

Appendix C

FACILITY ILLUSTRATIONS

Generic Intervention Structures

Typical designs of the most common interventions used for wetland rehabilitation purposes have been included here. Note that these drawings are not to scale and must be adapted during the design stage to suit site conditions and meet rehabilitation objectives. Detailed designs of the proposed interventions for the authorised Wetland Projects, as well as the proposed locations for these interventions, will be provided in the relevant annual Rehabilitation Plans.



WORKING FOR WETLANDS

Guideline on Generic Intervention Structures for Wetland Rehabilitation Purposes



SOFT OPTIONS

DRAWING No. SHEET No. DRAWING DESCRIPTION

109664-STD-01	Sheet 1 of 6	LIST OF DETAILS
109664-STD-01	Sheet 2 of 6	ECOLOGS
109664-STD-01	Sheet 3 of 6	ROCK PACKS
109664-STD-01	Sheet 4 of 6	ROAD STRIPS
109664-STD-01	Sheet 5 of 6	BERMS
109664-STD-01	Sheet 6 of 6	MACMAT / MACMAT-R

NOTES

- AURECON ACCEPTS RESPONSIBILITY FOR THE ENGINEERING DESIGN TO THE EXTENT THAT THIS IS BASED ON AVAILABLE INFORMATION. THE AVAILABLE INFORMATION IS LIMITED TO WHAT COULD BE INTERPRETED DURING A SINGLE SITE VISIT OF NO LONGER THAN A FEW HOURS. NO GEOTECHNICAL, TOPOGRAPHICAL, GEOMORPHOLOGIC AND OTHER ENGINEERING RELATED SURVEYS HAVE BEEN UNDERTAKEN TO INFORM THE DESIGN. THIS IS NON-STANDARD ENGINEERING PRACTICE AND THEREFORE AURECON IS INDEMNIFIED BY THE CLIENT AND DOES NOT ACCEPT RESPONSIBILITY FOR THE ASSOCIATED RISK OF FAILURE FROM THE ABOVE LIMITATIONS OR ANY DAMAGES THAT MAY OCCUR.
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EARTHWORKS/ EARTH STRUCTURES:

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- SOIL FOR BERMS AND BACKFILL TO BE COMPACTED IN 100mm LAYERS AT OPTIMUM WATER CONTENT

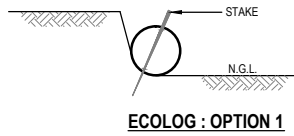
DISPERSIVE SOILS:
(ONLY APPLICABLE IN AREAS WITH DISPERSIVE SOILS):

- IT IS CRITICAL TO ENSURE THAT THE FOUNDING SOIL NEVER DRIES OUT AND REMAINS AS UNDISTURBED AS POSSIBLE. THE BASE OF THE INTERVENTION SHOULD THEREFORE BE CONSTRUCTED AS SOON AS A PORTION OF EXCAVATION HAS BEEN FINISHED.
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- ALL MATERIAL THAT IS EXCAVATED FROM THIS SITE AND RE-USED FOR BACKFILL SHALL BE WELL MIXED WITH 100kg OF LIME PER CUBIC METRE OF SOIL, AND PLACED AND COMPACTED AT OPTIMUM MOISTURE CONTENT.

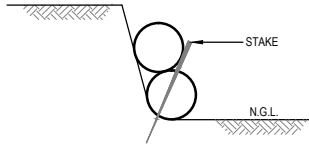
NOTE: THESE DETAILS MAY BE ADJUSTED TO SUIT INDIVIDUAL SITE CONDITIONS



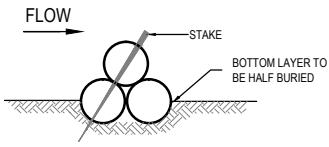
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					A.MNYAKA		ENGINEER	DRAWING No.	109664 - STD-01
					DESIGNED		DATE		1 OF 6
					D.TOWNSHEND				REV
					VERIFIED				A
					F.NAGDI				



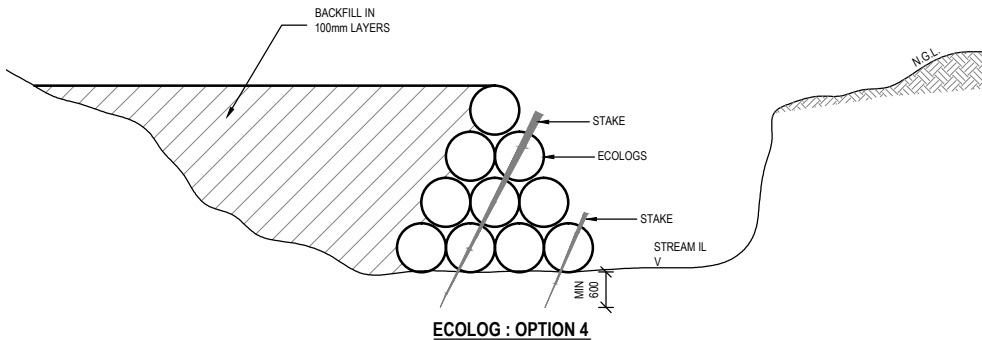
ECOLOG : OPTION 1



ECOLOG : OPTION 2



ECOLOG : OPTION 3



ECOLOG : OPTION 4

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ECOLOGS:

- WOODEN PEGS USED TO ANCHOR ECOLOGS ARE TO BE NO LESS THAN 40mm DIA AND 1000mm IN LENGTH.
- PEGS SHOULD PROTRUDE NO LESS THAN 60mm FROM THE SOIL @ 1000 cc.

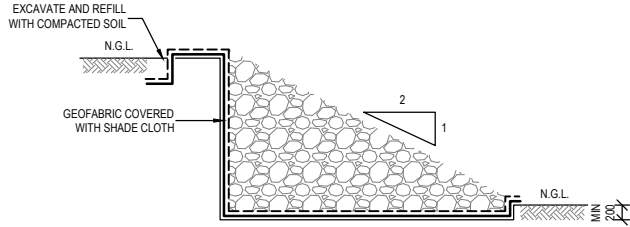
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Working for Wetlands	A	29/10/2013	ISSUED FOR INFORMATION	D.TOWNSHEND

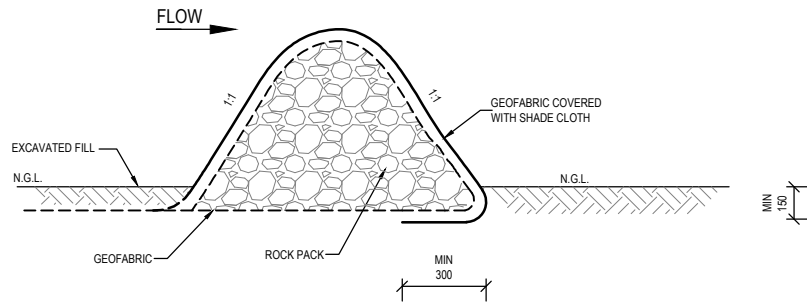
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NOT TO SCALE	A4
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DESIGNED	
D.TOWNSHEND	
VERIFIED	
F.NAGDI	

PRELIMINARY	
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APPROVED	DATE
ENGINEER	

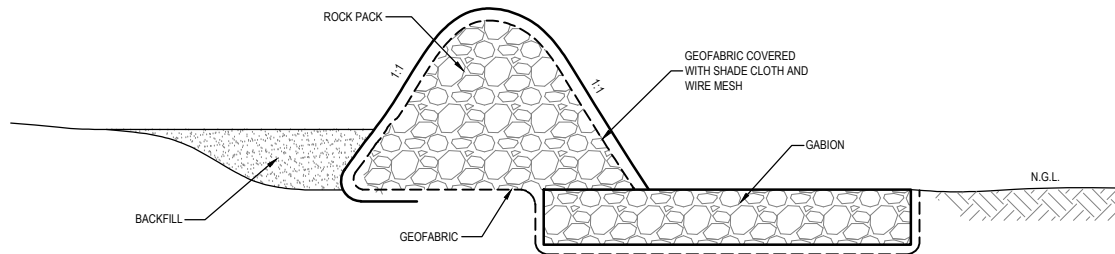
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TITLE	STANDARTD DETAILS		
DESCRIPTION	ECOLOGS		
DRAWING No.	109664 - STD-01	2 OF 6	REV A



ROCK PACK : OPTION 1



ROCK PACK : OPTION 2



ROCK PACK : OPTION 3

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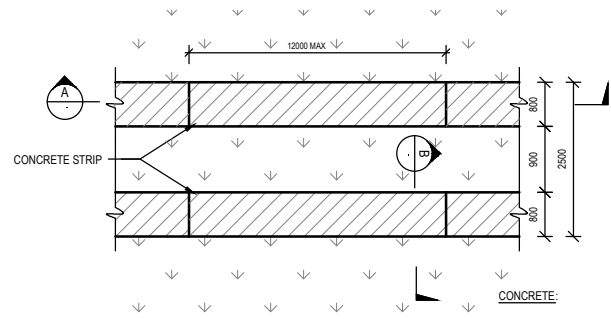
- ROCK PACKS:**
- 100mm -200mm STONE TO BE USED IN ROCK PACKS
 - STONE MUST BE NON-FRILABLE AND INSOLUBLE, e.g. GRANITE, BASALT, LIMESTONE OR SANDSTONE
 - ROCK PACKS PLACED ACROSS A STREAM TO BE TIED MIN 1m INTO EACH BANK.

CLIENT	REV	DATE	REVISION DETAILS	APPROVED
Working for Wetlands	A	29/10/2013	ISSUED FOR INFORMATION	D.TOWNSHEND

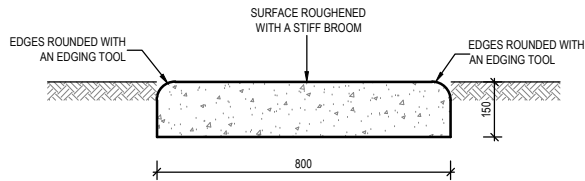
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PROJECT	TITLE	DESCRIPTION	DRAWING No.	REV
WORKING FOR WETLANDS	STANDARTD DETAILS	ROCK PACKS	109664 - STD-01	A
			3 OF 6	

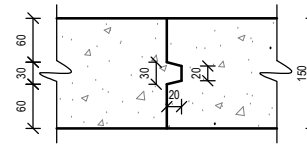


PLAN OF CONCRETE STRIP

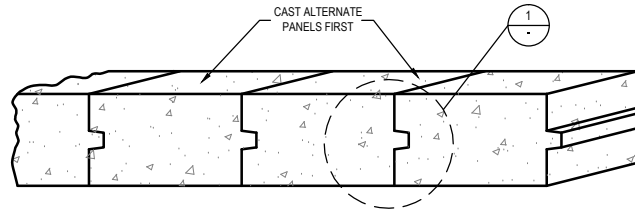


SECTION B (CONCRETE STRIP)
1:20

- CONCRETE:**
- ALL BUTTRESS WEIR STRUCTURES TO USE MIN 20MPa CONCRETE MIX:
1 BAG CEMENT
95L SAND
100L STONE
27L WATER



DETAIL 1 (SCHEMATIC VIEW OF JOINT BETWEEN PANELS)
1:10



SECTION A (SCHEMATIC VIEW OF JOINT BETWEEN PANELS)
1:10

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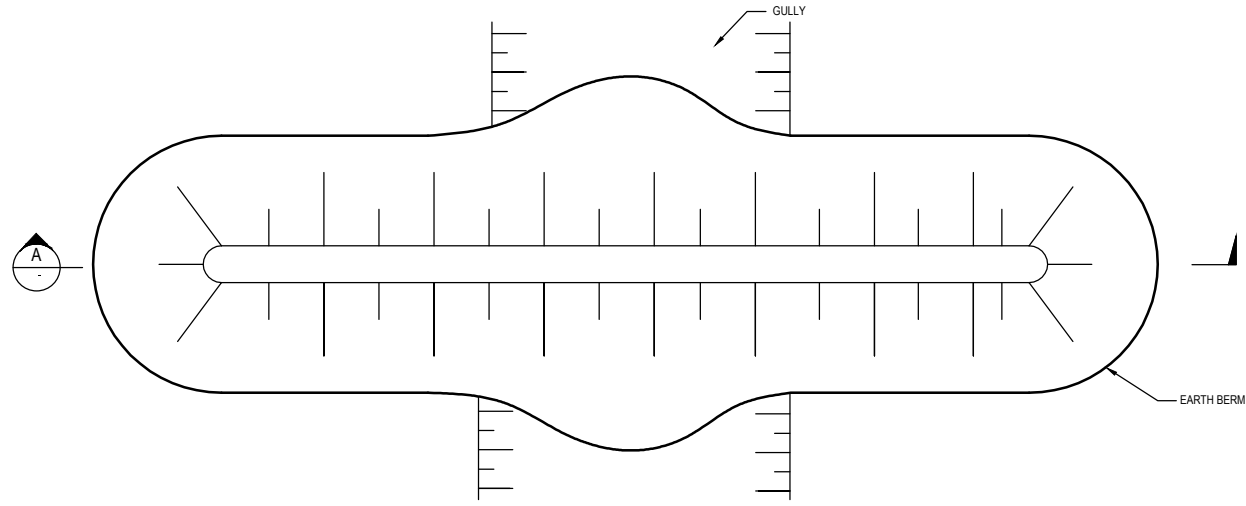
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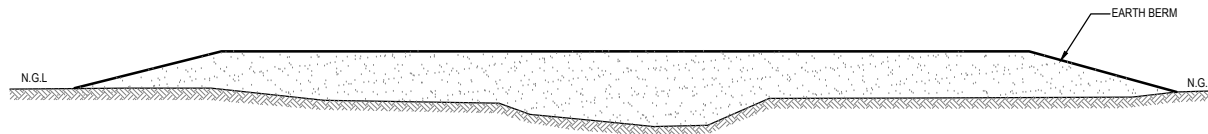
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DESIGNED	
D.TOWNSHEND	
VERIFIED	
F.NAGDI	

PRELIMINARY	
NOT FOR CONSTRUCTION	
APPROVED	DATE

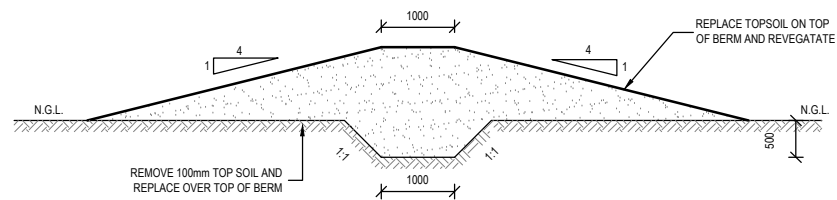
PROJECT	WORKING FOR WETLANDS		
TITLE	STANDARTD DETAILS		
DESCRIPTION	ROAD STRIPS		
DRAWING No.	109664 - STD-01	4 OF 6	REV
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TYPICAL PLAN VIEW OF BERM



LONG SECTION THROUGH BERM



TYPICAL CROSS SECTION THROUGH BERM

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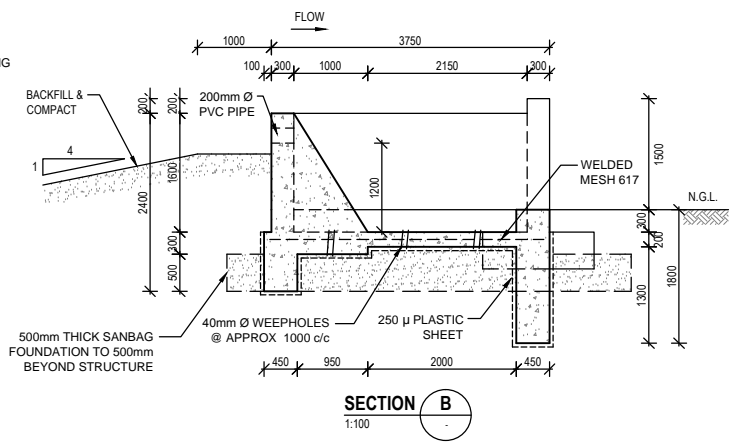
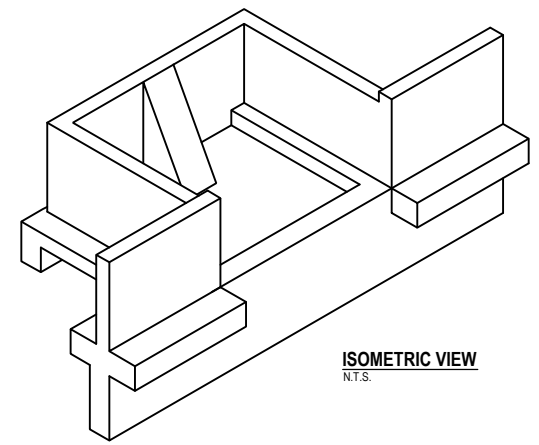
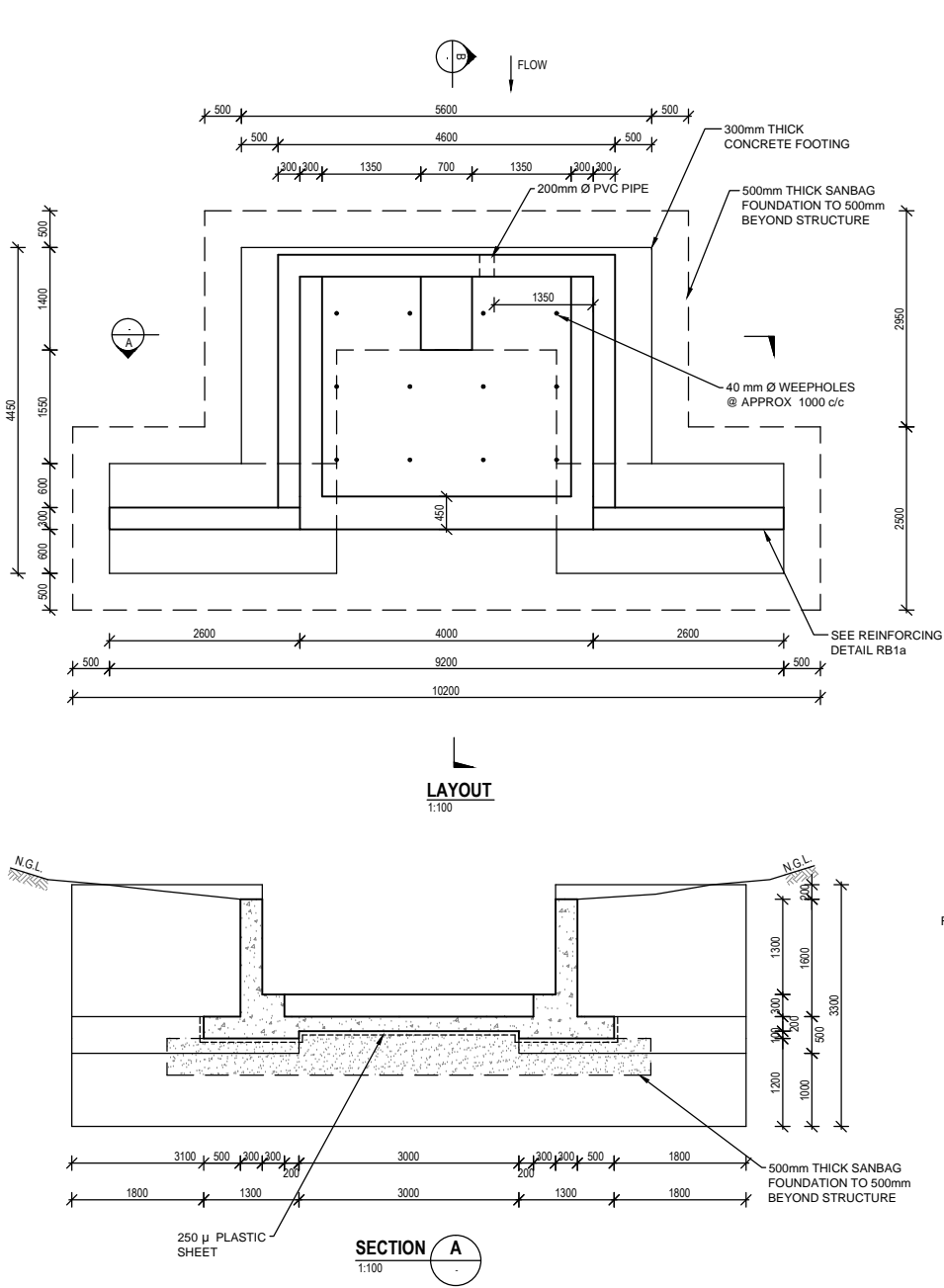
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					DRAWN		APPROVED	TITLE	STANDARTD DETAILS
					A.MNYAKA		ENGINEER	DESCRIPTION	BERMS
					DESIGNED		DATE	DRAWING No.	109664 - STD-01
					D.TOWNSHEND				5 OF 6
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HARD OPTIONS

Plot Date: 12/11/2013 8:56:39 AM Office: ZACP1 File Name: P:\PROJECTS\109664 - WORKING - WETLANDS PLAN 2014-2017\ENGINEERING\03 PRI DEL'Z REFERENCE\DRAWING TEMPLATE\STDARD DE TAILLIS\109664-STD-2.DWG



NOTE: CONFIGURATION AND DIMENSIONS OF STRUCTURE VARY ACCORDING TO SITE CONDITIONS

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- CONCRETE:**
- NOMINAL SIZE OF STONE AGGREGATE TO BE SIZE 19-26mm.
 - ALL CONCRETE TO BE MIN 30MPa CONCRETE MIX:
1 BAG CEMENT
85L SAND
85L STONE
21L WATER
 - CONCRETE TO BE PLACED IN 300mm LAYERS AND VIBRATED USING A CONCRETE VIBRATOR.
 - MIN 50mm COVER REQUIRED ON ALL CONCRETE REINFORCING AND MESH UNLESS OTHERWISE SPECIFIED.
 - 250µ PLASTIC SHEET TO BE PLACED UNDER STRUCTURE.
 - ALL CONCRETE WALLS TO BE FULLY SUPPORTED UNTIL THEY ARE BACKFILLED TO THE DESIGNED LEVEL.
 - ALL MESH REINFORCING TO HAVE 500mm OVERLAPS BETWEEN SHEETS
 - BUTRESSES AND WALLS TO BE CAST MONOLITHICALLY WITH FOOTING.
 - CONSTRUCTION JOINTS TO BE USED WHEREVER NEW CONCRETE IS CAST AGAINST PREVIOUSLY CAST CONCRETE.
 - IF REBAR OR MESH CROSSES A CONSTRUCTION JOINT, IT SHOULD BE CONTINUOUS THROUGH THE JOINT AND EXTEND 600mm INTO EACH SIDE.



CLIENT	REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	PRELIMINARY	PROJECT	WORKING FOR WETLANDS
Working for Wetlands	A	06/11/2013	ISSUED FOR COMMENT	D.TOWNSHEND	AS SHOWN	A4	NOT FOR CONSTRUCTION	109664 - STD - 21	
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					N.ALLIE		ENGINEER	INTERVENTION DESCRIPTION	TYPICAL : CONCRETE WEIR
					DESIGNED		DATE	DRAWING No.	
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					VERIFIED				
					D.TOWNSHEND				

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