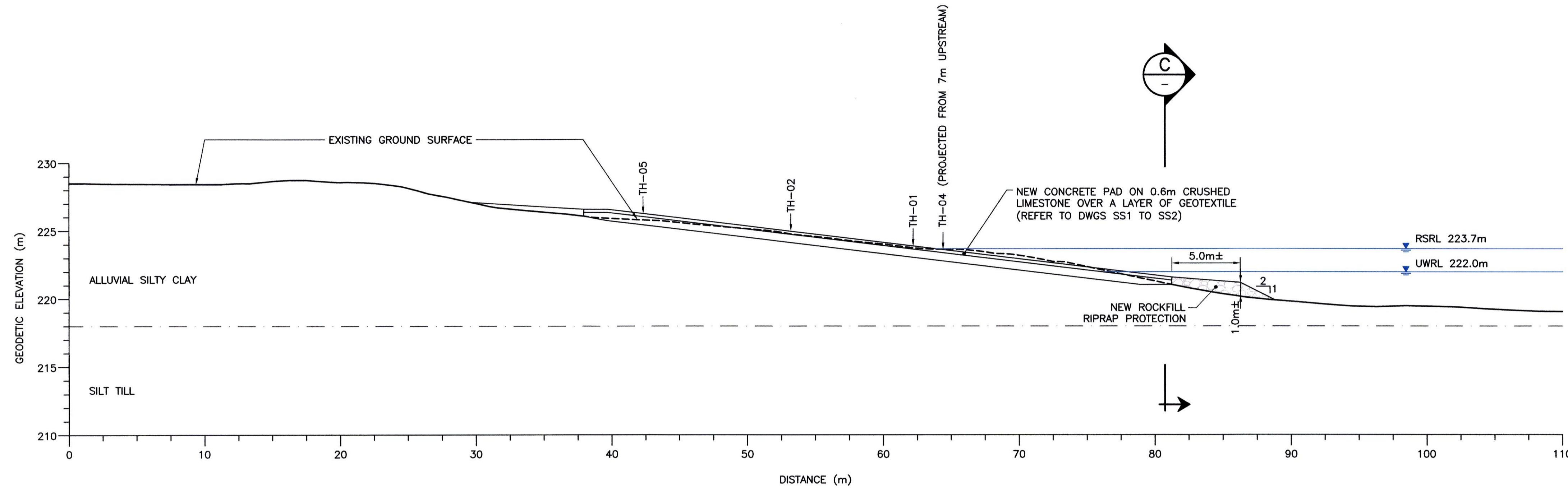
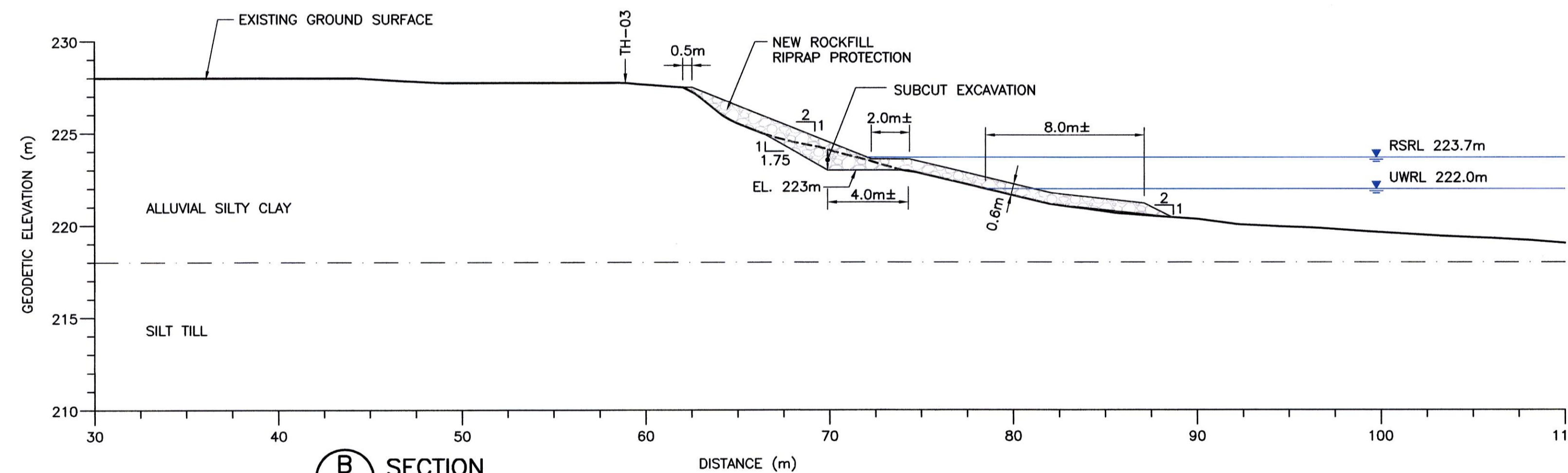


TECHNICAL SPECIFICATIONS (GEOTECHNICAL):

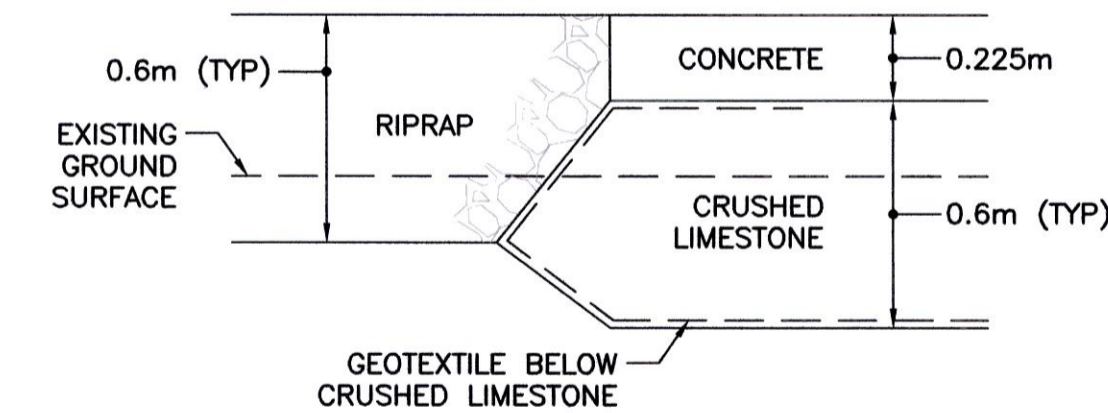
- GENERAL
 - LOCATIONS AND LIMITS OF ROCKFILL RIPRAP ARE APPROXIMATE. FINAL LIMITS WILL BE PROVIDED BY THE CONTRACT ADMINISTRATOR IN THE FIELD.
- ROCKFILL RIPRAP
 - THE ROCKFILL MATERIAL FOR USE AS RIPRAP SHALL CONSIST OF A CLEAN FREE DRAINING MATERIAL, FREE FROM ORGANICS, ROOTS, SILTS, SAND, CLAY, OR ANY OTHER MATERIAL THAT WOULD DETRACT FROM THE STRENGTH AND DRAINAGE CHARACTERISTICS OF CLEAN ROCKFILL. INDIVIDUAL PARTICLES SHALL BE SHAPED SUCH THAT NO DIMENSION IS GREATER THAN TWO TIMES THE SMALLEST DIMENSION. FLAT, ELONGATED OR PLATY PARTICLES WILL NOT BE ACCEPTED. THE LOS ANGELES ABRASION LOSS DETERMINED USING ASTM PROCEDURES SHALL NOT EXCEED 32%.
 - THE RIPRAP SHALL RANGE IN SIZE FROM 50 TO 450 MM IN DIAMETER, WITH AT LEAST 50% BEING LARGER THAN 300 MM AND LESS THAN 5% FINER THAN 5 MM BY WEIGHT.
 - THE RIPRAP SHALL BE DURABLE, COMPRISED OF EITHER LIMESTONE, GRANITE, OR OTHER QUALITY DENSE ROCK. SHOULD THE CONTRACTOR CHOOSE TO USE LIMESTONE, IT SHALL BE DURABLE WHITE CRYSTALLINE LIMESTONE. SOFTER BUFF TO YELLOW DOLOMITE OR DOLOSTONE WILL NOT BE ACCEPTED. ROCK SAMPLES SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR APPROVAL A MINIMUM OF FIVE (5) DAYS PRIOR TO THEIR USE. NO ROCKFILL WILL BE PERMITTED WITHOUT PROVIDING THE SOURCE AND SUPPLIER INSPECTION OF THE SOURCE WILL BE PERFORMED BY THE CONTRACT ADMINISTRATOR PRIOR TO WRITTEN ACCEPTANCE.
 - SNOW COVER SHALL BE CLEARED FROM THE RIVERBANK PRIOR TO THE PLACEMENT OF THE ROCKFILL RIPRAP. THE METHODOLOGY TO CLEAR THE SNOW SHALL BE SUBJECT TO THE APPROVAL OF THE CONTRACT ADMINISTRATOR.
 - SUBCUT EXCAVATION AS SHOWN ON THIS DRAWING AND REMOVAL OF TOPSOIL OR ORGANIC MATTER SHALL BE SUBJECT TO ACCEPTANCE BY THE CONTRACT ADMINISTRATOR. THE SUBCUT EXCAVATION SHALL BE PERFORMED AS THE ROCKFILL RIPRAP PLACEMENT PROCEEDS, AND AT NO TIME SHALL EXTEND MORE THAN 5M BEYOND THE LEADING EDGE OF THE RIPRAP. EXCAVATED MATERIALS SHALL BE DISPOSED OF OFF SITE AND NO TEMPORARY STOCKPILING ON THE BANK WILL BE PERMITTED. NO SUBCUT OR EXCAVATION BELOW UWRL 222.0M SHALL BE PERFORMED FOR RIPRAP PLACEMENT.
 - THE ROCKFILL SHALL BE PUSHED OR ROLLED INTO PLACE IN SUCH A MANNER THAT THE LARGER ROCKS ARE UNIFORMLY DISTRIBUTED AND THE SMALLER ROCKS SERVE TO FILL THE PLACES BETWEEN THE LARGER STONES, AND THAT EXCESSIVE SEGREGATION OF THE VARIOUS PARTICLE SIZES DOES NOT OCCUR. SUFFICIENT LEVELLING SHALL BE DONE TO PROCURE A NEAT AND UNIFORM SURFACE, CONFORMING TO THE SHAPE AND DIMENSIONS SHOWN ON THE DRAWINGS, AND ACCEPTED BY THE CONTRACT ADMINISTRATOR. THE ALLOWABLE FILL TOLERANCES SHALL BE WITHIN 0.1M OF THE GRADES AND THICKNESSES AS SHOWN ON THE DRAWINGS. CARE SHALL BE TAKEN WHEN PLACING THE OUTSIDE EDGES OF THE RIPRAP TO PROVIDE A SMOOTH FLOW TRANSITION FROM THE EXISTING RIVER BOTTOM TO THE RIPRAP AREAS, AS IDENTIFIED ON THE DRAWINGS, AND SUBJECT TO THE APPROVAL OF THE CONTRACT ADMINISTRATOR.
- CRUSHED LIMESTONE FILL
 - THE CRUSHED LIMESTONE USED AS CONCRETE PAD BASE FILL SHALL CONSIST OF A FREE DRAINING MATERIAL AND SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR. ALL PHYSICAL PROPERTIES WITH THE EXCEPTION OF GRADATION SHALL CONFORM TO THE REQUIREMENTS SPECIFIED FOR ROCKFILL RIPRAP.
 - THE CRUSHED LIMESTONE SHALL RANGE IN SIZE FROM 19 TO 50 MM IN DIAMETER AND SHALL HAVE LESS THAN 5% FINER THAN 5 MM.
 - THE CRUSHED LIMESTONE SHALL BE PLACED IN LIFTS NOT EXCEEDING 150MM COMPACTED THICKNESS, AND COMPACTED TO A MINIMUM OF 98% THE STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
- GEOTEXTILE
 - THE GEOTEXTILE USED AS A SEPARATOR BETWEEN THE CONCRETE PAD BASE FILL AND SUBGRADE SHALL CONSIST OF A NON-WOVEN MATERIAL WITH A MINIMUM TENSILE STRENGTH OF 900 N, TYPICAL ELONGATION AT BREAK >50%, TRAPEZOID TEAR OF 350 N. IT SHALL BE AT LEAST 4.5 M IN WIDTH, AND INSTALLED AT THE LOCATIONS AND DIMENSIONS SHOWN ON THE DRAWINGS 501 AND 502. SUITABLE PRODUCTS SHALL BE PROPEX 4553, LAYFIELD LP8, OR APPROVED EQUIVALENT. ALL WORK RELATED TO THE GEOTEXTILE STORAGE, HANDLING, AND INSTALLATION SHALL COMPLY WITH THE PROCEDURES AND RECOMMENDATIONS OF THE MANUFACTURER, AND APPROVED BY THE CONTRACT ADMINISTRATOR. THE OVERLAP AT ALL JOINTS SHALL BE A MINIMUM OF 600 MM.
 - PRIOR TO LAYING THE FABRIC, THE SUBGRADE SHALL BE SMOOTH AND ALL DELETERIOUS MATERIAL THAT COULD TEAR OR PUNCTURE THE FABRIC REMOVED. THE FABRIC SHALL BE LOOSELY LAID CONFORMING TO THE BEDDING SURFACE, AVOIDING FOLDS OR WRINKLES. A MINIMUM OF 300mm OF MATERIAL SHALL BE PLACED OVER THE GEOTEXTILE PRIOR TO EQUIPMENT PASSAGE.
 - ANY DAMAGED GEOTEXTILE SHALL BE REPAIRED WITH A MINIMUM OF 600mm OVERLAP ONTO UNDAUNAGED GEOTEXTILE PRIOR TO REPLACEMENT OF OVERLYING FILL.



A SECTION
G01 SCALE: 1:200 METRIC A1
1:400 METRIC A3



B SECTION
G01 SCALE: 1:200 METRIC A1
1:400 METRIC A3



C SECTION - TYPICAL AROUND OUTER EDGE OF NEW CONCRETE PAD
SCALE: 1:200 METRIC A1
1:400 METRIC A3

LEGEND:

- RSRL REGULATED SUMMER RIVER LEVEL
- UWRL UNREGULATED WINTER RIVER LEVEL
- ASSUMED STRATIGRAPHIC CONTACT

NOTES:

- CROSS SECTIONS ARE BASED ON CONTOURS INFORMATION ON DWG 12-0109-009 GG1.
- STRATIGRAPHY BASED ON KGS GROUP TESTHOLE DRILLING SEPTEMBER 12, 2012.



CITY PROJECT NUMBER: 184-2013.

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

APEGM
Certificate of Authorization
KGS Group
No. 245

P:\Projects\2012\12-0109-009 (DocControl)\Tobias\DWG\12-0109-009_602-Rev 0.dwg - Tab: 002 Plotted By: Dhiroche 03/06/2013 [Wed 10:45am] C:\LEGEND

EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PROFILE	PROPOSED
150 WM	WATERMAIN	150 WM	HYDRO	HYDRO	150 WM	WATERMAIN	WATERMAIN	150 WM
300 LBS	HYDRANT	300 LBS	M.T.S.	HYDRANT, VALVE	300 LBS	HYDRANT, VALVE	HYDRANT, VALVE	300 LBS
250 WWS	VALVE	250 WWS	CONCRETE	CONCRETE	250 WWS	LAND DRAINAGE SEWER	LAND DRAINAGE SEWER	250 WWS
300 LBS	LAND DRAINAGE SEWER	300 LBS	ASPHALT	ASPHALT	300 LBS	WASTE WATER SEWER	WASTE WATER SEWER	300 LBS
250 WWS	WASTE WATER SEWER	250 WWS	SIDEWALK	SIDEWALK	250 WWS	Q PROFILE	Q PROFILE	250 WWS
MANHOLE	MANHOLE	MANHOLE	KGS TEST HOLE	KGS TEST HOLE	MANHOLE	NORTH/WEST GUTTER	NORTH/WEST GUTTER	MANHOLE
CATCH BASIN	CATCH BASIN	CATCH BASIN	PROPERTY LINE	PROPERTY LINE	CATCH BASIN	SOUTH/EAST GUTTER	SOUTH/EAST GUTTER	CATCH BASIN
CURB INLET	CURB INLET	CURB INLET	SURVEY BAR	SURVEY BAR	CURB INLET	N/W, S/E R'S	N/W, S/E R'S	CURB INLET
JUNCTIONS	JUNCTIONS	JUNCTIONS	DITCH	DITCH	JUNCTIONS	N/W, S/E TOP/CURB	N/W, S/E TOP/CURB	JUNCTIONS
CULVERT	CULVERT	CULVERT	ELEVATION	ELEVATION	CULVERT	SOUTH/EAST DITCH	SOUTH/EAST DITCH	CULVERT
GAS	GAS	GAS	231.334	231.334	GAS			GAS

LOCATION APPROVED	DATE
UNDERGROUND STRUCTURES	
SUPV. U/G STRUCTURES COMMITTEE	

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NO.	ISSUED FOR TENDER	DATE	BY
0	ISSUED FOR TENDER	13/03/07	MJS
	REVISIONS	DATE	BY

DESIGNED BY	DATE	CHECKED BY	DATE
KJY		MJS	
DRAWN BY	DATE	APPROVED BY	DATE
SDW		MJS	
SCALE:	AS NOTED	RELEASED FOR CONSTRUCTION:	DATE
			12/12/03

ENGINEER'S SEAL
PROFESSIONAL ENGINEER
M.R. JAMIESON
CONSULTANT DRAWING NO. 12-0109-009-GG2

Winnipeg PLANNING, PROPERTY & DEVELOPMENT DEPARTMENT

PROJECT TITLE: ST. VITAL PARK BOAT LAUNCH REDEVELOPMENT

CROSS SECTIONS

SHEET 1 OF 1
COMPUTER FILE NAME: 12-0109-009
CITY DRAWING NUMBER