

DRWG No.	DRAWING TITLE
SW-001	OPERATIONAL WATER MANAGEMENT OPERATIONAL WATER MANAGEMENT - DRAWING INDEX, NOTES AND LEGEND
SW-100	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET LAYOUT
SW-101	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 1 OF 15
SW-102	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 2 OF 15
SW-103	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 3 OF 15
SW-104	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 4 OF 15
SW-105	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 5 OF 15
SW-106	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 6 OF 15
SW-107	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 7 OF 15
SW-108	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 8 OF 15
SW-109	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 9 OF 15
SW-110	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 10 OF 15
SW-111	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 11 OF 15
SW-112	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 12 OF 15
SW-113	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 13 OF 15
SW-114	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 14 OF 15
SW-115	OPERATIONAL WATER MANAGEMENT - WATER MANAGEMENT PLAN - SHEET 15 OF 15
SW-150	OPERATIONAL WATER MANAGEMENT - SUMMARY OF BRIDGES, CULVERTS & STREAM DIVERSIONS
SW-151	OPERATIONAL WATER MANAGEMENT - SUMMARY OF WETLANDS
SW-201	OPERATIONAL WATER MANAGEMENT - TYPICAL CULVERT - LONGITUDINAL SECTION
SW-202	OPERATIONAL WATER MANAGEMENT - TYPICAL CONCRETE PIPE CULVERT - FISH PASSAGE BAFFLE DETAILS
SW-203	OPERATIONAL WATER MANAGEMENT - ARCH CULVERT - FISH PASSAGE NATURAL BED DETAILS
SW-301	OPERATIONAL WATER MANAGEMENT - TYPICAL ENERGY DISSIPATION STRUCTURE - IMPACT BASIN
SW-302	OPERATIONAL WATER MANAGEMENT - TYPICAL ENERGY DISSIPATION STRUCTURE - SAINT ANTHONY FALLS (SAF) STILLING BASIN
SW-303	OPERATIONAL WATER MANAGEMENT - TYPICAL ENERGY DISSIPATION STRUCTURE - RIPRAP BASIN
SW-305	OPERATIONAL WATER MANAGEMENT - TYPICAL DETAIL - DEBRIS RACK FOR CULVERTS
SW-306	OPERATIONAL WATER MANAGEMENT - TYPICAL DETAIL - RELIEF INLET FOR CULVERTS
SW-307	OPERATIONAL WATER MANAGEMENT - TYPICAL DETAIL - SEDIMENT TRAP - FOR ROCK CUT AREAS
SW-401	OPERATIONAL WATER MANAGEMENT - STREAM DIVERSION TYPES - TYPICAL TYPE 1 - LOWLAND STREAM
SW-402	OPERATIONAL WATER MANAGEMENT - STREAM DIVERSION TYPES - TYPICAL TYPE 2 - STEEP STREAM
SW-403	OPERATIONAL WATER MANAGEMENT - STREAM DIVERSION TYPES - TYPICAL TYPE 3 - FLOW CHANNEL
SW-501	OPERATIONAL WATER MANAGEMENT - TYPICAL WETLAND - PLAN AND SECTION

GENERAL LEGEND

ROAD PLAN

EXISTING FEATURES

OPERATIONAL WATER MANAGEMENT

GENERAL NOTES

- ALL MEASUREMENTS ARE IN METRES UNLESS OTHERWISE STATED.
- ALL NAMED ROADS SHALL BE ASSUMED TO BE PUBLIC UNLESS STATED OTHERWISE.
- AERIAL IMAGE FROM AUCKLAND COUNCIL AERIAL SURVEY, 2012.
- DIGITAL TERRAIN MODEL DERIVED FROM AERIAL PHOTOGRAMMETRIC SURVEY (MARCH 2010) TO NZTM PROJECTION.
- EXISTING PROPERTY BOUNDARIES SOURCED FROM LINZ, APRIL 2013 UPDATE.
- DOES NOT DIFFERENTIATE BETWEEN INTERMITTENT AND PERMANENT STREAM, REFER TO DRAWING FE-101.

OPERATIONAL WATER MANAGEMENT NOTES

- ECOLOGICAL REFERENCES FOR STREAMS REFLECT THE NAMING CONVENTION AS PER THE FRESHWATER ECOLOGY REPORT. (REFER TO DRAWING FE-101).
- ONLY A SELECTION OF EXISTING CULVERTS BENEATH STATE HIGHWAY 1, RELEVANT TO THE ASSESSMENT OF EFFECTS, ARE SHOWN. OTHER EXISTING CULVERTS BENEATH STATE HIGHWAY 1 ARE NOT NECESSARILY SHOWN.
- 100 YEAR ARI HEADWATER EXTENTS ARE NOT SHOWN AT SPOIL DISPOSAL SITES, AS THE FINAL SURFACE PROFILE IS SUBJECT TO DETAILED DESIGN.
- 100 YEAR ARI FLOOD EXTENTS SHOWN ARE BASED ON AUCKLAND COUNCIL GIS LAYER, JULY 2013.
- WATER MANAGEMENT DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE BRIDGES, CULVERTS & STREAM DIVERSIONS, AND WETLAND DATA SHEETS ON DRAWINGS SW-150 AND SW-151, RESPECTIVELY.
- WATER MANAGEMENT IS NOT SHOWN FOR MOIRS HILL ROAD AND THE ACCESS TRACKS. VEGETATED ROADSIDE DRAINS AND CULVERTS FOR CROSS DRAINAGE ARE PROPOSED.
- FOR SCHEDULE OF CULVERTS, STREAM DIVERSIONS AND WETLANDS REFER TO DRAWINGS SW-150 AND SW-151.

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



DISCLAIMER
The information shown on this drawing is solely for the purposes of supporting RMA applications for statutory approvals. All information shown is subject to review for compliance with approved consents and the outcomes of final design.

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

OPERATIONAL WATER MANAGEMENT DRAWING INDEX, NOTES AND LEGEND			
SCALE NOT TO SCALE	CONTRACT No. PA3748	DRAWING No. SW-001	AMDT 0