BULK EARTHWORK AND SHORING PLAN

SCALE 1:200 0m 2m 4m 8m 12m

EXCAVATION NOTES

1. THE EXCAVATED MATERIAL IS TO BE REMOVED OFF-SITE
2. GEOTECHNICAL ENGINEER TO CONFIRM BATTER ACCEPTABILITY.
3. SEDIMENT & EROSION CONTROL MEASURES IN ACCORDANCE WITH LANDCOM "BLUE BOOK" MUST BE IMPLEMENTED DURING CONSTRUCTION TO PREVENT SEDIMENT LADEN WATER LEAVING THE SITE.
4. BEST OF SELECT SITE MATERIAL TO BE USED AS FILL IN LANDSCAPED AREAS TO WITHIN 1m OF DESIGN FINISHED SURFACE. FILL REQUIREMENTS FOR LANDSCAPE AREAS ARE TO COMPLY WITH LANDSCAPE ARCHITECTS SPECIFICATIONS.
5. FINAL BULK EXCAVATION LEVEL ASSUMES 300mm FOR DRAINAGE LAYER (180mm) AND STRUCTURAL SLAB (120mm). FURTHER LOCALISED EXCAVATION MAY BE REQUIRED WHERE STRUCTURE IS THICKER THAN THE NOMINAL 120mm DEPTH ALLOWED FOR (REFER TO STRUCTURAL DRAWINGS FOR DETAILS).

SITE SURVEY SUPPLIED BY 'LOCKLEY LAND TITLE SOLUTIONS' REFERENCE: 40733DT, AMENDMENT REF: 35707 DATED 30/04/14.

SHORING PILES TYPICALLY 600Ø. SHORING IS INDICATIVE ONLY. DESIGN AND CERTIFICATION OF SHORING PILES AND ANCHORS TO BE CARRIED OUT BY A GEOTECHNICAL ENGINEER.

DENOTES DOUGLAS PARTNERS BOREHOLE LOCATIONS FROM REPORT No 73942 DATED JUNE 2014

AUSTRALIA AVENUE

EXISTING RAILWAY LINE

STORMWATER DETENTION TANK DESIGNED AND DETAILED BY CADRNO

SLAB LEVEL SSL 5.00

EXCAVATED LEVEL BEL 4.70

1:5 BATTER TO U/S OF DETENTION TANK BULK EXCAVATION LEVEL

NEW ROAD DESIGNED AND DETAILED BY 'WOOLACOTTS' CONSULTING ENGINEERS.

BH5

2420

CONTIGUOUS PILE WALL

1:5 BATTER

2337

EXCAVATED LEVEL BEL T.B.C.

SLAB LEVEL SSL 0.50

EXCAVATED LEVEL BEL 0.20

EXCAVATED LEVEL BEL T.B.C.

2778

BH4 ROCK RL -9.15

BH1 ROCK RL - 9.48

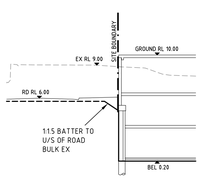
2000

BH3 ROCK RL -9.15

BH2 ROCK RL -8.66

BENNELONG PARKWAY

SECTION 1 - 1
SCALE 1:200



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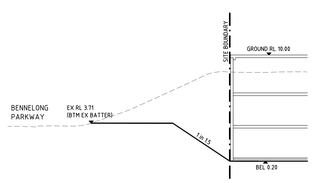

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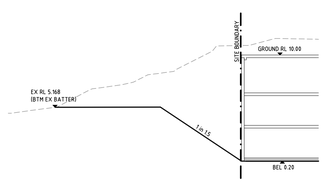
SCALE 1:200



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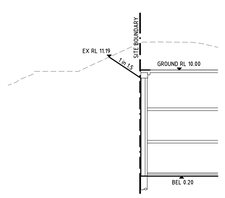

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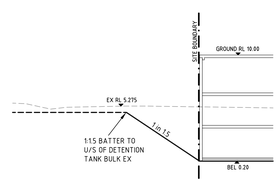

Rev	Description	Date	By	App
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SITE 68
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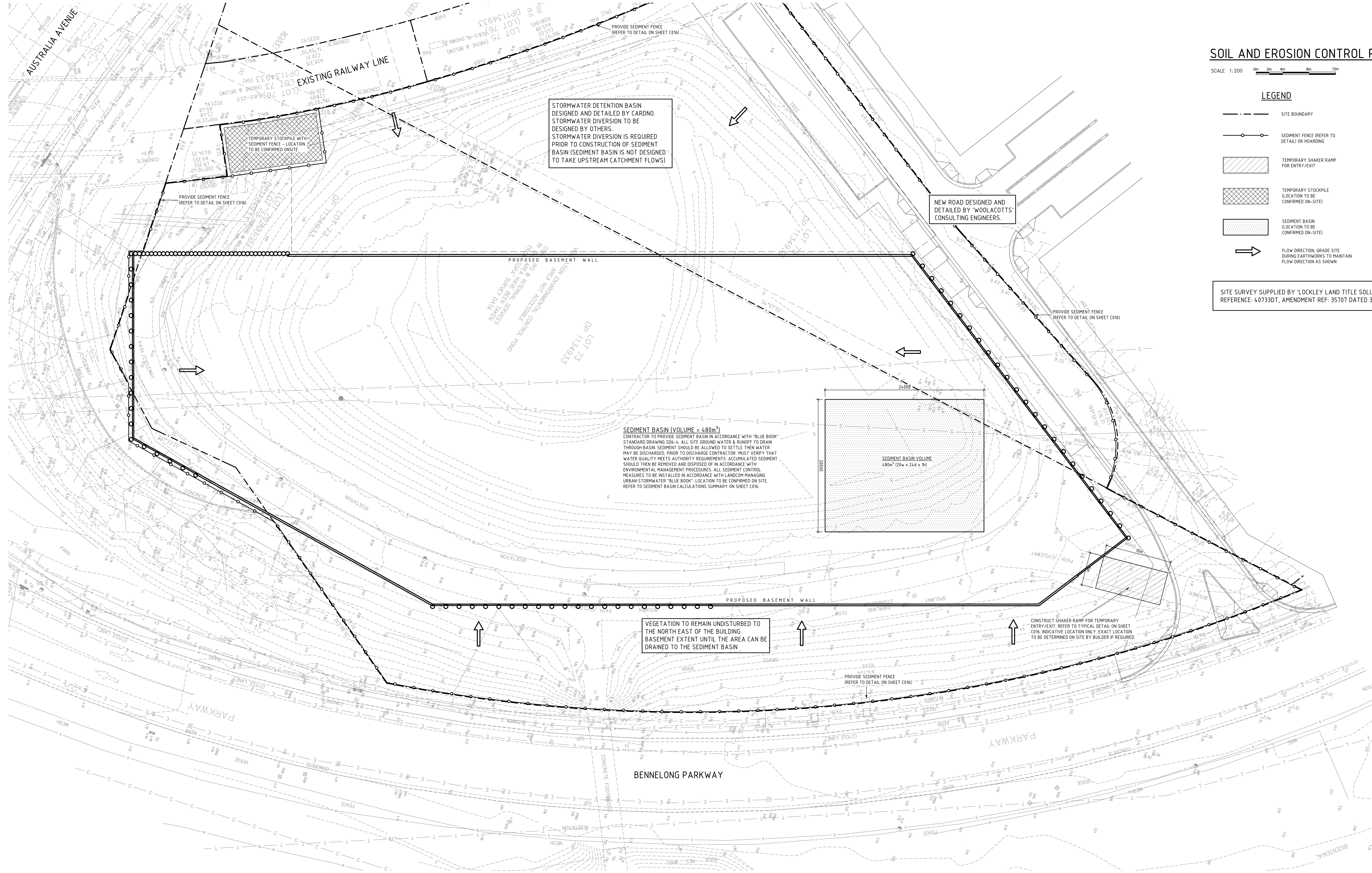
BULK EARTHWORKS ANS SHORING PLAN

PRELIMINARY

Designed	KH	Project Director Approved	Date
Drawn	JF		
Scale	1:200 @ A0	Project Ref	Drawing No / Rev
Date	JULY 2014	20 01479 01	C005 P1
Sheet	A0		


SOIL AND EROSION CONTROL PLAN
SCALE 1:200
0m 2m 4m 8m 12m
LEGEND
SITE BOUNDARY
SEDIMENT FENCE (REFER TO DETAIL) OR HOARDING
TEMPORARY SHAKER RAMP FOR ENTRY/EXIT
TEMPORARY STOCKPILE (LOCATION TO BE CONFIRMED ON-SITE)
SEDIMENT BASIN (LOCATION TO BE CONFIRMED ON-SITE)
FLOW DIRECTION, GRADE SITE DURING EARTHWORKS TO MAINTAIN FLOW DIRECTION AS SHOWN
SITE SURVEY SUPPLIED BY 'LOCKLEY LAND TITLE SOLUTIONS' REFERENCE: 40733DT, AMENDMENT REF: 35707 DATED 30/04/14.
AUSTRALIA AVENUE
EXISTING RAILWAY LINE
STORMWATER DETENTION BASIN DESIGNED AND DETAILED BY CARDNO. STORMWATER DIVERSION TO BE DESIGNED BY OTHERS. STORMWATER DIVERSION IS REQUIRED PRIOR TO CONSTRUCTION OF SEDIMENT BASIN (SEDIMENT BASIN IS NOT DESIGNED TO TAKE UPSTREAM CATCHMENT FLOWS)
TEMPORARY STOCKPILE WITH SEDIMENT FENCE - LOCATION TO BE CONFIRMED ONSITE
PROVIDE SEDIMENT FENCE (REFER TO DETAIL ON SHEET C016)
NEW ROAD DESIGNED AND DETAILED BY 'WOOLACOTTS' CONSULTING ENGINEERS.
PROPOSED BASEMENT WALL
SEDIMENT BASIN (VOLUME = 480m³)
CONTRACTOR TO PROVIDE SEDIMENT BASIN IN ACCORDANCE WITH "BLUE BOOK" STANDARD DRAWING SD6-4. ALL SITE GROUND WATER & RUNOFF TO DRAIN THROUGH BASIN. SEDIMENT SHOULD BE ALLOWED TO SETTLE THEN WATER MAY BE DISCHARGED, PRIOR TO DISCHARGE CONTRACTOR MUST VERIFY THAT WATER QUALITY MEETS AUTHORITY REQUIREMENTS. ACCUMULATED SEDIMENT SHOULD THEN BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ENVIRONMENTAL MANAGEMENT PROCEDURES. ALL SEDIMENT CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH LANDCOM MANAGING URBAN STORMWATER "BLUE BOOK". LOCATION TO BE CONFIRMED ON SITE. REFER TO SEDIMENT BASIN CALCULATIONS SUMMARY ON SHEET C016.
24000
20000
SEDIMENT BASIN VOLUME
480m³ (20w x 24d x 1h)
VEGETATION TO REMAIN UNDISTURBED TO THE NORTH EAST OF THE BUILDING BASEMENT EXTENT UNTIL THE AREA CAN BE DRAINED TO THE SEDIMENT BASIN
CONSTRUCT SHAKER RAMP FOR TEMPORARY ENTRY/EXIT. REFER TO TYPICAL DETAIL ON SHEET C016. INDICATIVE LOCATION ONLY. EXACT LOCATION TO BE DETERMINED ON SITE BY BUILDER IF REQUIRED.
PARKWAY
BENNELONG PARKWAY

NOTES

1. IT HAS BEEN ASSUMED THAT HOARDINGS/SILT FENCING WILL BE PROVIDED TO THE STAGE BOUNDARY SUFFICIENT TO PREVENT SEDIMENT RUNOFF FROM LEAVING SITE (EXCEPT IN THE CASE OF ENTRY/EXIT LOCATIONS WHERE TEMPORARY CONSTRUCTION ENTRY/EXIT SEDIMENT TRAP ARE PROVIDED). IF THIS IS NOT THE CASE, PROVIDE SEDIMENT FENCE TO STANDARD DETAIL BELOW AS REQUIRED TO PREVENT SEDIMENT FROM LEAVING SITE, DIRECT RUNOFF TO SEDIMENT BASIN.
2. ALL SEDIMENT CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH LANDCOM MANAGING URBAN STORMWATER "BLUE BOOK".
3. THE WHOLE SITE IS BEING EXCAVATED AND THE EXCAVATION IS TO CONTAIN ALL SITE WATER. THIS WILL PREVENT ANY SURFACE RUNOFF LEAVING THE SITE AND THE BASEMENT EXCAVATION WILL ACT AS A SEDIMENT BASIN.
4. PROVIDE SEDIMENT BASIN VOLUME (OR IN EXCAVATION VOLUME) OF $480m^3$

SEDIMENT CONTROL CONDITIONS

1. SEDIMENT FENCES WILL BE INSTALLED AS SHOWN AND ELSEWHERE AT THE DISCRETION OF THE SITE MANAGER TO CONTAIN COARSER SEDIMENT FRACTIONS INCLUDING AGGREGATED FINES) AS NEAR AS POSSIBLE TO THEIR SOURCE.
2. SEDIMENT REMOVED FROM ANY TRAPPING DEVICE WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS & WATERWAYS CANNOT OCCUR.
3. STOCKPILES WILL BE PLACED AT THE DISCRETION OF THE SITE MANAGER AND NOT WITHIN 5m OF HAZARD AREAS INCLUDING LIKELY AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS & DRIVEWAYS.
4. WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM WITH INLET FILTERS (SEE DETAILS) UNLESS IT IS SEDIMENT FREE.
5. TEMPORARY SEDIMENT TRAPS WILL BE RETAINED UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
6. WATER SHOULD BE ALLOWED TO SETTLE BEFORE DISCHARGE. CONTRACTOR MUST VERIFY THAT WATER QUALITY MEETS AUTHORITIES REQUIREMENTS AND THE "BLUE BOOK" PRIOR TO DISCHARGE . ACCUMULATED SEDIMENT SHOULD THEN BE REMOVED & DISPOSED OF IN ACCORDANCE WITH ENVIRONMENTAL MANAGEMENT PROCEDURES.

SITE INSPECTION & MAINTENANCE CONDITIONS

THE SITE MANAGER WILL INSPECT THE SITE ATLEAST WEEKLY AND WILL:

1. ENSURE THAT DRAINS OPERATE PROPERLY & TO EFFECT ANY NECESSARY REPAIRS
2. REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5m FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS & PAVED AREAS.
3. REMOVE TRAPPED SEDIMENT WHENEVER LESS THAN DESIGN CAPACITY REMAINS WITHIN THE STRUCTURE
4. ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS APPROPRIATE.
5. CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS.
6. MAINTAIN EROSION & SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
7. REMOVE TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.

AS PART OF THE STATUTORY 'DILIGENCE OF CARE' RESPONSIBILITIES, THE SITE MANAGER WILL KEEP A LOGBOOK MAKING ENTRIES ATLEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:

1. THE VOLUME & INTENSITY OF ANY RAINFALL EVENTS
2. THE CONDITION OF ANY SOIL & WATER MANAGEMENT WORKS
3. THE CONDITION OF VEGETATION & ANY NEED TO IRRIGATE
4. THE NEED FOR DUST PREVENTION STRATEGIES
5. ANY REMEDIAL WORKS TO BE UNDERTAKEN

THE BOOK WILL BE KEPT ONSITE & MADE AVAILABLE TO ANY AUTHORISED PERSON ON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF WORKS.

Rev	Description	Date	By	App
P1	PRELIMINARY ISSUE	19.08.14	TF	-

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SITE 68
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SOIL AND WATER MANAGEMENT PLAN

PRELIMINARY

Designed KH	Project Director Approved		Date	North
Drawn JF				
Scale 1:200 @ A0	Project Ref		Drawing No	Rev
Date JULY 2014	20 01479 01		C015	P1
Sheet A0				

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J Worksheets

J.1 The Standard Worksheet

Note: These "Standard Calculation" spreadsheets relate only to low erosion hazard lands as identified in figure 4.6 where the designer chooses to not use the RUSLE to size sediment basins. The more "Detailed Calculation" spreadsheets should be used on high erosion hazard lands as identified by figure 4.6 or where the designer chooses to run the RUSLE in calculations.

1. Site Data Sheet

Site name: Site 68, Bennelong Parkway, Sydney Olympic Park

Site location:

Precinct:

Description of site: Lake and Greenfield

Site Area	Site						Remarks
Total catchment area (ha)	1.237						
Disturbed catchment area (ha)	1.237						

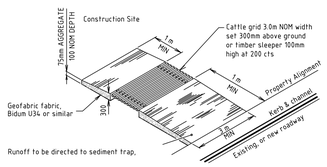
Soil analysis

Soil landscape	Soil Hydrological Group D/4						DNR mapping (if relevant)
Soil Texture Group	Type D/F						Sections 6.3.3(c), (d) and (e)

Rainfall data

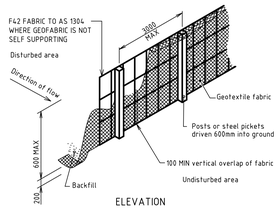
Design rainfall depth (days)	5	5					See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85	85					See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	38.8	38.8					See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm							See IFD chart for the site
Rainfall erosivity (R-factor)							Automatic calculation from above data

Comments Site runoff from construction activities is discharging into mangroves. Outlet system to be designed by others.



TEMPORARY CONSTRUCTION ENTRY / EXIT SEDIMENT TRAP

N.T.S.



SEDIMENT FENCE

N.T.S.

4. Volume of Sediment Basins, *Type D* and *Type F* Soils

Basin volume = settling zone volume + sediment storage zone volume

Settling Zone Volume

The settling zone volume for *Type F* and *Type D* soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

$V = 10 \times C_v \times A \times R_{y\%ile,\ x\text{-}day}\ (m^3)$

where:

- 10 = a unit conversion factor
- C_v = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period
- R = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).
- A = total catchment area (ha)

Sediment Storage Zone Volume

In the standard calculation, the sediment storage zone is 50 percent of the setting zone. However, designers can work to capture the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)), in which case the "Detailed Calculation" spreadsheets should be used.

Total Basin Volume

Site	C_v	R x-day y-%ile	Total catchment area (ha)	Settling zone volume (m^3)	Sediment storage volume (m^3)	Total basin volume (m^3)
	0.64	38.8	1.237	307.2	153.6	460.8

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SOIL AND WATER MANAGEMENT DETAILS PLAN

PRELIMINARY

Designed	KH	Project Director Approved	Date
Drawn	TF		
Scale	1:200 @ A0		
Date	AUG 2014	Project Ref	Drawing No / Rev
Sheet	A0	20 01479 01	C016 P1

North