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GENERAL NOTES

1. Contractor must verify all dimensions and existing levels on site prior to commencement of works. Any discrepancies to be reported to the Engineer .
2. Strip all topsoil from the construction area. All stripped topsoil shall be disposed of off-site unless directed otherwise.
3. Make smooth connection with all existing works.
4. Compact subgrade under buildings and pavements to minimum 98% standard maximum dry density in accordance with AS 1289 5.1.1. Compaction under buildings to extend 2m minimum beyond building footprint.
5. All work on public property, property which is to become public property, or any work which is to come under the control of the Statutory Authority is to be carried out in accordance with the requirements of the relevant Authority. The Contractor shall obtain these requirements from the Authority. Where the requirements of the Authority are different to the drawings and specifications, the requirements of the Authority shall be applicable.
6. For all temporary batters refer to geotechnical recommendations.

REFERENCE DRAWINGS

1. These drawings have been based from, and to be read in conjunction with the following Consultants drawings. Any conflict to the drawings must be notified immediately to the Engineer.

Consultant	Dwg Title	Dwg No	Rev	Date
CARDNO	TRAFFIC PLAN	CE001088-01	B	20.11.08
	TRAFFIC PLAN	CE001088-02	B	20.11.08
	TRAFFIC PLAN	CE001088-03	B	20.11.08
LOCKLEY LAND				
TITLE SOLUTIONS	SURVEY	31393DJ		05.09.08
	HV SURVEY	31400DJ		21.08.08

SITEWORKS NOTES

1. All basecourse material to comply with RTA specification No 3051 and compacted to minimum 98% modified standard dry density in accordance with AS 1289 5.2.1.
2. All trench backfill material shall be compacted to the same density as the adjacent material.
3. All service trenches under vehicular pavements shall be backfilled with an approved select material and compacted to a minimum 98% standard maximum dry density in accordance with AS 1289 5.1.1

KERBING NOTES

Includes all kerbs, gutters, dish drains, crossings and edges.

1. All kerbs, gutters, dish drains and crossings to be constructed on minimum 75mm granular basecourse compacted to minimum 98% modified maximum dry density in accordance with AS 1289 5.2.1.
2. Expansion joints (EJ) to be formed from 10mm compressible cork filler board for the full depth of the section and cut to profile. Expansion joints to be located at drainage pits, on tangent points of curves and elsewhere at 12m centres except for integral kerbs where the expansion joints are to match the joint locations in slabs.
3. Weakened plane joints to be min 3mm wide and located at 3m centres except for integral kerbs where weakened plane joints are to match the joint locations in slabs.
4. Broomed finished to all ramped and vehicular crossings, all other kerbing or dish drains to be steel float finished.
5. In the replacement of kerbs –
   Existing road pavement is to be sawcut 900mm from lip of gutter. Upon completion of new kerbs, new basecourse and surface is to be laid 900mm wide to match existing materials and thicknesses.
   Existing allotment drainage pipes are to be built into the new kerb with a 100mm dia hole.
   Existing kerbs are to be completely removed where new kerbs are shown.

PIT SCHEDULE

Note: Grate size does not necessarily reflect pit size, refer pit type details, shown on detail sheets – **SKC305**

Type	Description	Cover (Clear Opening)	Number
A	Kerb inlet pit 1200 lintel	450 x 900 Class D galvanised mild steel grate hinged to frame	2,4,6,7
B	Surface inlet pit	600 x 600 Class C galvanised mild steel grate hinged to frame	9
C		Existing pit to remain & reconstruct to suit proposed works	1,3,5,8,10 11

SURVEY AND SERVICES INFORMATION

SURVEY

Origin of levels :
Datum of levels : A.H.D. AUSTRALIAN HEIGHT DATUM
Coordinate system : ISG OR MGA OR LOCAL
Survey prepared by :
Setout Points : CONTACT THE SURVEYOR
CONTACT THE SURVEYOR

Taylor Thomson Whitting does not guarantee that the survey information shown on these drawings is accurate and will accept no liability for any inaccuracies in the survey information provided to us from any cause whatsoever.

UNDERGROUND SERVICES – WARNING

The locations of underground services shown on Taylor Thomson Whittings drawings have been plotted from diagrams provided by service authorities. This information has been prepared solely for the authorities own use and may not necessarily be updated or accurate.

The position of services as recorded by the authority at the time of installation may not reflect changes in the physical environment subsequent to installation.

Taylor Thomson Whitting does not guarantee that the services information shown on these drawings shows more than the presence or absence of services, and will accept no liability for inaccuracies in the services information shown from any cause whatsoever.

The Contractor must confirm the exact location and extent of services prior to construction and notify any conflict with the drawings immediately to the Engineer/Superintendent.

The contractor is to get approval from the relevant state survey department, to remove any survey mark. This includes but is not limited to; State Survey Marks (SSM), Permanent Marks (PM), cadastral reference marks or any other survey mark which is to be removed or adjusted in any way.
Taylor Thomson Whitting plans do not indicate the presence of any survey mark. The contractor is to undertake their own search.

SIGNS AND LINE MARKING NOTES

1. Pavement marking and sign posting on public roads shall be in accordance with the requirements of the relevant Road Authority. The contractor shall obtain these requirements from the Road Authority.
2. Pavement marking and sign posting to be in accordance with R.T.A. 'Interim Guide to Signs and Markings'.
3. Contractor is to provide guide posts, spaced in accordance with AS1742.2. They are to be located near all head walls and pipe outlets.
4. Raised pavement markers to be in accordance with AS1742.2
5. Where existing pavement marking conflicts with proposed, it is to be removed.
6. Lane widths do not include width of gutter.
7. Line marking plan does not define boundaries.
8. Erect temporary sign 'changed traffic conditions ahead' 120m ahead of new work in both directions.
9. Establish the location of existing utility services and locate new signs clear of these installations.
10. The sloped face of the SF median kerbs which adjoin through lanes, are to be painted white in lieu of an E3 edge line. The reflective pavement markers normally associated with an E3 edge line are to be located on the pavement adjacent to the SF kerb.
11. Bicycle pavement markings and sign posting to be in accordance with Austroads Standards.
12. The design of major directional sign posting to be prepared and assessed by the R.T.A.

LINEMARKING LEGEND

E1 – Edge line type E1
E5 – Edge line type E5
BB – Barrier line
TB – Holding line
TF – Stop line
C1 – Continuity line
T1 – Turn line
S1 – Separation line type S1
S2 – Separation line type S2
L1 – Lane line type L1
B1 – Bike lane line

NOTE
Line marking to be in accordance with AS1742.2 and RTA drawing MD.R60.A01.A.1 & MD.R60.A02.A

CONCRETE FINISHING NOTES

1. All exposed concrete pavements are to be broomed finished.
2. All edges of the concrete pavement including keyed and dowelled joints are to be finished with an edging tool.
3. Concrete pavements with grades greater than 10 % shall be heavily broomed finished.
4. Carborundum to be added to all stair treads and ramped crossings U.N.O.

SITEWORKS LEGEND

- F22.20 – Finished surface level
- F22.00 – Finished contour
- K&G – Kerb and gutter
- KO – Kerb only
- FK – Flush kerb
- DD – Dish drain
- MK – Mountable kerb
- MIK – Mountable integral kerb
- MIK+TE – Mountable integral kerb with thickened edge
- IK+TE – Integral kerb with thickened edge
- TE – Thickened edge
- IK – Integral kerb
- IK+ED – Integral kerb with edge downturn
- K&T – Kerb and toe
- IL10.00 / 600 ø 'Z' / 1.25% / Q=345 L/s / IL9.65 – Stormwater pit, flow direction and line with; Invert level upstream; Pipe size and class; Pipe grade; Flow (Litres per second); Invert level downstream
- Subsoil drainage line (100 dia)
- FP – Flushing point
- DP – Down pipe
- RW – Blockwork retaining wall
- DEJ – Dowelled expansion joint
- SJ – Sawn joint
- KJ – Keyed construction joint
- WPJ – Weakened plane joint
- EJ – Expansion joint
- TKJ – Tied keyed joint
- Grass catch drain
- Overland flow path
- Guard Rail
- Tree to be removed/be retained
- Existing structures to be removed & surface reinstated to match surrounding pavement

STORMWATER DRAINAGE NOTES

1 Stormwater Design Criteria :
(A) Average recurrence interval –
1:100 years for roof drainage to first external pit
1:20 years for paved and landscaped areas
(B) Rainfall intensities –
Time of concentration: 5 minutes
1:100 years = 223.18 mm/hr
1:20 years = 174.5 mm/hr
(C) Runoff coefficients –
Roof areas: C∞ = 1.00
Roads and paved areas: C∞ = 0.95
Landscaped areas: C∞ = 0.48

2. Pipes 300 dia and larger to be reinforced concrete Class " 2 " approved spigot and socket with rubber ring joints U.N.O.
3. Pipes up to 300 dia shall be sewer grade uPVC with solvent welded joints.
4. Equivalent strength VCP or FCP pipes may be used subject to approval.
5. Precast pits may be used external to the building subject to approval by Superintendent
6. Enlargers, connections and junctions to be manufactured fittings where pipes are less than 300 dia.
7. Where subsoil drains pass under floor slabs and vehicular pavements, unslotted uPVC sewer grade pipe is to be used.
8. Grates and covers shall conform with AS 3996–2006, and AS 1428.1 for access requirements.
9. Pipes are to be installed in accordance with AS 3725. All bedding to be type H2 U.N.O.
10. Care is to be taken with levels of stormwater lines. Grades shown are not to be reduced without approval.
11. All stormwater pipes to be 150 dia at 1.0% min fall U.N.O.
12. Subsoil drains to be slotted flexible uPVC U.N.O.
13. Adopt invert levels for pipe installation (grades shown are only nominal).

SURVEY LEGEND

- +18.48 – Surface level
- 19 – Contour
- Kerb line
- Batter
- Retaining wall
- SW – Stormwater drainage line
- T – Telecommunications line
- G – Gas line
- W – Water main
- S – Sewer line
- EASEMENT FOR ____(__m WIDE) – Easement
- Fence
- Existing tree
- Boundary
- SGN – Sign
- H – Hydrant
- MH – Manhole
- G – Gas
- SV – Stop Valve
- W – Water
- TEL – Telstra
- TRAP – Trap
- Gully
- Grate
- S – Sewer Manhole
- E – Energy Australia (Electricity)
- ELP – Electric Light Pole
- TL – Traffic Light
- TLL – Traffic Light Lid
- TLB – Traffic Light Box
- TB – Telephone Box
- PKM – Parking Meter
- PM 1234 – Permanent Mark
- BM 51.10 – Bench Mark
- BH 0 – Borehole
- TP No – Test Pit
- FC – Fuel Cock
- FL – Flood Light
- LH – Lamp Hole
- BUB – Bubbler
- LB – Letter Box
- FP – Flag Pole
- FP BOX – Flag Pole Box
- BOL – Bollard
- SEAT – Seat
- BIN – Bin
- KO – Kerb Outlet
- Monorail Pylon

BULK EARTHWORKS NOTES

1. All bulk earthworks setout from grid lines U.N.O.
2. All batters at a slope of **2** (H) : **1** (V) U.N.O.
3. Excavated material may be used as structural fill provided,
   (i) it complies with the specification requirements for fill material,
   (ii) the placement moisture content complies with the Geotechnical Consultants requirements, and allows filling to be placed and proofrolled in accordance with the specification. Where necessary the Contractor must moisture condition the excavated material to meet these requirements.
4. Compact fill areas and subgrade to not less than:

Location	Standard dry density (AS 1289 5.1.1.)	Moisture (OMC)
Under building slabs on ground:	98%	±2%
Under roads and carparks:	98%	±2%
Landscaped areas:	95%	±2%

5. Before placing fill, proof roll exposed subgrade with a 10 tonne minimum roller to test subgrade and then remove soft spots (areas with more than 3mm movement under roller).
   Soft spots to be replaced with **select** fill U.N.O.
6. Contractor shall place safety barriers around excavations in accordance with relevant safety regulations.
7. For interpretation of bulk earthworks foot print line shown on the bulk earthworks drawings refer to the bulk earthworks construction legend.
8. Bulk earthwork drawings are not to be used for detailed excavation.
9. Refer to Geotechnical Report prepared by –
   X
   X

PAVEMENT LEGEND

#1
50mm Thickness asphaltic concrete (AC10) on
100mm Compacted thickness fine crushed rock (DGB20) on
200mm Compacted thickness fine crushed rock (DGS40) on
4.0% CBR (confirm on site)

#2
50mm Thickness asphaltic concrete (AC14) on
100mm Thickness asphaltic concrete (AC20) on
200mm Compacted thickness fine crushed rock (DGB20) on
4.0% CBR (confirm on site)

#3
160mm Thickness concrete (f'c=32MPa) with SL82 fabric (40 top cover) on
100mm Compacted thickness fine crushed rock (DGB 20)

#4
100mm Thickness concrete (f'c=25MPa) with SL72 with expansion joints at max 6.0m centres and weakened plane joints at max 1.5m centres on
50mm Sand bedding

#5
100mm Thickness concrete (f'c=25MPa) with SL72 mesh dowled to existing pavement refer detail (KI) on drawing SKC304

#6
40mm Thickness asphaltic concrete (AC7) on
100mm Compacted thickness fine crushed rock (DGB20)

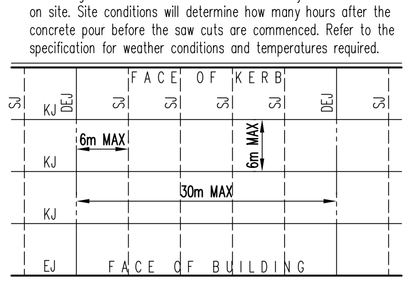
L1 – Turf to match existing lawn type

NOTE
Asphaltic concrete shall conform to AS2150 and the specification

JOINTING NOTES

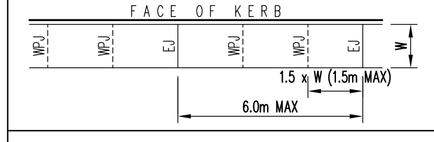
Vehicular Pavement Jointing

1. All vehicular pavements to be jointed as shown on drawings.
2. Keyed construction joints should generally be located at a maximum of 6m centres.
3. Sawn joints should generally be located at a maximum of 6m centres or 1.5 x the spacing of keyed joints, where key joint spacing is less than 4m, with dowelled expansion joints at maximum of 30m centres.
4. Provide 10mm wide full depth expansion joints between buildings and all concrete or unit pavers.
5. Vehicular pavement jointing as follows.
6. The timing of the saw cut is to be confirmed by the contractor on site. Site conditions will determine how many hours after the concrete pour before the saw cuts are commenced. Refer to the specification for weather conditions and temperatures required.



Pedestrian Footpath Jointing

1. Expansion joints are to be located where possible at tangent points of curves and elsewhere at max 6.0m centres.
2. Weakened plane joints are to be located at a max 1.5 x width of the pavement.
3. Where possible joints should be located to match kerbing and / or adjacent pavement joints.
4. All pedestrian footpath jointings as follows (uno).



TENDER NOTES

1. These drawings are preliminary drawings issued for tender as an indication of the extent of works only. They are not a complete construction set of drawings.
2. To determine the full extent of work, these drawings shall be read in conjunction with the architectural drawings and other contract documents.
   Allow for all items shown on architectural and other drawings as not all items are shown on the structural/civil works drawings.
3. Should any ambiguity, error, omissions, discrepancy, inconsistency or other fault exist or seem to exist in the documents, immediately notify in writing to the Superintendendent.
4. Rates shown on the drawings are for the final structure/civil works in place and do not allow for any wastage, rolling margins, over supply or fabrication requirements. etc.

CONCRETE NOTES

EXPOSURE CLASSIFICATION : External :
Internal :

CONCRETE

Place concrete of the following characteristic compressive strength f'c as defined in AS 1379.

Location	AS 1379 f'c MPa at 28 days	Specified Slump	Nominal Agg. Size
Pits, kerbs, footpaths	SF(25)	80	20
Footings	SF(32)	80	20
Vehicular pavements	SF(32)	80	20

1. Use Type 'GP' cement, unless otherwise specified.
2. All concrete shall be subject to project assessment and testing to AS 1379.
3. Consolidate by mechanical vibration. Cure all concrete surfaces as directed in the Specification.
4. For all falls in slab, drip grooves, reglets, chamfers etc. refer to Architects drawings and specifications.
5. Unless shown on the drawings, the location of all construction joints shall be submitted to Engineer for review.
6. No holes or chases shall be made in the slab without the approval of the Engineer.
7. Conduits and pipes are to be fixed to the underside of the top reinforcement layer.
8. Slurry used to lubricate concrete pump lines is not to be used in any structural members.
9. All slabs cast on ground require sand blinding with a Concrete Underlay

FORMWORK

1. The design, certification, construction and performance of the formwork, falsework and backpropping shall be the responsibility of the contractor. Proposed method of installation and removal of formwork is to be submitted to the superintendent for comment prior to work being carried out.

REINFORCEMENT NOTES

1. Fix reinforcement as shown on drawings. The type and grade is indicated by a symbol as shown below. On the drawings this is followed by a numeral which indicates the size in millimetres of the reinforcement.

   N. Hot rolled ribbed bar – grade D500N
   R. Plain round bar – grade R250N
   SL. Square mesh – grade 500L
   RL. Rectangular mesh – grade 500L

2. Provide bar supports or spacers to give the following concrete cover to all reinforcement unless otherwise noted on drawings.

   Footings – 40 top, 40 bottom, 40 sides.
   Slabs – 40 top, 40 bottom,
   – 40 when exposed to weather or ground.
   Walls – 40 generally.
   – 40 when cast in forms but later exposed to weather or ground.
   – 40 when cast directly in contact with ground.

3. Cover to reinforcement ends to be 50 mm u.n.o.
4. Provide N12–450 support bars to top reinforcement as required , Lap 450. U.N.O.
5. Maintain cover to all pipes, conduits, reglets, drip grooves etc
6. Laps in reinforcement shall be made only where shown on the drawings unless otherwise approved. Lap lengths shall be 40 bar dia. unless noted otherwise.
7. All cogs to be standard cogs unless noted otherwise.
8. Fabric end and side laps are to be placed strictly in accordance with the manufacturers requirements to achieve a full tensile lap. Fabric shall be laid so that there is a maximum of 3 layers at any location.

FABRIC LAPS

REINFORCEMENT LEGEND

1. Denotes the extent of area covered by bars.
2. Denotes a change in bar shape and/or length.
3. B3 – Indicates to repeat bars tagged thus (B3) etc. **LAY BARS IN DIRECTION INDICATED BY ARROW.**
4. Bars shown staggered on plan are to be placed alternately.
5. ALT. denotes bars of different length and/or shape to be laid alternately.
6. 13N16 / 10–250 / +3 – Indicates 10 bars at 250 centres plus 3 bars placed one per space centrally over column.

ABBREVIATIONS USED ON DRAWINGS :

U.N.O. – Unless Noted Otherwise
N.S.O.P. – Not Shown On Plan
N.S.O.E. – Not Shown On Elevation
L.V. – Bar Lengths Vary
N.T.S. – Not To Scale
E.W. – Each Way
E.F. – Each Face
N.F. – Near Face
F.F. – Far Face

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A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
D	ISSUE FOR APPROVAL	NB	EN	02.06.09
C	CHANGES TO PAVEMENT#2	NB	EN	11.05.09
B	CHANGES AS CLOUDED	NB	EN	01.05.09
A	ISSUE FOR TENDER	NB	EN	23.04.09

PRELIMINARY

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Project
TRAFFIC MANAGEMENT WORKS
BALACLAVA RD

Sheet Subject
NOTES AND LEGENDS SHEET

Scale : A1 – NO SCALE
Drawn – JW
Authorised
Job No – 071628
Drawing No – C300
Revision – D
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