CATHERINE PARK - STAGE 1, 2 & 3 **ROAD & DRAINAGE DESIGN**

FOR DEVELOPMENT APPLICATION FOR HIXSON PTY. LTD.



LOCALITY PLAN

LGA CAMDEN COUNCIL LOT 27, DP 213330

URBAN DESIGN: DEVELOPMENT PLANNING STRATEGIES (NSW) ROAD GEOMETRY: TTM CONSULTING (VIC) PTY LTD







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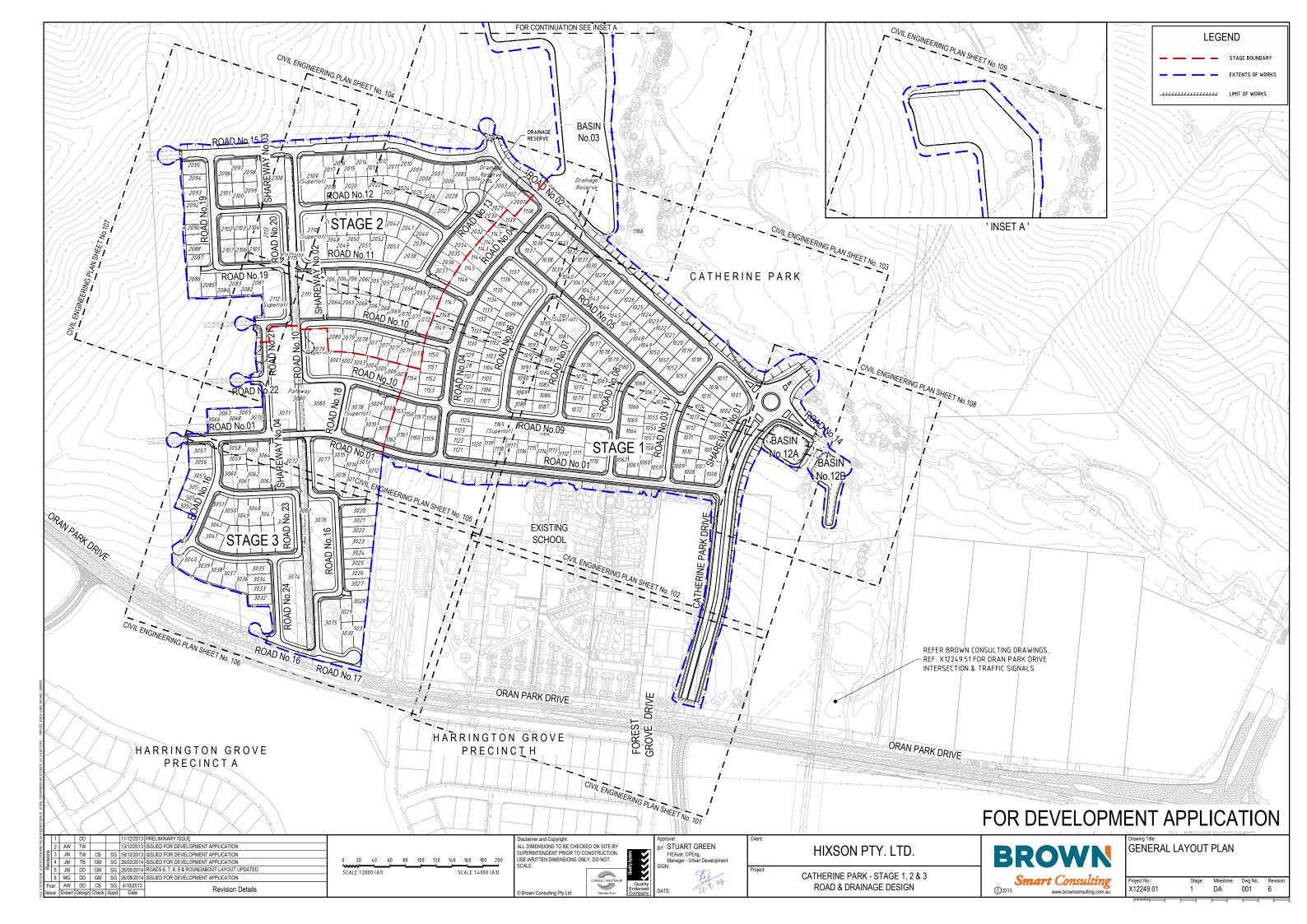
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CATHERINE PARK - STAGE 1, 2 & 3

ROAD & DRAINAGE DESIGN

X12249.01



GENERAL NOTES

- 51 ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH CAMDEN COUNCIL'S ENGINEERING DESIGN AND ENGINEERING CONSTRUCTION SPECIFICATIONS AND TO THE REQUIREMENTS OF THE CERTIFYING AUTHORITY.
- G2 INSPECTIONS BY CERTIFYING AUTHORITY ARE REQUIRED AT THE FOLLOWING STAGES AND THE WORKS APPROVED PRIOR TO CONTINUANCE OF ANY FUTURE WORK:
- A) FOLLOWING INSTALLATION OF EROSION AND SEDIMENT CONTROL STRUCTURES/MEASURES.
- (B) PRIOR TO BACKFILLING PIPELINES, SUBSOIL DRAINS AND DAMS
- C) PRIOR TO CASTING OF PITS AND OTHER CONCRETE STRUCTURES, INCLUDING KERB AND GUTTER BUT
-)) PRIOR TO PLACEMENT OF SUB BASE AND ALL SUBSEQUENT PAVEMENT LAYERS, A PROOF ROLLER TEST OF EACH PAVEMENT LAYER IS REQUIRED.
- (E) FORMWORKS PRIOR TO POURING CONCRETE IN PARKING AREA FOR FOOTPATH CROSSING AND OTHER
- (F) PRIOR TO BACKFILLING PUBLIC UTILITY CROSSINGS IN ROAD RESERVES.
- G) FINAL INSPECTIONS AFTER ALL WORKS ARE COMPLETED AND 'WORKS AS EXECUTED' PLANS HAVE BEEN SUBMITTED TO COUNCIL.
- G3 NO TREES ARE TO BE REMOVED UNLESS APPROVAL IS GRANTED BY COUNCIL'S LANDSCAPE COMPLIANCE OFFICER OR AS AUTHORISED BY DEVELOPMENT CONSENT.
- 64 MAKE SMOOTH JUNCTIONS WITH EXISTING WORKS
- 55 NO WORK IS TO BE CARRIED OUT ON COUNCIL PROPERTY OR ADJOINING PROPERTIES WITHOUT THE WRITTEN
- G6 VEHICULAR ACCESS AND ALL UTILITIES/SERVICES ARE TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION.
- G7 ALL RUBBISH, BUILDINGS, SHEDS AND FENCES TO BE REMOVED TO SATISFACTION OF COUNCIL'S ENGINEER.
- 80 COUNCIL ENGINEERS HAVE DISCRETION TO VARY, AS CONSIDERED NECESSARY, THE ENGINEERING REQUIREMENTS IN RESPECT OF A PARTICULAR SUBDIVISION OR DEVELOPMENT HAVING REGARD TO THE SITE CONTEXT.

EARTHWORKS NOTES

- E1 EARTHWORKS ARE TO BE CARRIED OUT TO THE SATISFACTION OF THE COUNCIL. UNSUITABLE MATERIALS ARE TO BE REMOVED FROM ROADS AND LOTS PRIOR TO FILLING. THE CONTRACTOR IS TO ARRANGE AND MAKE AVAILABLE COMPACTION TESTING RESULTS FOR ALL AREAS THAT CONTAIN FILL IN EXCESS OF 200 MM.
- 2 COMPACTION OF EARTHWORKS SHALL CONTINUE UNTIL A DRY DENSITY RATIO OF 95% FOR SITE FILLING AND 100% FOR ROAD PAYEMENT SUBGRADES HAS BEEN ACHIEVED IN ACCORDANCE WITH TEST METHOD AS1289.5.3.1 OR AS1289.5.1.1 THE CONTROL TESTING OF EARTHWORKS SHALL BE IN ACCORDANCE WITH THE GUIDELINES IN AS3798 'GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL CAMDEN COUNCIL ENGINEERING DESIGN SPECIFICATION DEVELOPMENTS'. WHERE IT IS PROPOSED TO USE TEST METHOD AS1289.5.8.1 TO DETERMINE THE FIELD DENSITY, A SAND REPLACEMENT METHOD SHALL BE USED TO CONFIRM THE RESULTS.
- THE SUITABLE QUALIFIED GEOTECHNICAL ENGINEER, SHALL HAVE A LEVEL 1 RESPONSIBILITY FOR ALL FILLING AS DEFINED IN APPENDIX B AS3798 'GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS', AND AT THE END OF THE WORKS SHALL CONFIRM THE EARTHWORKS COMPLY WITH THE REQUIREMENTS OF THE SPECIFICATION AND DRAWINGS BY WRITTEN NOTIFICATION.
- E4 IN AREAS TO BE FILLED WHERE THE SLOPE OF THE NATURAL SURFACE EXCEEDS 1(V)-4(H), BENCHES ARE TO BE CUT TO PREVENT SLIPPING OF THE PLACED FILL MATERIAL AS REQUIRED BY THE COUNCIL.
- ES ALL BATTERS ARE TO BE SCARIFIED TO A DEPTH OF 50 MM TO ASSIST WITH ADHESION OF TOP SOIL TO BATTER
- 66 PROVIDE MINIMUM 150 MM AND MAXIMUM 300 MM TOPSOIL WITH ON FOOTPATHS, FILLED AREAS AND ALL OTHER AREAS DISTUBED DURING CONSTRUCTION. TOPSOILED AREAS TO BE STABILISED WITH APPROVED VEGETATION A MAXIMUM OF 14 DAYS AFTER TOPSOILING AND ARE TO BE WATERED TO ENSURE GERMINATION.
- 7 THE CONTRACTOR SHALL CONTROL SEDIMENTATION, EROSION AND POLLUTION DURING CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITION OF "MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION," POPULIER BY J. AND COM
- A MINIMUM 1 METRE WIDE, CONTINUOUS STRIP OF COUCH GRASS SHALL BE PLACED BEHIND THE BACK OF ALL KERBS AND OTHER CONCRETE STRUCTURES IMMEDIATELY AFTER THE COMPLETION OF THE FOOTPATH GRADING OR OTHER ELEMENTS AS APPLICABLE, AND SHALL BE MAINTAINED AND REPLACED AS REQUIRED DURING THE CONSTRUCTION MAINTENANCE PERIOR.

ROADWORKS NOTES

- R1 SUBGRADES AND SUB BASES ARE TO BE COMPACTED IN ACCORDANCE WITH COUNCIL'S CONSTRUCTION SPECIFICATION.
- R2 SUBSOIL DRAINS TO BE PROVIDED ON BOTH SIDES OF ROADS (EXCEPT WHERE THERE IS STORMWATER
- R3 150 X 50 H.D. GALVANISED STEEL KERB OUTLETS TO BE PLACED IN ALL KERB TYPES ON LOW SIDE OF LOTS. PROVIDE SUITABLE ADAPTOR TO ALLOW CONNECTION OF 90 MM DIAMETER STORMWATER PIPE.
- R4 LIPLESS PERAMBULATOR CROSSINGS ARE TO BE PROVIDED IN ALL KERB RETURNS AND WHERE REQUIRED BY
- RS SERVICE CONDUITS TO BE PLACED AS DIRECTED BY ALL PUBLIC UTILITY AUTHORITIES INCLUDING INTEGRAL
- R6 PROPOSED UTILITIES AND SERVICES CROSSING EXISTING ROADS SHALL BE PROVIDED FOR USING A TRENCHLESS TECHNIQUE SO AS NOT TO DAMAGE THE EXISTING SURFACE. ALL SERVICE CONDUITS UNDER ROADS MUST BE LAID TO A MINIMUM DEPTH OF 750 MM.
- R7 CONCRETE FOOTPATH CONSTRUCTION IS TO BE BONDED WITH COUNCIL PENDING COMPLETION OF UTILITY/SERVICES AND SURROUNDING DWELLINGS.
- R8 ALL TEMPORARY ROADS MUST BE TEMPORARILY SEALED WITH A SINGLE COAT FLUSH SEAL.
- R9 ALL PERMANENT ROADS MUST BE SEALED WITH A SINGLE COAT FLUSH SEAL AND 50 MM OF AC TO BE APPLIED IN TWO 25 MM THICK LAYERS. THE FINAL AC LAYER IS TO BE AC 10
- R10
 SIGNPOSTING AND LINE MARKING SHALL CONFORM TO AS1742.2 'TRAFFIC CONTROL DEVICES FOR GENERAL USE'. RAISED RETRO-REFLECTIVE PAVEMENT MARKERS TO CONFORM TO AS1906 'RETRO-REFLECTIVE MATERIALS AND DEVICES FOR ROAD TRAFFIC CONTROL PURPOSES'. ALL APRONS AND KERB FACE ON CENTRAL ISLANDS OF ROUNDADOUTS AND ALL OTHER ISLANDS TO BE DELINEATED BY REFLECTIVE WHITE MARKING. INSTALLATION SHALL OCCUR IN ACCORDANCE WITH THE PLAN APPROVED BY THE LOCAL TRAFFIC COMMITTEE.
- R11 ALL LOT AND HOUSE NUMBERS MUST BE STENCILLED ON KERB FACE.
- R12 STREET SIGNS TO COUNCIL STANDARD MUST BE INSTALLED BY THE CONTRACTOR.

STORMWATER NOTES

- S1 ALL PIPES TO BE SPIGOT AND SOCKET, RUBBER RING JOINTED.
- S2 ALL LONGITUDINAL PIPELINES IN ROADS MUST BE LOCATED UNDER KERB AND GUTTER AND BE BACKFILLED WITH APPROVED GRANULAR MATERIAL UNLESS OTHERWISE APPROVED BY THE COUNCIL ENGINEER.
- DRAINAGE LINES MUST BE BACKFILLED WITH APPROVED GRANULAR MATERIAL IN TRAFFICABLE AREAS. THREE
 (3) METRES OF SUBSOIL DRAINAGE WRAPPED IN GEOTEXTILE STOCKING MUST BE PROVIDED TO ALL
 DOWNSTREAM PITS.
- S4 ALL GULLY PITS TO COUNCIL'S STANDARD AND LINTELS CENTRALLY PLACED AT SAG PITS.
- S5 ALL PITS MUST BE BENCHED AND STREAMLINED. PROVIDE SL72 REINFORCEMENT AND GALVANISED STEP IRONS IN ALL PITS OVER 1.2-METRES DEEP AS MEASURED FROM THE TOP OF GRATE TO THE INVERT OF THE PIT.
- S6 CONCRETE IS TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 32MPA AT 28-DAYS UNLESS OTHERWISE APPROVED BY THE COUNCIL ENGINEER.
- 7 ALL INTERALLOTMENT DRAINAGE MUST HAVE A MINIMUM PIPE DIAMETER OF 150 MM AND A MINIMUM GRADE OF 1% UNLESS OTHERWISE APPROVED BY THE COUNCIL ENGINEER.
- S8 ALL INTERALLOTMENT DRAINAGE LINES MUST BE LAID CENTRALLY WITHIN DRAINAGE EASEMENTS. INSPECTION PITS MUST BE PROVIDED AT ALL CHANGES OF GRADE AND DIRECTION.
- S9 INTERALLOTMENT DRAINAGE LINES MUST BE INSTALLED AFTER SYDNEY WATER SEWERAGE LINES HAVE BEEN INSTALLED WHERE SEWER IS PROPOSED ADJACENT TO INTERALLOTMENT DRAINAGE LINES.
- S10 1% AEP OVERLAND FLOW PATHS MUST BE FORMED AND SHOWN ON 'WORKS AS EXECUTED' DRAWINGS
- S12 ADEQUATE PROVISION IS TO BE MADE TO PREVENT SCOURING AND SEDIMENTATION FOR ALL DRAINAGE WORKS IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS.
- S13 PIT LINTELS ARE TO BE STENCILLED WITH APPLICABLE DISTINCTION STENCIL AVAILABLE FROM COUNCIL.
- S14 CATCH DRAINS MUST BE CONSTRUCTED AS REQUIRED BY THE APPROVED PLANS OR THE PRINCIPAL CERTIFYING AUTHORITY.
- S15 SOIL AND WATER MANAGEMENT PLANS ARE TO BE PREPARED FOR ALL DISTURBED SITES AND ADHERED TO AT ALL TIMES DURING THE CONSTRUCTION AND MAINTENANCE PERIODS.
- S16 SYDNEY WATER SERVICE COVERS PRIOR TO THE ISSUE OF ANY SUBDIVISION CERTIFICATE ALL SYDNEY WATER SERVICE COVERS I.E. HYDRANTS, STOP VALVES ETC, ARE TO BE MADE CLEARLY DENTIFIABLE BY THE INSTALLATION OF APPROPRIATE KERB MARKINGS AND BLUE COLOURED RAISED REFLECTIVE PAVEMENT MARKERS PLACED AT THE CENTRELINE OF THE ROAD OPPOSITE THE HYDRANT TO COMPLY WITH AS2419

LEGEND

DESCRIPTION	PROPOSED	EXISTING	FUTURE
STORMWATER PIPELINE	375¢		
STORMWATER DRAINAGE PITS			
DRAINAGE LINE No. 3 DRAINAGE PIT No. 10	3/10		3/10
CONCRETE HEADWALL		((
SUBSOIL DRAIN	ssss		
STANDARD 150mm KERB AND GUTTER	K&G	EXIST. K&G	FUT. K&G ======
STANDARD ROLL KERB AND GUTTER	RK	EXIST. RK	FUT. RK
STANDARD KERB ONLY	ко	EXIST. KO	FUT. K0 ======
STANDARD EDGE STRIP	ES	EXIST. ES	FUT. ES
STANDARD MOUNTABLE KERB	MK	EXIST. MK	FUT. MK
STANDARD DISH CROSSING	DC	EXIST. DC	FUT. DC
VEHICULAR CROSSING	VC VC		-4:::: <u></u>
PEDESTRIAN RAMP	PR		47
EDGE OF BITUMEN	E0B		
ROAD PAVEMENT			
BENCHMARK		▲ BM: 115 RL: 165.332	
BATTERS			
CONCRETE PATHWAY			
CONTOURS	99.5	99.5	-99.5-
SITE REGRADING AREA	CUT FILL		
SERVICE LINES SEWER, GAS, WATER, ELECTRICITY		S G W E	S — S — — — — — — — — — — — — — — — — —
COMMUNICATION LINES TELSTRA, FIBRE OPTIC		T	Toror
OVER HEAD LINES AND POLES			
SERVICE PITS TELECOM PIT, ACCESS CHAMBER, HYDRANT, STOP VALVE, AIR VALVE			
LIMIT OF CONSTRUCTION			
LIMIT OF STAGE			
FENCE POST AND RAIL FENCE SECURITY FENCE	-//	-//	-//
LOT NUMBERS	LOTNO	LOTNO	LOTNO
TREES TO RETAIN TREES TO REMOVE			
RETAINING WALL			
ROCK WALL	- 0000000000000000000000000000000000000		

FOR DEVELOPMENT APPLICATION

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STANDARD NOTES & LEGEND

Project No.: Stage: Milestone: Dwg No.: Revi

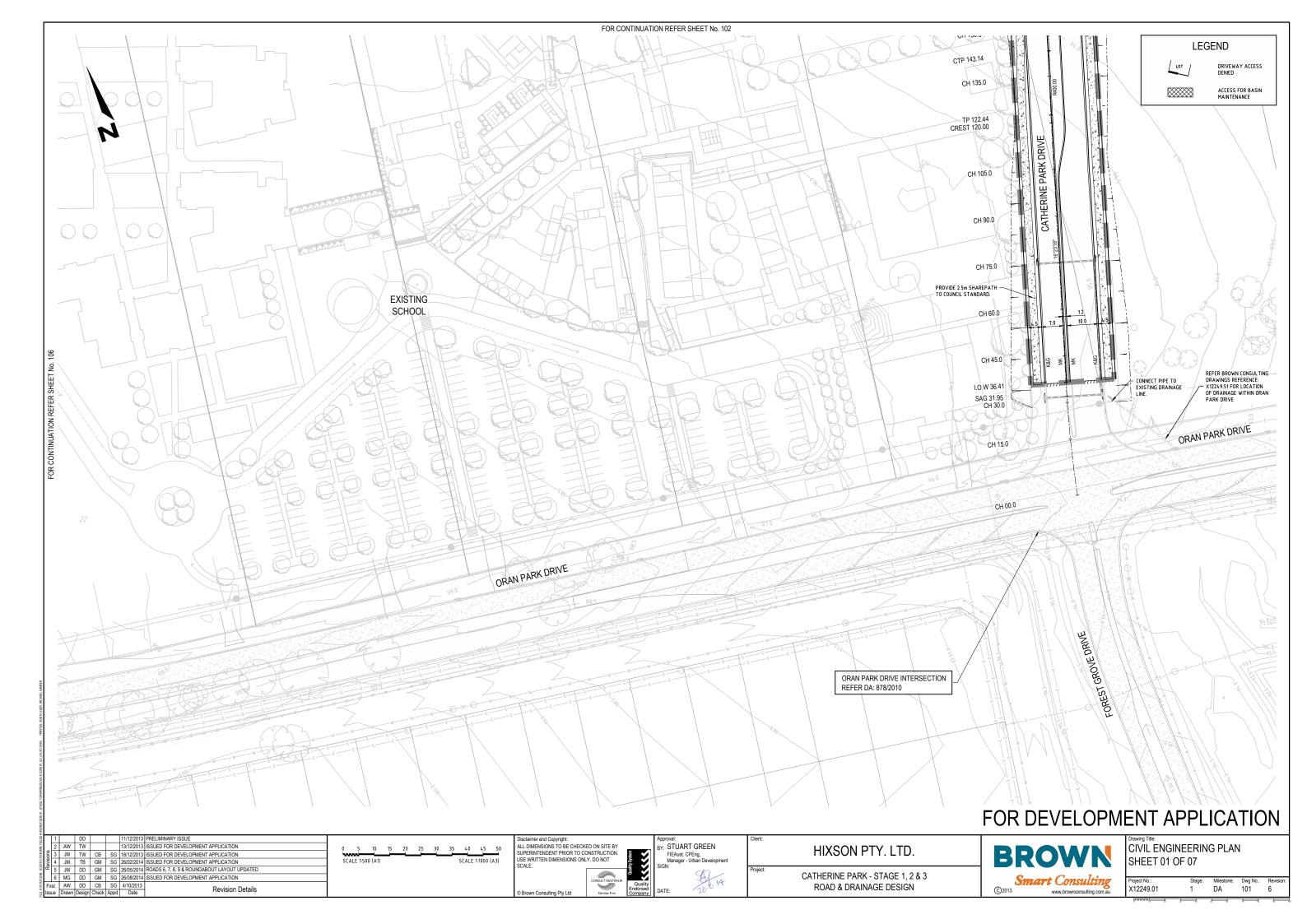
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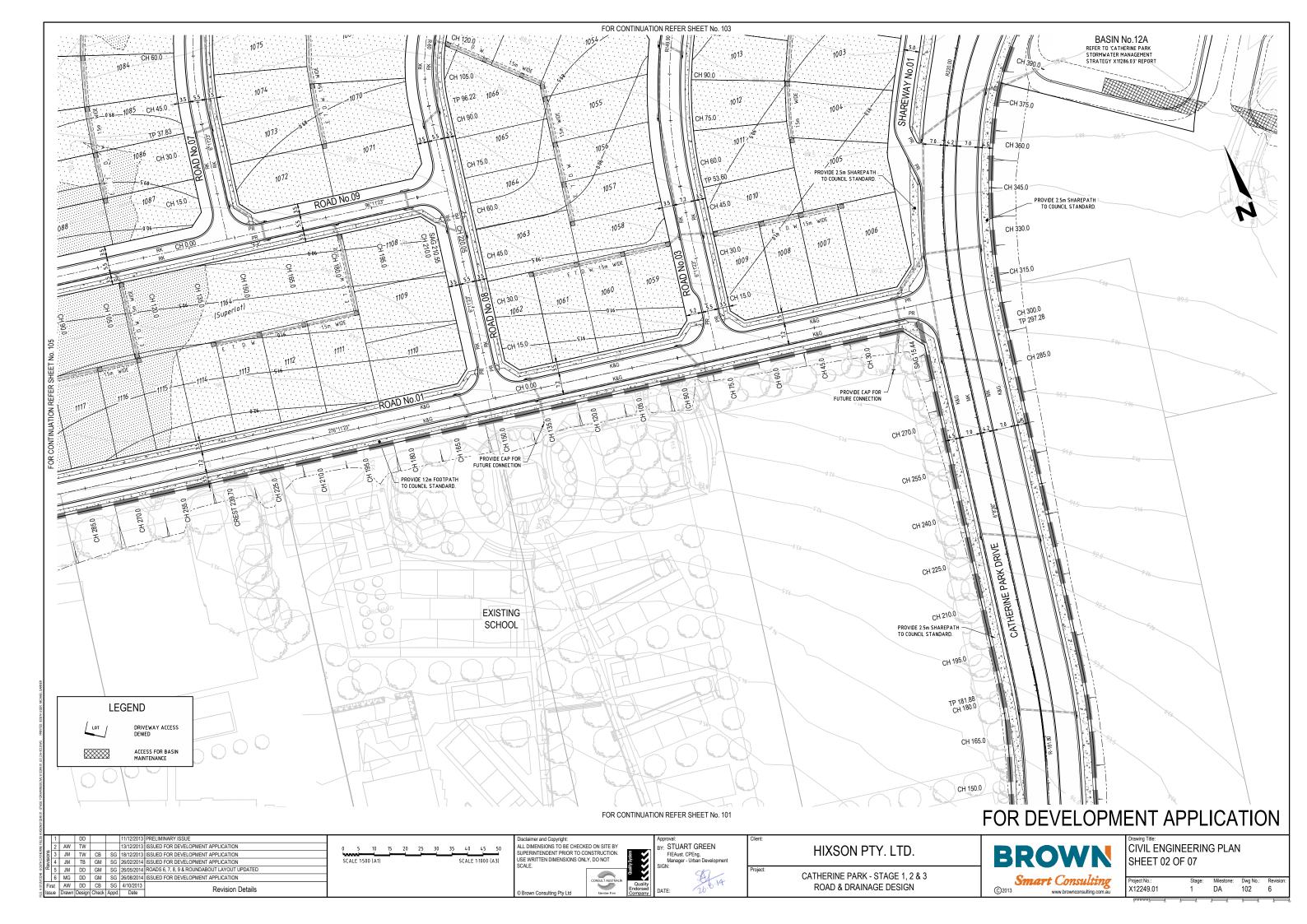
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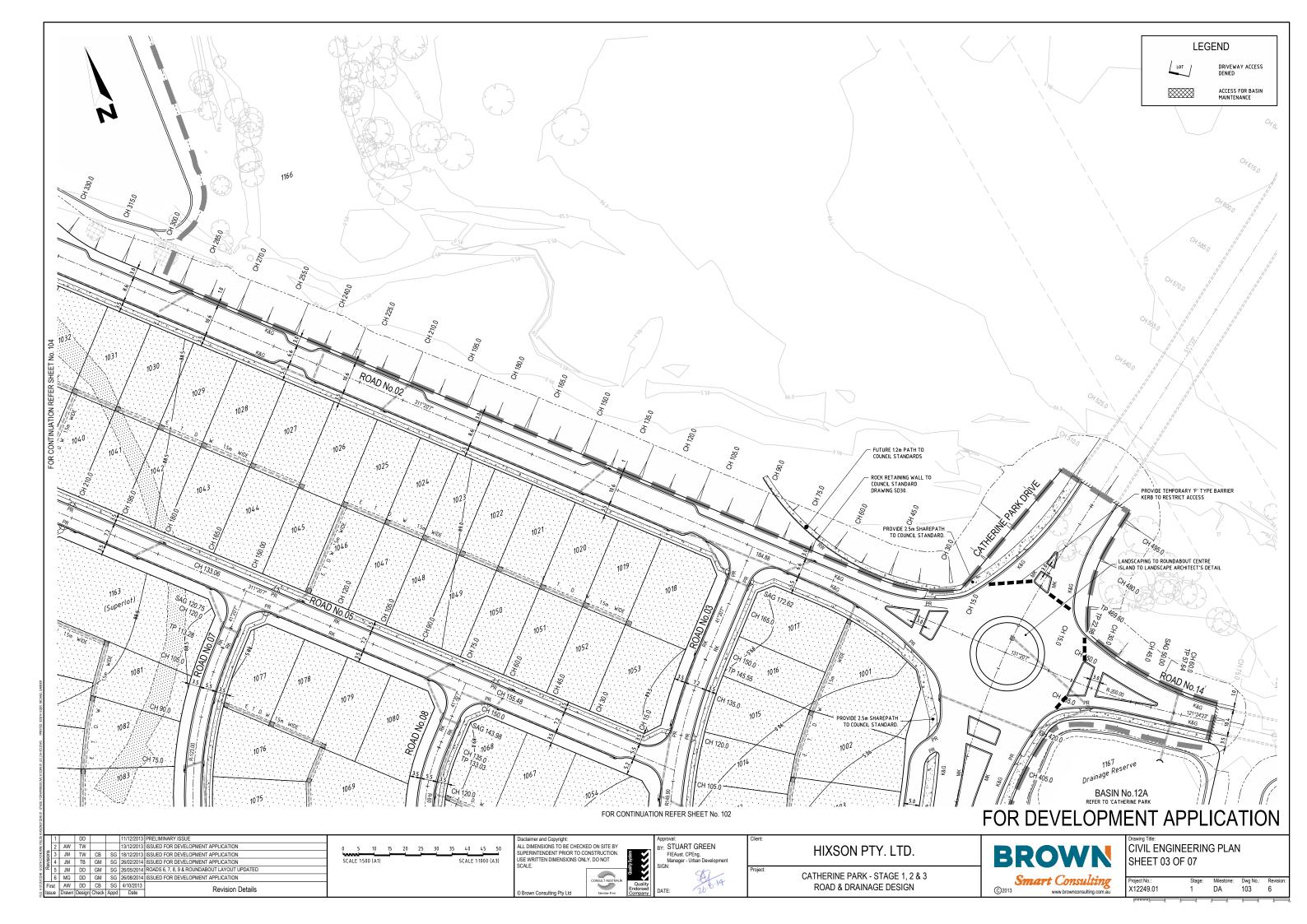
BY: STUART GREEN
FIEAust. CPEng,
Manager - Urban Development
SIGN:

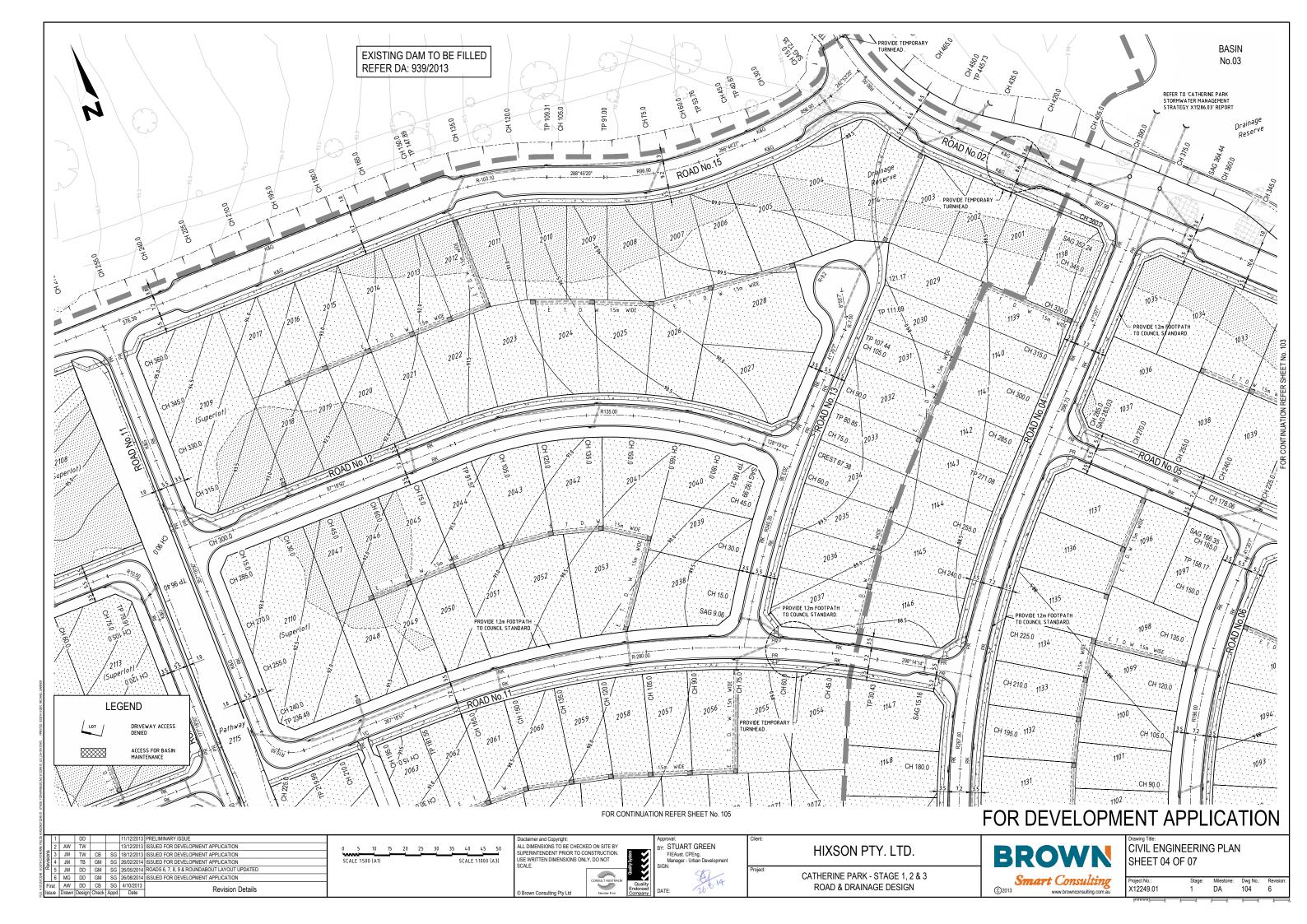
CATHERINE PARK - STAGE 1, 2 & 3 ROAD & DRAINAGE DESIGN

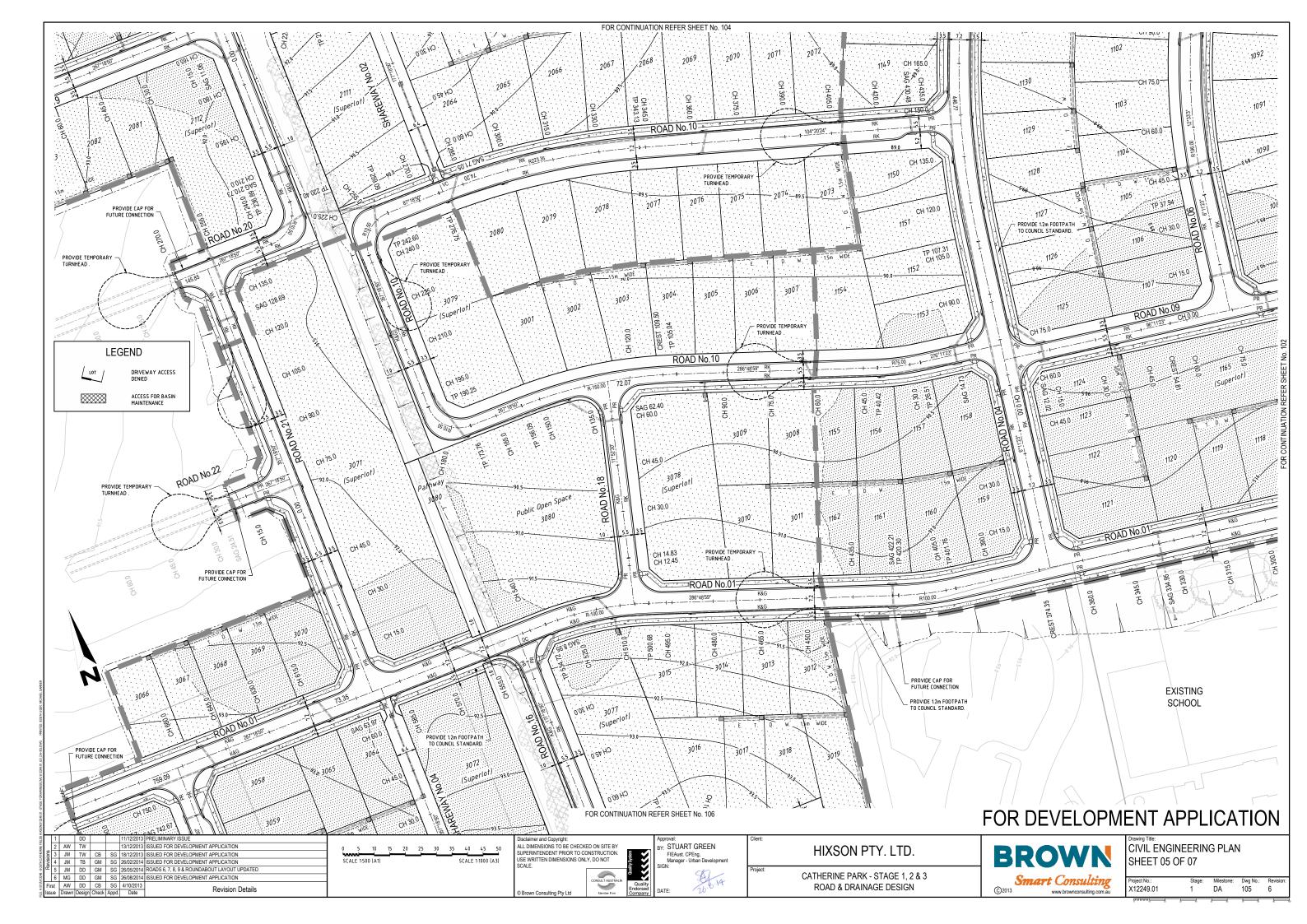
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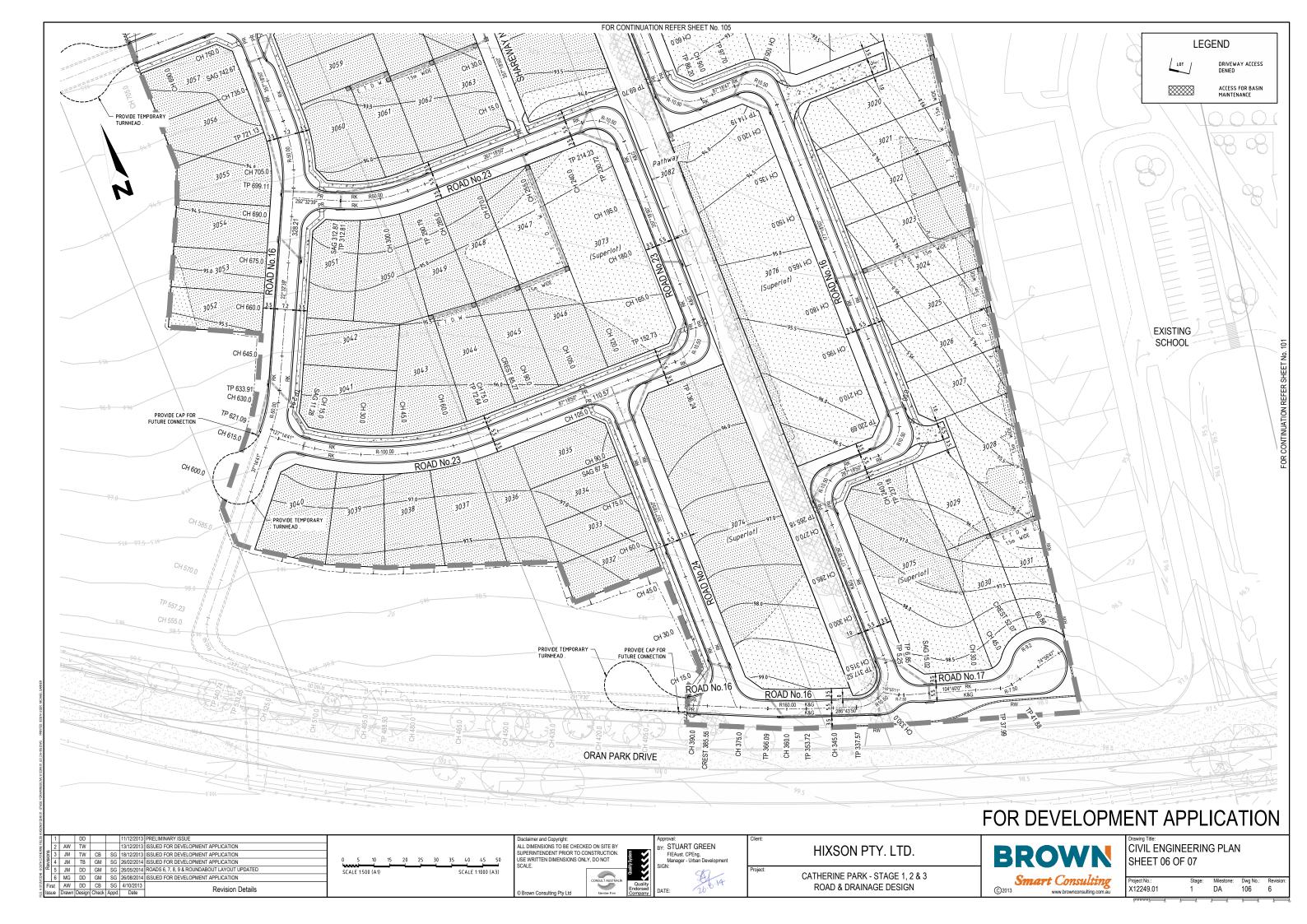


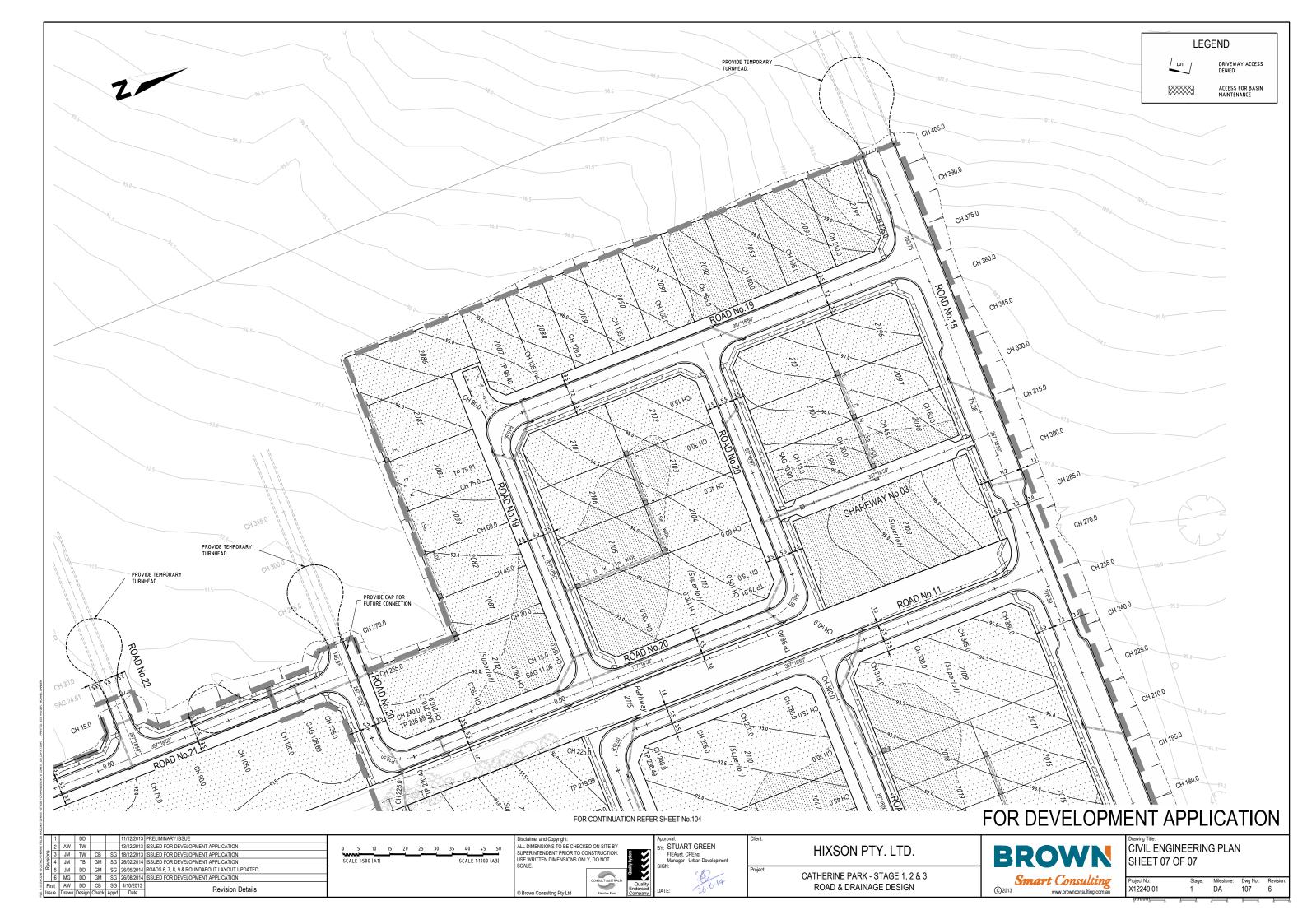


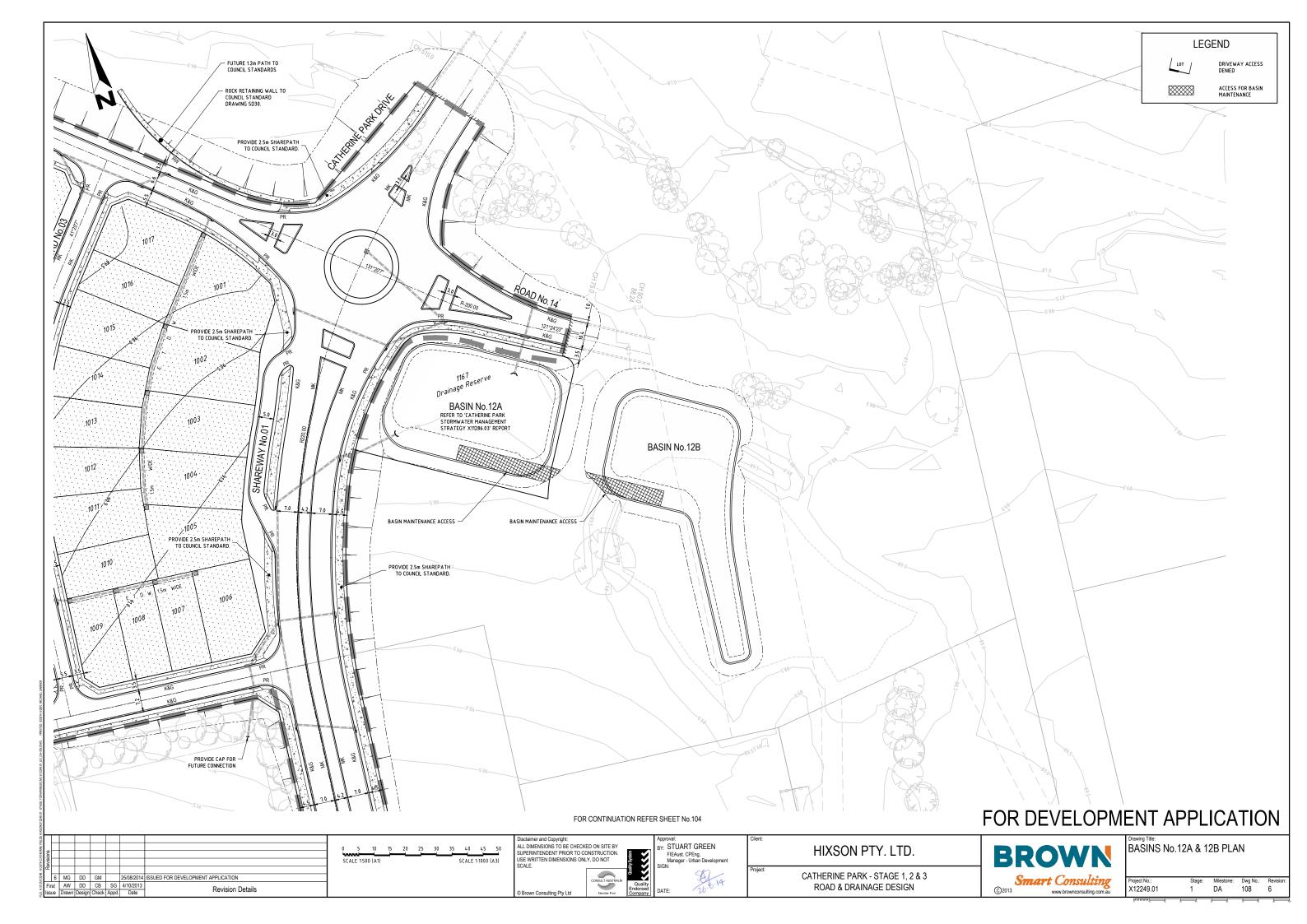


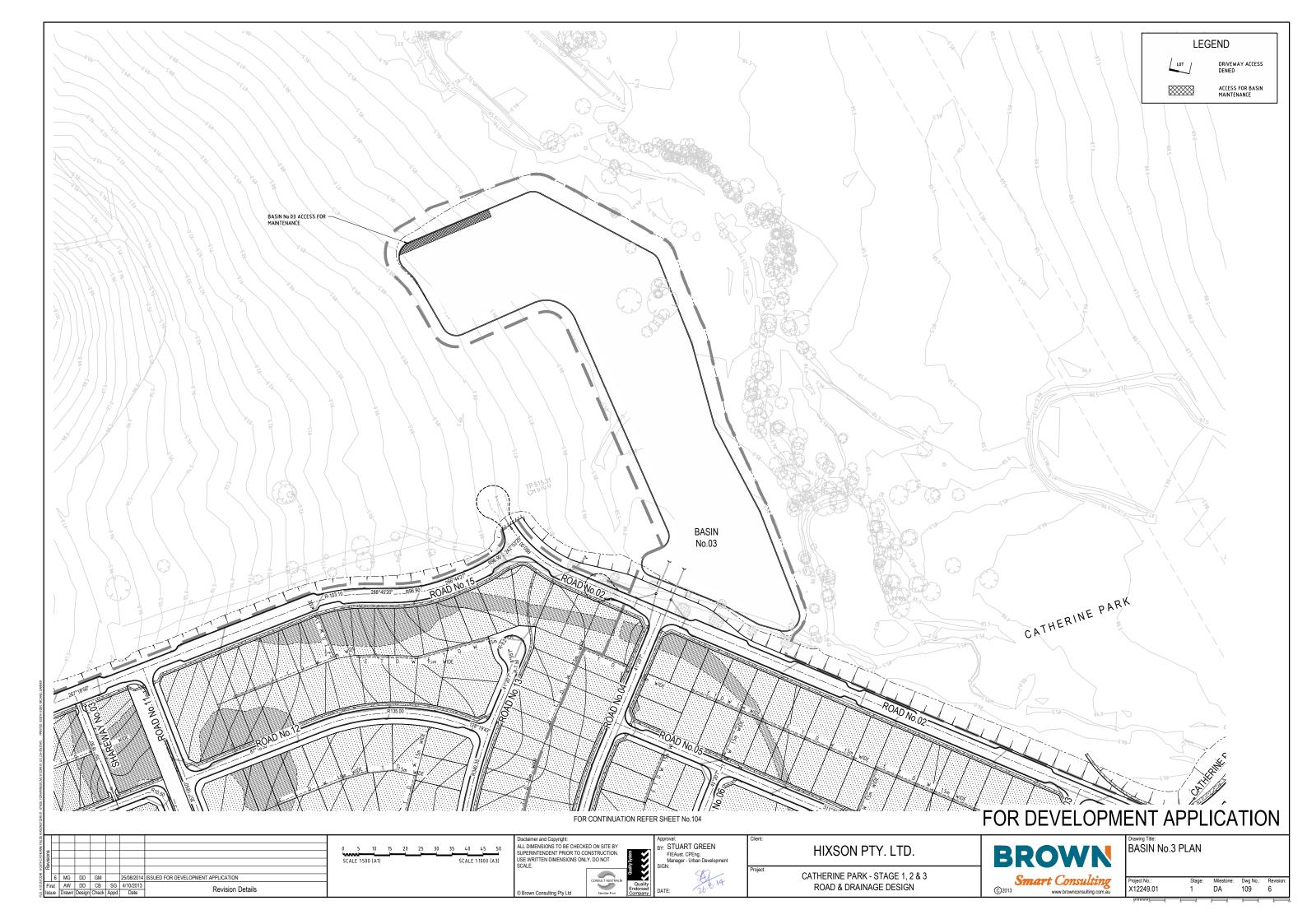


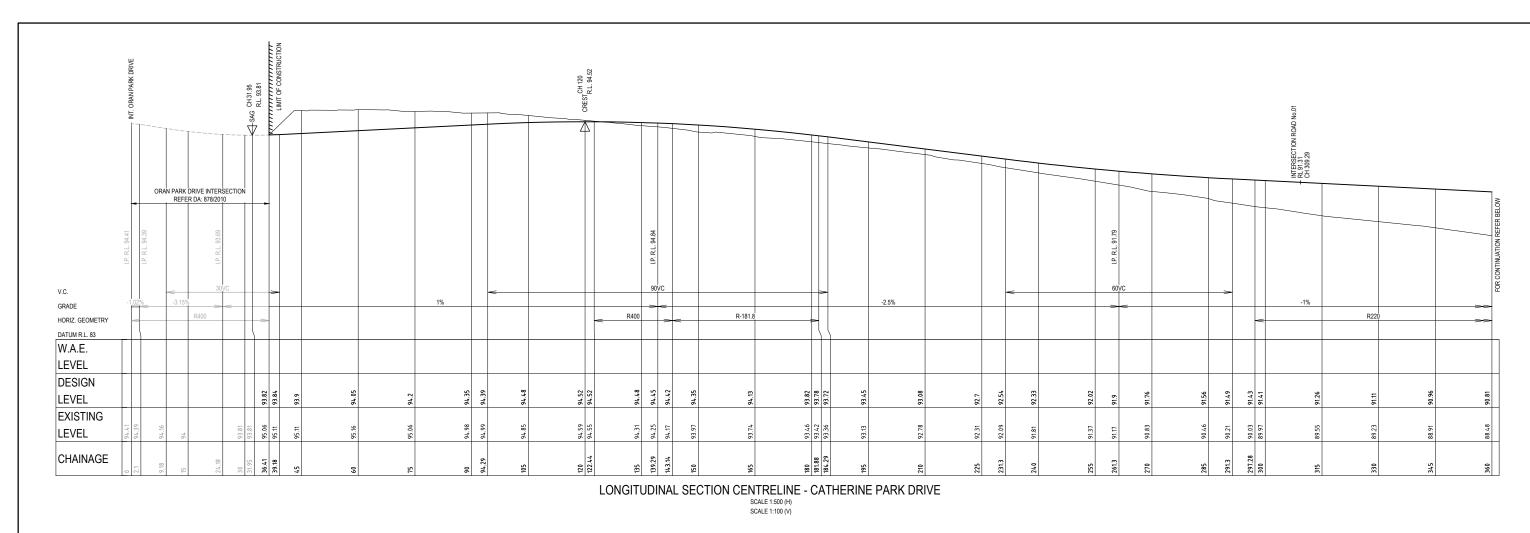


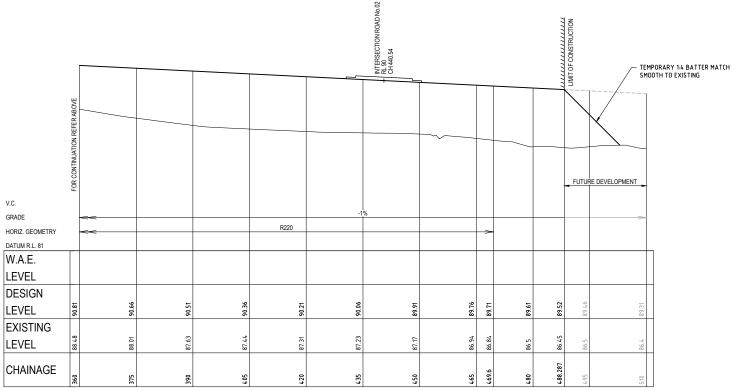












LONGITUDINAL SECTION CENTRELINE - CATHERINE PARK DRIVE CONTINUED

SCALE 1:500 (H)
SCALE 1:100 (V)

FOR DEVELOPMENT APPLICATION

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USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE. Y: STUART GREEN CATHERINE PARK DRIVE HIXSON PTY. LTD. | 3 JM TW C8 SG 18/12/2013 ISSUED FOR DEVELOPMENT APPLICATION |
| 4 JM TB GM SG 26/02/2014 ISSUED FOR DEVELOPMENT APPLICATION |
| 5 JM DD GM SG 26/05/2014 ROADS 6, 7, 8, 9 & ROUNDABOUT LAYOUT UPDATED |
| 6 MG DD GM SG 26/05/2014 ISSUED FOR DEVELOPMENT APPLICATION |
| 6 MG DD GM SG 26/08/2014 ISSUED FOR DEVELOPMENT APPLICATION |
| 7 JM ST 18/14/2015 ISSUED FOR DEVELOPMENT APPLICATION |
| 8 JM ST 28/14/2015 ISSUED FOR DEVELOPMENT APPLICATION | FIEAust. CPEng, Manager - Urban Development SCALE 1:500 (A1) SCALE 1:1000 (A3) LONGITUDINAL SECTIONS CATHERINE PARK - STAGE 1, 2 & 3 Smart Consulting
www.brownconsulting.com.au Project No.: X12249.01 Stage: Milestone: Dwg No.: Revis 1 DA 201 6 ROAD & DRAINAGE DESIGN Revision Details

TYPICAL CROSS SECTION - ROAD No.01 (2 of 3) SCALE 1:100 NATURAL

TYPICAL CROSS SECTION - ROAD No.01 (3 of 3) SCALE 1:100 NATURAL

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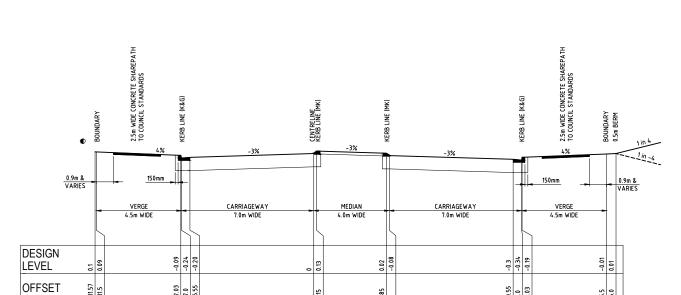
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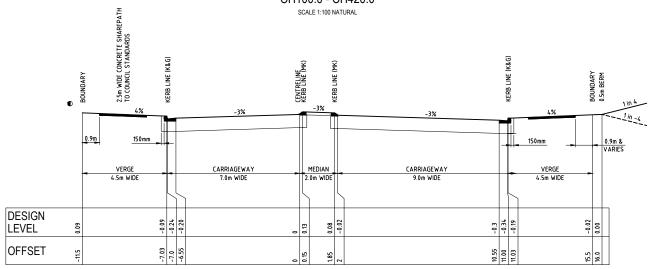
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NOTE:

SITE REGRADING REFER TO DRAWING No.101 TO 106 FOR DETAILS



TYPICAL CROSS SECTION - CATHERINE PARK DRIVE CH100.0 - CH420.0

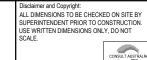


TYPICAL CROSS SECTION - CATHERINE PARK DRIVE CH30.0 - CH100.0 SCALE 1:100 NATURAL

FOR DEVELOPMENT APPLICATION

11/12/2013 PRELIMINARY ISSUE 13/12/2013 ISSUED FOR DEVELOPMENT APPLICATION Revision Details









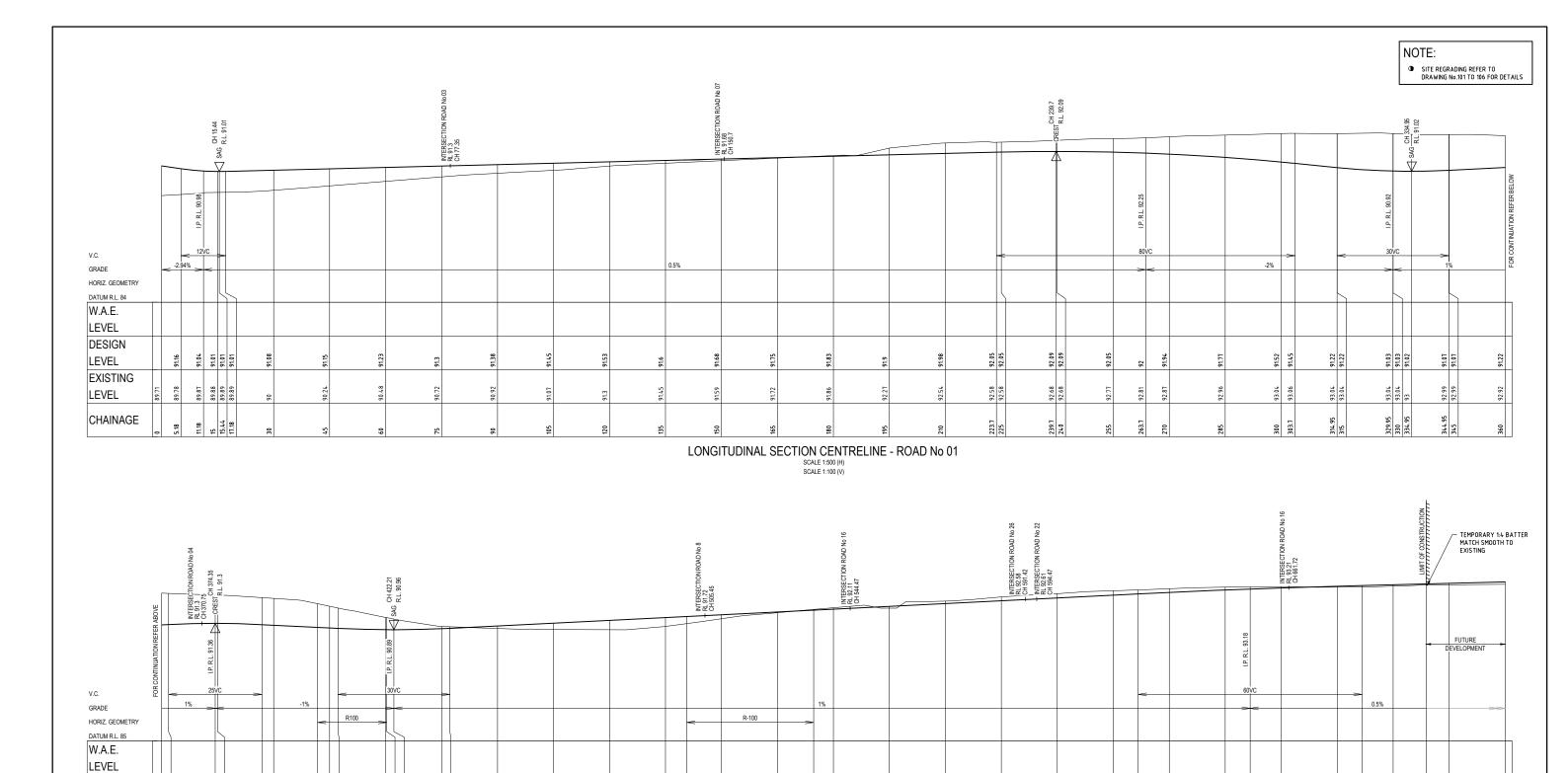
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CATHERINE PARK - STAGE 1, 2 & 3 **ROAD & DRAINAGE DESIGN**



CATHERINE PARK DRIVE & ROAD No. 01 TYPICAL CROSS SECTIONS

Project No.: X12249.01 Milestone: Dwg No.: Revis
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LONGITUDINAL SECTION CENTRELINE - ROAD No.01 CONTINUED

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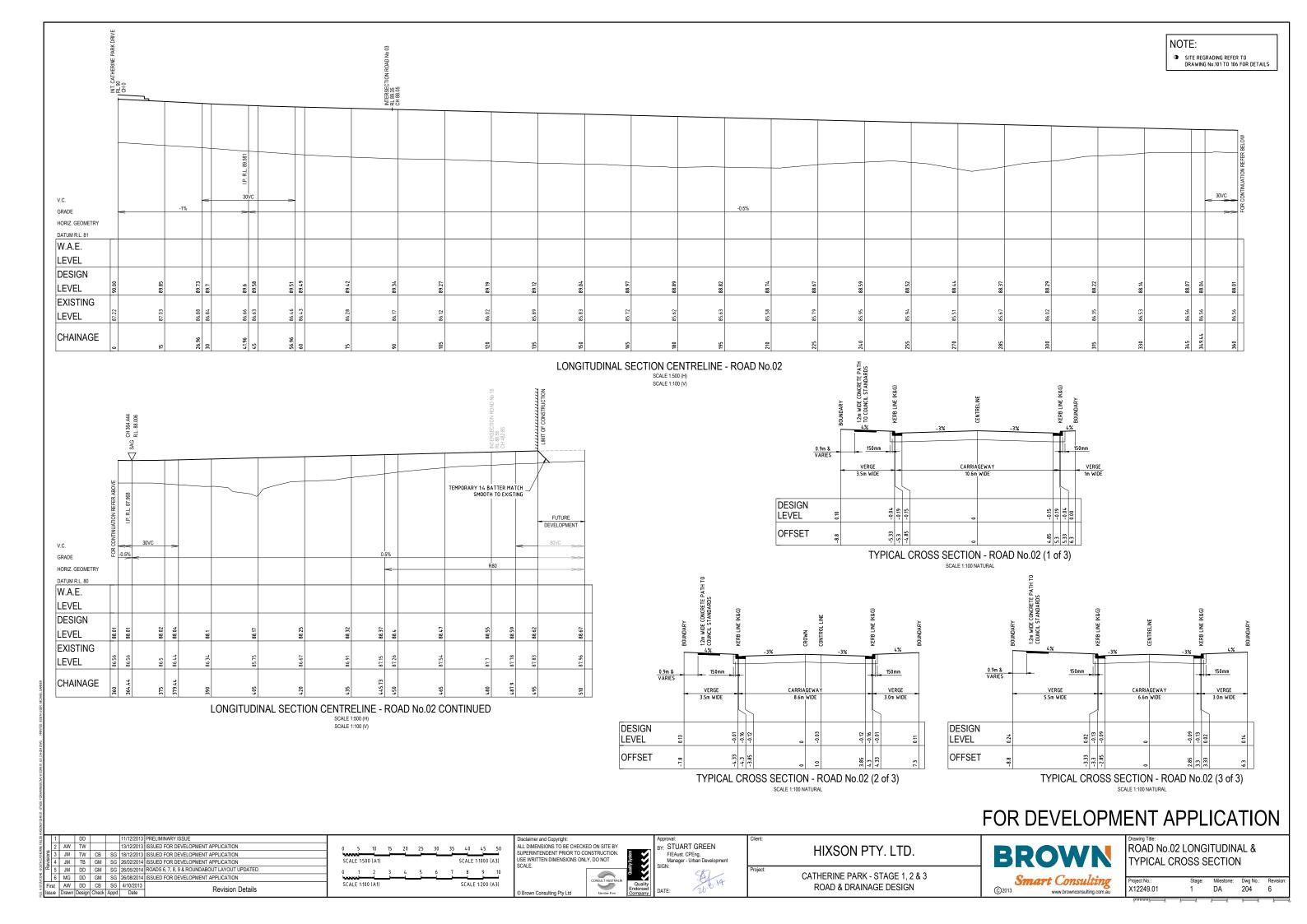
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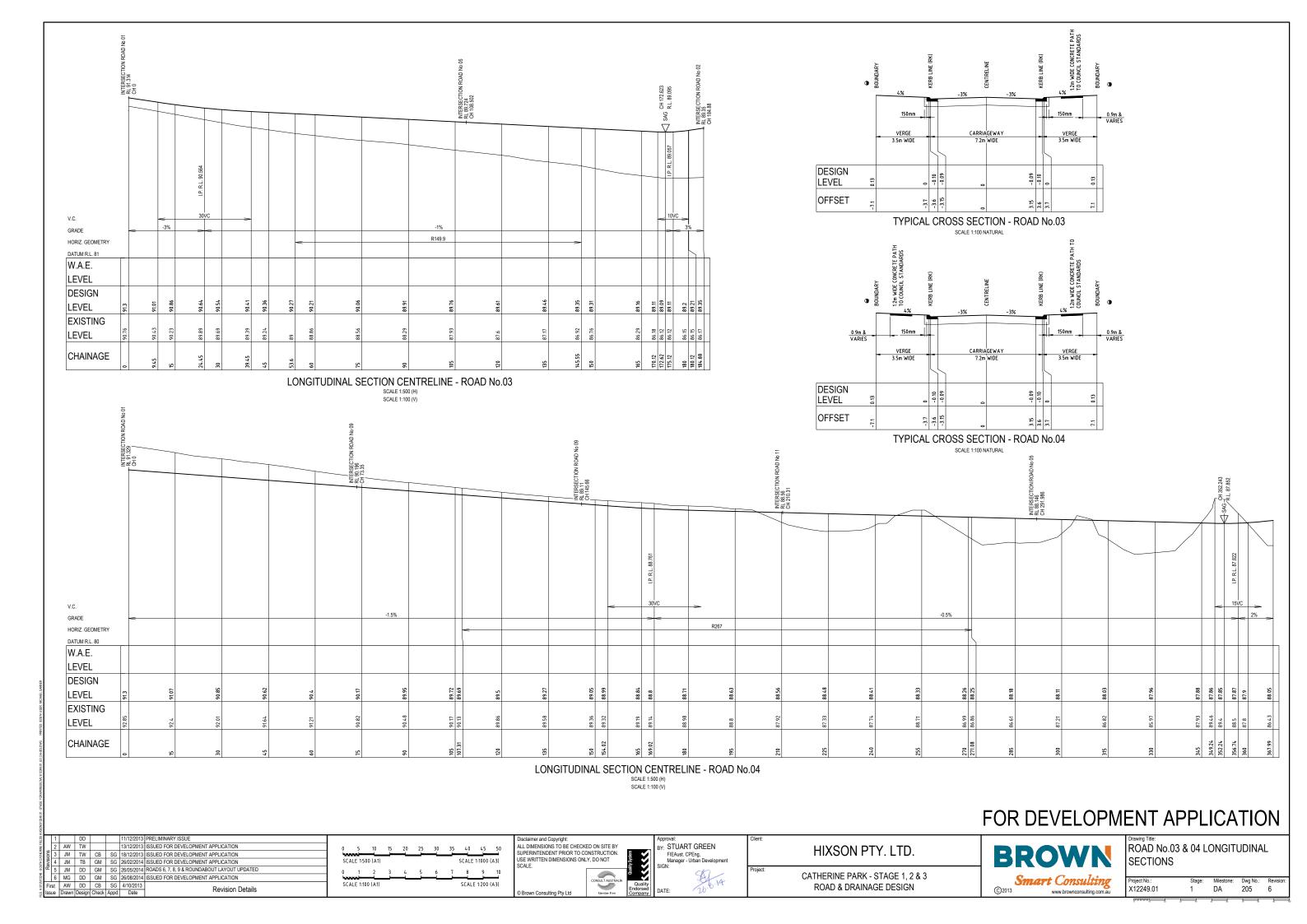
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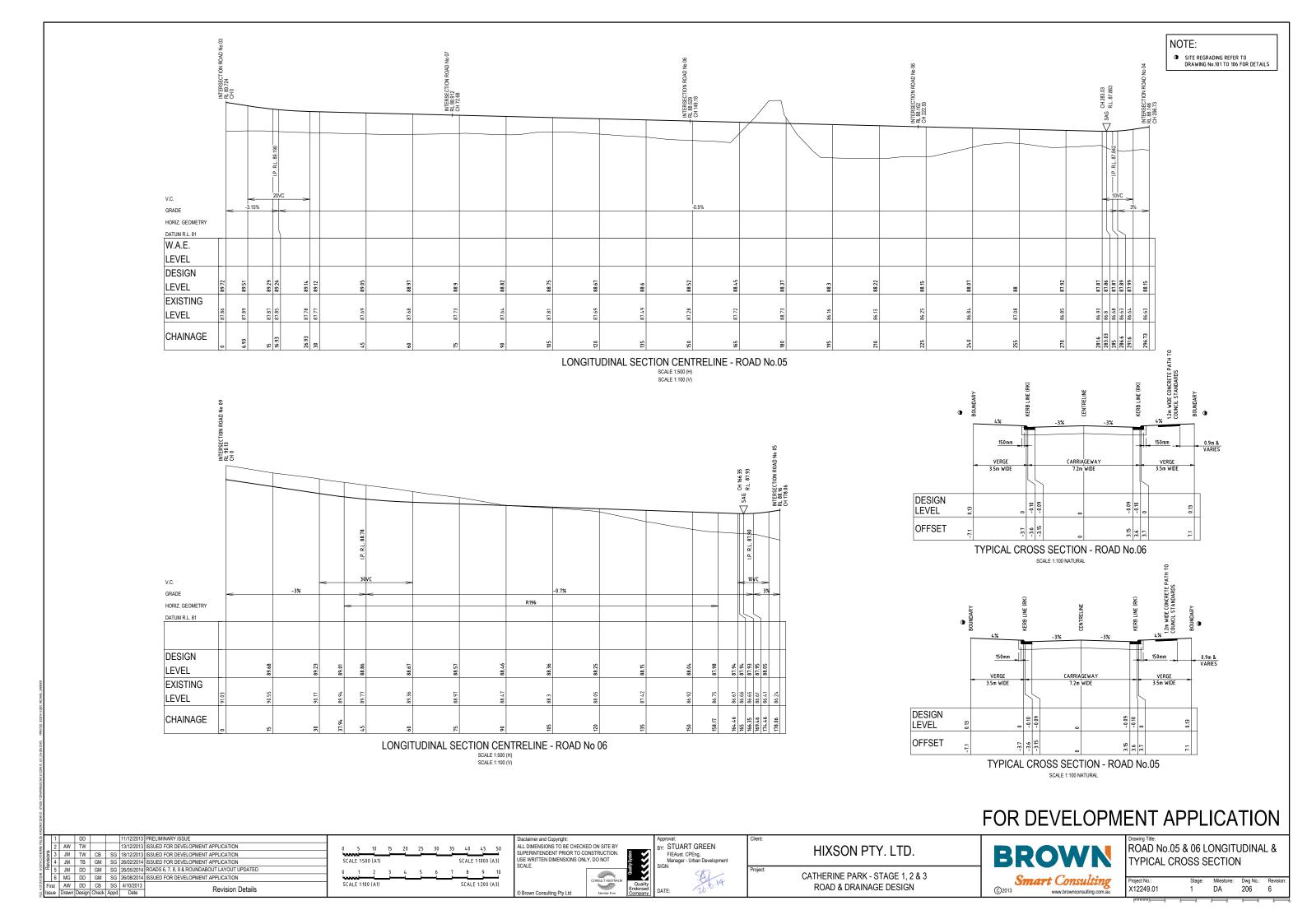
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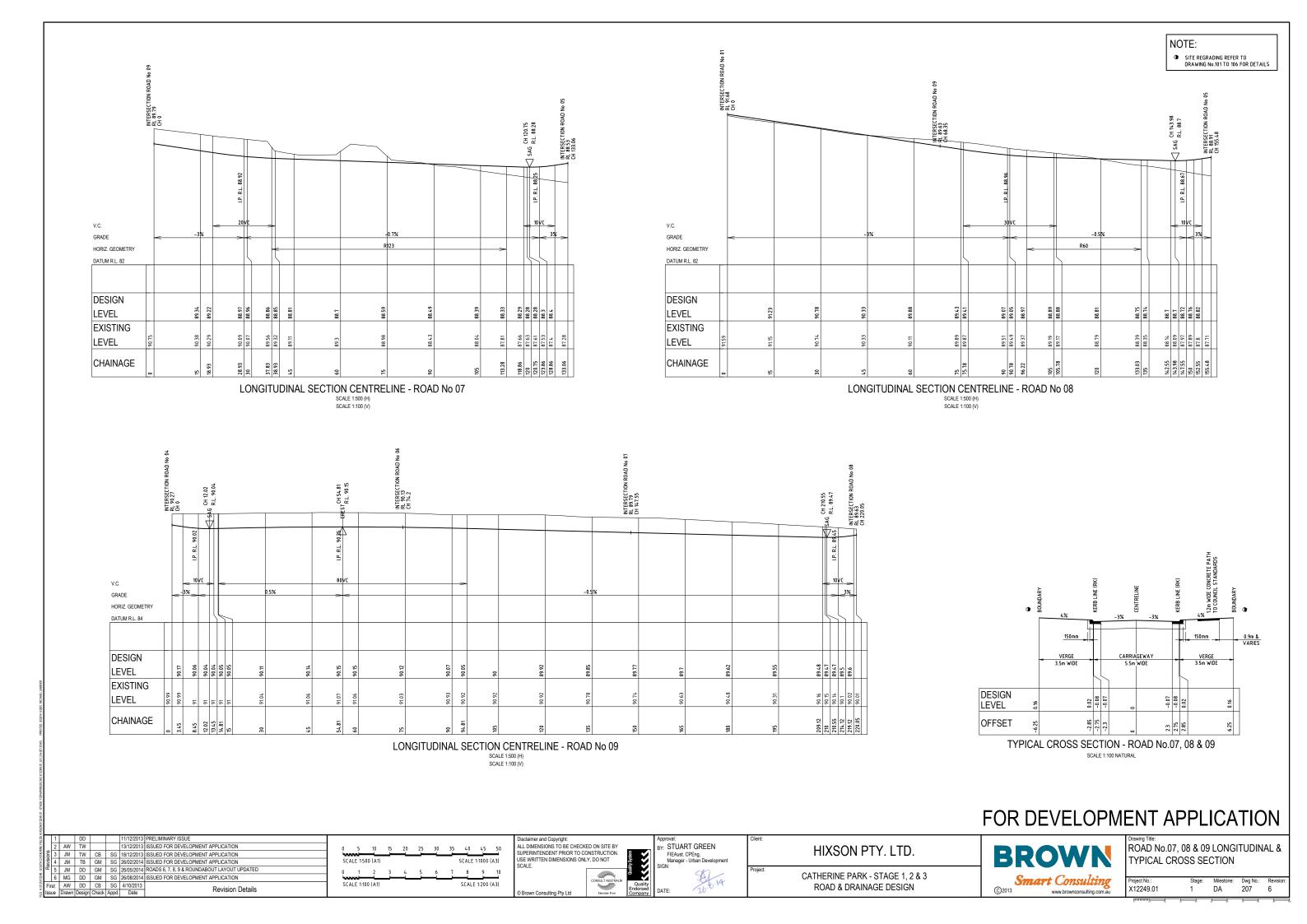
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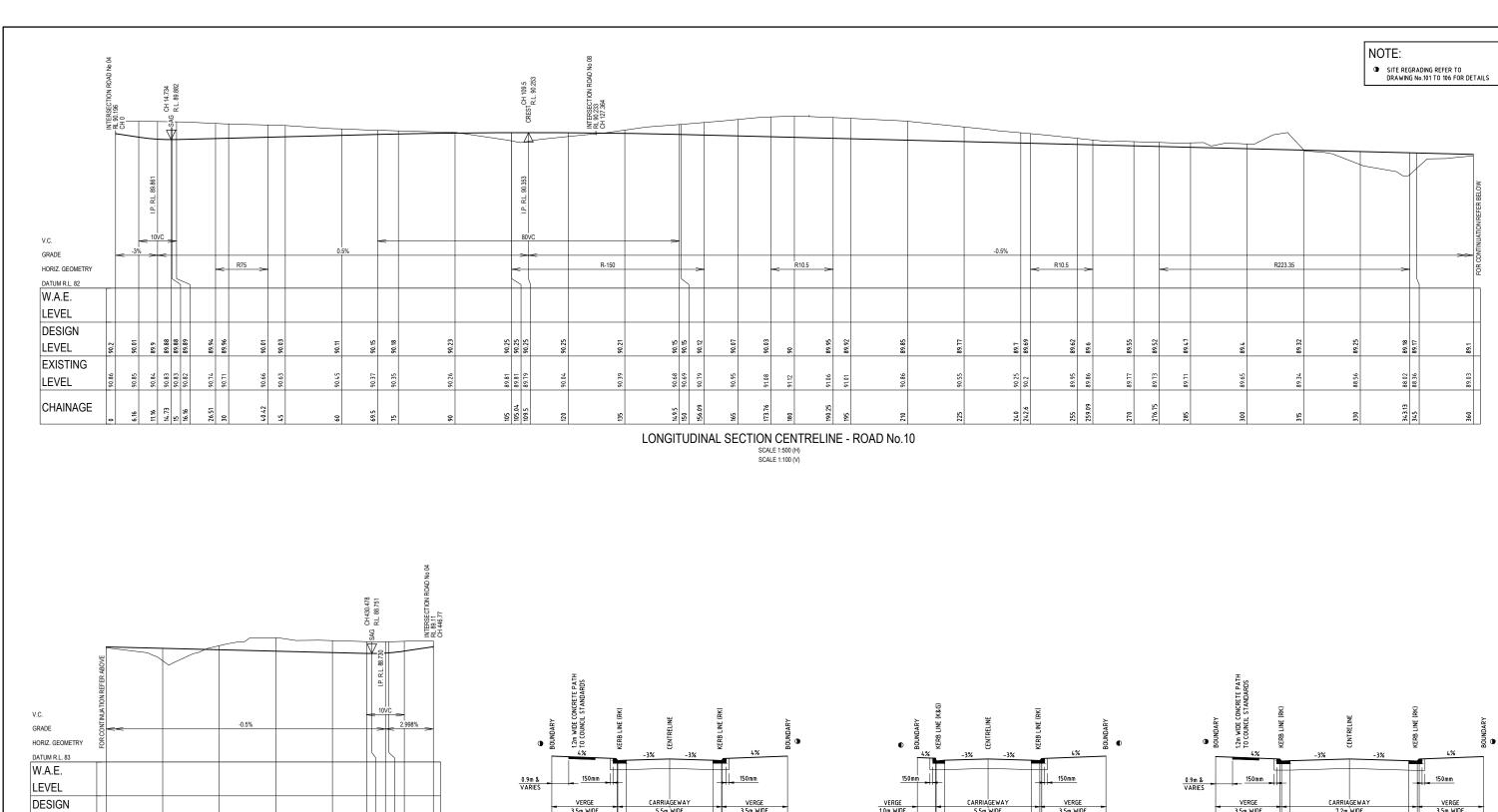
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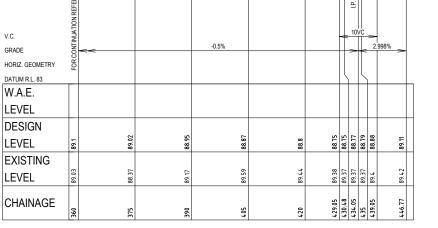


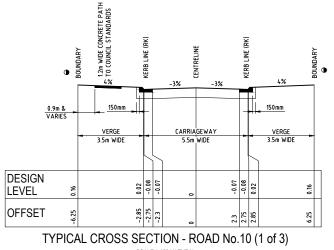


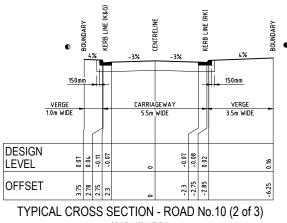


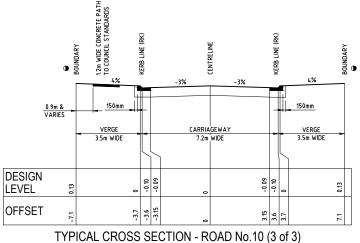










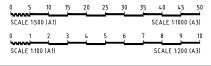


LONGITUDINAL SECTION CENTRELINE - ROAD No.10 CONTINUED

FOR DEVELOPMENT APPLICATION

SCALE 1:100 NATURAL

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HX12X12249	Fir		AW	DD	CB	SG	4/10/2013	Revision Details
X1224		6	MG	DD	GM	SG	26/08/2014	ISSUED FOR DEVELOPMENT APPLICATION
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JHC.	evis	4	JM	TB	GM	SG	26/02/2014	ISSUED FOR DEVELOPMENT APPLICATION
Revisions	ions	3	JM	TW	CB	SG	18/12/2013	ISSUED FOR DEVELOPMENT APPLICATION
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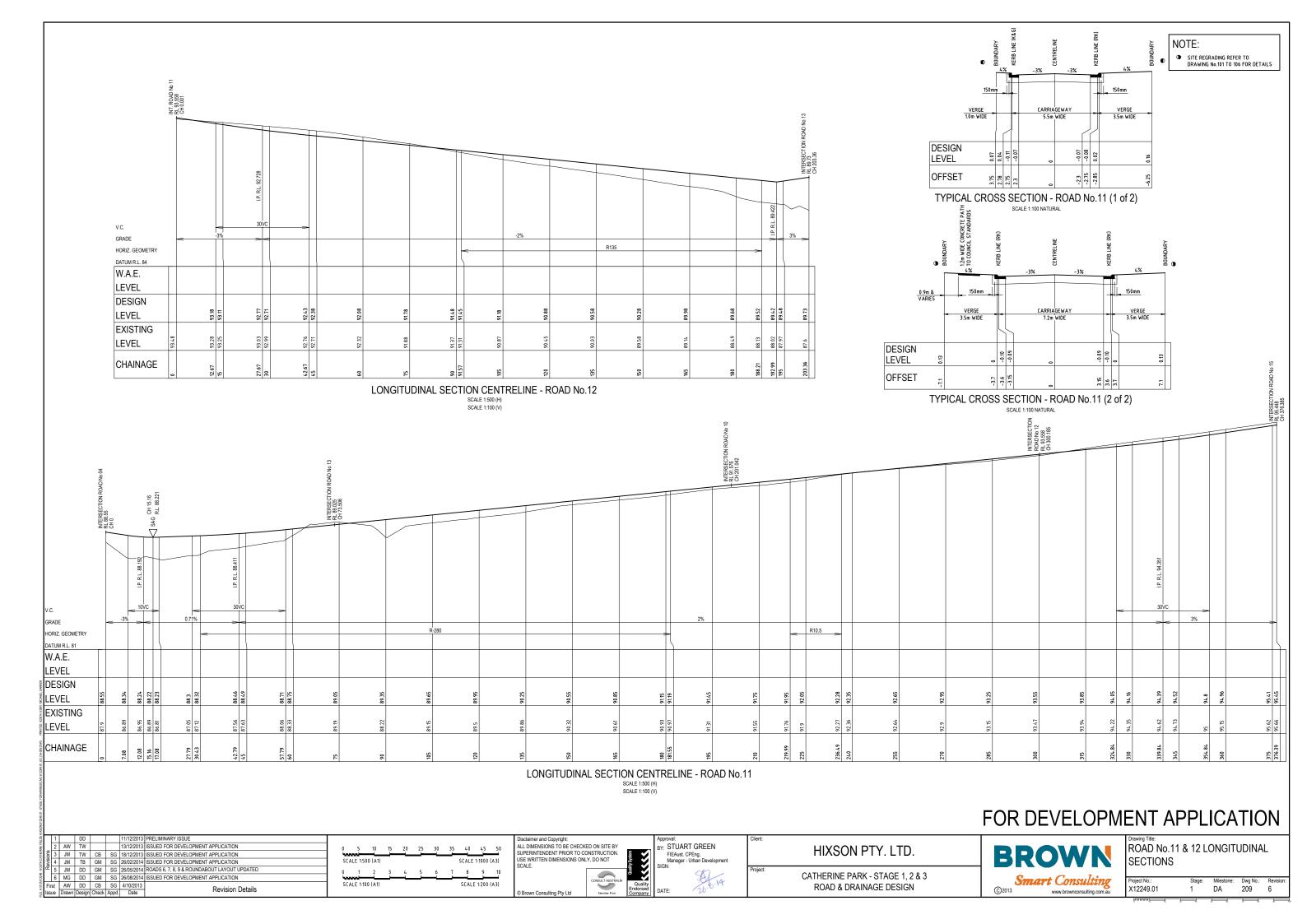
CATHERINE PARK - STAGE 1, 2 & 3 ROAD & DRAINAGE DESIGN

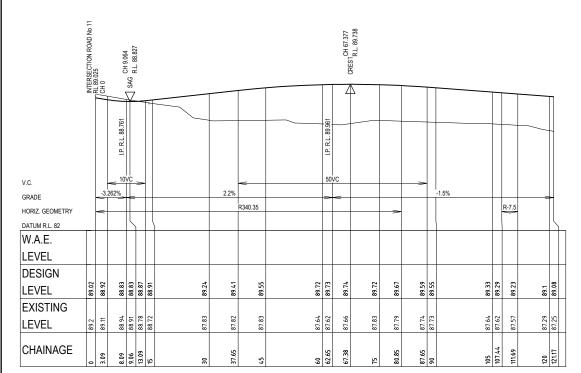


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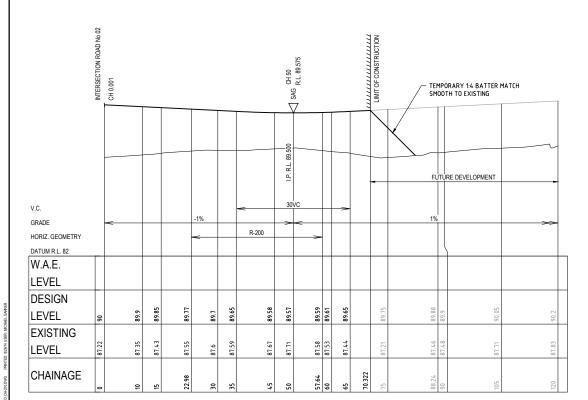
ROAD No.10 LONGITUDINAL & TYPICAL CROSS SECTION

Stage: Milestone: Dwg No.: Revis
1 DA 208 6 Project No.: X12249.01

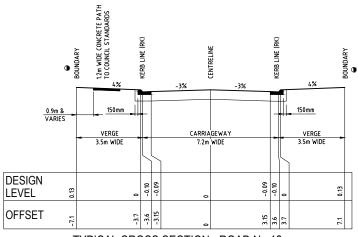




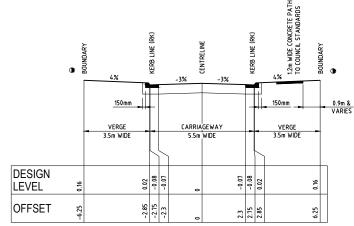
LONGITUDINAL SECTION CENTRELINE - ROAD No.13



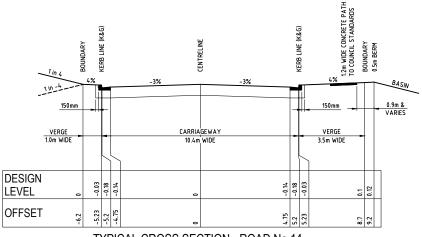
LONGITUDINAL SECTION CENTRELINE - ROAD No.14



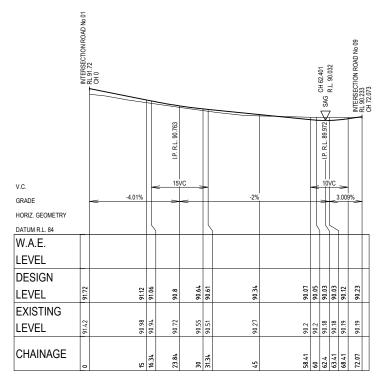
TYPICAL CROSS SECTION - ROAD No.12 SCALE 1:100 NATURAL



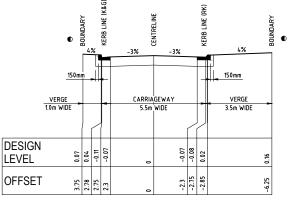
TYPICAL CROSS SECTION - ROAD No.13 SCALE 1:100 NATURAL



TYPICAL CROSS SECTION - ROAD No.14 SCALE 1:100 NATURAL



LONGITUDINAL SECTION CENTRELINE - ROAD No.18 SCALE 1:500 (H) SCALE 1:100 (V)



TYPICAL CROSS SECTION - ROAD No.18 SCALE 1:100 NATURAL

FOR DEVELOPMENT APPLICATION

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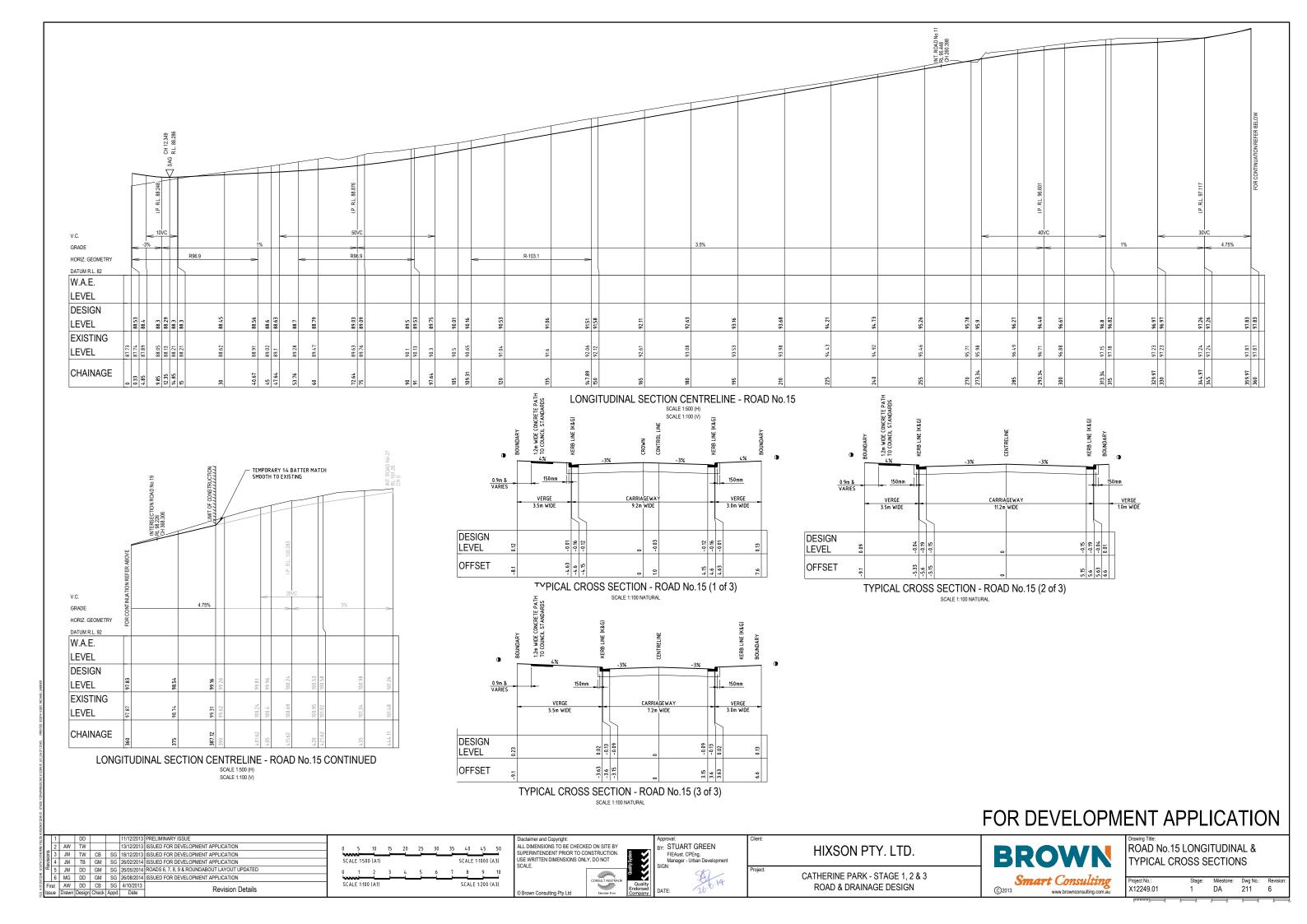
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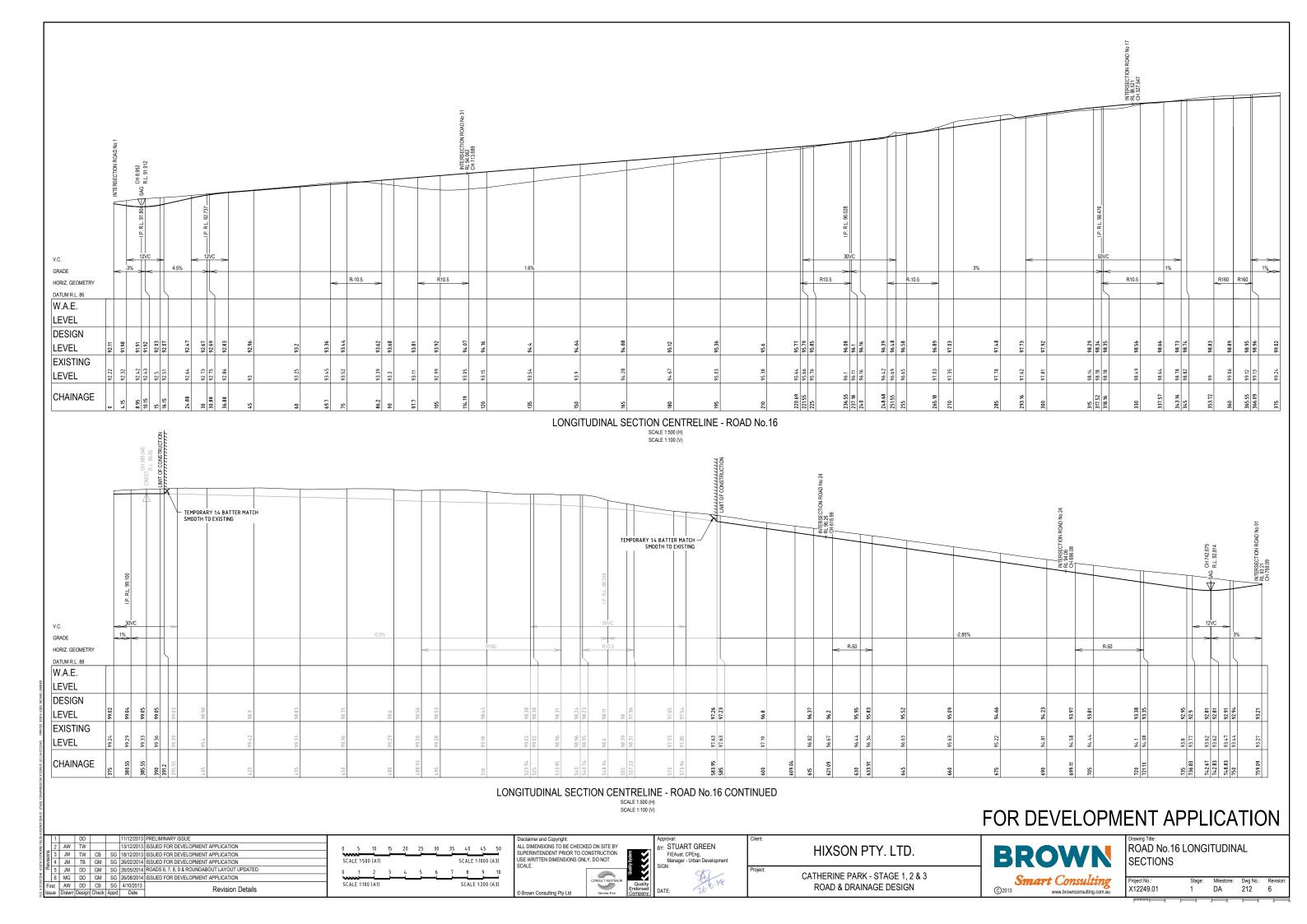
RINE PARK - STAGE 1, 2 & 3 **ROAD & DRAINAGE DESIGN**



ROAD No.12, 13, 14 & 18 LONGITUDINAL SECTIONS

Milestone: Dwg No.: Revis Project No.: X12249.01





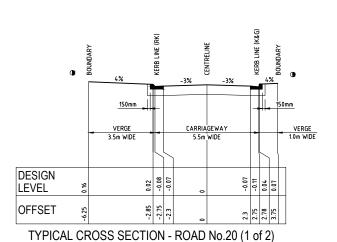
11/12/2013 PRELIMINARY ISSUE 13/12/2013 ISSUED FOR DEVELOPMENT APPLICATION ROAD No.16, 17 & No.19 Y: STUART GREEN
FIEAust. CPEng,
Manager - Urban Development SUBSCIAIRE AND COPYRIGHT.

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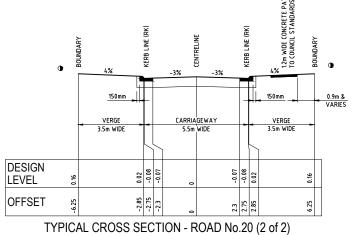
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LONGITUDINAL SECTION CENTRELINE - ROAD No 20

SCALE 1:500 (H)
SCALE 1:100 (V)

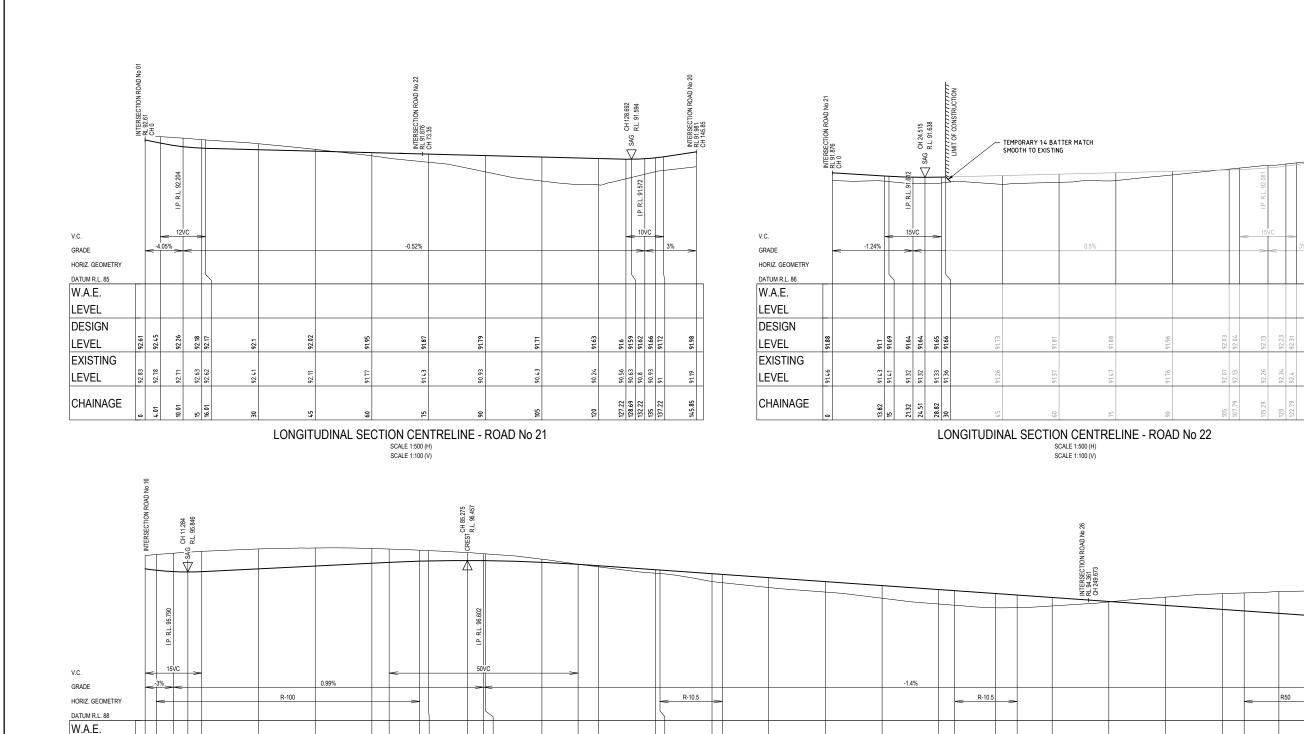


CHAINAGE



FOR DEVELOPMENT APPLICATION

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LEVEL DESIGN

LEVEL EXISTING

LEVEL

CHAINAGE

LONGITUDINAL SECTION CENTRELINE - ROAD No 23

SCALE 1:500 (H)

SCALE 1:100 (V)

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FOR DEVELOPMENT APPLICATION

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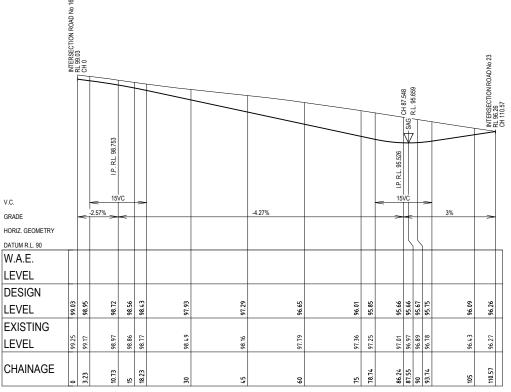
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11/12/2013 PRELIMINARY ISSUE 13/12/2013 ISSUED FOR DEVELOPMENT APPLICATION isclaimer and Copyright: Y: STUART GREEN
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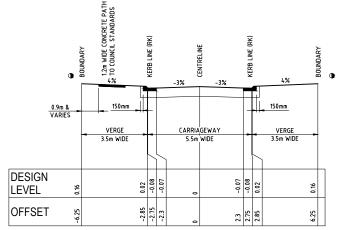
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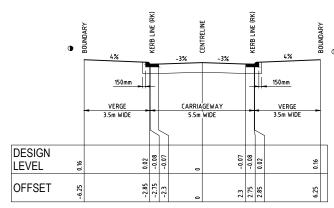
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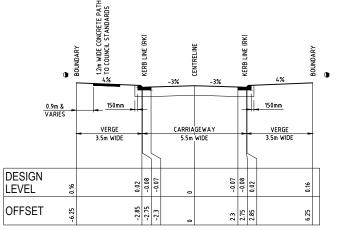
LONGITUDINAL SECTION CENTRELINE - ROAD No 24



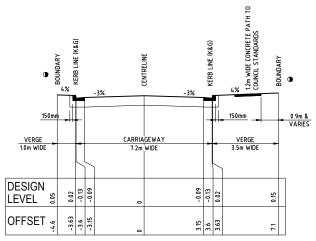
TYPICAL CROSS SECTION - ROAD No.21 & 24



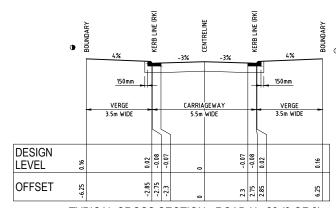
TYPICAL CROSS SECTION - ROAD No.22



TYPICAL CROSS SECTION - ROAD No.23 (1 OF 3)



TYPICAL CROSS SECTION - ROAD No.23 (2 of 3) SCALE 1:100 NATURAL

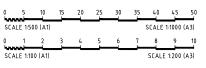


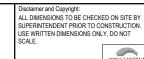
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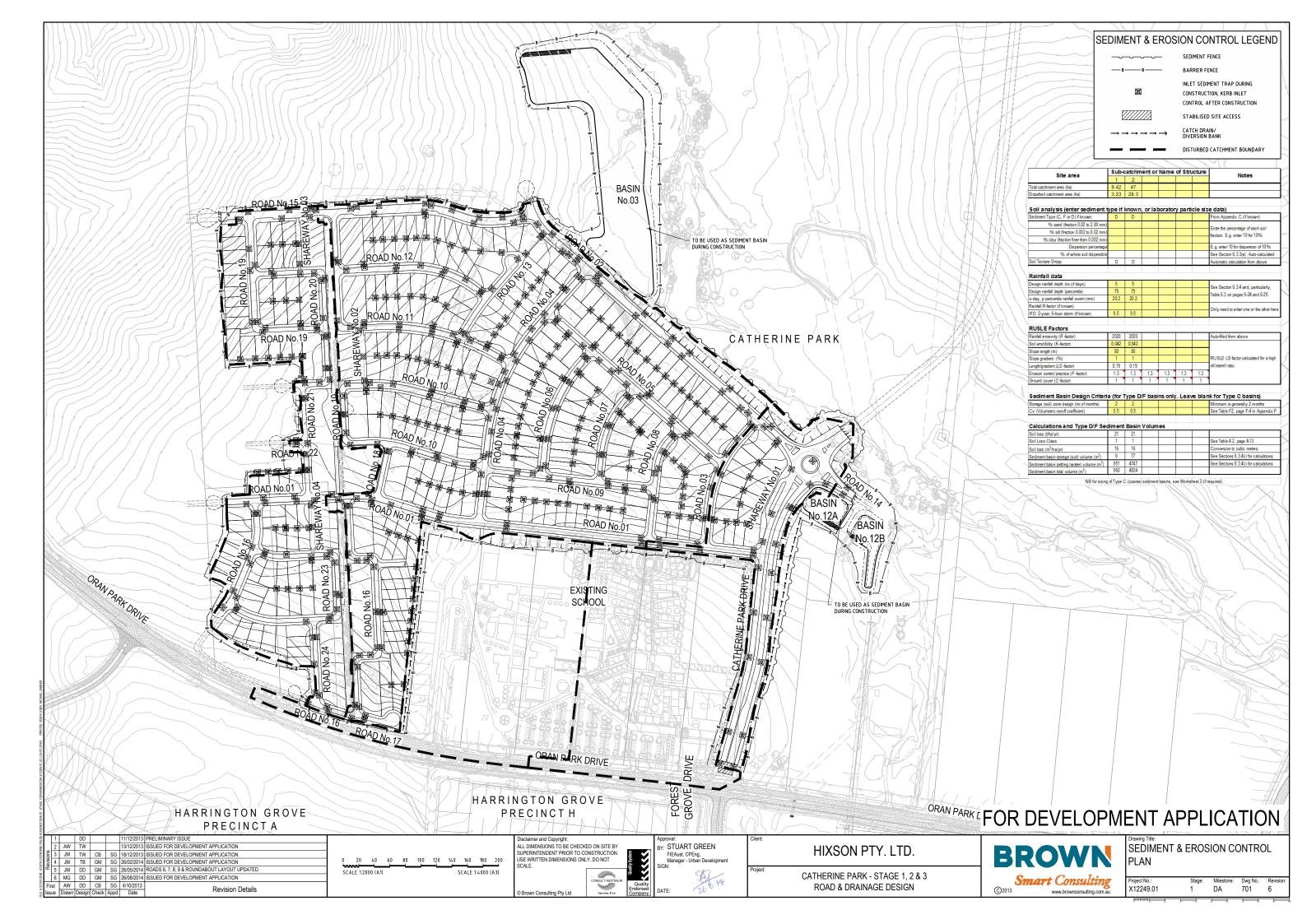


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CATHERINE PARK - STAGE 1, 2 & 3 **ROAD & DRAINAGE DESIGN**

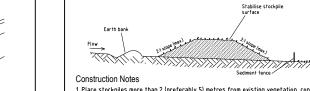


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SEDIMENT & EROSION CONTROL NOTES

- THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO THE COMMENCEMENT OF ANY WORKS BEING CARRIED OUT. ALL SOIL AND EROSION MEASURES SHALL BE MAINTAINED AND KEPT IN PLACE FOR THE FULL DURATION OF THE WORKS AND SHALL ONLY BE REMOVED AT FINAL STABILISATION OF THE WORKS, WHERE IT IS NECESSARY, TO UNDERTAKE STRIPPING, IN ORDER TO CONSTRUCT A SEDIMENT CONTROL DEVICE ONLY SUFFICIENT GROUND SHALL BE STRIPPED TO ALLOW CONSTRUCTION.
- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED AS INDICATED ON THESE DRAWINGS. LOCATION AND EXTENT OF SOIL AND WATER MANAGEMENT DEVICES IS DIAGRAMMATIC ONLY AND THE ACTUAL REQUIREMENTS SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT
- CONFORMITY WITH THIS PLAN SHALL IN NO WAY REDUCE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT AGAINST WATER DAMAGE DURING THE COURSE OF THE CONTRACTOR TO PROTECT AGAINST WATER DAMAGE DURING THE COURSE OF THE CONTRACT. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ANY NECESSARY CONTROL IS IN PLACE EVEN THOUGH SUCH CONTROL MAY NOT BE SHOWN
- THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS AND ALL EMPLOYEES OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSTREAM AREAS
- APART FROM SEDIMENT BASINS, THE CONTRACTOR SHALL REGULARLY MAINTAIN AFART FROM SEDIMENT DASINS, THE CONTRACTOR STALL REGULARLY MAINTERES PRIOR SEDIMENT AND EROSION CONTROL STRUCTURES AND DESILY SUCH STRUCTURES PRIOR TO THE REDUCTION IN CAPACITY OF 30% DUE TO ACCUMULATED SEDIMENT. THE SEDIMENT SHALL BE DISPOSED OF ON SITE IN A MANNER APPROVED BY THE ENGINEER.
- 6. THE CONTRACTOR SHALL TEMPORARILY REHABILITATE WITHIN TEN (10) DAYS ANY DISTURBED AREAS PROVIDING A MINIMUM 60% COVER. FINAL REHABILITATION IS TO BE PROVIDED WITHIN A FURTHER 60 DAYS WITH A MINIMUM 70% COVER.
- 7 THE CONTRACTOR SHALL PROVIDE WATERING OF THE VEGETATED BATTERS FOR MAINTENANCE PERIOD. PLANT, MACHINERY AND VEHICLES SHALL NOT BE DRIVEN OVER GRASSED AREAS UNLESS ON AN APPROVED HAULAGE ROUTE.
- 8. ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILISED AS QUICKLY AS POSSIBLE TO MINIMISE RISK OF EROSION.
- 9. SITE ACCESS SHALL BE RESTRICTED TO THE NOMINATED POINTS. THE CONTRACTOR SHALL PROVIDE STABILISED SITE ACCESS.
- 10. DUST AND SITE DISTURBANCE MUST BE KEPT TO A MINIMUM, DURING WINDY WEATHER DUST AND STE US TORGARCE MUST BE KEPT IN A "IMMINION. DURING WIND WEATHER, LARGE, UNPROTECTED AREAS MUST BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO REDUCE WIND EROSION. ERECT BARRIER FENCING TO MINIMISE LAND DISTURBANCE BY PREVENTING VEHICULAR AND PEDESTRIAN ACCESS TO AREAS BEING REHABILATATED AND LANDS THAT DO NOT NEED TO BE DISTURBED BY THIS PROJECT
- 11. STOCKPILE TOPSOILS SUBSOILS AND OTHER MATERIALS SEPARATELY.
- 12. TOPSOIL SHALL BE STORED IN LOW MOUNDS NO MORE THAN 2 METRES HIGH AND RE-USED WITHIN TWO MONTHS TO MAINTAIN ACTIVE POPULATIONS OF BENEFICIAL SOIL MICROBES AND SEED.
- 13. PLACE ALL STOCKPILES AT LEAST FIVE METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS, ESPECIALLY EARTH BANKS AND ROADS. IF NECESSARY, EARTH BANKS OR DRAINS WILL BE CONSTRUCTED TO DIVERT LOCALISED
- 14. TURN TOPSOIL STOCKPILES OVER TO AERATE THEM AT MONTHLY INTERVALS. ENSURE



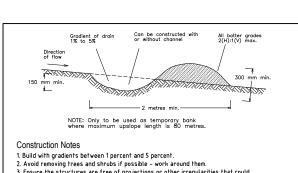
- water flow, roads and hazard areas.
- 2. Construct on the control as low, item, econogea mounts.

 3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres 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

SD 4-1



- 4. Build the drains with circular, parabolic or trapezoidal cross sections, not V
- 5. Ensure the banks are properly compacted to prevent failure

EARTH BANK (HIGH FLOWS) SD 5-6 EARTH BANK (LOW FLOW)

13/12/2013 ISSUED FOR DEVELOPMENT APPLICATION JM TW CB SG 18/12/2013 ISSUED FOR DEVELOPMENT APPLICATION JM TB GM SG 26/02/2014 ISSUED FOR DEVELOPMENT APPLICATION JM DD GM SG 26/05/2014 ROADS 6, 7, 8, 9 & ROUNDABOUT LAYOUT UPDATED MG DD GM SG 26/08/2014 ISSUED FOR DEVELOPMENT APPLICATION Revision Details

which the water originated. Approval might be required to discharge into other subcatchments

Level Spreader (or Sill)

Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent

2. Avoid removing trees and shrubs if possible – work around them.

2. Avoid removing frees and similor in possible – work around mean.

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, at the dimensions shown on the SWMP.

V-shaped, at the dimensions shown on the SWMP.

5. Ensure the banks are properly compacted to prevent failure.

6. Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).

7. Where disknarging to erodible lands, ensure they outlet through a properly constructed level spreader.

8. Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.

9. Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subsatchment area from

Construction Notes

- 15. AVOID REVERSING THE SOIL PROFILE MATERIALS DURING FILL OPERATIONS REPLACE DISTURBED SOILS IN THEIR ORIGINAL ORDER.
- ON COMPLETION OF MAJOR EARTHWORKS AND BEFORE ADDING TOPSOIL, LEAVE DISTURBED LANDS WITH A LOOSE SURFACE. ALTERNATELY, DISTURBED AREAS PREVIOUSLY COMPACTED BY CONSTRUCTION WORKS WILL BE RIPPED TO MORE THAN 200-MM ALONG THE CONTOUR BEFORE APPLYING TOPSOIL
- 17. PROVIDING MATERIALS ARE AVAILABLE, SPREAD TOPSOIL TO A MINIMUM DEPTH OF 75mm IN REVEGETATION AREAS ON SLOPES OF 4(H):1(V) OR LESS AND TO A DEPTH OF 40 TO 60mm IN REVEGETATION AREAS STEEPER THAN 4:1.
- 18. LEAVE TOPSOIL IN A SCARIFIED OR ROUGH CONDITION ONCE REPLACED TO HELP IOISTURE INFILTRATION AND REDUCE SOIL EROSION.
- ENSURE SOIL IS THOROUGHLY SOAKED TO A DEPTH OF 75mm (RAIN OR IRRIGATION) IMMEDIATELY BEFORE PLANTING.
- 20. HANDLE TOPSOIL ONLY WHEN IT IS MOIST (NOT WET OR DRY) TO AVOID DECLINE OF
- 21. THE CONTRACTOR SHALL MAINTAIN A LOG BOOK DETAILING:
- HE CONTRACTOR SHALL MAINTAIN A LOG BOOK DETAILING:

 RECORDS OF ALL RAINFALL

 CONDITION OF SOIL AND WATER MANAGEMENT STRUCTURES

 ANY APPLICATION OF FLUCCULATING AGENTS TO SEDIMENT BASIN

 VOLUMES OF ALL WATER DISCHARGED FROM SEDIMENT BASINS

 ANY ADDITIONAL REMEDIAL WORKS REQUIRED.
- 22. THE LOG BOOK SHALL BE MAINTAINED ON A WEEKLY BASIS AND BE MADE. AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. THE ORIGINAL LOG BOOK SHALL BE ISSUED TO THE PROJECT MANAGER AT THE COMPLETION OF WORKS
- 23. ALL ROAD EMBANKMENTS TO BE STABILISED AS PER LANDSCAPE ARCHITECTS DETAILS.
- 24. A SELF AUDITING PROGRAM SHOULD BE ESTABLISHED BASED ON A CHECK SHEET DEVELOPED FOR THE SITE. A SITE INSPECTION USING THE CHECK SHEET SHOULD BE MADE BY THE SITE MANAGER AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE AND IMMEDIATELY FOLLOWING RAINFALL EVENTS THAT CAUSE RUNOFF.
- 25. UNDERTAKE THE SELF AUDIT BY:
 - NUERT ARE THE SELF AUDIT BT:

 WALKING AROUND THE SITE SYSTEMATICALLY (E.G. CLOCKWISE)

 RECORDING THE CONDITION OF EVERY BMP EMPLOYED

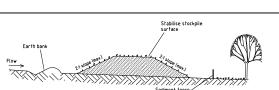
 RECORDING MAINTENANCE REQUIREMENTS (IF ANY) FOR EACH BMP

 - RECORDING THE SITE WHERE SEDIMENT IS DISPOSED
 - RECORDING THE SITE WHERE SEDIMENT IS DISPOSED
 FORWARDING A SIGNED DUPLICATE OF THE COMPLETED CHECK SHEET TO THE
- PROJECT MANAGER/DEVELOPER/SITE OPERATOR FOR THEIR INFORMATION
- 26. IN PARTICULAR, INSPECT:

 LOCATIONS WHERE VEHICLES ENTER AND LEAVE THE SITE

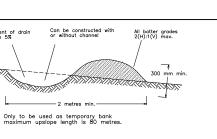
 ALL INSTALLED EROSION AND SEDIMENT CONTROL MEASURES, ENSURING THEY ARE
 - OPERATING CORRECTLY

 AREAS THAT MIGHT SHOW WHETHER SEDIMENT OR OTHER POLLUTANTS ARE
- LEAVING THE SITE OR HAVE POTENTIAL TO DO SO
 ALL DISCHARGE POINTS, TO ASSESS WHETHER THE EROSION AND SEDIMENT
- CONTROL MEASURES ARE EFFECTIVE IN PREVENTING IMPACTS TO THE RECEIVING
- 27. A SITE INSPECTION USING THE CHECK SHEET WILL BE MADE BY THE SITE MANAGER AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE, AND IMMEDIATELY FOLLOWING RAINFALL EVENTS GREATER THAN 5mm in 24 HOURS.



- 1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated
- . Construct on the contour as low, flat, elongated mounds

- stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.



- 3. Ensure the structures are free of projections or other irregularities that could
- 6. Complete permanent or temporary stabilisation within 10 days of construction

SD 5-5 isclaimer and Copyright

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SEDIMENT FENCE

Construction Notes

Construction Notes

KERBSIDE TURF STRIP

South

ş 📗

GEOTEXTILE INLET FILTER

Construction Notes

1. Install a 400 mm minimum wide roll of turf on the footpath next to the kerb and at the same level as the top of the kerb.

2. Lay 1.4 metre long turf strips normal to the kerb every 10 metres.

3. Rehabilitate disturbed soil behind the turf strip following the ESCP/SWMP.

. Fabricate a sediment barrier made from geotextile or straw bales. ?. Follow Standard Drawing 6-8 for installation procedures for geofabric. Reduce the picket

I. In waterways, artificial sag points can be created with sandbags or earth banks as shown

in the drawing.

6. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

SD 6-13

™2000

SD 6-12



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 storn event, usually the 10-year event.

(. Cut a 150-mm deep trench along the upstope line of the fence for the bottom of the fabric to be enterched.

prive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope

because it is merre unity star pickets are ground at 25 merre intervals maked at the downstupe edge of the trench. Ensure any star pickets are fitted with safety caps.

5 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 150-mm overlap.

5 Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

CATHERINE PARK - STAGE 1.2 & 3

HIXSON PTY. LTD.

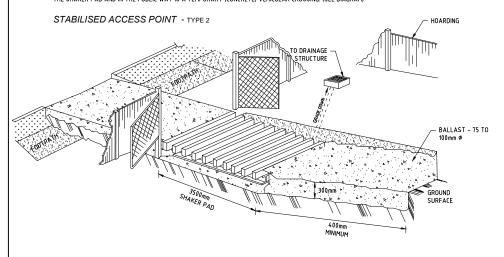
ROAD & DRAINAGE DESIGN

SD 6-8

STABILISED ACCESS POINT

TYPE II SAP

THE TYPE II SAP DESIGN IS MORE DEFINED IN THAT IT REQUIRES AN AREA OF BALLAST WITHIN THE SITE COMBINED WITH A SHAKER PAD; ADJACENT THE SHAKER PAD AND IN THE PUBLIC WAY IS A TEMPORARY (CONCRETE) VEHICULAR CROSSING. (SEE DIAGRAM)



IN BOTH TYPE I AND TYPE II SAP'S, THE TEMPORARY VEHICULAR CROSSING MUST:

- CONNECT TO AN EXISTING GUTTER LAYBACK (WHERE THE KERB AND GUTTER EXIST) . IF A GUTTER LAYBACK DOES NOT EXIST THEN THE CONNECTION MUST BE MADE TO THE GUTTER BY REMOVING THE ADJCENT KERB SECTION ONLY.
- CONNECT TO A DISH CROSSING (WHERE KERB AND GUTTER DOES NOT EXIST). IF A DISH CROSSING DOES NOT EXIST, THEN IT MUST BE CONSTRUCTED IN ACCORDANCE WITH DETAILS CONTAINED IN COUNCIL'S ISSUED FOOTPATH CROSSING LEVELS

IT SHOULD BE NOTED THAT THESE TYPES OF SAPS ARE CONSIDERED TO BE APPLICABLE FOR THE MAJORITY OF ACTIVITIES HOWEVER SOME SITES

SHAKER PAD (CATTLE GRID)

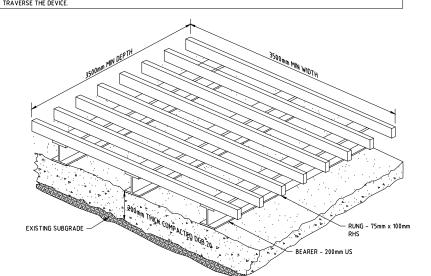
A CORRECTLY DESIGNED AND INSTALLED SHAKER PAD WILL ASSIST IN PREVENTING SEDIMENT TRANSFERE FROM A SITE. ANY STABILISED ACCESS POINT (SAP) CAN BE DESIGNED WITH A SHAKER PAD (COMPULSOPRY IN TYPE II SAP'S)

SHAKER PADS CAN BE DESIGNED AND CONSTRUCTED TO ENABLE RE-USE ON FUTURE PROJECTS

THE SHAKER PAD

- MUST BE DESIGNED AND CERTIFIED BY A PRACTICING STRUCTURAL ENGINEER. THE CERTIFIED DESIGN SHOULD BE SUBMITTED WITH THE RELEVENT. APPLICATION
- CAN BE CONSTRUCTED FROM ANY SUITABLE MATERIAL.
- MUST BE LOCATED ON A SUITABLY PREPARED AND COMPACTED SUB-GRADE/BASE MATERIAL.
 MUST BE SITUATED SUCH THAT THE RUNGS OF THE SHAKER PAD ARE LEVEL WITH THE ADJOINING NATURAL SURFACE.
- MUST BE A MINIMUM OF 3.5m IN LENGTH.
- MUST BE A MINIMUN OF 3.5m IN WIDTH.
- MUST HAVE CLEAR SPACING BETWEEN RUNGS OF 200 250mm. RUNGS MUST HAVE A MAXIMUM WIDTH (BEARING AREA) OF 75mm.
- MUST HAVE A MINIMUM CLEAR DEPTH OF 300mm IE FORM THE ROP OF THE RUNG TO THE FINISHED SUB-GRADE/BASE LEVEL

THE SHAKER PAD MUST BE PROVIDED WITH SUITABLE BARRIERS AT THE SIDES TO ENSURE THAT ALL TYRES OF VEHICLES LEAVING THE SITE TRAVERSE THE DEVICE.



FOR DEVELOPMENT APPLICATION



SEDIMENT & EROSION CONTROL **NOTES & DETAILS**

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