



THOROUGHLY ----SCABBLE SURFACE ── MESH 'C' └─ BARS 'B' - DRAIN DEPTH VARIES MASS FILL TO — LEVEL BELOW ADJACENT DRAIN

Ø50 GROUT TUBE. FILL WITH 40MPa NON-SHRINK GROUT — BARS 'A' 1.N12 — \_\_\_\_ 1.N12 ├─ MESH 'C' - 10 THK CEMENT └─ BARS 'A' └─ BARS 'B' MORTAR BED - N20 DOWEL. REFER PLAN FOR LOCATION L-BAR TO STOP 40 SHORT OF TOP OF SLAB. - DRAIN DEPTH VARIES MASS FILL TO -LEVEL BELOW ADJACENT DRAIN

### <u>SECTION</u>

# IN SITU OPTION

# PRECAST OPTION

SECTION

RESIDENTIAL DRIVEWAY SLABS									
DIM. 'L' (mm)	DIM. 'W' (mm)	DIM. 'T' (mm)	DIM. 'a' (mm)	DIM. 'b' (mm)	'A'	'B'	'C'	'D'	'E'
≤ 4000	3000	200	450	300	N16.150	N12.150	SL92	N12.300 CLOSED LIGS	3.N12 TOP & BOT.
≤ 3000	3000	175	450	300	N16.200	N12.200	SL82	N12.300 CLOSED LIGS	3.N12 TOP & BOT.
≤ 2000	3000	150	450	300	N16.250	N12.250	-	N12.300 CLOSED LIGS	3.N12 TOP & BOT.
≤ 1000	3000	125	450	300	N12.200	N12.250	-	N12.300 CLOSED LIGS	3.N12 TOP & BOT.

INDUSTRIAL DRIVEWAY SLABS									
DIM. 'L' (mm)	DIM. 'W' (mm)	DIM. 'T' (mm)	DIM 'a' (mm)	DIM 'b' (mm)	'A'	'B'	'C'	'D'	'E'
≤ 4000	4500-5000	300	750	400	N20.150	N16.200	SL92	N12.300 CLOSED LIGS	4.N12 TOP & BOT.
≤ 3000	4500-5000	250	750	400	N20.150	N16.200	SL92	N12.300 CLOSED LIGS	4.N12 TOP & BOT.
≤ 2000	4500-5000	200	750	400	N16.150	N16.300	SL92	N12.300 CLOSED LIGS	4.N12 TOP & BOT.
≤ 1000	4500-5000	150	750	400	N16.150	N16.300	SL82	N12.300 CLOSED LIGS	4.N12 TOP & BOT.

#### A SITE SPECIFIC ASSESSMENT SHOULD BE MADE AS TO WHETHER THE DRIVEWAY WIDTHS DENOTED IN THIS TABLE ARE SUFFICIENT FOR CONDITIONS OF THE SITE. IF DRIVEWAY WIDTHS NEED TO BE VARIED FROM THOSE SHOWN IN THESE TABLES ADG/LANGTREE CONSULTING ARE TO BE CONTACTED.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ADG STRUCTURAL LETTER 19236 S L001 - "CHARTERS TOWERS DRIVEWAY CROSSOVERS" DATED 30/6/2016 AND ADG RISK ASSESSMENT DATED 29/7/2016

#### **GENERAL**

- G1. SETTING-OUT DIMENSIONS AND SIZES OF STRUCTURAL MEMBERS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS. ANY SETTING-OUT DIMENSIONS SHOWN IN THE STRUCTURAL DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR BEFORE CONSTRUCTION COMMENCES.
- G2. UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- G3. CONTRACTOR TO COORDINATE ALL SERVICES TO AVOID CLASHES WITH STRUCTURAL ELEMENTS. ALL EXISTING SERVICES SHALL BE LOCATED PRIOR TO THE COMMENCEMENT OF WORKS.
- G4. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT AUSTRALIAN STANDARDS AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION OR WRITTEN INSTRUCTION.
- G5. CONTRACTOR TO PROVIDE MINIMUM 24 HOURS NOTICE FOR ALL ENGINEERS
- G6. DURING CONSTRUCTION, THE STRUCTURE, NEIGHBOURING STRUCTURES AND ADJACENT SERVICES SHALL BE MAINTAINED IN A SAFE AND STABLE CONDITION. NO PART SHALL BE OVERSTRESSED. TEMPORARY SUPPORT AND BRACING SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- G7. CONTRACTOR TO OBTAIN WRITTEN INSTRUCTION FOR VARIATIONS, ALTERNATIVE DETAILS OR WHERE DETAILS HAVE NOT BEEN INCLUDED WITHIN THE CURRENT DOCUMENTATION PRIOR TO PROCEEDING WITH WORKS.
- G8. NO PENETRATIONS, CORING OR CHASING OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE PERMITTED WITHIN STRUCTURAL ELEMENTS WITHOUT WRITTEN APPROVAL.
- G9. PROPRIETRY ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. ELEMENTS DESIGNED BY OTHERS SHALL BE INSPECTED AND CERTIFIED BY THE SAME AND SHALL NOT BE INCLUDED WITHIN THE STRUCTURAL CERTIFICATION PROVIDED BY ADG ENGINEERS.

### <u>DESIGN</u>

- D1. DESIGN LOADS: RESIDENTIAL DRIVEWAY SLABS - Q = 5.0 kPa, 31 kN
- (AS PER AS1170.1-2002) INDUSTRIAL DRIVEWAY SLABS - LIVE LOAD = STANDARD T44 VEHICLE 19.6† TANDEM AXLE LOAD AXLE SPACING = 1200
- D2. LOADING TO BE CONFIRMED FOR SITE SPECIFIC LOCATIONS. LOAD CAPACITY INDICATOR TO BE CAST INTO SLAB.
- D3. STRIP FOOTINGS TO BE FOUNDED ON NATURAL GROUND WITH ALLOWABLE BEARING CAPACITY ≥ 100 kPa (TO BE CONFIRMEND ON SITE)

#### **CONCRETE**

- C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH
- AS 3600 AND THE CONCRETE SPECIFICATION. C2. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.
- C3. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON REINFORCEMENT CHAIRS AT NOT GREATER THAN 1000mm CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS. IN EXPOSURE CONDITIONS GREATER THAN B1 USE ONLY PLASTIC CHAIRS.
- C4. CONCRETE DIMENSIONS SHOWN DO NOT INCLUDE THICKNESSES OF APPLIED
- C5. NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- C6. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.
- C7. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED THOROUGHLY.
- C8. CURING OF ALL CONCRETE SHALL BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF 3 DAYS, AND PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT. APPROVED SPRAYED ON CURING COMPOUNDS MAY BE USED WHERE NO FLOOR FINISHES ARE PROPOSED. ONLY WAX BASED AND CHLORINATED RUBBER CURING COMPOUNDS WILL BE ACCEPTED. SHEETING OR WET HESSIAN MAY BE USED IF PROTECTED FROM WIND AND
- CONSTRUCTION SUPPORT PROPPING SHALL BE LEFT IN PLACE WHERE REQUIRED TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING.
- C10. THE ENGINEER SHALL BE GIVEN A MINIMUM OF 24 HOURS NOTICE FOR REINFORCEMENT INSPECTION AND CONCRETE SHALL NOT BE ORDERED UNTIL FINAL APPROVAL IS OBTAINED.
- C11. REINFORCEMENT SYMBOLS 17.N20.250.1 (NUMBER OF BARS IN GROUP)
- (BAR GRADE/TYPE AND DIAMETER) (SPACING IN mm)
  - DENOTES LAYER BAR PLACED IN 1 DENOTES BARS LAID FIRST - 2 DENOTES BARS LAID SECOND - 3 DENOTES BARS LAID THIRD 4 DENOTES BARS LAID LAST
- C12. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
- C13. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITION SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE AS SHOWN ON THE DRAWING.
- C14. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER. (AFTER WRITTEN REQUEST).
- C15. JOGGLES TO BARS SHALL BE 1 BAR DIAMETER OVER A LENGTH OF 12 BAR DIAMETERS U.N.O.
- C16. FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 50mm OR 250mm WHICHEVER IS THE GREATER. BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 3 WRAPS OF TIE WIRE.
- C17. CONCRETE GRADE 32 MPa CLEAR COVER TO REINFORCEMENT - 40mm IN SLABS
- **60mm** IN FOOTINGS
- **C18.** ALL REINFORCEMENT TO BE COGGED. C19. LIFTING AND TRANSPORTATION PROCEDURE FOR PRECAST UNITS TO BE
- SPECIFIED BY MANUFACTURER.
- C20. CONCRETE SURFACE TO BE BROOM FINISHED TO ACHIEVE MINIMUM BCA REQUIREMENTS FOR SLIP RATING.
- C21. PROVIDE MINIMUM CROSS FALL TO SURFACE (1:100)

## **ISSUED FOR**

# CONSTRUCTION

1	29.07.16	ISSUED FOR CONSTRUCTION	MJB	PQ
В	30.06.16	APPROVAL ISSUE	SL	PQ
Α	27.06.16	PRELIMINARY ISSUE	MJB	PQ
Rev	Date	Description	Ву	Chk





AUSTRALASIA / ASIA / EUROPE / MIDDLE EAST

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	DRIVEWAY CROSSOVERS	Project No. 19236	Drawn By MJB	Scale 1:20 (at A1)		
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