NG No.	DRAWING TITLE		GENERAL	EGEND	
	OPERATIONAL WATER MANAGEMENT				
W-001	OPERATIONAL WATER MANAGEMENT - DRAWING INDEX, NOTES AND LEGEND		PROPOSED DESIGNATION BOUNDARY		
W-100	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET LAYOUT	ROAD PLAN	BOUNDARY		
W-101	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 1 OF 15	ROADTEAN		OPERATIONAL WATE	RIMANAGEMENT
W-102	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 2 OF 15				
W-103	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 3 OF 15		CONTROL LINE AND CHAINAGE		PROPOSED SEDIMENT TRAP FOR
V-104	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 4 OF 15		-		ROCK CUT AREAS
-105	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 5 OF 15				(REFER TO DRAWING SW-307)
V-106	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 6 OF 15	$ \langle \forall Y Y \nabla \forall \rangle$	CUT SLOPES		
/-107	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 7 OF 15		INDICATIVE ROAD ALIGNMENT		PROPOSED CULVERT
W-108	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 8 OF 15		MECHANICALLY STABILISED		(REFER TO DRAWING SW-201)
W-109	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 9 OF 15	\mathbf{P}	<pre>< EARTH (MSE) SLOPE</pre>		
V-110	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 10 OF 15		FILL SLOPES		100 YEAR ARI
N-111	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 11 OF 15		TILL SLUF LS	addition and the second	EXTENT OF CULVERT HEADWATER
V-112	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 12 OF 15				
N-113	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 13 OF 15	SL12	SPOIL DISPOSAL SITE	INLET>	
W-114	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 14 OF 15				PROPOSED WETLAND
-115	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 15 OF 15	SL12A	LANDSCAPE FILL	OUTLET>	(REFER TO DRAWING SW-501)
N-150	OPERATIONAL WATER MANAGEMENT - SUMMARY OF BRIDGES, CULVERTS & STREAM DIVERSIONS				
W-151	OPERATIONAL WATER MANAGEMENT - SUMMARY OF WETLANDS				
		11111111111111111	RETAINING WALL		
-201	OPERATIONAL WATER MANAGEMENT - TYPICAL CULVERT - LONGITUDINAL SECTION				WETLAND CATCHMENT BOUNDARIES
-202	OPERATIONAL WATER MANAGEMENT - TYPICAL CONCRETE PIPE CULVERT - FISH PASSAGE BAFFLE DETAILS				
/-203	OPERATIONAL WATER MANAGEMENT - ARCH CULVERT - FISH PASSAGE NATURAL BED DETAILS				
200		EXISTING FEATURES			STREAM DIVERSION - TYPE 1
V-301	OPERATIONAL WATER MANAGEMENT - TYPICAL ENERGY DISSIPATION STRUCTURE - IMPACT BASIN			\rightarrow \rightarrow \rightarrow \rightarrow	LOWLAND STREAM
	OPERATIONAL WATER MANAGEMENT - TYPICAL ENERGY DISSIPATION STRUCTURE - SAINT ANTHONY FALLS		STATE HIGHWAY		(REFER TO DRAWING SW-401)
W-302	(SAF) STILLING BASIN				
N-303	OPERATIONAL WATER MANAGEMENT - TYPICAL ENERGY DISSIPATION STRUCTURE - RIPRAP BASIN		EXISTING WATERCOURSE		STREAM DIVERSION - TYPE 2
			_ (DETERMINED FROM DIGITAL	\rightarrow \rightarrow \rightarrow \rightarrow	STEEP STREAM (REFER TO DRAWING SW-402)
-305	OPERATIONAL WATER MANAGEMENT - TYPICAL DETAIL - DEBRIS RACK FOR CULVERTS		TERRAIN MODEL - REFER TO GENERAL NOTES 4 & 6)		(NEFER TO DRAWING SW-402)
-306	OPERATIONAL WATER MANAGEMENT - TYPICAL DETAIL - RELIEF INLET FOR CULVERTS		GENERAL NUTES 4 & OJ		
-307	OPERATIONAL WATER MANAGEMENT - TYPICAL DETAIL - SEDIMENT TRAP - FOR ROCK CUT AREAS				STREAM DIVERSION - TYPE 3
		51	EXISTING PROPERTY	\rightarrow \rightarrow \rightarrow \rightarrow	FLOW CHANNEL
/-401	OPERATIONAL WATER MANAGEMENT - STREAM DIVERSION TYPES - TYPICAL TYPE 1 - LOWLAND STREAM		BOUNDARIES		(REFER TO DRAWING SW-403)
V-401 V-402	OPERATIONAL WATER MANAGEMENT - STREAM DIVERSION THES - THRAE THE FOUNDAID STREAM				
v-402 V-403	OPERATIONAL WATER MANAGEMENT - STREAM DIVERSION TYPES - TYPICAL TYPE 2 - STEEP STREAM OPERATIONAL WATER MANAGEMENT - STREAM DIVERSION TYPES - TYPICAL TYPE 3 - FLOW CHANNEL	7/-11	EXISTING CONTOURS		
TUJ			(10m INTERVALS)		
/-501	OPERATIONAL WATER MANAGEMENT - TYPICAL WETLAND - PLAN AND SECTION				
w-JUT	ULEVATIONAL WATER WATER WARAUNAUNING TITTICAL WEILAND - FLAN AND JECTION		KEY ENVIRONMENTAL &		
			HISTORICAL CONSTRAINTS		
		and the second s	100 YEAR ARI FLOOD EXTENTS		
			EXISTING CULVERT		
			EMOTING COLVENT		

0	30/08/13	TF	MW	TI	ISSUE FOR NOR / CONSENT
AMD	DATE	DESIGN REVIEW	REVD D. MGR	APP'D A. MGR	PURPOSE OF ISSUE / AMENDM



DISCLAIMER		A	
The information shown on this drawing is solely for the purposes of supporting RMA applications for statutory approvals.	ΡŪΗΟΙ ΤΟ W		
All information shown is subject to review for compliance with approved consents	DRAWN SP / AN	DRAF	
and the outcomes of final design.	DESIGNED	DESK	

ARA TŪHONO - PŪHOI TO WELLSFORD					
PŪHOI TO WARKWORTH - FOR RMA APPROVALS					
DRAWN SP / AN	DRAFTING CHECK	REVIEWED DISCIPLINE MANAGER	APPROVED ALLIANCE MANAGER		
DESIGNED		MW			

L NOTES

ASUREMENTS ARE IN METRES UNLESS OTHERWISE STATED.

MED ROADS SHALL BE ASSUMED TO BE PUBLIC UNLESS STATED OTHERWISE.

IMAGE FROM AUCKLAND COUNCIL AERIAL SURVEY, 2012.

L TERRAIN MODEL DERIVED FROM AERIAL PHOTOGRAMETRIC SURVEY (MARCH 2010) IM PROJECTION.

NG PROPERTY BOUNDARIES SOURCED FROM LINZ, APRIL 2013 UPDATE.

NOT DIFFERENTIATE BETWEEN INTERMITTENT AND PERMANENT STREAM, REFER TO NG FE-101.

IONAL WATER MANAGEMENT NOTES

GICAL REFERENCES FOR STREAMS REFLECT THE NAMING CONVENTION AS PER THE WATER ECOLOGY REPORT. (REFER TO DRAWING FE-101).

A SELECTION OF EXISTING CULVERTS BENEATH STATE HIGHWAY 1 , RELEVANT TO THE SMENT OF EFFECTS, ARE SHOWN. OTHER EXISTING CULVERTS BENEATH STATE HIGHWAY 1 DT NECESSARILY SHOWN.

AR ARI HEADWATER EXTENTS ARE NOT SHOWN AT SPOIL DISPOSAL SITES, AS THE FINAL CE PROFILE IS SUBJECT TO DETAILED DESIGN.

AR ARI FLOOD EXTENTS SHOWN ARE BASED ON AUCKLAND COUNCIL GIS LAYER, JULY 2013.

R MANAGEMENT DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE BRIDGES, CULVERTS FAM DIVERSIONS, AND WETLAND DATA SHEETS ON DRAWINGS SW-150 AND SW-151, CTIVELY.

R MANAGEMENT IS NOT SHOWN FOR MOIRS HILL ROAD AND THE ACCESS TRACKS . ATED ROADSIDE DRAINS AND CULVERTS FOR CROSS DRAINAGE ARE PROPOSED.

CHEDULE OF CULVERTS, STREAM DIVERSIONS AND WETLANDS REFER TO DRAWINGS SW-150 W-151.

OPERATIONAL WATER MANAGEMENT DRAWING INDEX, NOTES AND LEGEND