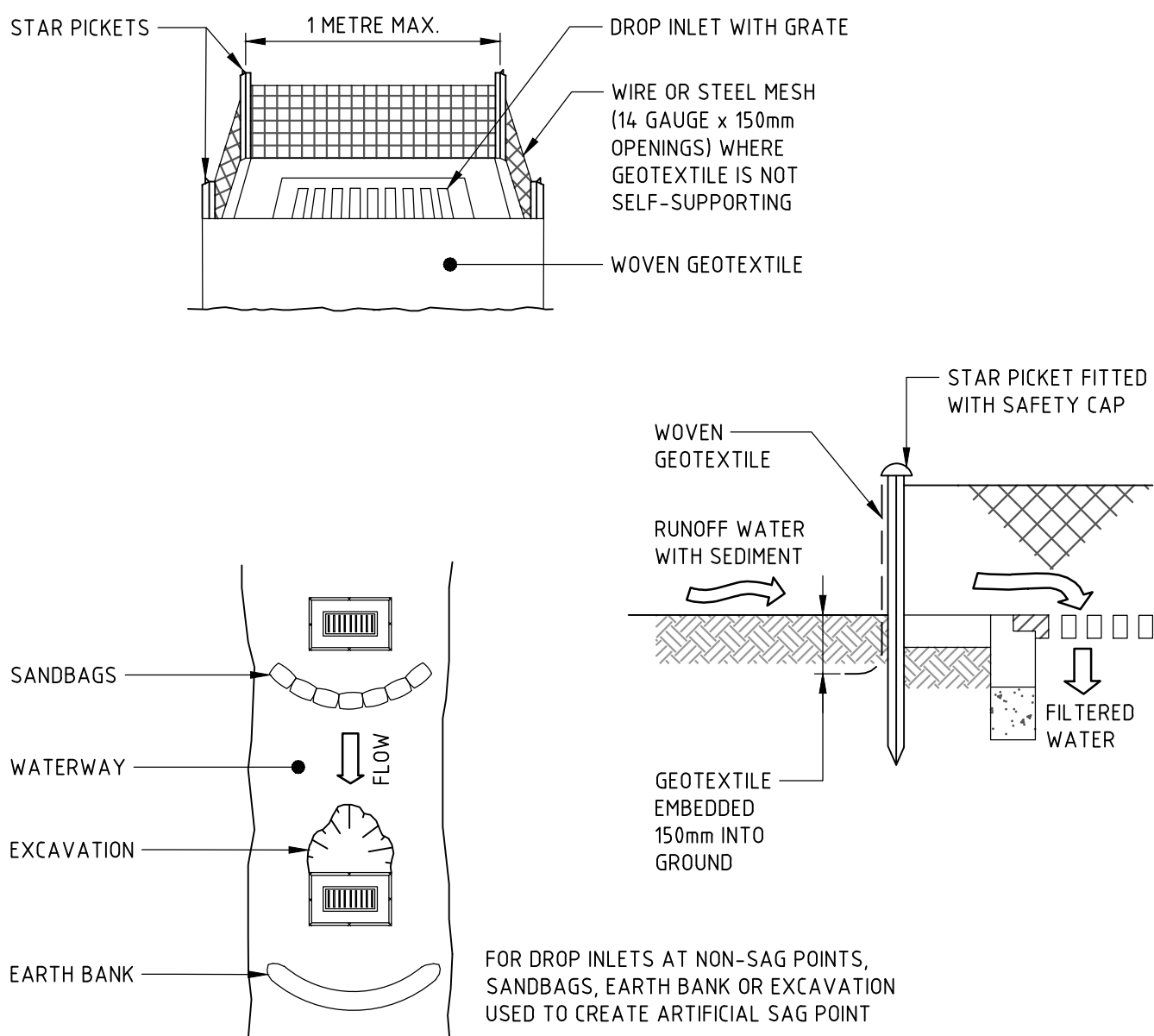
WIRE MESH AND GRAVEL SEDIMENT FILTER



CONSTRUCTION NOTES

1. BUILD WITH GRADIENTS BETWEEN 1 AND 5 PERCENT.
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 THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

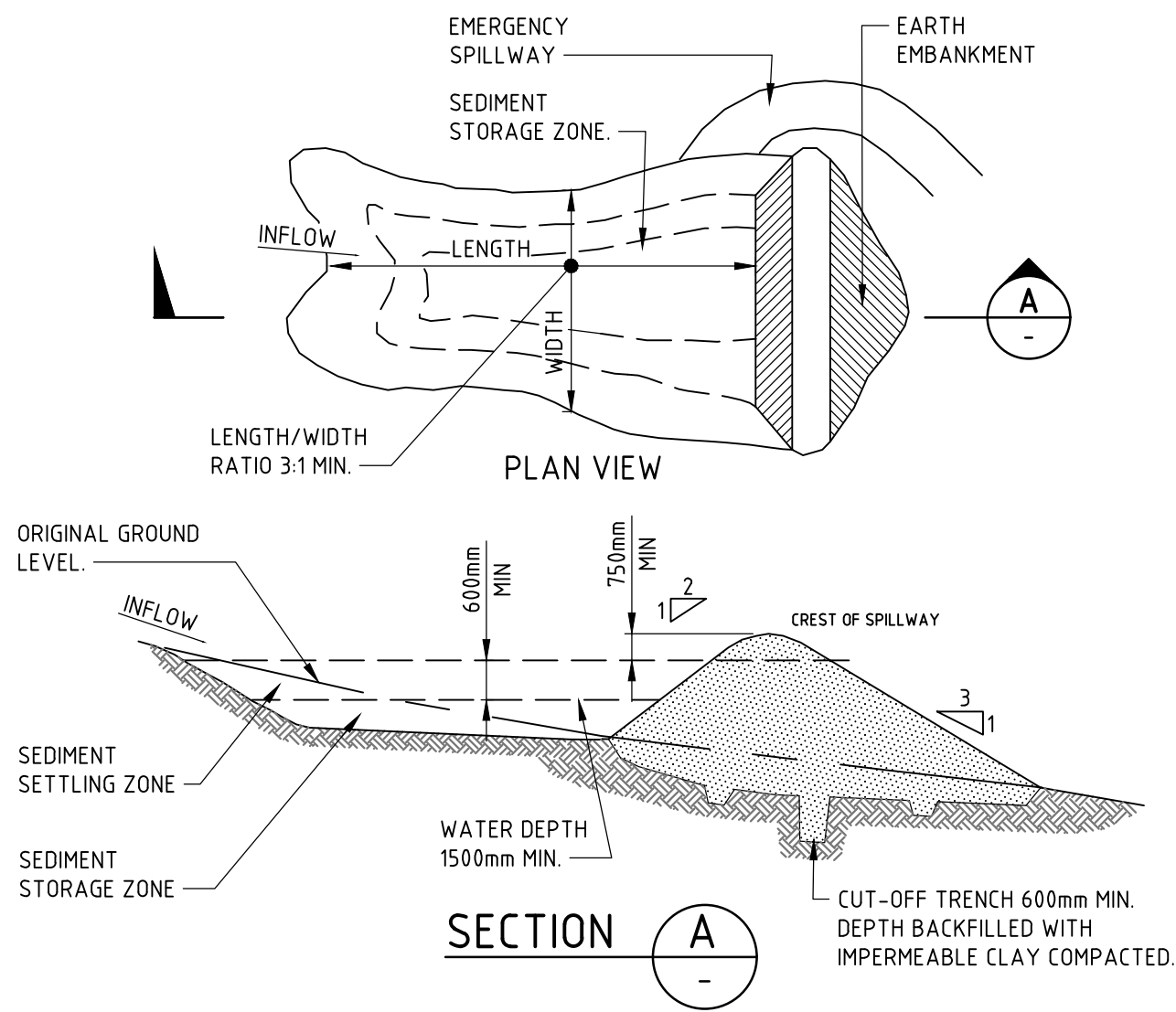
NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES.
DRAINAGE SWALE - LOW FLOW



CONSTRUCTION NOTES

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOTEXTILE. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

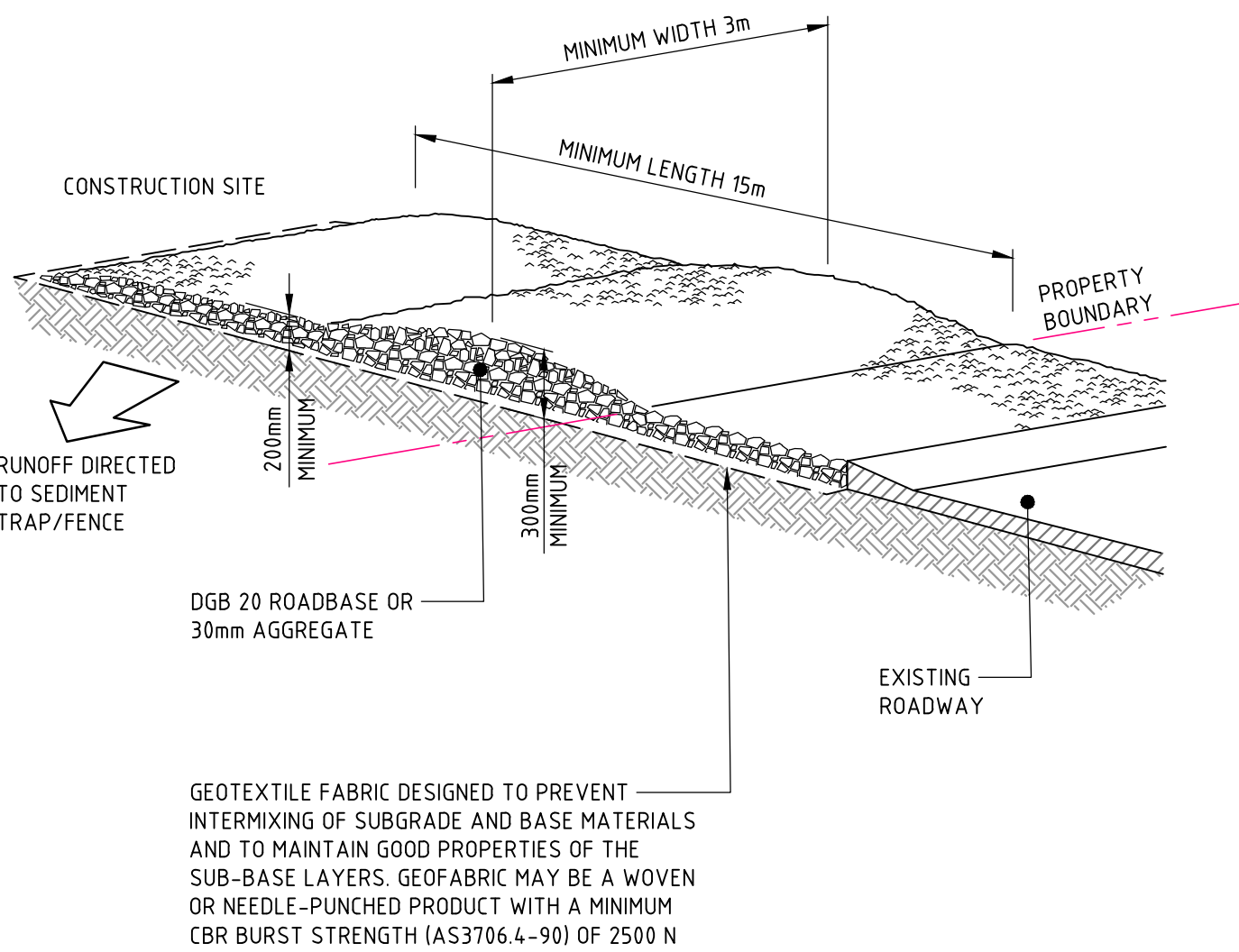
GEOTEXTILE INLET FILTER TRAPS



CONSTRUCTION NOTES

1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
2. CONSTRUCT A CUT-OFF TRENCH 500mm DEEP AND 1200mm WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95 PER CENT STANDARD PROCTOR DENSITY.
4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100mm TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
6. SPREAD THE FILL IN 100mm TO 150mm LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP.
7. CONSTRUCT THE EMERGENCY SPILLWAY.
8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

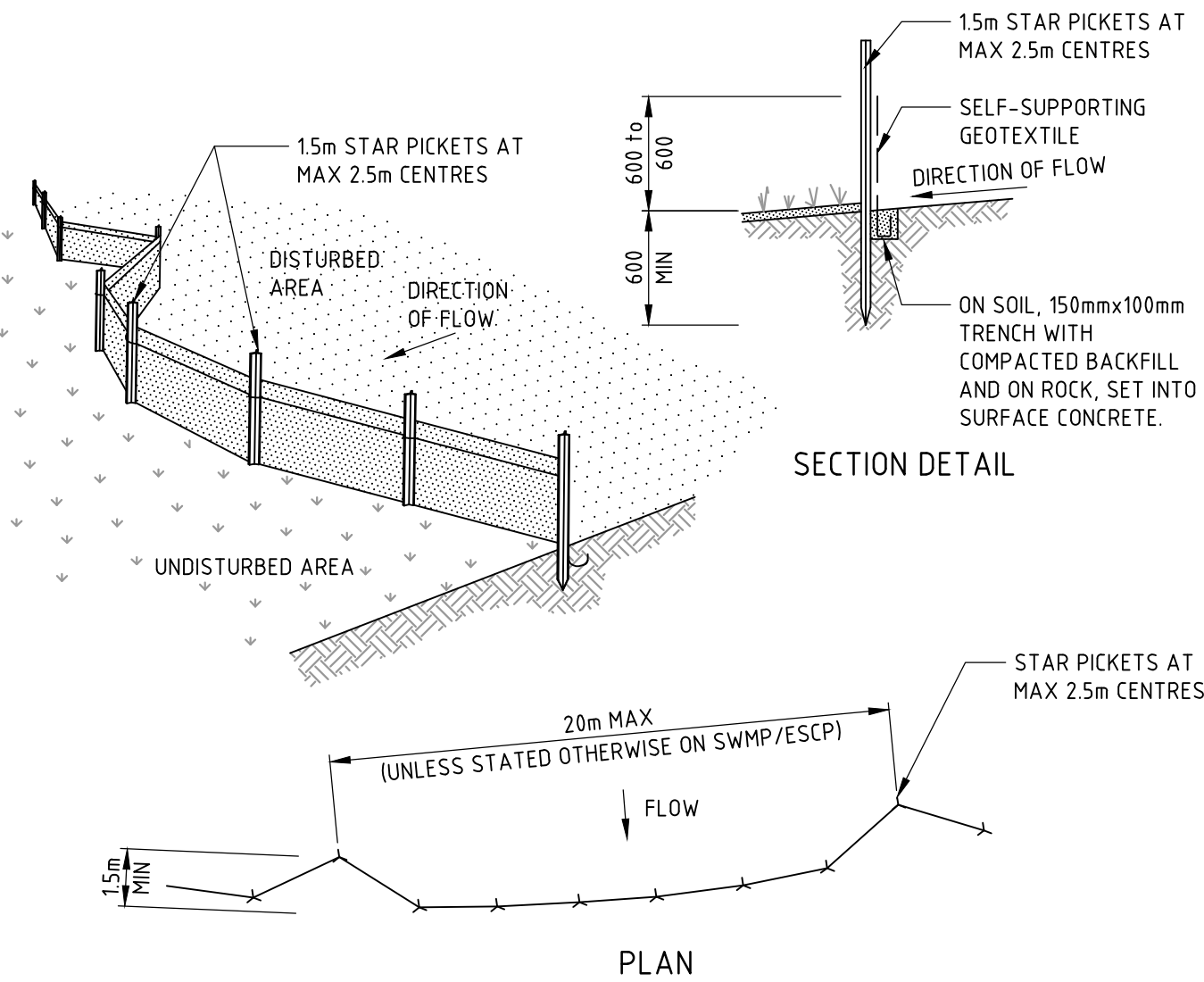
(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY)
EARTH BASIN - WET



CONSTRUCTION NOTES

1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
4. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS



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. DRIVE 15 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
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. 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.

SEDIMENT FENCE

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	TB		JG	20.09.21



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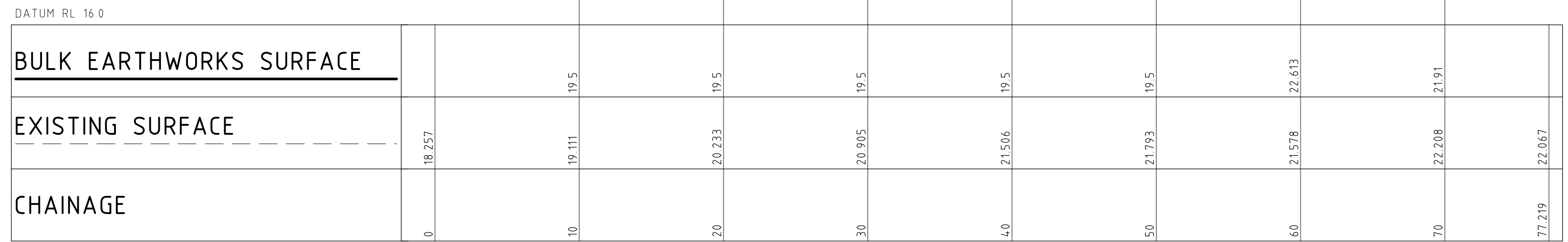
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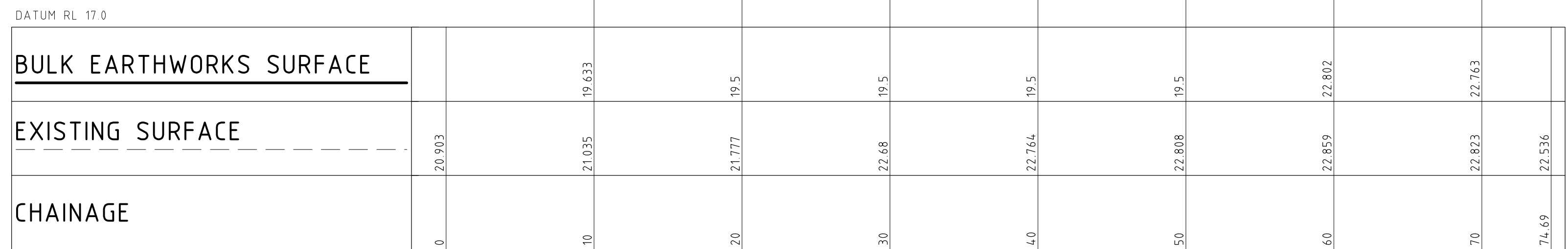
PROJECT
WEST END MAZDA - NORTH PARRAMATTA

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
SEDIMENT AND SOIL EROSION CONTROL DETAILS

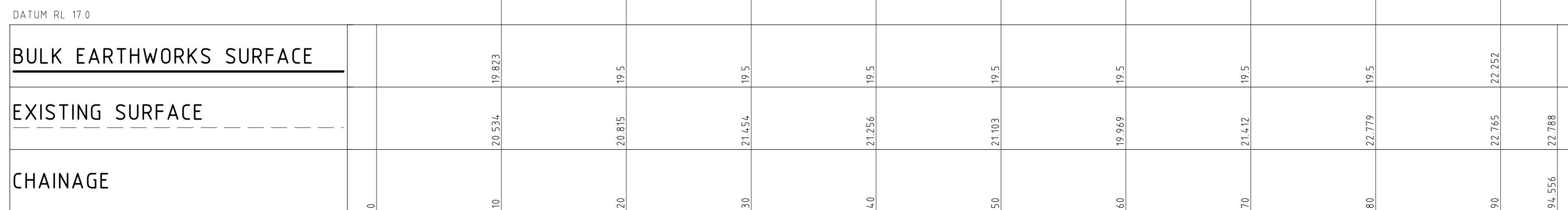
JOB NUMBER 190111	REVISION
DRAWING NUMBER C02.11	01
DRAWING SHEET SIZE = A1	



BULK EARTHWORKS SECTION A
HORIZONTAL SCALE 1:250@A1
VERTICAL SCALE 1:100@A1

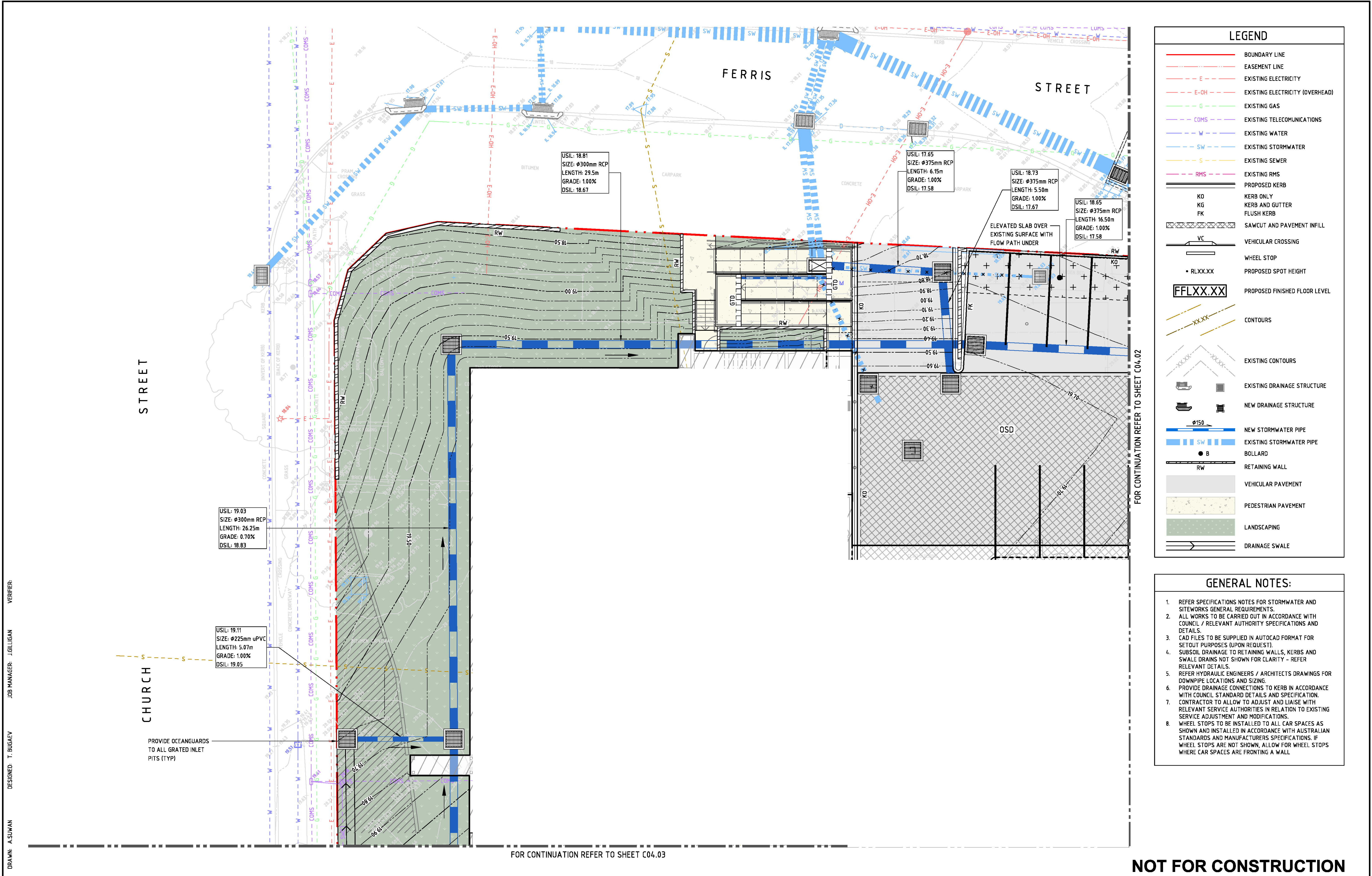


BULK EARTHWORKS SECTION B
HORIZONTAL SCALE 1:250@A1
VERTICAL SCALE 1:100@A1



BULK EARTHWORKS SECTION C
HORIZONTAL SCALE 1:250@A1
VERTICAL SCALE 1:100@A1

[illegible]



LEGEND

BOUNDARY LINE

EASEMENT LINE

EXISTING ELECTRICITY

EXISTING ELECTRICITY (OVERHEAD)

EXISTING GAS

EXISTING TELECOMMUNICATIONS

EXISTING WATER

EXISTING STORMWATER

EXISTING SEWER

EXISTING RMS

PROPOSED KERB

KO
KG
FK

KERB ONLY
KERB AND GUTTER
FLUSH KERB

SAWCUT AND PAVEMENT INFILL

VEHICULAR CROSSING

WHEEL STOP

PROPOSED SPOT HEIGHT

FFLXX.XX

PROPOSED FINISHED FLOOR LEVEL

CONTOURS

EXISTING CONTOURS

EXISTING DRAINAGE STRUCTURE

NEW DRAINAGE STRUCTURE

NEW STORMWATER PIPE

EXISTING STORMWATER PIPE

BOLLARD

RETAINING WALL

VEHICULAR PAVEMENT

PEDESTRIAN PAVEMENT

LANDSCAPING

DRAINAGE SWALE

- GENERAL NOTES:
1.

REFER SPECIFICATIONS NOTES FOR STORMWATER AND SITEWORKS GENERAL REQUIREMENTS.
2.

ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
3.

CAD FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).
4.




SUBSOIL DRAINAGE TO RETAINING WALLS, KERBS AND SWALE DRAINS NOT SHOWN FOR CLARITY - REFER RELEVANT DETAILS.
5.

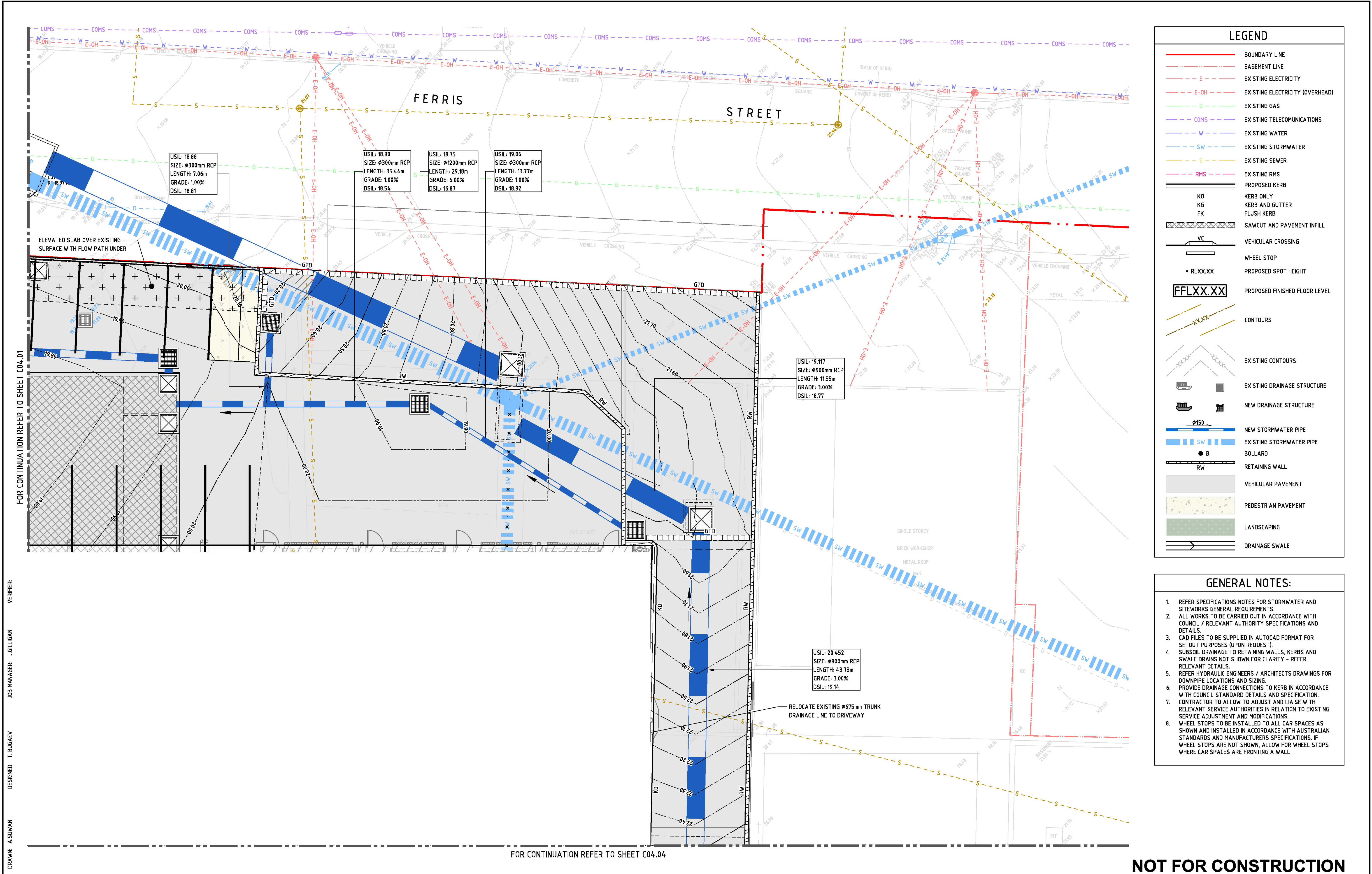
REFER HYDRAULIC ENGINEERS / ARCHITECTS DRAWINGS FOR DOWNPIPE LOCATIONS AND SIZING.
6.

PROVIDE DRAINAGE CONNECTIONS TO KERB IN ACCORDANCE WITH COUNCIL STANDARD DETAILS AND SPECIFICATION.
7.

CONTRACTOR TO ALLOW TO ADJUST AND LIAISE WITH RELEVANT SERVICE AUTHORITIES IN RELATION TO EXISTING SERVICE ADJUSTMENT AND MODIFICATIONS.
8.

WHEEL STOPS TO BE INSTALLED TO ALL CAR SPACES AS SHOWN AND INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS. IF WHEEL STOPS ARE NOT SHOWN, ALLOW FOR WHEEL STOPS WHERE CAR SPACES ARE FRONTING A WALL

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		PROJECT	DRAWING TITLE	JOB NUMBER		
01	ISSUED FOR INFORMATION	CP		JG	24.05.21	 WEST END Mazda	GRAY PUKSAND	 NORTHROP Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	WEST END MAZDA - NORTH PARRAMATTA	CIVIL ENGINEERING PACKAGE	190111		
02	RE-ISSUED FOR INFORMATION	CP		JG	25.05.21								
03	RE-ISSUED FOR INFORMATION	TB		JG	20.09.21								
04	ISSUED FOR TENDER	JO		JG	22.11.21								
05	RE-ISSUED FOR TENDER	JO		JG	28.01.22								
06	RE-ISSUED FOR TENDER	MM		AC	08.04.22								
07	RE-ISSUED FOR COUNCIL'S APPROVAL	MM		AC	08.04.22								
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED						THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD		 SCALE 1:100 @ A1	SITeworks AND STORMWATER MANAGEMENT PLAN - SHEET 01			DRAWING NUMBER C04.01	REVISION 07
										DRAWING SHEET SIZE = A1			



DESIGNED: T. BUGAEV
JOB MANAGER: J. GILLIGAN
VERIFIER:
DRAWN: ASUWAN

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT
02	RE-ISSUED FOR INFORMATION	CP		JG	25.05.21	WEST END MAZDA
03	RE-ISSUED FOR INFORMATION	TB		JG	20.09.21	
04	ISSUED FOR TENDER	JO		JG	22.11.21	
05	ISSUED FOR TENDER	AC		JG	09.12.21	
06	RE-ISSUED FOR TENDER	JO		JG	28.01.22	
07	RE-ISSUED FOR COUNCIL'S APPROVAL	MM		AC	08.04.22	

CLIENT: **WEST END MAZDA**

DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED

ARCHITECT: **GRAY PUKSAND**

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SCALE 1:100 @ A1

0 1 2 3 4 5m

NORTHROP

Sydney
Level 11 345 George Street, Sydney NSW 2000
Ph (02) 9241 4188 Fax (02) 9241 4324
Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT: **WEST END MAZDA - NORTH PARRAMATTA**

DRAWING TITLE: **CIVIL ENGINEERING PACKAGE**
SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 02

JOB NUMBER: **190111**

DRAWING NUMBER: **C04.02** REVISION: **07**

DRAWING SHEET SIZE = A1

NOT FOR CONSTRUCTION

FOR CONTINUATION REFER TO SHEET C04.01

STREET

CHURCH

BARNEY

STREET

LEGEND

	BOUNDARY LINE
	EASEMENT LINE
	EXISTING ELECTRICITY
	EXISTING ELECTRICITY (OVERHEAD)
	EXISTING GAS
	EXISTING TELECOMMUNICATIONS
	EXISTING WATER
	EXISTING STORMWATER
	EXISTING SEWER
	EXISTING RMS
	PROPOSED KERB
	KERB ONLY
	KERB AND GUTTER
	SAWCUT AND PAVEMENT INFILL
	VEHICULAR CROSSING
	WHEEL STOP
	PROPOSED SPOT HEIGHT
	PROPOSED FINISHED FLOOR LEVEL
	CONTOURS
	EXISTING CONTOURS
	EXISTING DRAINAGE STRUCTURE
	NEW DRAINAGE STRUCTURE
	NEW STORMWATER PIPE
	EXISTING STORMWATER PIPE
	BOLLARD
	RETAINING WALL
	VEHICULAR PAVEMENT
	PEDESTRIAN PAVEMENT
	LANDSCAPING
	DRAINAGE SWALE

GENERAL NOTES:

- REFER SPECIFICATIONS NOTES FOR STORMWATER AND SITEWORKS GENERAL REQUIREMENTS.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
- CAD FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).
- SUBSOIL DRAINAGE TO RETAINING WALLS, KERBS AND SWALE DRAINS NOT SHOWN FOR CLARITY - REFER RELEVANT DETAILS.
- REFER HYDRAULIC ENGINEERS / ARCHITECTS DRAWINGS FOR DOWNPIPE LOCATIONS AND SIZING.
- PROVIDE DRAINAGE CONNECTIONS TO KERB IN ACCORDANCE WITH COUNCIL STANDARD DETAILS AND SPECIFICATION.
- CONTRACTOR TO ALLOW TO ADJUST AND LIAISE WITH RELEVANT SERVICE AUTHORITIES IN RELATION TO EXISTING SERVICE ADJUSTMENT AND MODIFICATIONS.
- WHEEL STOPS TO BE INSTALLED TO ALL CAR SPACES AS SHOWN AND INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS. IF WHEEL STOPS ARE NOT SHOWN, ALLOW FOR WHEEL STOPS WHERE CAR SPACES ARE FRONTING A WALL.

NOT FOR CONSTRUCTION

DRAWN: ASUWAN
DESIGNED: T. BUGAEV
JOB MANAGER: J. GILLIGAN
VERIFIER:

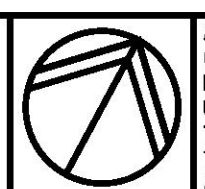
REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	CP		JG	24.05.21
02	RE-ISSUED FOR INFORMATION	CP		JG	25.05.21
03	RE-ISSUED FOR INFORMATION	TB		JG	20.09.21

CLIENT



ARCHITECT

GRAY PUKSAND



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SCALE 1:100 @ A1

0 1 2 3 4 5m

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Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

WEST END MAZDA -
NORTH PARRAMATTA

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

SITEWORKS AND STORMWATER
MANAGEMENT PLAN - SHEET 03

JOB NUMBER

190111

DRAWING NUMBER

C04.03

REVISION

03

DRAWING SHEET SIZE = A1

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FOR CONTINUATION REFER TO SHEET C04.02

FOR CONTINUATION REFER TO SHEET C04.03

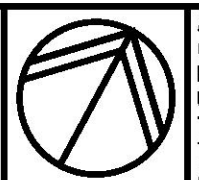
DESIGNED: T. BUGAEV
JOB MANAGER: J. GILLIGAN
VERIFIER:

DRAWN: ASUWAN

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	CP		JG	24.05.21
02	RE-ISSUED FOR INFORMATION	CP		JG	25.05.21
03	RE-ISSUED FOR INFORMATION	TB		JG	20.09.21
04	ISSUED FOR TENDER	JO		JG	22.11.21
05	ISSUED FOR TENDER	AC		JG	09.12.21
06	RE-ISSUED FOR COUNCIL'S APPROVAL	MM		AC	08.04.22



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SCALE 1:100 @ A1

0 1 2 3 4 5m



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PROJECT

WEST END MAZDA -
NORTH PARRAMATTA

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

SITeworks AND STORMWATER
MANAGEMENT PLAN - SHEET 04

JOB NUMBER

190111

DRAWING NUMBER

C04.04

REVISION

06

DRAWING SHEET SIZE = A1

LEGEND

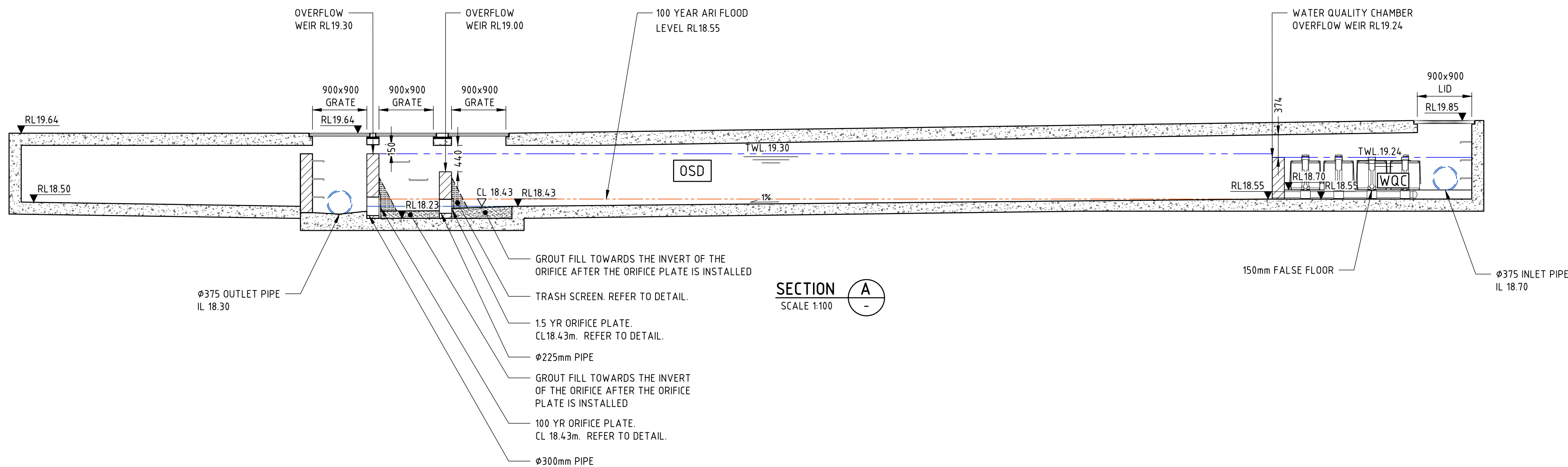
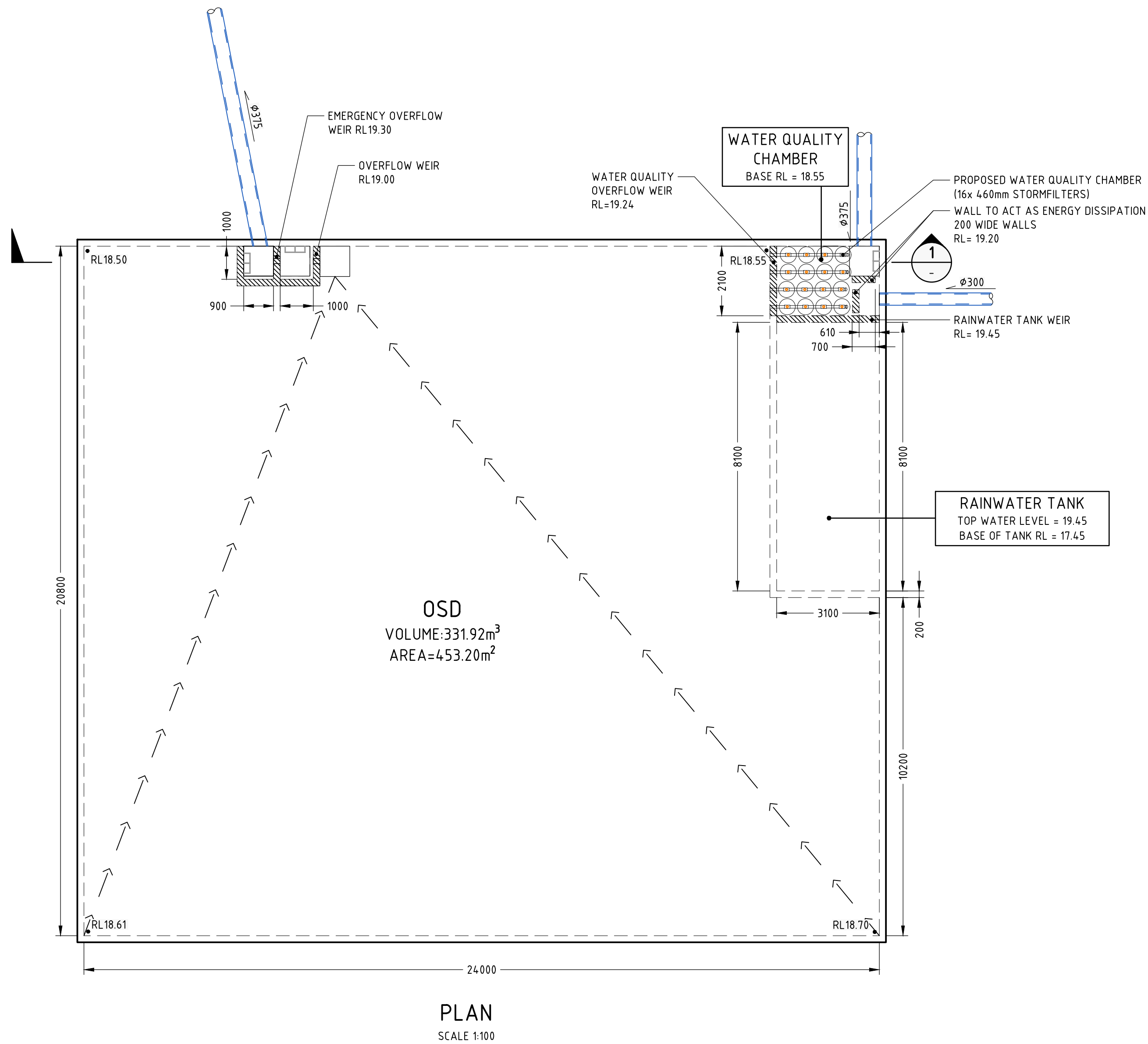
	BOUNDARY LINE
	EASEMENT LINE
	EXISTING ELECTRICITY
	EXISTING ELECTRICITY (OVERHEAD)
	EXISTING GAS
	EXISTING TELECOMMUNICATIONS
	EXISTING WATER
	EXISTING STORMWATER
	EXISTING SEWER
	EXISTING RMS
	PROPOSED KERB
	KERB ONLY
	KERB AND GUTTER
	FLUSH KERB
	SAWCUT AND PAVEMENT INFILL
	VEHICULAR CROSSING
	WHEEL STOP
	PROPOSED SPOT HEIGHT
	PROPOSED FINISHED FLOOR LEVEL
	CONTOURS
	EXISTING CONTOURS
	EXISTING DRAINAGE STRUCTURE
	NEW DRAINAGE STRUCTURE
	NEW STORMWATER PIPE
	EXISTING STORMWATER PIPE
	BOLLARD
	RETAINING WALL
	VEHICULAR PAVEMENT
	PEDESTRIAN PAVEMENT
	LANDSCAPING
	DRAINAGE SWALE

GENERAL NOTES:

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NOT FOR CONSTRUCTION


VERIFIER: J. GILLIGAN
JOB MANAGER: J. GILLIGAN
DESIGNED: T. BUGAEV
DRAWN: A. SUWAN



NOT FOR CONSTRUCTION


REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	TB		JG	20.09.21

CLIENT



WEST END MAZDA

ARCHITECT



GRAY PUKSAND

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PROJECT

WEST END MAZDA - NORTH PARRAMATTA

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

STORMWATER MANAGEMENT DEVICES

JOB NUMBER

190111

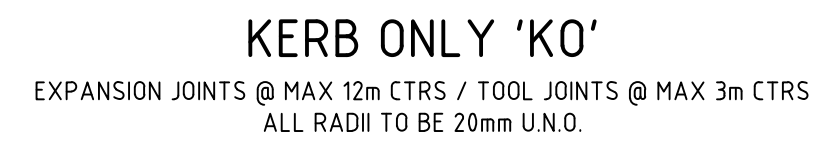
DRAWING NUMBER

C04.31




REVISION

01

DRAWING SHEET SIZE = A1



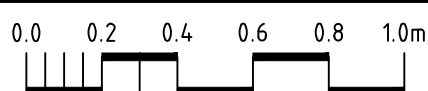
DRAWN: A.SUWAN

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.	 <p>Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100</p>	PROJECT	WEST END MAZDA - NORTH PARRAMATTA	DRAWING TITLE	JOB NUMBER
01	ISSUED FOR INFORMATION	TB		JG	20.09.21	 <p>GRAY PUKSAND</p>			CIVIL ENGINEERING PACKAGE		190111			
											DRAWING NO		REVISION	
											C12.01		01	
											DRAWING SHEET SIZE = A1			
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD	SCALE 1:10 @A1						



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SCALE 1:20@ A1



**WEST END MAZDA -
NORTH PARRAMATTA**

CIVIL ENGINEERING PACKAGE

DETAILS - SHEET 02

190111

REVISION	
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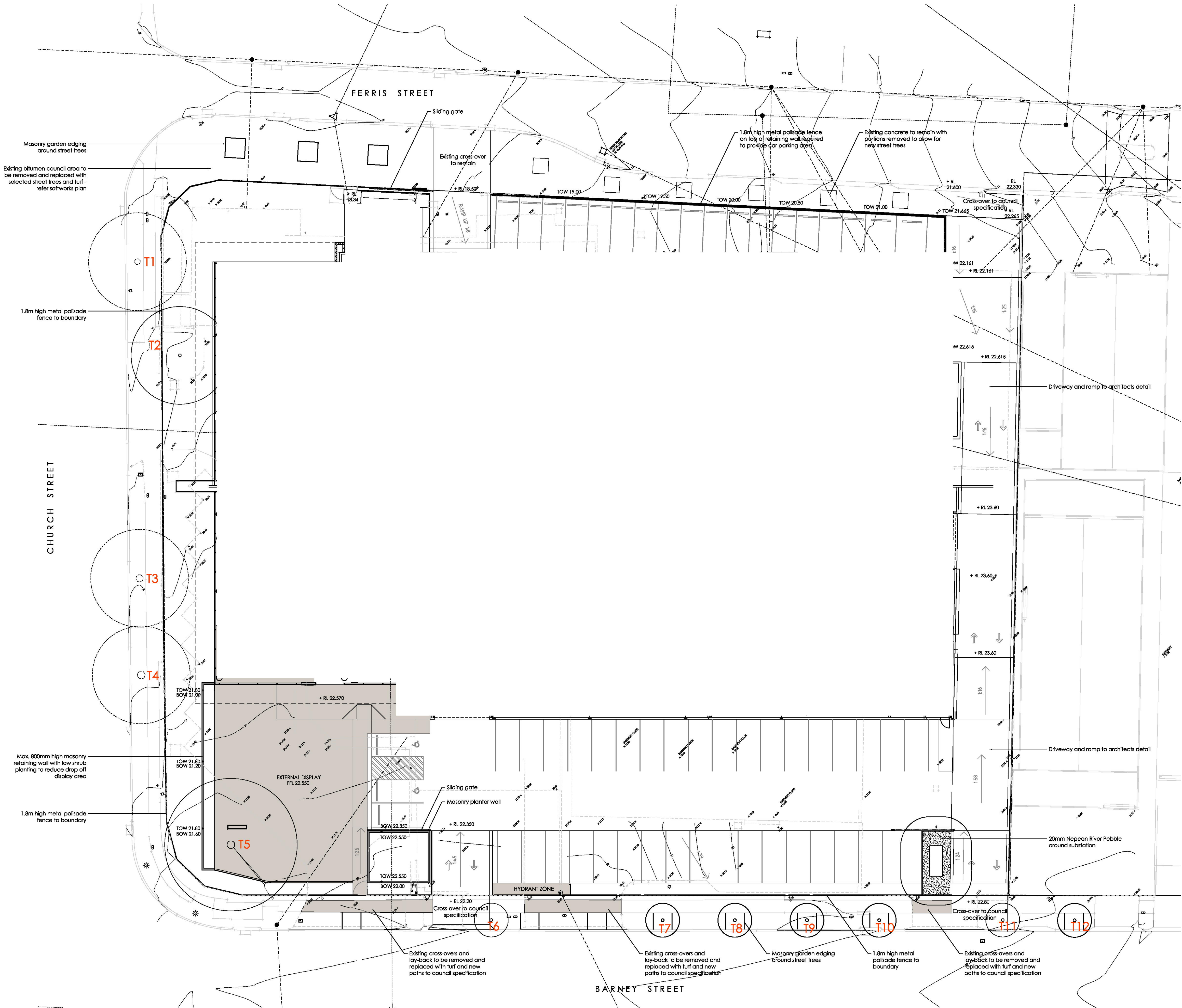
DRAWING SHEET SIZE = A1

DRAWN: A.SUWAN

NOT FOR CONSTRUCTION

LEGEND

- Existing levels
+ RL 101.55
+ TOW 101.55
Boundary
Boundary fencing
Garden edging
Retaining walls
Existing contours
To be removed / demolished
Existing tree to be retained
Existing tree to be removed



REVISION		DESCRIPTION	DRAWN	CHECK	DATE	ecodesign outdoor living environments po box 8136 baulkham hills new 2133 unit 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 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998, 999, 1000				
A	B	INITIAL PLAN ISSUED FOR COMMENT ISSUE FOR DA	GC	AS	03-09-20	574-584 CHURCH STREET, PARRAMATTA		PROJECT WEST END MAZDA - SHOWROOM		
								DRAWING HARDWORKS PLAN		
								SCALE 1:200 @ A1		
								DATE DA		
								L-01		
								DRAWN GC		
								CHECKED AS		
								DATE 26-10-20		
								REVISION B		

PLANT & MATERIAL PALETTE

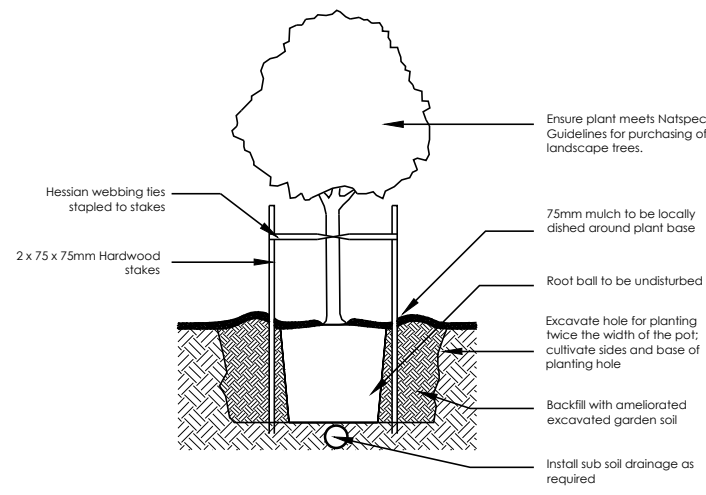
PLANT SCHEDULE Prepared by ecodesign Pty Ltd

SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	POT SIZE	MATURE SIZE
Asu	*Acmena smithii 'Sublime'	Sublime Lillypilly	58	200mm	4m
By	*Besconeria yucciodes	Mexican Lily	42	200mm	1m-1.8m
Clj	Callistemon 'Little John'	Dwarf Bottlebrush	185	200mm	1m
De	Doryanthes excelsa	Gymea Lily	42	200mm	2m
Eu	*Elaeocarpus eumundii	Eumundi Quondong	9	45L	8m
Li	Lagerstroemia indica	Crepe Myrtle	3	45L	6m
Lt	*Lomandra 'Tanika'	Fine-leaved Mat Rush	420	140mm	0.5m
Mlg	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	4	45L	4m
Rop	Raphiolepis 'Oriental Pearl'	Raphiolepis	82	200mm	1m
Tll	*Tristaniaopsis laurina 'Luscious'	Luscious Water Gum	2	45L	7-12m

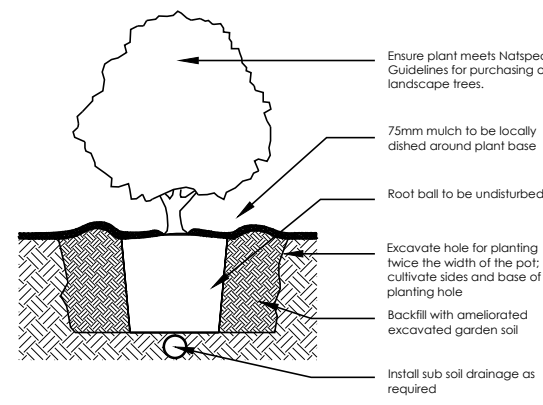
* Australian Native Species



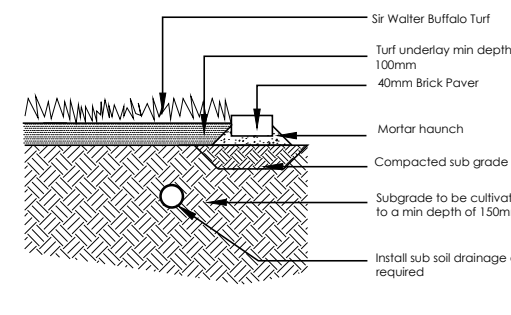
DETAILS



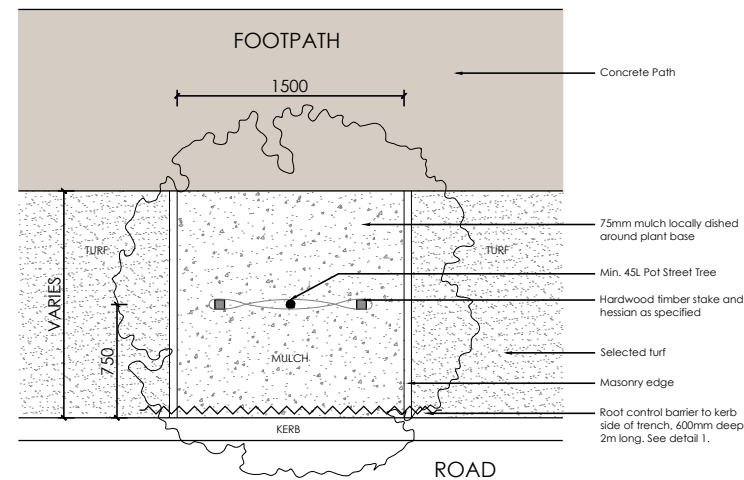
1 Tree Planting Detail
NTS 25L - 75L Pot Size



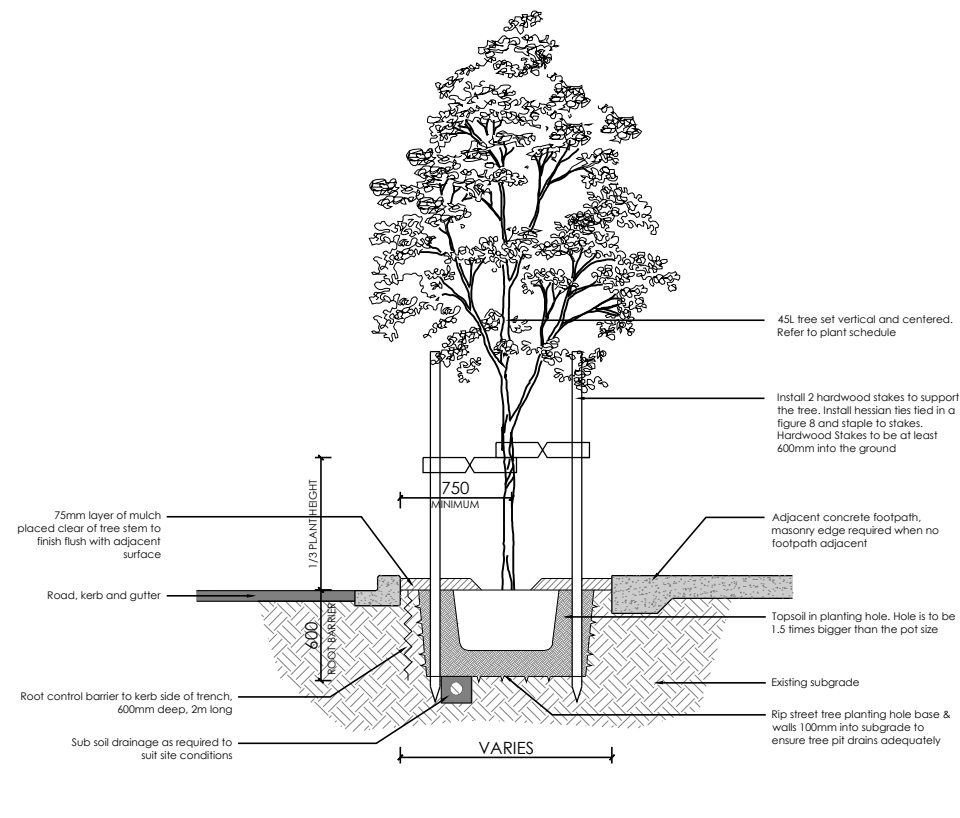
2 Planting Detail
NTS Tube, 150mm, 200mm Pot Size



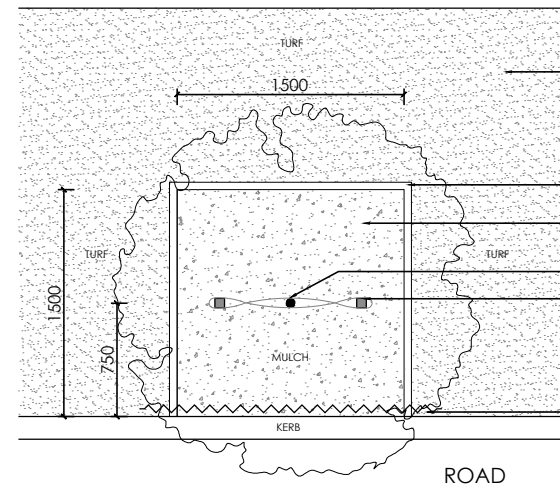
3 Turf Detail
NTS Brick Paver Edge



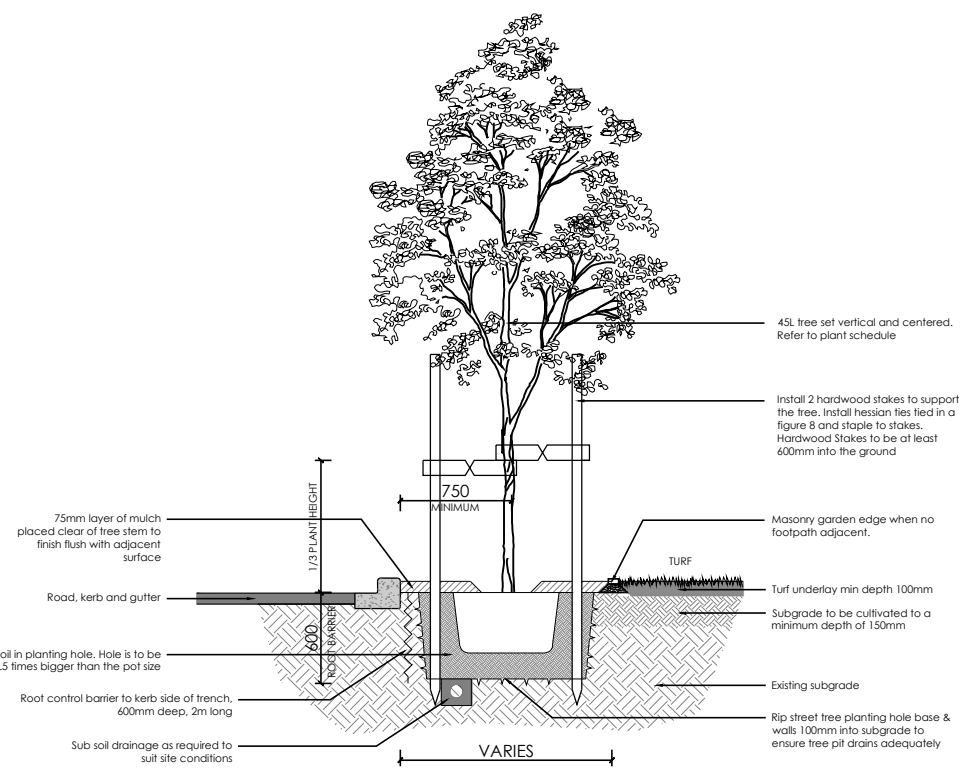
4 VERGE TREE PLANTING - WITH PATH
NTS TYPICAL PLAN



5 VERGE TREE PLANTING - WITH PATH
NTS TYPICAL DETAIL



6 VERGE TREE PLANTING - NO PATH
NTS TYPICAL PLAN



7 VERGE TREE PLANTING - NO PATH
NTS TYPICAL DETAIL

REVISION	DESCRIPTION	DRAWN	CHECK	DATE	PROJECT	CLIENT
A	INITIAL PLAN ISSUED FOR COMMENT	GC	AS	03-09-20	574-584 CHURCH STREET, PARRAMATTA	WEST END MAZDA - SHOWROOM
B	ISSUE FOR DA	GC	AS	26-10-20		DETAILS & PLANT SCHEDULE
					1:200 @ A1	DA L - 03
					GC	AS 26-10-20
						B

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7. All work to be performed by a suitably qualified tradesperson.
8. For application purposes only - NOT FOR CONSTRUCTION.

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WEST END MAZDA - SHOWROOM

DETAILS & PLANT SCHEDULE

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