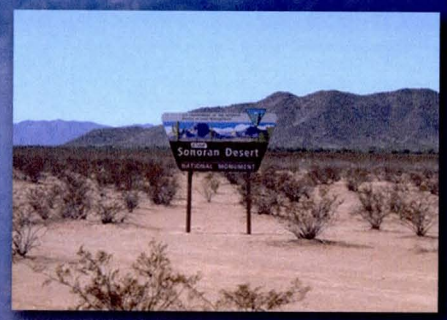
RAINBOW VALLEY
Area Drainage Master Plan
Contract FCD 2006C029
Technical Data Notebook
Hydraulics Report
Volume II



Submittted to

Flood Control District of Maricopa County

Submittted by

URS

February 2012

Rainbow Valley Area Drainage Master Plan:

Technical Data Notebook

Hydraulics Report

Volume 2 of 2

Prepared for:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Prepared by:

URS CORPORATION

February 2012

TABLE OF CONTENTS

Page

VOLUME I

DIGITAL PROJECT DATA DISKS

Topographic Mapping Report
HEC-RAS Data – Project Disk
Work Maps

1.0 INTRODUCTION 1-1
1.1 PURPOSE 1-1
1.2 AUTHORITY 1-1
1.3 PROJECT DESCRIPTION 1-1
1.4 METHODOLOGY 1-2
1.4.1 Previous Studies 1-2
1.5 RESULTS 1-3

2.0 FEMA FORMS 2-1
2.1 STUDY DOCUMENTATION ABSTRACT FOR FEMA SUBMITTALS 2-1
2.1.1 Date Study Accepted 2-1
2.1.2 Study Contractor 2-1
2.1.3 FEMA Technical Review Contractor 2-1
2.1.4 Local Technical Reviewer 2-2
2.1.5 Reach Description 2-2
2.1.6 USGS Quad Sheets 2-3
2.1.7 Unique Conditions and Problems 2-4
2.1.8 Coordination of Peak Discharges 2-4
2.2 FEMA FORMS 2-4

3.0 MAPPING AND SURVEY INFORMATION 3-1
3.1 FIELD SURVEY INFORMATION 3-1
3.1.1 Field Survey Information 3-1
3.1.2 Horizontal and Vertical Control 3-1
3.1.3 Survey Procedures – Real Time Kinematic (RTK) method 3-1
3.1.4 Equipment 3-2
3.2 MAPPING 3-2
3.3 WATERSHED MAPPING 3-3
3.3.1 Soils Map 3-3
3.3.2 Land Use Map (Existing Condition) 3-3
3.3.3 Land Use Map (Ultimate Developed Condition) 3-3

4.0 HYDROLOGY 4-1

5.0 HYDRAULICS 5-1
5.1 METHOD DESCRIPTION 5-1
5.2 WORK STUDY MAPS 5-3
5.3 PARAMETER ESTIMATION 5-4
5.3.1 Roughness Coefficients 5-4
5.3.2 Expansion and Contraction Coefficients 5-4
5.4 CROSS SECTION DESCRIPTION 5-5
5.5 MODELING CONSIDERATION 5-6
5.5.1 Hydraulic Jump and Drop Analysis 5-6
5.5.2 Bridges and Culverts 5-7
5.5.3 Levees and Dikes 5-7
5.5.4 Islands and Flow Splits 5-8
5.5.5 Ineffective Flow Areas 5-8
5.5.6 Supercritical Flow 5-9
5.6 FLOODWAY MODELING 5-9
5.7 PROBLEMS ENCOUNTERED DURING THE STUDY 5-9
5.7.1 Special Problems and Solutions 5-9
5.7.2 Modeling Warning and Error Messages 5-17
5.8 CALIBRATION 5-18
5.9 FINAL RESULTS 5-18
5.9.1 Hydraulic Analysis Results 5-18
5.9.2 Verification of Results 5-18

6.0 EROSION AND SEDIMENT TRANSPORT 6-1

7.0 DRAFT FIS DATA 7-1
7.1 SUMMARY OF DISCHARGES 7-1
7.2 FLOODWAY DATA 7-2
7.3 FLOOD PROFILES 7-3

LIST OF TABLES

Table 2.1 Summary of Study Washes 2-4
Table 5.1 Township, Range, Sections 5-1
Table 5.2 Coincident Peak Results 5-3
Table 5.3 Peak Discharge Locations 5-6
Table 5.4 Culvert Type and Location 5-7
Table 5.5 Non-Levee Embankment Backwater Effect Locations 5-8
Table 5.6 F25 Flow Change Locations 5-13

LIST OF APPENDICES

A REFERENCES

B GENERAL DOCUMENTATION AND CORRESPONDENCE

- B.1 General Documentation
- B.2 FEMA Correspondence
- B.3 General Correspondence
- B.4 Public Notifications/Information
- B.5 Contract Documents Disk

C SURVEY FIELD NOTES

- C.1 Structure Survey Field Notes
- C.2 Description of Detailed Aerial Topographic Mapping Projects
- C.3 Structure As-Built Plans

D HYDROLOGIC ANALYSIS SUPPORTING DOCUMENTATION

VOLUME II

E HYDRALIC ANALYSIS SUPPORTING DOCUMENTATION

HEC-RAS: Digital Copy of Models on CD

- E.1 Roughness Coefficient Estimation
- E.2 Cross Section Plots
- E.3 Expansion and Contraction Coefficients
- E.4 Analysis of Structures
- E.5 Hydraulic Calculations
- E.6 Figures
  - Figure 1, Location Map
  - Figure 2, Floodplain Selection Map
  - Figure 3, Levee Location Map
- E.7 Hydraulic Work Maps

APPENDIX E

HYDRAULIC ANALYSIS SUPPORTING DOCUMENTATION

HEC-RAS: Digital Copy of Models on CD located behind the front cover of this volume

E.1 Roughness Coefficient Estimation

E.2 Cross Section Plots

E.3 Expansion and Contraction Coefficients

E.4 Analysis of Structures

E.5 Hydraulic Calculations

E.6 Figures

E.7 Hydraulic Work Maps

E.1 ROUGHNESS COEFFICIENT ESTIMATION

Rainbow Valley Area Drainage Master Plan:

Manning's 'n' Value Report

DRAFT

Prepared for:

Flood Control District of Maricopa County

Prepared by:

URS Corporation

August 2009

I. INTRODUCTION

An initial field reconnaissance investigation was conducted in April and May 2009 to evaluate drainage characteristics of the watershed and estimate the hydraulic roughness coefficient, Manning's "n". Photographic documentation was collected at representative cross sections and road crossings and it was used to prepare a preliminary photographic log to be used for the estimation of Manning's "n" values.

II. METHODOLOGY

Manning's "n' values were assigned based on field observation using the methodology described in the US Geological Survey's "Selection of Manning's Roughness Coefficient for Natural and Constructed Vegetated and Non-vegetated Channels, and Vegetation Maintenance Plan Guidelines for Vegetated Channels in Central Arizona." A base 'n' value (n_b) was assigned according to the bed material. In accordance with the manual, adjustments to the base value were made to account for factors such as channel irregularities, alignment, obstructions, and vegetation. The composite value of n was computed using the following equation:

$$n = (n_b + n_1 + n_2 + ... + n_n)m$$

where,
n_b = base value of n for a straight, uniform channel,
$n_1, n_2, ..., n_n$ = adjustments for roughness factors other than meanders; and
m = adjustment for meanders.

III. PHOTOGRAPHS AND 'n' VALUE ASSIGNMENTS

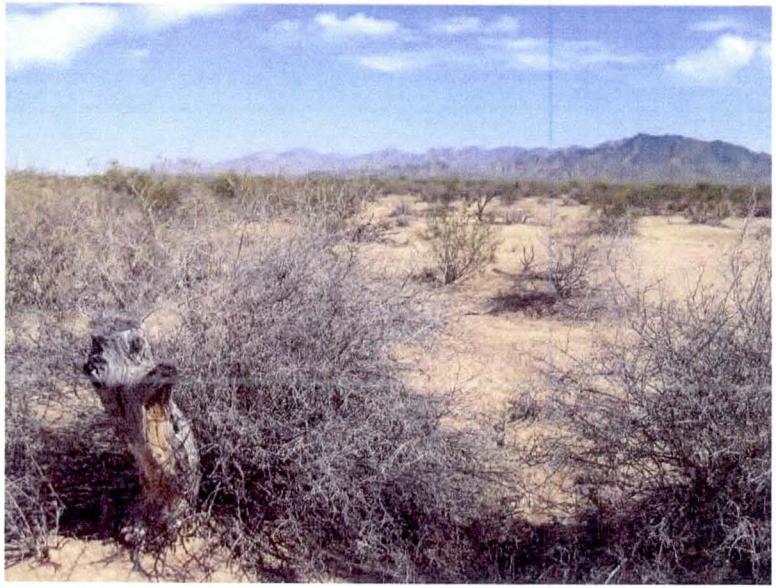
Along with the calculations for the 'n' value assignments, photographs are provided to illustrate typical conditions that exist in the study area. Unless otherwise noted, each page of photographs is arranged in the following sequence:

This report is a draft document and is not to be used as the basis for final design, construction or remedial action, or as a basis for major capital decisions. Please be advised that the report is still undergoing internal reviews by URS. Your comments, together with those of URS, will be incorporated into a final draft of this document.

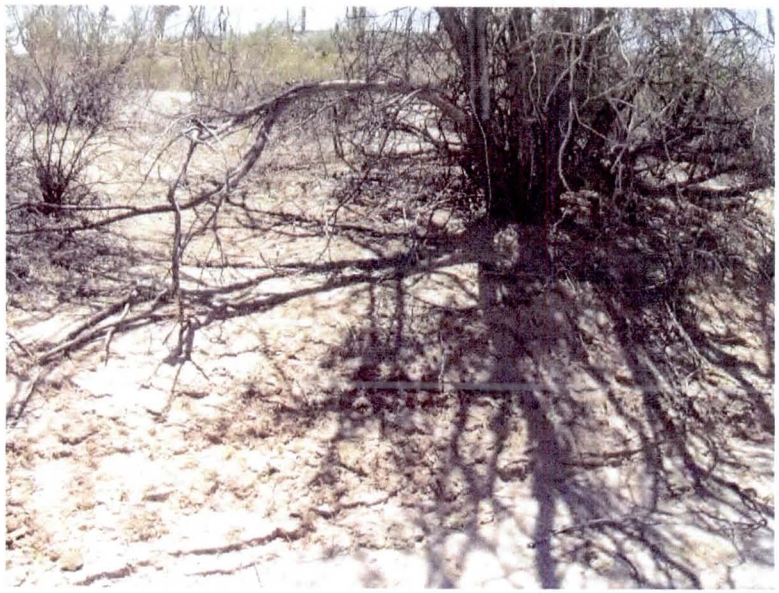
Unless otherwise noted, the photographs are arranged in the following sequence:

Left Overbank	Bed Material
Main Channel	Right Overbank

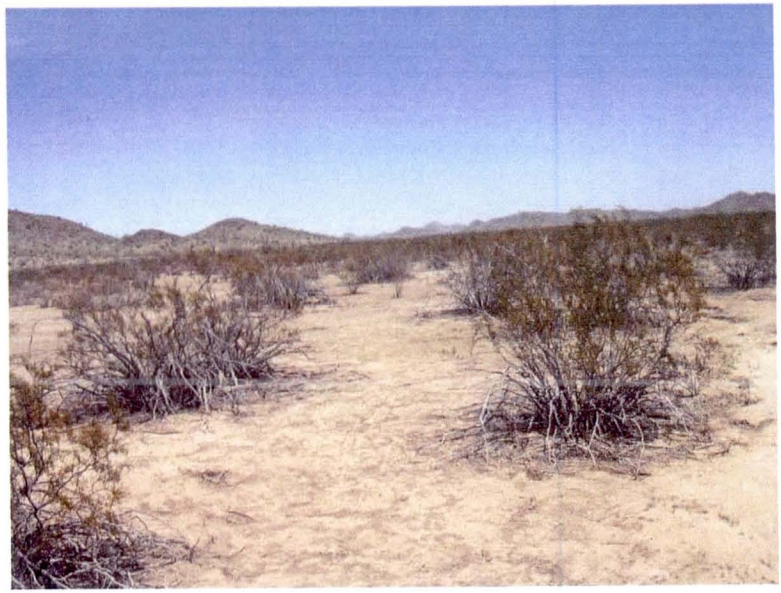
Stream Name: F05
Photographs: 1-4

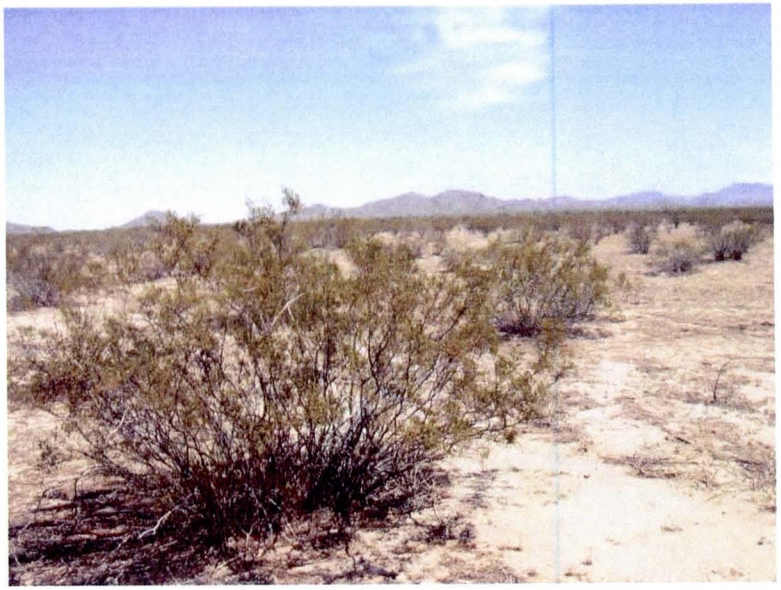


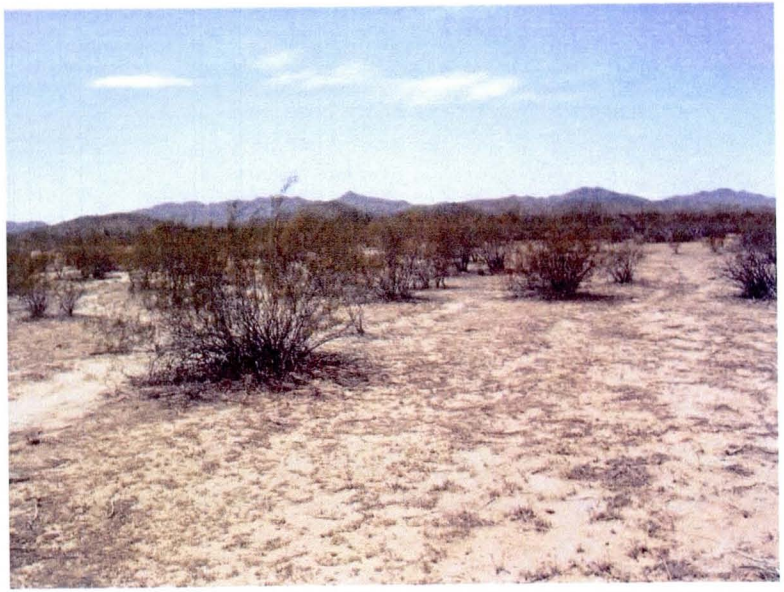
Stream Name: F25
Photographs: 5-8



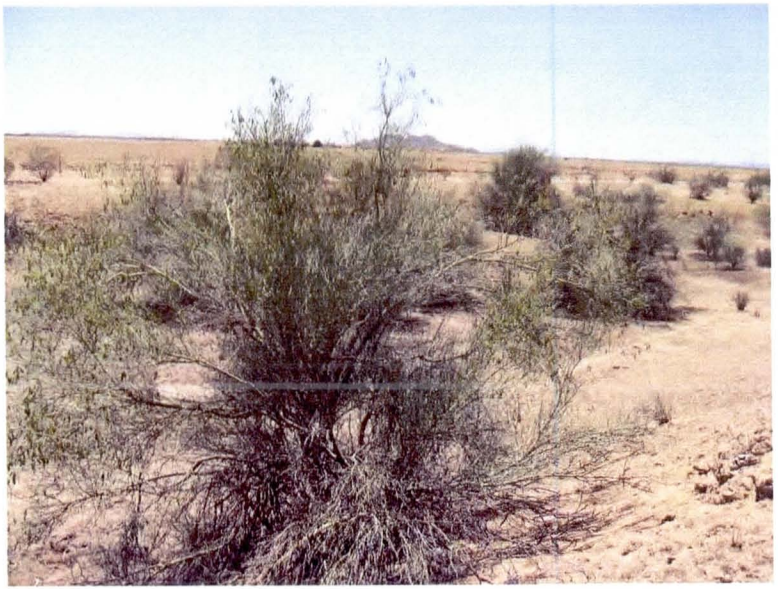
Stream Name: F03 – Upstream Reach
Photographs: 13-16



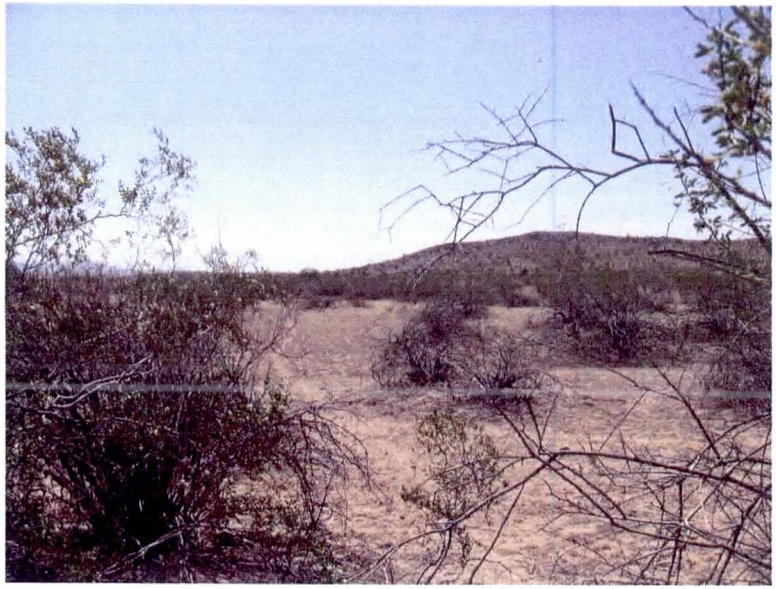




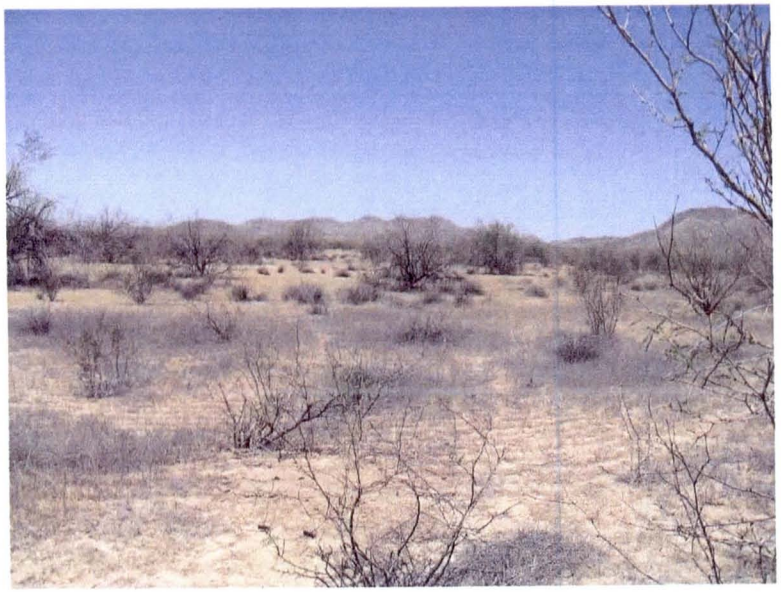
Stream Name: F03 – Downstream Reach
Photographs: 9-12



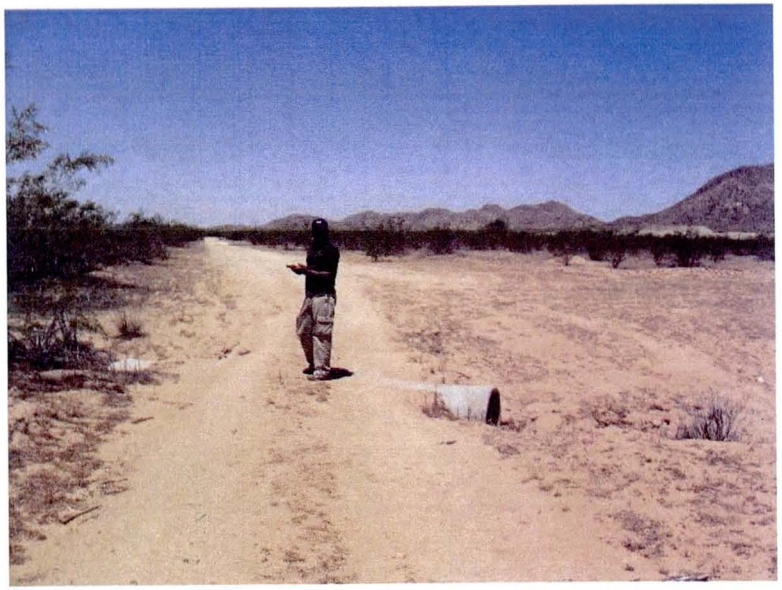
Stream Name: West Prong of Waterman Wash
Photographs: 17-20



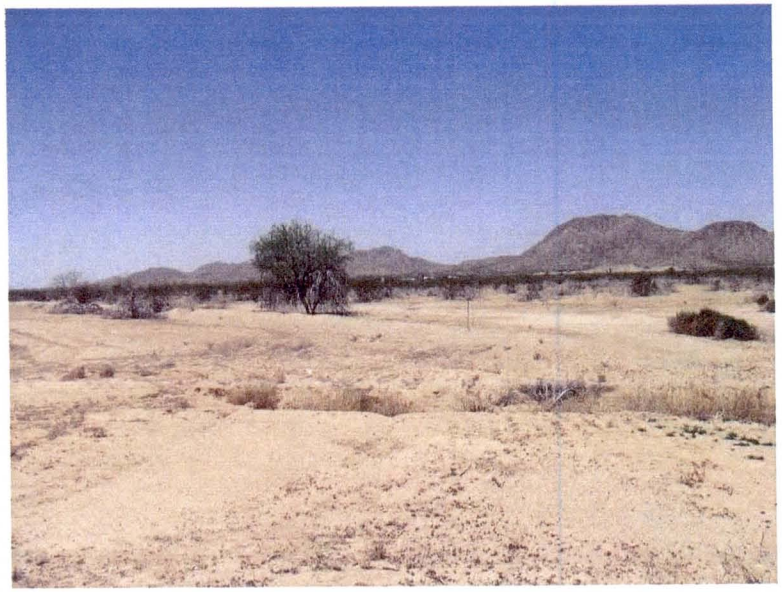
Stream Name: T1SR2WS32A (I-63)
Photographs: 21-24

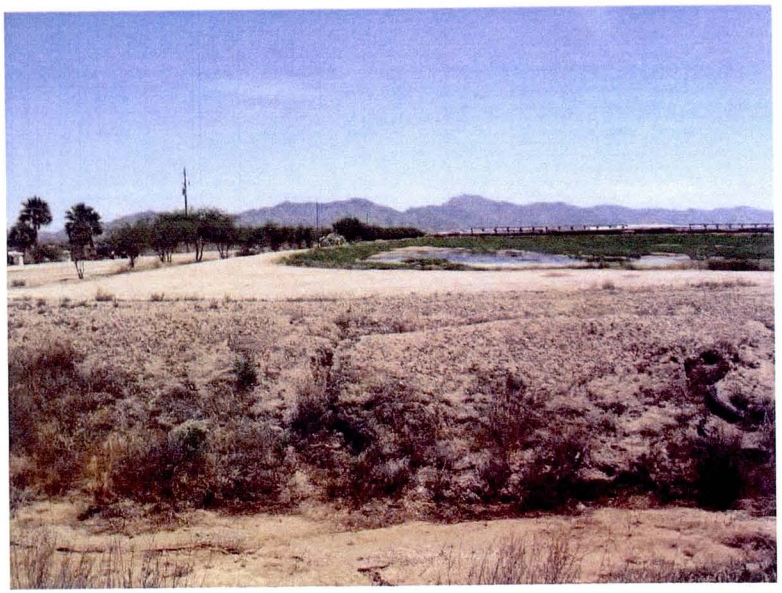


Stream Name: T2SR2WS7B (A51) – Upstream Reach
Photographs: 25-28

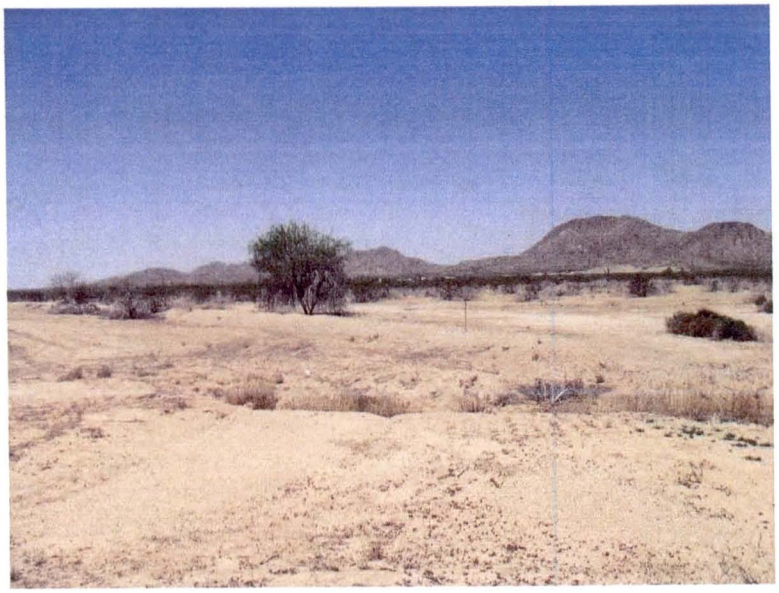


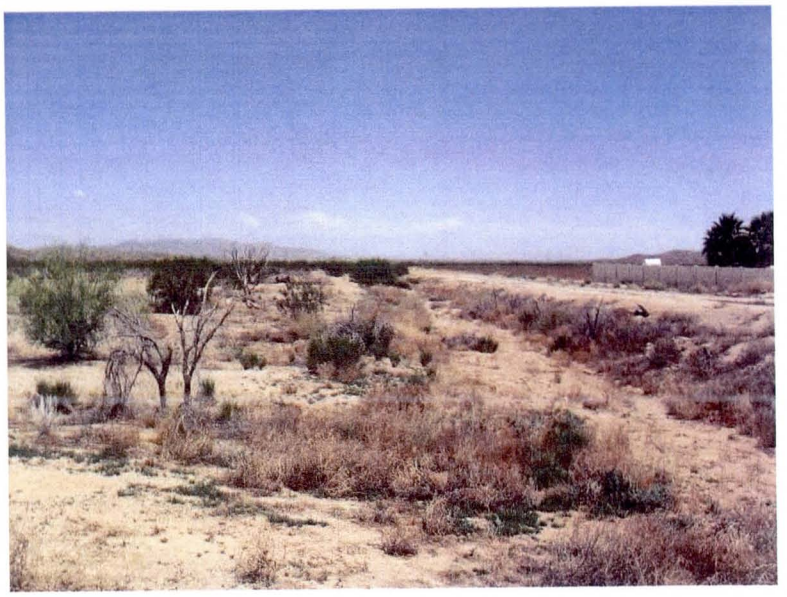
Stream Name: T2SR2WS7B (A51) – Downstream Reach
Photographs: 29-32

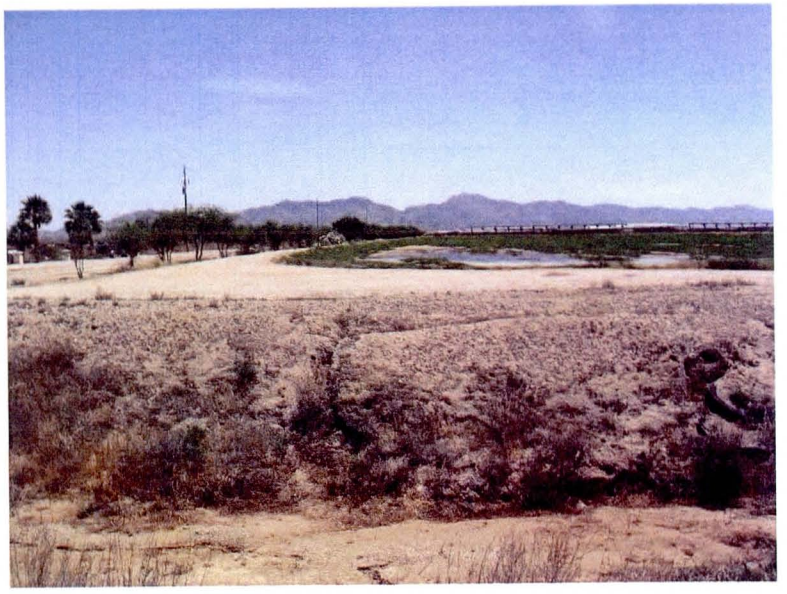




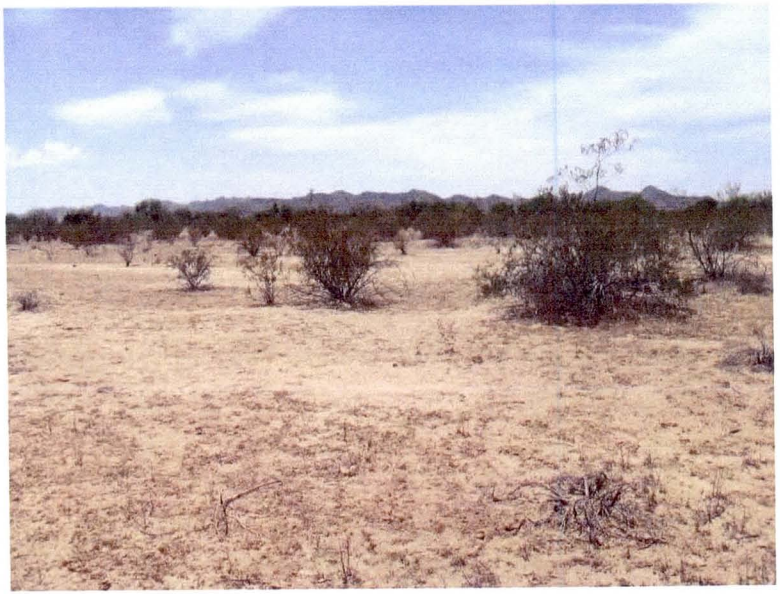
Stream Name: T2SR2WS17B (A63) – Upstream Reach
Photographs: 33-36

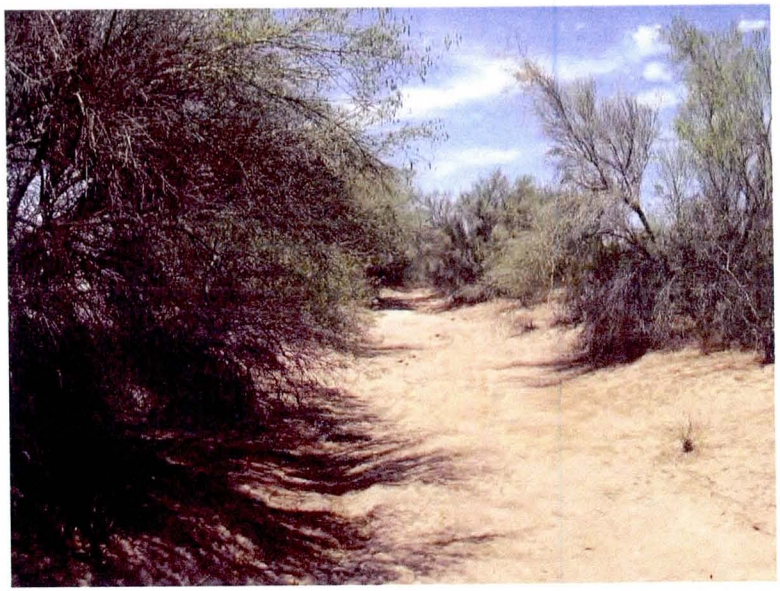


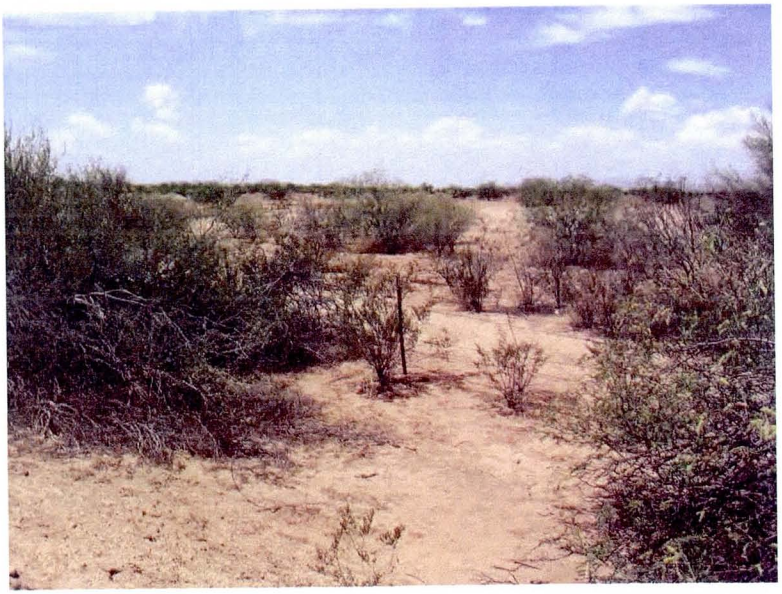




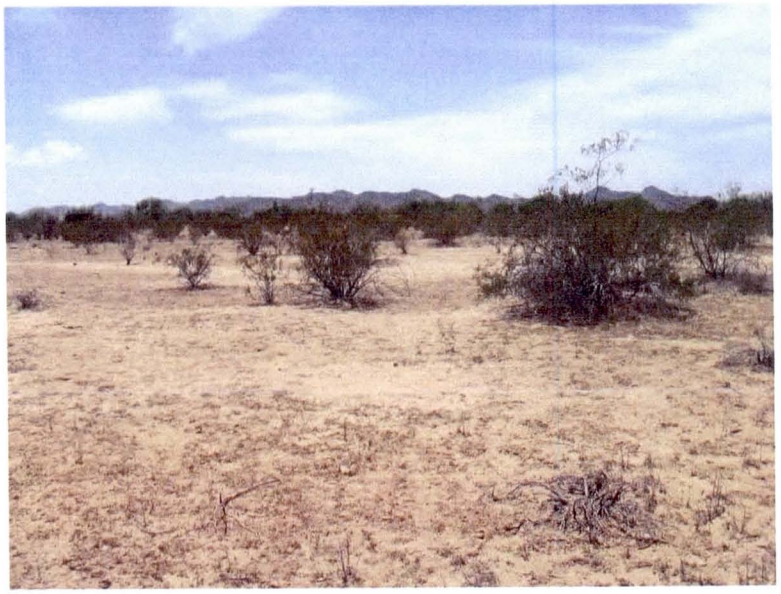
Stream Name: T2SR2WS17B (A63) – Downstream Reach
Photographs: 37-40

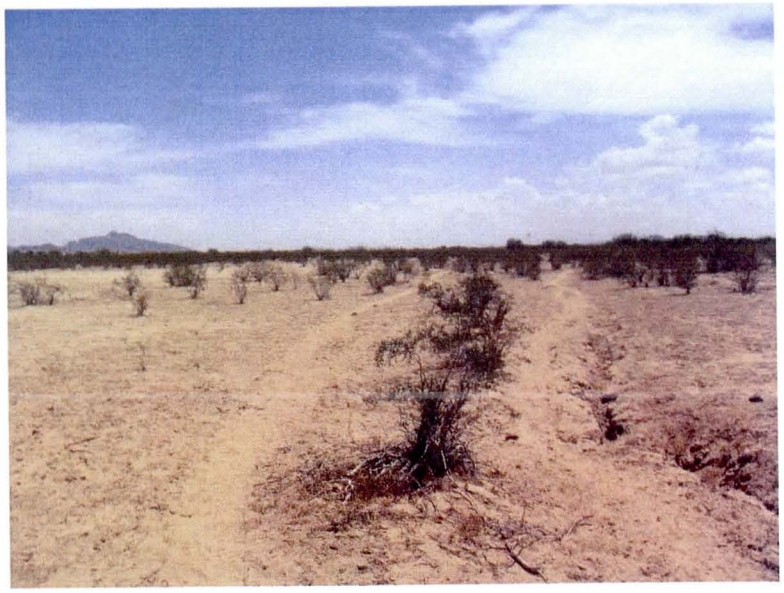


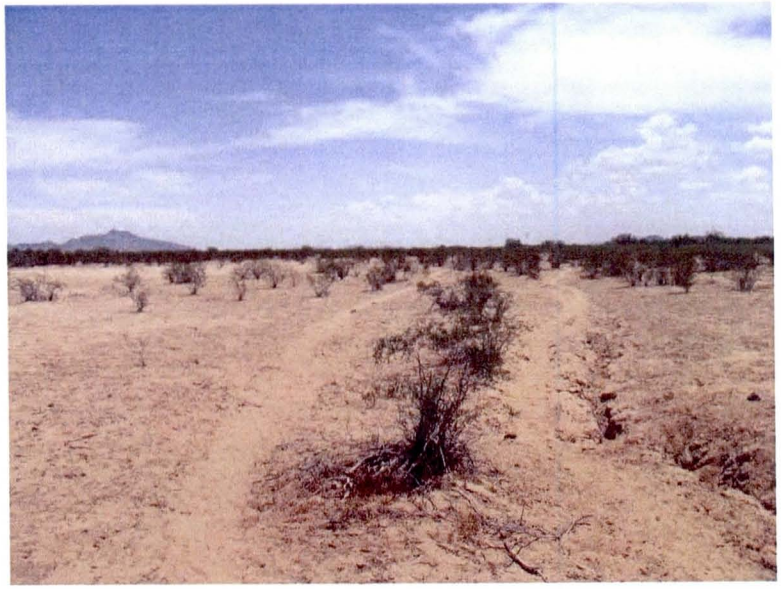


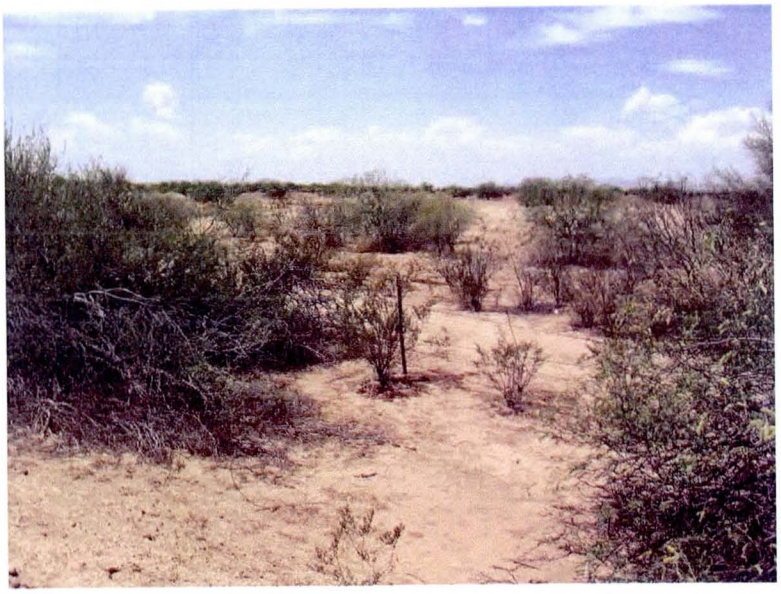


Stream Name: T3SR1WS4A (H71) - Downstream Reach
Photographs: 45-48

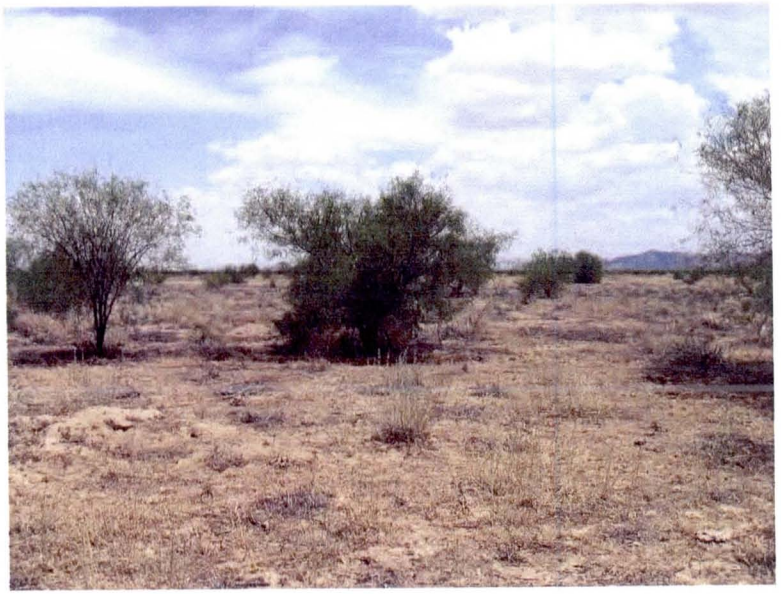


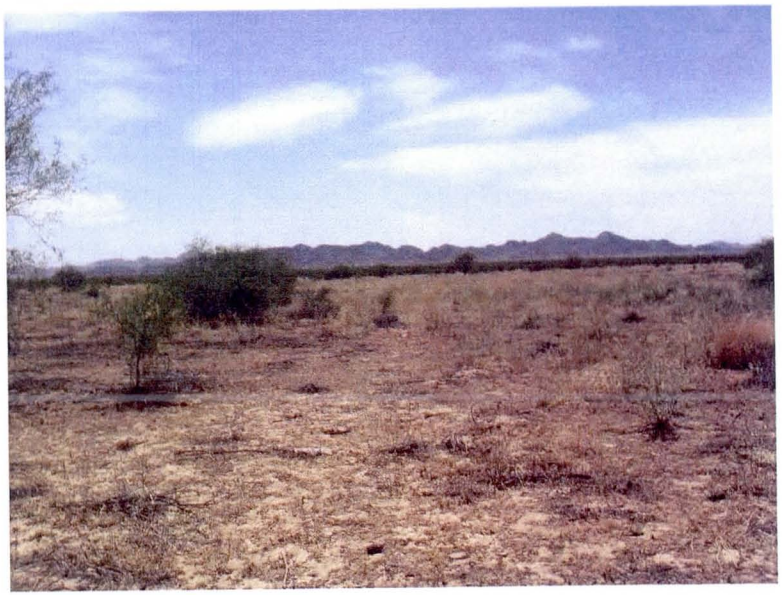


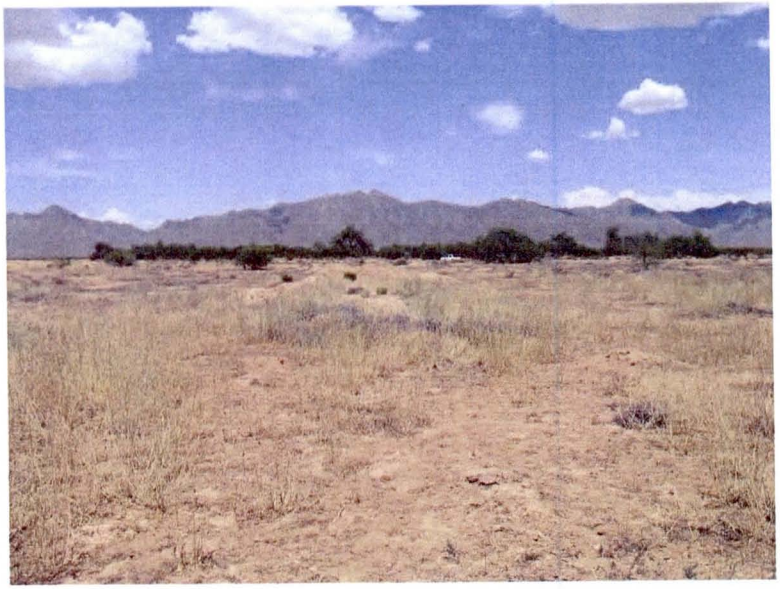


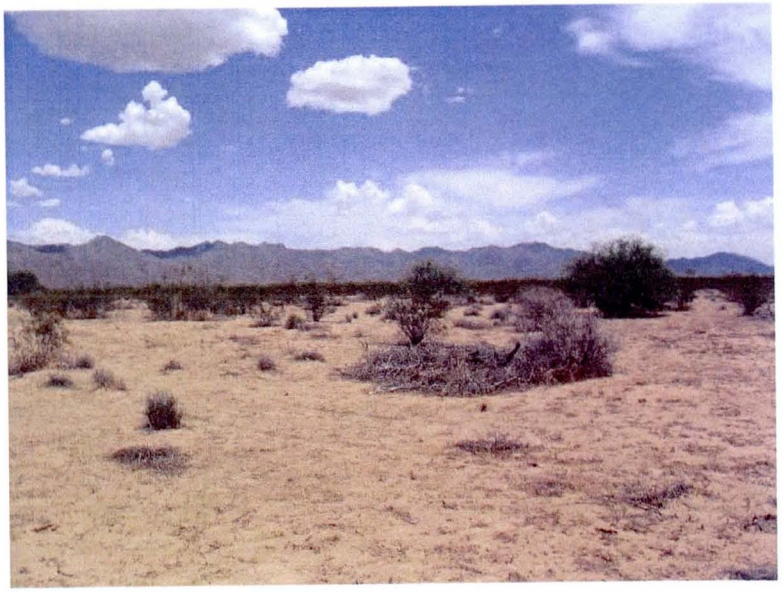


Stream Name: T3SR1WS4A (H71) – Upstream Reach
Photographs: 41-44

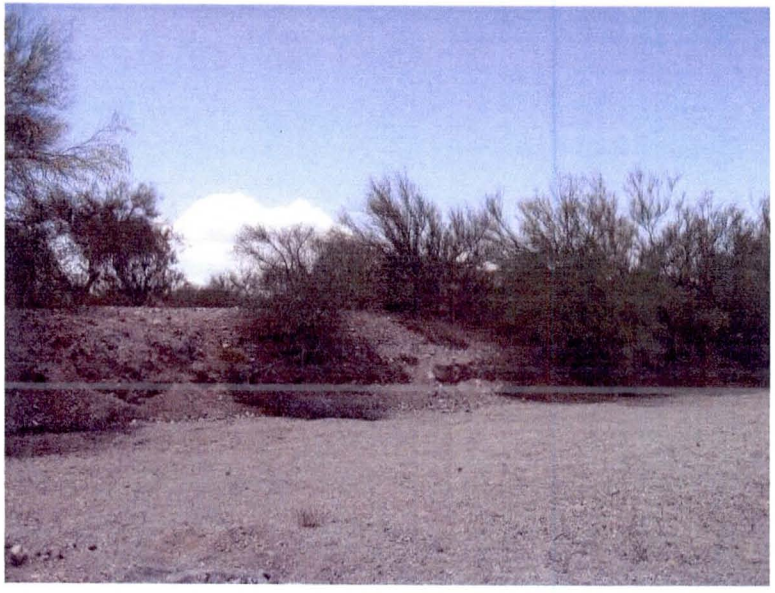




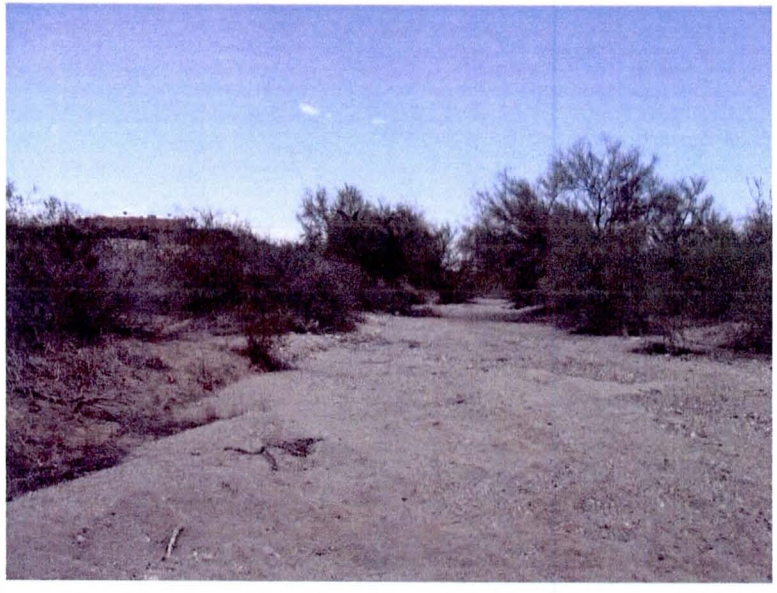




Stream Name: T3SR1WS4B (H73) – No confined channel found
Photographs: 49-52



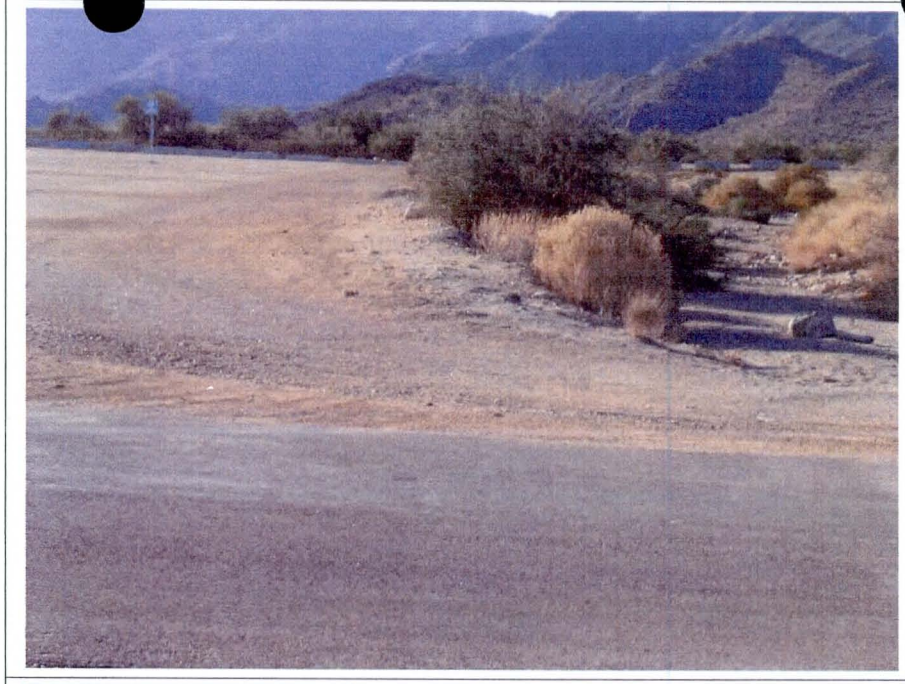
Stream Name: X02 Main
Photographs: 57-59



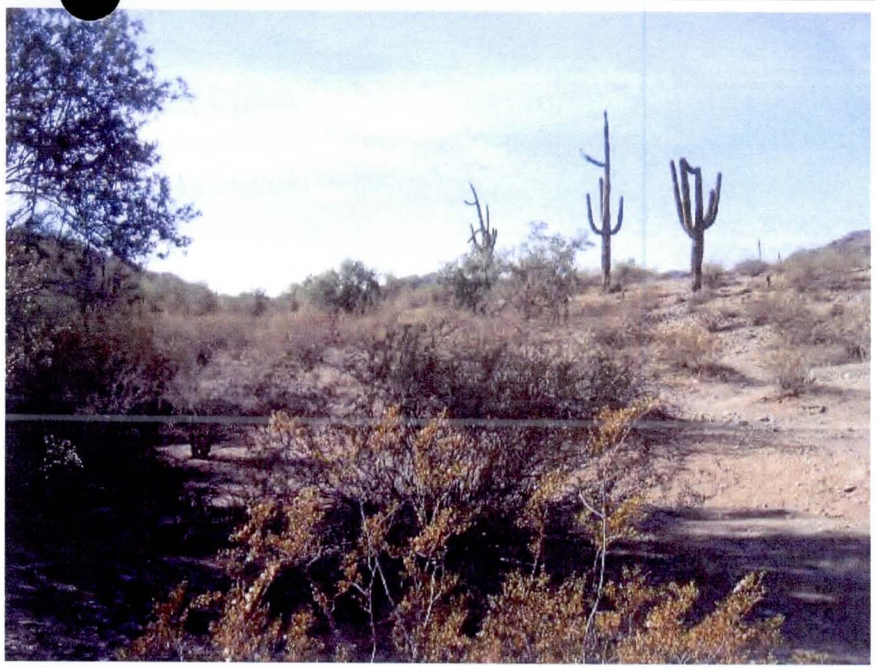
Stream Name: X02 Tributary
Photographs: 60-63

Stream Name: X04
Photographs: 53-56

Stream Name: X07 Upstream
Photographs: 64-66, 79



Stream Name: X07 Downstream
Photographs: 67-70



Stream Name: X06 Upstream
Photographs: 71-74

Stream Name: X06 Downstream
Photographs: 75-78

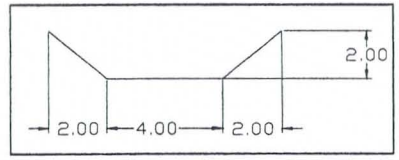
Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream F05

Photo #: 1-4

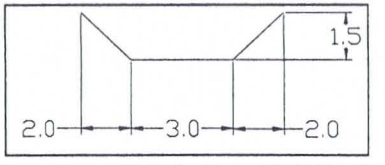
Stream Description: Channel has sandy gravelly bed, overbanks have firm soil. Channel vegetation is small to medium, Overbank vegetation is large to very large, vegetated with brush and trees.



Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.026	0.028	0.026	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.004		0.004	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0.002		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0	0	0.002	0	0
	Minor	.005 - .015					
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002					
	Small	.002 - .010		0.01	0.005	0.01	
	Medium	.010 - .025	0.025				0.025
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.055	0.04 0.007	0.037 0.025 0.038	0.04 0.007	0.055
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.055		0.038		0.055

Determination of Manning's Roughness Coefficients by FCDMC Method

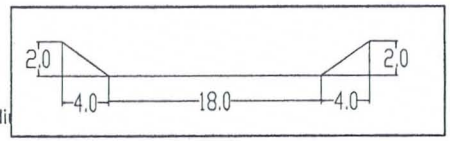
Project: Rainbow Valley Area Drainage Master Plan
Stream F25
Photo #: 5-8
Stream Description: Channel material is coarse sand, overbanks are firm soil. Channel vegetation is negligible to small. Overbank vegetation is small to medium with small to medium sized brush



Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.031				0.031
	Coarse Sand	.026 - .035		0.03	0.028	0.03	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0.002		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0	0	0	0	0
	Minor	.005 - .015					
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0.002		
	Small	.002 - .010		0.01		0.01	
	Medium	.010 - .025	0.025				0.025
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.056	0.042 0.008	0.032 0.019 0.036	0.042 0.008	0.056
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.056		0.036		0.056

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan
Stream F03 - Upstream Reach
Photo #: 13-16
Stream Description: Channel has sandy gravelly bed, overbanks have firm soil. Channel vegetation is small to medi
Overbank vegetation is large to very large, vegetated with brush and trees.



Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.026	0.028	0.026	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.004		0.004	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0.002		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0	0	0.002	0	0
	Minor	.005 - .015					
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002					
	Small	.002 - .010		0.01	0.005	0.01	
	Medium	.010 - .025	0.025				0.025
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.055	0.04 0.004	0.037 0.030 0.038	0.04 0.004	0.055
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.055		0.038		0.055

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream: Stream F03 downstream Reach

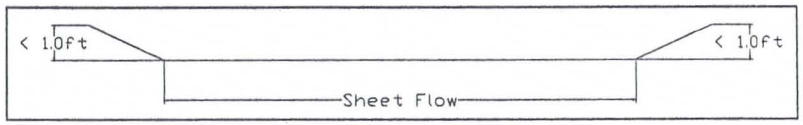


Photo #: 9-12

Stream Description: No definable channel dowstream, braided channels and sheet flow. Firm gravely soil, with lightly dense medium height shrubs.

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.032	0.023	0.023	0.023	0.032
	Coarse Sand	.026 - .035					
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0	0	0	0	0
	Minor	.001 - .005					
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000					
	Alternating Occasionally	.001 - .005	0.002	0.002	0.002	0.002	0.002
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004					
	Minor	.005 - .015	0.006	0.006	0.006	0.006	0.006
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002					
	Small	.002 - .010	0.005	0.005	0.005	0.005	0.005
	Medium	.010 - .025					
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.045	0.036 0.00	0.036 0.04 0.04	0.036 0.00	0.045
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.045		0.036		0.045

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream West Prong of Waterman Wash

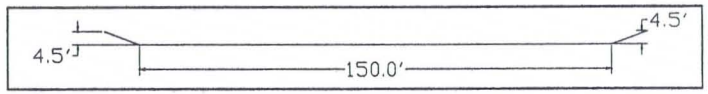


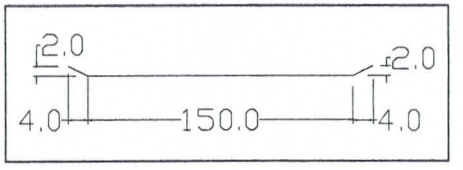
Photo #: 17-20

Stream Description: Channel has sandy, fine gravelly bed with a width ranging from 50ft to over 150ft. Channel vegetation is negligible. Bank vegetation is large trees and other dense vegetation. Overbank vegetation is small to medium vegetated with brush and small trees.

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable						
	Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.028		0.028	
	Fine Gravel	0.024			0.024		
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0.002		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0	0		0	0
	Minor	.005 - .015			0.01		
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0		
	Small	.002 - .010					
	Medium	.010 - .025	0.015				0.015
	Large	.025 - .050		0.03		0.03	
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum		0.045	0.06	0.036	0.06	0.045
	Mult. By % Area			0.002	0.033	0.002	
	Sum (left right middle)				0.038		
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.045		0.038		0.045

Determination of Manning's Roughness Coefficients by FCDMC Method

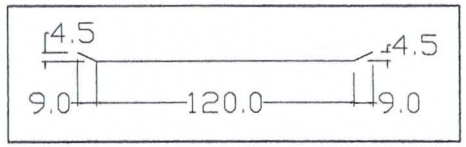
Project: Rainbow Valley Area Drainage Master Plan
Stream: T1SR2WS32A (I63)
Photo #: 21-24
Stream Description: Channel has sandy gravelly bed, overbanks have firm soil. Channel vegetation is small to medium, Overbank vegetation is medium to large, vegetated with brush and trees.



Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable						
	Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.03	0.028	0.03	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0.001		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0	0		0	0
	Minor	.005 - .015			0.01		
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0		
	Small	.002 - .010					
	Medium	.010 - .025	0.02	0.025		0.025	0.02
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum		0.05	0.057	0.039	0.057	0.05
	Mult. By % Area			0.001	0.038	0.001	
	Sum (left right middle)				0.039		
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.05		0.039		0.05

Determination of Manning's Roughness Coefficients by FCDMC Method

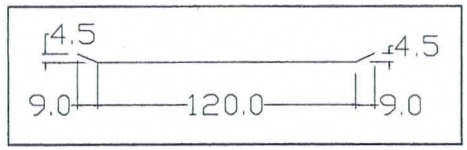
Project: Rainbow Valley Area Drainage Master Plan
Stream T2SR2WS7B (A51) Upstream Reach
Photo #: 25-28
Stream Description: Channel has gravelly bed with lot of brush, overbanks have firm soil. Channel vegetation is medium, Overbank vegetation is medium to large, vegetated with brush and trees.



Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03	0.023	0.023	0.023	0.03
	Coarse Sand	.026 - .035					
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0				0
	Minor	.001 - .005		0.002	0.002	0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0.003		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0				0
	Minor	.005 - .015		0.01	0.01	0.01	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002					
	Small	.002 - .010			0.006		
	Medium	.010 - .025	0.02	0.025		0.025	0.02
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.05	0.06 0.0021	0.044 0.04092 0.04512	0.06 0.0021	0.05
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.05		0.045		0.05

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan
Stream T2SR2WS7B (A51) Downstream Reach
Photo #: 29-32
Stream Description: Channel has gravelly bed with lot of brush, overbanks have firm soil. Channel vegetation is medium, Overbank vegetation is medium to large, vegetated with brush and trees.



Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.028	0.028	0.028	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0				0
	Minor	.001 - .005		0.002	0.002	0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0.001		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0		0		0
	Minor	.005 - .015		0.006		0.006	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002					
	Small	.002 - .010			0.01		
	Medium	.010 - .025	0.02	0.015		0.015	0.02
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.05	0.051 0.001785	0.041 0.03813 0.0417	0.051 0.001785	0.05
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.05		0.042		0.05

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream T3SR1WS4A (H71) downstream of Bullard Avenue

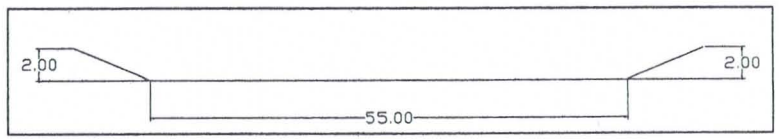


Photo #: 45-48

Stream Description: Sandy Channel bottom with little to no vegetation. Overbank soil is firm, vegetation is moderately dense with medium to small sized brush.

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable						
	Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.028	0.026	0.028	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0.002		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0	0	0	0	0
	Minor	.005 - .015					
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0		
	Small	.002 - .010		0.01		0.01	
	Medium	.010 - .025	0.012				0.012
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum		0.042	0.04	0.028	0.04	0.042
	Mult. By % Area			0.00	0.03	0.00	
	Sum (left right middle)				0.03		
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.042		0.029		0.042

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream T3SR1WS4A (H71) upstream of Bullard Avenue

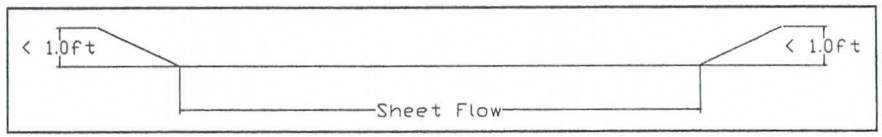


Photo #: 41-44

Stream Description: No definable channel upstream of Bullard Road, sheet flow. Firm gravely soil, with moderately dense medium height shrubs.

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.032	0.026	0.026	0.026	0.032
	Coarse Sand	.026 - .035					
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0	0	0	0	0
	Minor	.001 - .005					
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0	0	0	0
	Alternating Occasionally	.001 - .005					
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004					
	Minor	.005 - .015	0.006	0.006	0.006	0.006	0.006
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002					
	Small	.002 - .010	0.005	0.005	0.005	0.005	0.005
	Medium	.010 - .025					
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.043	0.037 0.00	0.037 0.04 0.04	0.037 0.00	0.043
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.043		0.037		0.043

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream T3SR1WS4B (H73)

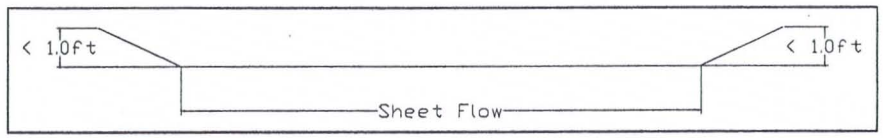


Photo #: 49-52

Stream Description: No definable channel found during site visit. Flow is predominately sheet flow. Firm gravely soil, with lightly dense medium height shrubs.

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.032	0.032	0.032	0.032	0.032
	Coarse Sand	.026 - .035					
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0	0	0	0	0
	Minor	.001 - .005					
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0	0	0	0
	Alternating Occasionally	.001 - .005					
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004					
	Minor	.005 - .015	0.006	0.006	0.006	0.006	0.006
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002					
	Small	.002 - .010	0.007	0.007	0.007	0.007	0.007
	Medium	.010 - .025					
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.045	0.045 0.00	0.045 0.04 0.05	0.045 0.00	0.045
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.045		0.045		0.045

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream T2SR2WS17B (A63) Upstream Reach

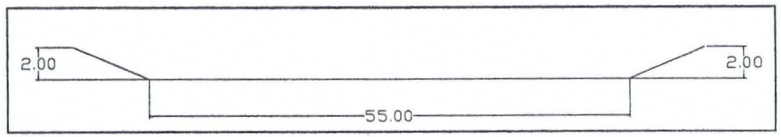


Photo #: 33-36

Stream Description: Coarse Sandy Channel bottom with little to medium vegetation. Left Overbank soil is firm, vegetation is moderately dense with medium to small sized brush. Right Overbanks soil is firm, vegetation is agricultural with small dense crops

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.028	0.028	0.028	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0				0
	Minor	.001 - .005		0.002	0.002	0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0				0
	Alternating Occasionally	.001 - .005		0.002	0.002	0.002	
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004					0
	Minor	.005 - .015	0.005	0.007	0	0.007	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0.001		
	Small	.002 - .010	0.01				0.01
	Medium	.010 - .025		0.015		0.015	
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.045	0.054 0.00	0.033 0.03 0.03	0.054 0.00	0.040
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.045		0.034		0.040

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream T2SR2WS17B (A63) Downstream Reach

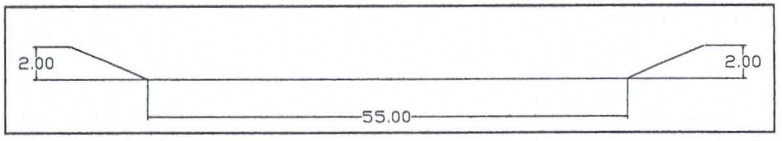


Photo #: 37-40

Stream Description: Coarse Sandy Channel bottom with little to medium vegetation. Left Overbank soil is firm, vegetation is moderately dense with medium to small sized brush. Right Overbanks soil is firm, vegetation is agricultural with small dense crops

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable						
	Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.028	0.028	0.028	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0				0
	Minor	.001 - .005		0.002	0.002	0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0	0	0	0
	Alternating Occasionally	.001 - .005					
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004					0
	Minor	.005 - .015	0.005	0.007	0.007	0.007	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002					
	Small	.002 - .010	0.005		0.005		0.01
	Medium	.010 - .025		0.01		0.01	
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum		0.04	0.047	0.042	0.047	0.04
	Mult. By % Area			0.00	0.04	0.00	
	Sum (left right middle)				0.04		
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.04		0.042		0.04

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream X2 Main and tributary

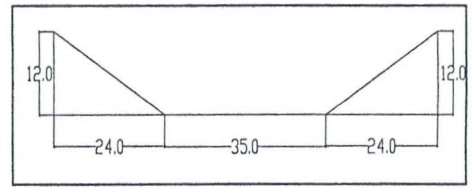


Photo #: 57-63

Stream Description: Coarse Sandy Channel bottom with little to medium vegetation. Left Overbank and Right Overbank soil is firm, vegetation is moderately dense with medium to small sized brush. Sparse developments on the overbanks

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.026	0.026	0.026	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0.002				0.002
	Minor	.005 - .015		0.005		0.005	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0		
	Small	.002 - .010					
	Medium	.010 - .025	0.02	0.012		0.012	0.02
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.052	0.045 0.01	0.026 0.02 0.03	0.045 0.01	0.052
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.052		0.034		0.052

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream X4

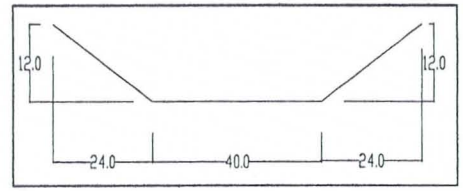


Photo #: 53-56

Stream Description: Coarse Sandy Channel bottom with little to medium vegetation. Left Overbank and Right Overbank soil is firm, vegetation is moderately dense with medium to small sized brush. Sparse developments on the overbanks

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.027	0.026	0.027	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0.002		0.001		0.002
	Minor	.005 - .015		0.008		0.008	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0.001		
	Small	.002 - .010					
	Medium	.010 - .025	0.02	0.018		0.018	0.02
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.052	0.055 0.01	0.028 0.02 0.04	0.055 0.01	0.052
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.052		0.038		0.052

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream: X06 Main and tributary - Upstream (Before the PIR parking lot)

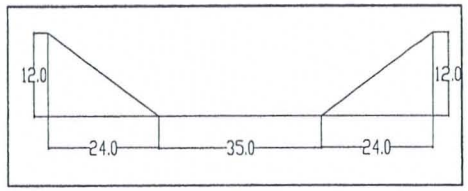


Photo #: 71-74

Stream Description: Coarse Sandy Channel bottom with little to medium vegetation. Left Overbank and Right Overbank soil is firm, vegetation is moderately dense with medium to small sized brush. Sparse developments on the overbanks

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.026	0.03	0.026	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0.002				0.002
	Minor	.005 - .015		0.005		0.005	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0		
	Small	.002 - .010					
	Medium	.010 - .025	0.02	0.012		0.012	0.02
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.052	0.045 0.01	0.03 0.02 0.04	0.045 0.01	0.052
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.052		0.037		0.052

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream: X06 Main and tributary - Downstream (Along the PIR parking lot)

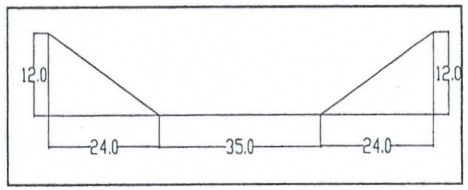


Photo #: 75-78

Stream Description: Coarse Sandy Channel bottom with little to medium vegetation. Left Overbank soil is firm, vegetation is moderately dense with medium to small sized brush. Right Overbank soil is grated/paved with sparse vegetation. Sparse developments on the overbanks

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable						
	Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.02
	Coarse Sand	.026 - .035		0.026	0.03	0.026	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0.002				0
	Minor	.005 - .015		0.005		0.005	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0		
	Small	.002 - .010	0.01	0.01		0.01	
	Medium	.010 - .025					0
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum		0.042	0.043	0.03	0.043	0.02
	Mult. By % Area			0.01	0.02	0.01	
	Sum (left right middle)				0.04		
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.042		0.036		0.02

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream: X07 Main and tributary - Upstream (Before the PIR parking lot)

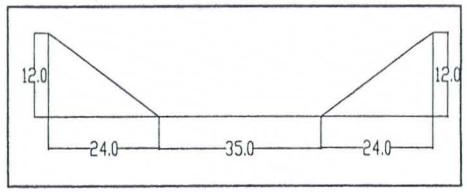


Photo #: 64, 65, 66, 79

Stream Description: Coarse Sandy Channel bottom with little to medium vegetation. Left Overbank and Right Overbank soil is firm, vegetation is moderately dense with medium to small sized brush. Sparse developments on the overbanks

Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.03				0.03
	Coarse Sand	.026 - .035		0.026	0.03	0.026	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0.002				0.002
	Minor	.005 - .015		0.005	0	0.005	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0		
	Small	.002 - .010					
	Medium	.010 - .025	0.02	0.012		0.012	0.02
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.052	0.045 0.01	0.03 0.02 0.04	0.045 0.01	0.052
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.052		0.037		0.052

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Rainbow Valley Area Drainage Master Plan

Stream: X07 Main and tributary - Downstream (Along the PIR parking lot)

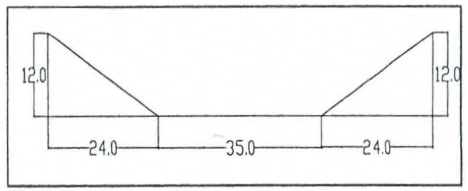


Photo #: 67-70

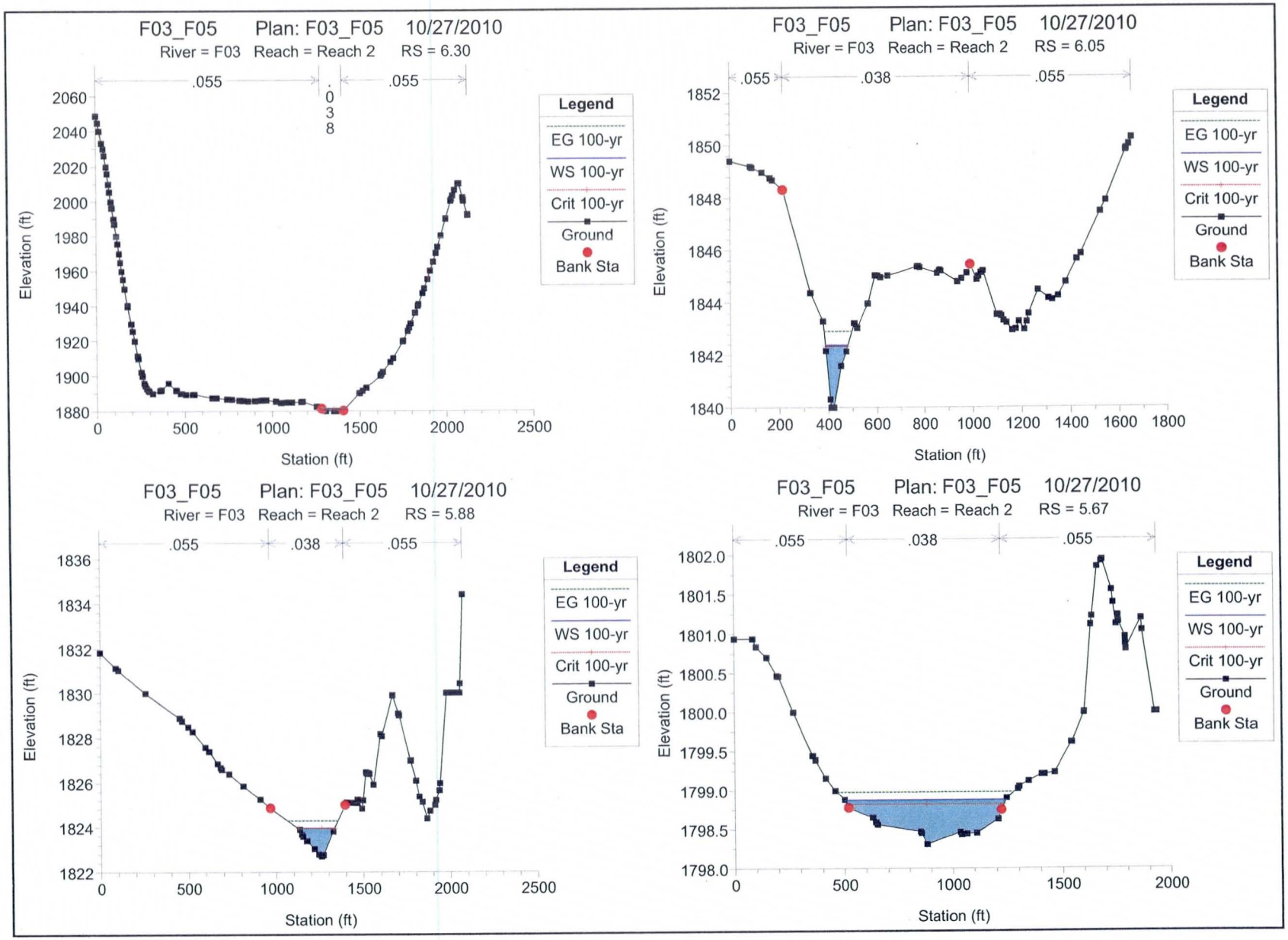
Stream Description: Coarse Sandy Channel bottom with little to medium vegetation. Left and Right Overbank soil is grated/paved with sparse vegetation. Sparse developments on the overbanks. Parking lots on Right Overbank have small berms acting as a curb to separate parking rows.

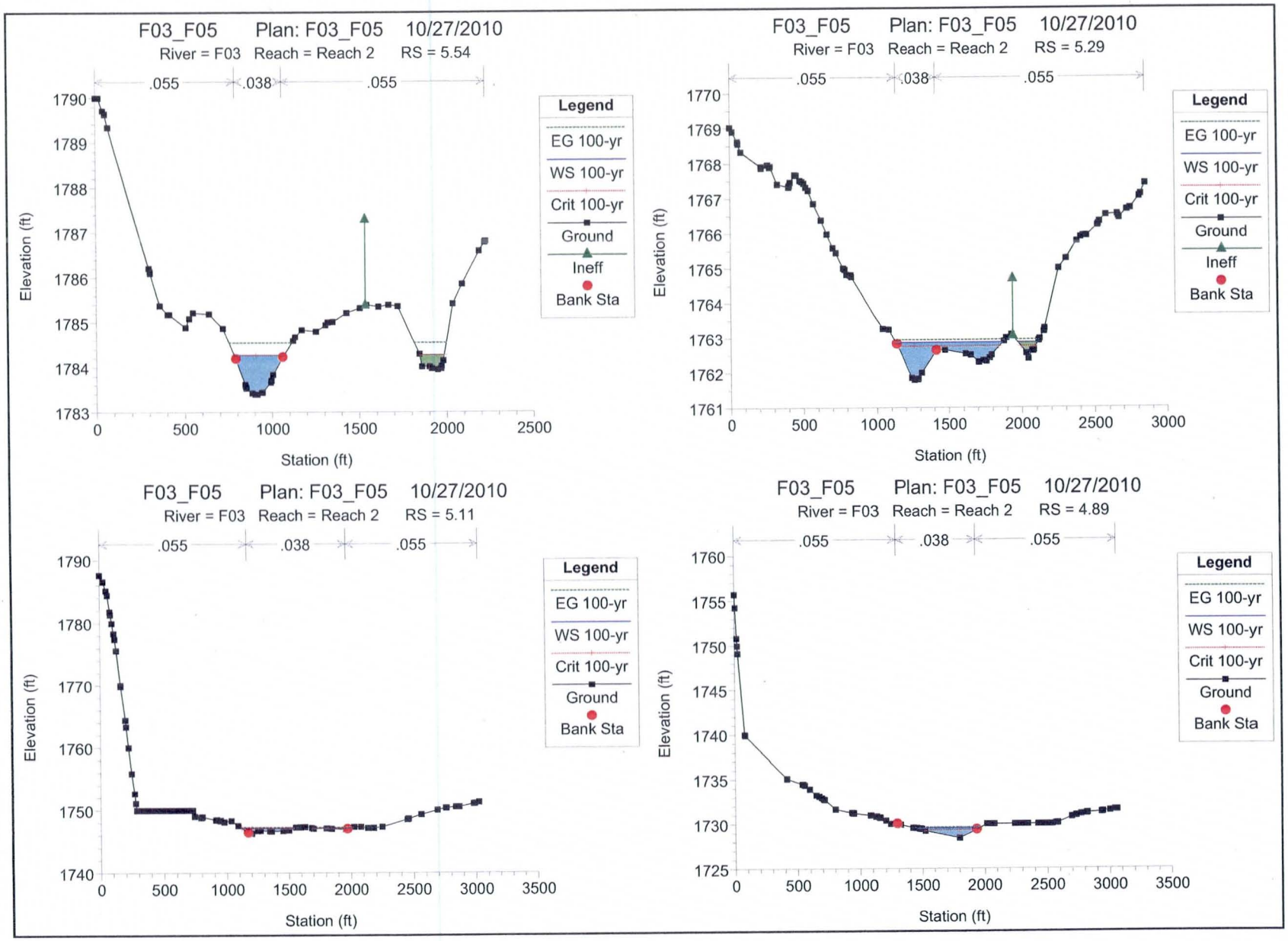
Channel Conditions		Manning's n Adjustment	Left Overbank	Left Bank	Main Channel	Right Bank	Right Overbank
Channel Type	Stable Unstable						
Channel Bed Material	Firm Earth	.020 - .032	0.02				0.02
	Coarse Sand	.026 - .035		0.026	0.03	0.026	
	Fine Gravel	0.024					
	Gravel	.028 - .035					
	Coarse Gravel	0.028					
	Cobble	.030 - .050					
	Boulder	.040 - .070					
Degree of Irregularity	Smooth	0.000	0		0		0
	Minor	.001 - .005		0.002		0.002	
	Moderate	.006 - .010					
	Severe	.011 - .020					
Variation in Channel Cross Section	Gradual	0.000	0	0		0	0
	Alternating Occasionally	.001 - .005			0		
	Alternating Frequently	.010 - .015					
Effect of Obstruction	Negligable	.000 - .004	0		0		0.004
	Minor	.005 - .015		0.005		0.005	
	Appreciable	.020 - .030					
	Severe	.040 - .060					
Amount of Vegetation	Negligable	.000 - .002			0		
	Small	.002 - .010	0	0.01		0.01	
	Medium	.010 - .025					0
	Large	.025 - .050					
	Very Large	.050 - .100					
	Extremely Large	.100 - .200					
Sum	Sum Mult. By % Area Sum (left right middle)		0.02	0.043 0.01	0.03 0.02 0.04	0.043 0.01	0.024
Degree of Meandering	Minor	1.00	1		1		1
	Appreciable	1.15					
	Severe	1.30					
	n = (n0 + n1 + n2 + n3 + ..)m		0.02		0.036		0.024

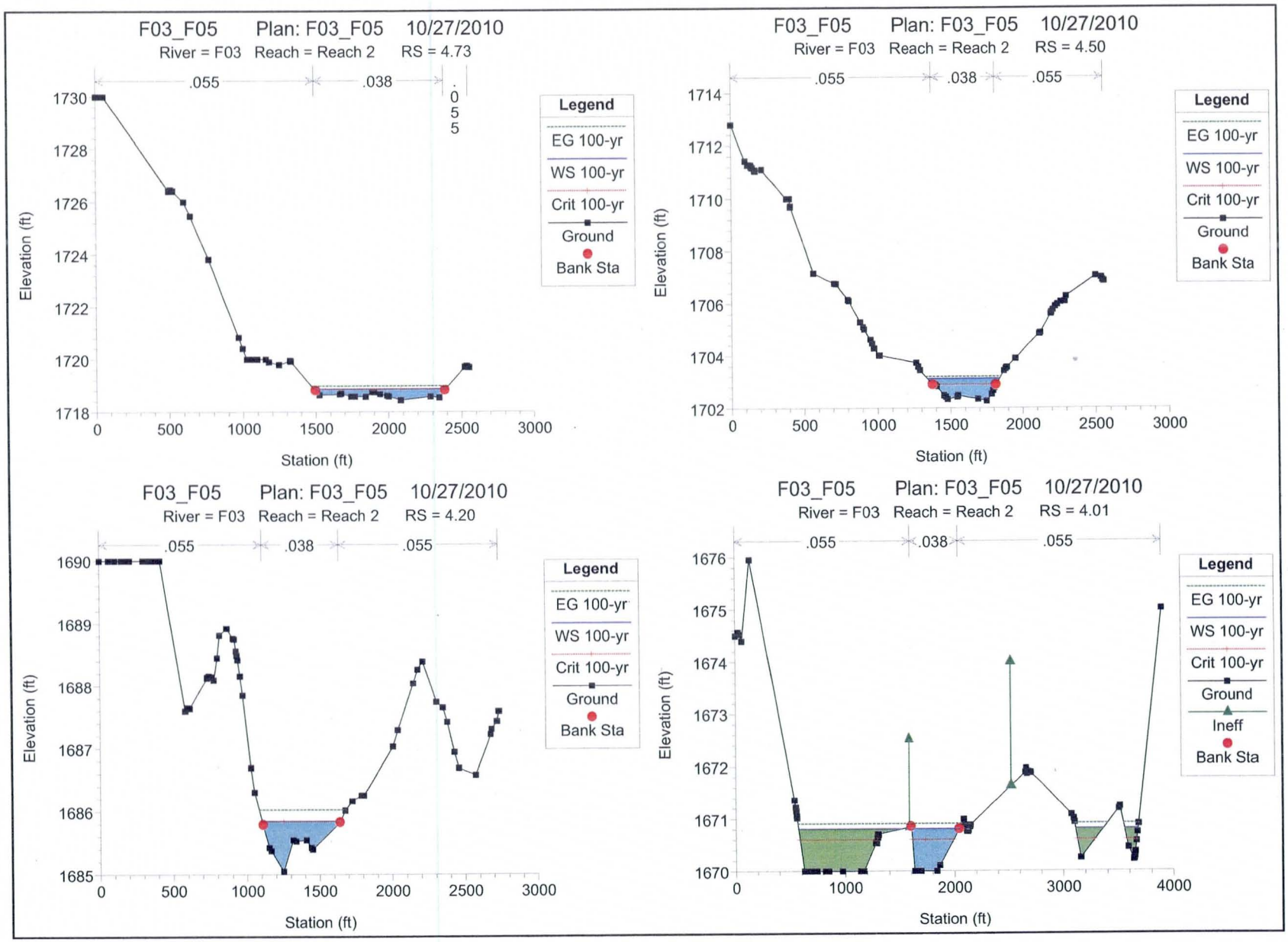
E.2 CROSS SECTION PLOTS

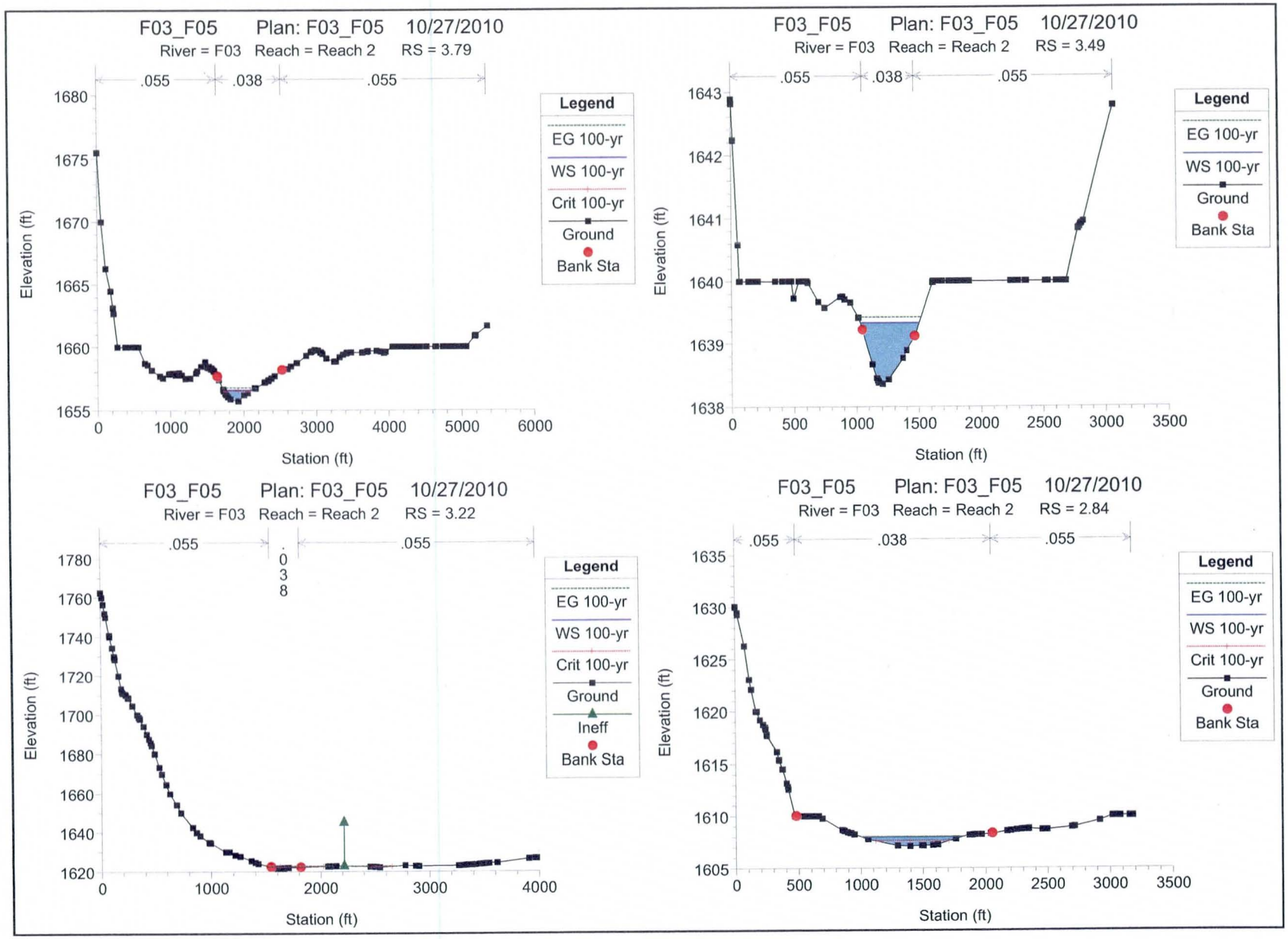
F03/F05

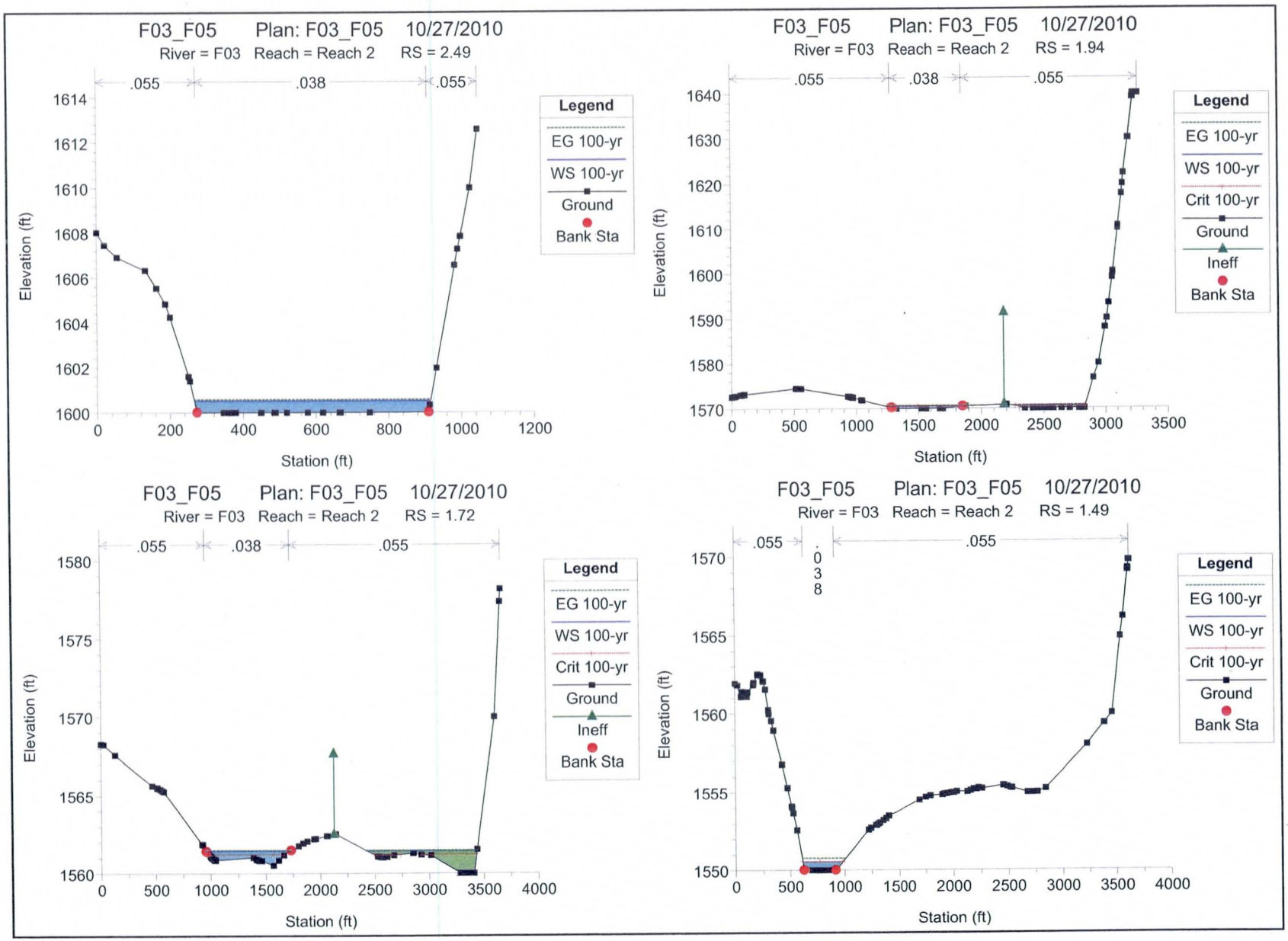
HEC-RAS SECTIONS F03/F05

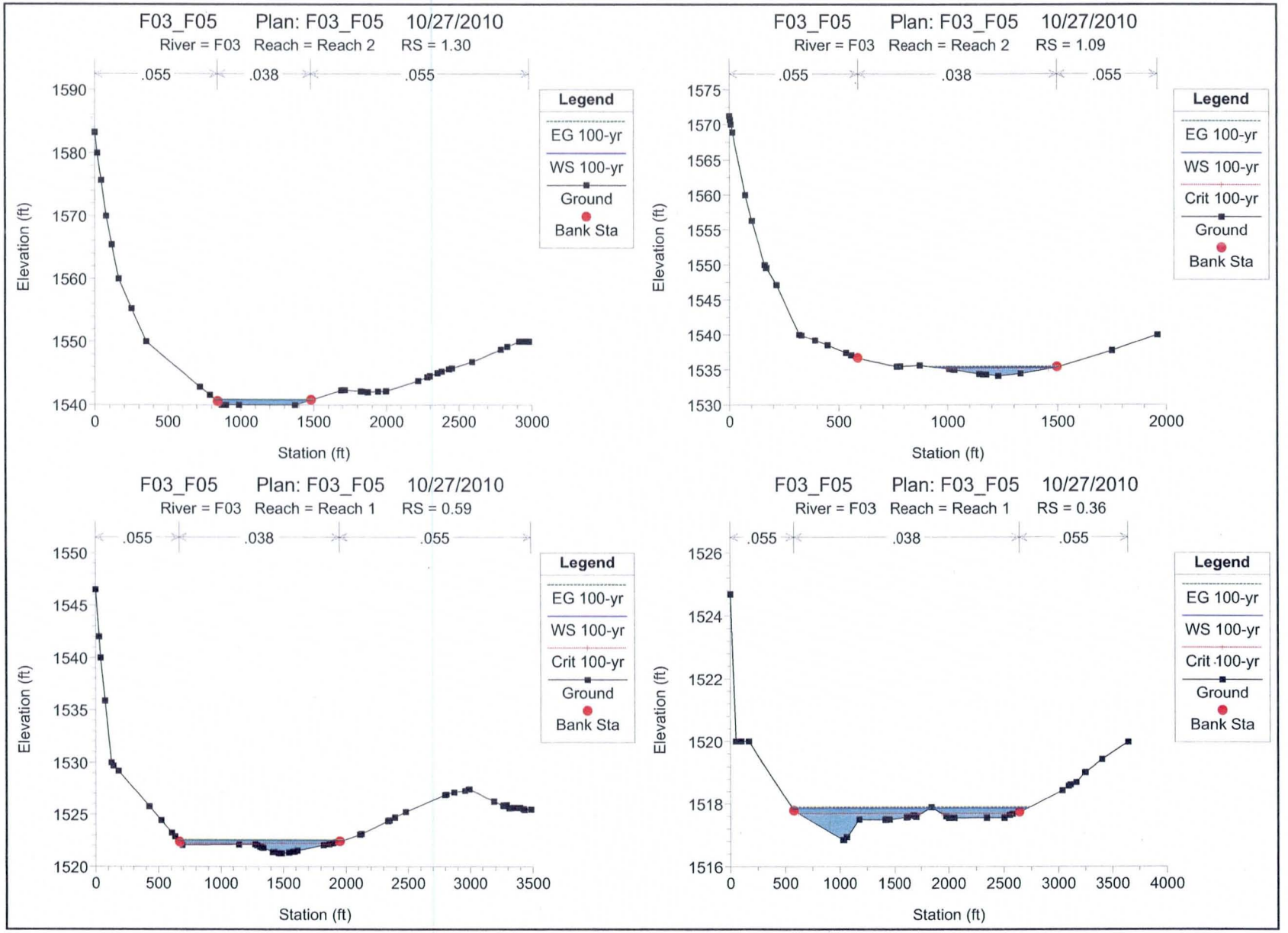

F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 6.30
.055
.038
.055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 6.05
.055
.038
.055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 5.88
.055
.038
.055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 5.67
.055
.038
.055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta

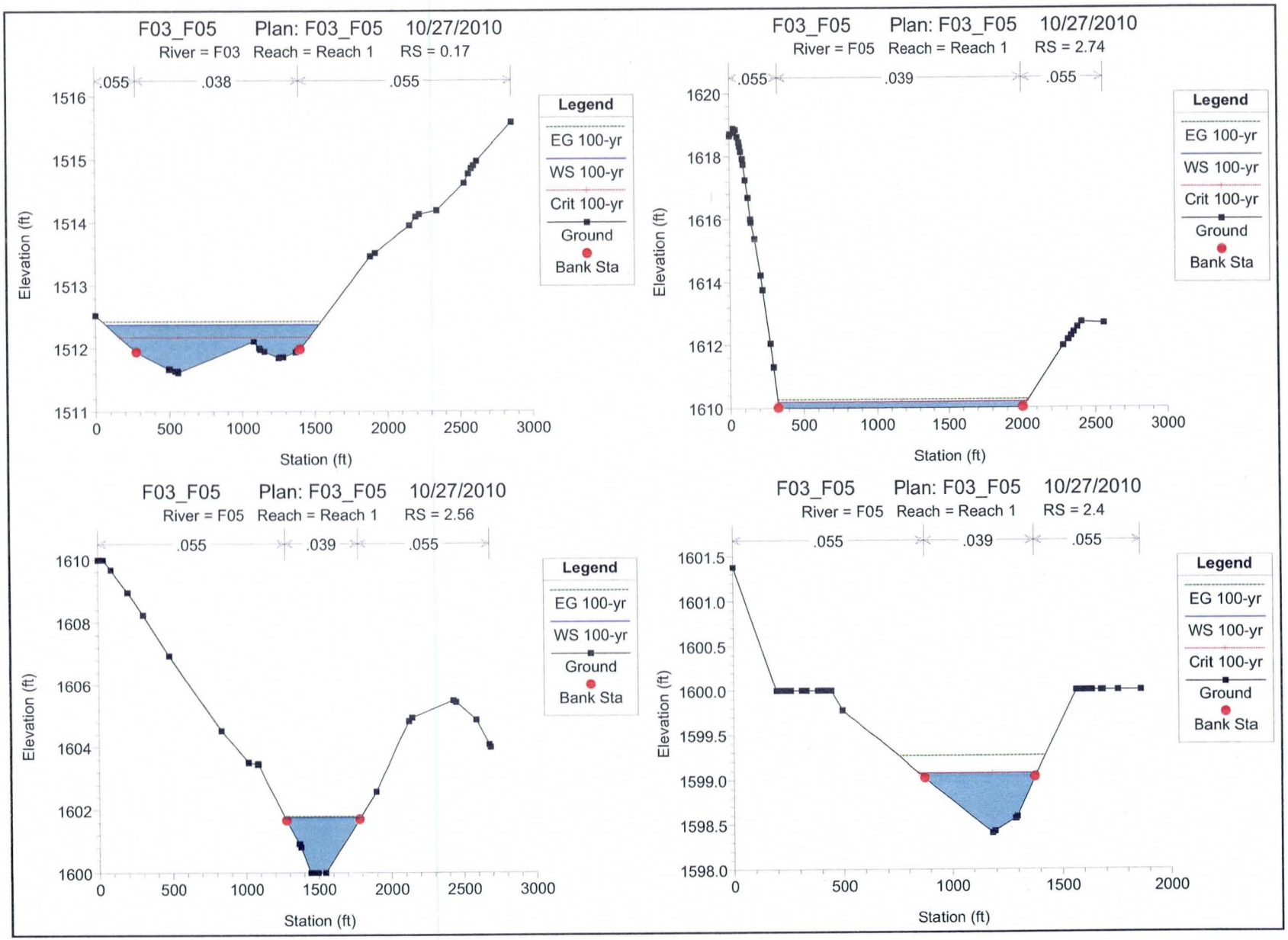

F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 5.54
.055 .038 .055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Ineff
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 5.29
.055 .038 .055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Ineff
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 5.11
.055 .038 .055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 4.89
.055 .038 .055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta

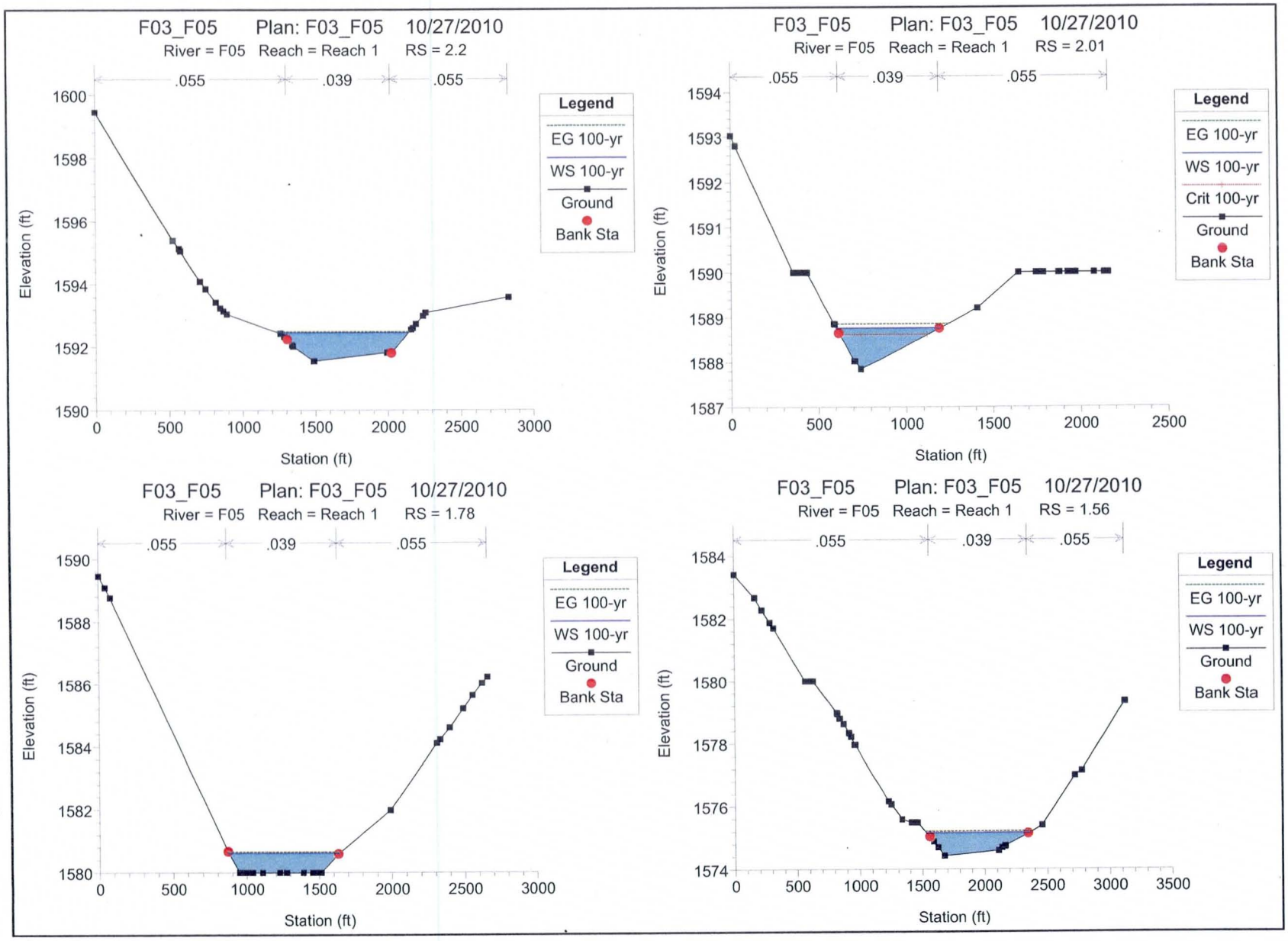

F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 4.73
.055
.038
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 4.50
.055
.038
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 4.20
.055
.038
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 4.01
.055
.038
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

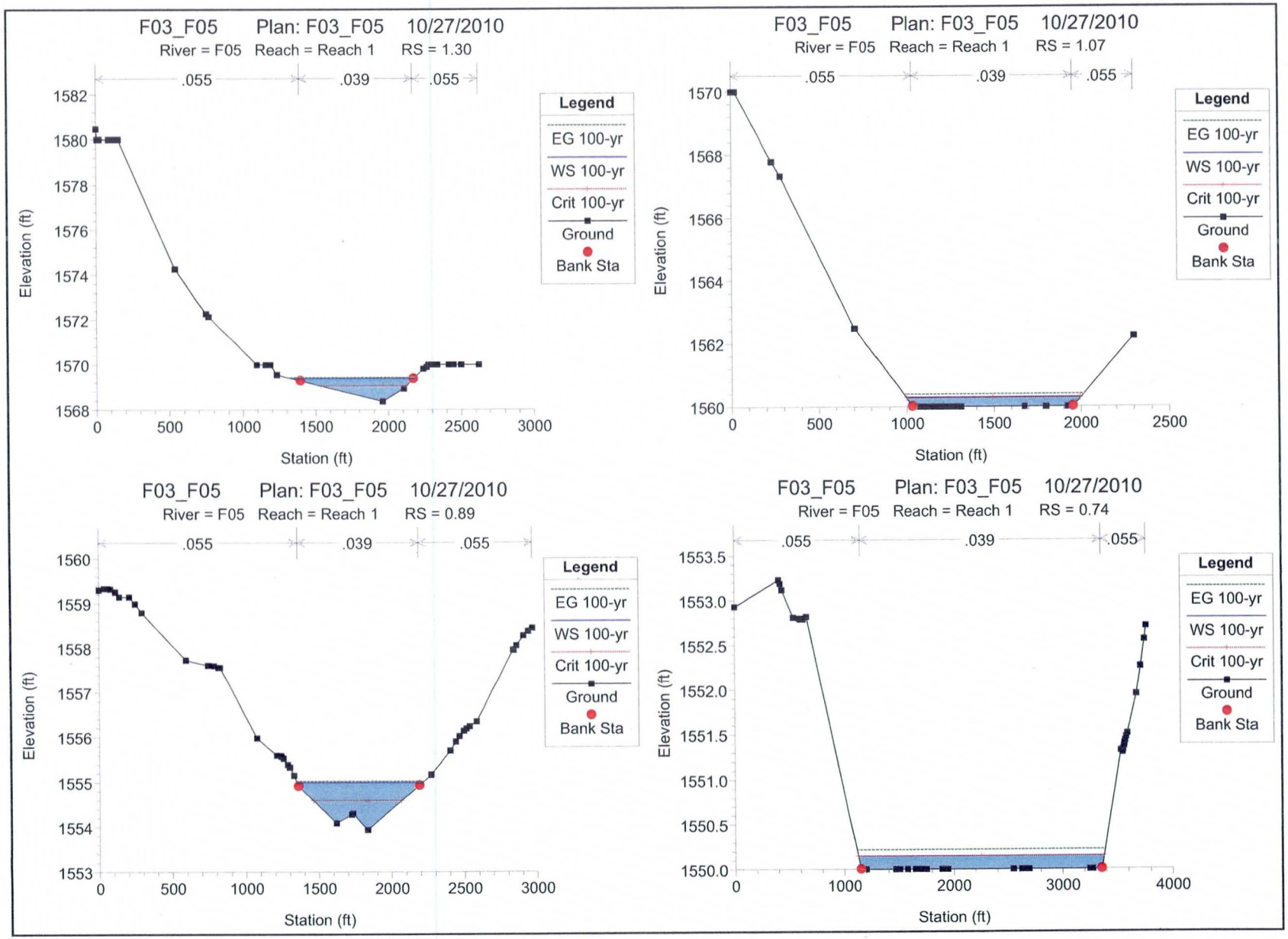

F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 3.79
.055
.038
.055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 3.49
.055
.038
.055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Ground
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 3.22
.055
.038
.055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Ineff
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 2.84
.055
.038
.055
Elevation (ft)
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta

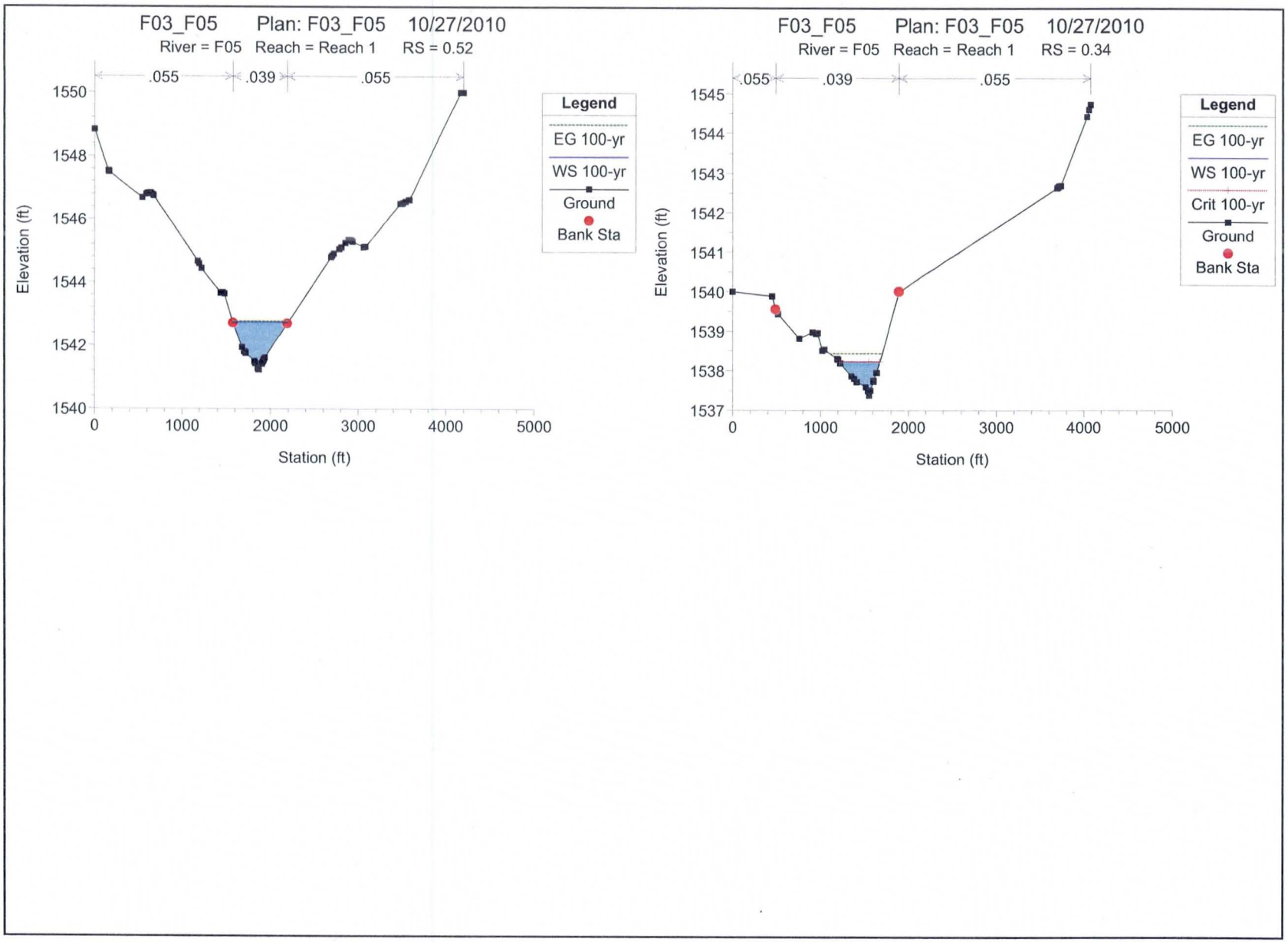

F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 2.49
.055
.038
.055
Legend
EG 100-yr
WS 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 1.94
.055
.038
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 1.72
.055
.038
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 1.49
.055
.038
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)


F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 1.30
.055 .038 .055
Legend
EG 100-yr
WS 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 2 RS = 1.09
.055 .038 .055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 1 RS = 0.59
.055 .038 .055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 1 RS = 0.36
.055 .038 .055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)


F03_F05 Plan: F03_F05 10/27/2010
River = F03 Reach = Reach 1 RS = 0.17
.055
.038
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 2.74
.055
.039
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 2.56
.055
.039
.055
Legend
EG 100-yr
WS 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 2.4
.055
.039
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)

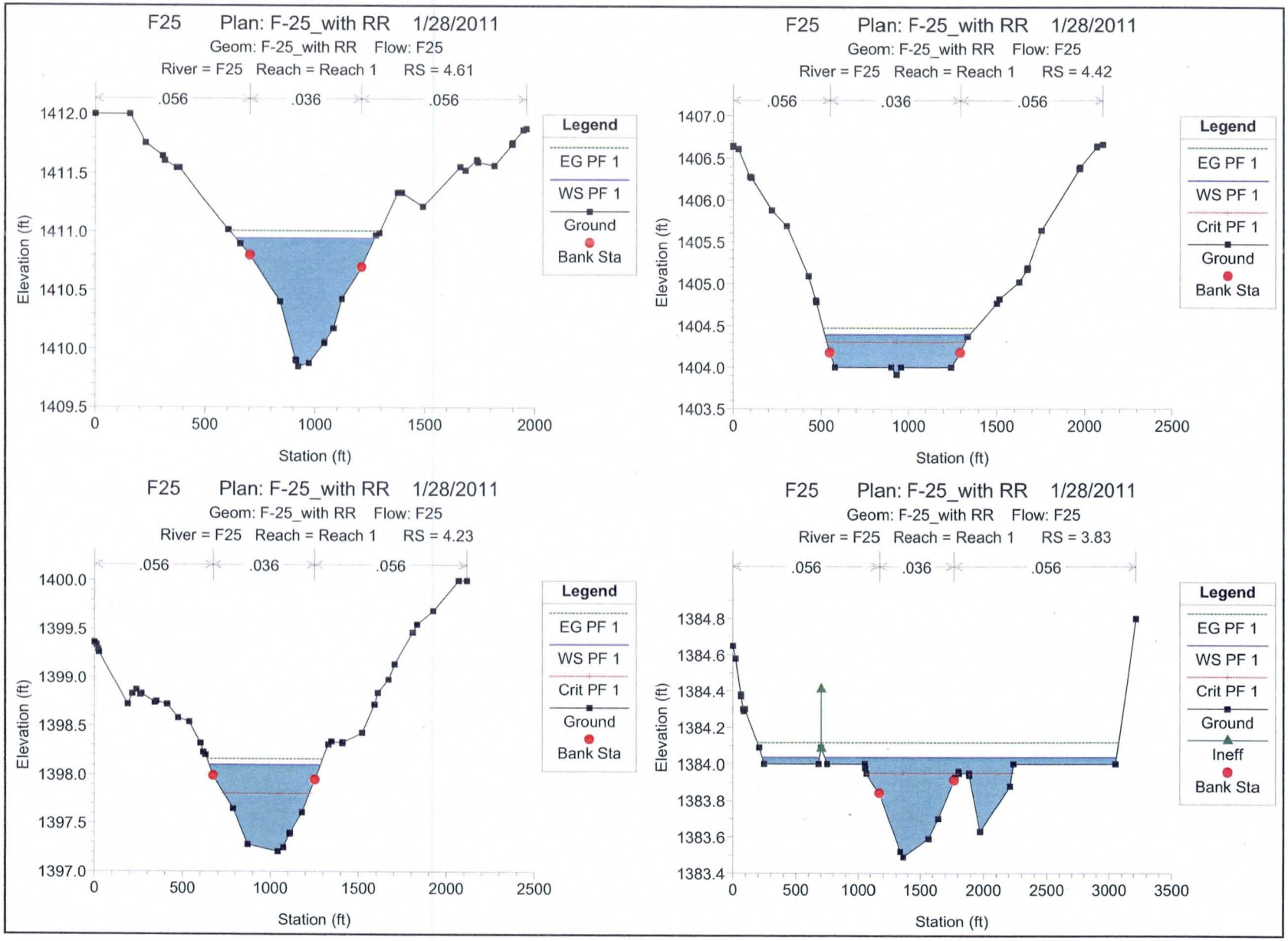

F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 2.2
.055 .039 .055
Legend
EG 100-yr
WS 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 2.01
.055 .039 .055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 1.78
.055 .039 .055
Legend
EG 100-yr
WS 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 1.56
.055 .039 .055
Legend
EG 100-yr
WS 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)

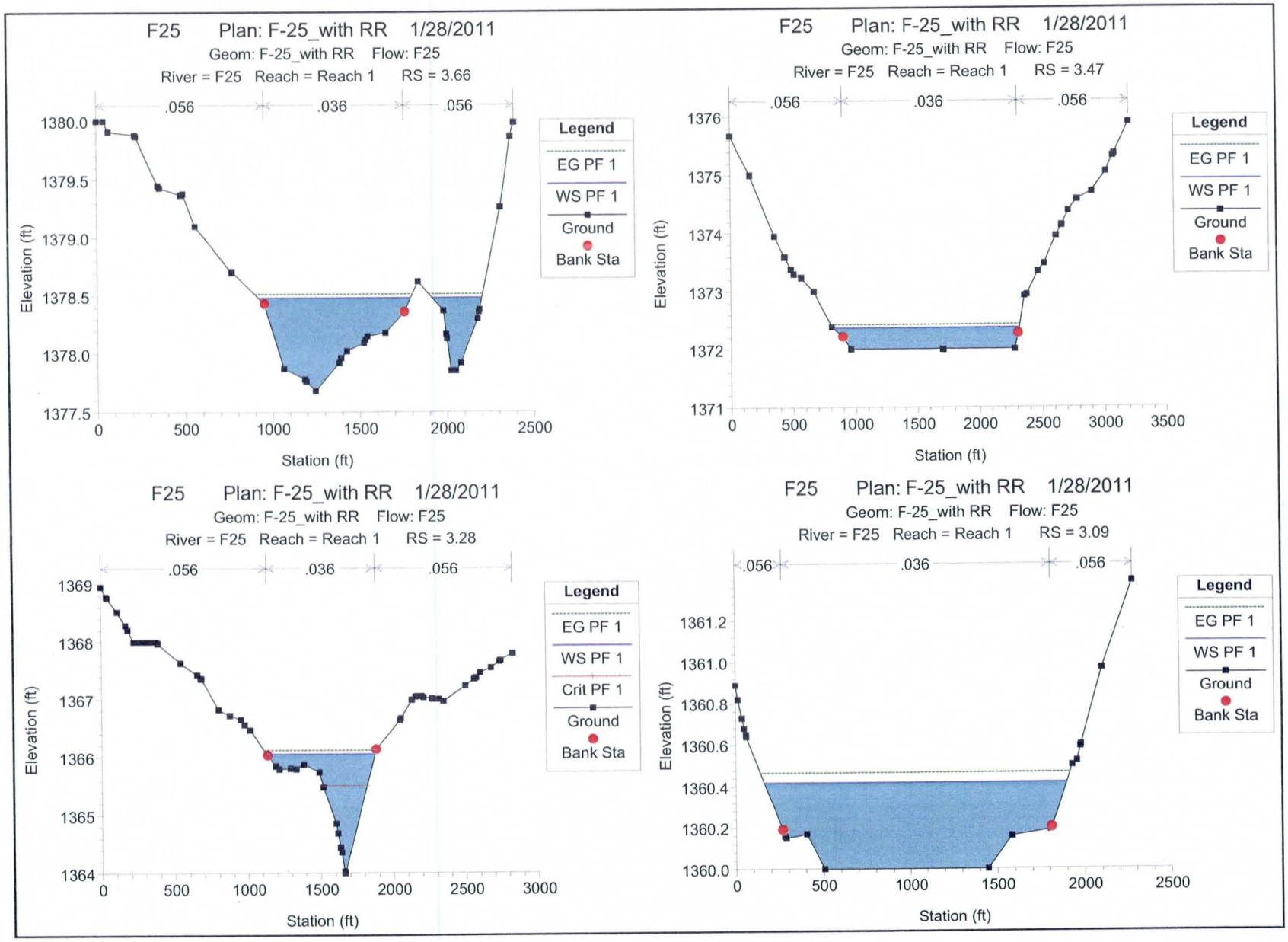

F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 1.30
.055
.039
.055
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 1.07
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 0.89
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 0.74

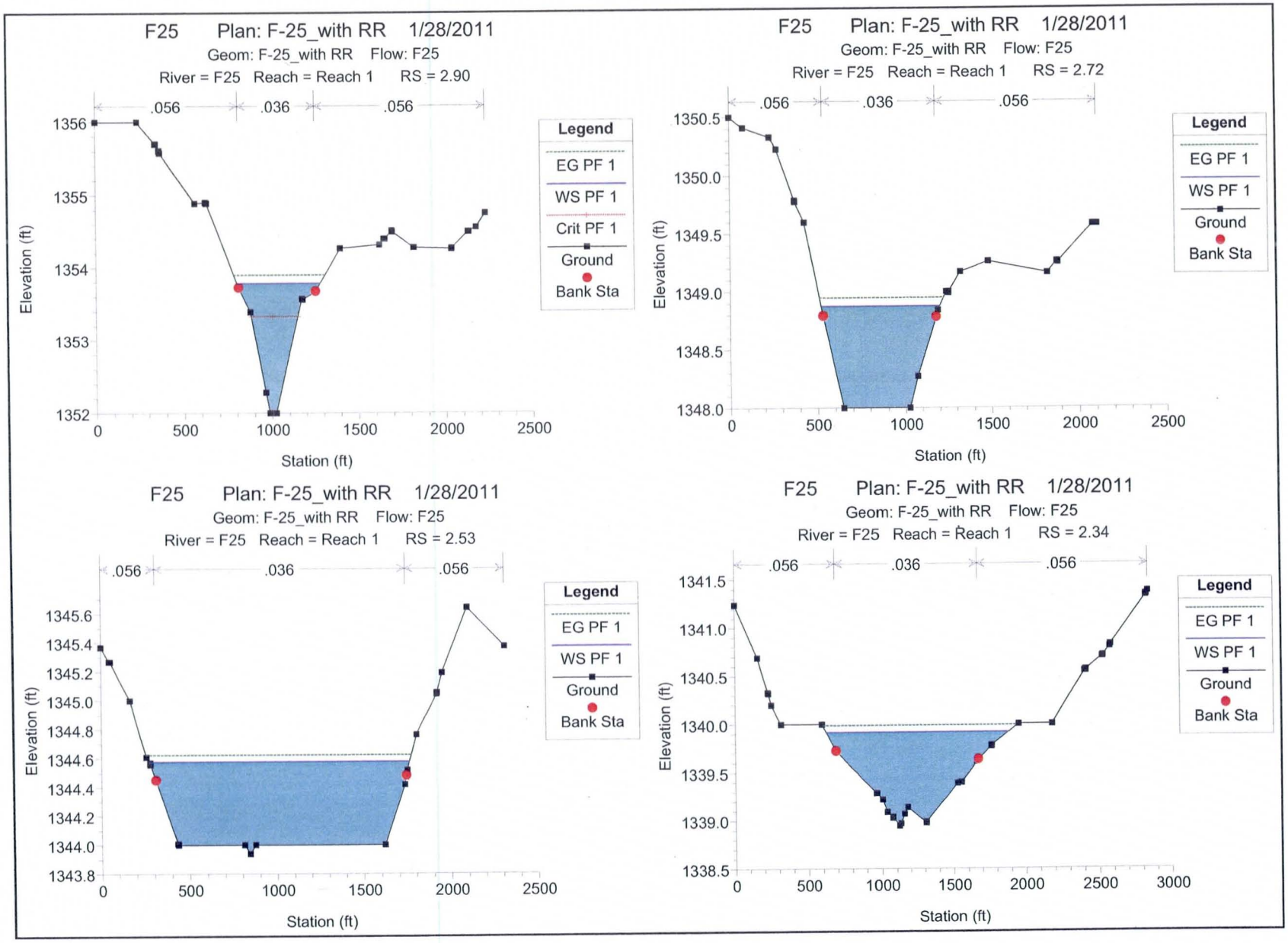

F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 0.52
.055
.039
.055
Elevation (ft)
1550
1548
1546
1544
1542
1540
0
1000
2000
3000
4000
5000
Station (ft)
Legend
EG 100-yr
WS 100-yr
Ground
Bank Sta
F03_F05 Plan: F03_F05 10/27/2010
River = F05 Reach = Reach 1 RS = 0.34
.055
.039
.055
Elevation (ft)
1545
1544
1543
1542
1541
1540
1539
1538
1537
0
1000
2000
3000
4000
5000
Station (ft)
Legend
EG 100-yr
WS 100-yr
Crit 100-yr
Ground
Bank Sta

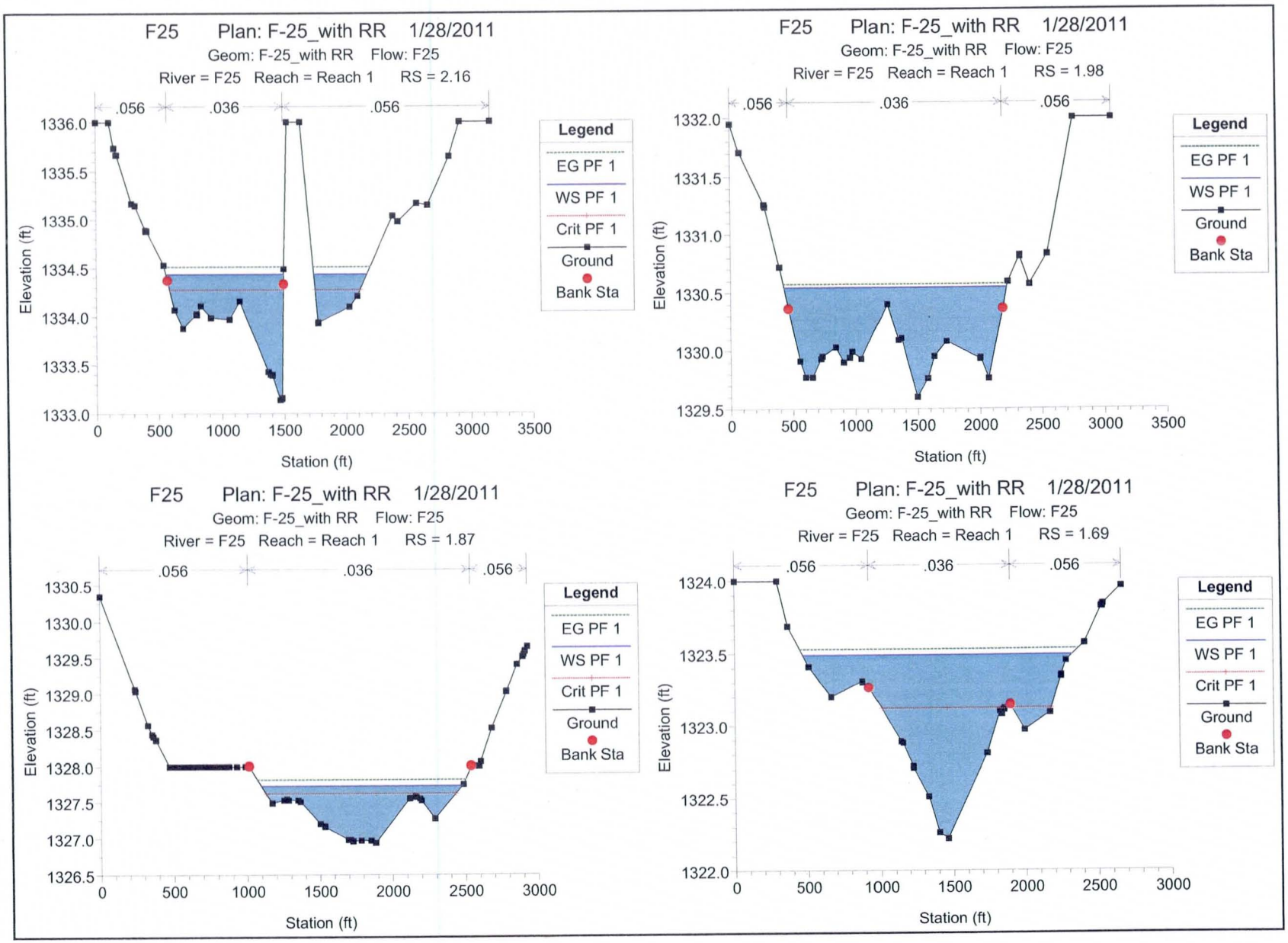
F25

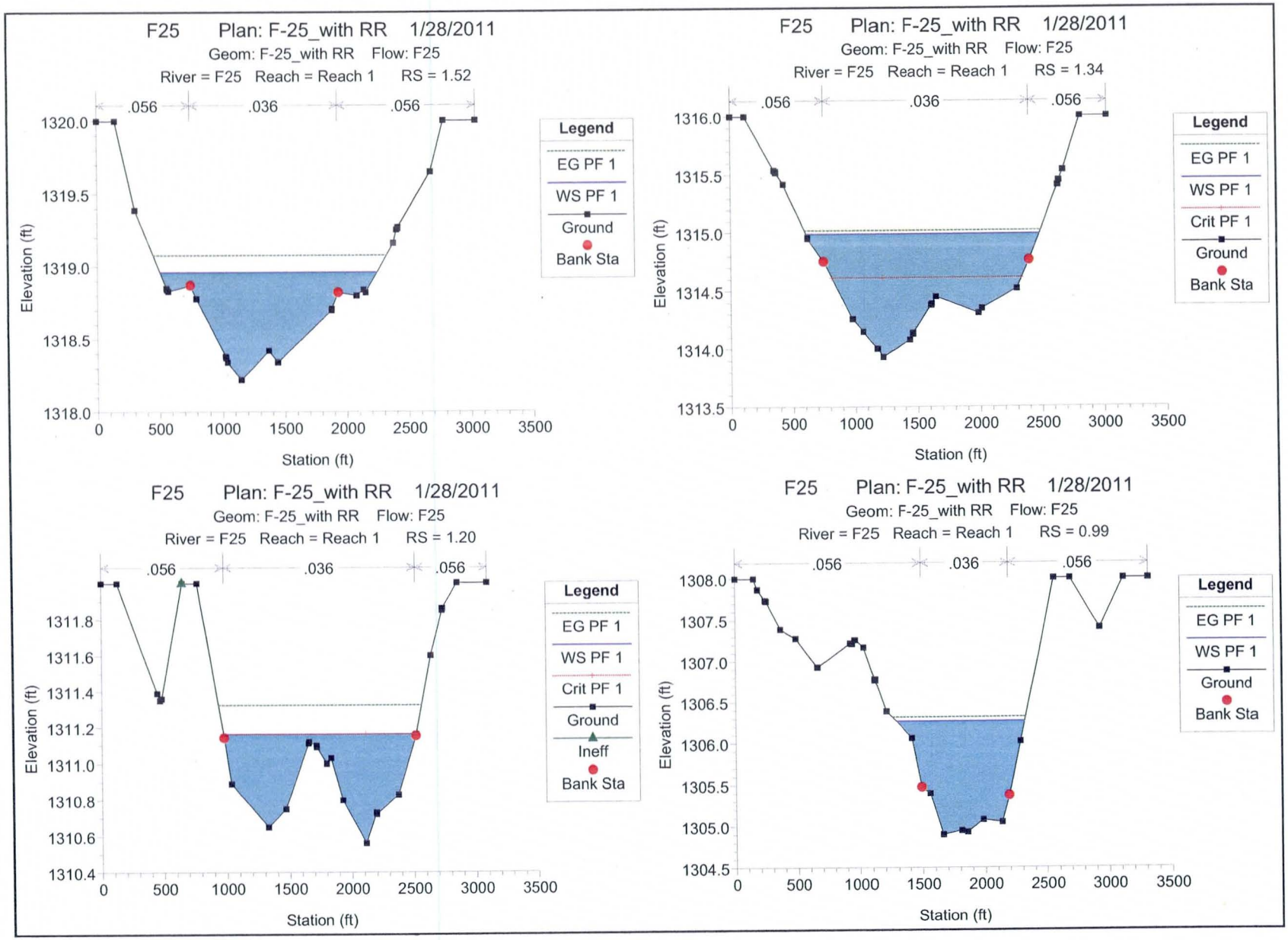
HEC-RAS SECTIONS F25

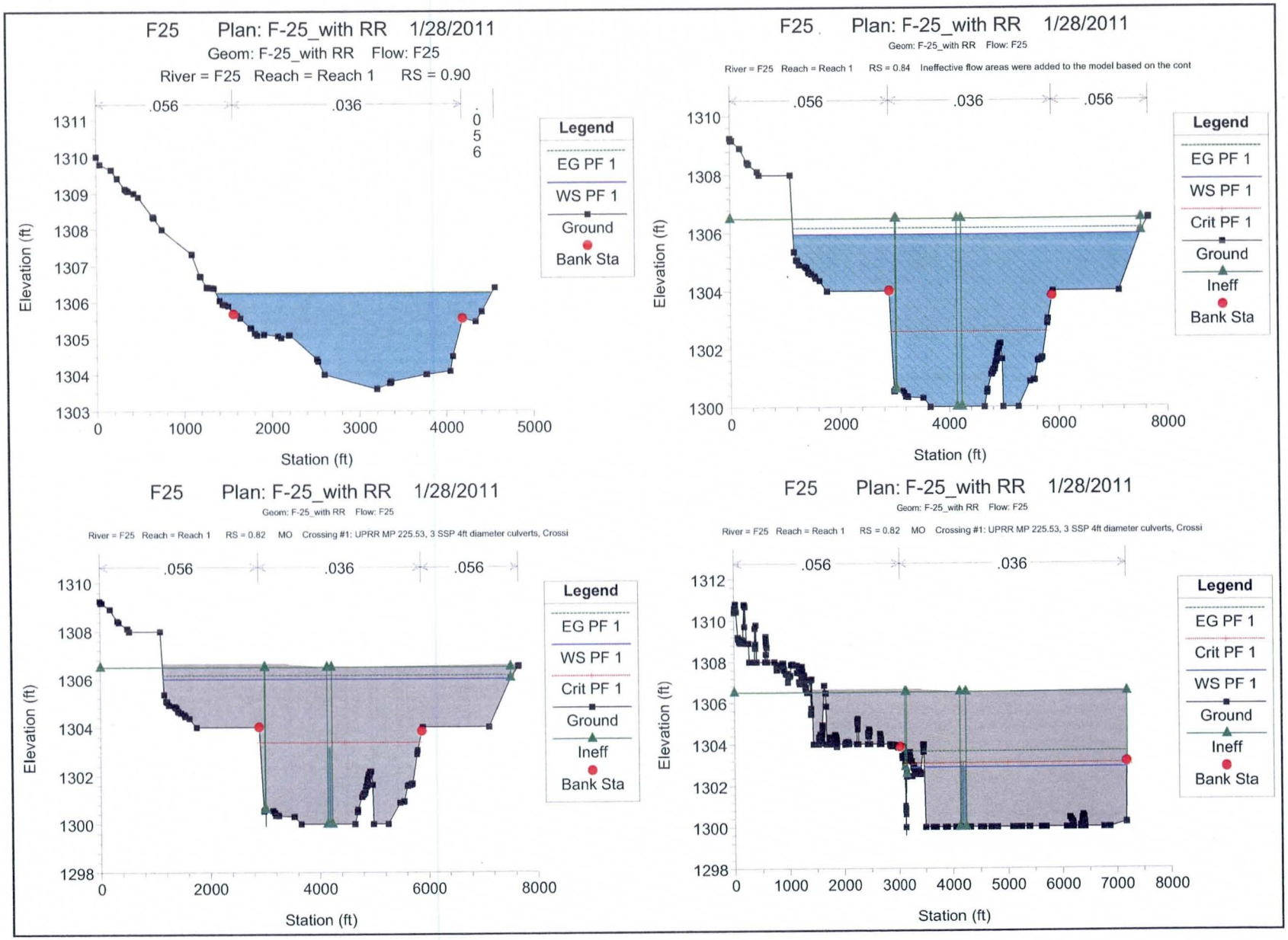

F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 4.61
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 4.42
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 4.23
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 3.83
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta

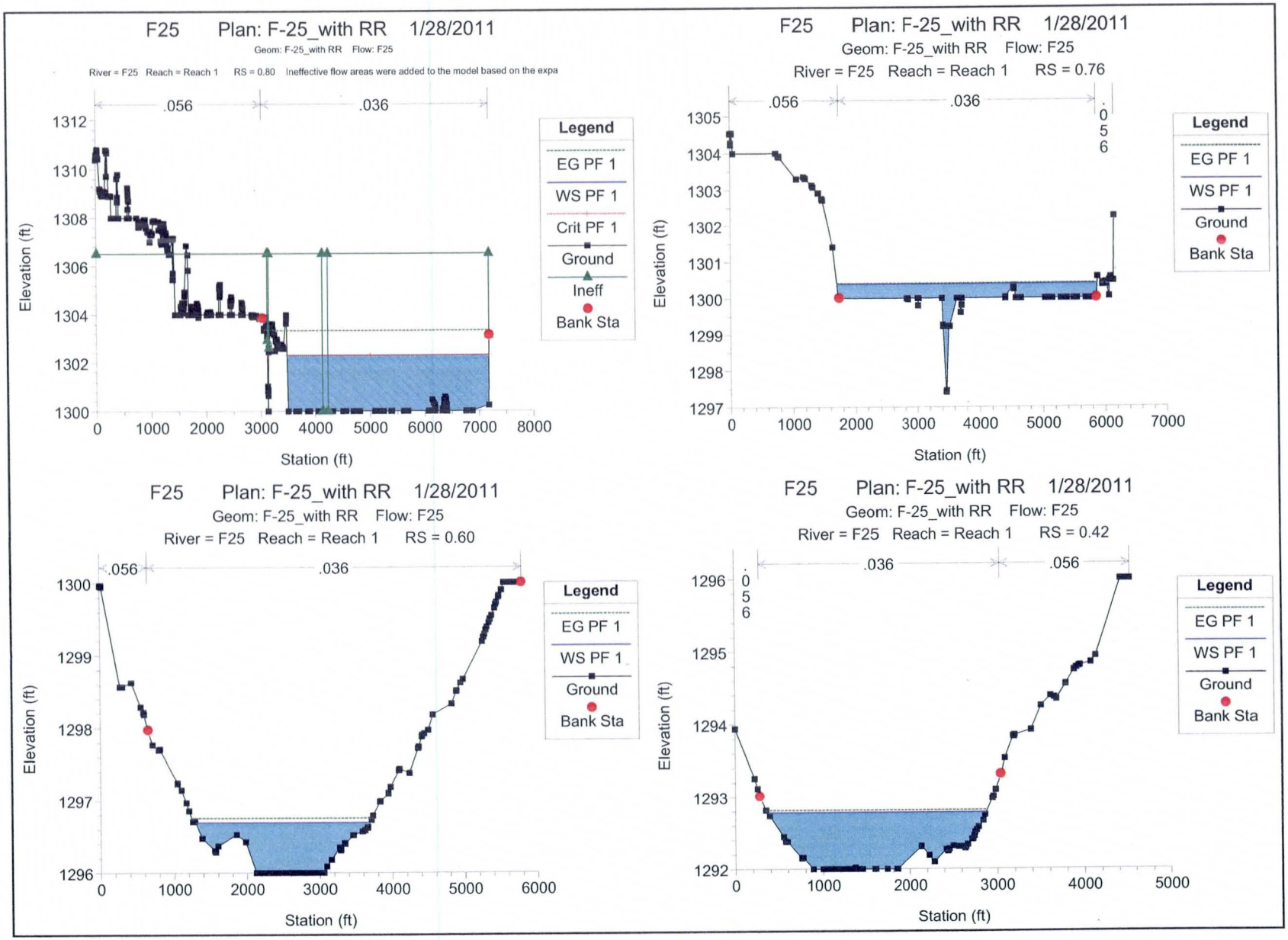

F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 3.66
.056
.036
.056
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 3.47
.056
.036
.056
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 3.28
.056
.036
.056
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 3.09
.056
.036
.056
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)

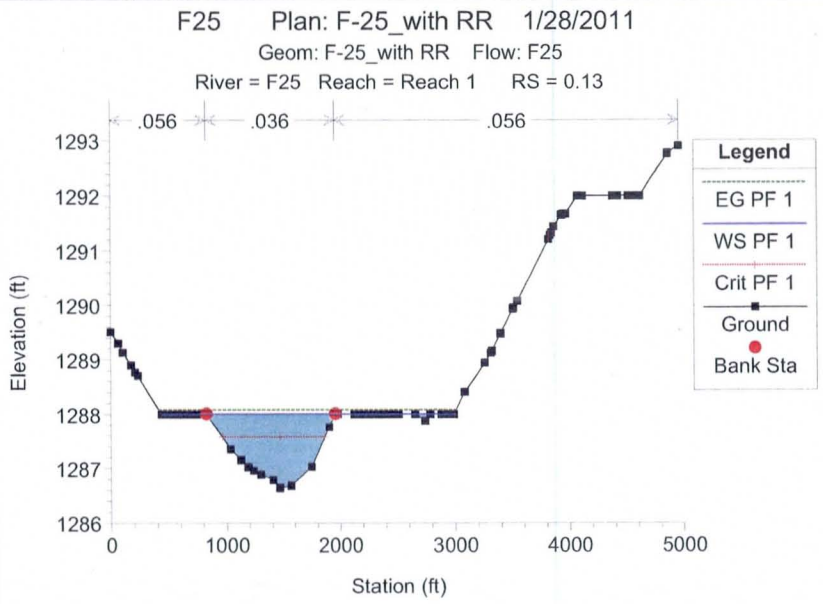

F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 2.90
.056 .036 .056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 2.72
.056 .036 .056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 2.53
.056 .036 .056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 2.34
.056 .036 .056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta


F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 2.16
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 1.98
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 1.87
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 1.69
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 1.52
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 1.34
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 1.20
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.99
Legend
EG PF 1
WS PF 1
Ground
Bank Sta

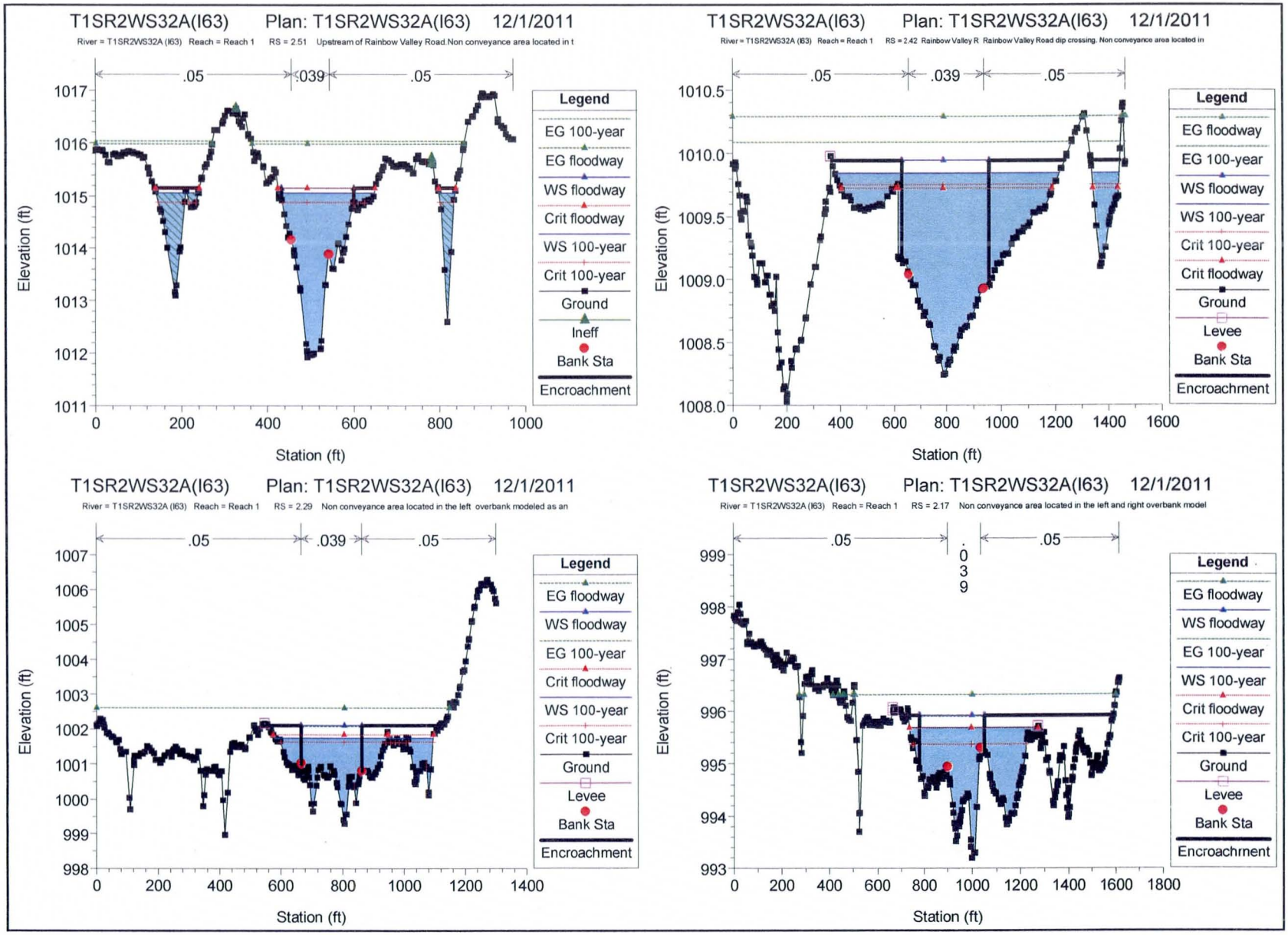

F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.90
.056
.036
.056
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.84 Ineffective flow areas were added to the model based on the cont
.056
.036
.056
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.82 MO Crossing #1: UPRR MP 225.53, 3 SSP 4ft diameter culverts, Crossi
.056
.036
.056
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.82 MO Crossing #1: UPRR MP 225.53, 3 SSP 4ft diameter culverts, Crossi
.056
.036
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

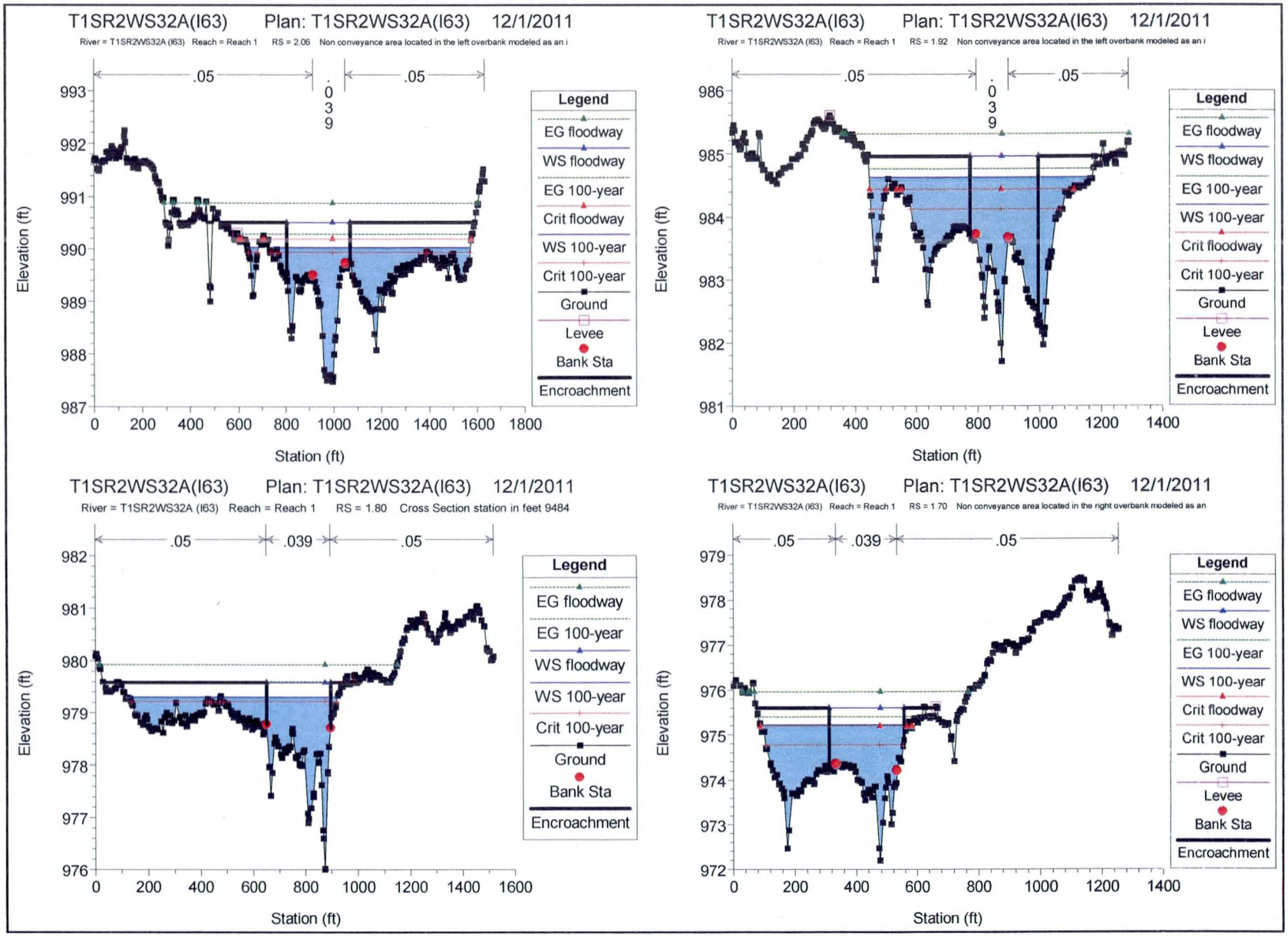

F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.80 Ineffective flow areas were added to the model based on the expa
.056
.036
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.76
.056
.036
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.60
.056
.036
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.42
.036
.056
.056
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta

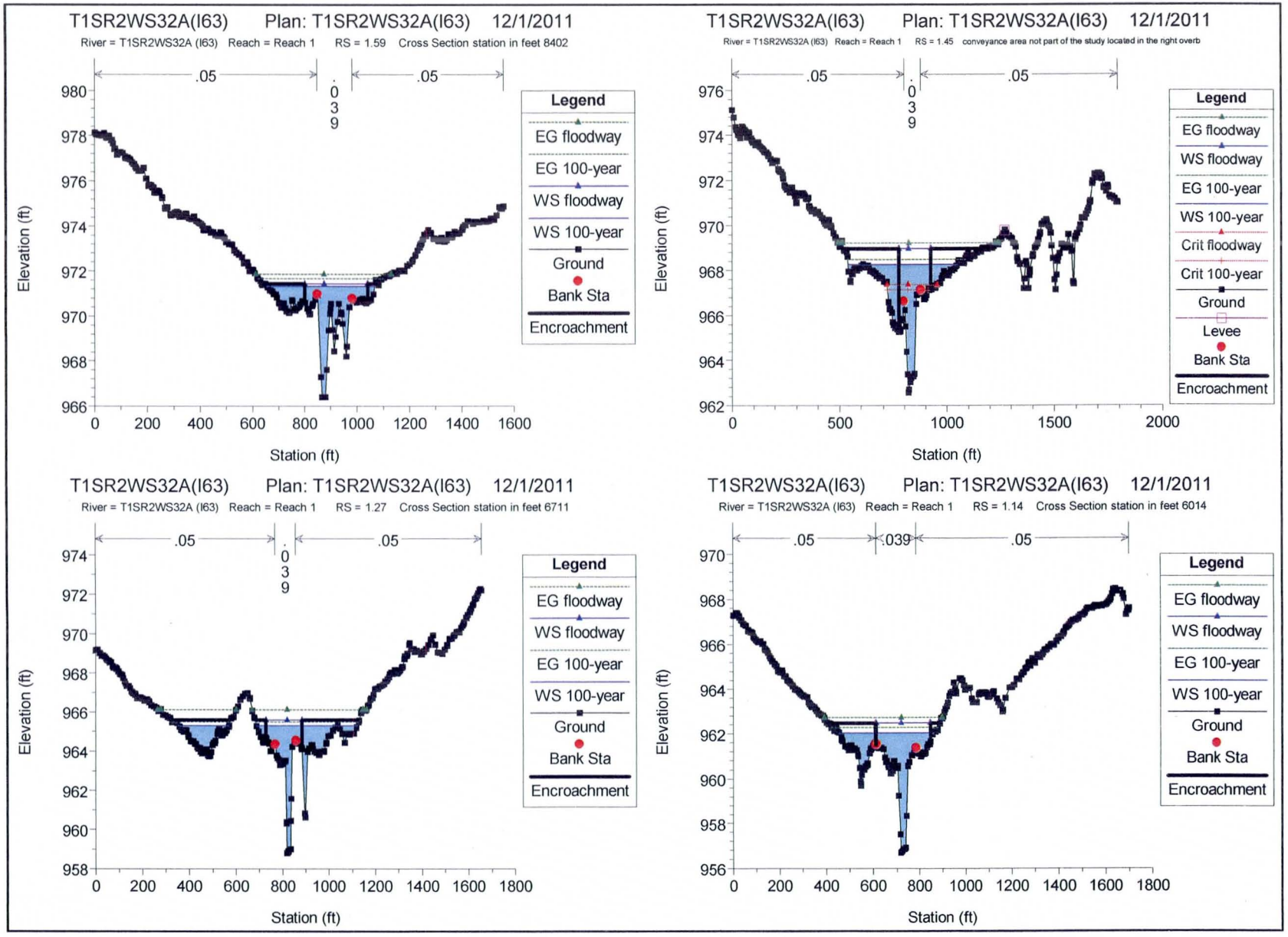

F25 Plan: F-25_with RR 1/28/2011
Geom: F-25_with RR Flow: F25
River = F25 Reach = Reach 1 RS = 0.13
.056
.036
.056
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
1293
1292
1291
1290
1289
1288
1287
1286
0
1000
2000
3000
4000
5000
Station (ft)

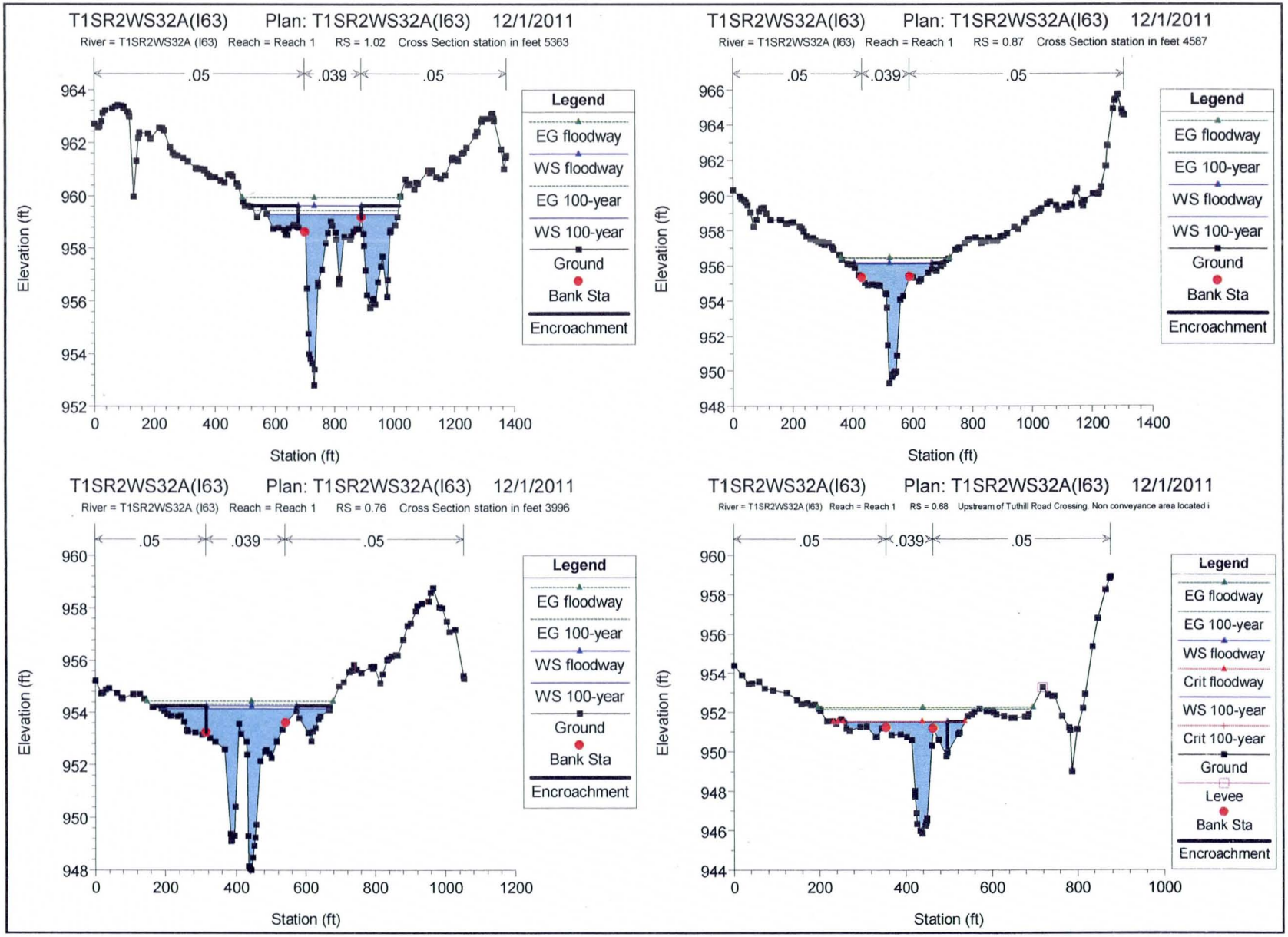
T1SR2WS32A (I63)

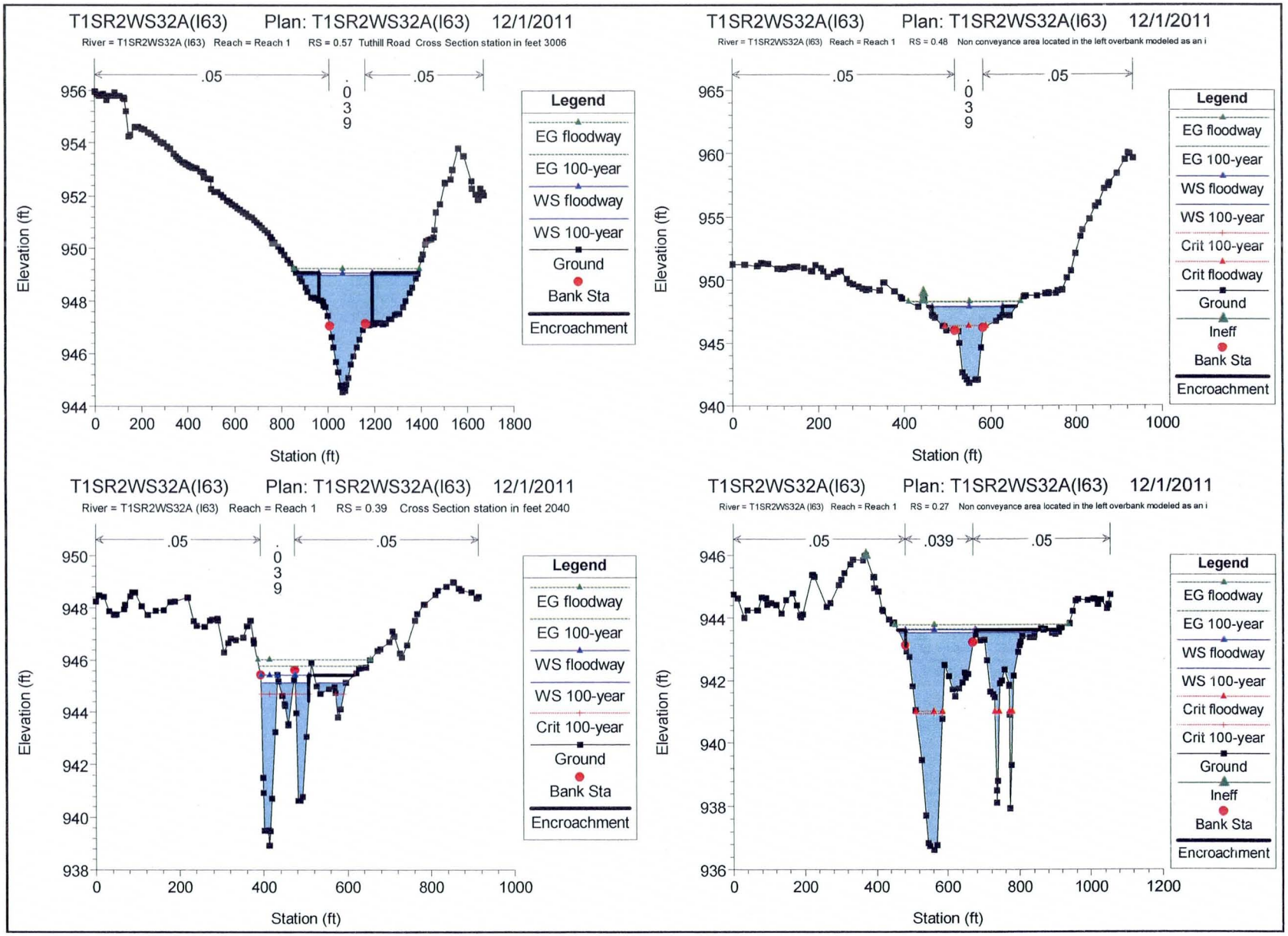
HEC-RAS CROSS SECTIONS T1SR2WS32A (I63)

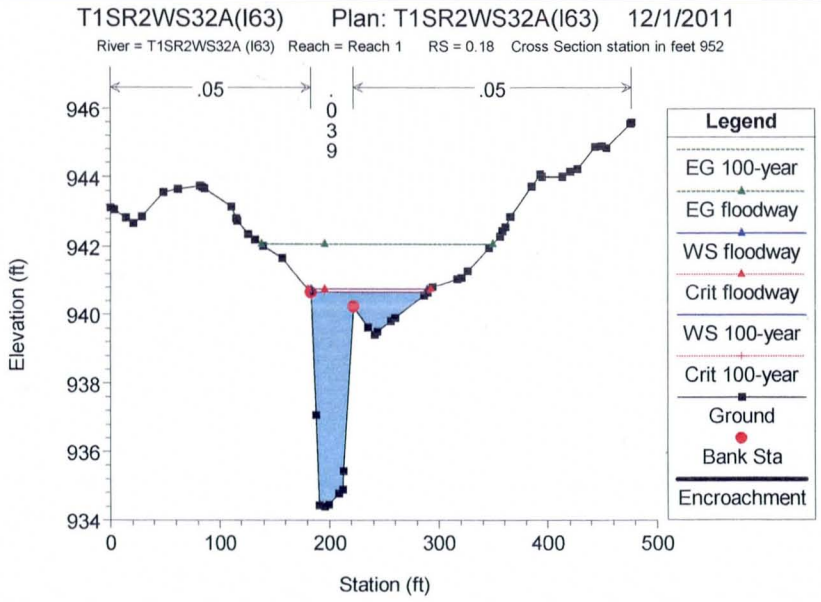

T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 2.51 Upstream of Rainbow Valley Road.Non conveyance area located in t
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG 100-year
EG floodway
WS floodway
Crit floodway
WS 100-year
Crit 100-year
Ground
Ineff
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 2.42 Rainbow Valley R Rainbow Valley Road dip crossing. Non conveyance area located in
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
EG 100-year
WS floodway
WS 100-year
Crit 100-year
Crit floodway
Ground
Levee
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 2.29 Non conveyance area located in the left overbank modeled as an
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
WS floodway
EG 100-year
Crit floodway
WS 100-year
Crit 100-year
Ground
Levee
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 2.17 Non conveyance area located in the left and right overbank model
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
WS floodway
EG 100-year
WS 100-year
Crit floodway
Crit 100-year
Ground
Levee
Bank Sta
Encroachment

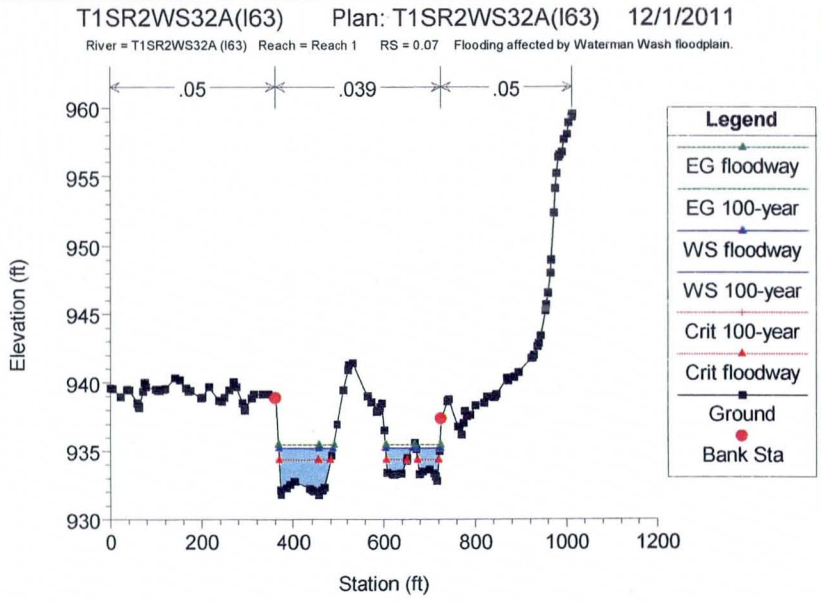

T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 2.06 Non conveyance area located in the left overbank modeled as an i
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
WS floodway
EG 100-year
Crit floodway
WS 100-year
Crit 100-year
Ground
Levee
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 1.92 Non conveyance area located in the left overbank modeled as an i
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 1.80 Cross Section station in feet 9484
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 1.70 Non conveyance area located in the right overbank modeled as an


T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 1.59 Cross Section station in feet 8402
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
EG 100-year
WS floodway
WS 100-year
Ground
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 1.45 conveyance area not part of the study located in the right overb
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
WS floodway
EG 100-year
WS 100-year
Crit floodway
Crit 100-year
Ground
Levee
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 1.27 Cross Section station in feet 6711
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
WS floodway
EG 100-year
WS 100-year
Ground
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 1.14 Cross Section station in feet 6014
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
WS floodway
EG 100-year
WS 100-year
Ground
Bank Sta
Encroachment


T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 1.02 Cross Section station in feet 5363
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
WS floodway
EG 100-year
WS 100-year
Ground
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 0.87 Cross Section station in feet 4587
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 0.76 Cross Section station in feet 3996
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 0.68 Upstream of Tuthill Road Crossing. Non conveyance area located i
Crit floodway
Crit 100-year
Levee

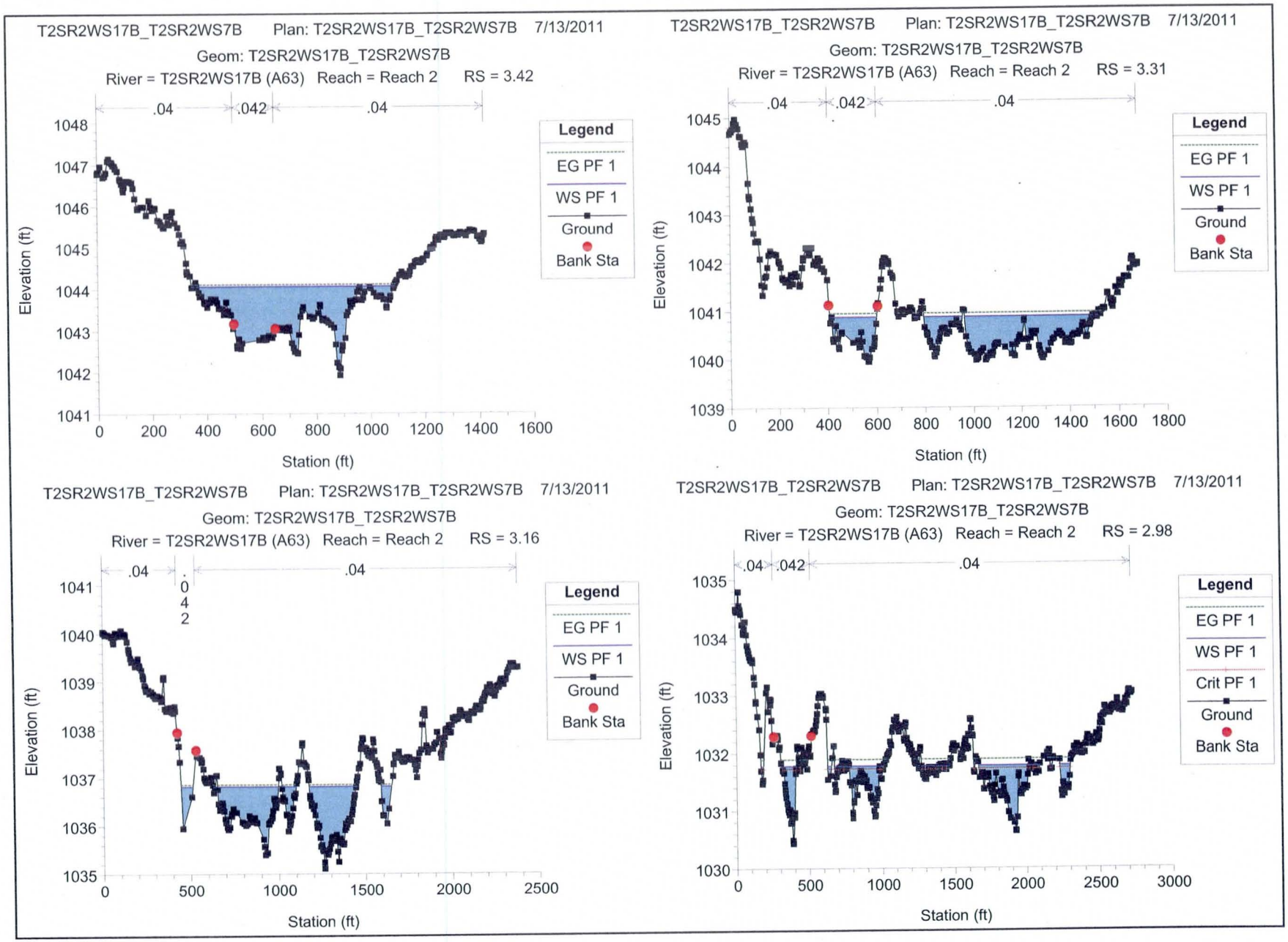

T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 0.57 Tuthill Road Cross Section station in feet 3006
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
EG 100-year
WS floodway
WS 100-year
Ground
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 0.48 Non conveyance area located in the left overbank modeled as an i
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
EG 100-year
WS floodway
WS 100-year
Crit 100-year
Crit floodway
Ground
Ineff
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 0.39 Cross Section station in feet 2040
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
EG 100-year
WS floodway
WS 100-year
Crit 100-year
Ground
Bank Sta
Encroachment
T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 0.27 Non conveyance area located in the left overbank modeled as an i
.05
.039
.05
Elevation (ft)
Station (ft)
Legend
EG floodway
EG 100-year
WS floodway
WS 100-year
Crit floodway
Crit 100-year
Ground
Ineff
Bank Sta
Encroachment

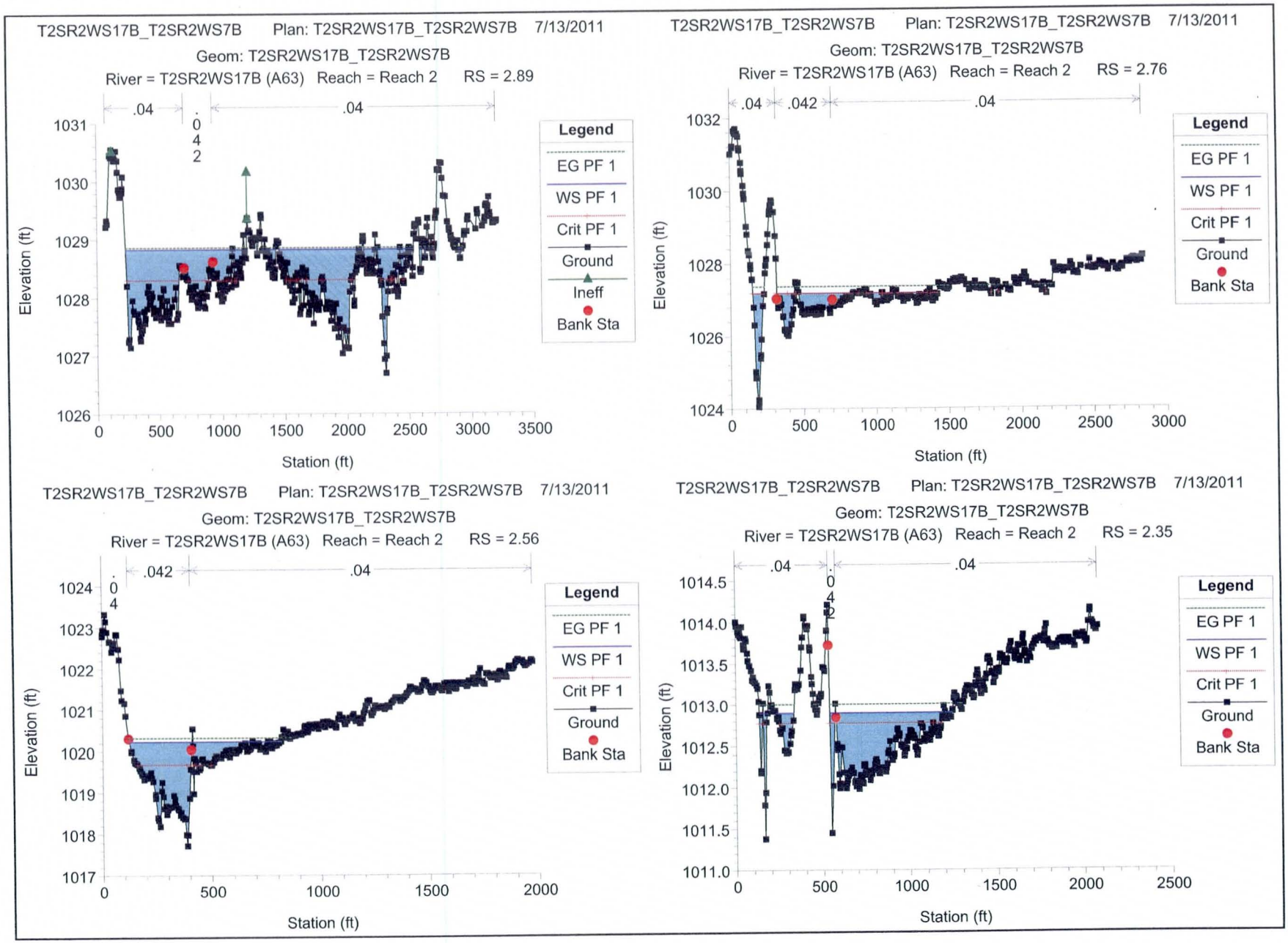

T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 0.18 Cross Section station in feet 952
.05
.039
.05
Elevation (ft)
946
944
942
940
938
936
934
0
100
200
300
400
500
Station (ft)
Legend
EG 100-year
EG floodway
WS floodway
Crit floodway
WS 100-year
Crit 100-year
Ground
Bank Sta
Encroachment

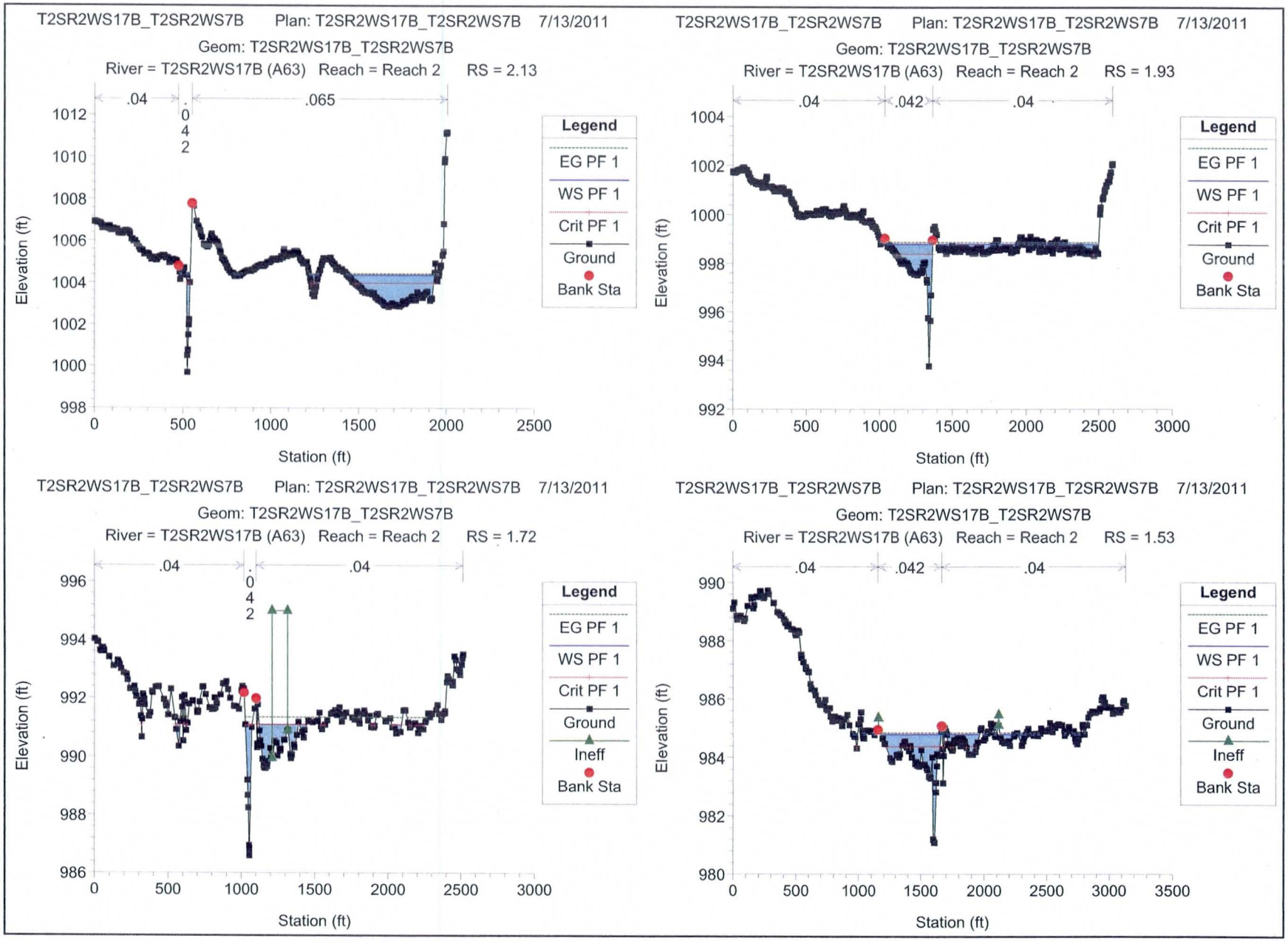

T1SR2WS32A(I63) Plan: T1SR2WS32A(I63) 12/1/2011
River = T1SR2WS32A (I63) Reach = Reach 1 RS = 0.07 Flooding affected by Waterman Wash floodplain.
.05
.039
.05
Elevation (ft)
960
955
950
945
940
935
930
0
200
400
600
800
1000
1200
Station (ft)
Legend
EG floodway
EG 100-year
WS floodway
WS 100-year
Crit 100-year
Crit floodway
Ground
Bank Sta

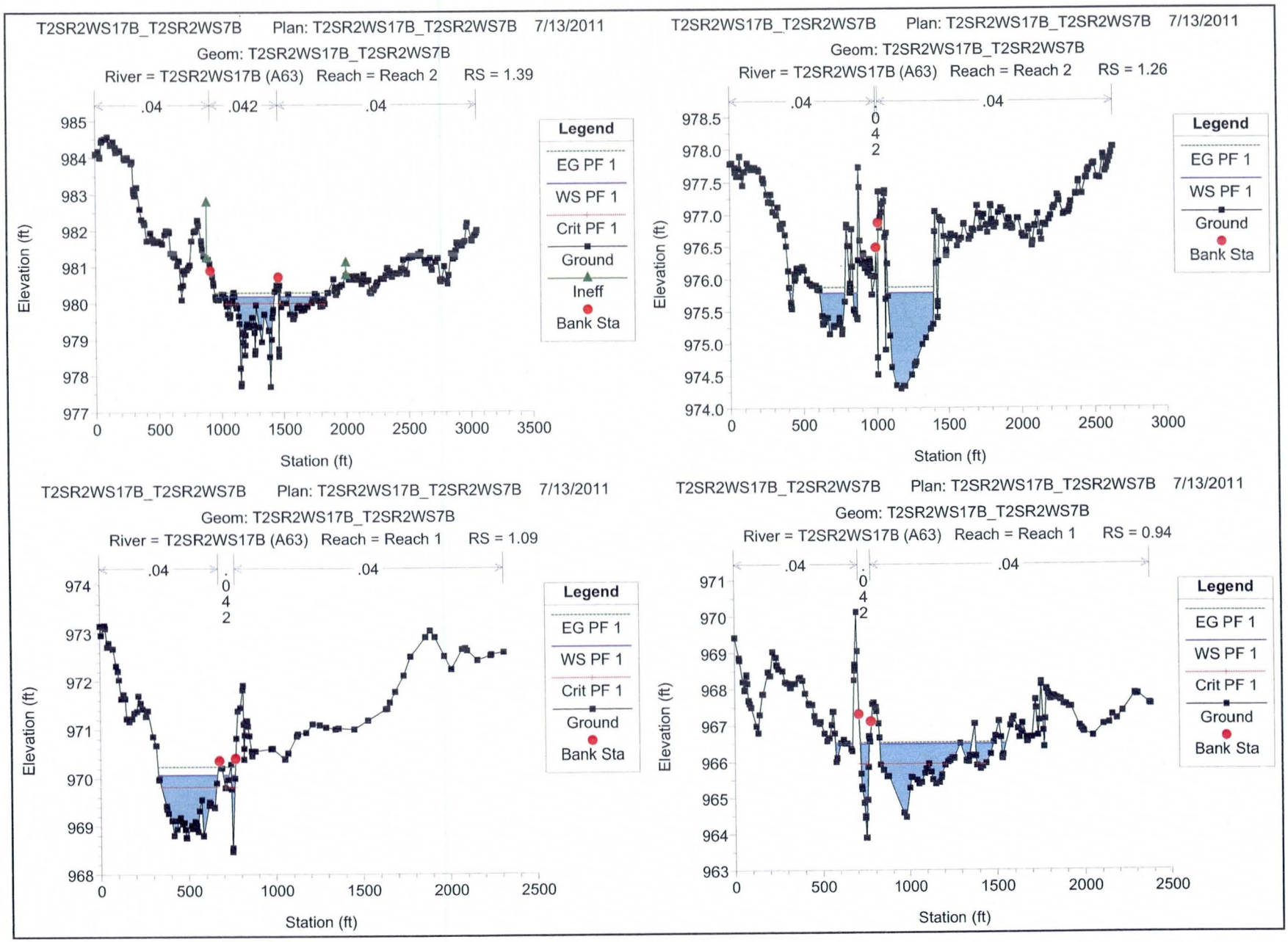
T2SR2WS17B_T2SR2WS7B

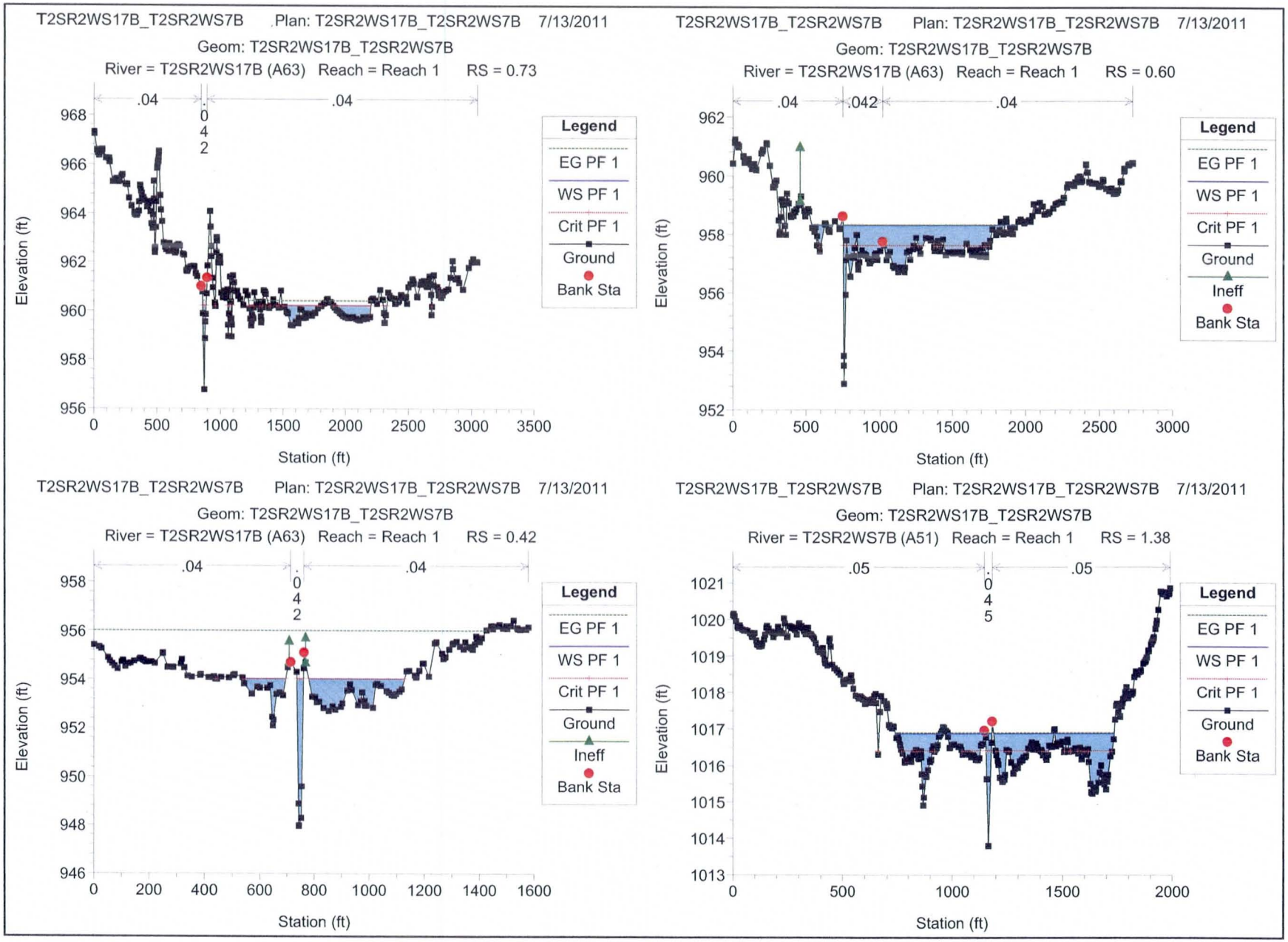
T2SR2WS17B_T2SR2WS7B HEC-RAS SECTIONS

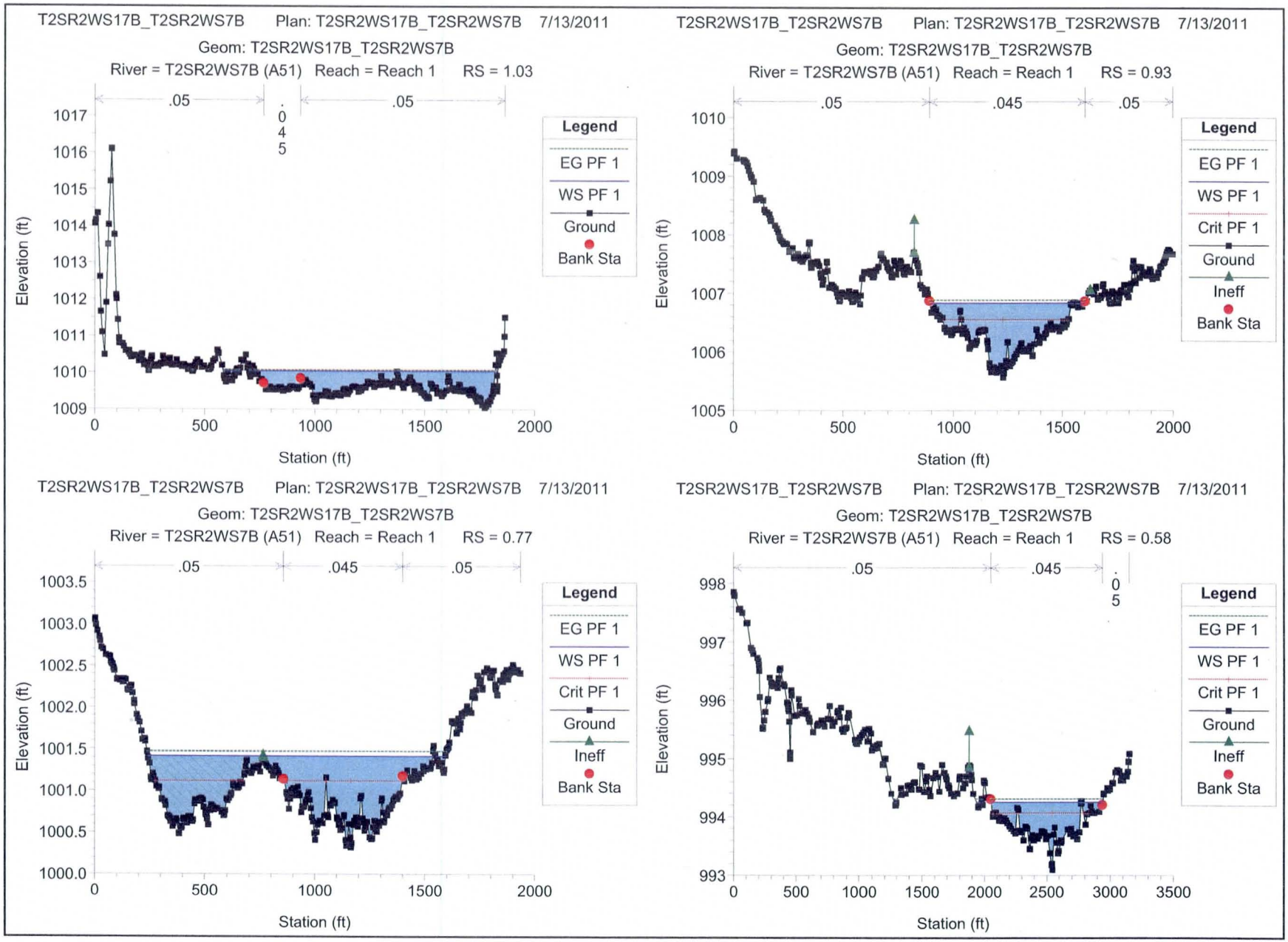

T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 3.42
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 3.31
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 3.16
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 2.98
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

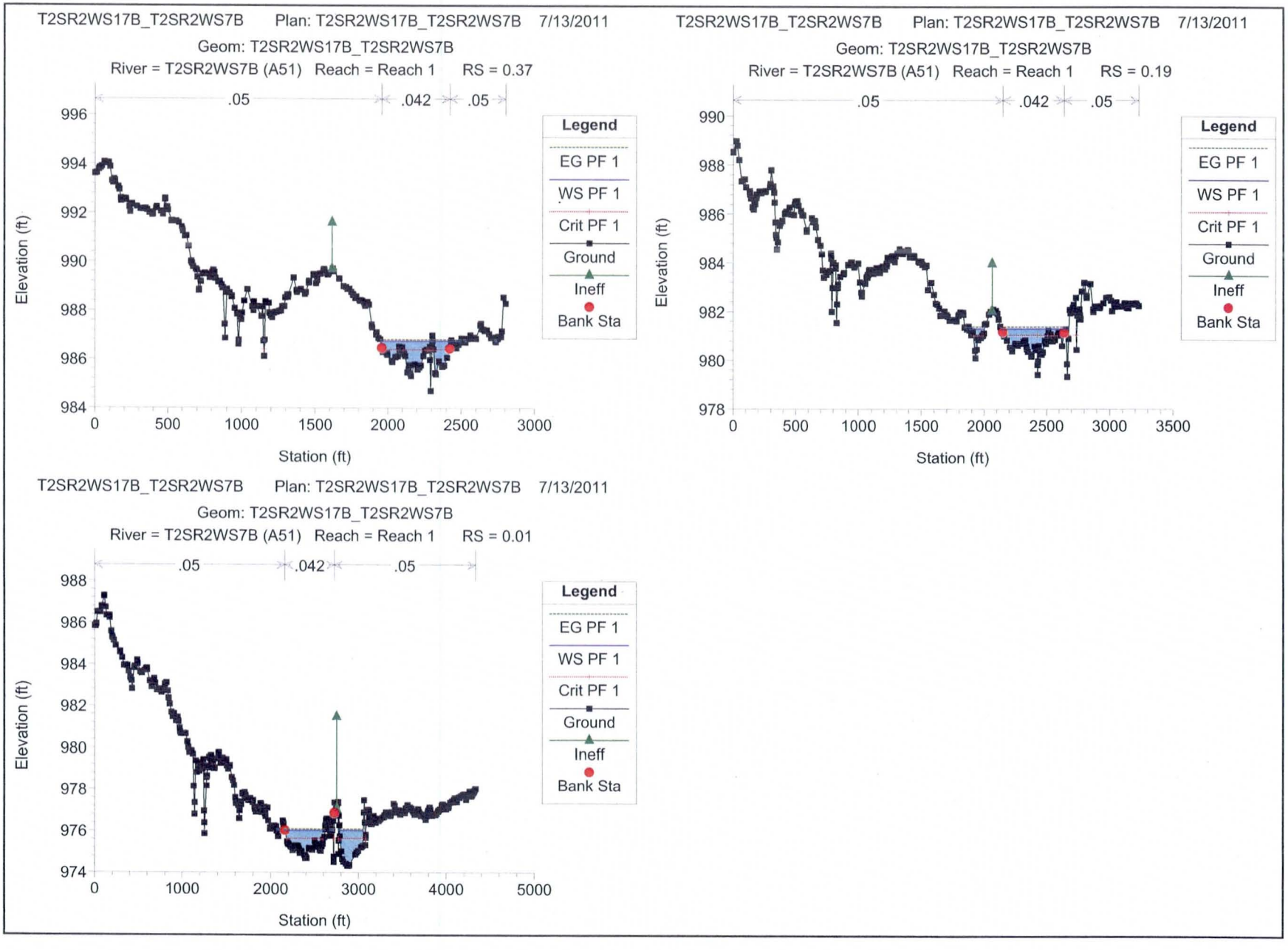

T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 2.89
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 2.76
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 2.56
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 2.35
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 2.13
.04
.042
.065
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 1.93
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 1.72
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 1.53
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta


T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 1.39
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 2 RS = 1.26
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 1 RS = 1.09
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 1 RS = 0.94
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

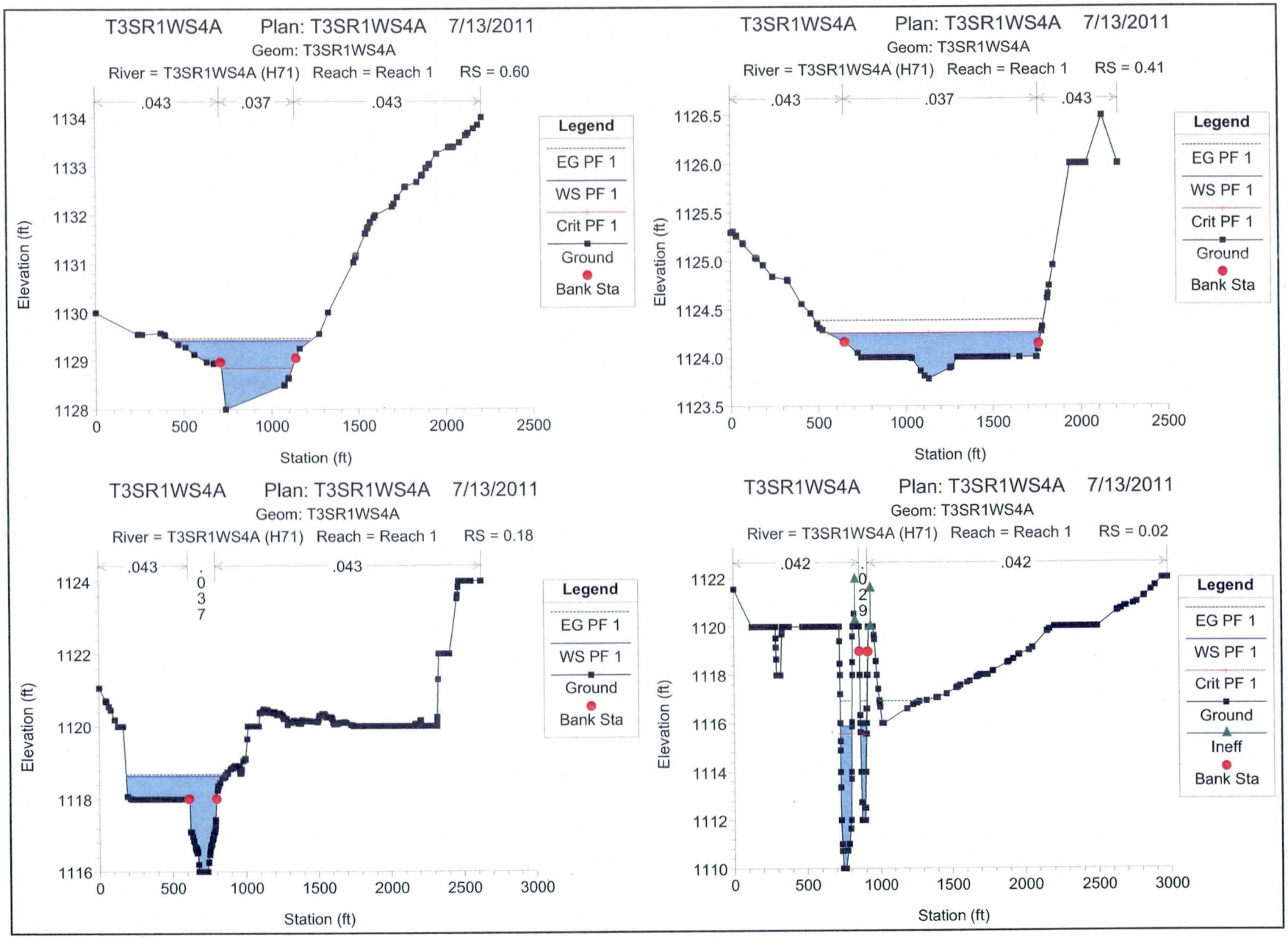

T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 1 RS = 0.73
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 1 RS = 0.60
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS17B (A63) Reach = Reach 1 RS = 0.42
.04
.042
.04
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS7B (A51) Reach = Reach 1 RS = 1.38
.05
.045
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS7B (A51) Reach = Reach 1 RS = 1.03
.05
.045
.05
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS7B (A51) Reach = Reach 1 RS = 0.93
.05
.045
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS7B (A51) Reach = Reach 1 RS = 0.77
.05
.045
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS7B (A51) Reach = Reach 1 RS = 0.58
.05
.045
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)


T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS7B (A51) Reach = Reach 1 RS = 0.37
.05
.042
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS7B (A51) Reach = Reach 1 RS = 0.19
.05
.042
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
T2SR2WS17B_T2SR2WS7B Plan: T2SR2WS17B_T2SR2WS7B 7/13/2011
Geom: T2SR2WS17B_T2SR2WS7B
River = T2SR2WS7B (A51) Reach = Reach 1 RS = 0.01
.05
.042
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta

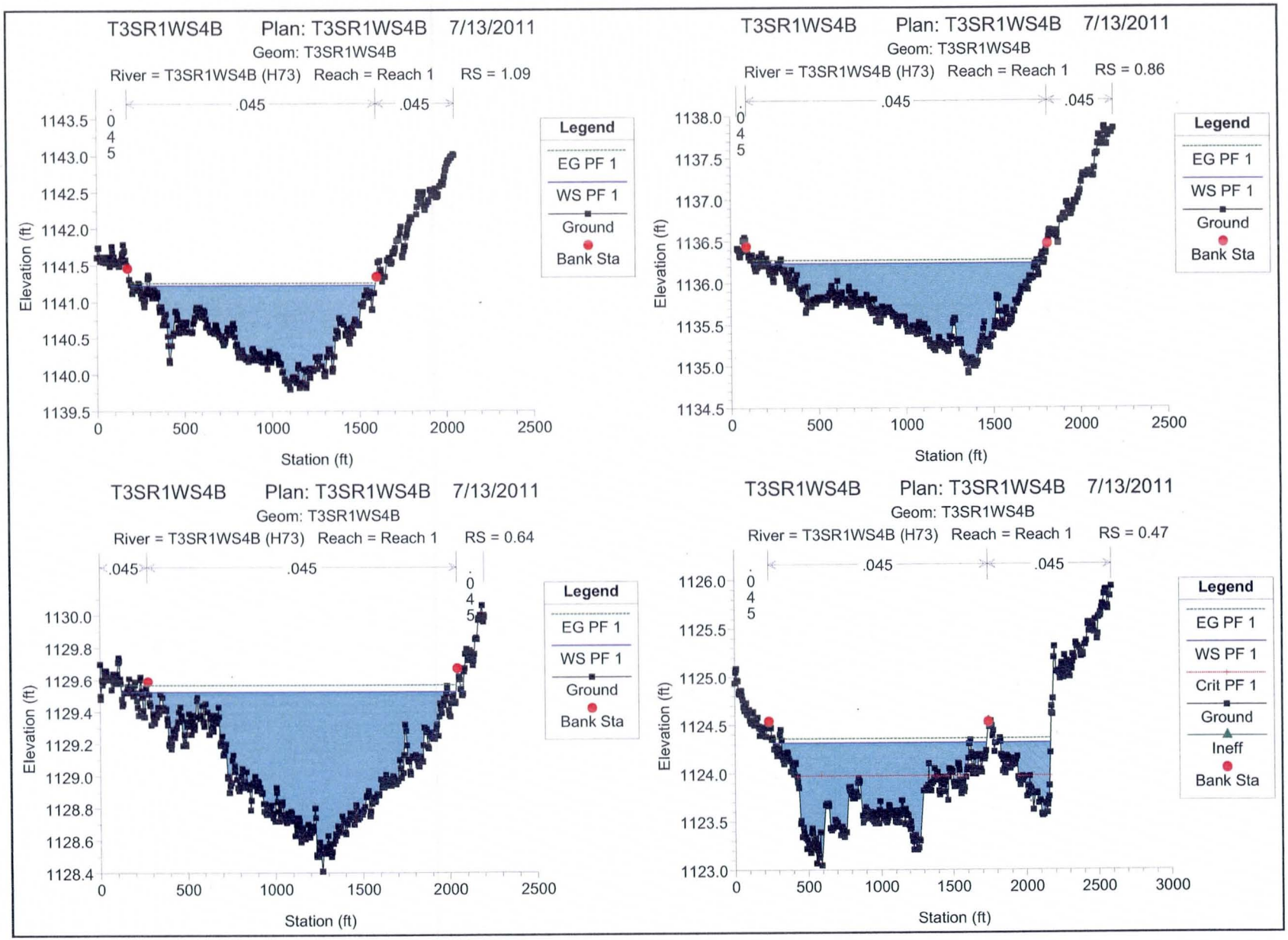
T3SR1WS4A (H71)

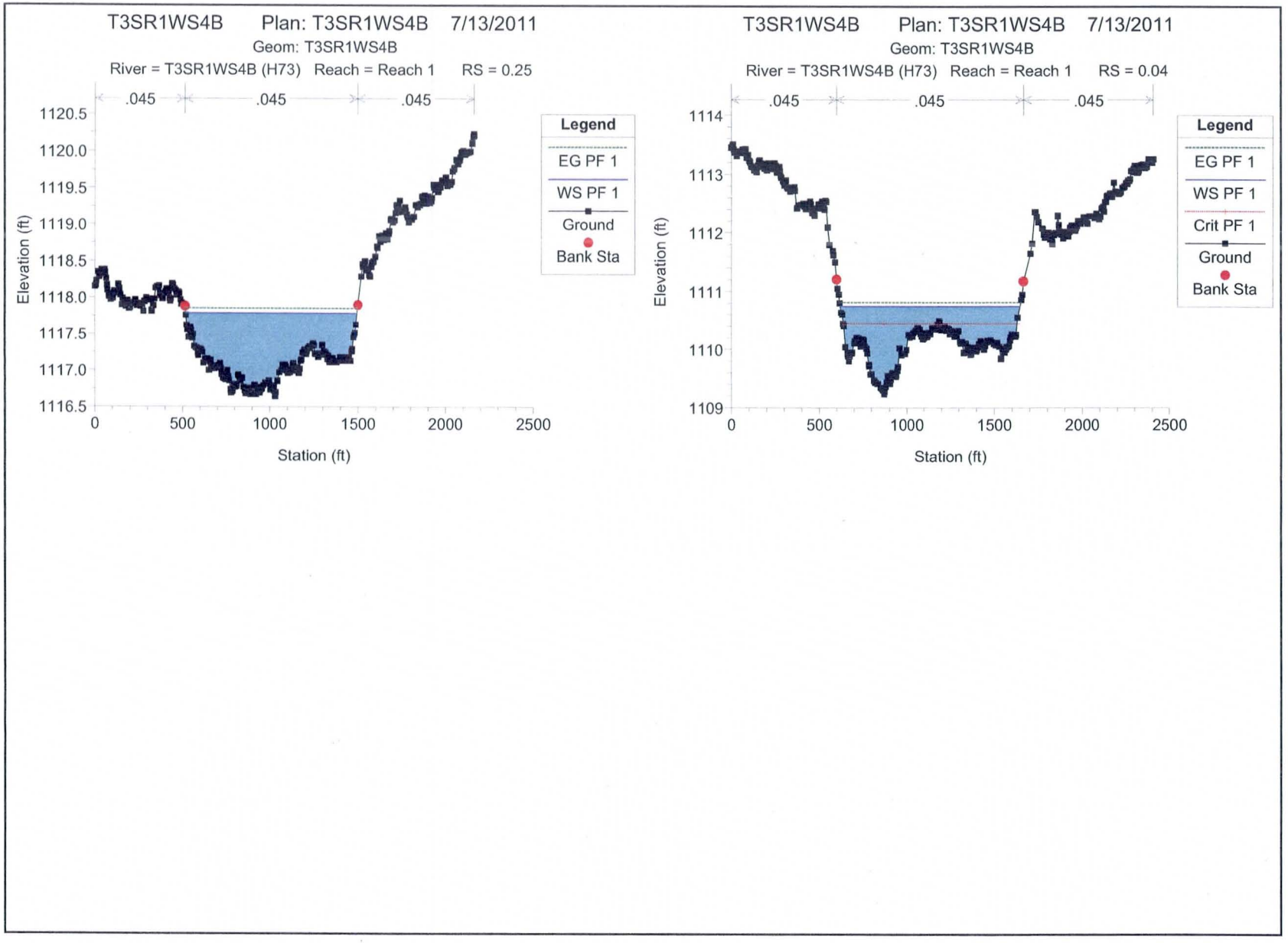
HEC-RAS CROSS SECTIONS T3SR1WS4A (H71)


T3SR1WS4A Plan: T3SR1WS4A 7/13/2011
Geom: T3SR1WS4A
River = T3SR1WS4A (H71) Reach = Reach 1 RS = 0.60
.043
.037
.043
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
T3SR1WS4A Plan: T3SR1WS4A 7/13/2011
Geom: T3SR1WS4A
River = T3SR1WS4A (H71) Reach = Reach 1 RS = 0.41
.043
.037
.043
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
T3SR1WS4A Plan: T3SR1WS4A 7/13/2011
Geom: T3SR1WS4A
River = T3SR1WS4A (H71) Reach = Reach 1 RS = 0.18
.043
.037
.043
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
T3SR1WS4A Plan: T3SR1WS4A 7/13/2011
Geom: T3SR1WS4A
River = T3SR1WS4A (H71) Reach = Reach 1 RS = 0.02
.042
.029
.042
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta

T3SR1WS4B (H73)

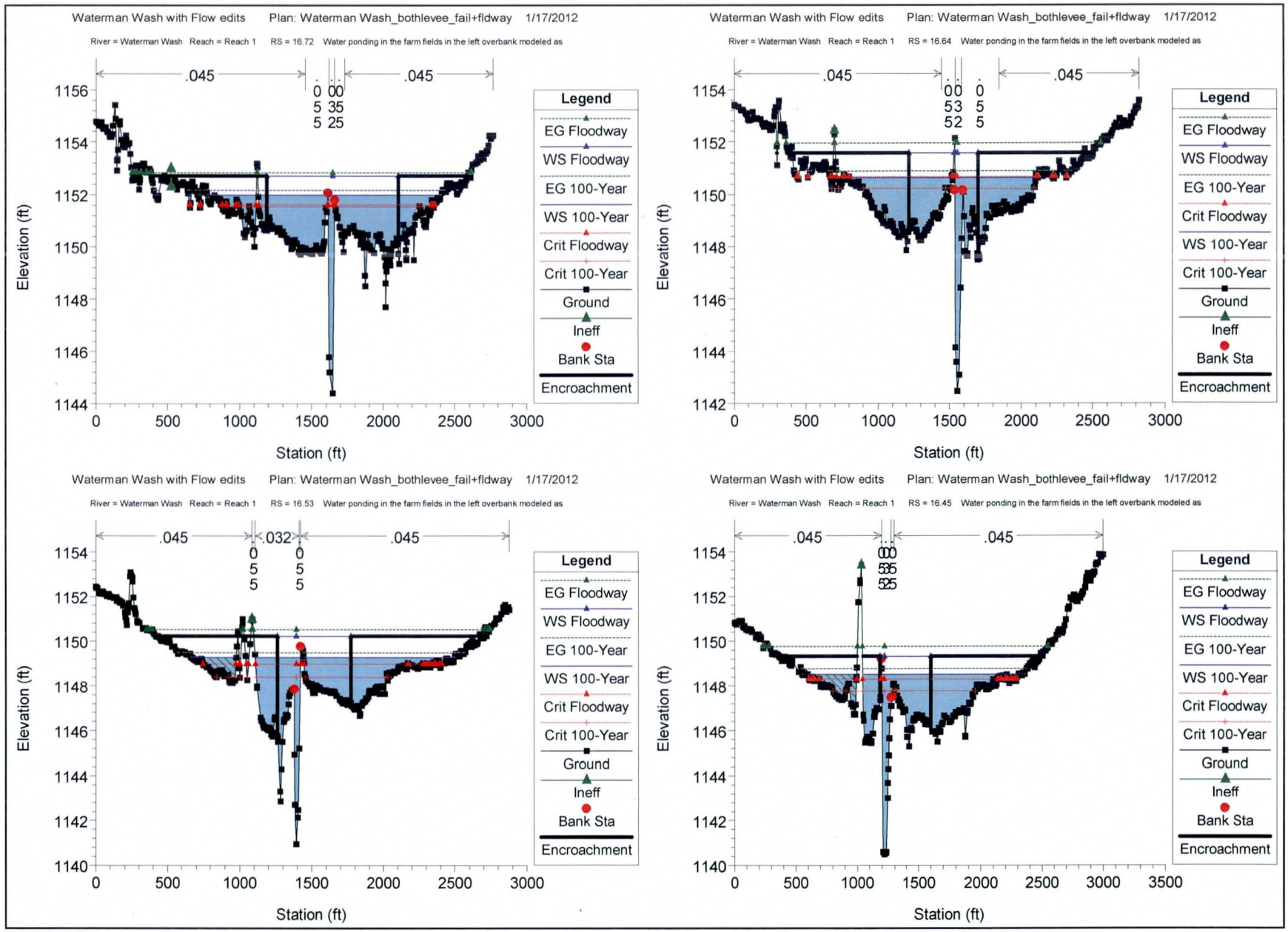
HEC-RAS CROSS SECTIONS T3SR1WS4B (H73)

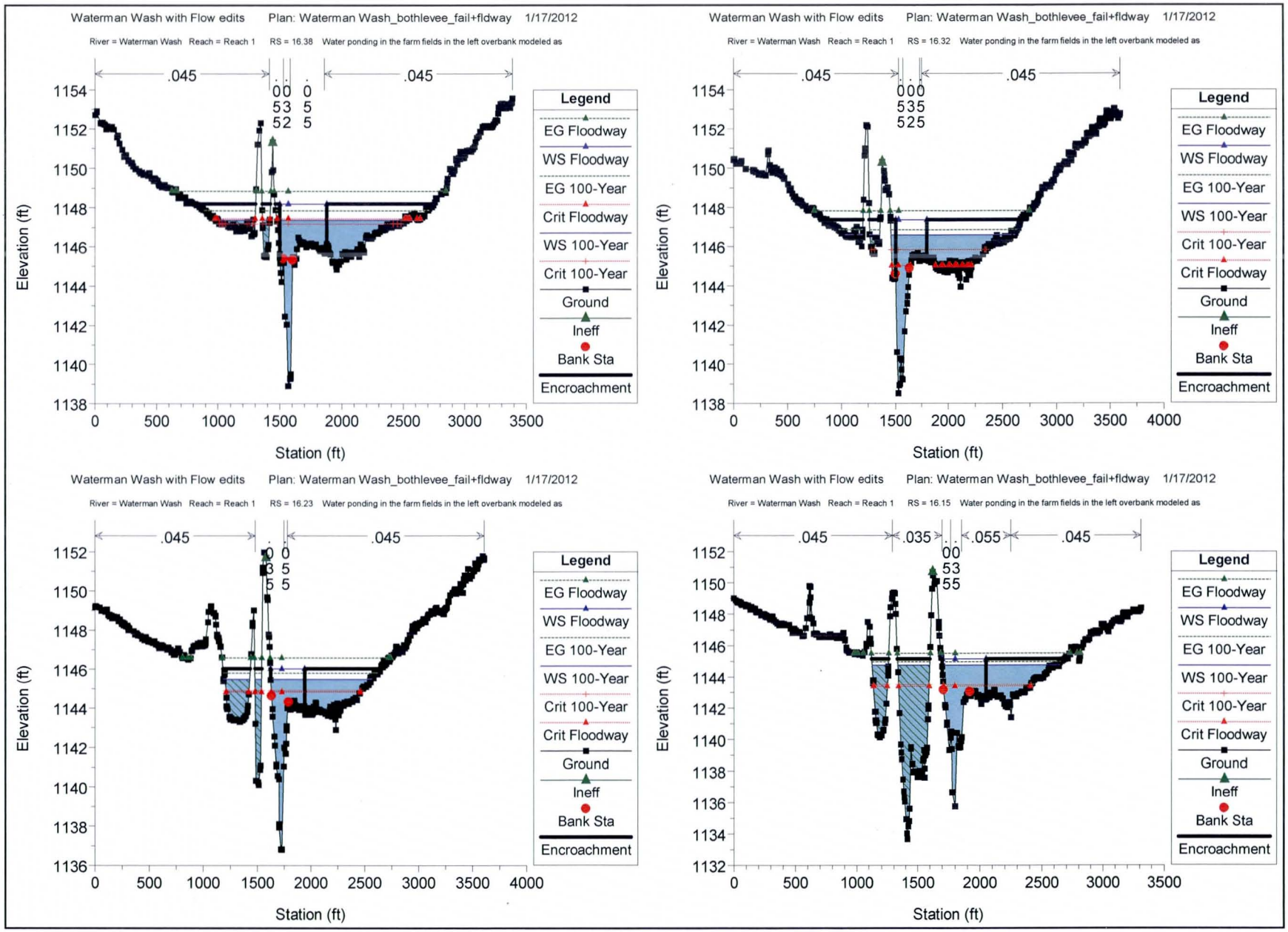

T3SR1WS4B Plan: T3SR1WS4B 7/13/2011
Geom: T3SR1WS4B
River = T3SR1WS4B (H73) Reach = Reach 1 RS = 1.09
.045
.045
.045
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
T3SR1WS4B Plan: T3SR1WS4B 7/13/2011
Geom: T3SR1WS4B
River = T3SR1WS4B (H73) Reach = Reach 1 RS = 0.86
.045
.045
.045
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
T3SR1WS4B Plan: T3SR1WS4B 7/13/2011
Geom: T3SR1WS4B
River = T3SR1WS4B (H73) Reach = Reach 1 RS = 0.64
.045
.045
.045
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
T3SR1WS4B Plan: T3SR1WS4B 7/13/2011
Geom: T3SR1WS4B
River = T3SR1WS4B (H73) Reach = Reach 1 RS = 0.47
.045
.045
.045
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

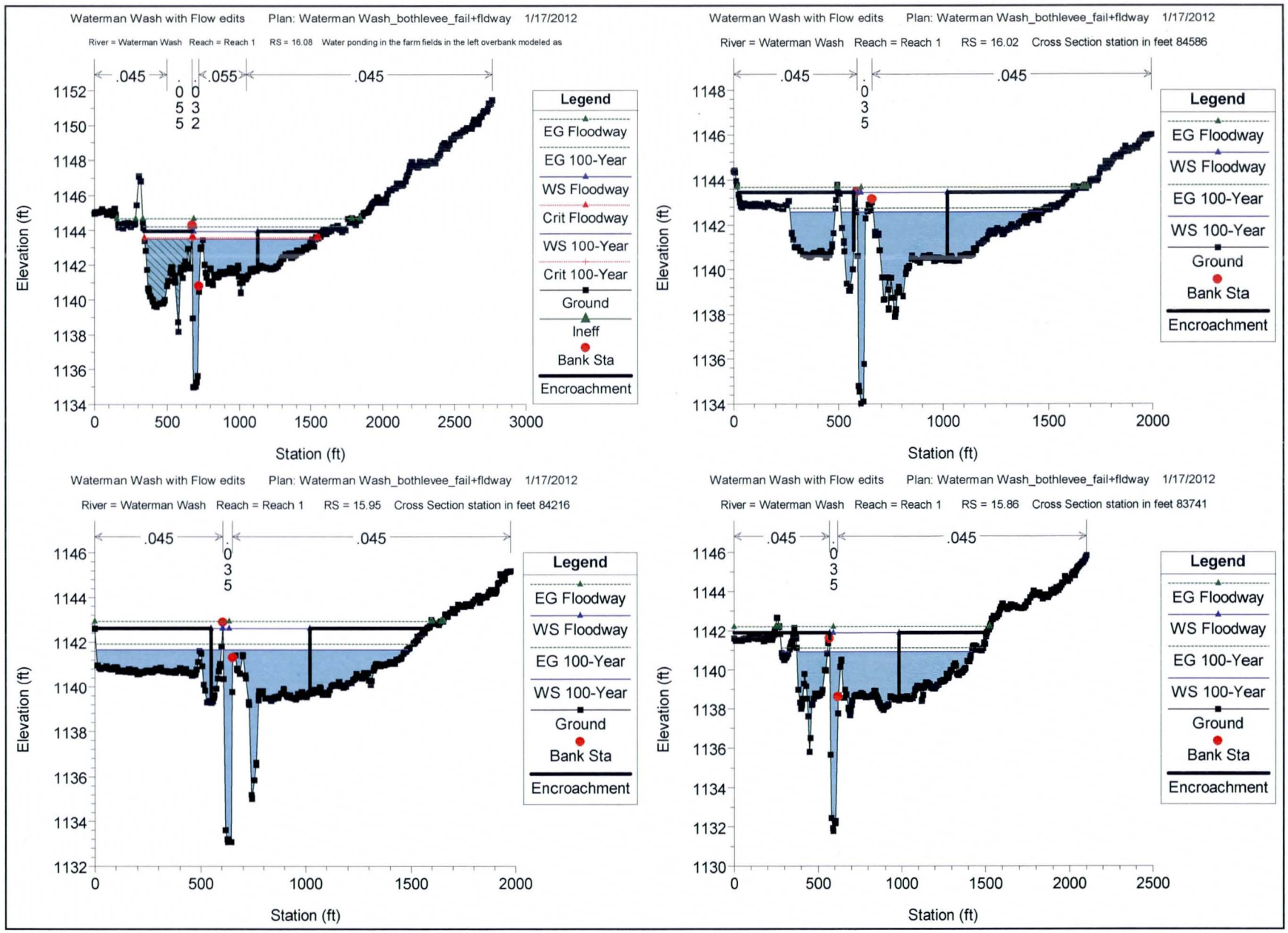

T3SR1WS4B Plan: T3SR1WS4B 7/13/2011
Geom: T3SR1WS4B
River = T3SR1WS4B (H73) Reach = Reach 1 RS = 0.25
.045
.045
.045
Elevation (ft)
1120.5
1120.0
1119.5
1119.0
1118.5
1118.0
1117.5
1117.0
1116.5
0
500
1000
1500
2000
2500
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
T3SR1WS4B Plan: T3SR1WS4B 7/13/2011
Geom: T3SR1WS4B
River = T3SR1WS4B (H73) Reach = Reach 1 RS = 0.04
.045
.045
.045
Elevation (ft)
1114
1113
1112
1111
1110
1109
0
500
1000
1500
2000
2500
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

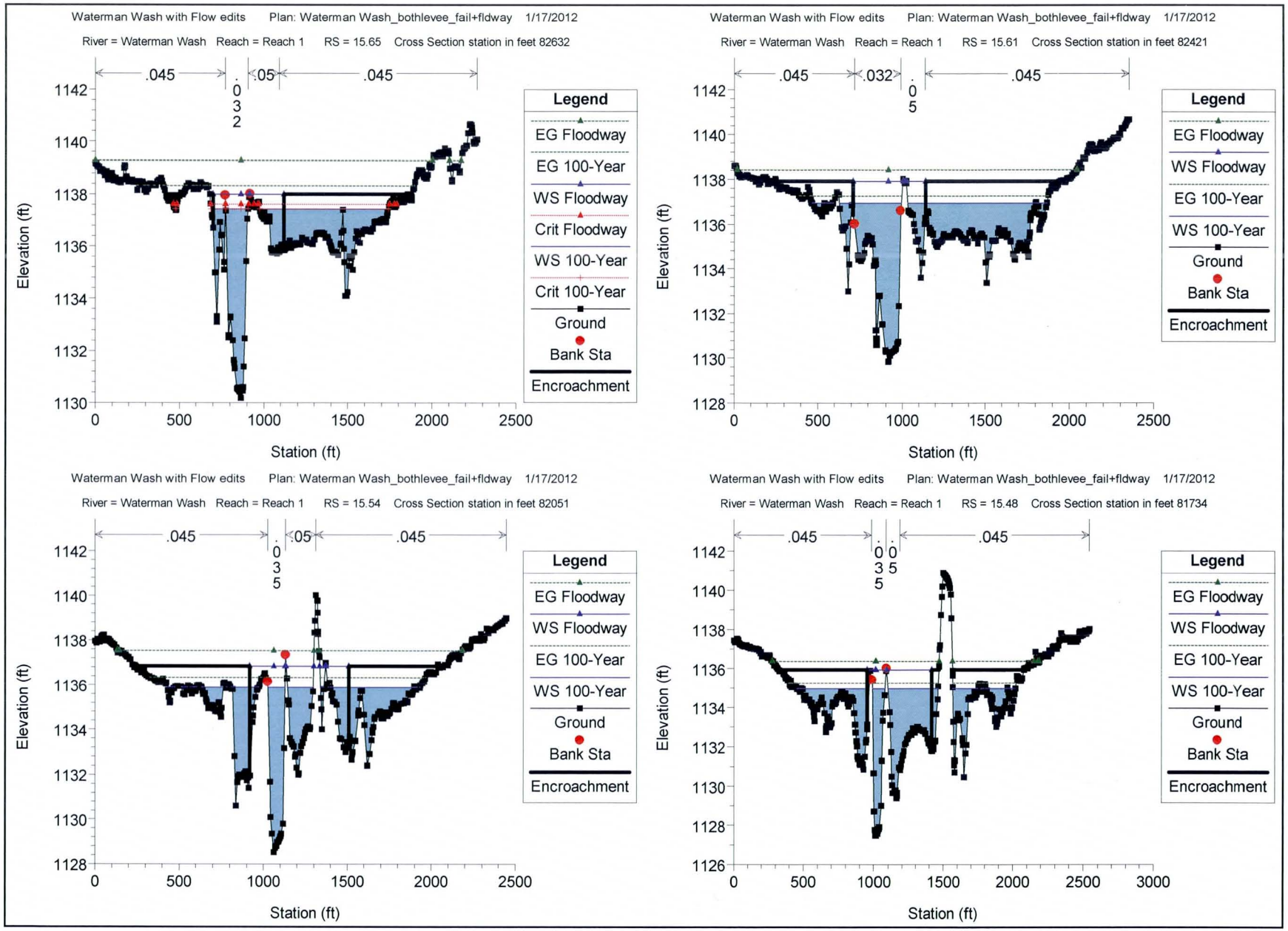
WATERMAN WASH

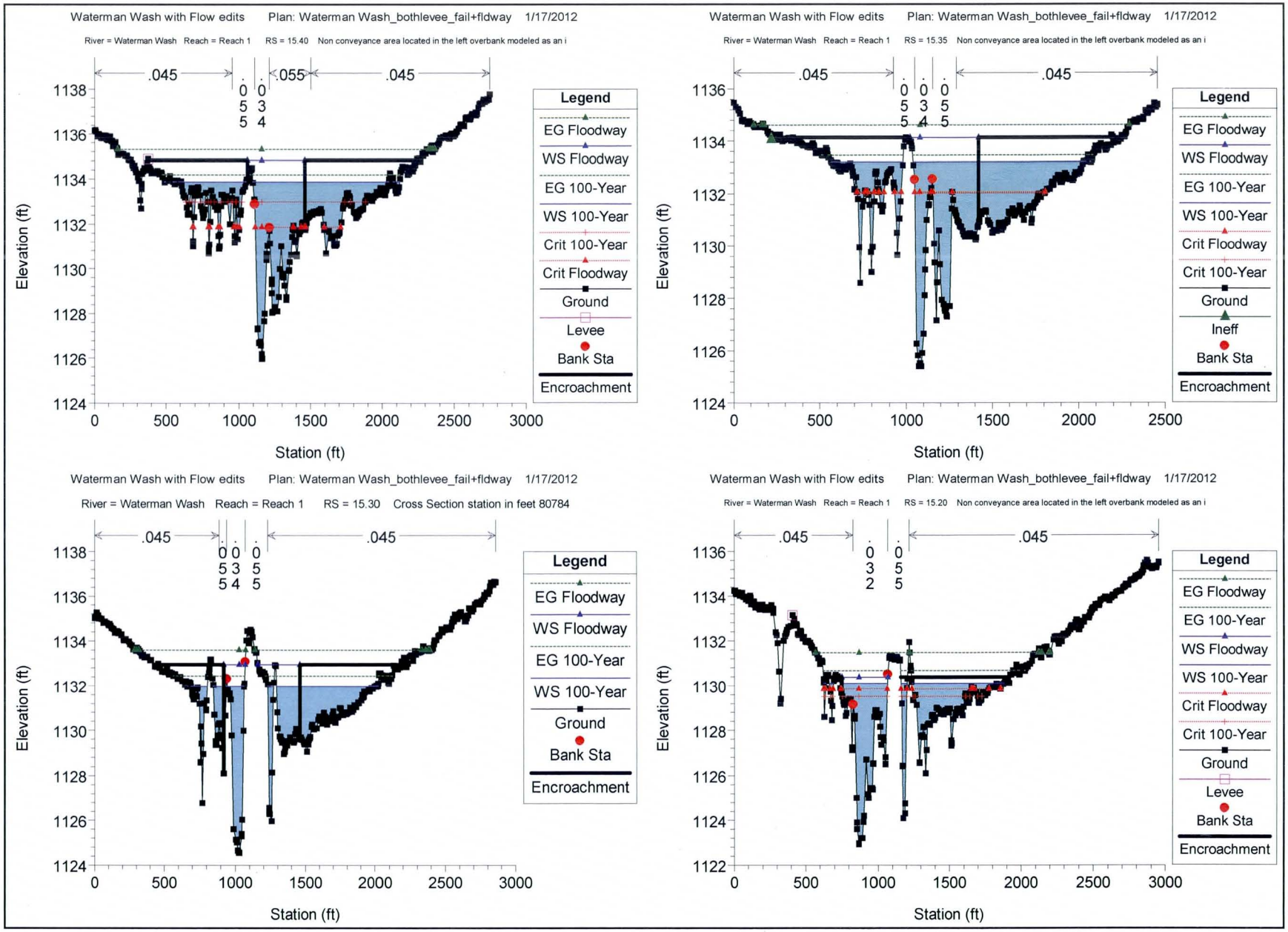
BOTH NON-LEVEE EMBANKMENT FAIL + FLOODWAY

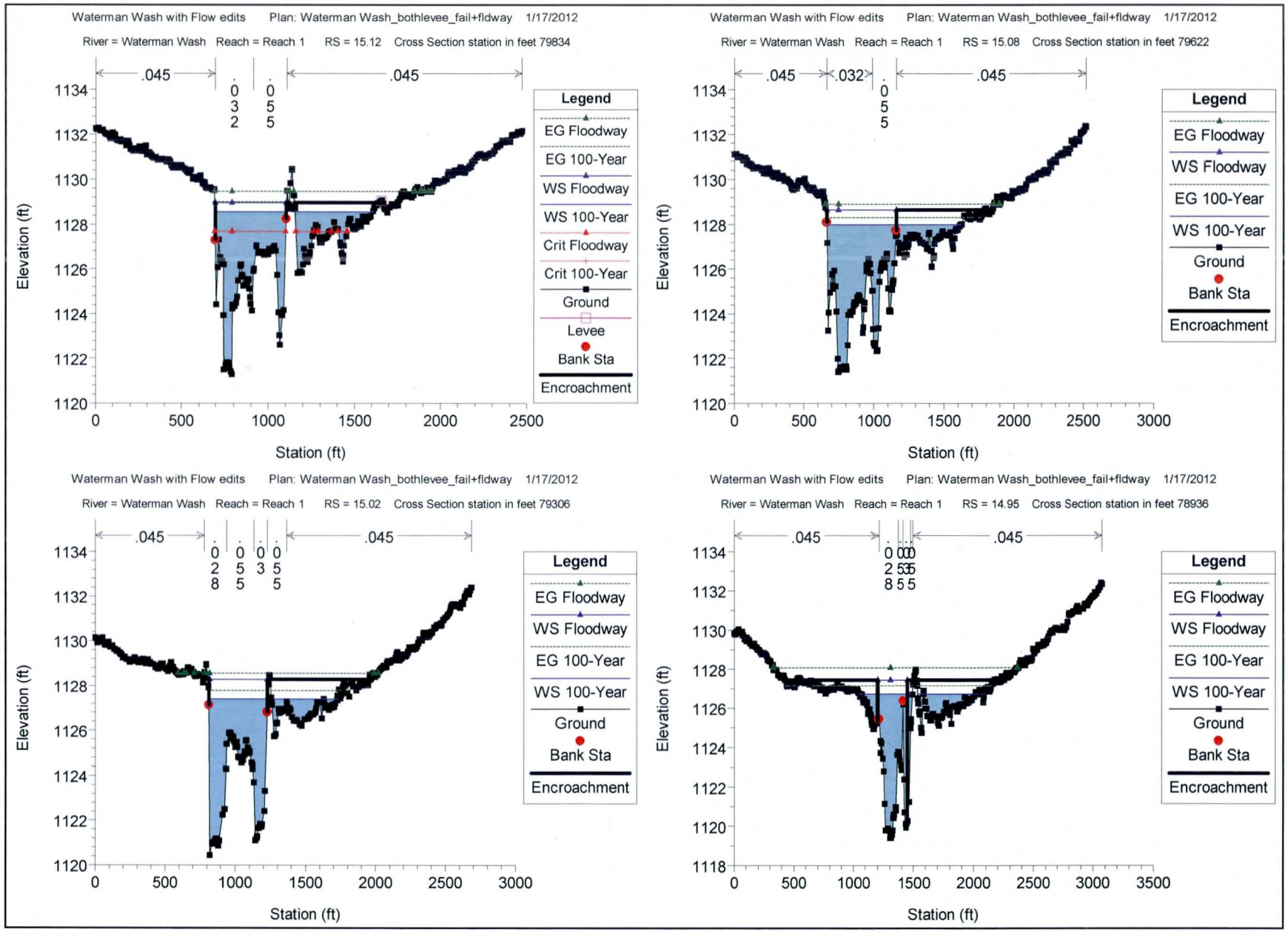

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.72 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.64 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.53 Water ponding in the farm fields in the left overbank modeled as
.045
.032
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.45 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

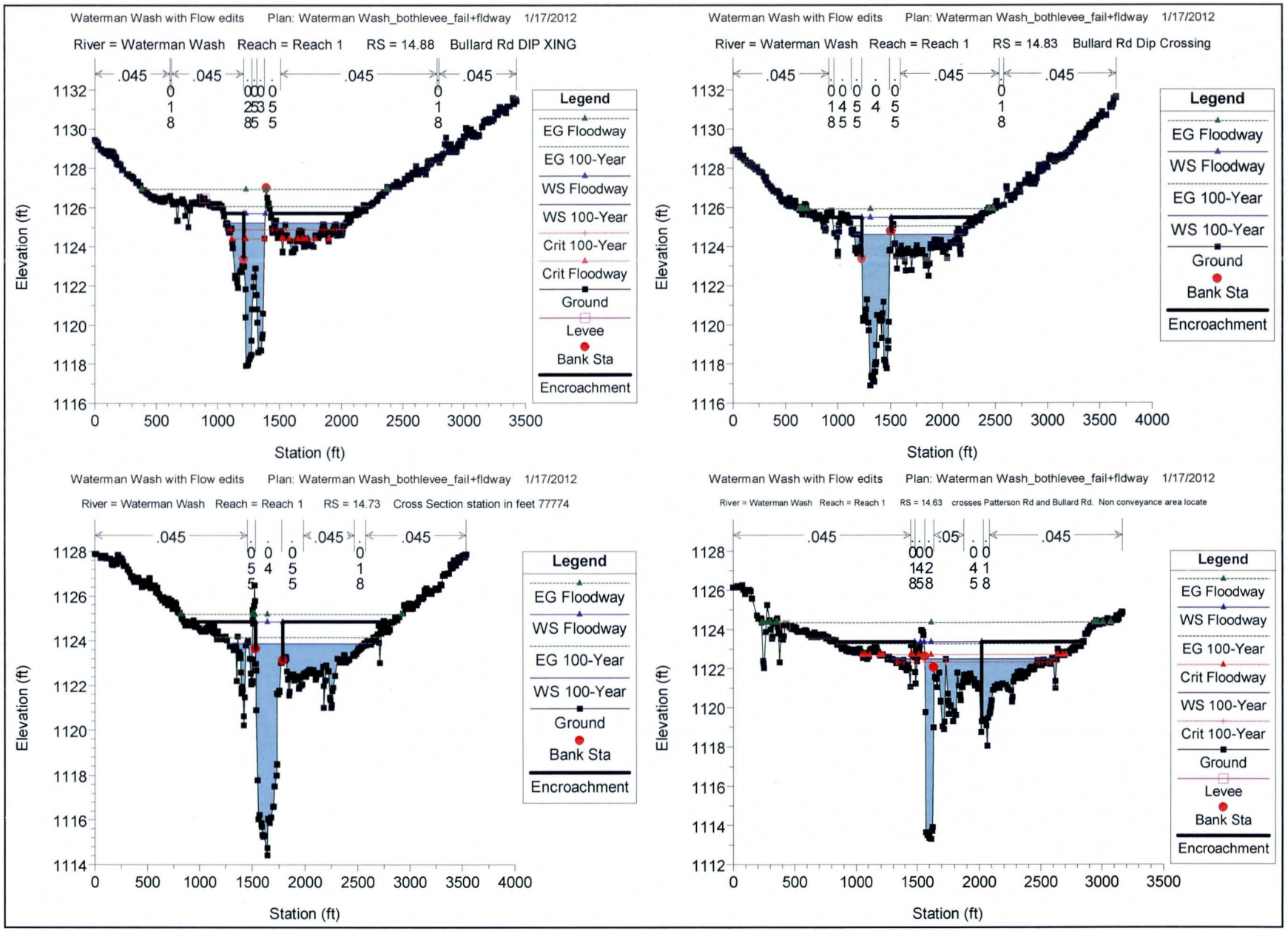

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.38 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.32 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.23 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.15 Water ponding in the farm fields in the left overbank modeled as
.045
.035
.055
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

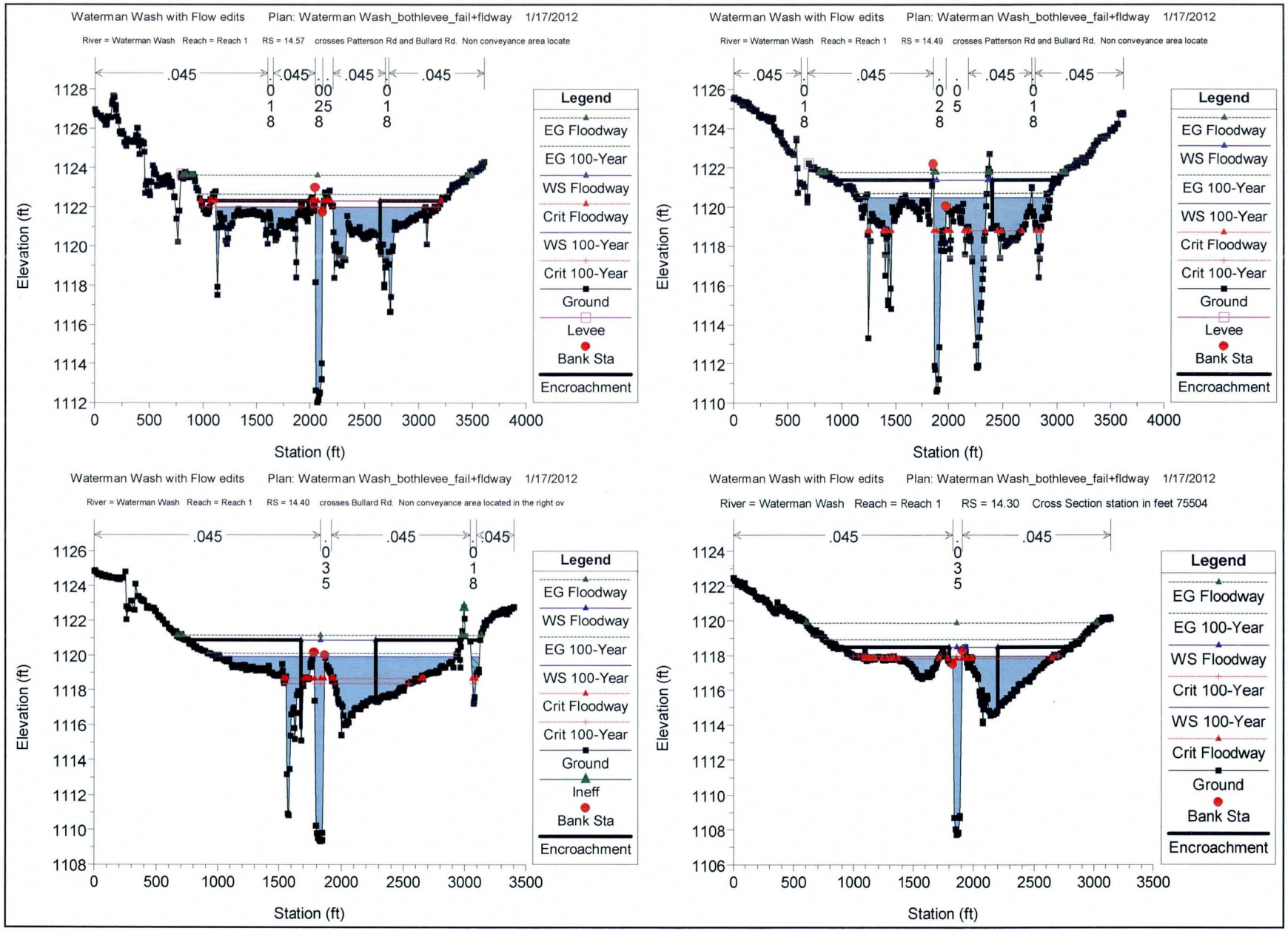

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.08 Water ponding in the farm fields in the left overbank modeled as
.045
.055
.045
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.02 Cross Section station in feet 84586
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.95 Cross Section station in feet 84216
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.86 Cross Section station in feet 83741
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

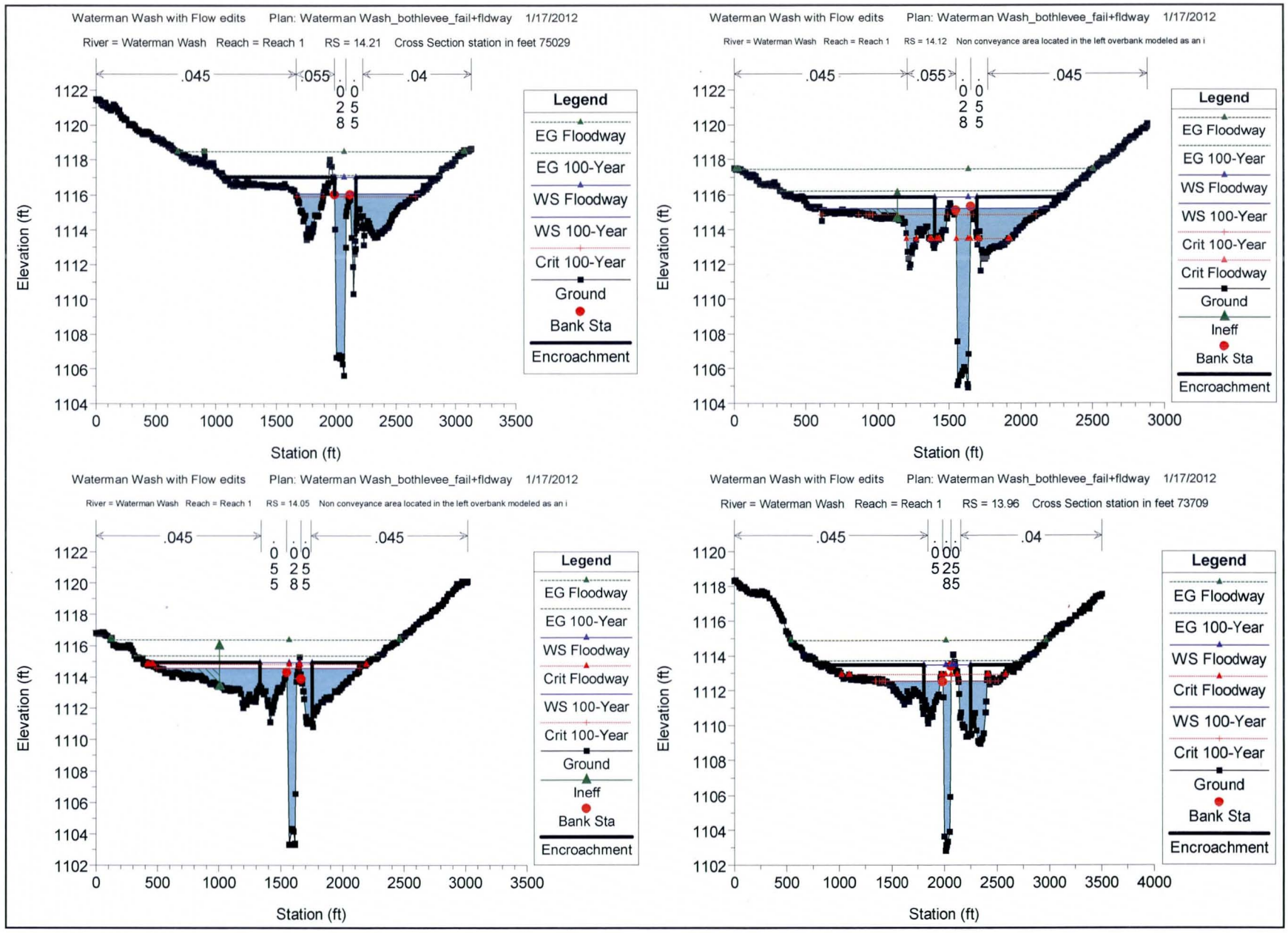

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.65 Cross Section station in feet 82632
.045
.032
.05
.045
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.61 Cross Section station in feet 82421
.045
.032
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.54 Cross Section station in feet 82051
.045
.05
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.48 Cross Section station in feet 81734
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

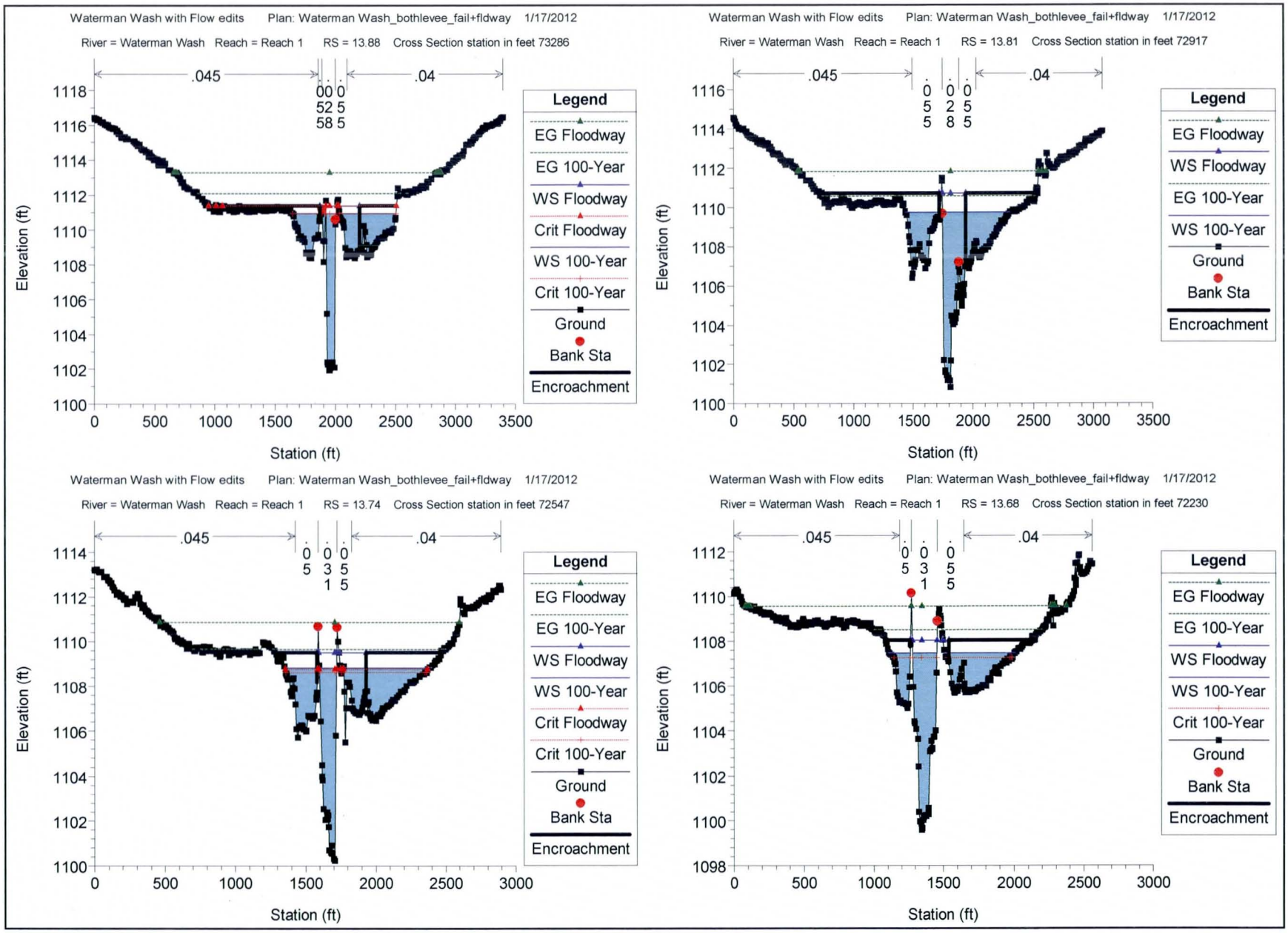

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.40 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
0.055
0.034
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.35 Non conveyance area located in the left overbank modeled as an i
.045
.045
0.055
0.034
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.30 Cross Section station in feet 80784
.045
.045
0.055
0.034
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.20 Non conveyance area located in the left overbank modeled as an i
.045
.045
0.032
0.055
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

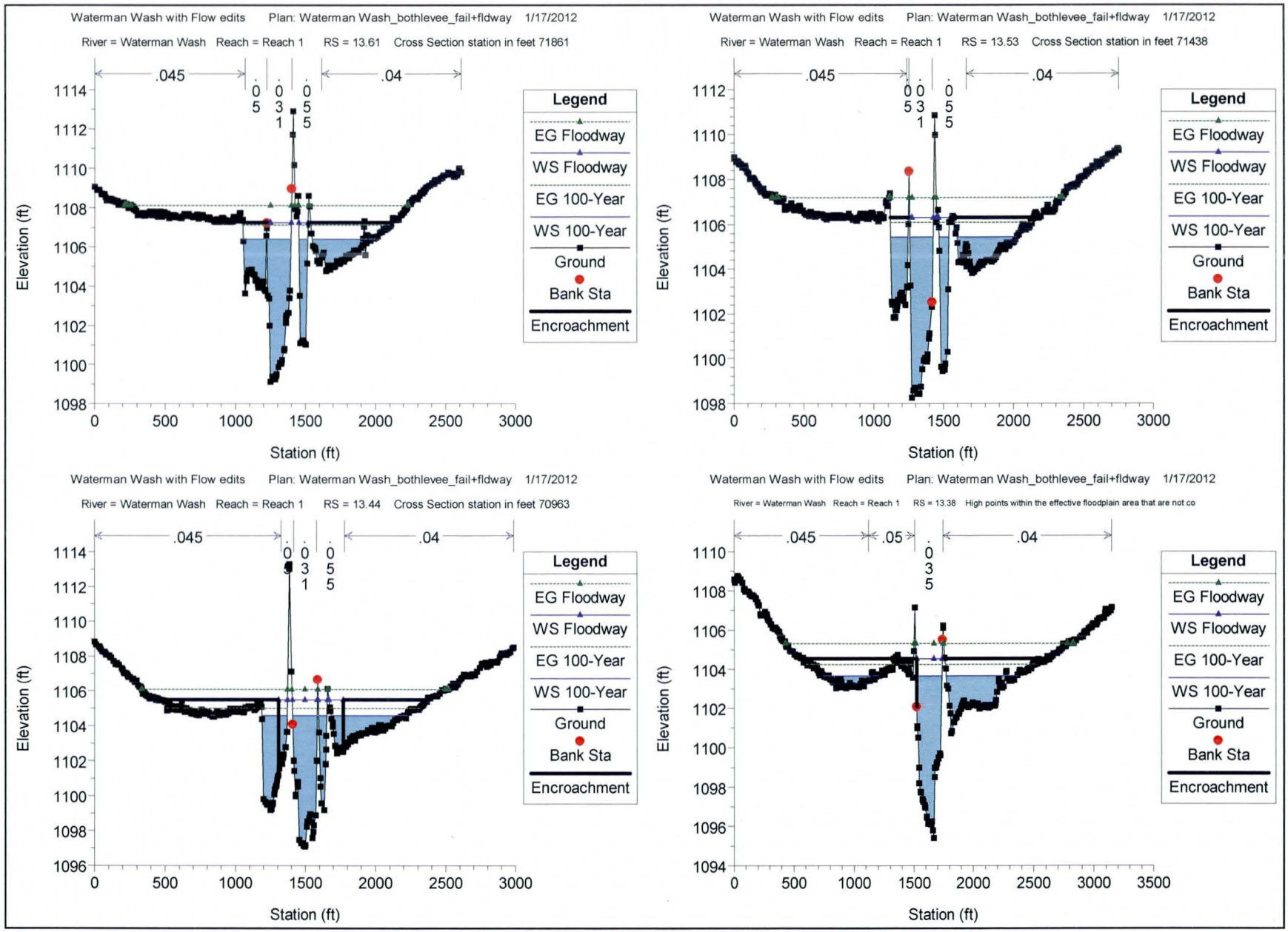

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.12 Cross Section station in feet 79834
.045
.045
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.08 Cross Section station in feet 79622
.045
.032
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.02 Cross Section station in feet 79306
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.95 Cross Section station in feet 78936
.045
.045
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

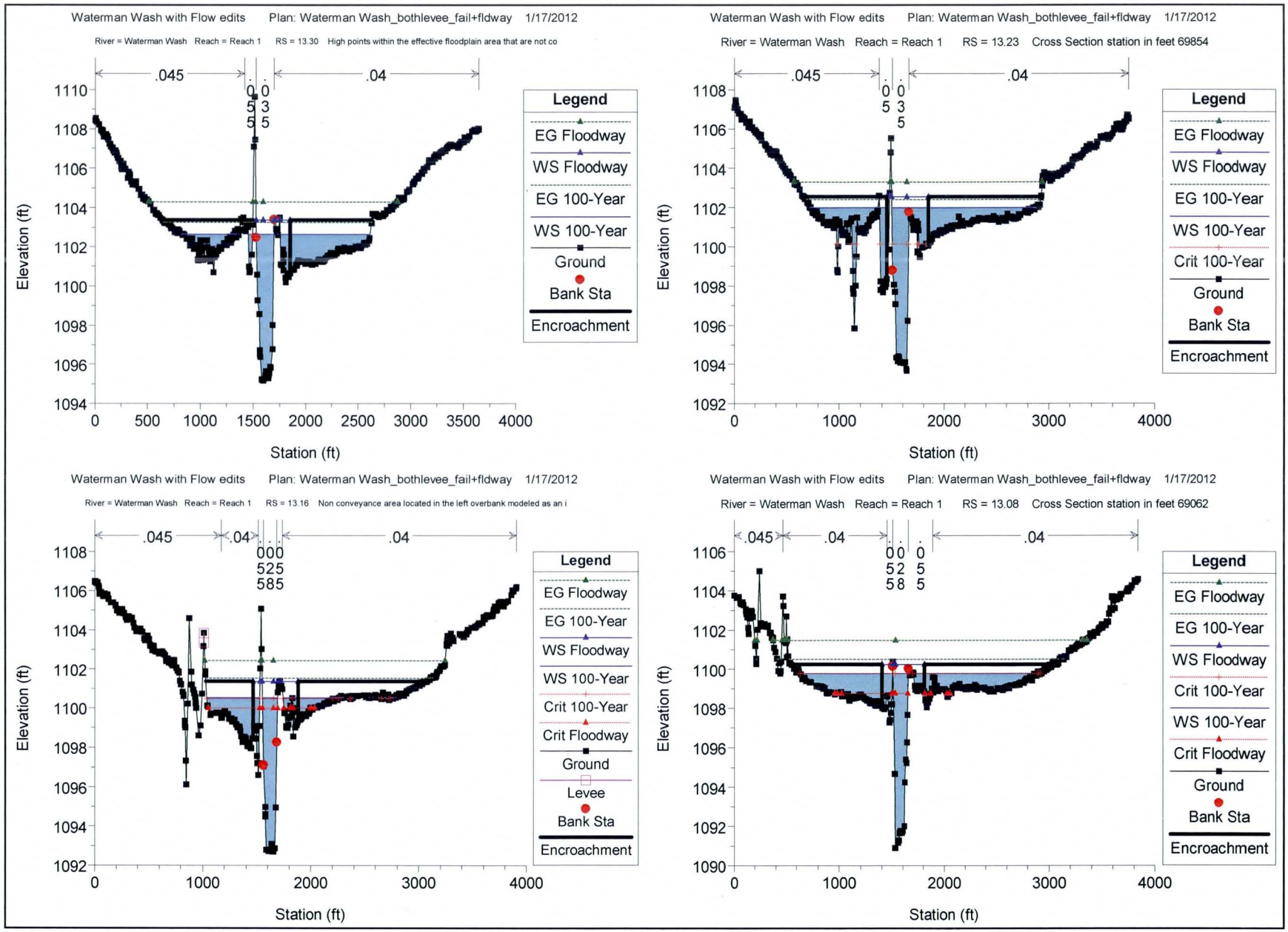

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.88 Bullard Rd DIP XING
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.83 Bullard Rd Dip Crossing
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.73 Cross Section station in feet 77774
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.63 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment

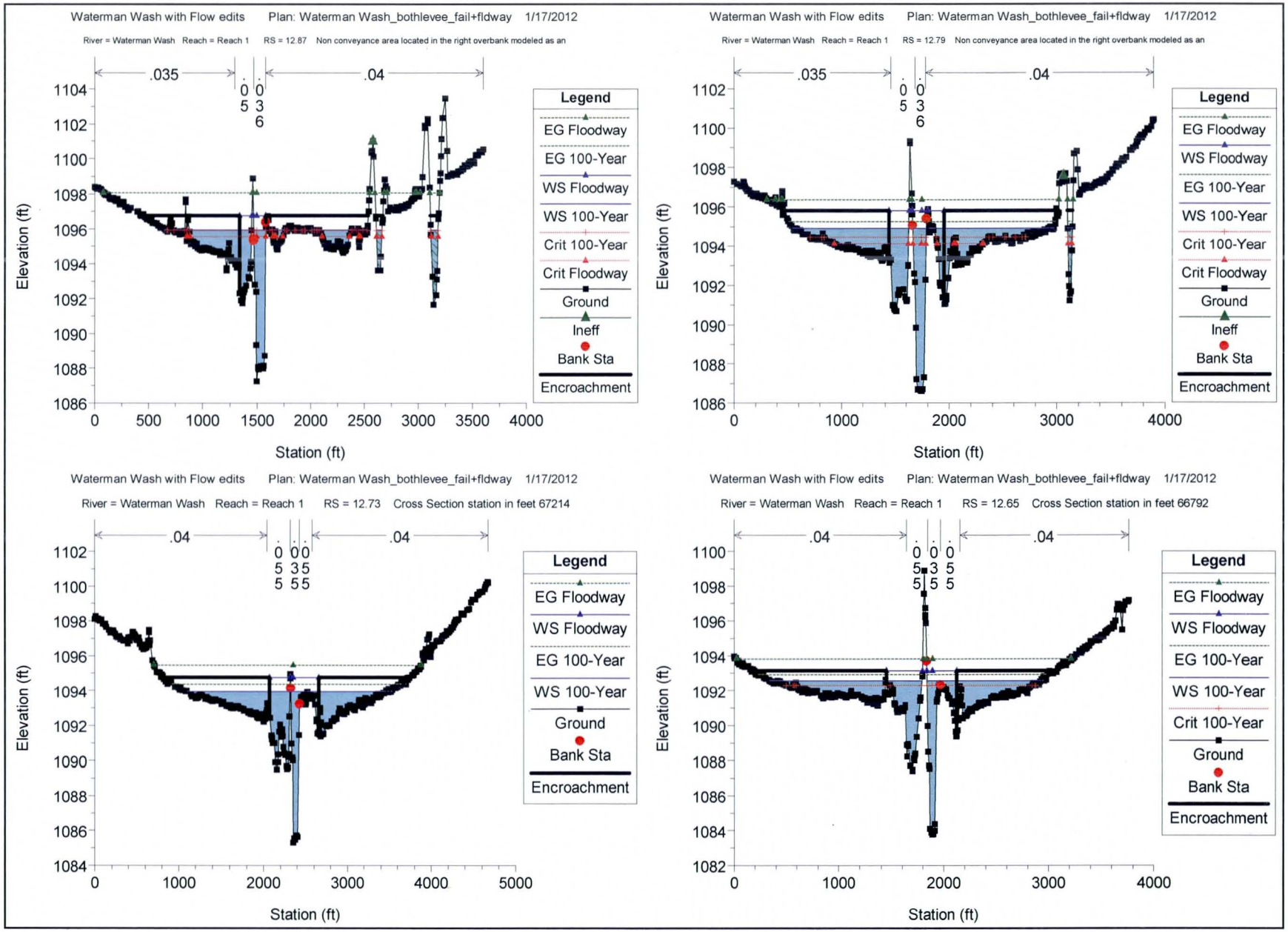

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.57 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
.045
.045
.045
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.49 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
.045
.045
.045
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.40 crosses Bullard Rd. Non conveyance area located in the right ov
.045
.045
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.30 Cross Section station in feet 75504
.045
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Bank Sta
Encroachment

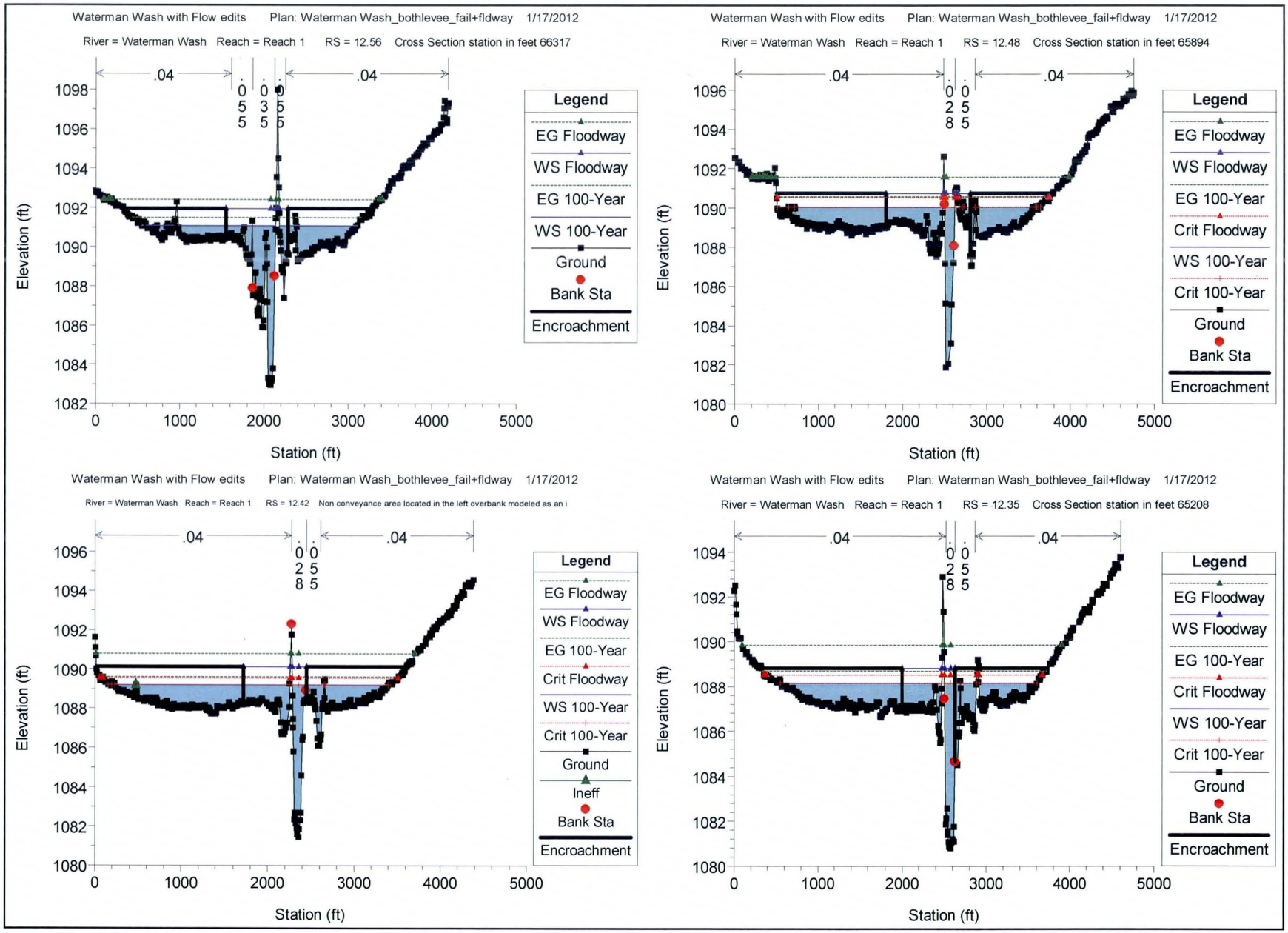

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.21 Cross Section station in feet 75029
.045
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.12 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.05 Non conveyance area located in the left overbank modeled as an i
.045
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.96 Cross Section station in feet 73709
.045
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.88 Cross Section station in feet 73286
.045
.04
0.052 0.058 0.05
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.81 Cross Section station in feet 72917
.045
.04
0.05 0.05 0.28 0.05
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.74 Cross Section station in feet 72547
.045
.04
0.05 0.031 0.05
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.68 Cross Section station in feet 72230
.045
.04
0.05 0.031 0.05
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.61 Cross Section station in feet 71861
.045
.04
0.05
0.031
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.53 Cross Section station in feet 71438
.045
.04
0.05
0.031
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.44 Cross Section station in feet 70963
.045
.04
0.031
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.38 High points within the effective floodplain area that are not co
.045
.05
.04
0.035
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

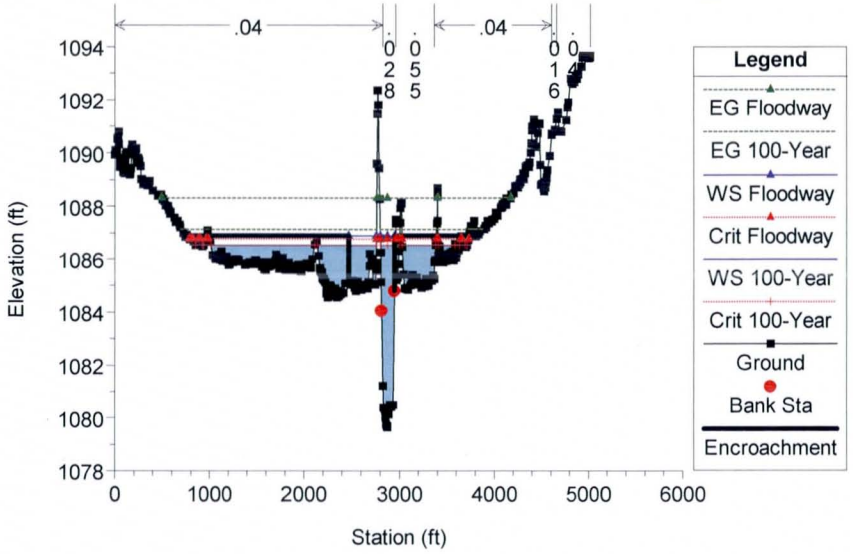

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.30 High points within the effective floodplain area that are not co
.045
.04
0535
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.23 Cross Section station in feet 69854
.045
.04
0535
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.16 Non conveyance area located in the left overbank modeled as an i
.045
.04
.04
000
525
585
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.08 Cross Section station in feet 69062
.045
.04
.04
0052
585
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.87 Non conveyance area located in the right overbank modeled as an
.035
.04
0.05
0.036
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.79 Non conveyance area located in the right overbank modeled as an
.035
.04
0.05
0.036
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.73 Cross Section station in feet 67214
.04
.04
0.055
0.035
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.65 Cross Section station in feet 66792
.04
.04
0.055
0.035
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.56 Cross Section station in feet 66317
.04
.04
0.055
0.035
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.48 Cross Section station in feet 65894
.04
.04
0.025
0.085
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.42 Non conveyance area located in the left overbank modeled as an i
.04
.04
0.025
0.085
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.35 Cross Section station in feet 65208
.04
.04
0.025
0.085
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

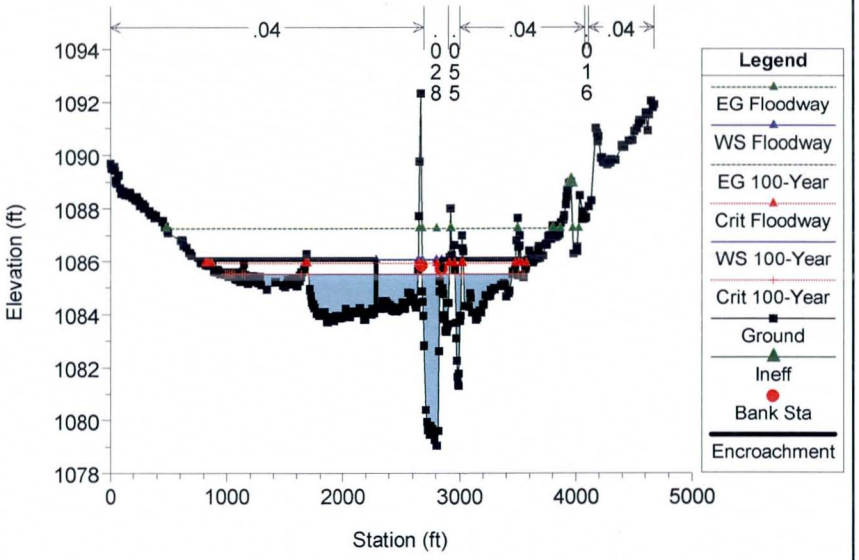
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012

River = Waterman Wash Reach = Reach 1 RS = 12.26 crosses Riggs Rd



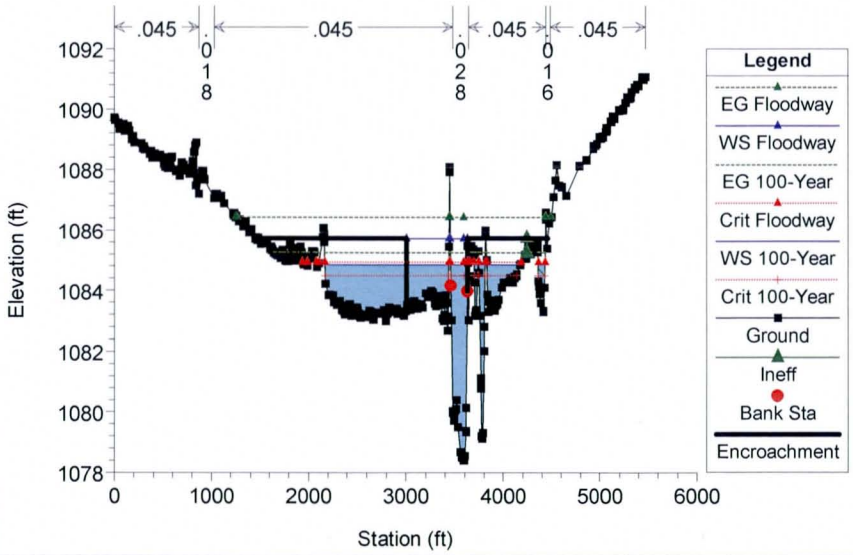
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012

River = Waterman Wash Reach = Reach 1 RS = 12.21 crosses Riggs Rd. Non conveyance area located in the right over



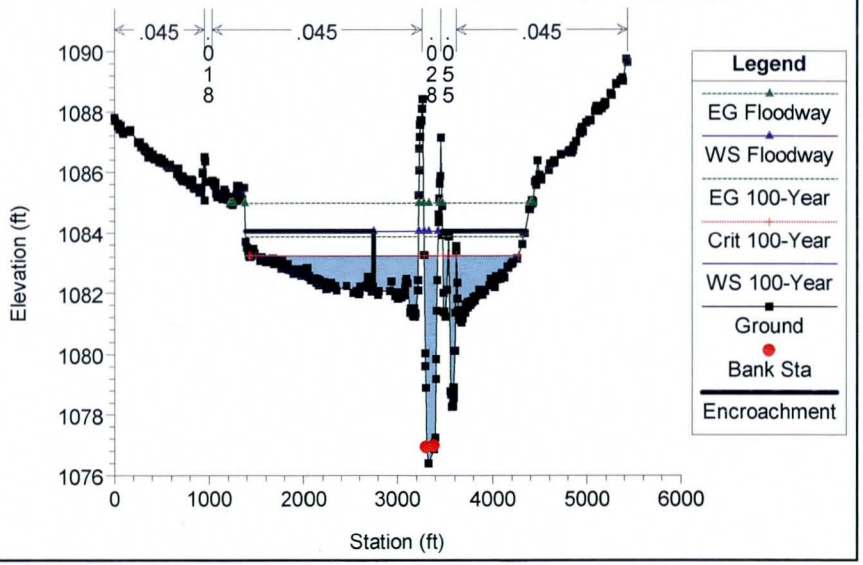
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012

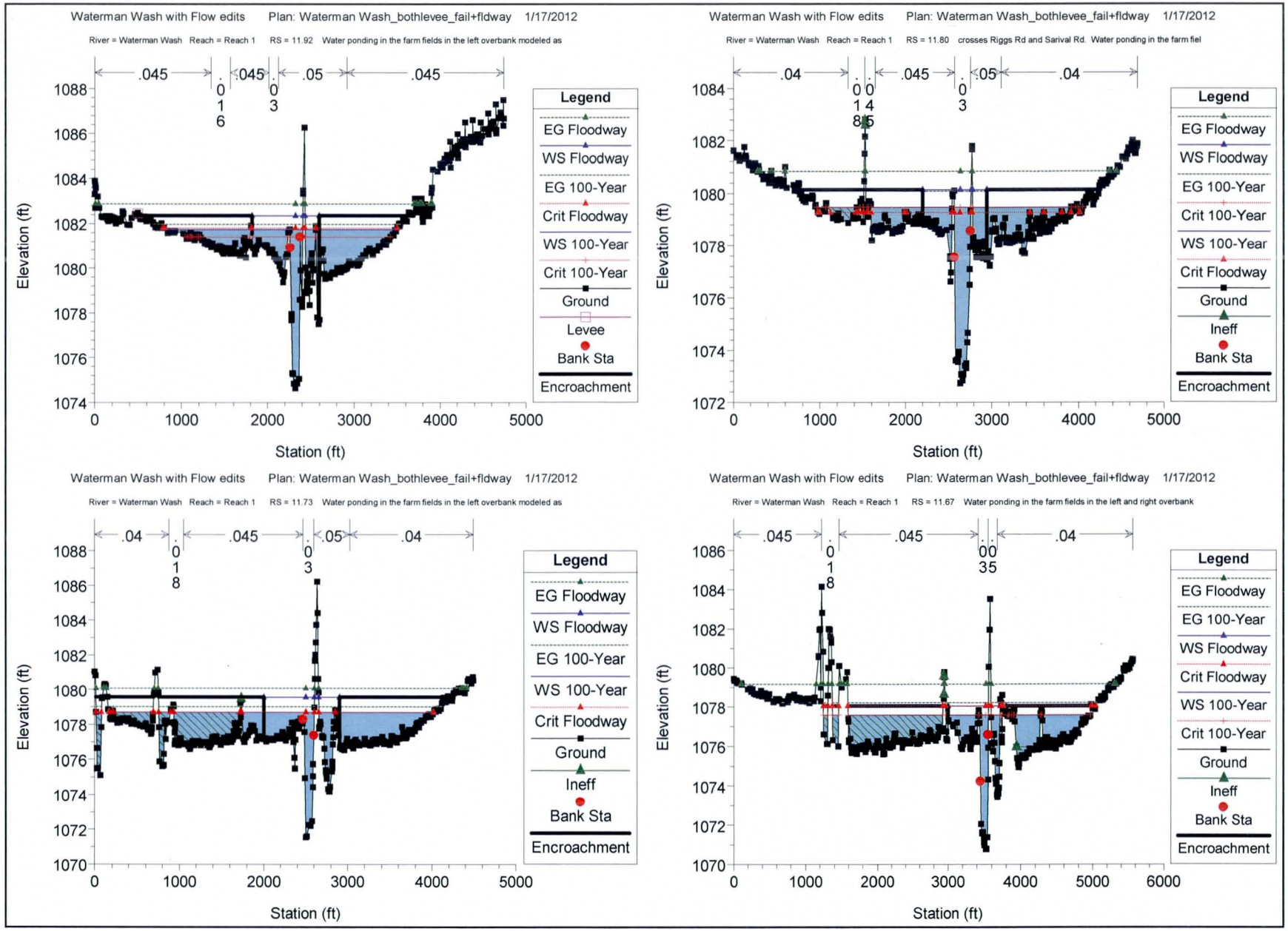
River = Waterman Wash Reach = Reach 1 RS = 12.16 crosses Riggs Rd and Sarival Rd. Non conveyance area located in

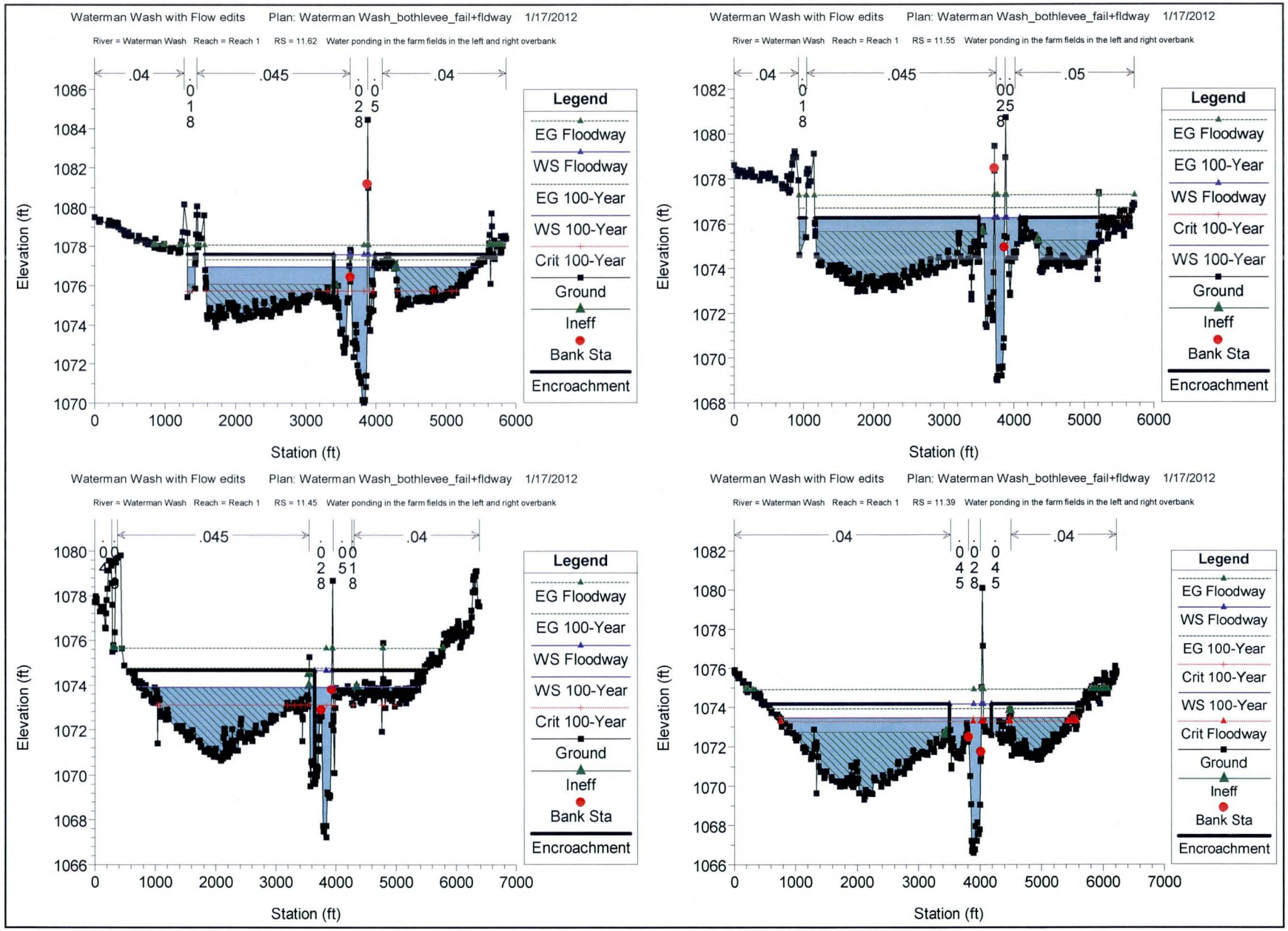


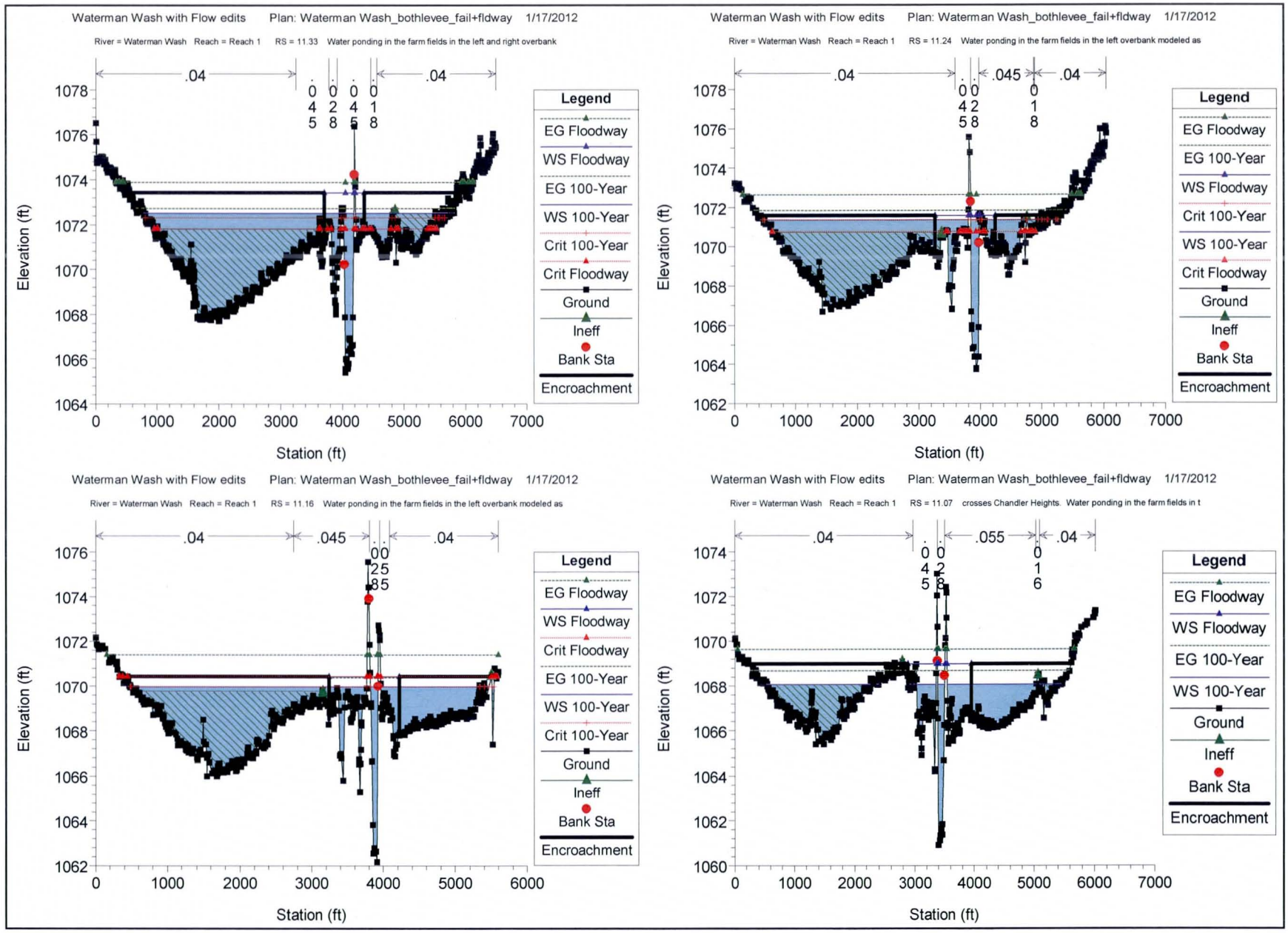
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012

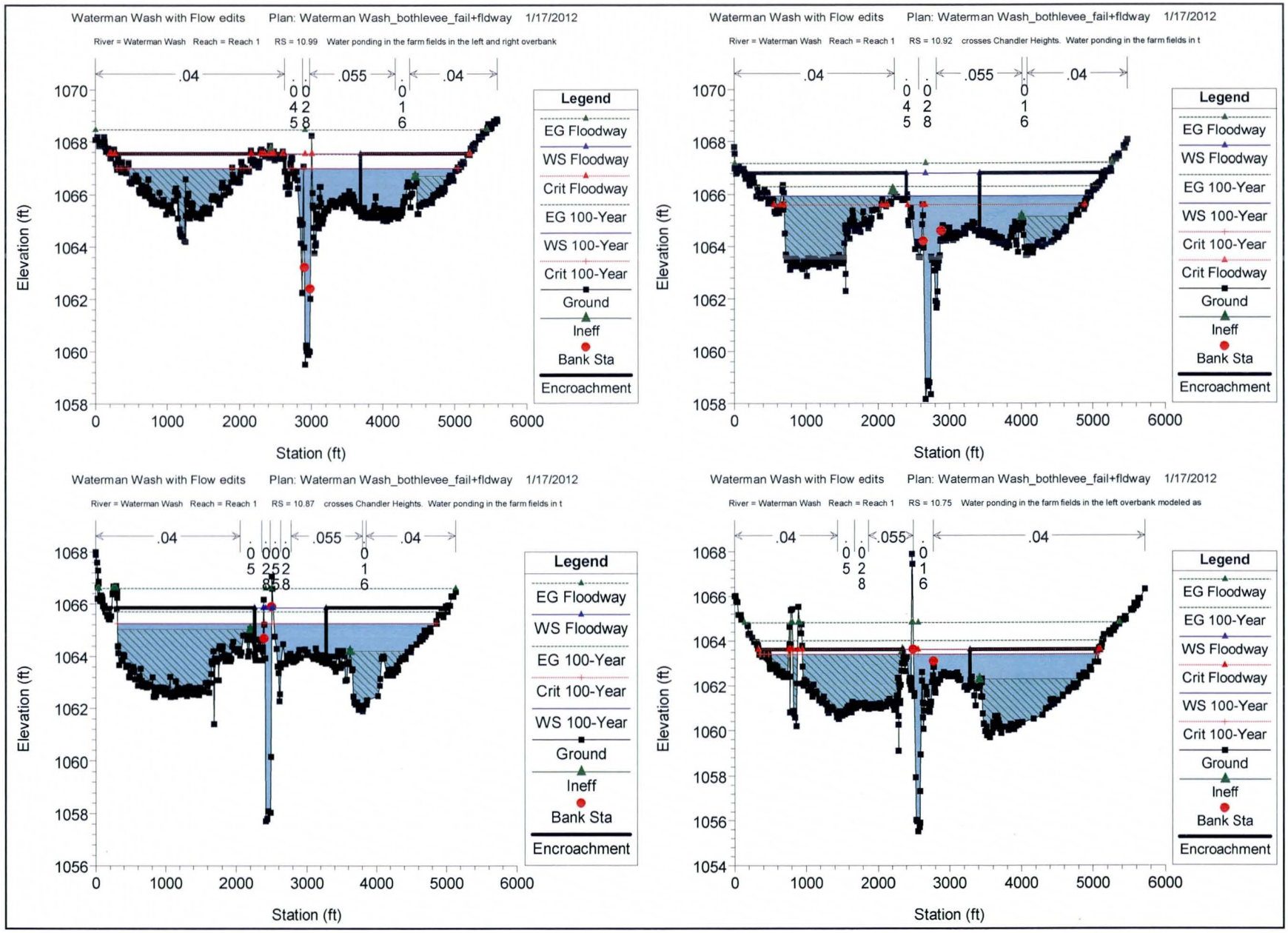
River = Waterman Wash Reach = Reach 1 RS = 12.04 dip crossing for Riggs Rd

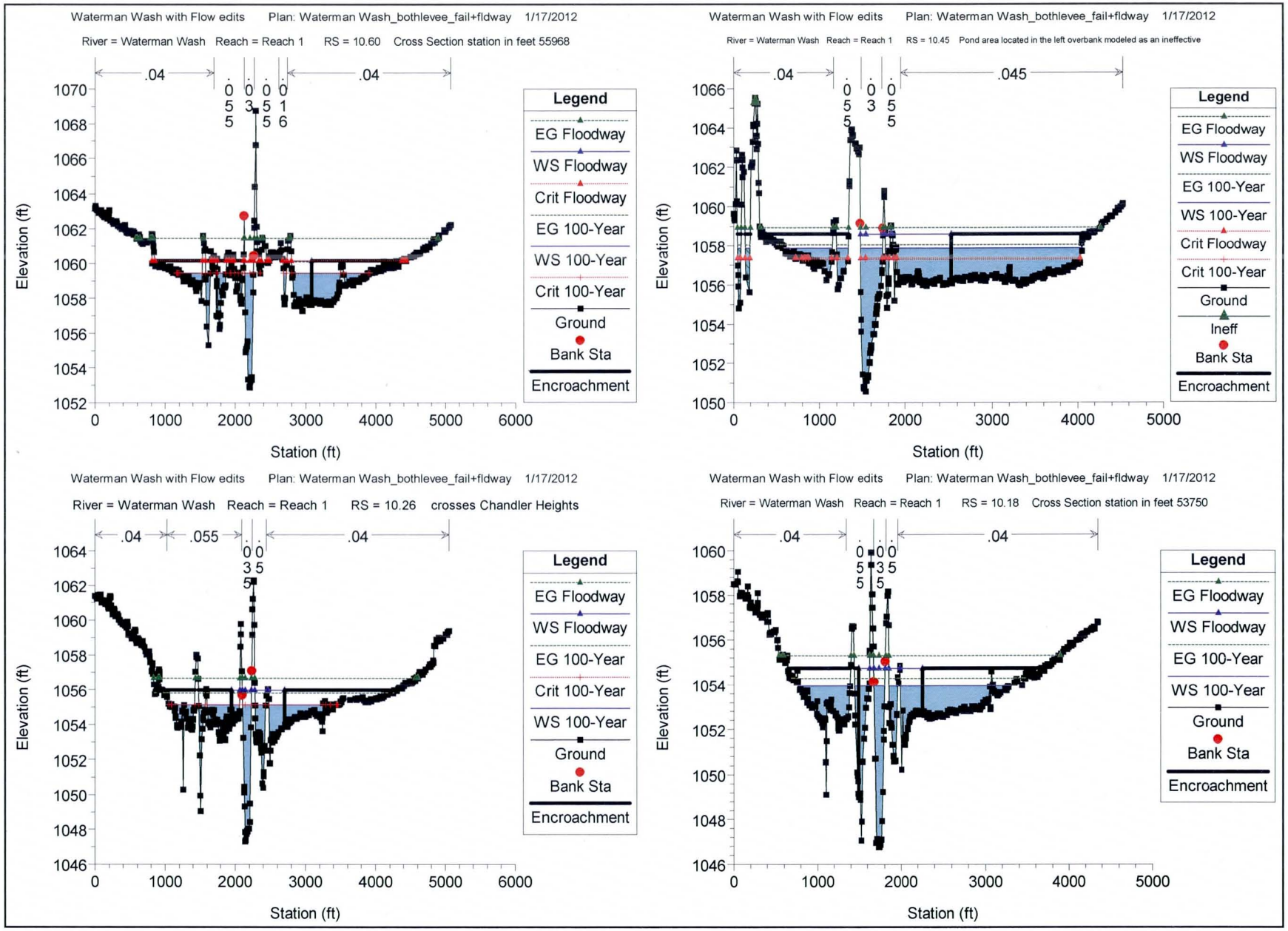


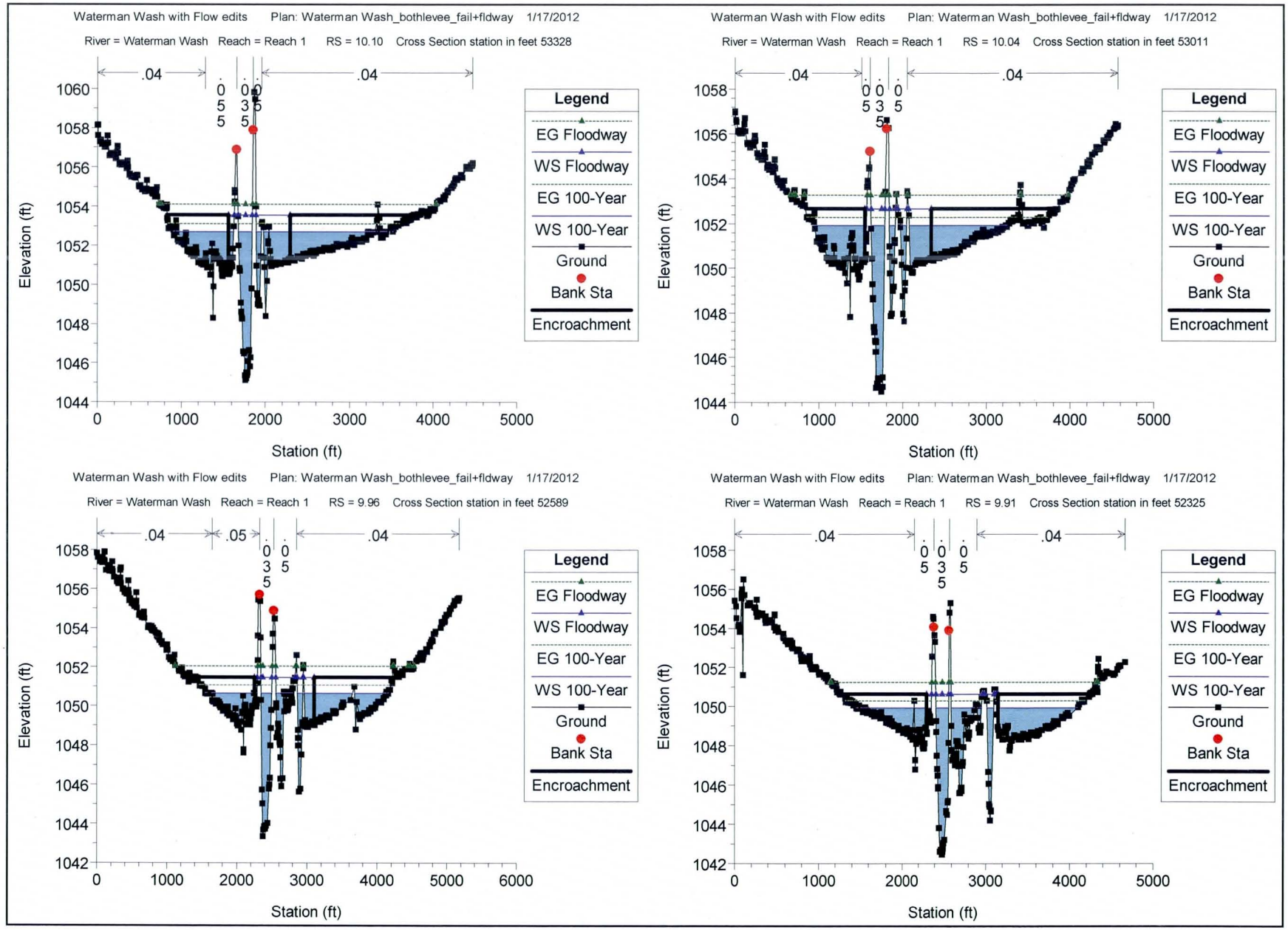

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.92 Water ponding in the farm fields in the left overbank modeled as
.045
.045
.05
.045
0.16
0.03
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.80 crosses Riggs Rd and Sarival Rd. Water ponding in the farm fiel
.04
.045
.05
.04
0.0145
0.03
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.73 Water ponding in the farm fields in the left overbank modeled as
.04
.045
.05
.04
0.18
0.03
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.67 Water ponding in the farm fields in the left and right overbank
.045
.045
.04
0.18
0.0035
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment

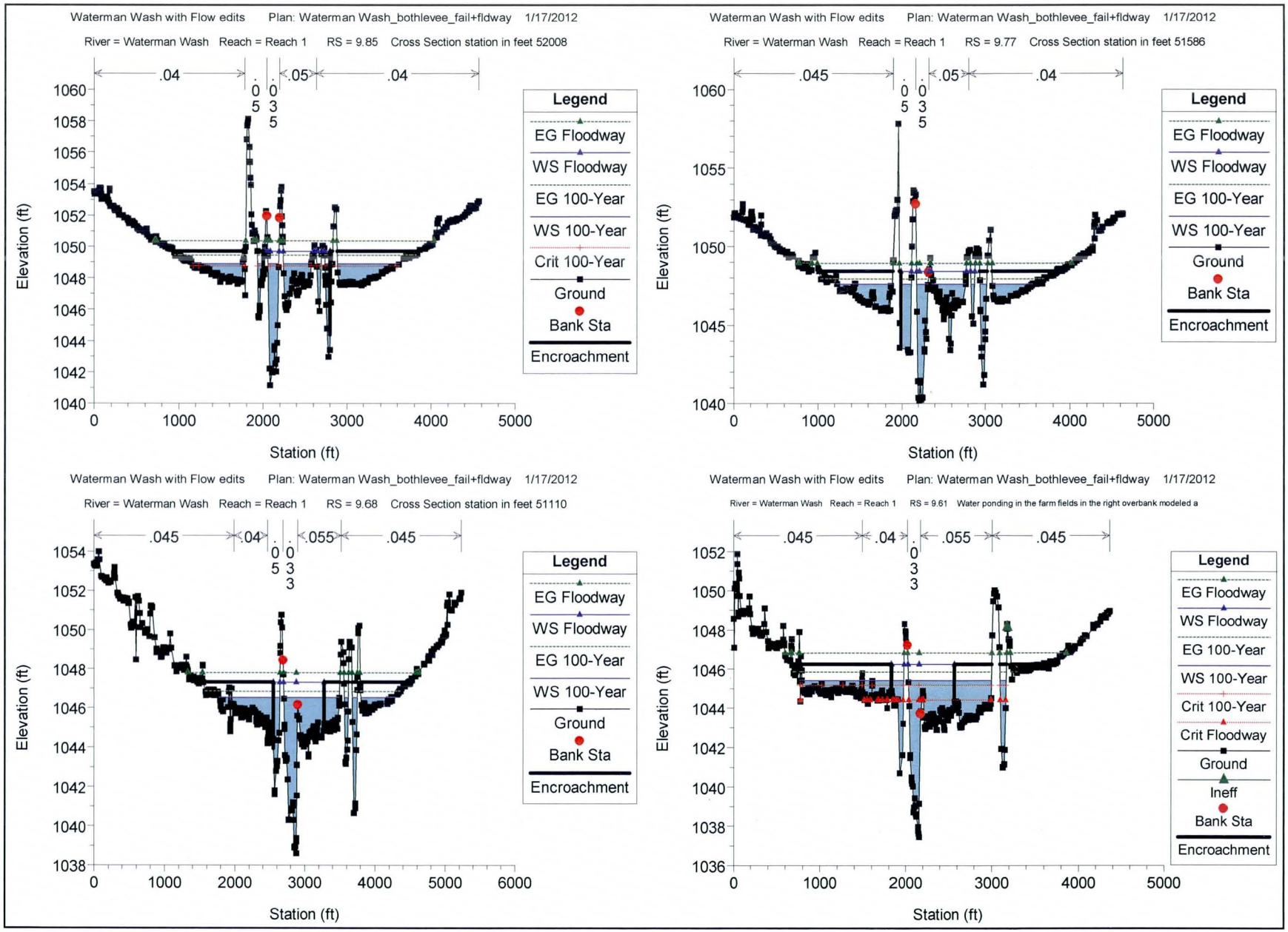

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.62 Water ponding in the farm fields in the left and right overbank
.04
.045
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.55 Water ponding in the farm fields in the left and right overbank
.04
.045
.05
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.45 Water ponding in the farm fields in the left and right overbank
.045
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.39 Water ponding in the farm fields in the left and right overbank
.04
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment

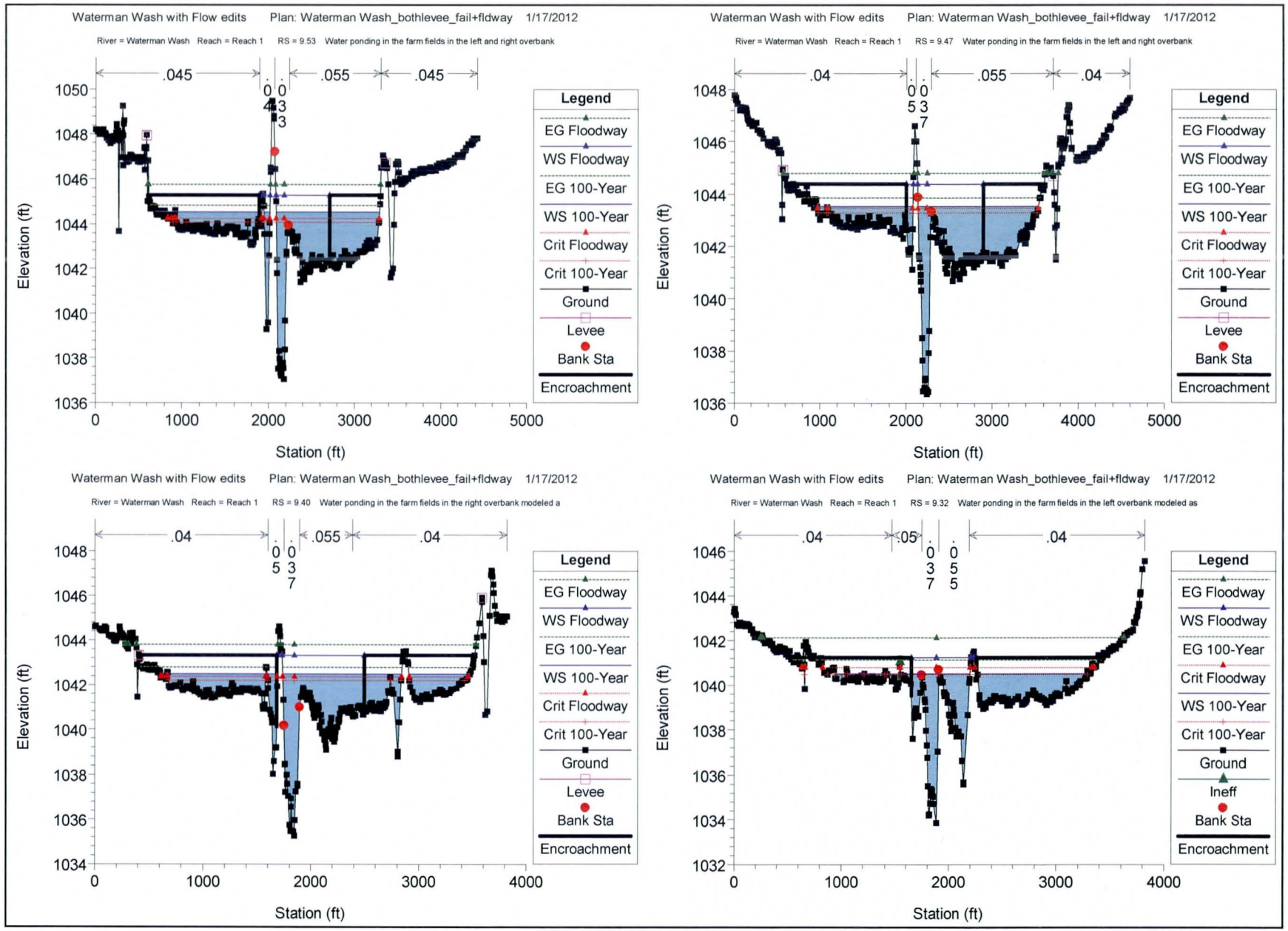

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.33 Water ponding in the farm fields in the left and right overbank
.04
.04
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.24 Water ponding in the farm fields in the left overbank modeled as
.04
.045
.04
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.16 Water ponding in the farm fields in the left overbank modeled as
.04
.045
.04
Legend
EG Floodway
WS Floodway
Crit Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.07 crosses Chandler Heights. Water ponding in the farm fields in t
.04
.055
.04
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

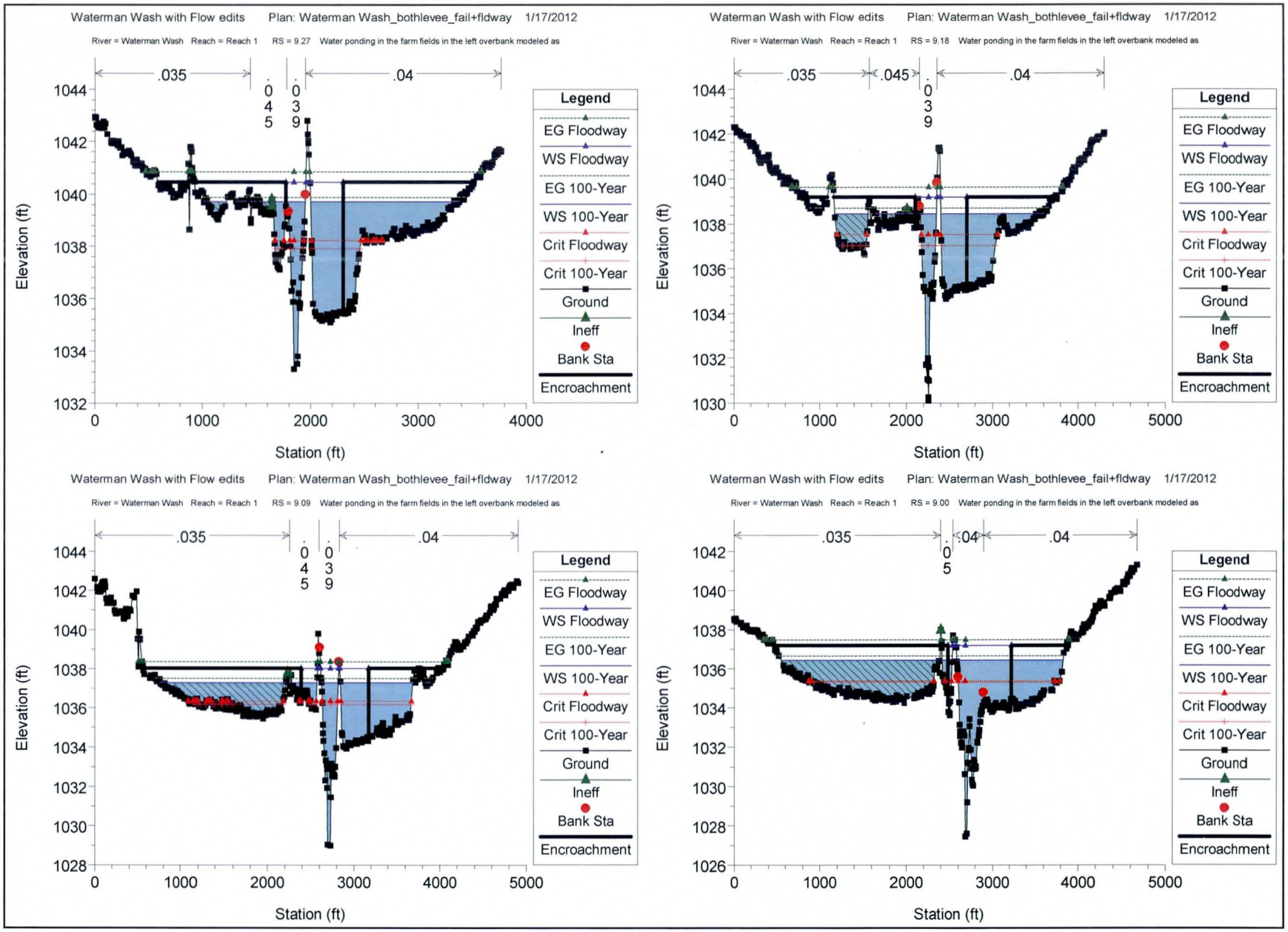

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.99 Water ponding in the farm fields in the left and right overbank
.04
.055
.04
0.045
0.028
0.016
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
Crit Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.92 crosses Chandler Heights. Water ponding in the farm fields in t
.04
.055
.04
0.045
0.028
0.016
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.87 crosses Chandler Heights. Water ponding in the farm fields in t
.04
.055
.04
0.052
0.028
0.016
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit 100-Year
WS 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.75 Water ponding in the farm fields in the left overbank modeled as
.04
.055
.04
0.052
0.028
0.016
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment

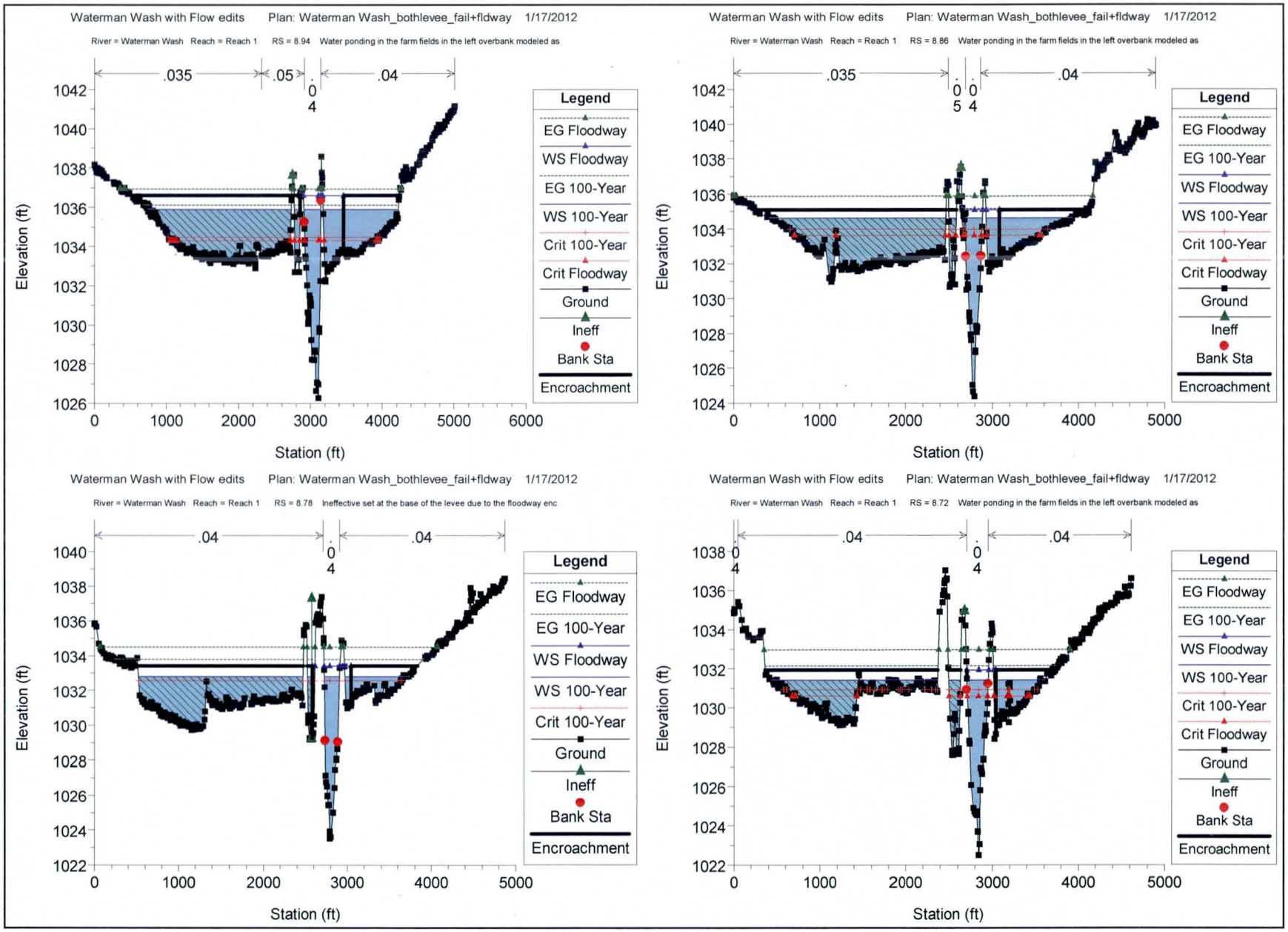

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.60 Cross Section station in feet 55968
.04
.04
0.055
0.035
0.055
0.016
Legend
EG Floodway
WS Floodway
Crit Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.45 Pond area located in the left overbank modeled as an ineffective
.04
.045
0.055
0.035
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.26 crosses Chandler Heights
.04
.055
.04
0.035
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.18 Cross Section station in feet 53750
.04
.04
0.055
0.035
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

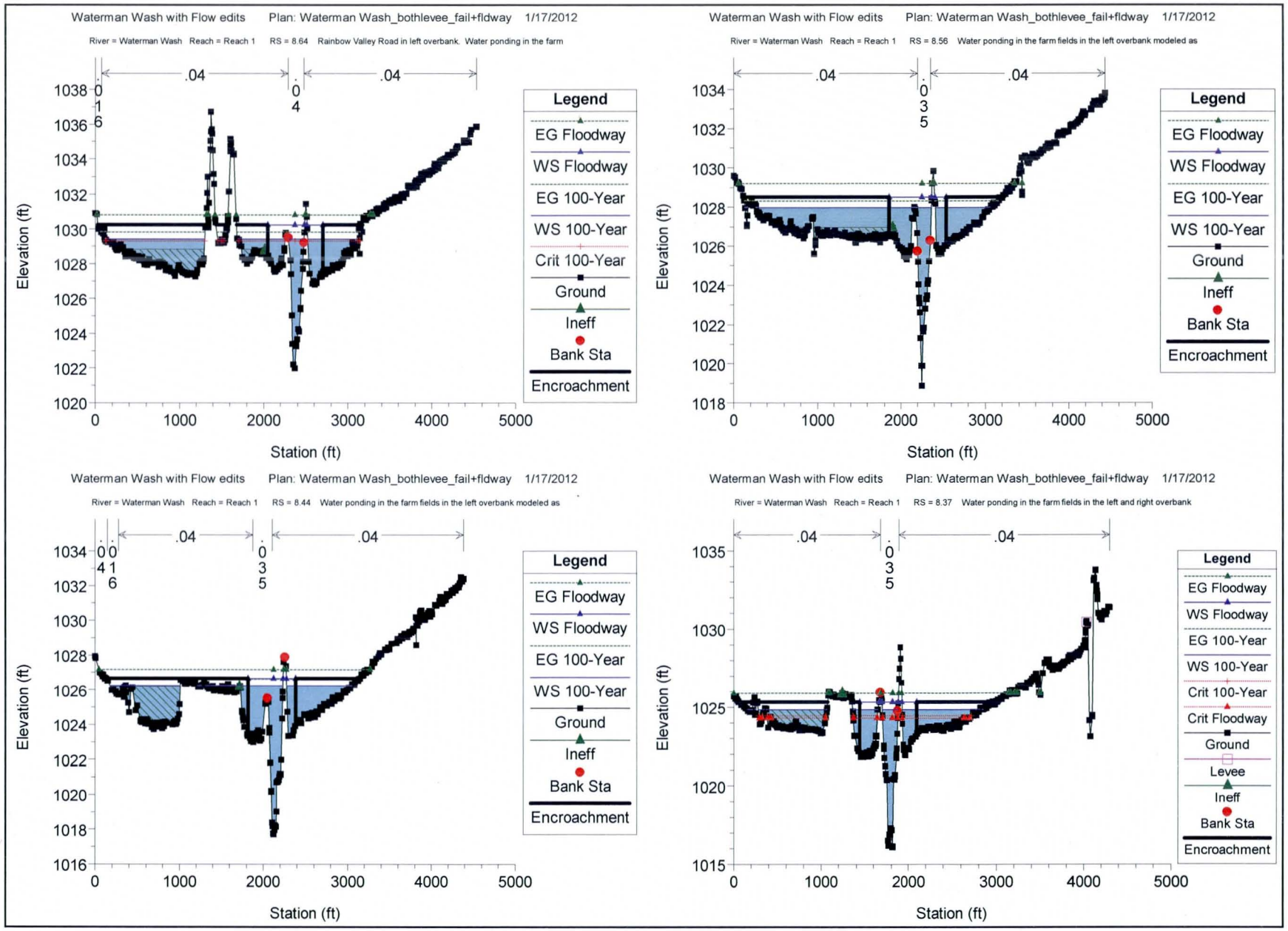

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.10 Cross Section station in feet 53328
.04
.05
.04
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.04 Cross Section station in feet 53011
.04
.05
.04
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.96 Cross Section station in feet 52589
.04
.05
.05
.04
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.91 Cross Section station in feet 52325
.04
.05
.05
.04
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

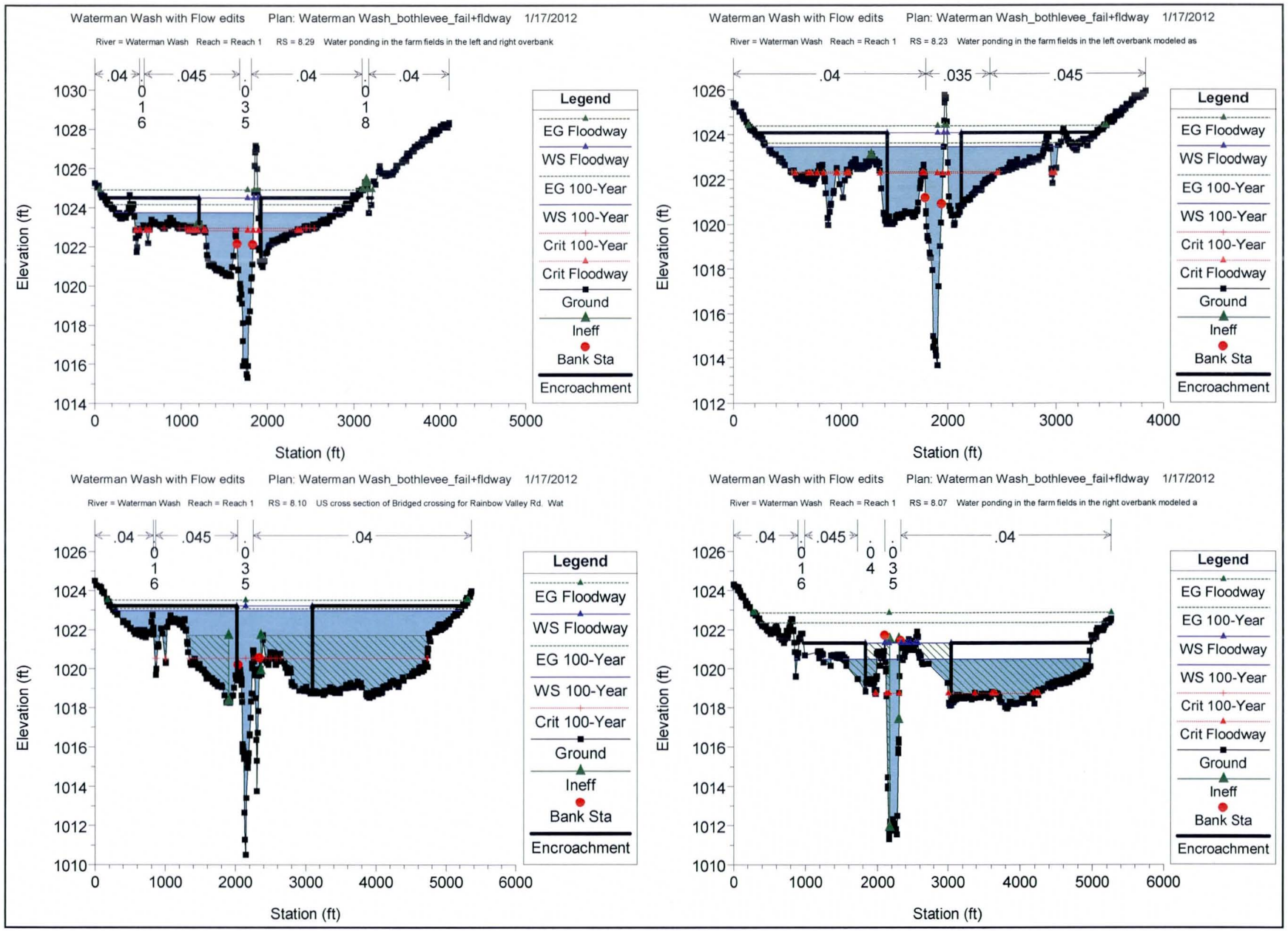

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.85 Cross Section station in feet 52008
.04
.05
.04
0.035
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.77 Cross Section station in feet 51586
.045
.05
.04
0.035
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.68 Cross Section station in feet 51110
.045
.04
.055
.045
0.033
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.61 Water ponding in the farm fields in the right overbank modeled a
.045
.04
.055
.045
0.033
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment

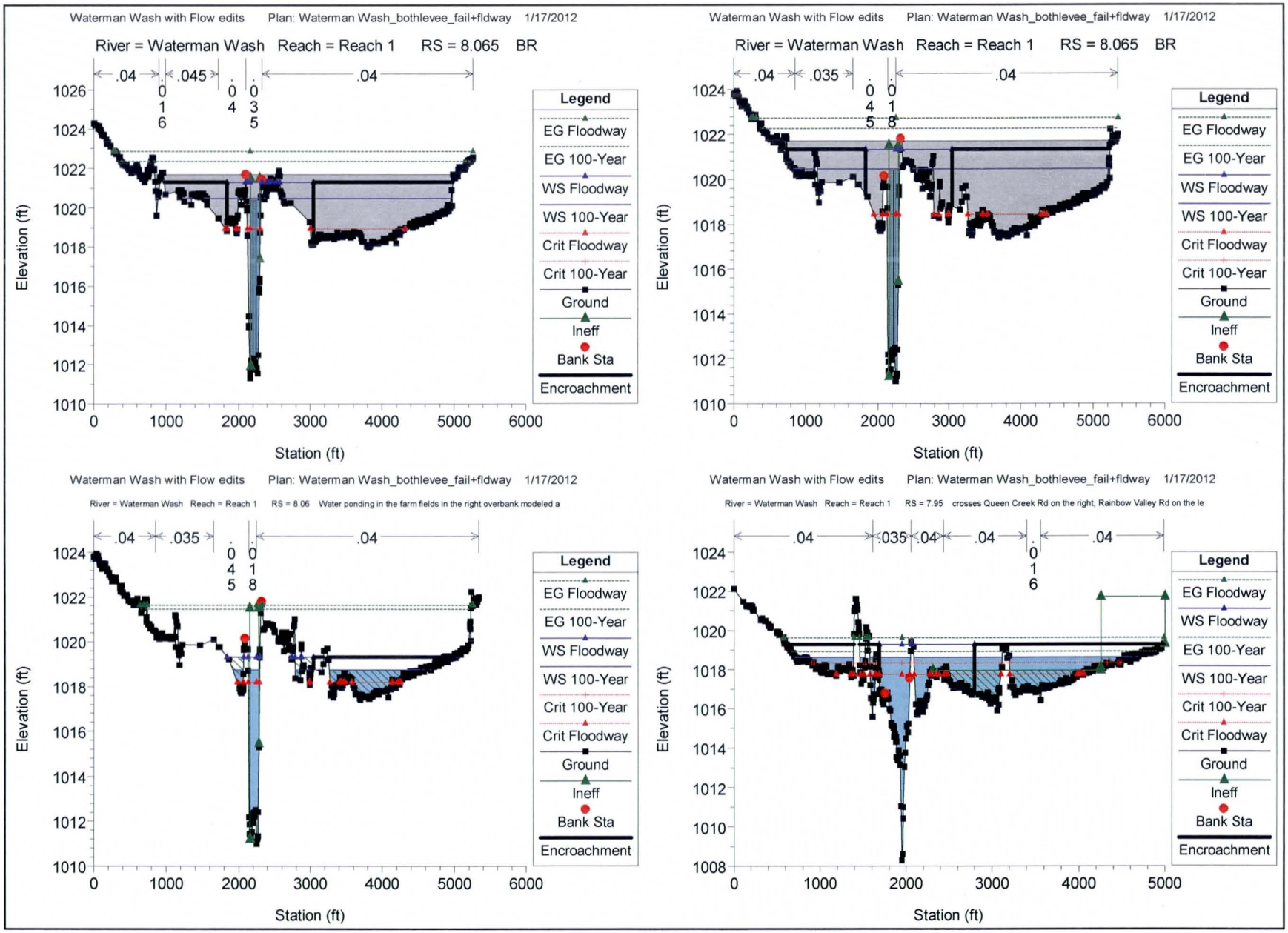

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.53 Water ponding in the farm fields in the left and right overbank
.045
.055
.045
0.043
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.47 Water ponding in the farm fields in the left and right overbank
.04
.055
.04
0.053
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.40 Water ponding in the farm fields in the right overbank modeled a
.04
.055
.04
0.053
0.037
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.32 Water ponding in the farm fields in the left overbank modeled as
.04
.05
.04
0.037
0.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment

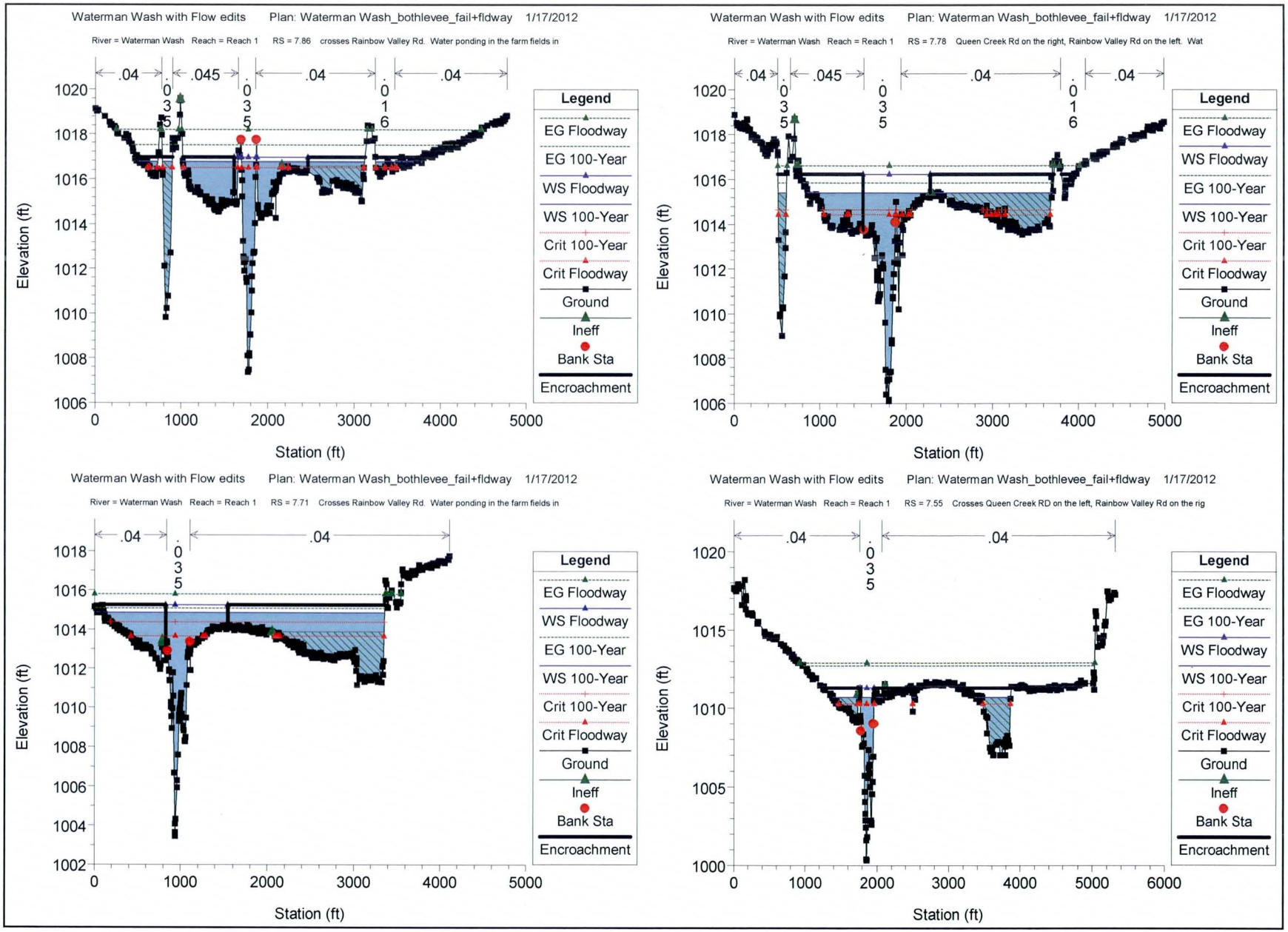

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.27 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.039
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.18 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.039
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.09 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.039
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.00 Water ponding in the farm fields in the left overbank modeled as
.035
.04
.04
.05
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment

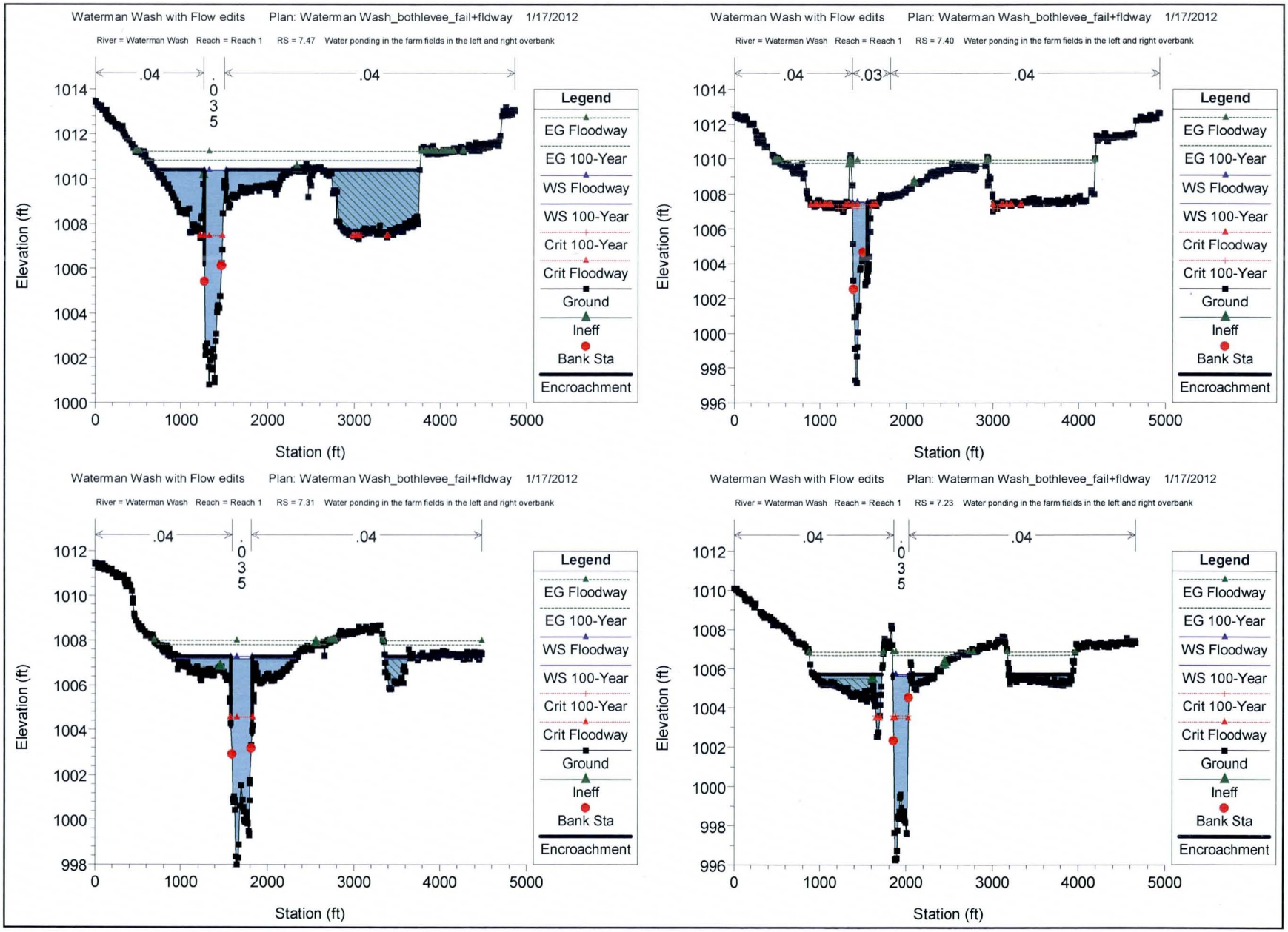

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.94 Water ponding in the farm fields in the left overbank modeled as
.035
.05
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.86 Water ponding in the farm fields in the left overbank modeled as
.035
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.78 Ineffective set at the base of the levee due to the floodway enc
.04
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.72 Water ponding in the farm fields in the left overbank modeled as
.04
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment

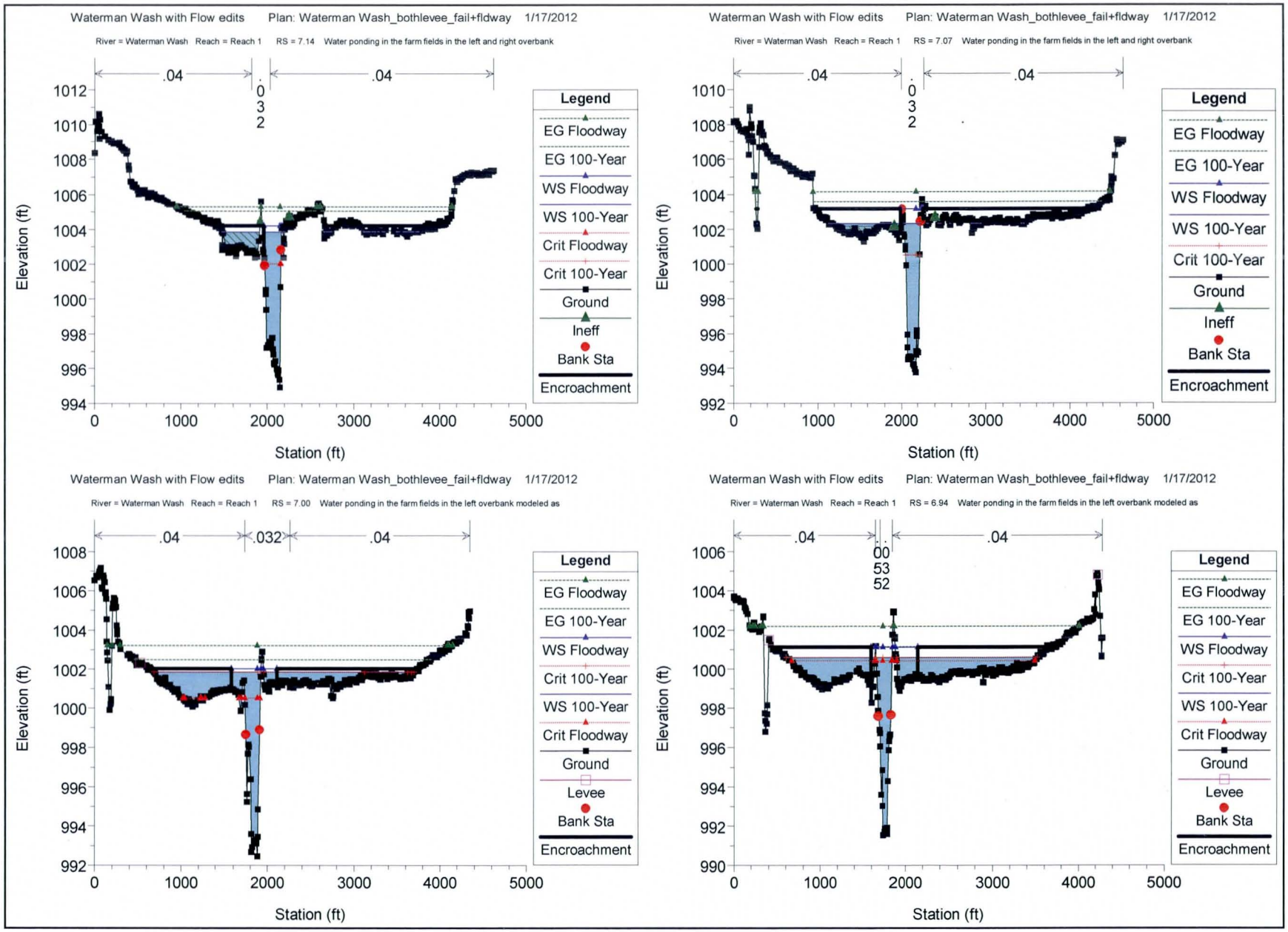

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.64 Rainbow Valley Road in left overbank. Water ponding in the farm
.04
.04
.04
.016
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.56 Water ponding in the farm fields in the left overbank modeled as
.04
.04
.04
.035
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.44 Water ponding in the farm fields in the left overbank modeled as
.04
.04
.04
.016
.035
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.37 Water ponding in the farm fields in the left and right overbank
.04
.04
.04
.035
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Ineff
Bank Sta
Encroachment

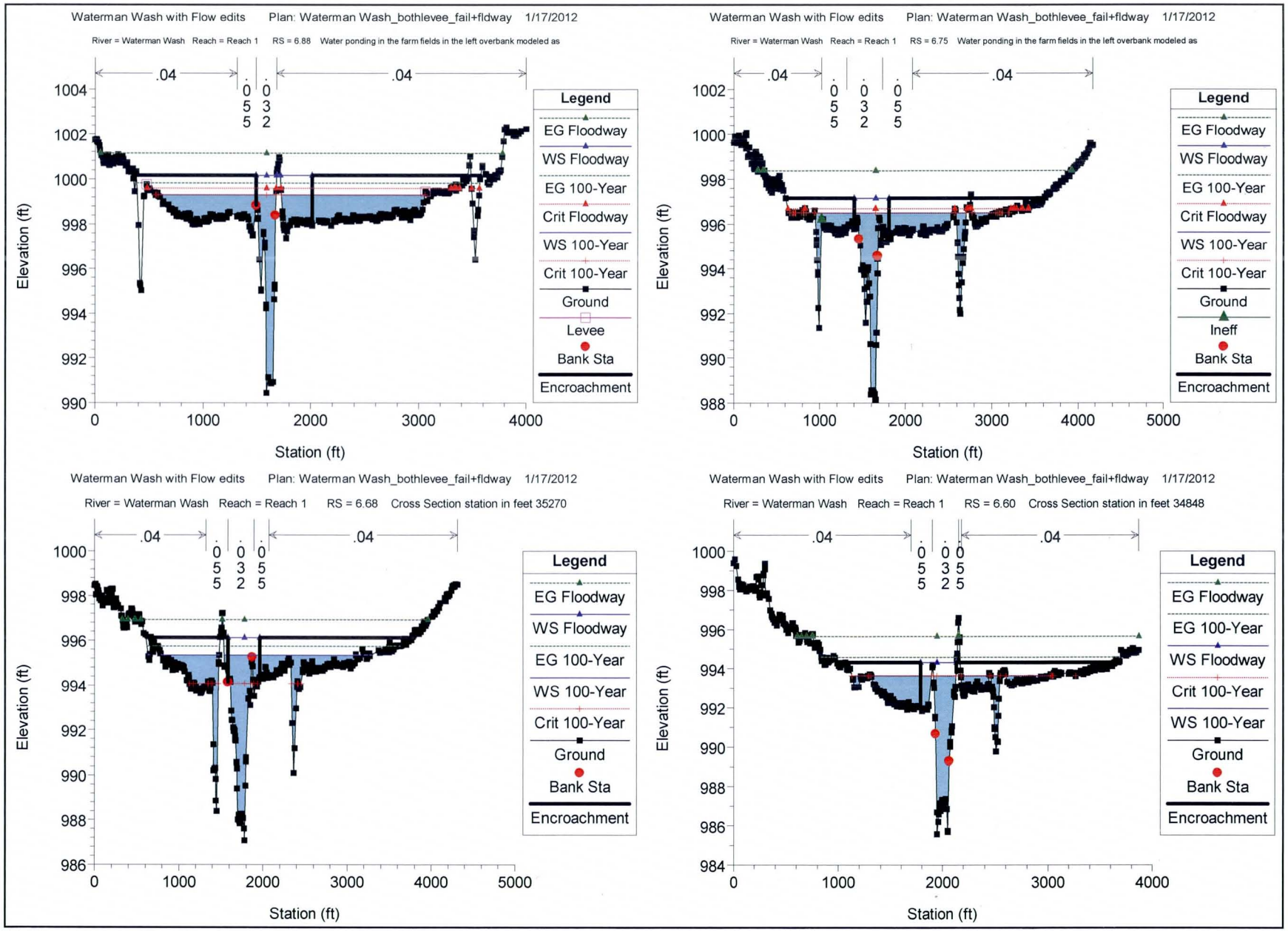

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.29 Water ponding in the farm fields in the left and right overbank
.04 .045 .04 .04
0.16 0.35 0.18
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.23 Water ponding in the farm fields in the left overbank modeled as
.04 .035 .045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.10 US cross section of Bridged crossing for Rainbow Valley Rd. Wat
.04 .045 .04
0.16 0.35
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.07 Water ponding in the farm fields in the right overbank modeled a
.04 .045 .04
0.16 0.04 0.35
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment

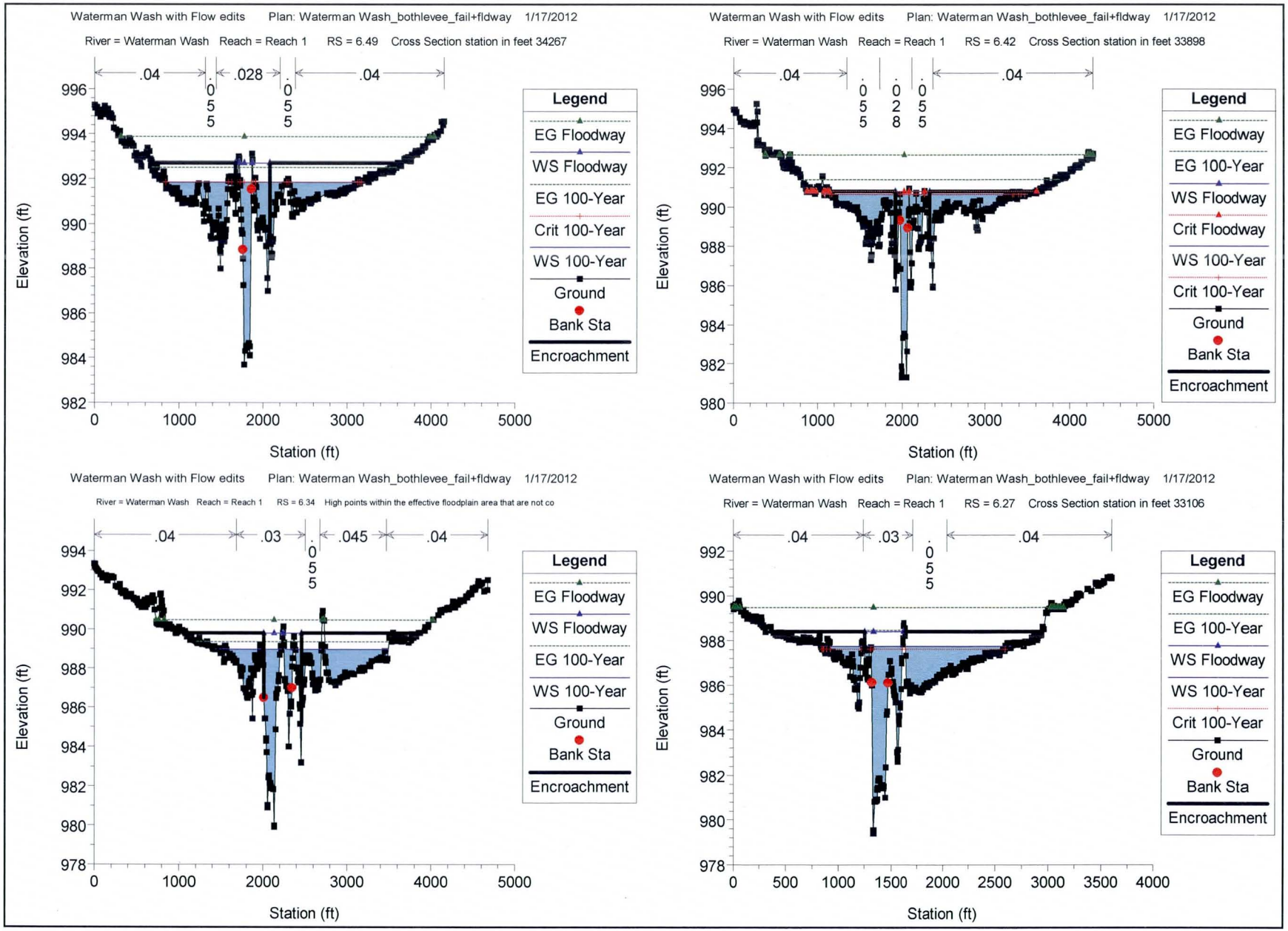

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.065 BR
.04
.045
.04
0.16
0.04
0.35
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.065 BR
.04
.035
.04
0.45
0.18
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.06 Water ponding in the farm fields in the right overbank modeled a
.04
.035
.04
0.45
0.18
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.95 crosses Queen Creek Rd on the right, Rainbow Valley Rd on the le
.04
.035
.04
.04
.04
0.16
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment

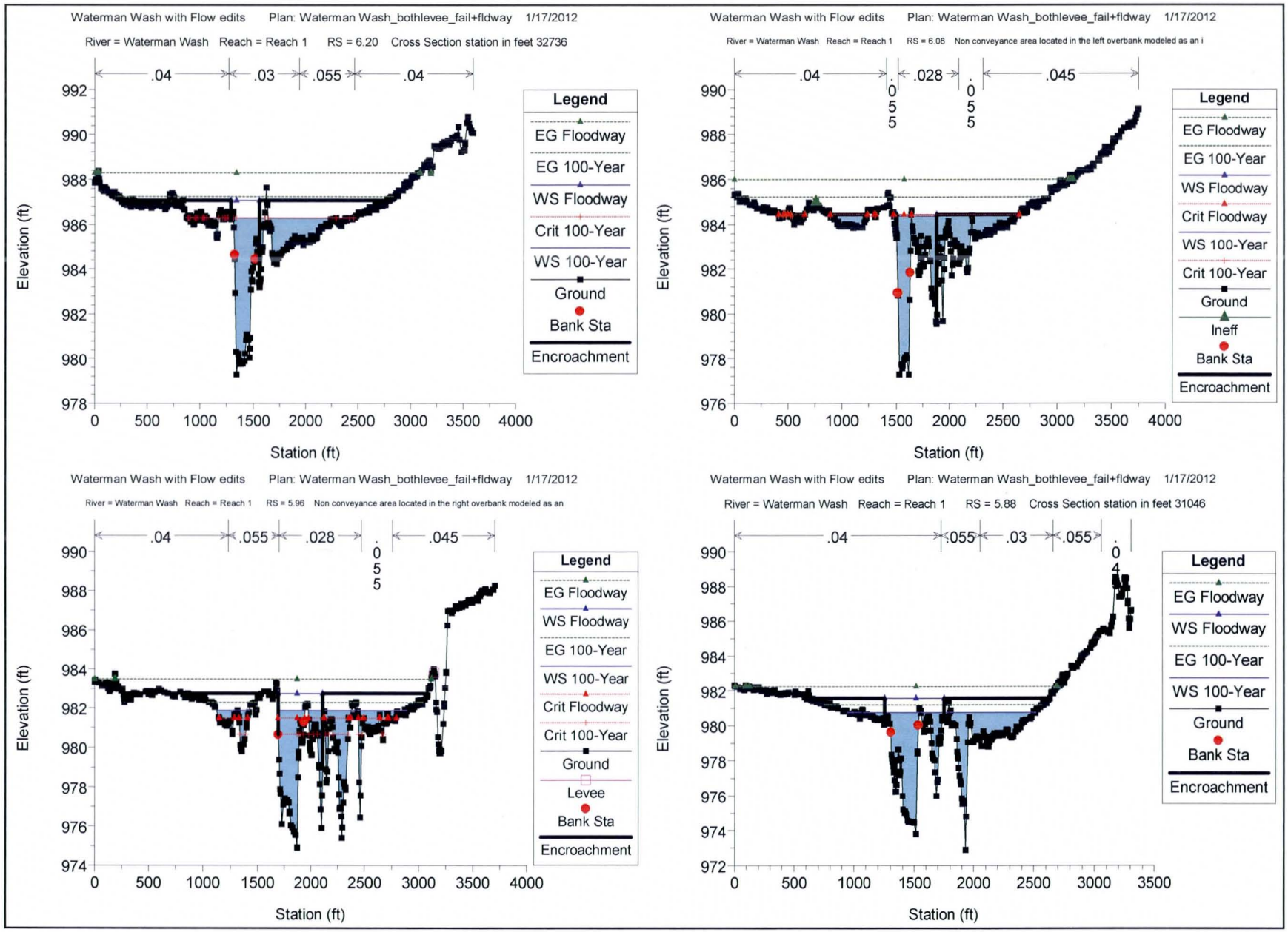

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.86 crosses Rainbow Valley Rd. Water ponding in the farm fields in
.04
.045
.04
.04
035
035
016
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.78 Queen Creek Rd on the right, Rainbow Valley Rd on the left. Wat
.04
.045
.04
.04
035
035
016
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.71 Crosses Rainbow Valley Rd. Water ponding in the farm fields in
.04
.04
035
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.55 Crosses Queen Creek RD on the left, Rainbow Valley Rd on the rig
.04
.04
035
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment

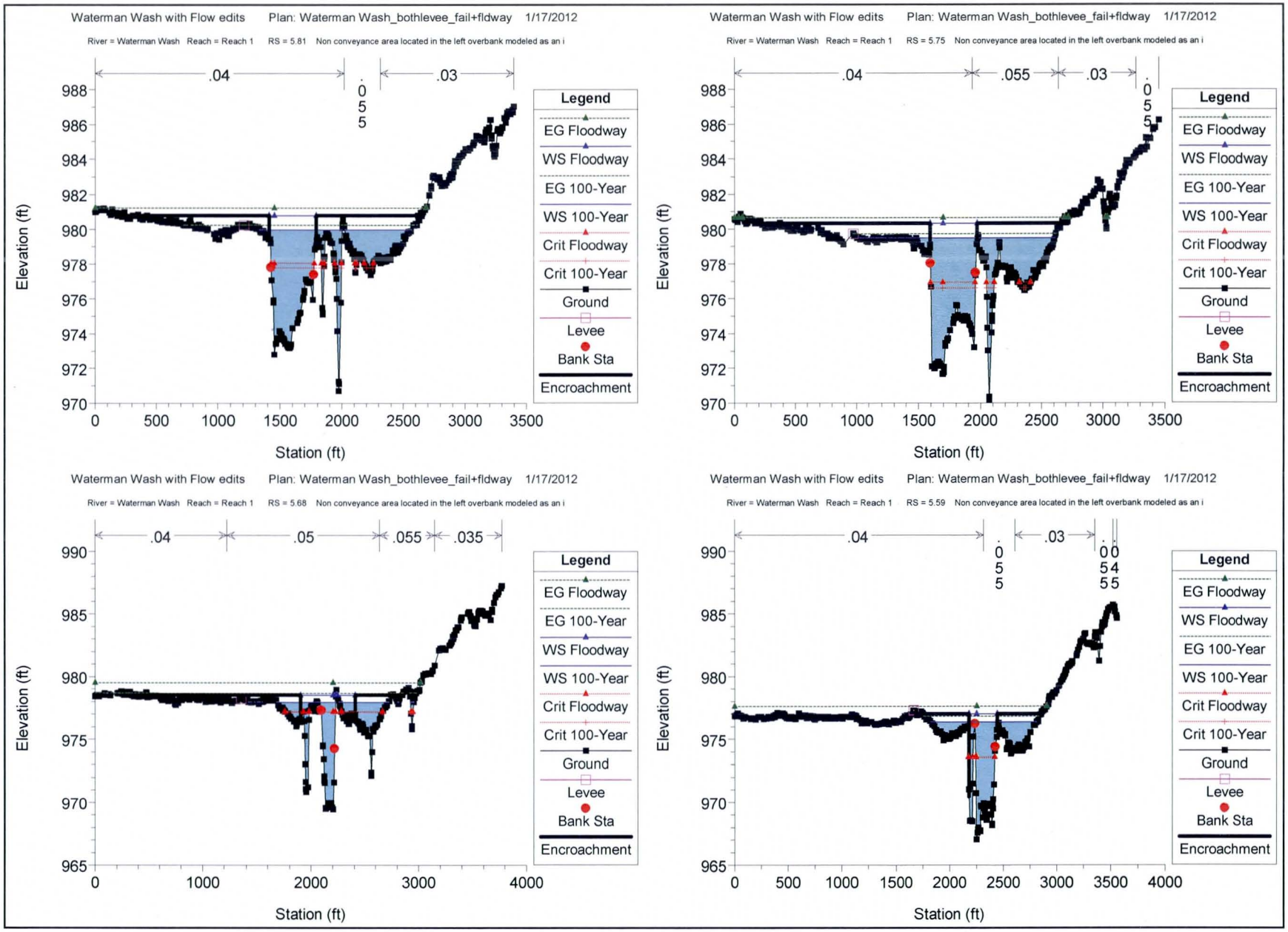

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.47 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.40 Water ponding in the farm fields in the left and right overbank
.04
.03
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.31 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.23 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment

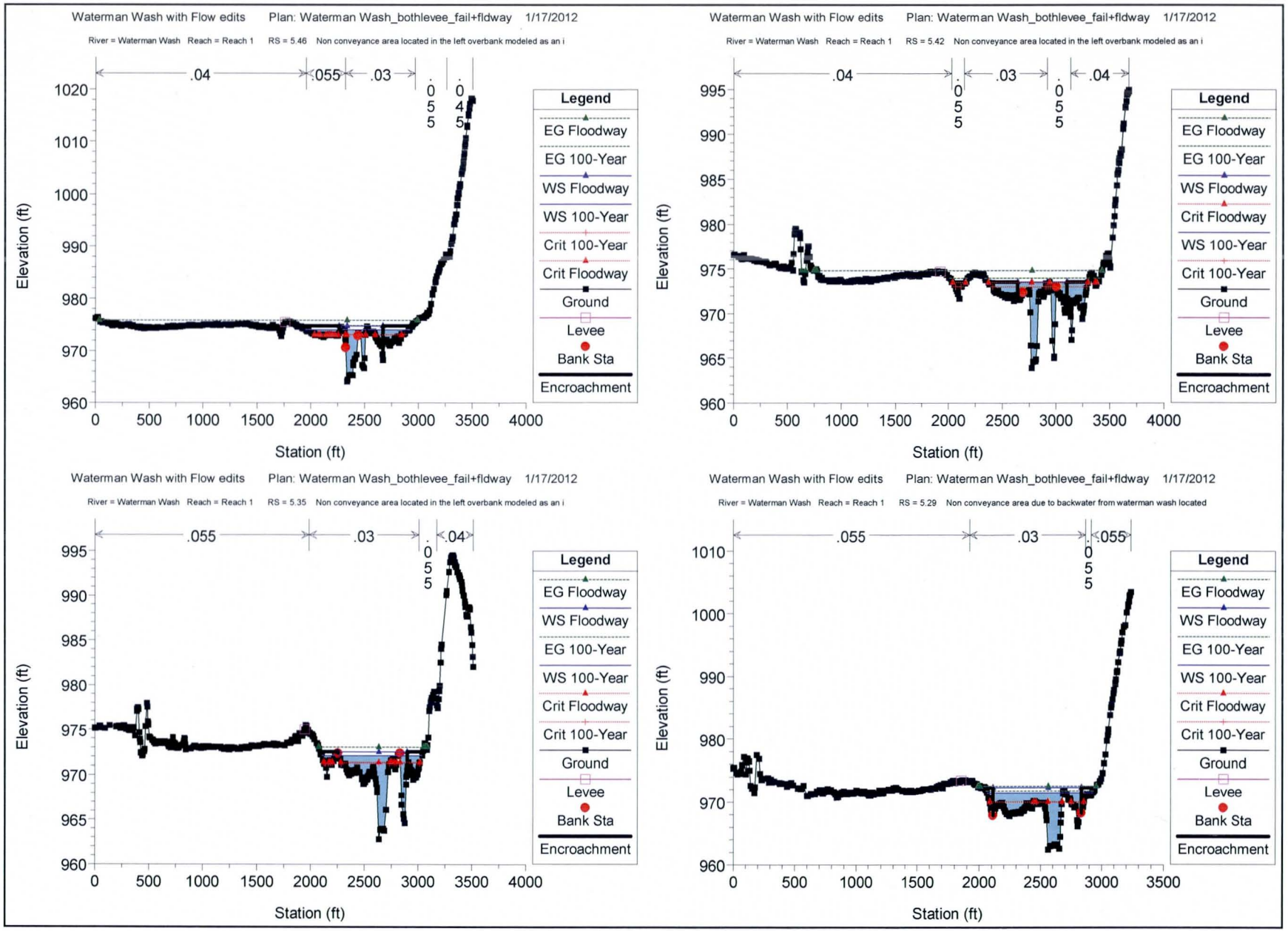

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.14 Water ponding in the farm fields in the left and right overbank
.04
.032
.04
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.07 Water ponding in the farm fields in the left and right overbank
.04
.032
.04
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.00 Water ponding in the farm fields in the left overbank modeled as
.04
.032
.04
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.94 Water ponding in the farm fields in the left overbank modeled as
.04
.0053
.04
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

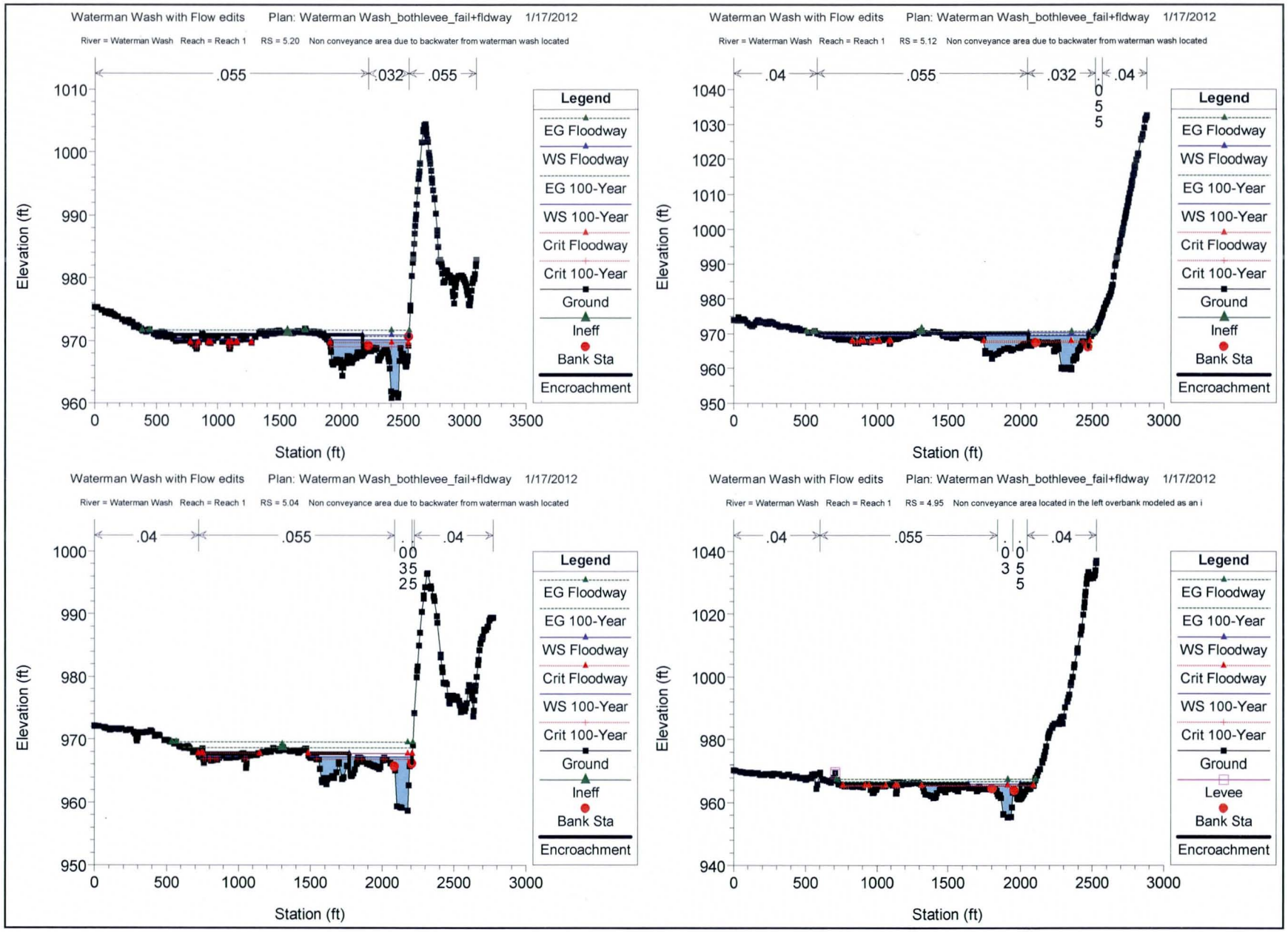

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.88 Water ponding in the farm fields in the left overbank modeled as
.04 .055 .032 .04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.75 Water ponding in the farm fields in the left overbank modeled as
.04 .055 .032 .055 .04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.68 Cross Section station in feet 35270
.04 .055 .032 .055 .04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.60 Cross Section station in feet 34848
.04 .055 .032 .055 .04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment

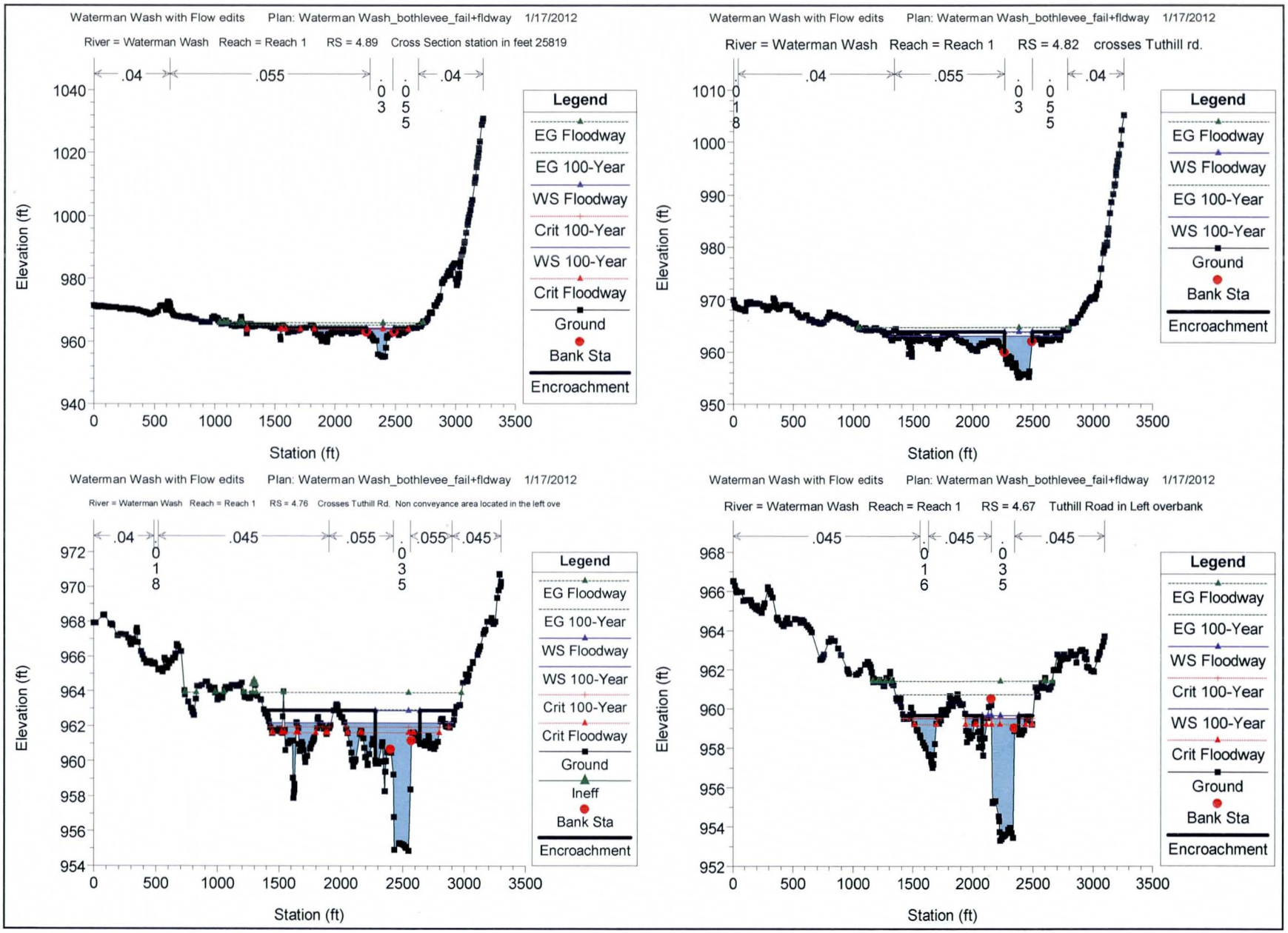

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.49 Cross Section station in feet 34267
.04
.028
.04
0.055
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.42 Cross Section station in feet 33898
.04
0.055
0.028
0.055
.04
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.34 High points within the effective floodplain area that are not co
.04
.03
.045
.04
0.055
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.27 Cross Section station in feet 33106
.04
.03
.04
0.055
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

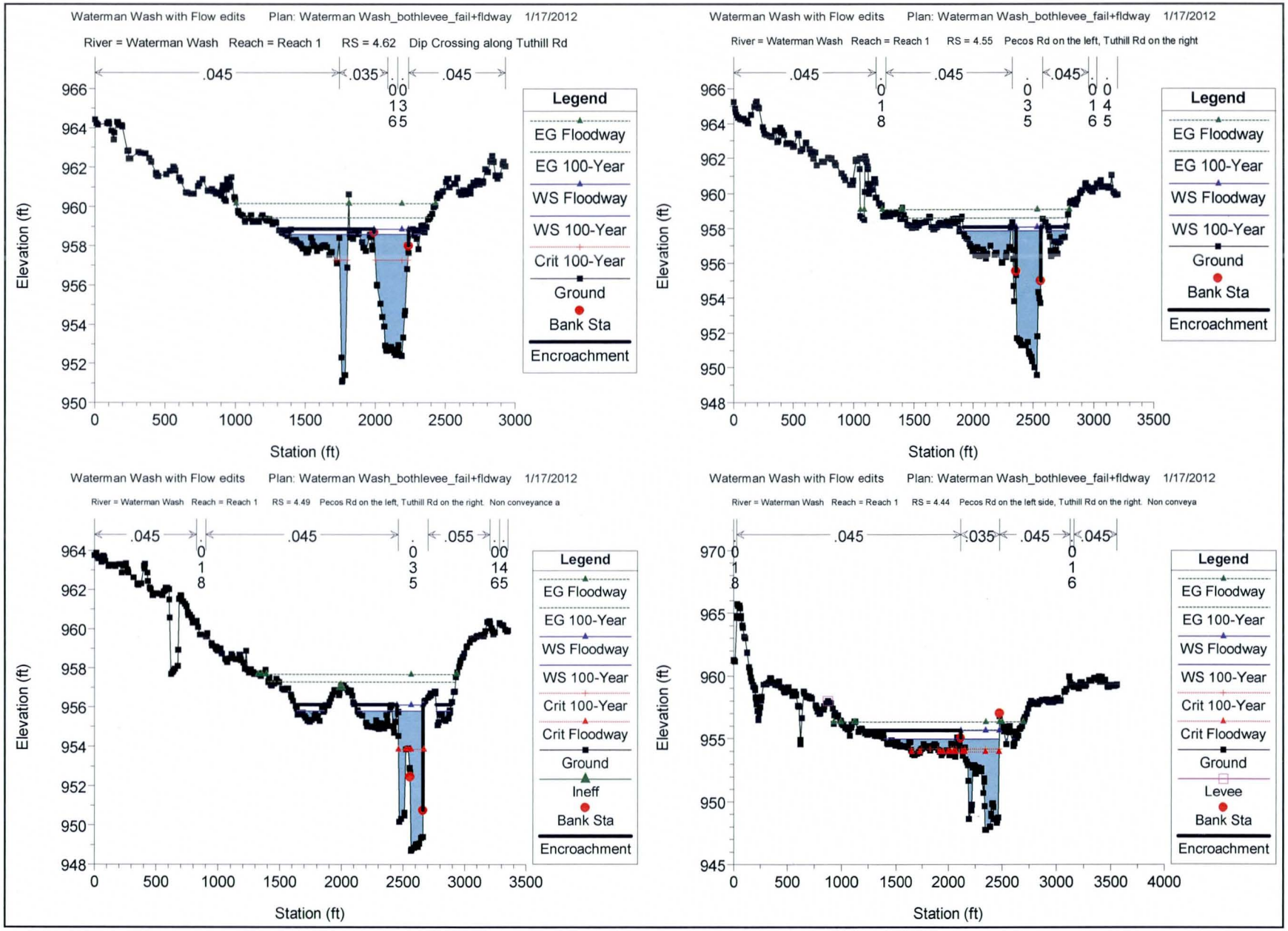

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.20 Cross Section station in feet 32736
.04
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.08 Non conveyance area located in the left overbank modeled as an i
.04
.055
.028
.055
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.96 Non conveyance area located in the right overbank modeled as an
.04
.055
.028
.055
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.88 Cross Section station in feet 31046
.04
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment

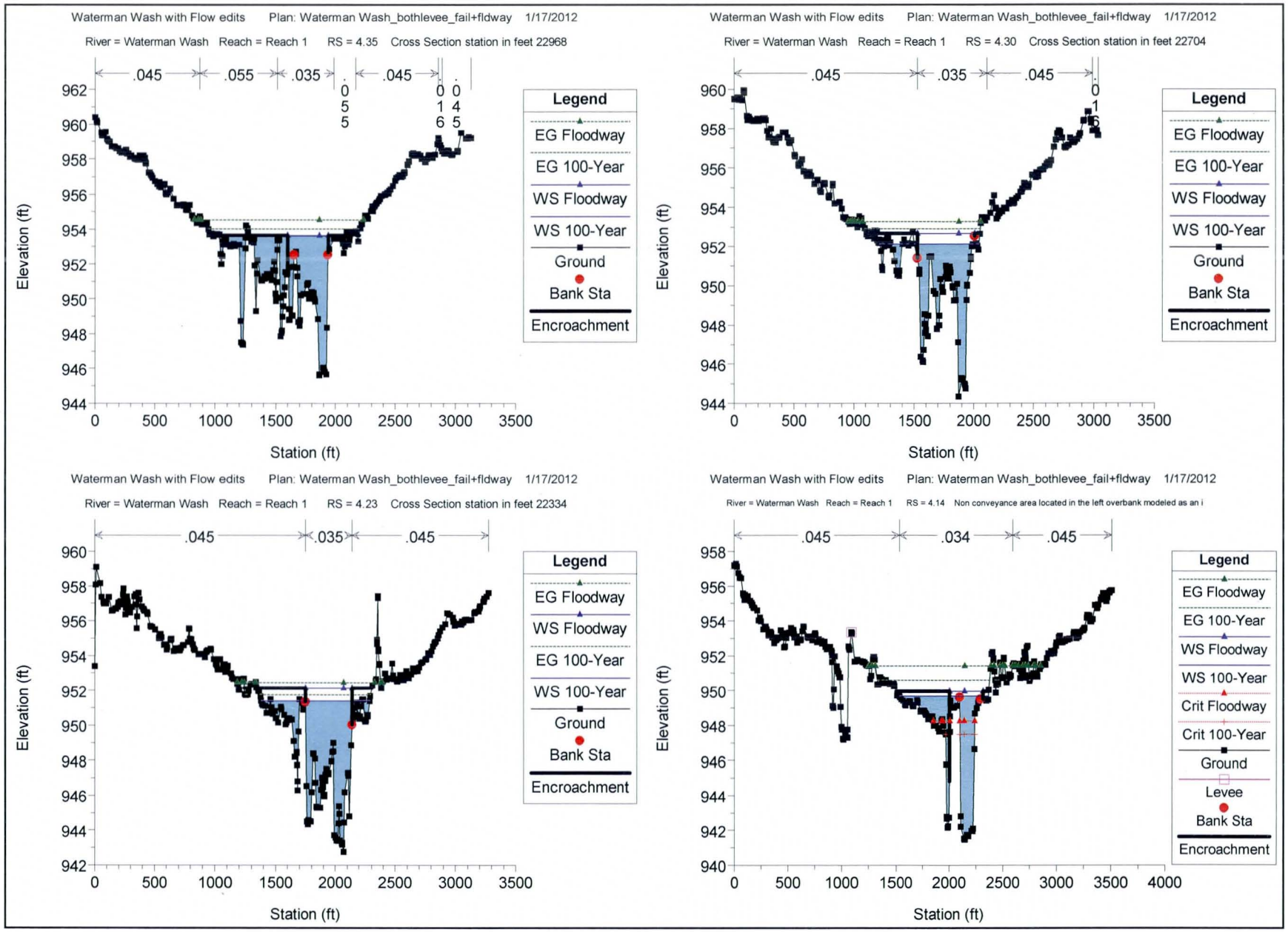

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.81 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.75 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.68 Non conveyance area located in the left overbank modeled as an i
.04
.05
.055
.035
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.59 Non conveyance area located in the left overbank modeled as an i
.04
.03
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment

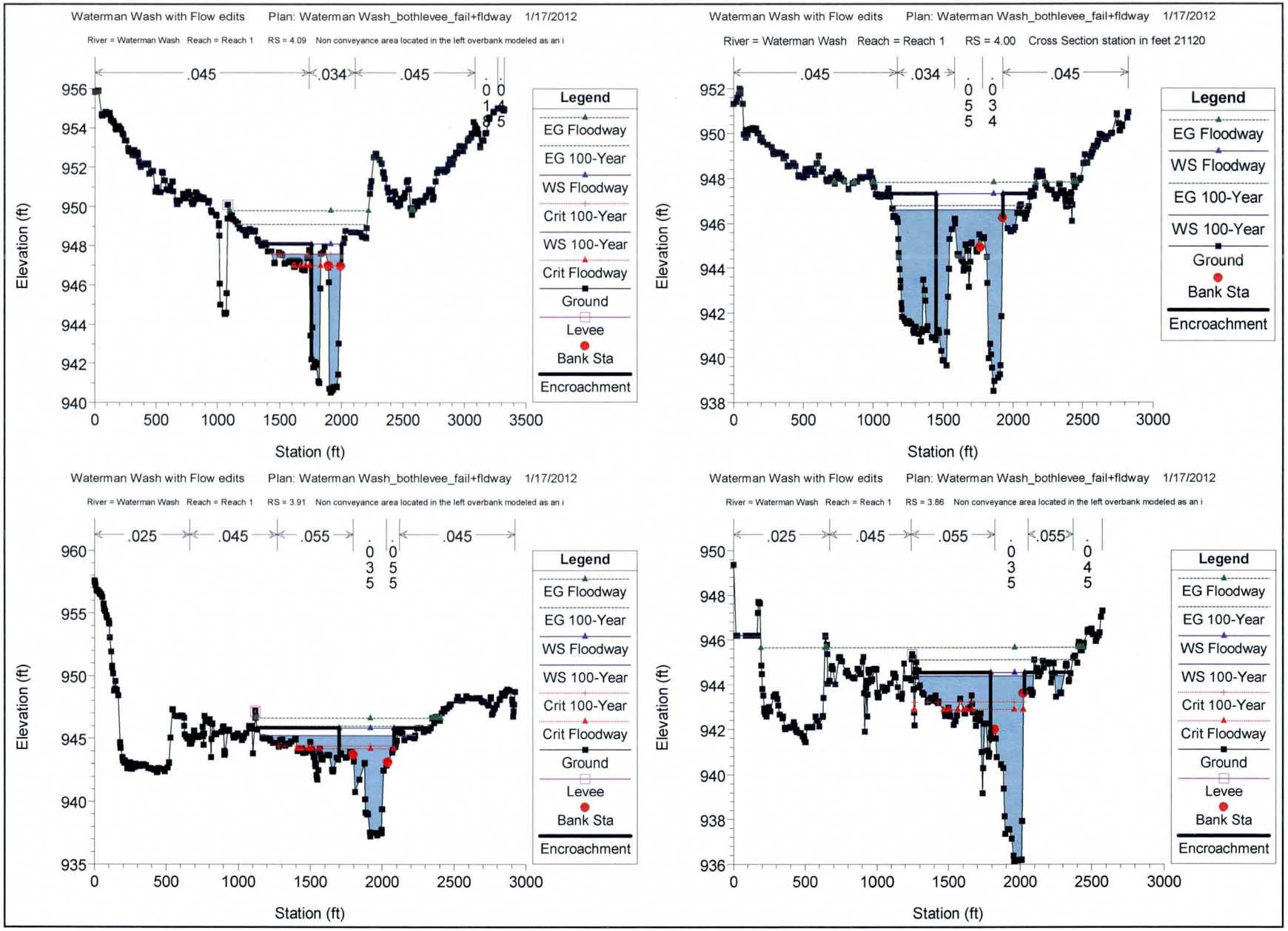

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.46 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.42 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.35 Non conveyance area located in the left overbank modeled as an i
.055
.03
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.29 Non conveyance area due to backwater from waterman wash located
.055
.03
.055
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment

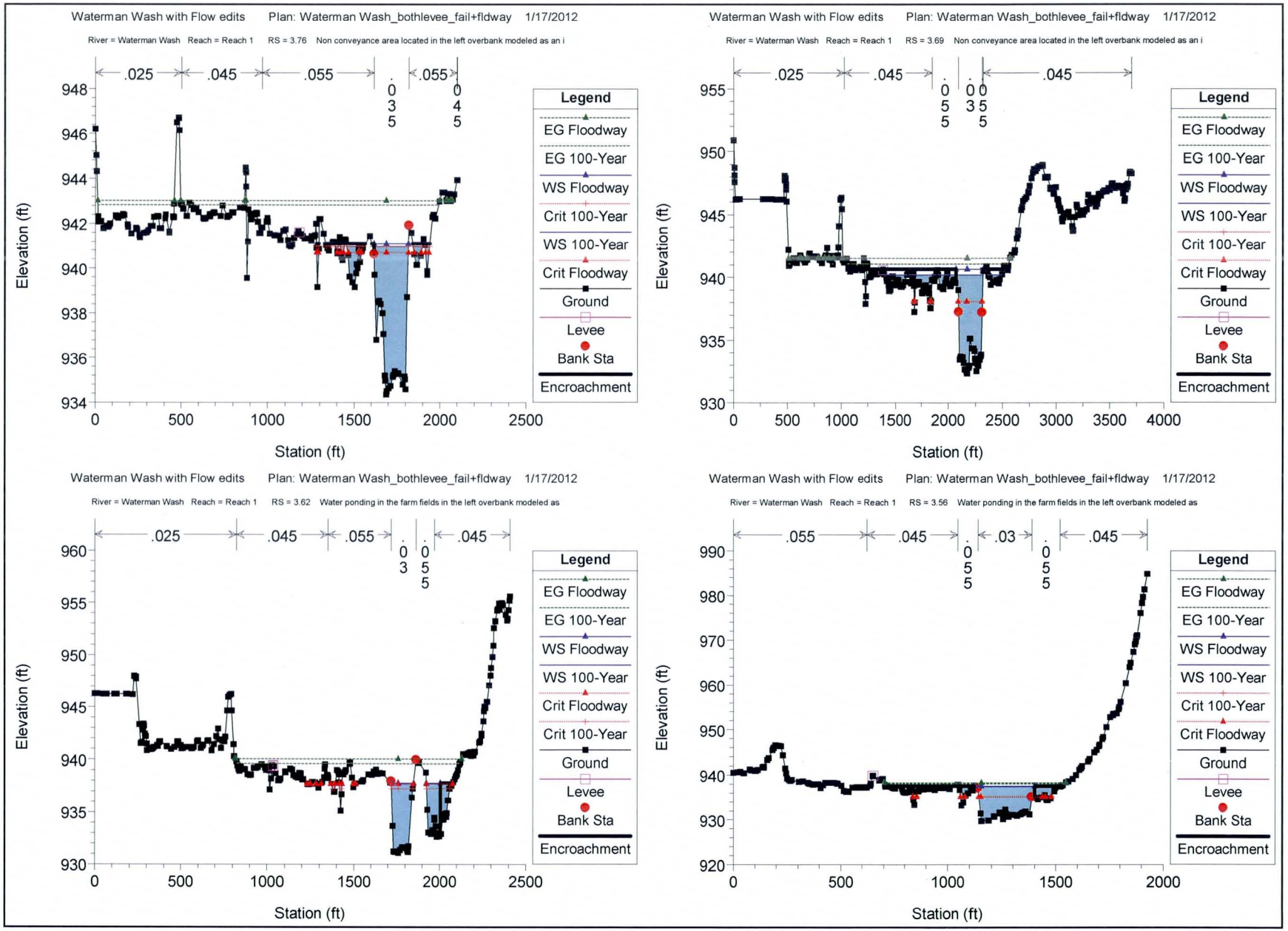

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.20 Non conveyance area due to backwater from waterman wash located
.055
.032
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.12 Non conveyance area due to backwater from waterman wash located
.04
.055
.032
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.04 Non conveyance area due to backwater from waterman wash located
.04
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.95 Non conveyance area located in the left overbank modeled as an i
.04
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment

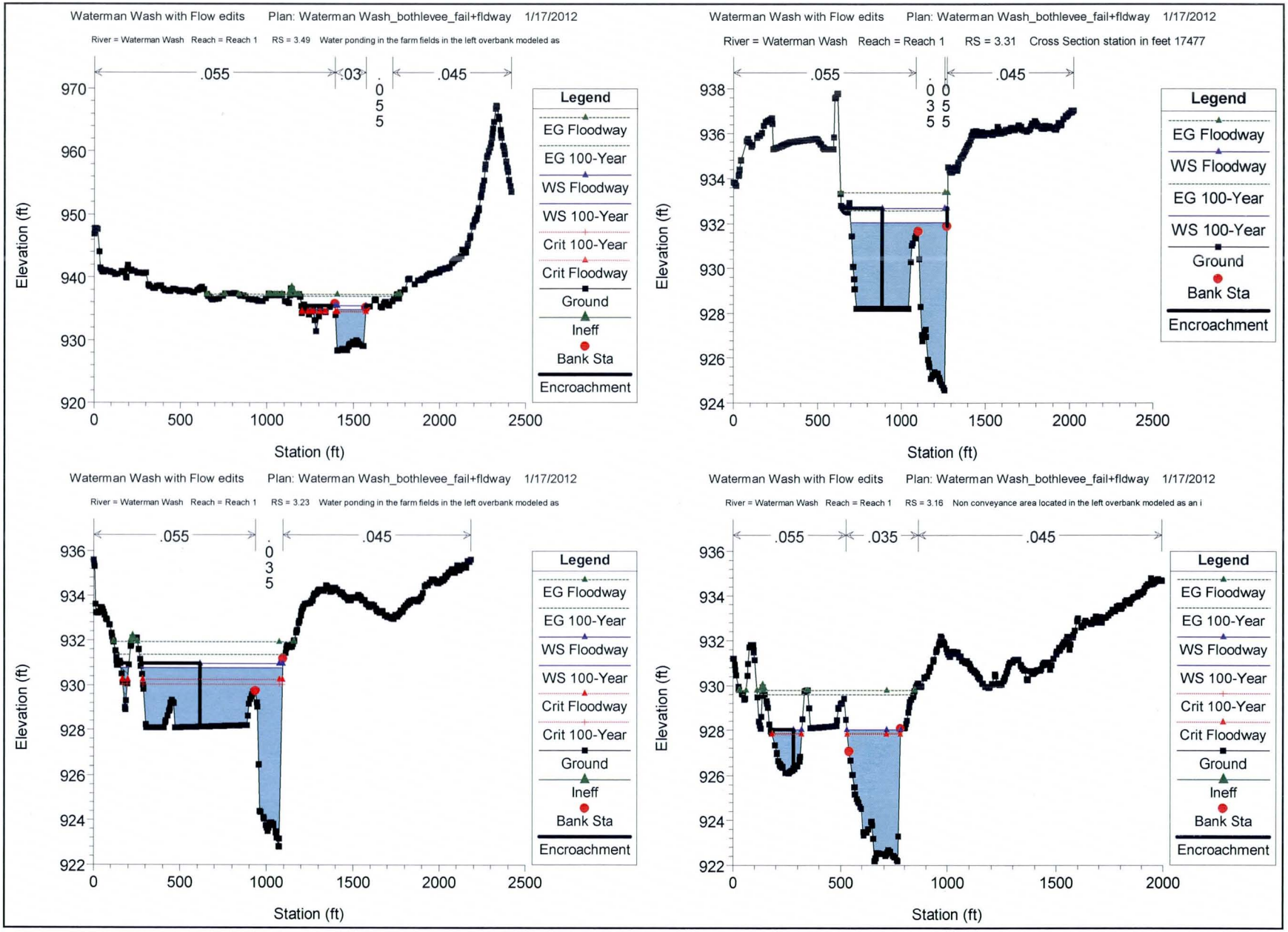

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.89 Cross Section station in feet 25819
.04
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.82 crosses Tuthill rd.
.04
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.76 Crosses Tuthill Rd. Non conveyance area located in the left ove
.04
.045
.055
.055
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.67 Tuthill Road in Left overbank
.045
.045
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Bank Sta
Encroachment

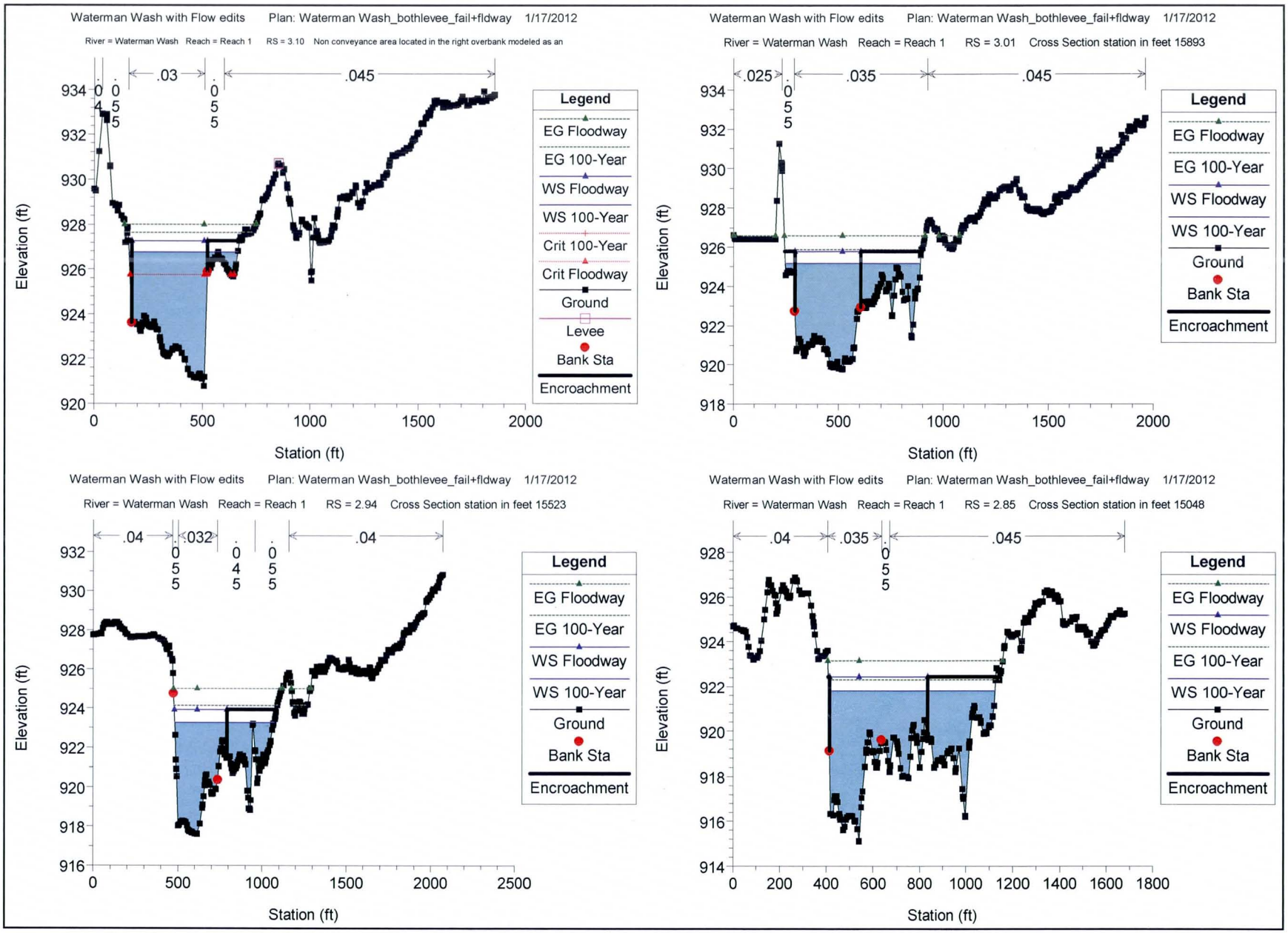

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.62 Dip Crossing along Tuthill Rd
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.55 Pecos Rd on the left, Tuthill Rd on the right
.045
.045
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.49 Pecos Rd on the left, Tuthill Rd on the right. Non conveyance a
.045
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.44 Pecos Rd on the left side, Tuthill Rd on the right. Non conveya
.045
.035
.045
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment

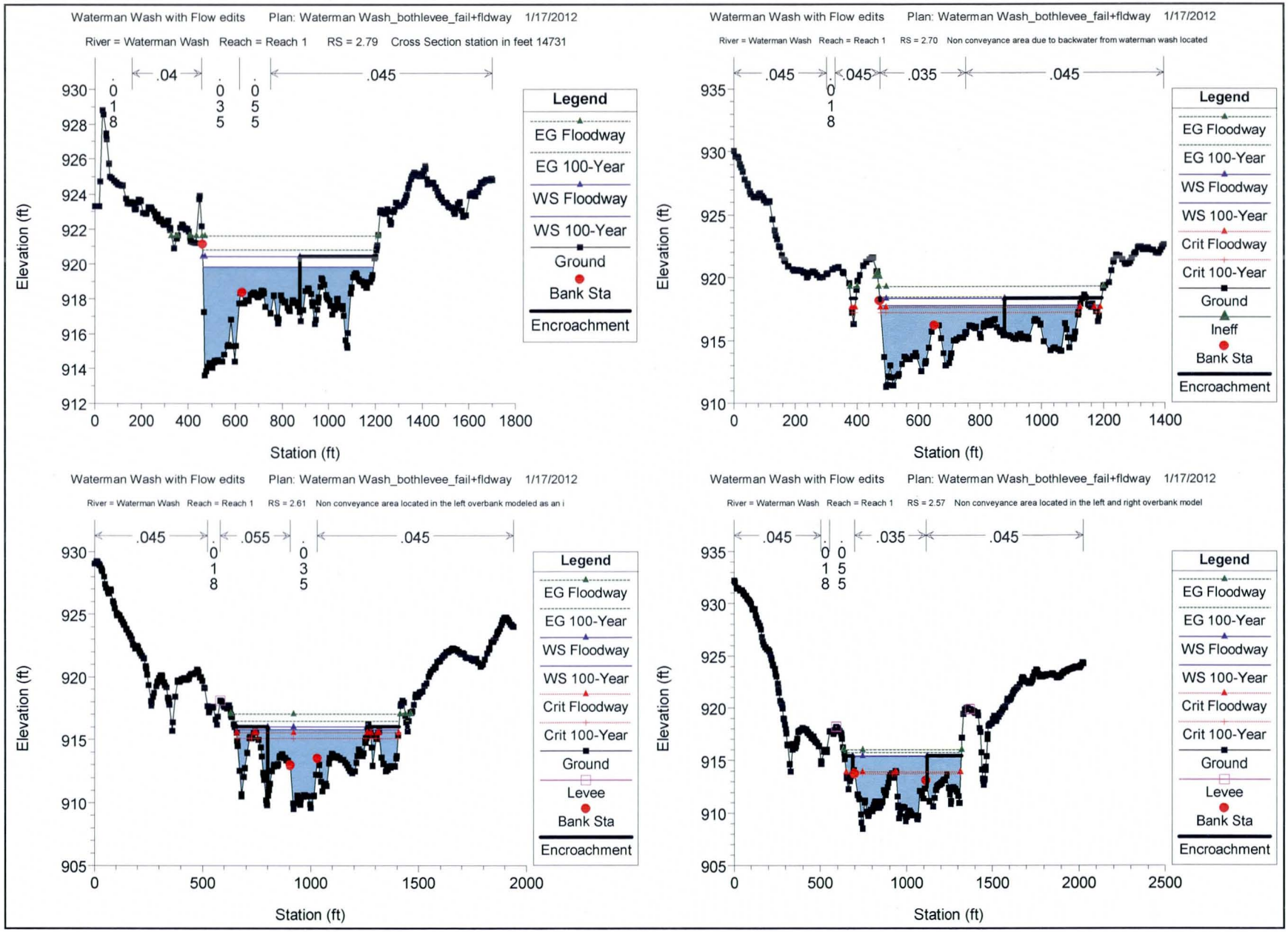

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.35 Cross Section station in feet 22968
.045
.055
.035
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.30 Cross Section station in feet 22704
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.23 Cross Section station in feet 22334
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.14 Non conveyance area located in the left overbank modeled as an i
.045
.034
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment

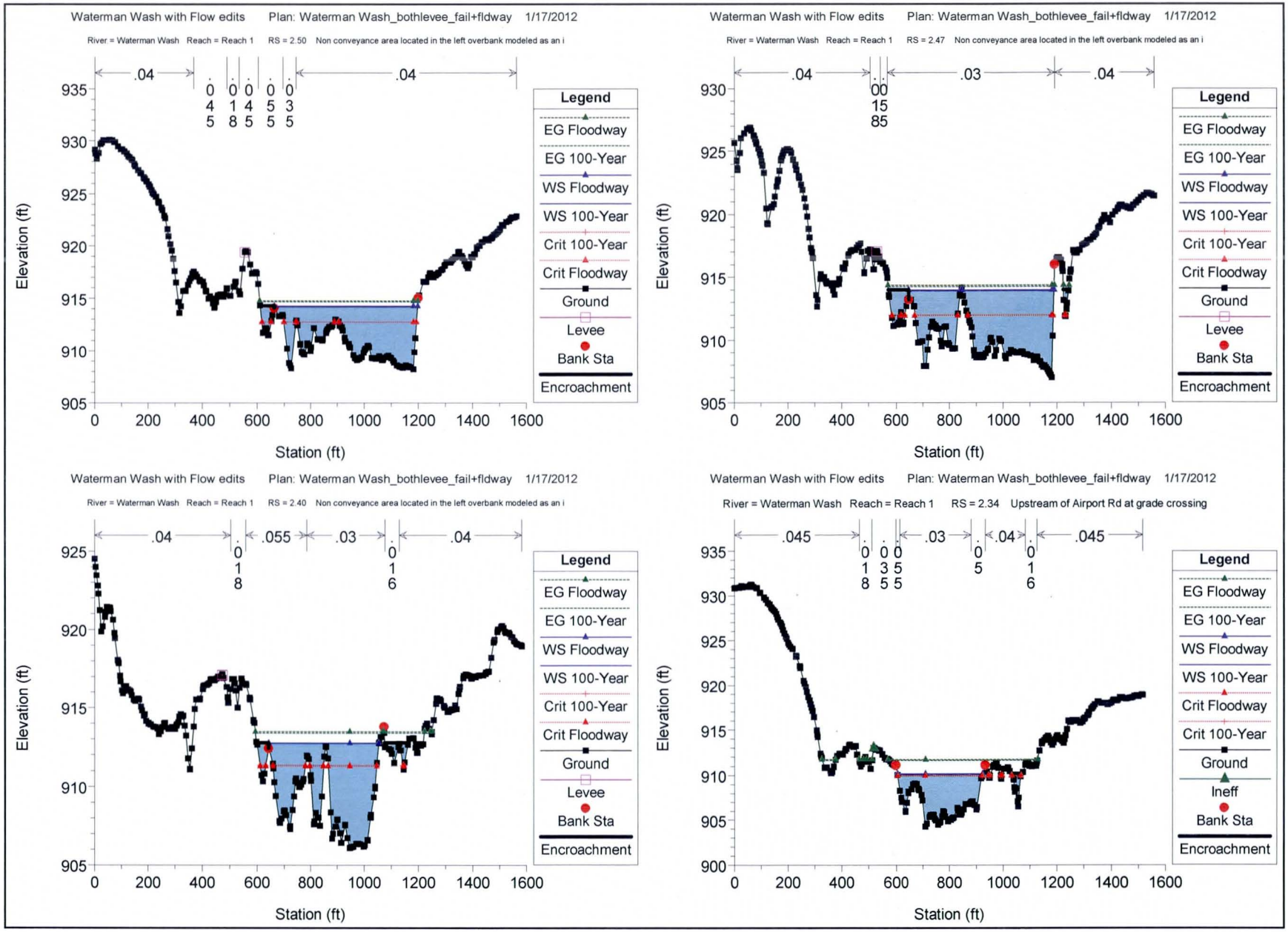

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.09 Non conveyance area located in the left overbank modeled as an i
.045
.034
.045
0.145
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.00 Cross Section station in feet 21120
.045
.034
.045
0.055
0.034
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.91 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.045
0.035
0.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.86 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.055
0.035
0.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment

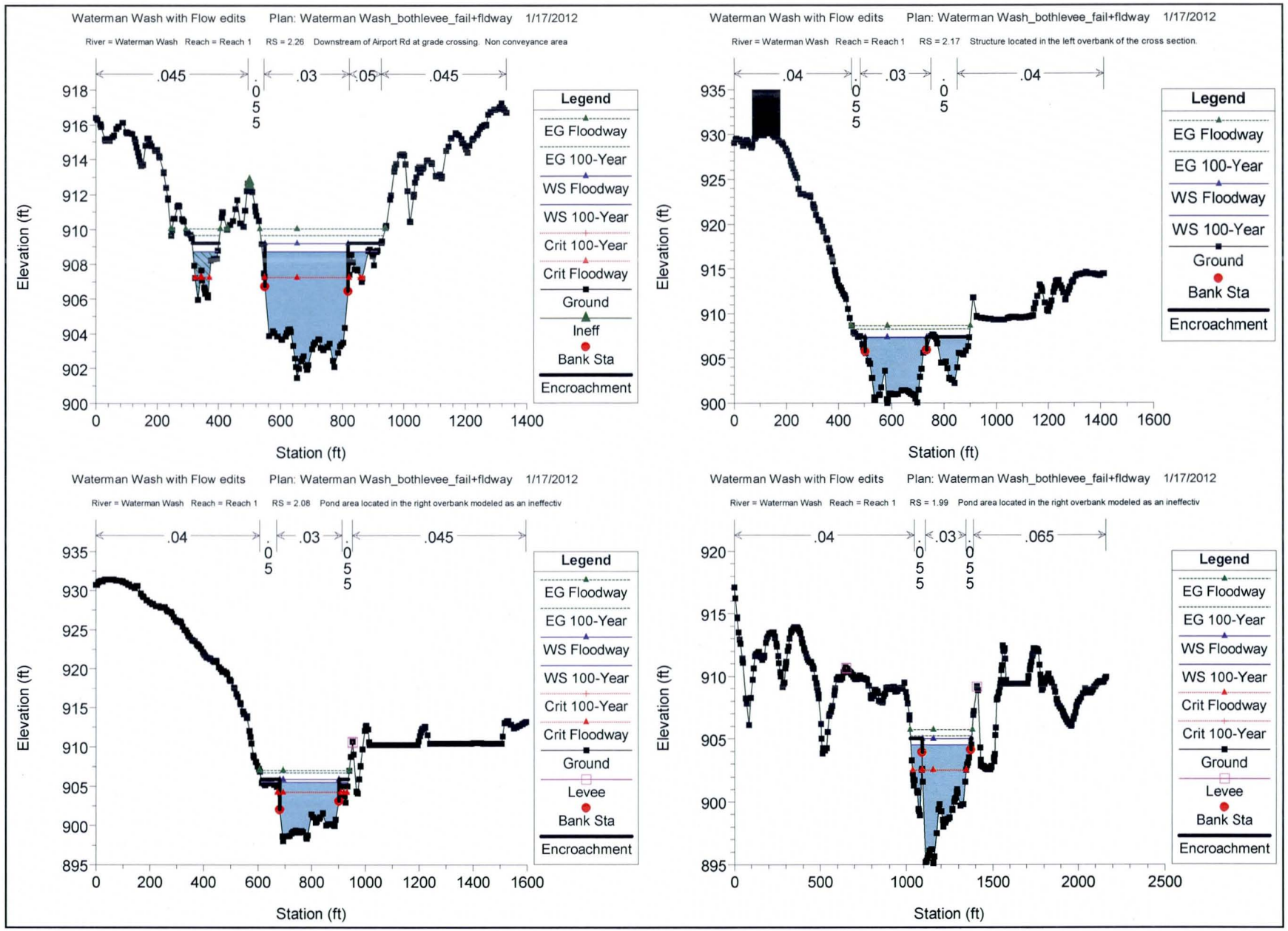

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.76 Non conveyance area located in the left overbank modeled as an i
.025 .045 .055 .035 .055 .045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit 100-Year
WS 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.69 Non conveyance area located in the left overbank modeled as an i
.025 .045 .055 .035 .045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.62 Water ponding in the farm fields in the left overbank modeled as
.025 .045 .055 .035 .055 .045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.56 Water ponding in the farm fields in the left overbank modeled as
.055 .045 .055 .03 .055 .045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment

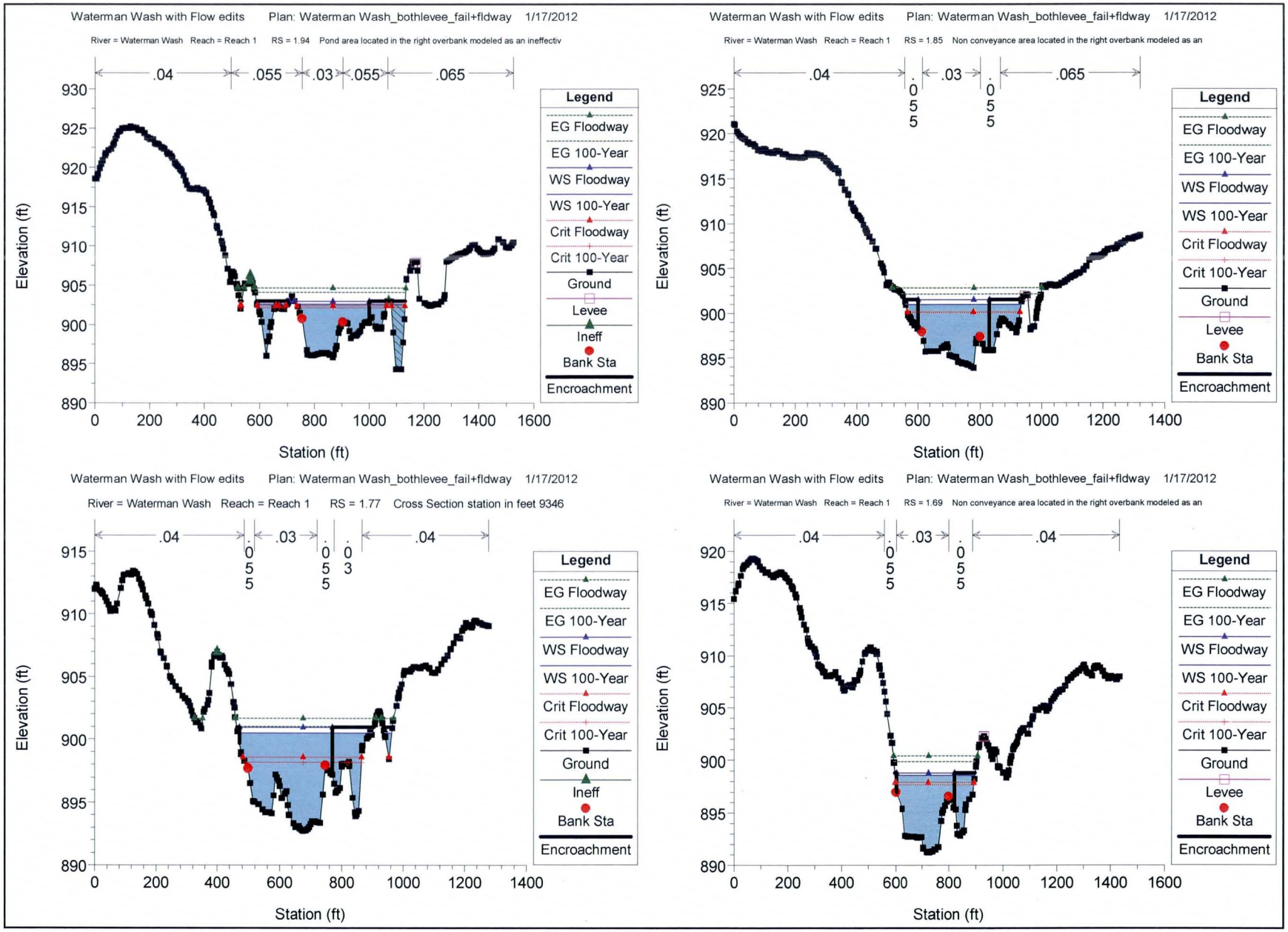

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.49 Water ponding in the farm fields in the left overbank modeled as
.055
.03
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.31 Cross Section station in feet 17477
.055
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.23 Water ponding in the farm fields in the left overbank modeled as
.055
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.16 Non conveyance area located in the left overbank modeled as an i
.055
.035
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment

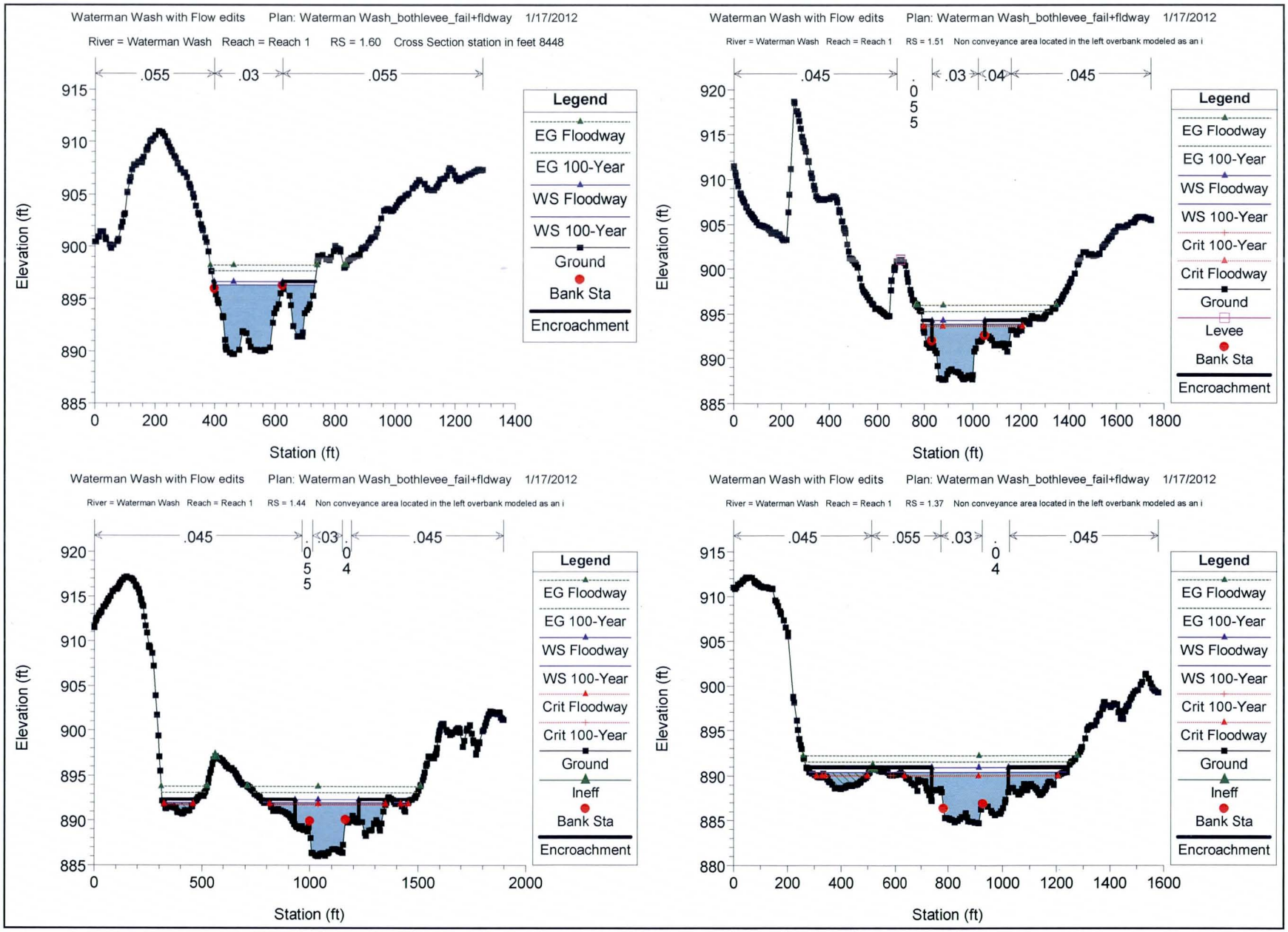

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.10 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.01 Cross Section station in feet 15893
.025
.055
.035
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.94 Cross Section station in feet 15523
.04
.055
.032
.045
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.85 Cross Section station in feet 15048
.04
.035
.055
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Year
WS 100-Year
Ground
Bank Sta
Encroachment

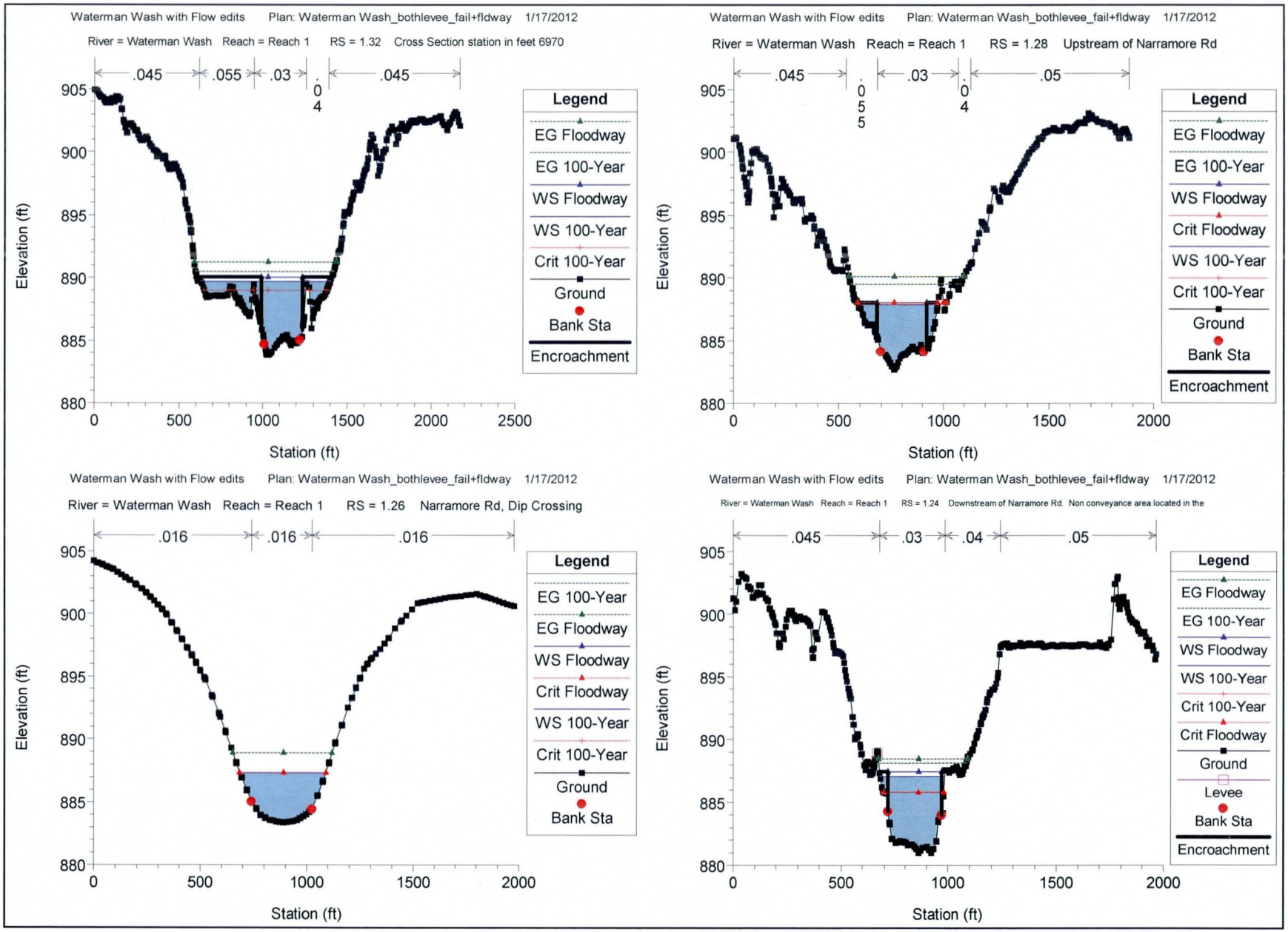

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.79 Cross Section station in feet 14731
.04
.045
.018
.035
.055
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.70 Non conveyance area due to backwater from waterman wash located
.045
.045
.035
.045
.018
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.61 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
.018
.035
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.57 Non conveyance area located in the left and right overbank model
.045
.035
.045
.018
.055
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

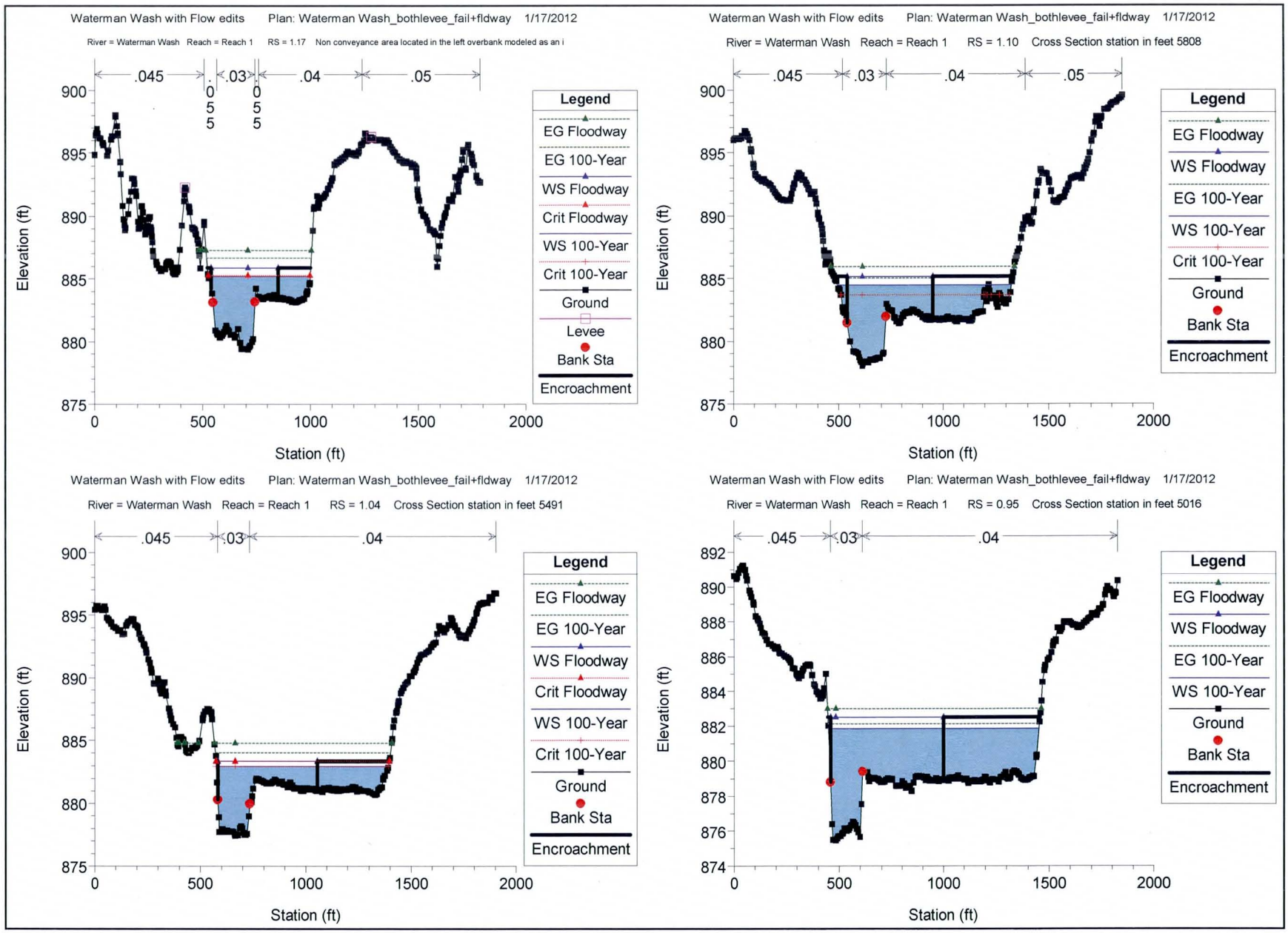

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.50 Non conveyance area located in the left overbank modeled as an i
.04
.04
0.045
0.0185
0.045
0.055
0.035
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.47 Non conveyance area located in the left overbank modeled as an i
.04
.03
.04
0.0015
0.0085
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.40 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.04
0.018
0.016
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.34 Upstream of Airport Rd at grade crossing
.045
.03
.04
.045
0.018
0.035
0.05
0.016
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

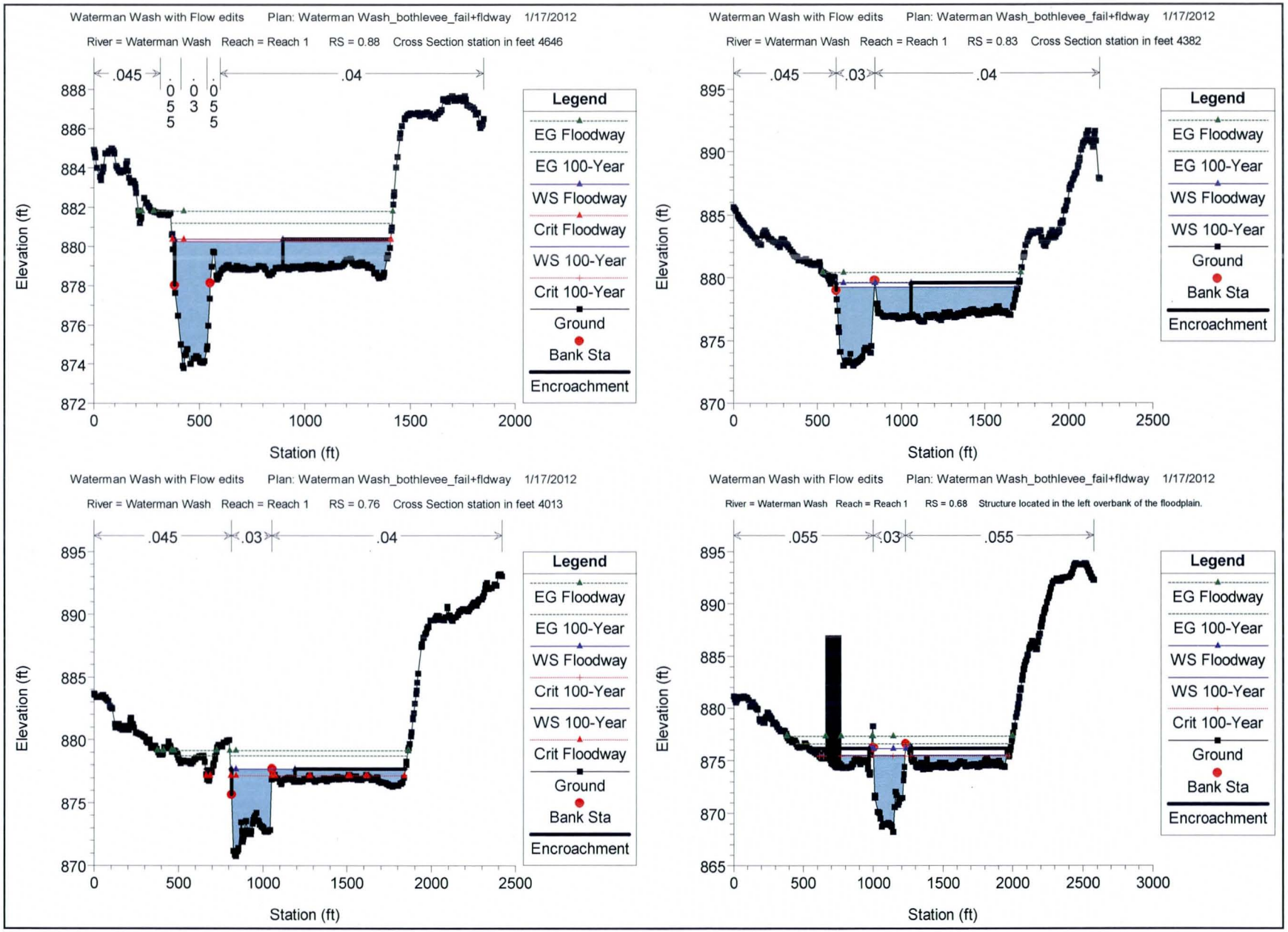

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.26 Downstream of Airport Rd at grade crossing. Non conveyance area
.045
.03
.05
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.17 Structure located in the left overbank of the cross section.
.04
.03
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.08 Pond area located in the right overbank modeled as an ineffectiv
.04
.03
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.99 Pond area located in the right overbank modeled as an ineffectiv
.04
.03
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment

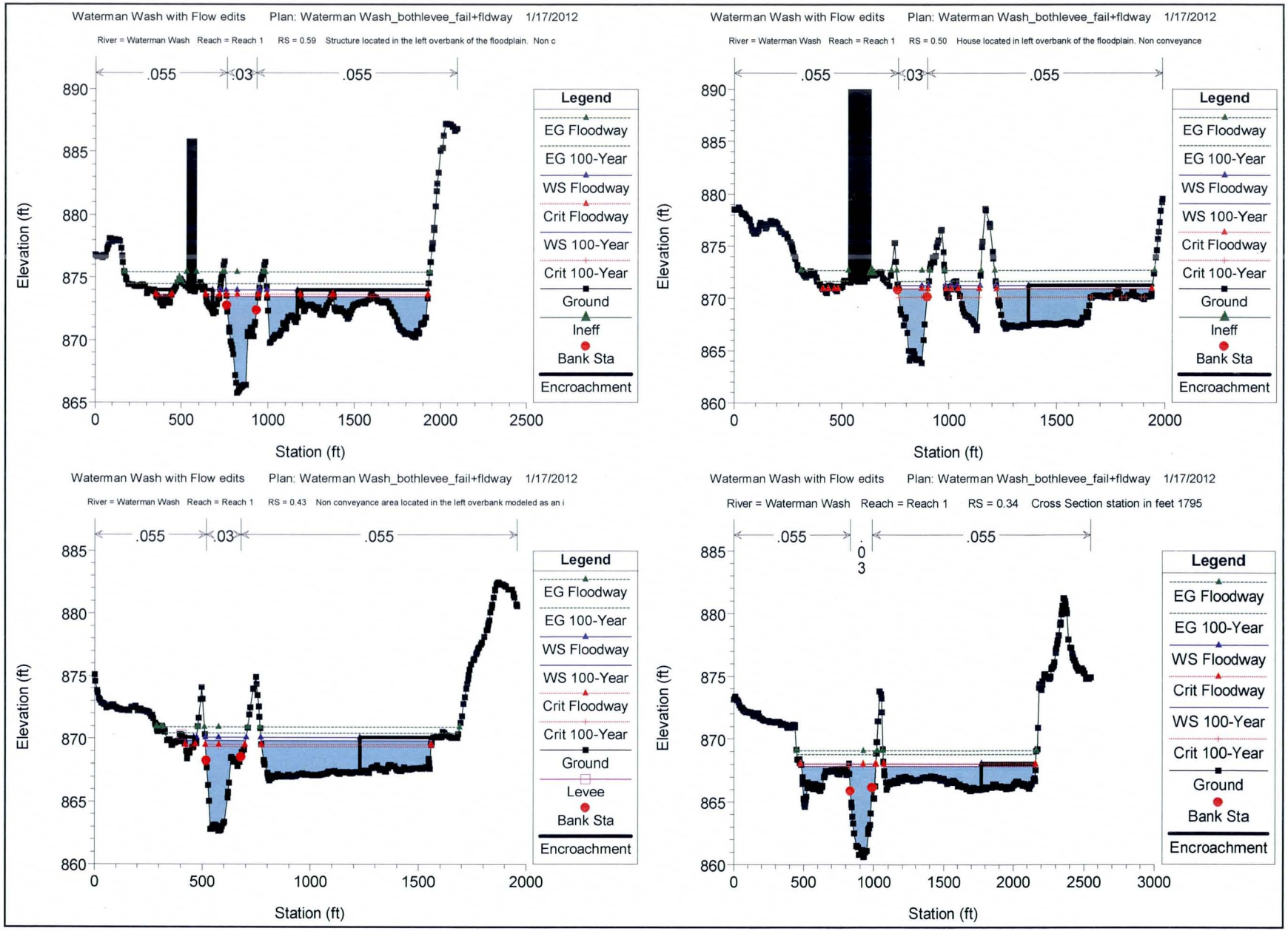

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.94 Pond area located in the right overbank modeled as an ineffectiv
.04
.055
.03
.055
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.85 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.77 Cross Section station in feet 9346
.04
.055
.03
.055
.03
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.69 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.60 Cross Section station in feet 8448
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.51 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.04
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.44 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.04
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.37 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.04
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.32 Cross Section station in feet 6970
.045
.055
.03
.045
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.28 Upstream of Narramore Rd
.045
.03
.05
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.26 Narramore Rd, Dip Crossing
.016
.016
.016
Legend
EG 100-Year
EG Floodway
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.24 Downstream of Narramore Rd. Non conveyance area located in the
.045
.03
.04
.05
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

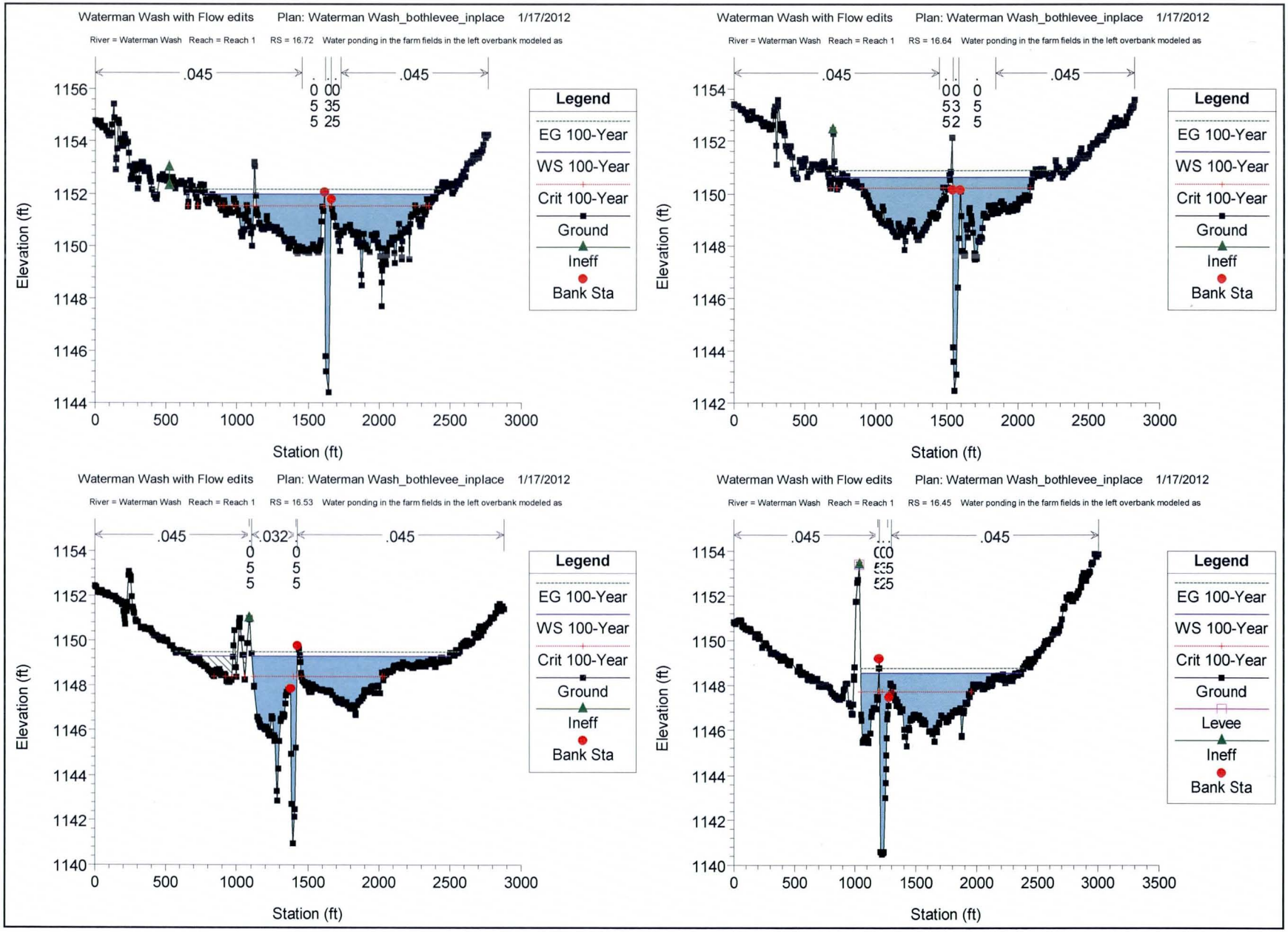

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.17 Non conveyance area located in the left overbank modeled as an i
.045
.03
.04
.05
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.10 Cross Section station in feet 5808
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.04 Cross Section station in feet 5491
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.95 Cross Section station in feet 5016

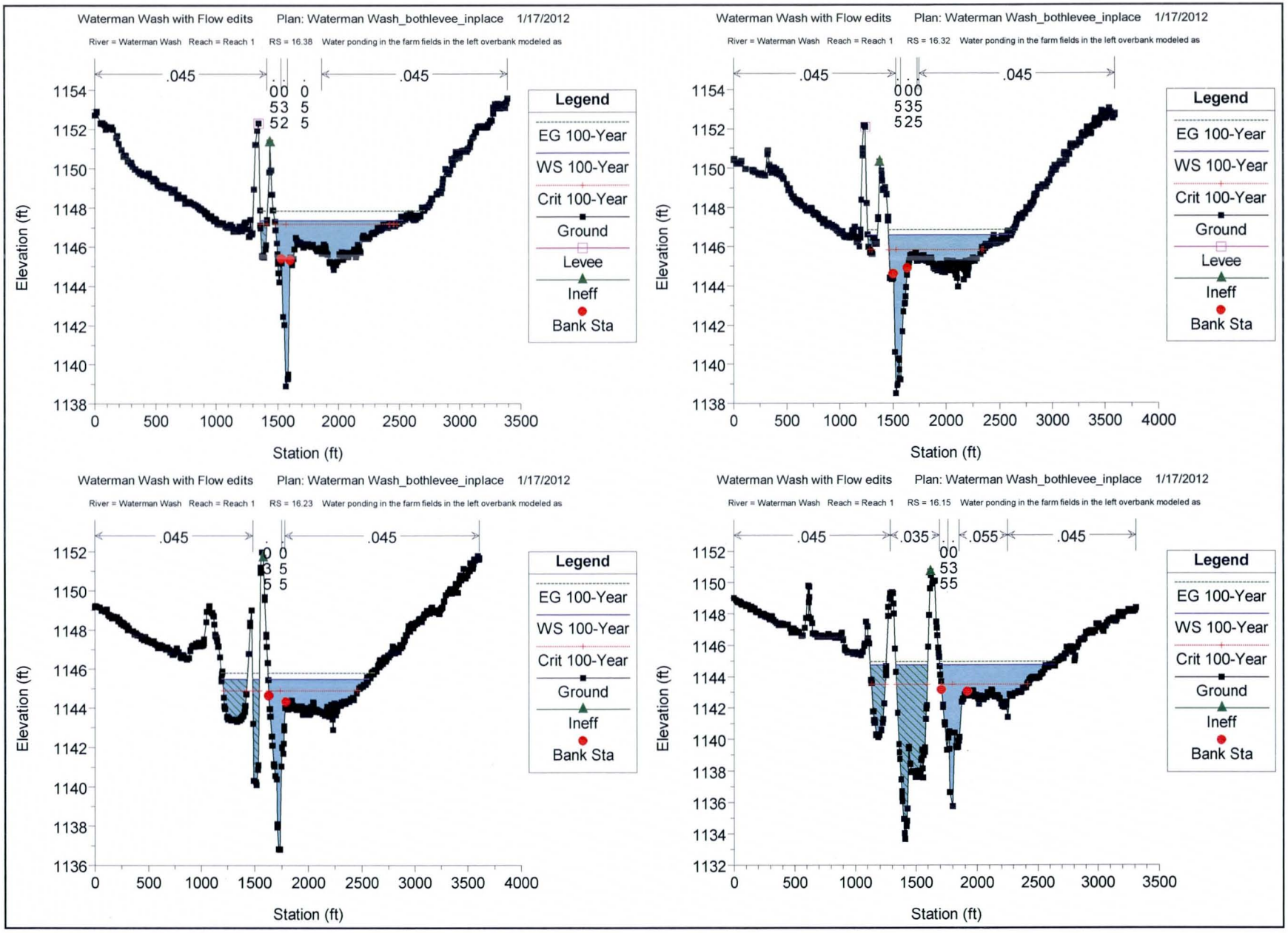

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.88 Cross Section station in feet 4646
.045
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.83 Cross Section station in feet 4382
.045
.03
.04
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.76 Cross Section station in feet 4013
.045
.03
.04
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.68 Structure located in the left overbank of the floodplain.
.055
.03
.055

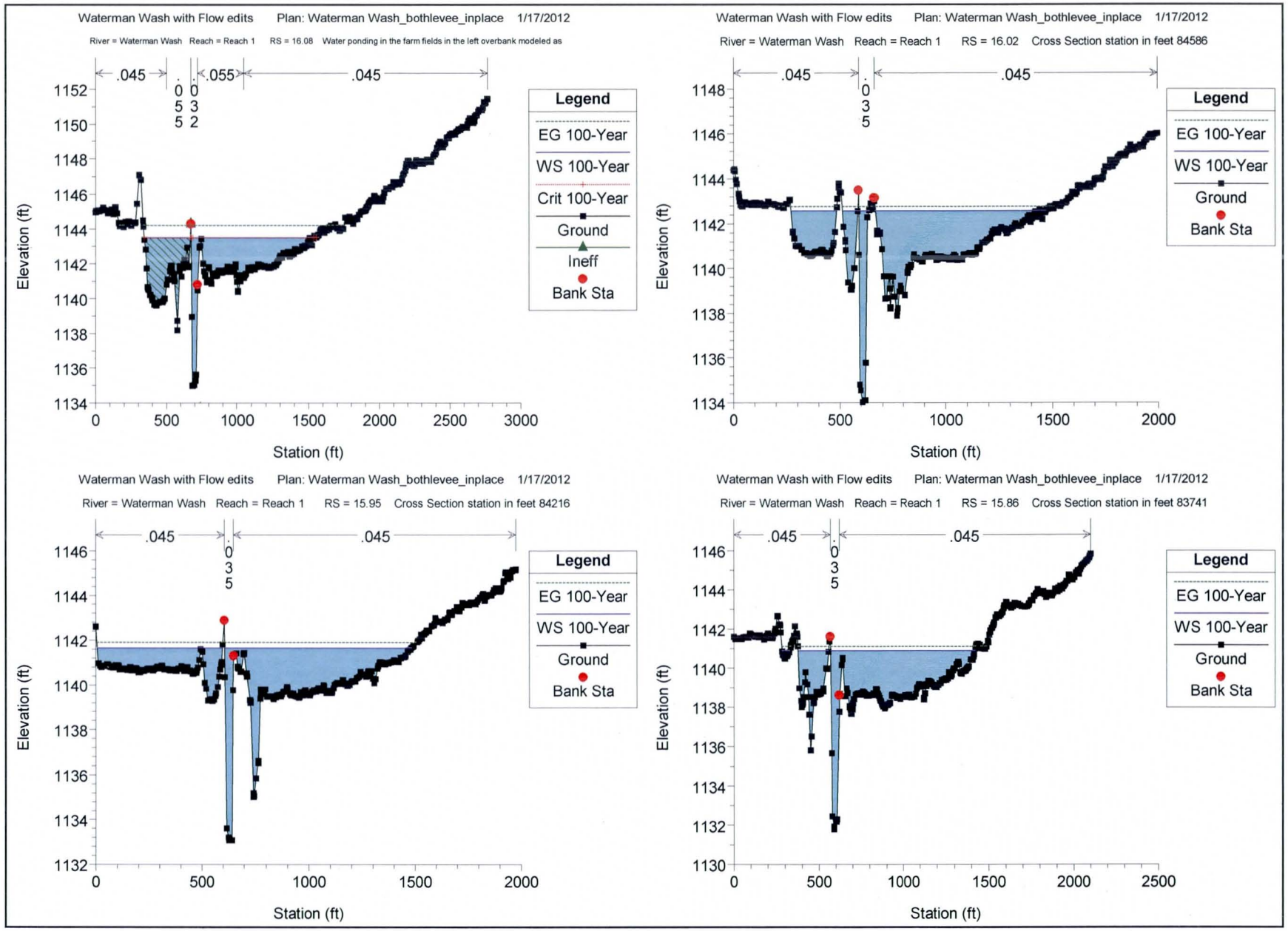

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.59 Structure located in the left overbank of the floodplain. Non c
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.50 House located in left overbank of the floodplain. Non conveyance
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Ineff
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.43 Non conveyance area located in the left overbank modeled as an i
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit Floodway
Crit 100-Year
Ground
Levee
Bank Sta
Encroachment
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.34 Cross Section station in feet 1795
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
Crit Floodway
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Encroachment

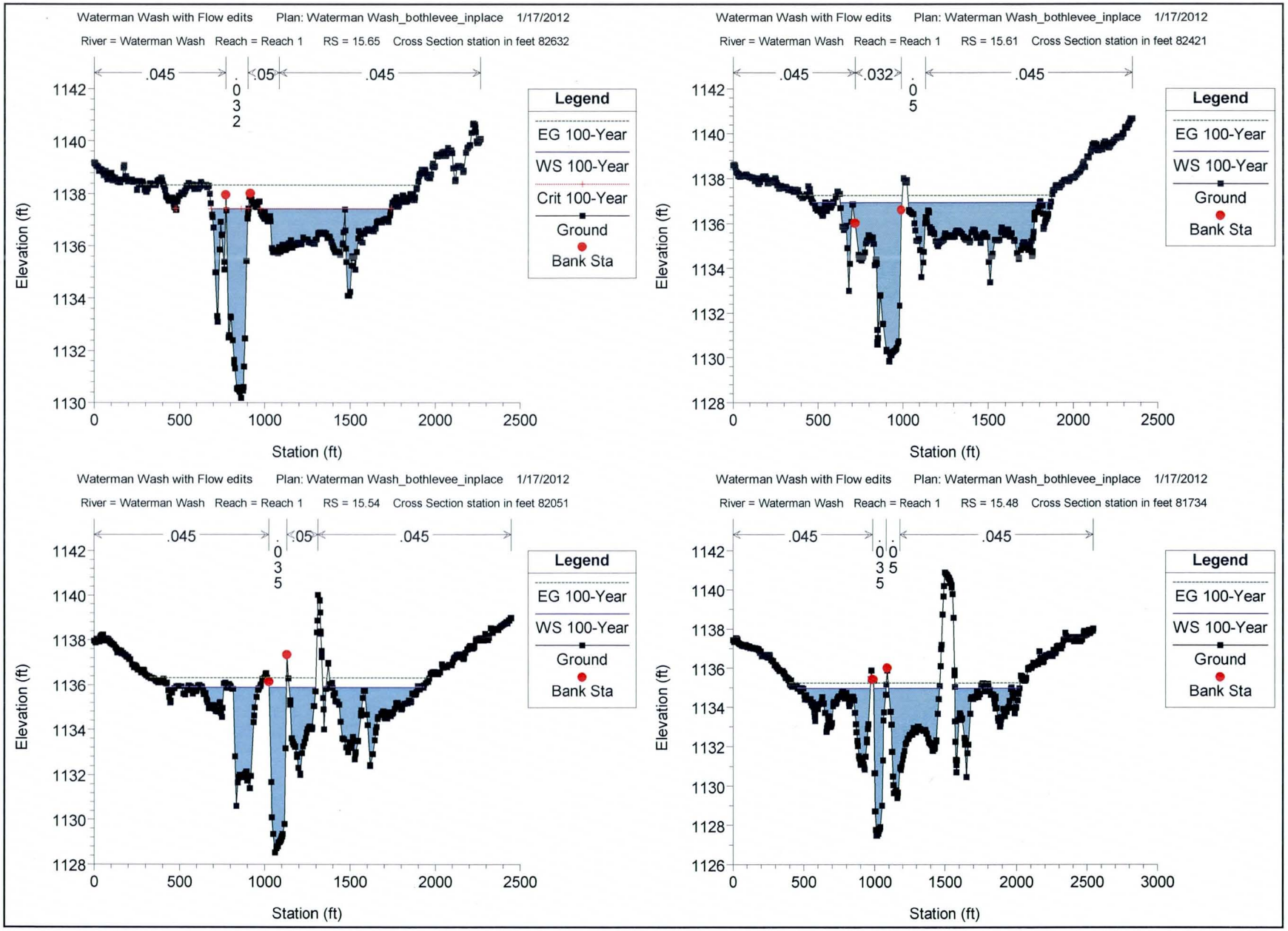
Waterman Wash with Flow edits
Plan: Waterman Wash_bothlevee_fail+fldway 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.27 Non conveyance area located in the right overbank modeled as an
.055
.03
.055
880
875
870
865
860
855
Elevation (ft)
0
1000
2000
3000
4000
Station (ft)
Legend
EG Floodway
EG 100-Year
WS Floodway
WS 100-Year
Crit 100-Year
Crit Floodway
Ground
Levee
Bank Sta
Encroachment

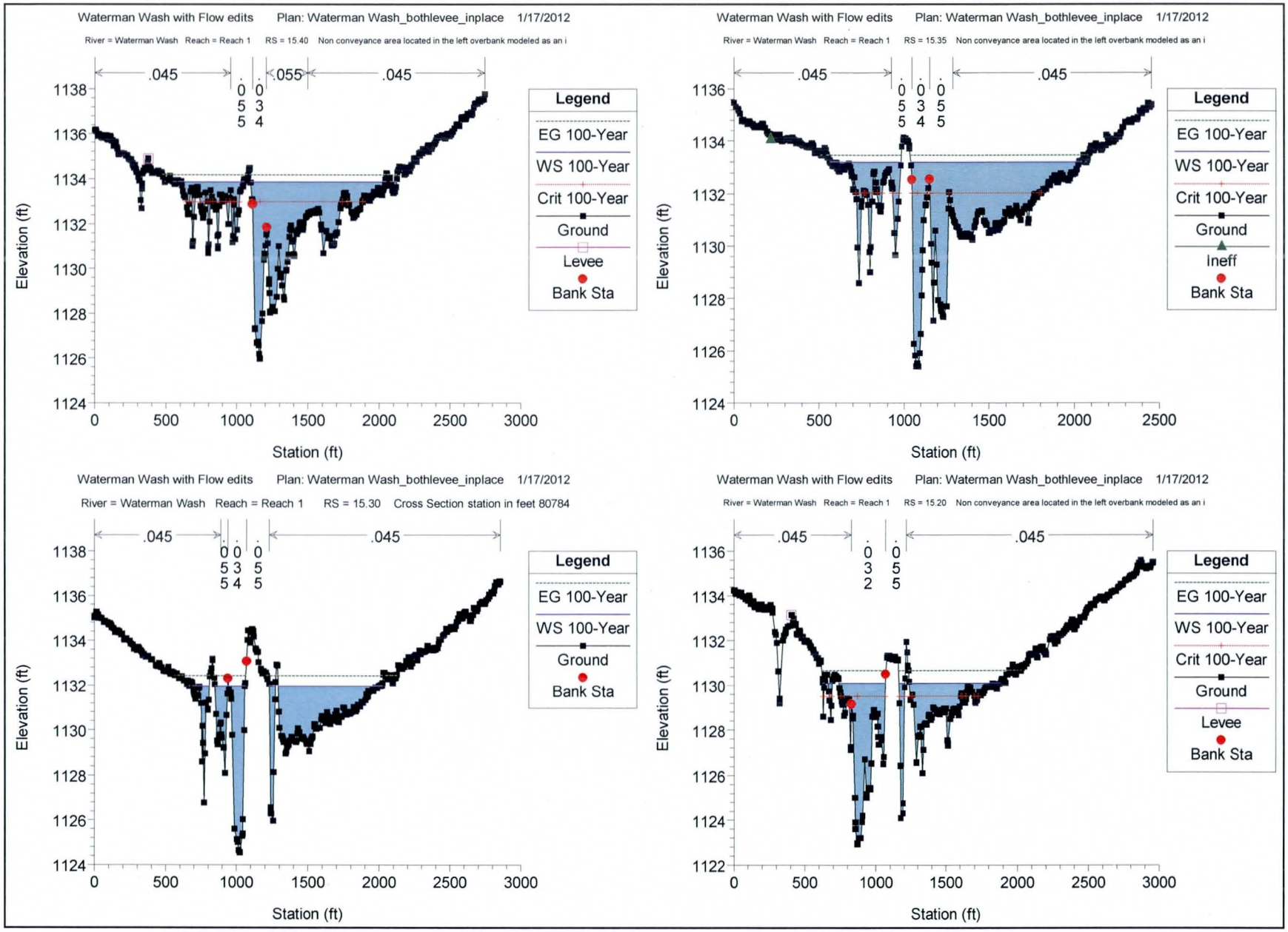
BOTH NON-LEVEE EMBANKMENT IN PLACE

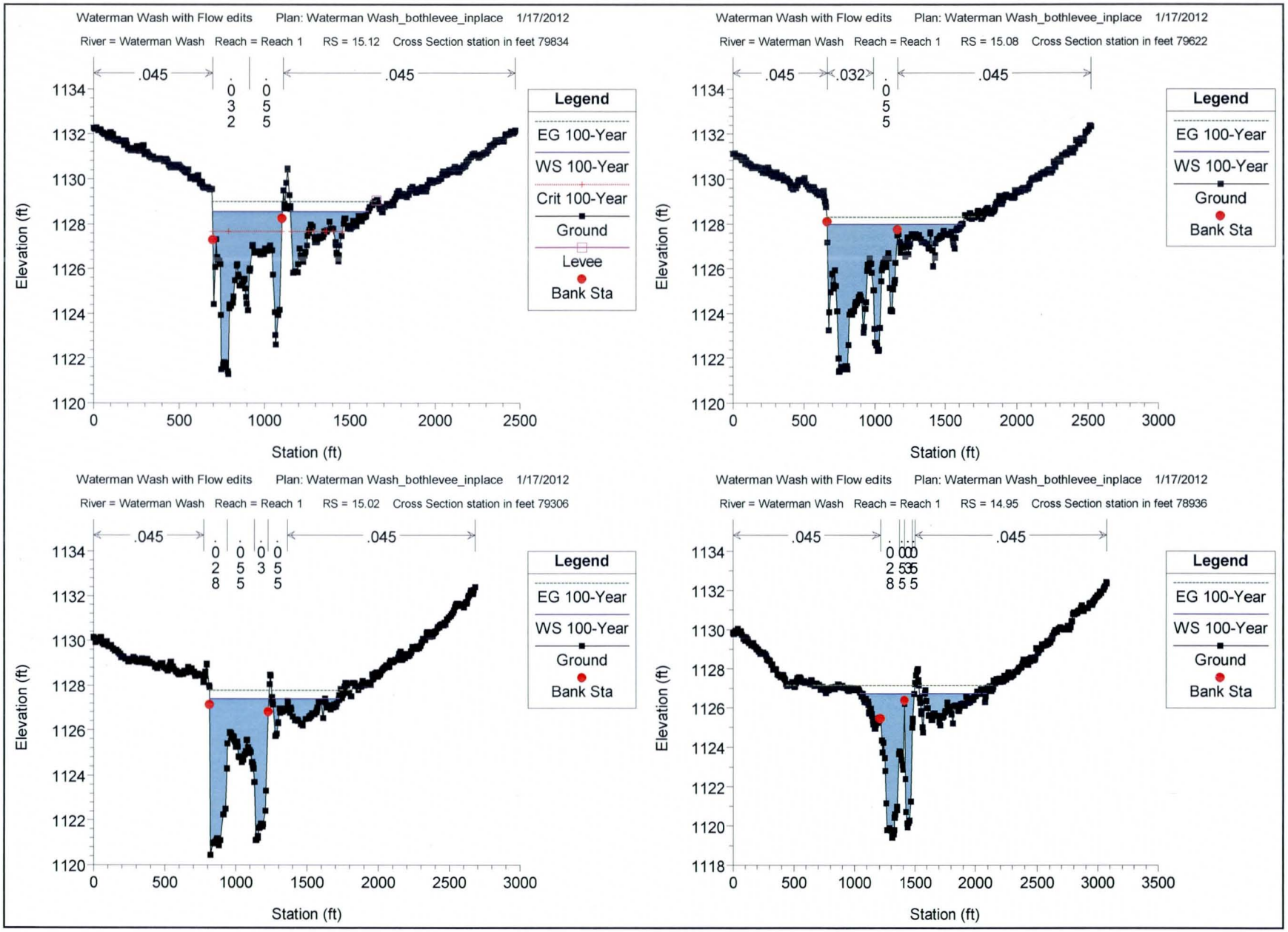

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.72 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.64 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.53 Water ponding in the farm fields in the left overbank modeled as
.045
.032
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.45 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

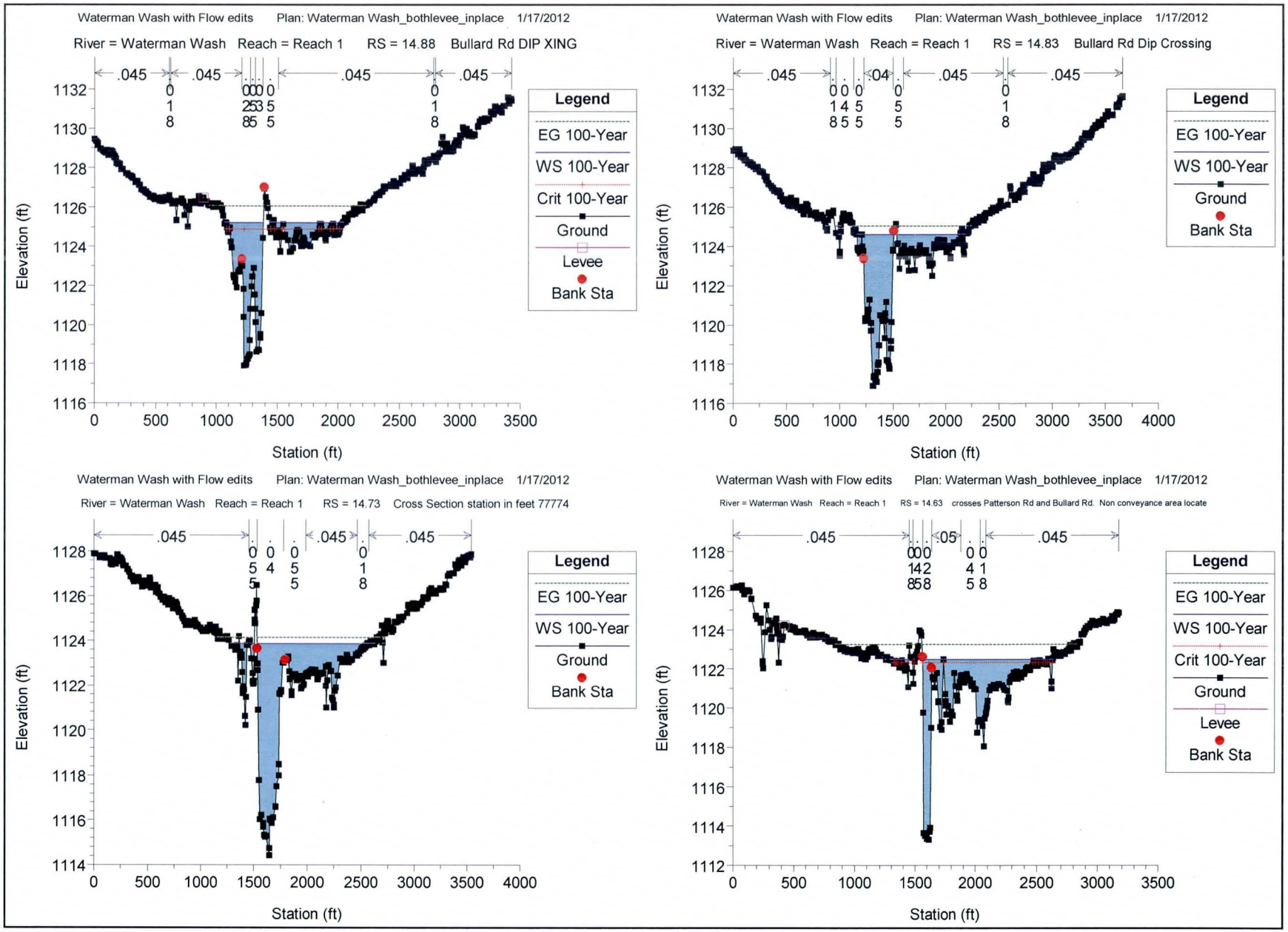

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.38 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.32 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.23 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.15 Water ponding in the farm fields in the left overbank modeled as
.045
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

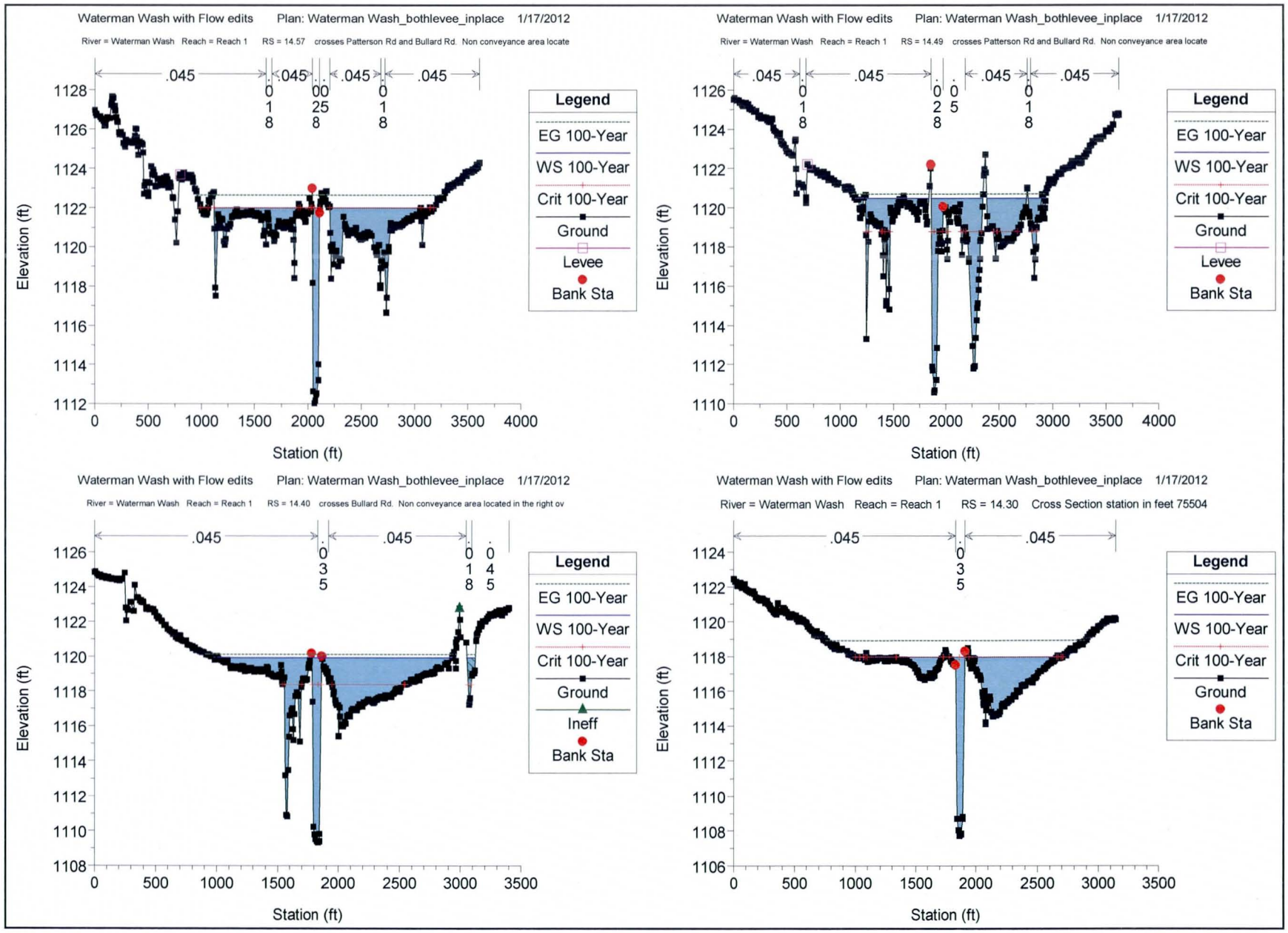

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.08 Water ponding in the farm fields in the left overbank modeled as
.045
.055
.045
0552
0352
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.02 Cross Section station in feet 84586
.045
.045
0352
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.95 Cross Section station in feet 84216
.045
.045
0352
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.86 Cross Section station in feet 83741
.045
.045
0352
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

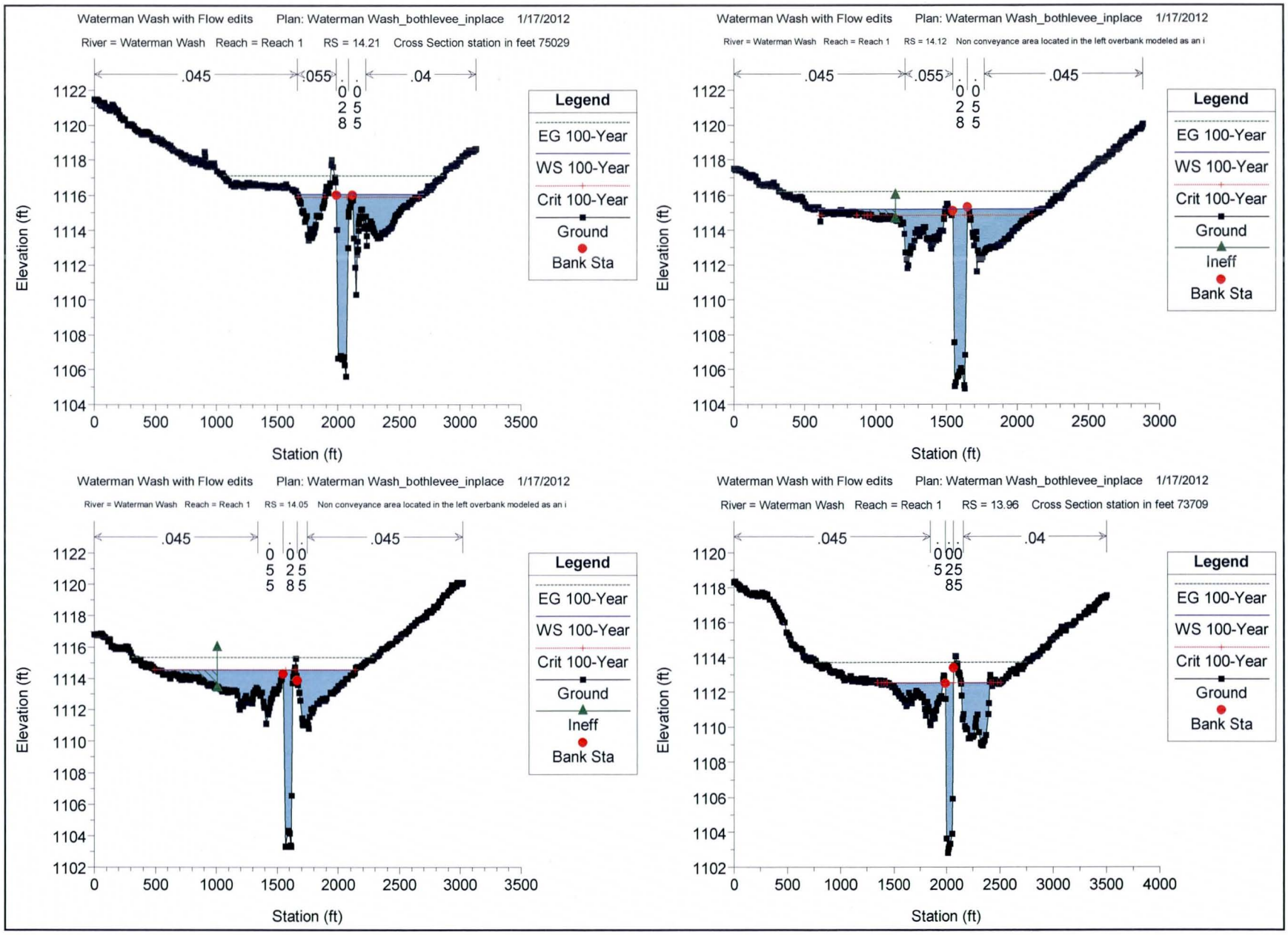

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.65 Cross Section station in feet 82632
.045
.032
.05
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.61 Cross Section station in feet 82421
.045
.032
.05
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.54 Cross Section station in feet 82051
.045
.035
.05
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.48 Cross Section station in feet 81734
.045
.035
.05
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

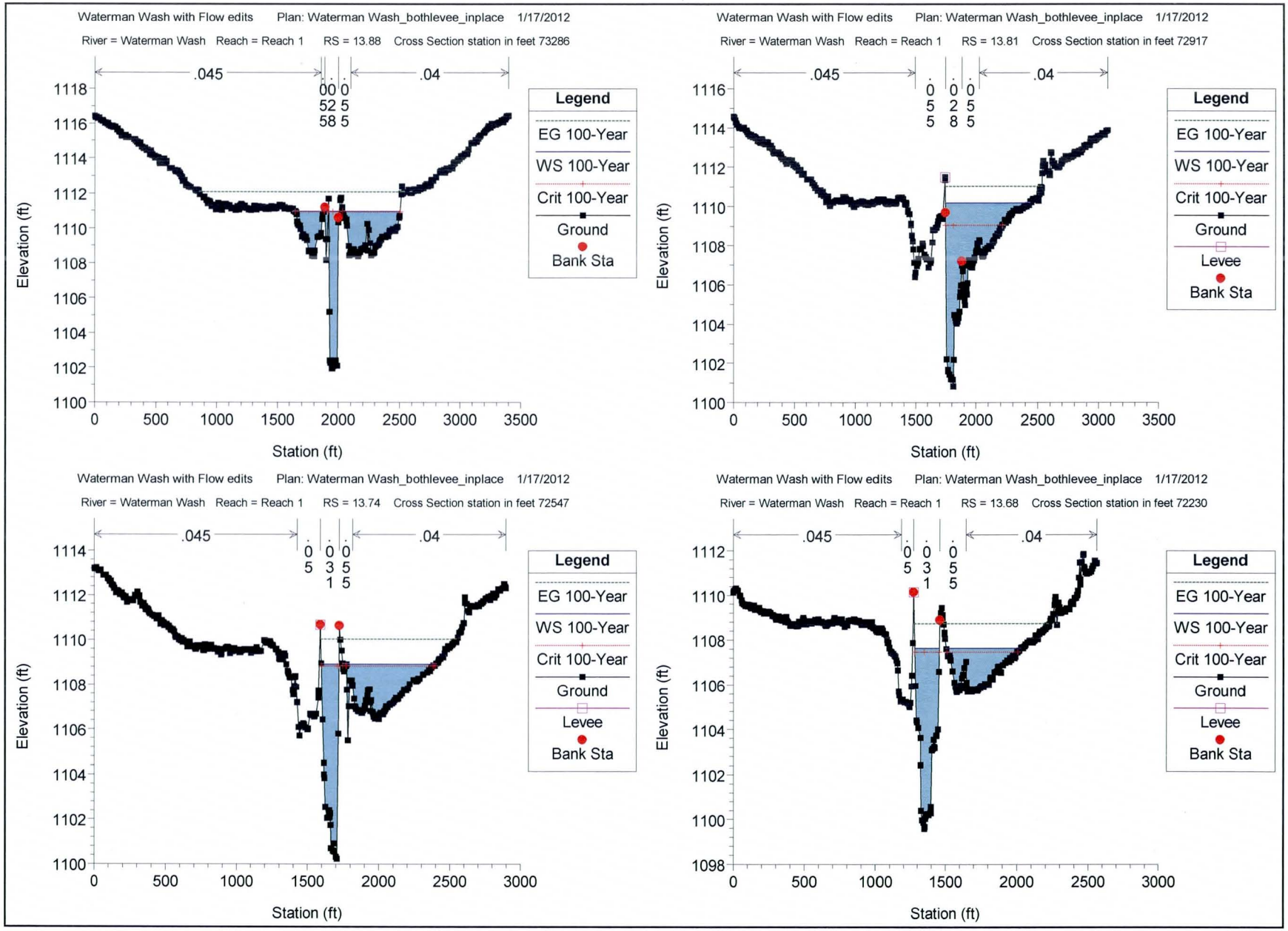

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.40 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
0.055
0.034
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.35 Non conveyance area located in the left overbank modeled as an i
.045
.045
0.055
0.034
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.30 Cross Section station in feet 80784
.045
.045
0.055
0.034
0.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.20 Non conveyance area located in the left overbank modeled as an i
.045
.045
0.032
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

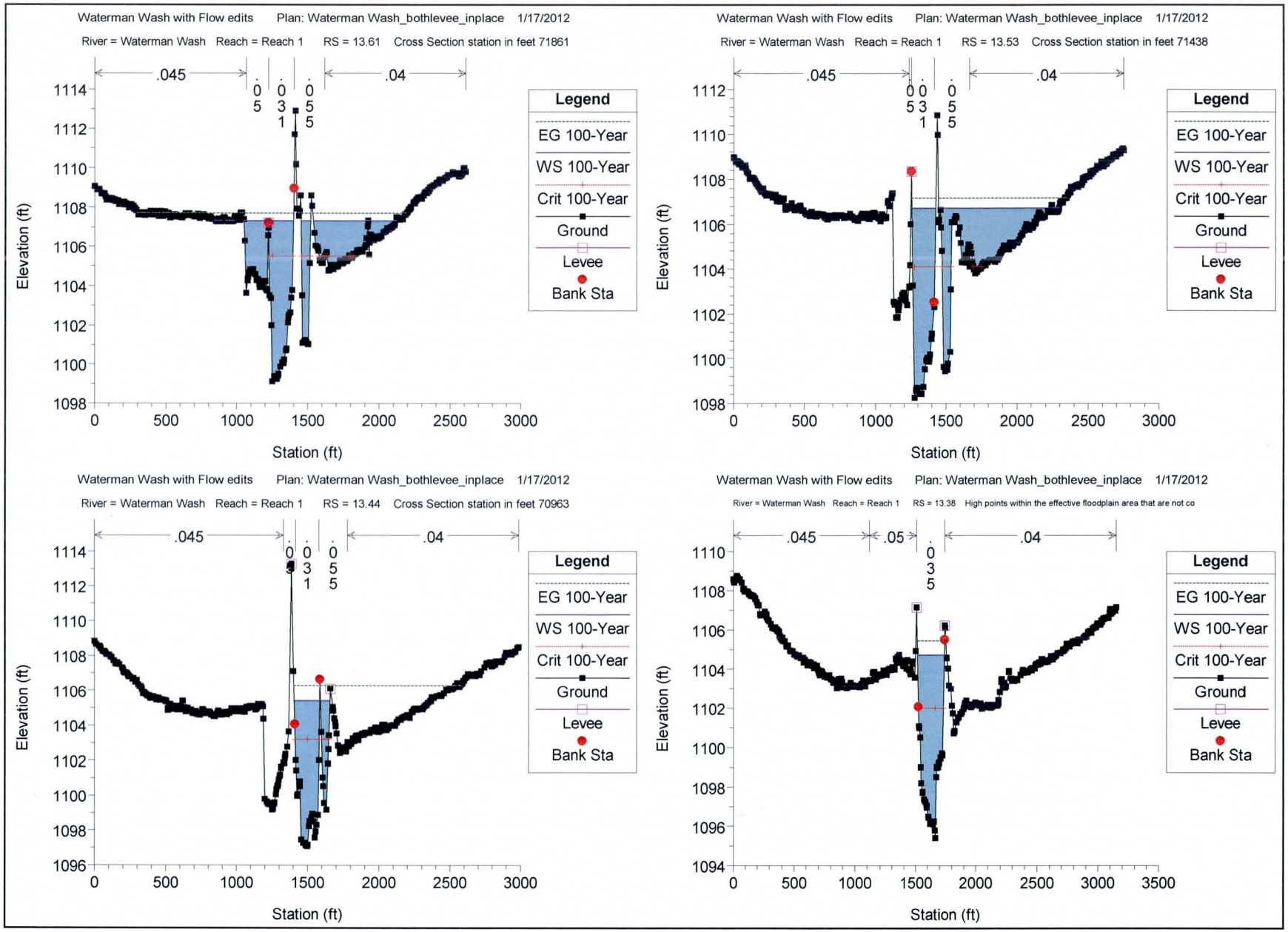

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.12 Cross Section station in feet 79834
.045
.045
.032
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.08 Cross Section station in feet 79622
.045
.032
.045
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.02 Cross Section station in feet 79306
.045
.045
.028
.055
.035
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.95 Cross Section station in feet 78936
.045
.045
.028
.055
.035
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

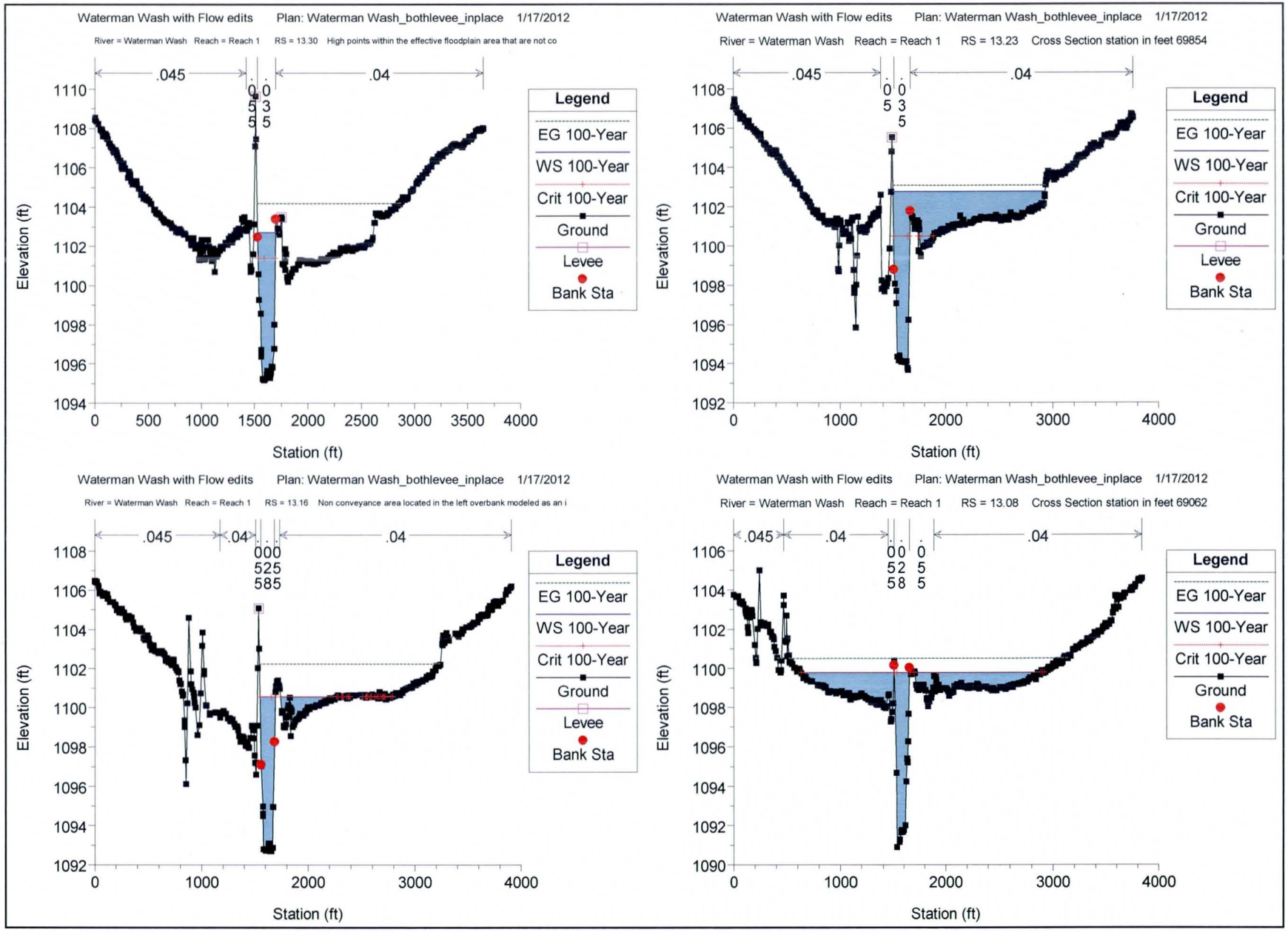

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.88 Bullard Rd DIP XING
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.83 Bullard Rd Dip Crossing
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.73 Cross Section station in feet 77774
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.63 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

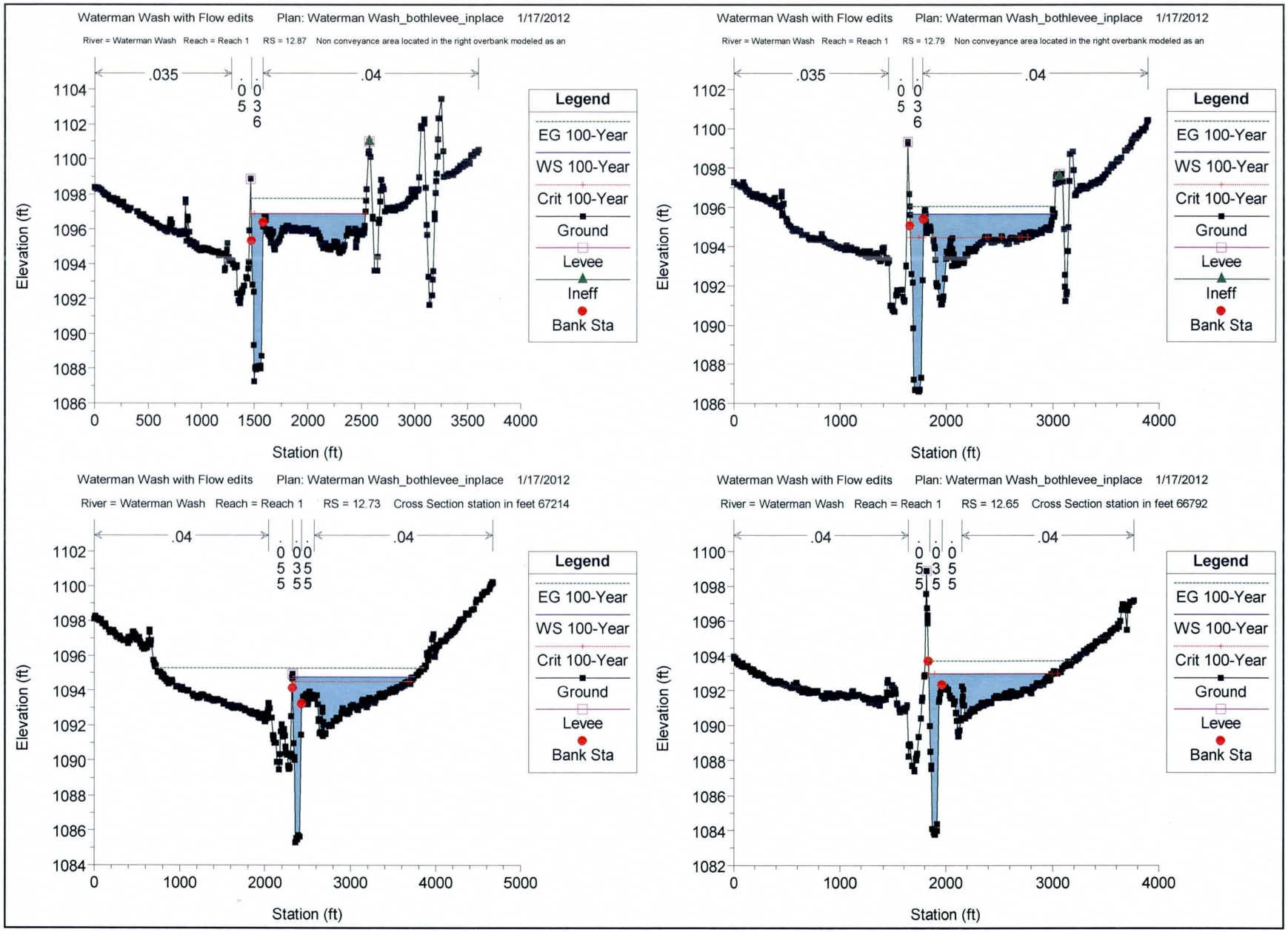

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.57 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
.045
.045
.045
.045
0.018
0.00258
0.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.49 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
.045
.045
.045
.045
0.018
0.028
0.05
0.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.40 crosses Bullard Rd. Non conveyance area located in the right ov
.045
.045
0.035
0.018
0.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.30 Cross Section station in feet 75504
.045
.045
0.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

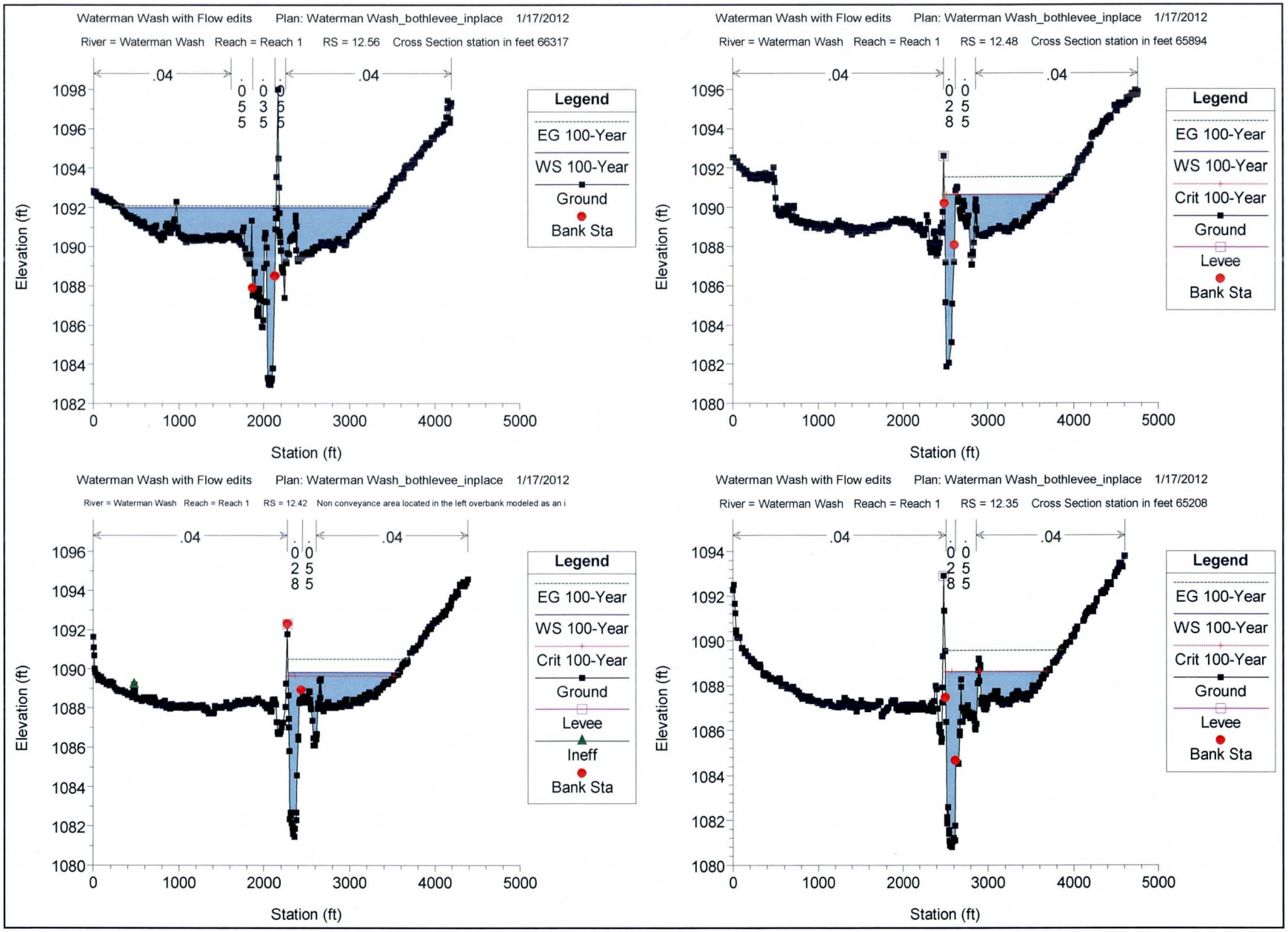

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.21 Cross Section station in feet 75029
.045
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.12 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.05 Non conveyance area located in the left overbank modeled as an i
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.96 Cross Section station in feet 73709
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

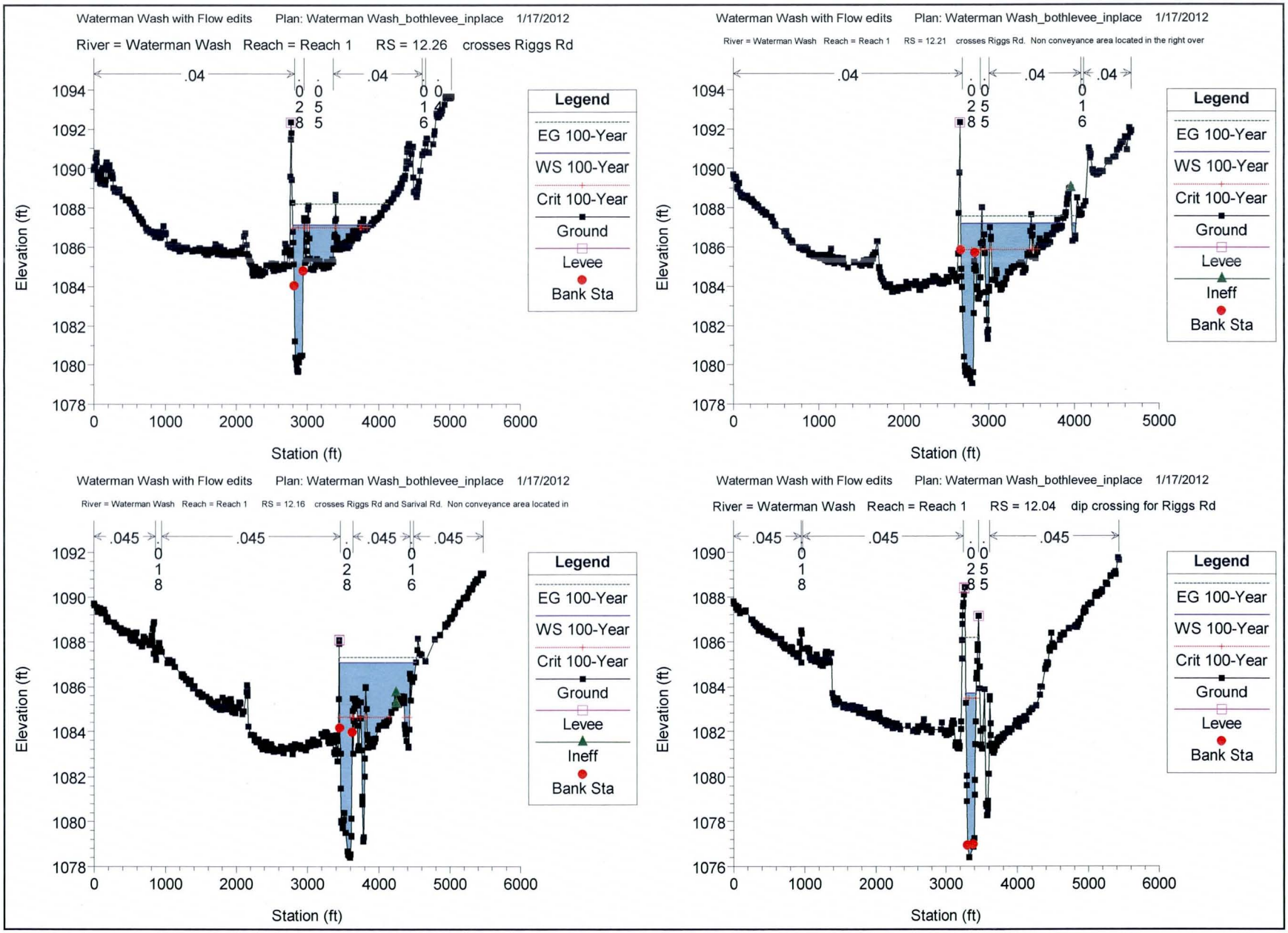

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.88 Cross Section station in feet 73286
.045
.04
0052 0058 0055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.81 Cross Section station in feet 72917
.045
.04
0055 0058 0055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.74 Cross Section station in feet 72547
.045
.04
0055 0031 0055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.68 Cross Section station in feet 72230
.045
.04
0055 0031 0055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

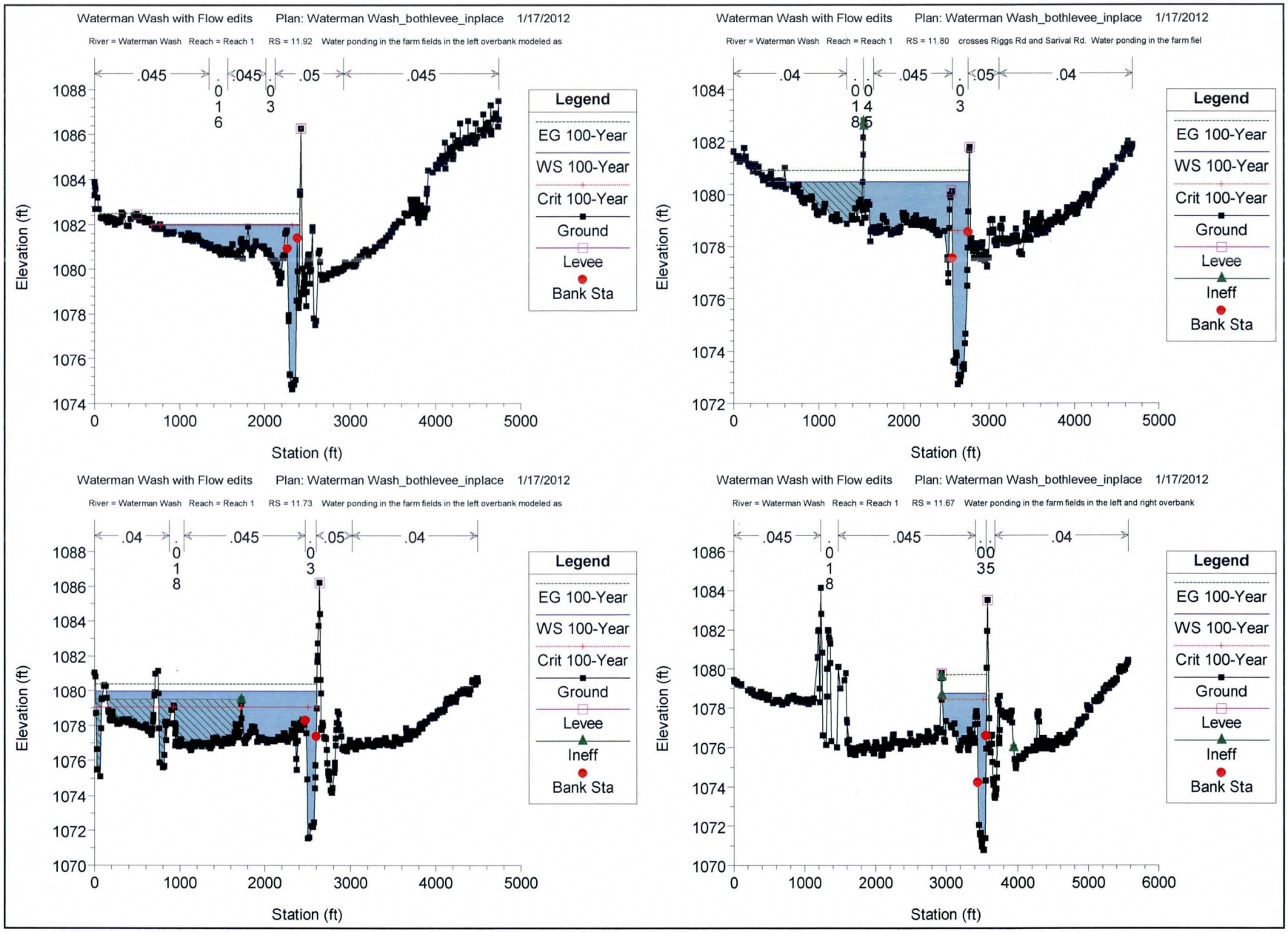

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.61 Cross Section station in feet 71861
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.53 Cross Section station in feet 71438
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.44 Cross Section station in feet 70963
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.38 High points within the effective floodplain area that are not co
.045
.05
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

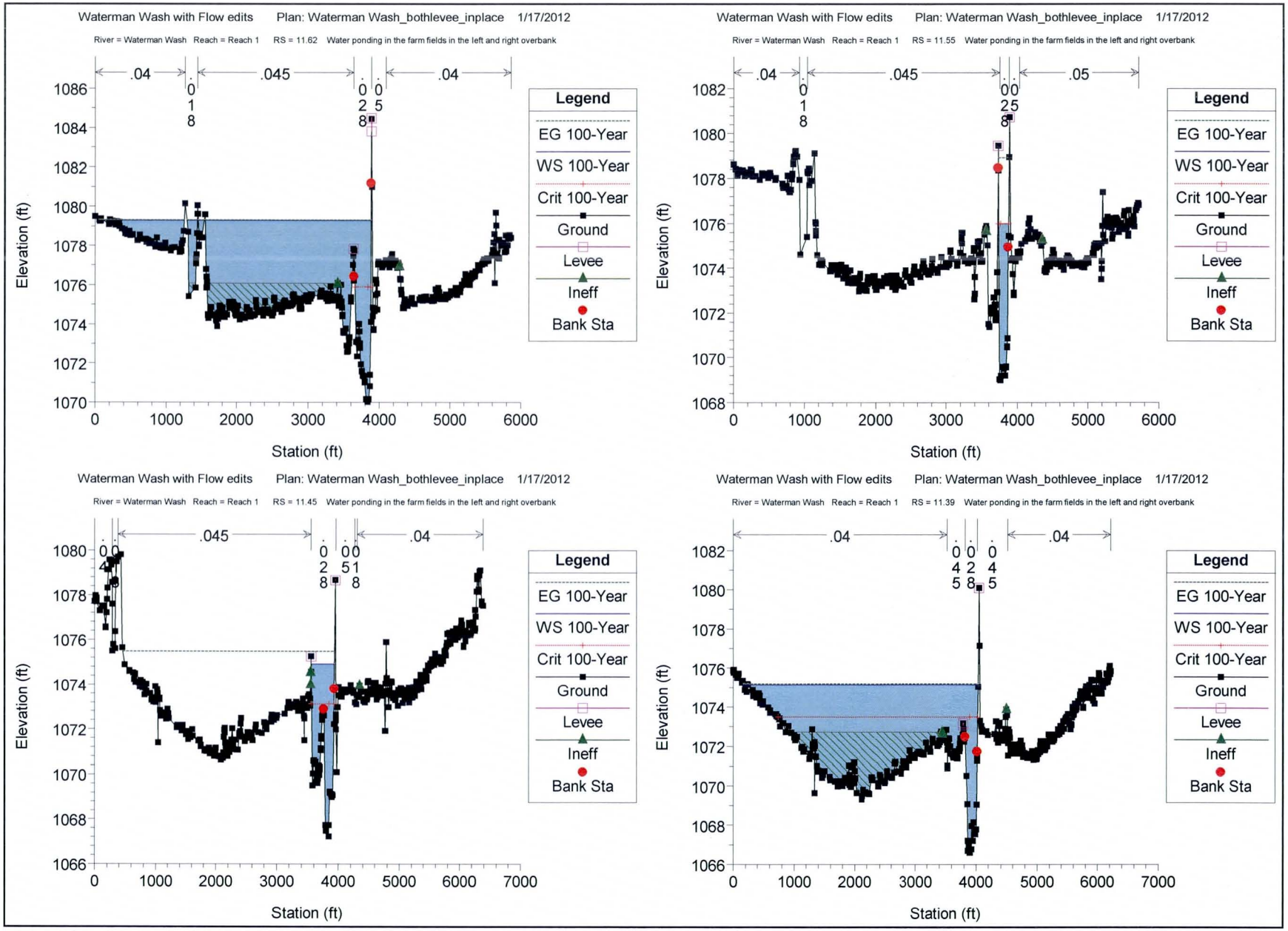

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.30 High points within the effective floodplain area that are not co
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.23 Cross Section station in feet 69854
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.16 Non conveyance area located in the left overbank modeled as an i
.045
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.08 Cross Section station in feet 69062
.045
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

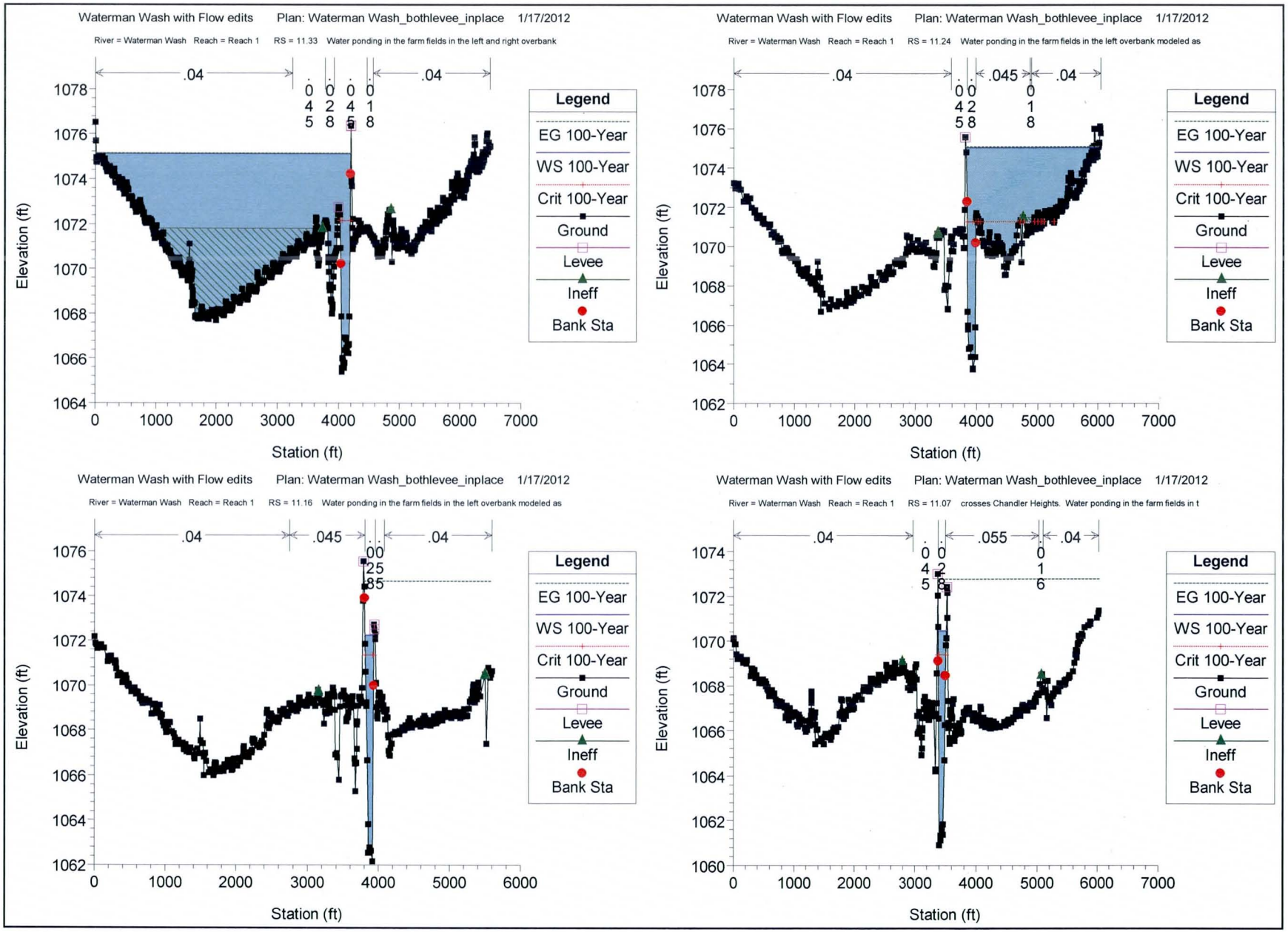

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.87 Non conveyance area located in the right overbank modeled as an
.035
.04
0.05
0.036
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.79 Non conveyance area located in the right overbank modeled as an
.035
.04
0.05
0.036
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.73 Cross Section station in feet 67214
.04
.04
0.055
0.035
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.65 Cross Section station in feet 66792
.04
.04
0.055
0.035
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

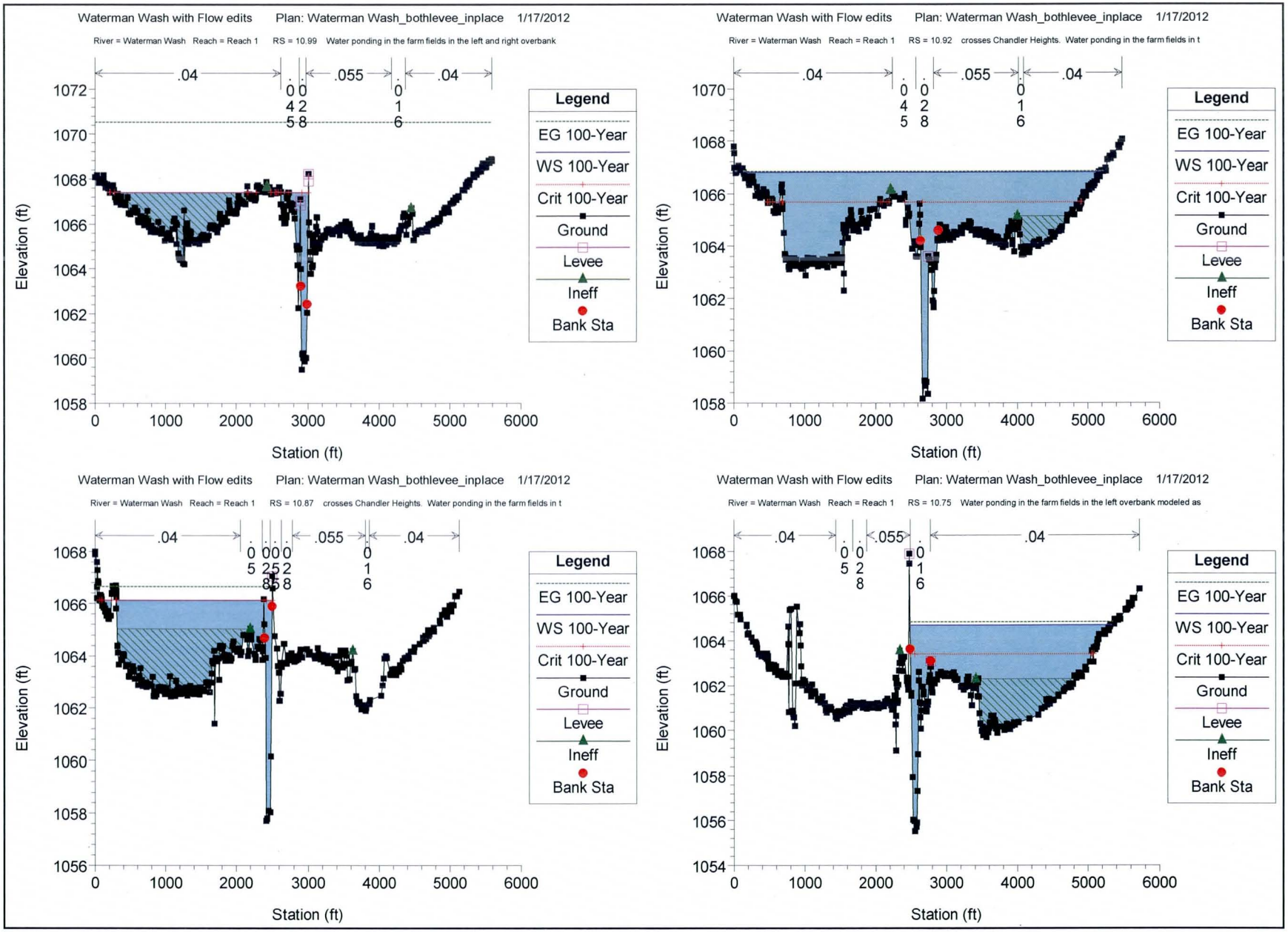

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.56 Cross Section station in feet 66317
.04
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.48 Cross Section station in feet 65894
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.42 Non conveyance area located in the left overbank modeled as an i
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.35 Cross Section station in feet 65208
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

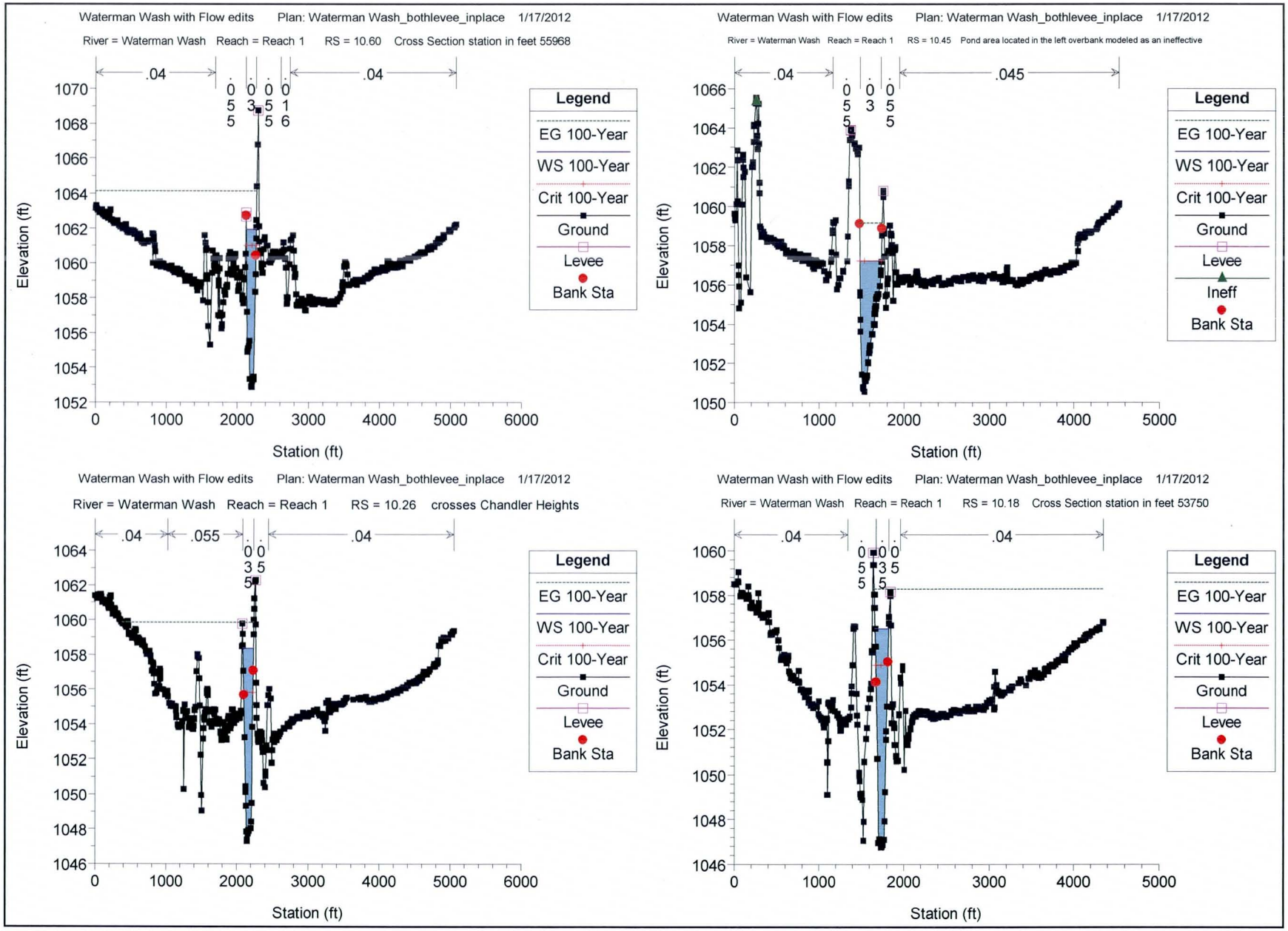

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.26 crosses Riggs Rd
.04
.04
.04
0 0
2 5
8 5
0 0
1 4
6
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
1094
1092
1090
1088
1086
1084
1082
1080
1078
0
1000
2000
3000
4000
5000
6000
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.21 crosses Riggs Rd. Non conveyance area located in the right over
.04
.04
.04
0 0
2 5
8 5
0
1
6
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
1094
1092
1090
1088
1086
1084
1082
1080
1078
0
1000
2000
3000
4000
5000
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.16 crosses Riggs Rd and Sarival Rd. Non conveyance area located in
.045
.045
.045
.045
0
1
8
0
2
8
0
1
6
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
1092
1090
1088
1086
1084
1082
1080
1078
0
1000
2000
3000
4000
5000
6000
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.04 dip crossing for Riggs Rd
.045
.045
.045
0
1
8
0 0
2 5
8 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
1090
1088
1086
1084
1082
1080
1078
1076
0
1000
2000
3000
4000
5000
6000

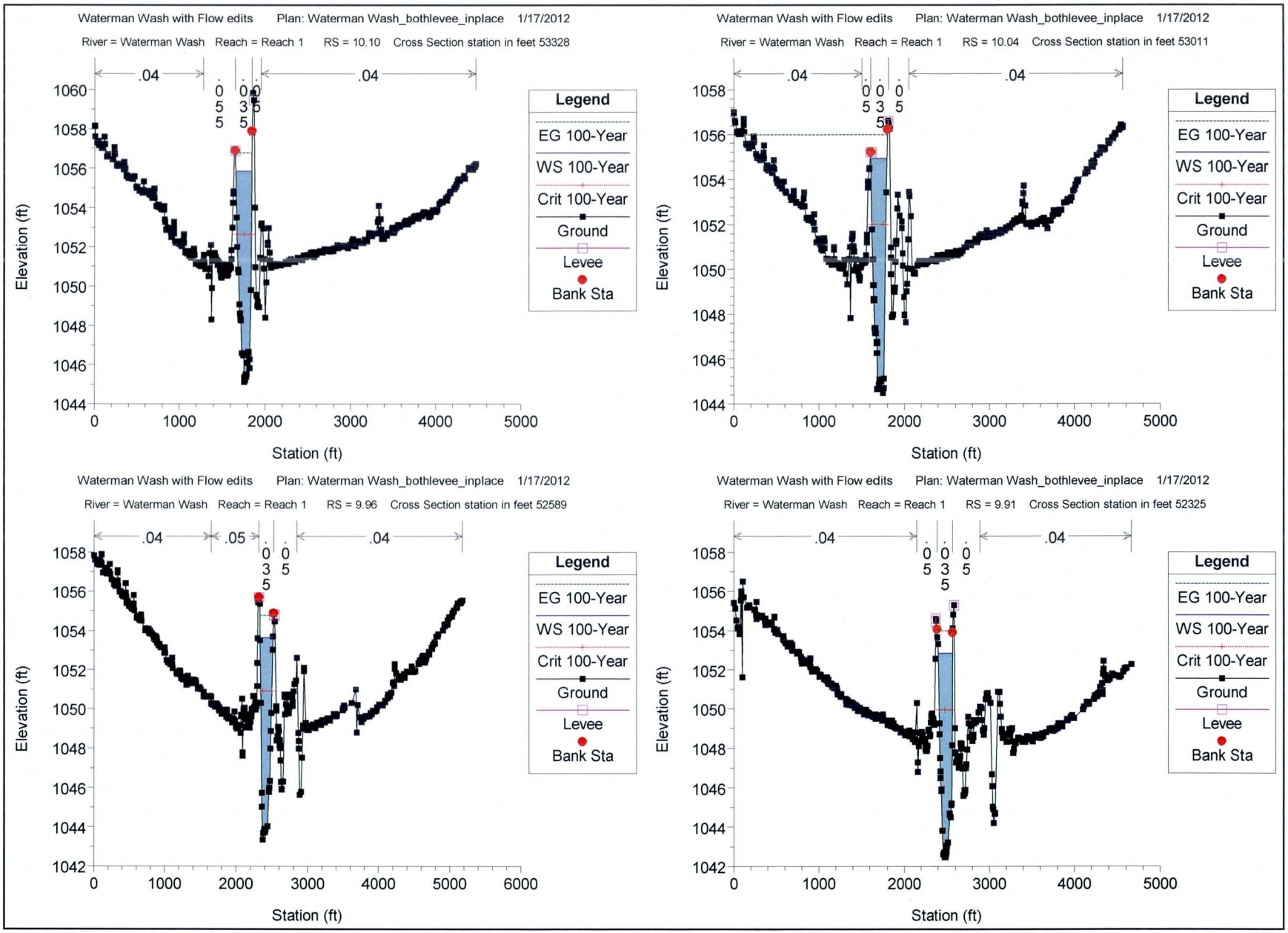

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.92 Water ponding in the farm fields in the left overbank modeled as
.045
.045
.05
.045
.016
.03
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.80 crosses Riggs Rd and Sarival Rd. Water ponding in the farm fiel
.04
.045
.05
.04
.0185
.03
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.73 Water ponding in the farm fields in the left overbank modeled as
.04
.045
.05
.04
.018
.03
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.67 Water ponding in the farm fields in the left and right overbank
.045
.045
.04
.018
.0035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

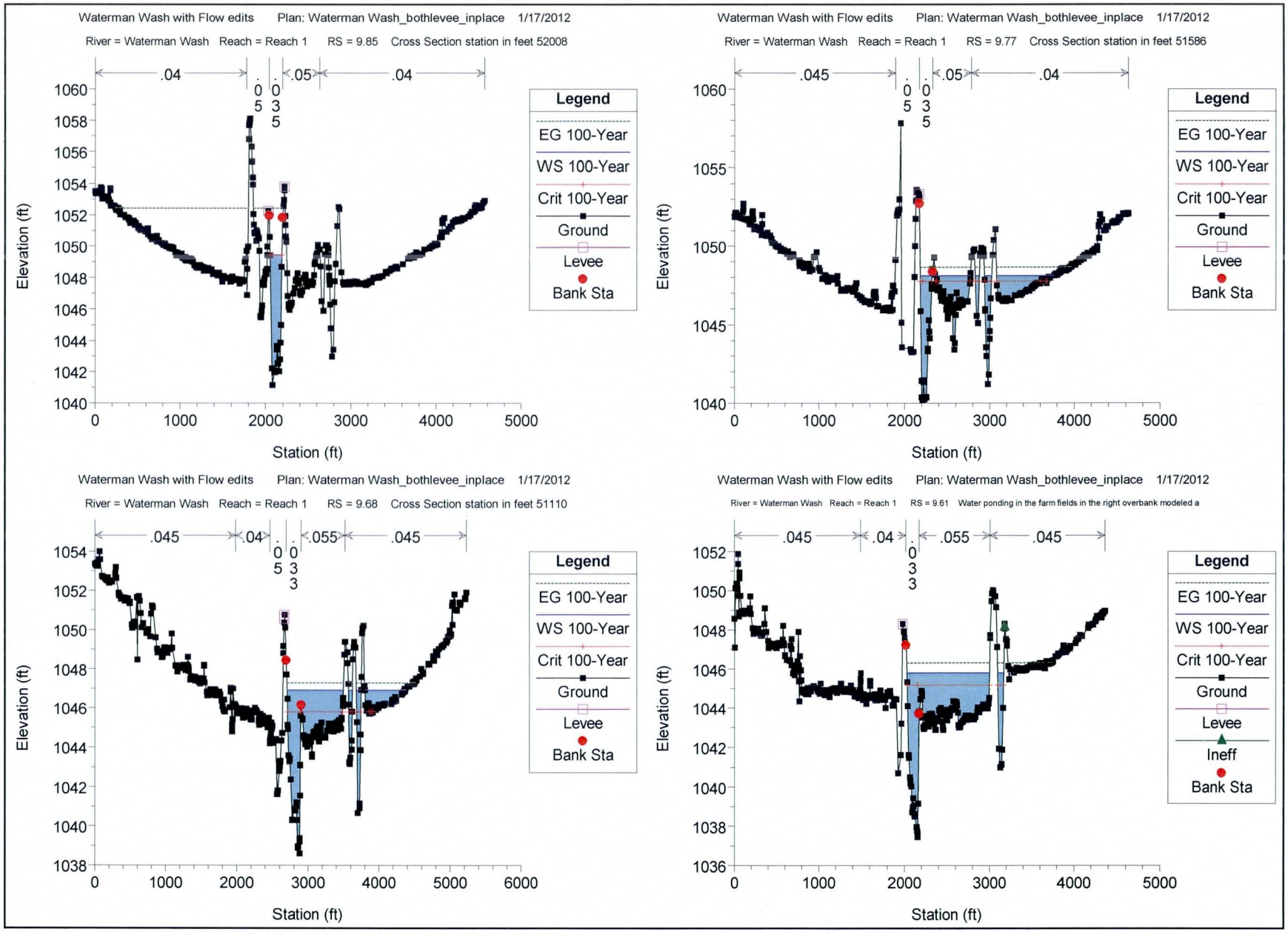

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.62 Water ponding in the farm fields in the left and right overbank
.04
.045
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.55 Water ponding in the farm fields in the left and right overbank
.04
.045
.05
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.45 Water ponding in the farm fields in the left and right overbank
.045
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.39 Water ponding in the farm fields in the left and right overbank
.04
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta

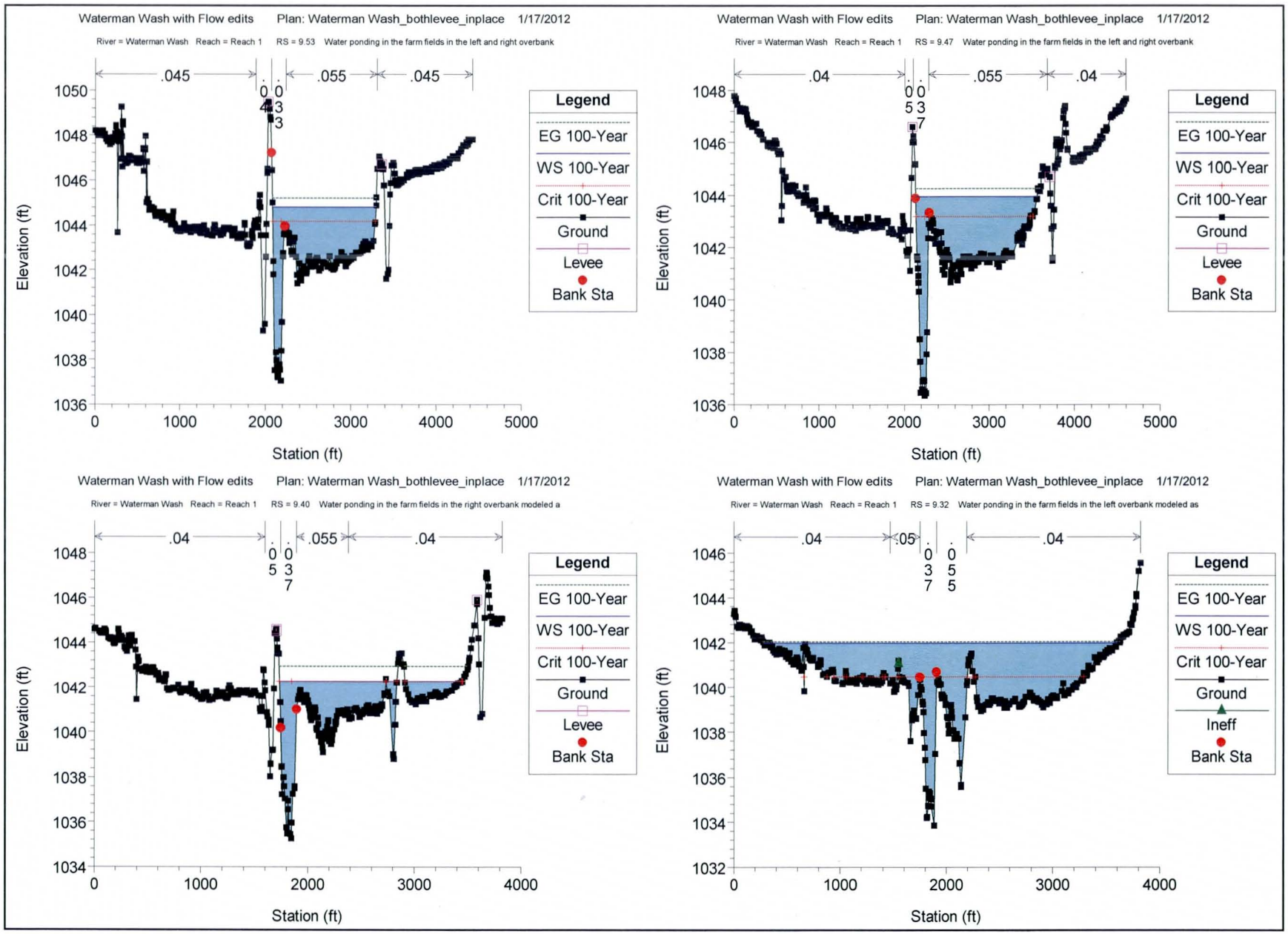

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.33 Water ponding in the farm fields in the left and right overbank
.04
.04
0 0 0 0
4 2 4 1
5 8 5 8
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.24 Water ponding in the farm fields in the left overbank modeled as
.04
.045
.04
0 0 0
4 2 1
5 8 8
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.16 Water ponding in the farm fields in the left overbank modeled as
.04
.045
.04
0 0
2 5
8 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.07 crosses Chandler Heights. Water ponding in the farm fields in t
.04
.055
.04
0 0 0
4 2 1
5 8 6
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

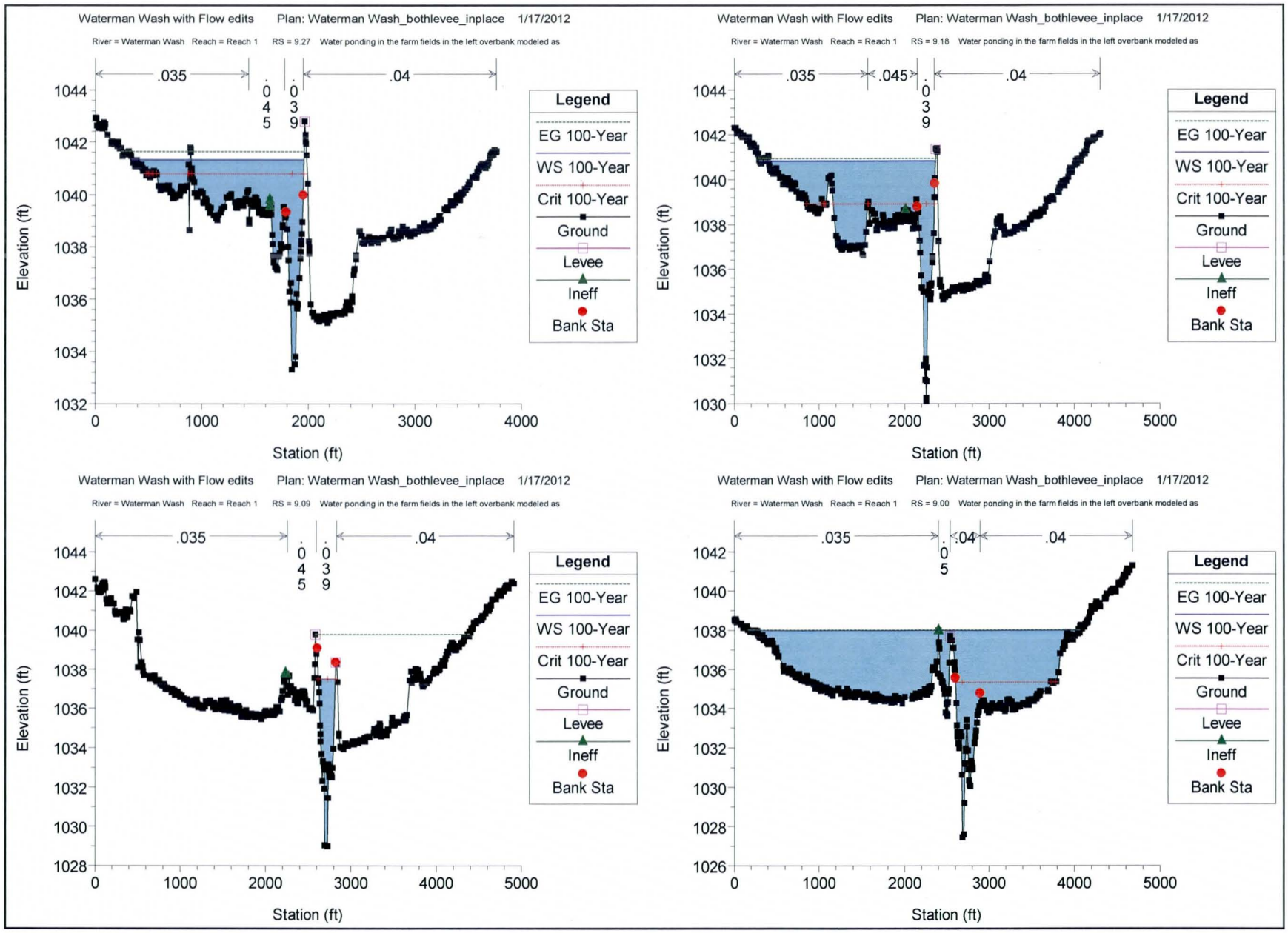

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.99 Water ponding in the farm fields in the left and right overbank
.04
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.92 crosses Chandler Heights. Water ponding in the farm fields in t
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.87 crosses Chandler Heights. Water ponding in the farm fields in t
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.75 Water ponding in the farm fields in the left overbank modeled as

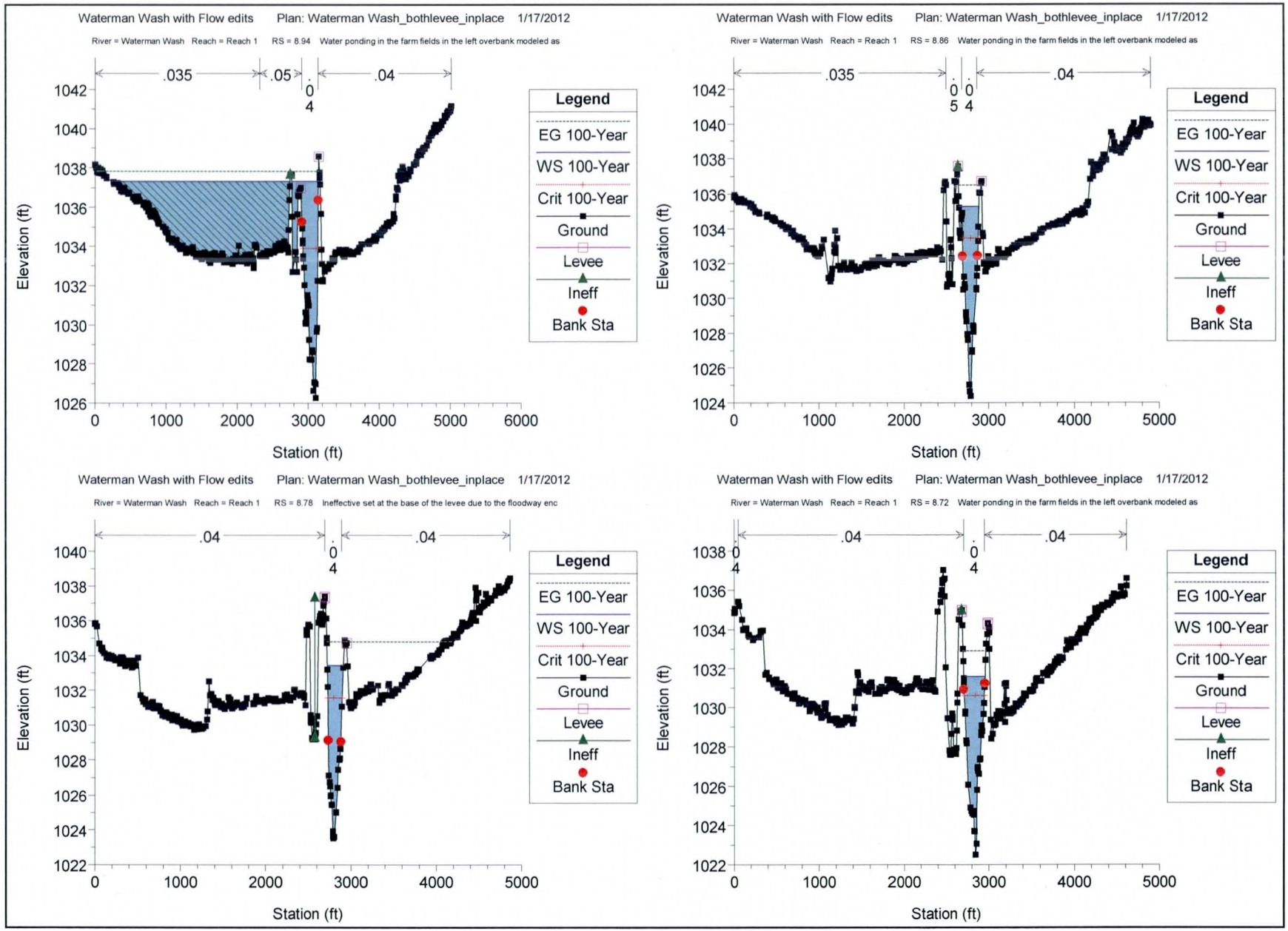

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.60 Cross Section station in feet 55968
.04
.04
0.055 0.035 0.055 0.016
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.45 Pond area located in the left overbank modeled as an ineffective
.04
.045
0.055 0.035 0.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.26 crosses Chandler Heights
.04
.055
.04
0.035
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.18 Cross Section station in feet 53750
.04
.04
0.055 0.035
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

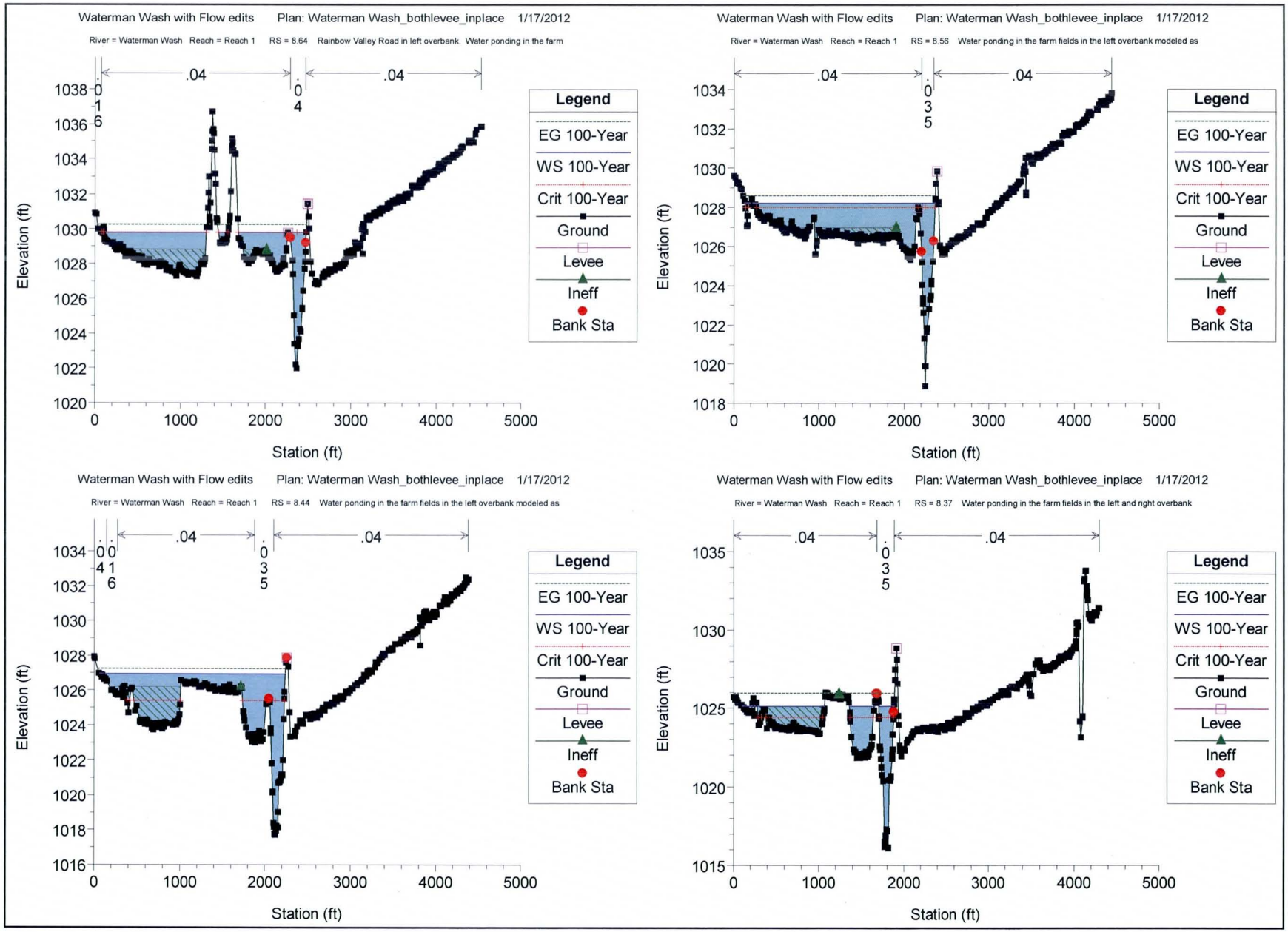

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.10 Cross Section station in feet 53328
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.04 Cross Section station in feet 53011
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.96 Cross Section station in feet 52589
.04
.05
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.91 Cross Section station in feet 52325
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.85 Cross Section station in feet 52008
.04
.05
.04
0.05
0.035
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.77 Cross Section station in feet 51586
.045
.05
.04
0.05
0.035
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.68 Cross Section station in feet 51110
.045
.04
.055
.045
0.05
0.033
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.61 Water ponding in the farm fields in the right overbank modeled a
.045
.04
.055
.045
0.033
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.53 Water ponding in the farm fields in the left and right overbank
.045
.055
.045
0.043
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.47 Water ponding in the farm fields in the left and right overbank
.04
.055
.04
0.053
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.40 Water ponding in the farm fields in the right overbank modeled a
.04
.055
.04
0.053
0.037
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.32 Water ponding in the farm fields in the left overbank modeled as
.04
.05
.04
0.037
0.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta

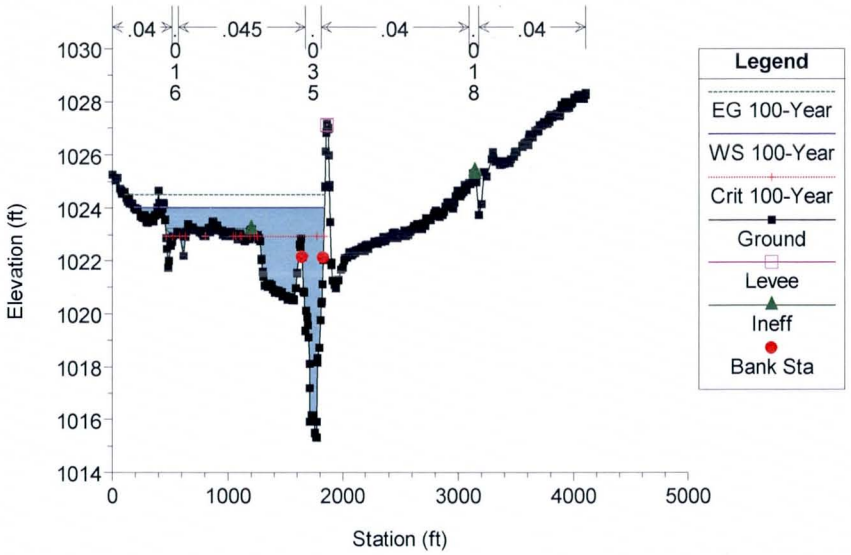

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.27 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.18 Water ponding in the farm fields in the left overbank modeled as
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.09 Water ponding in the farm fields in the left overbank modeled as
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.00 Water ponding in the farm fields in the left overbank modeled as


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.94 Water ponding in the farm fields in the left overbank modeled as
.035
.05
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.86 Water ponding in the farm fields in the left overbank modeled as
.035
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.78 Ineffective set at the base of the levee due to the floodway enc
.04
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.72 Water ponding in the farm fields in the left overbank modeled as
.04
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.64 Rainbow Valley Road in left overbank. Water ponding in the farm
.04
.04
.04
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.56 Water ponding in the farm fields in the left overbank modeled as
.04
.04
.04
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.44 Water ponding in the farm fields in the left overbank modeled as
.04
.04
.04
.041
.016
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.37 Water ponding in the farm fields in the left and right overbank
.04
.04
.04
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

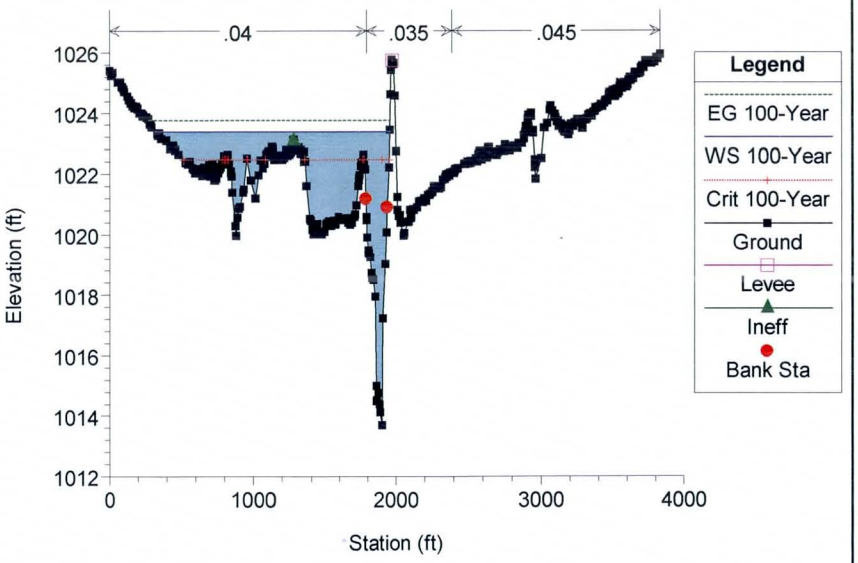
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012

River = Waterman Wash Reach = Reach 1 RS = 8.29 Water ponding in the farm fields in the left and right overbank



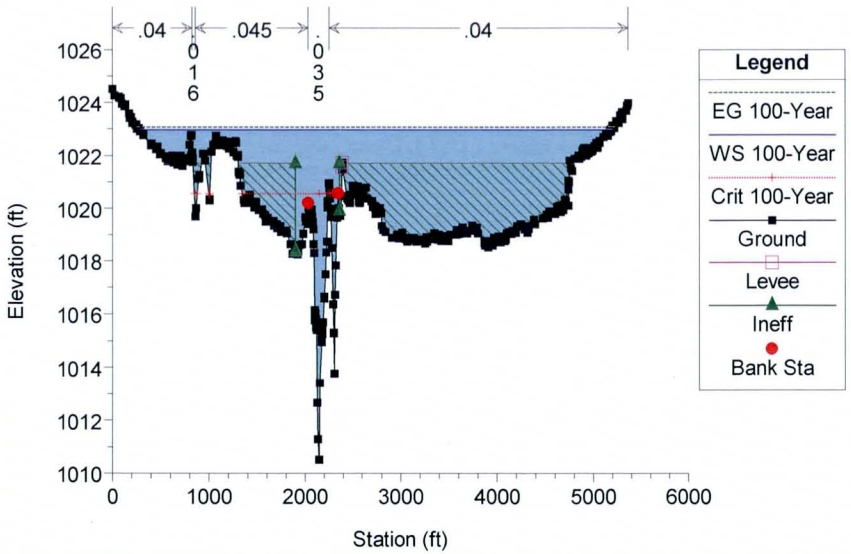
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012

River = Waterman Wash Reach = Reach 1 RS = 8.23 Water ponding in the farm fields in the left overbank modeled as



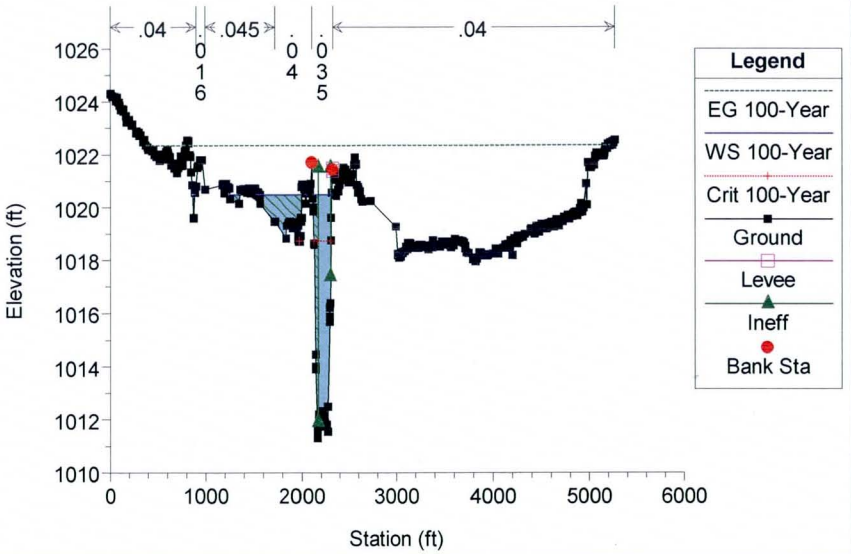
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012

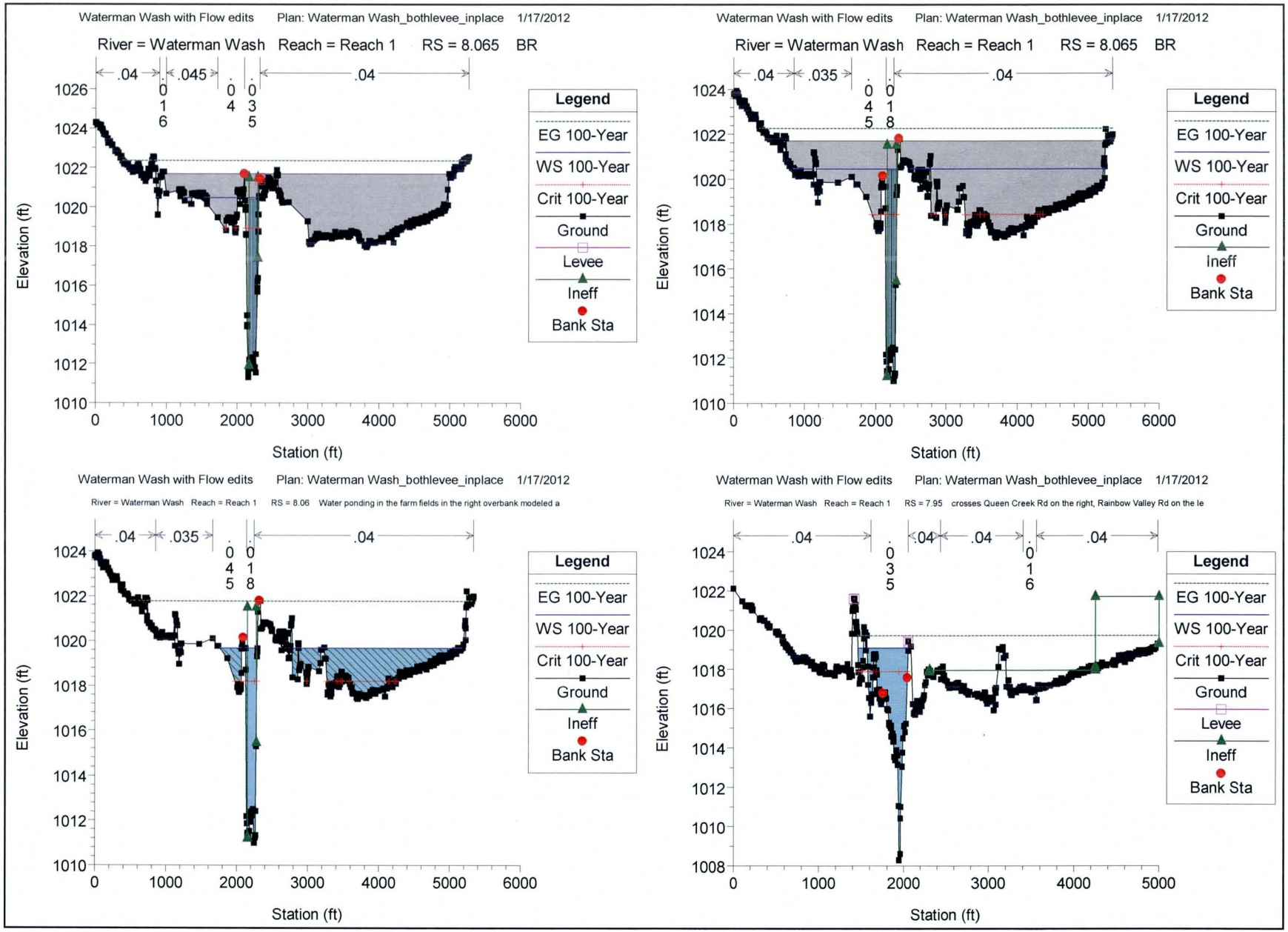
River = Waterman Wash Reach = Reach 1 RS = 8.10 US cross section of Bridged crossing for Rainbow Valley Rd. Wat

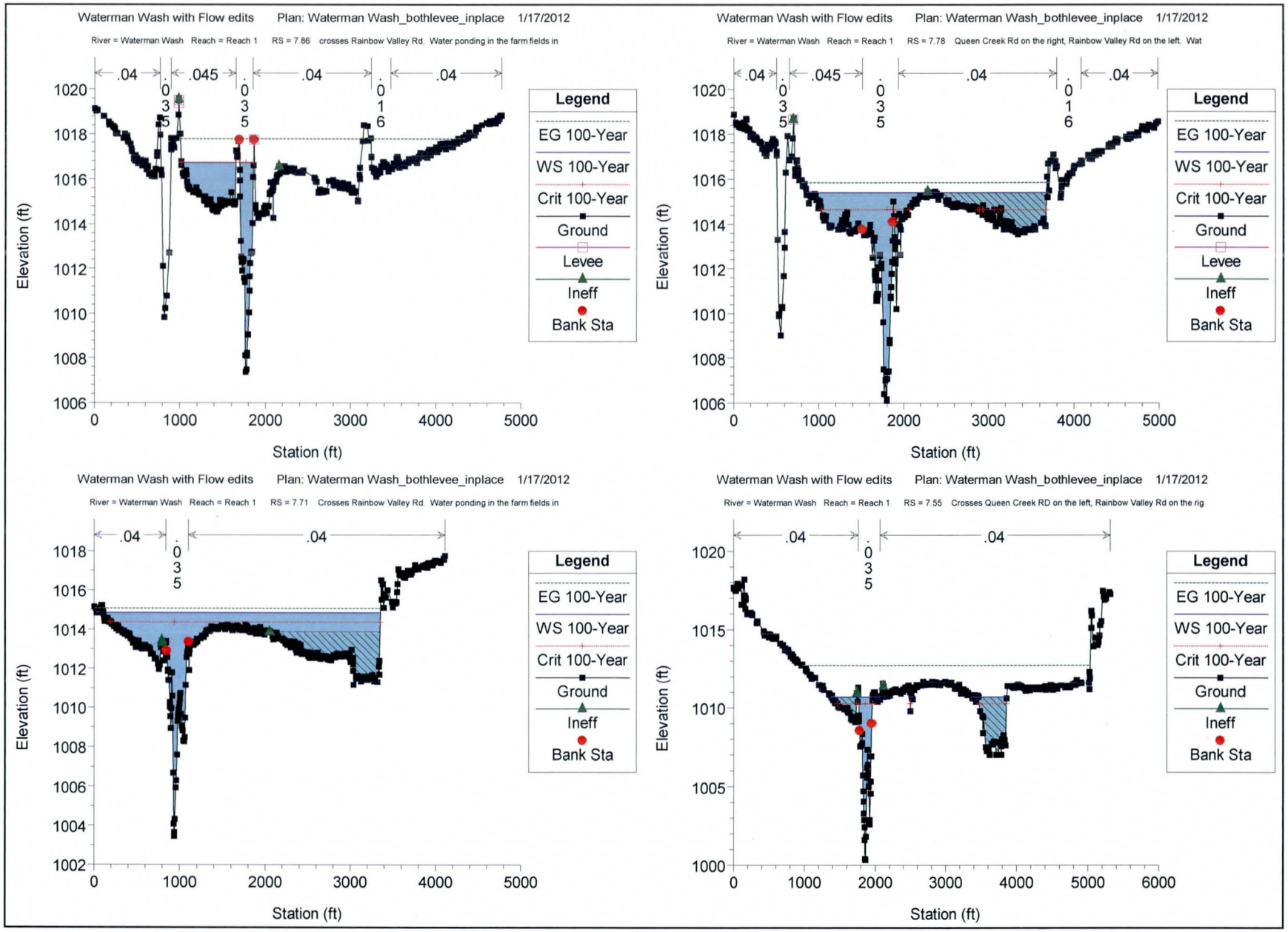


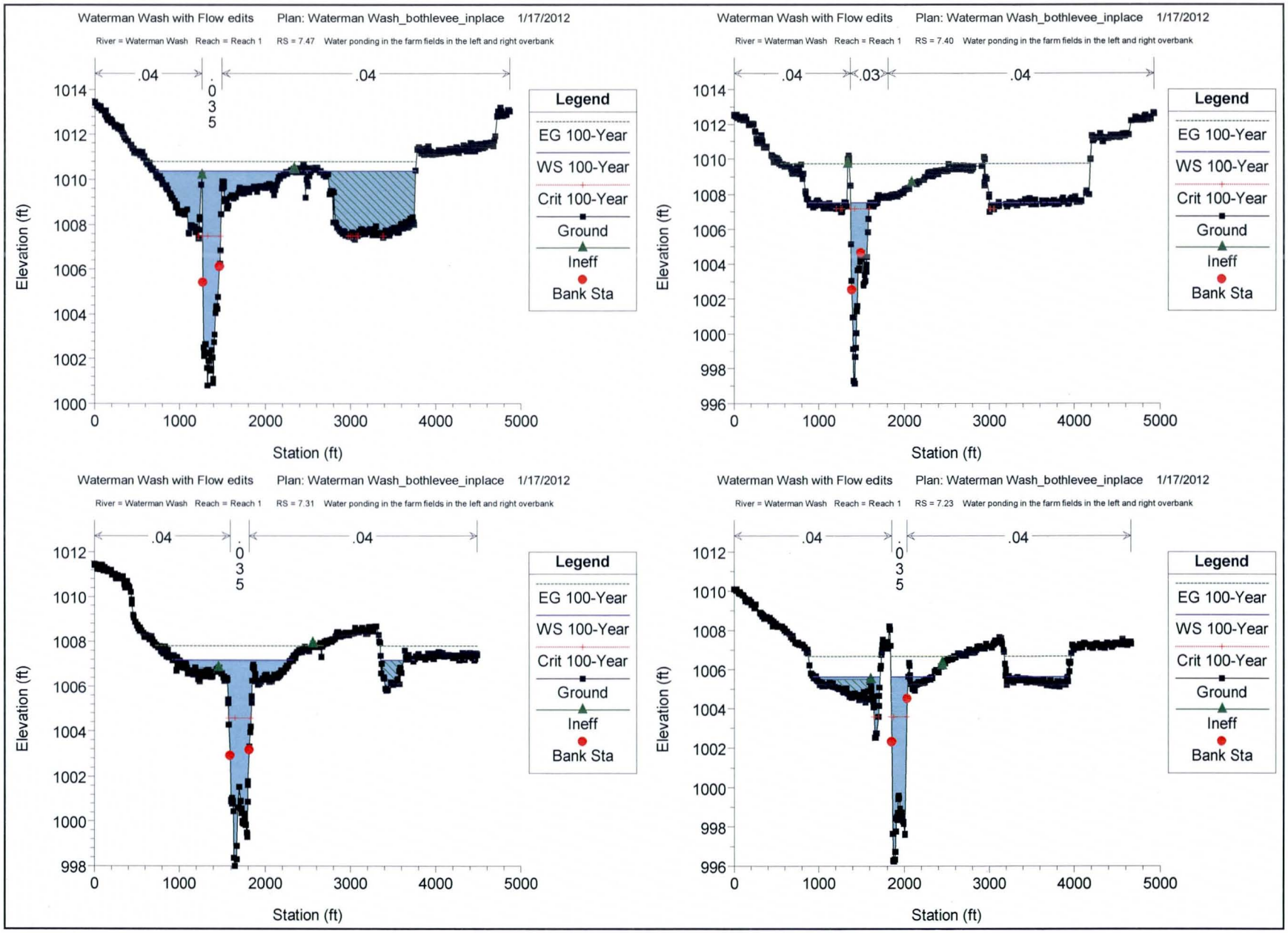
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012

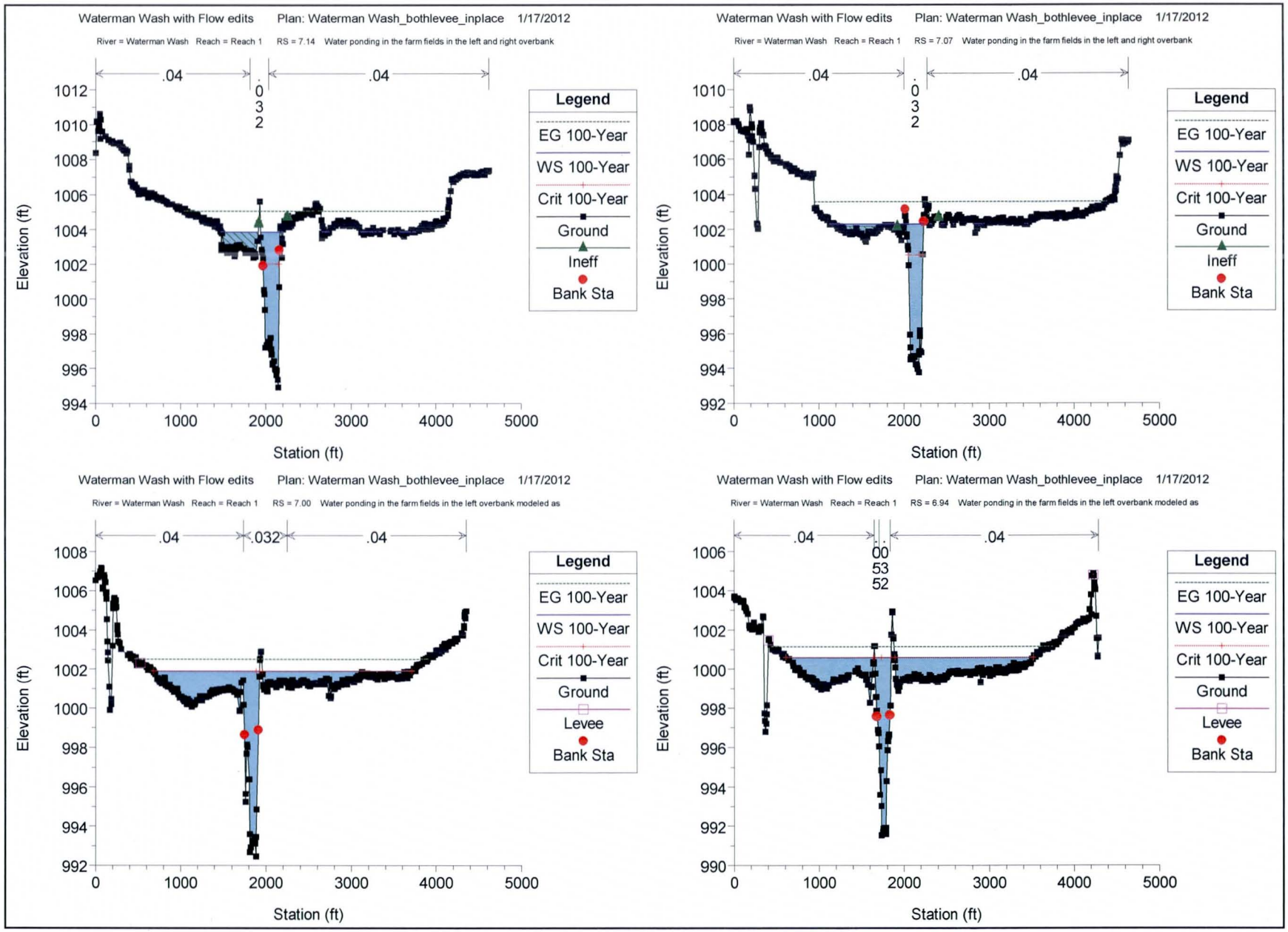
River = Waterman Wash Reach = Reach 1 RS = 8.07 Water ponding in the farm fields in the right overbank modeled a

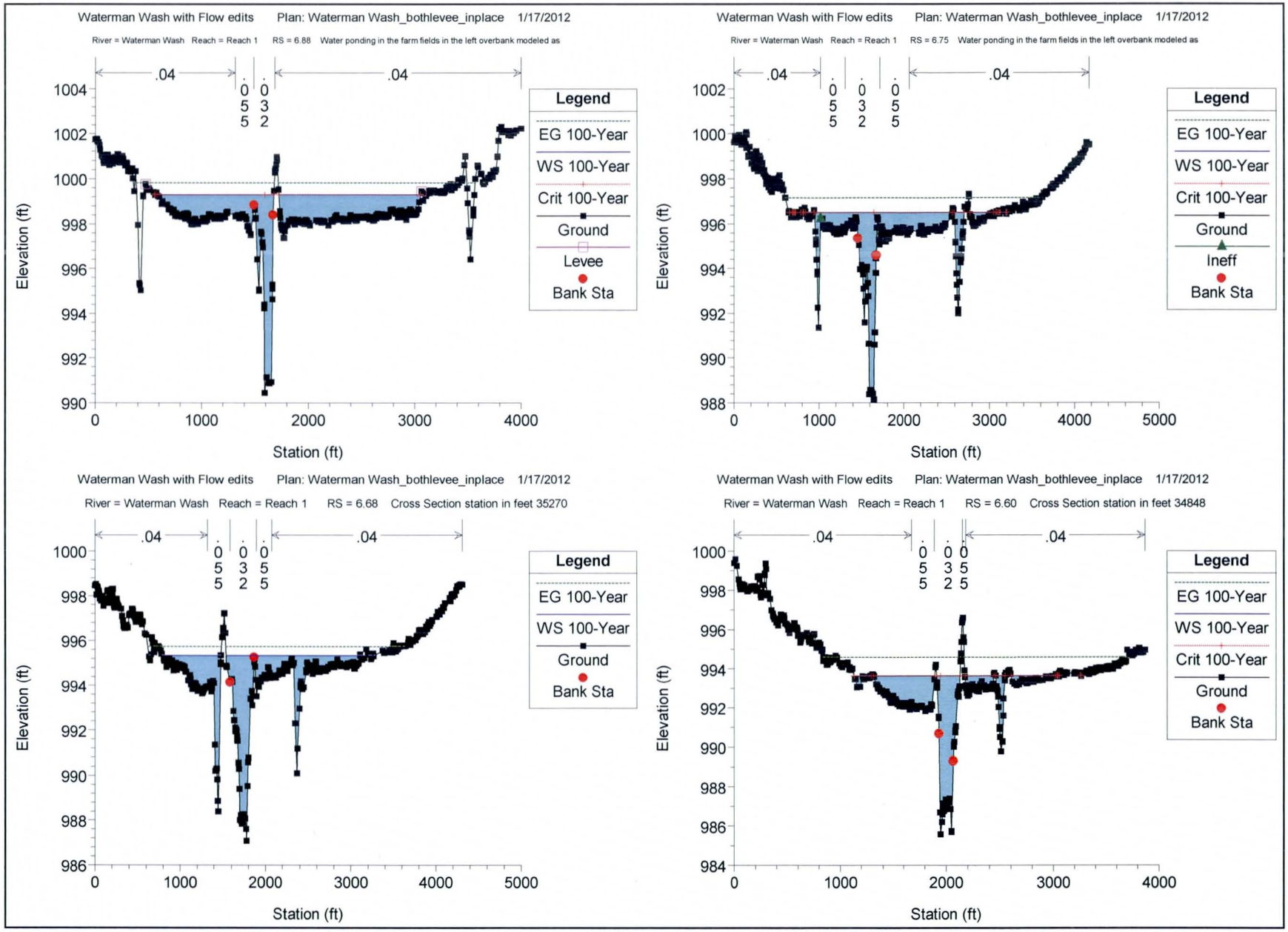


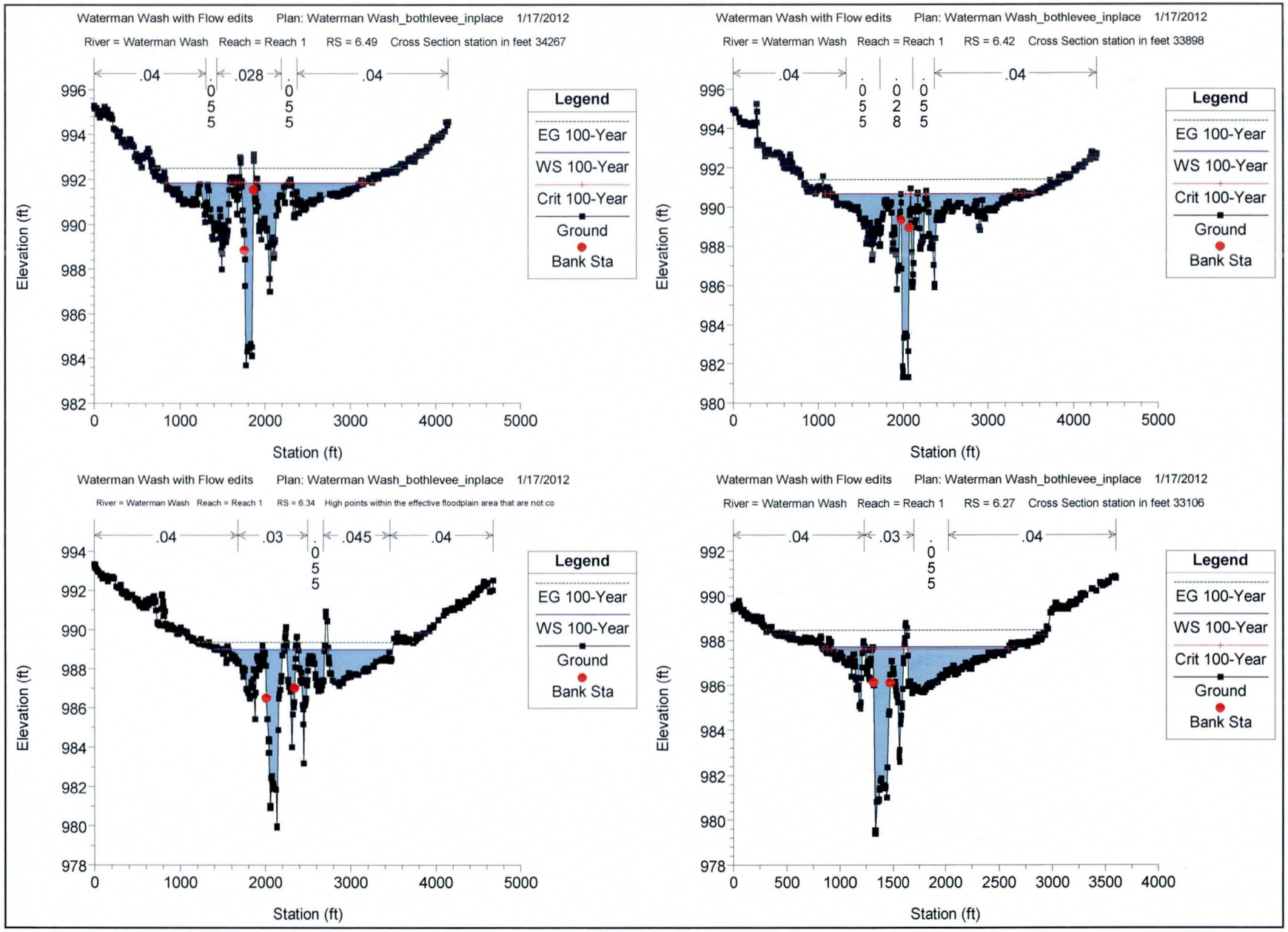

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.065 BR
.04 .045 .04
.016 .045 .035
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.065 BR
.04 .035 .04
.045 .018
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.06 Water ponding in the farm fields in the right overbank modeled a
.04 .035 .04
.045 .018
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.95 crosses Queen Creek Rd on the right, Rainbow Valley Rd on the le
.04 .04 .04 .04
.035 .016
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta

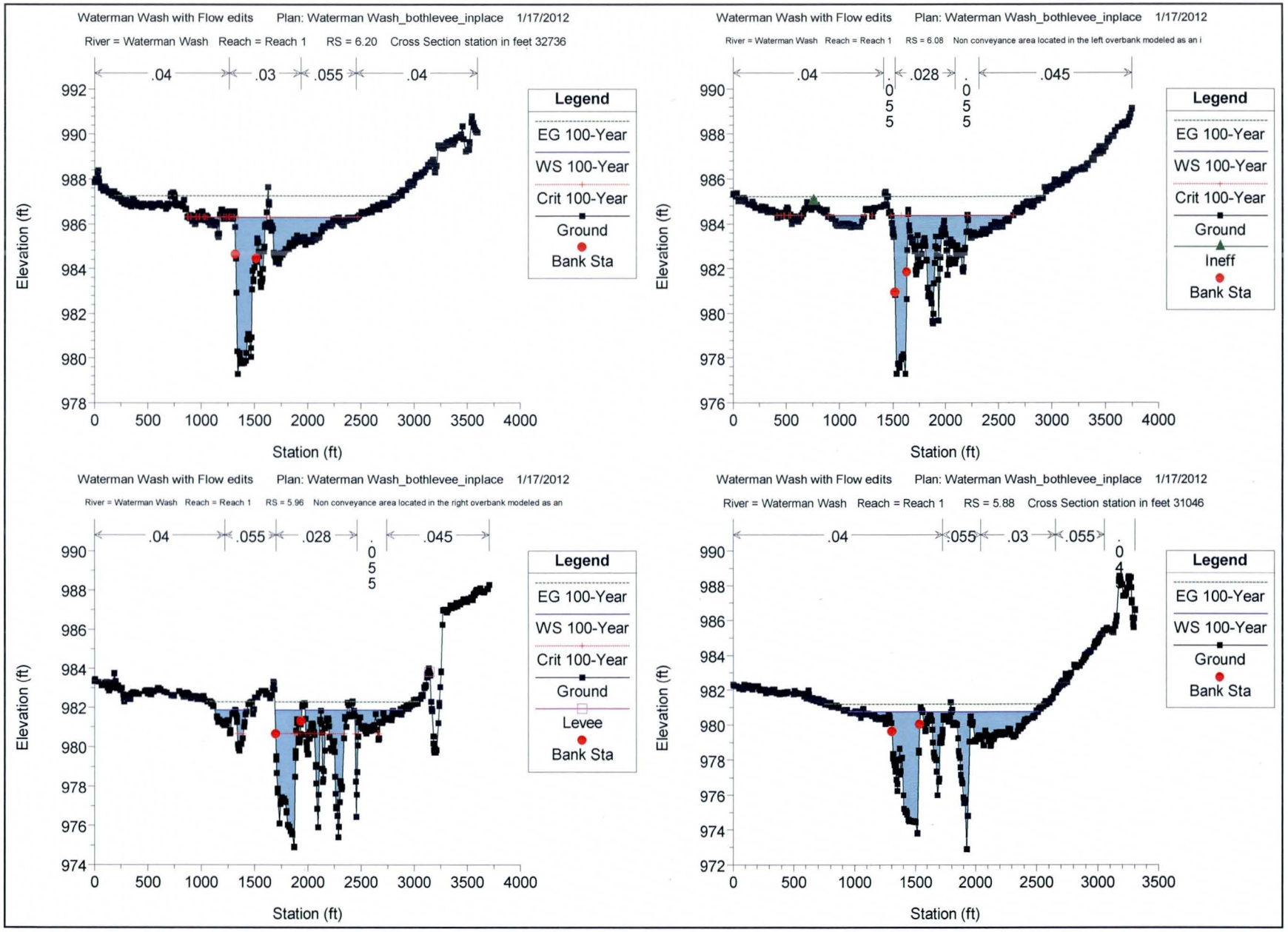

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.86 crosses Rainbow Valley Rd. Water ponding in the farm fields in
.04
.035
.045
.035
.04
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.78 Queen Creek Rd on the right, Rainbow Valley Rd on the left. Wat
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.71 Crosses Rainbow Valley Rd. Water ponding in the farm fields in
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.55 Crosses Queen Creek RD on the left, Rainbow Valley Rd on the rig

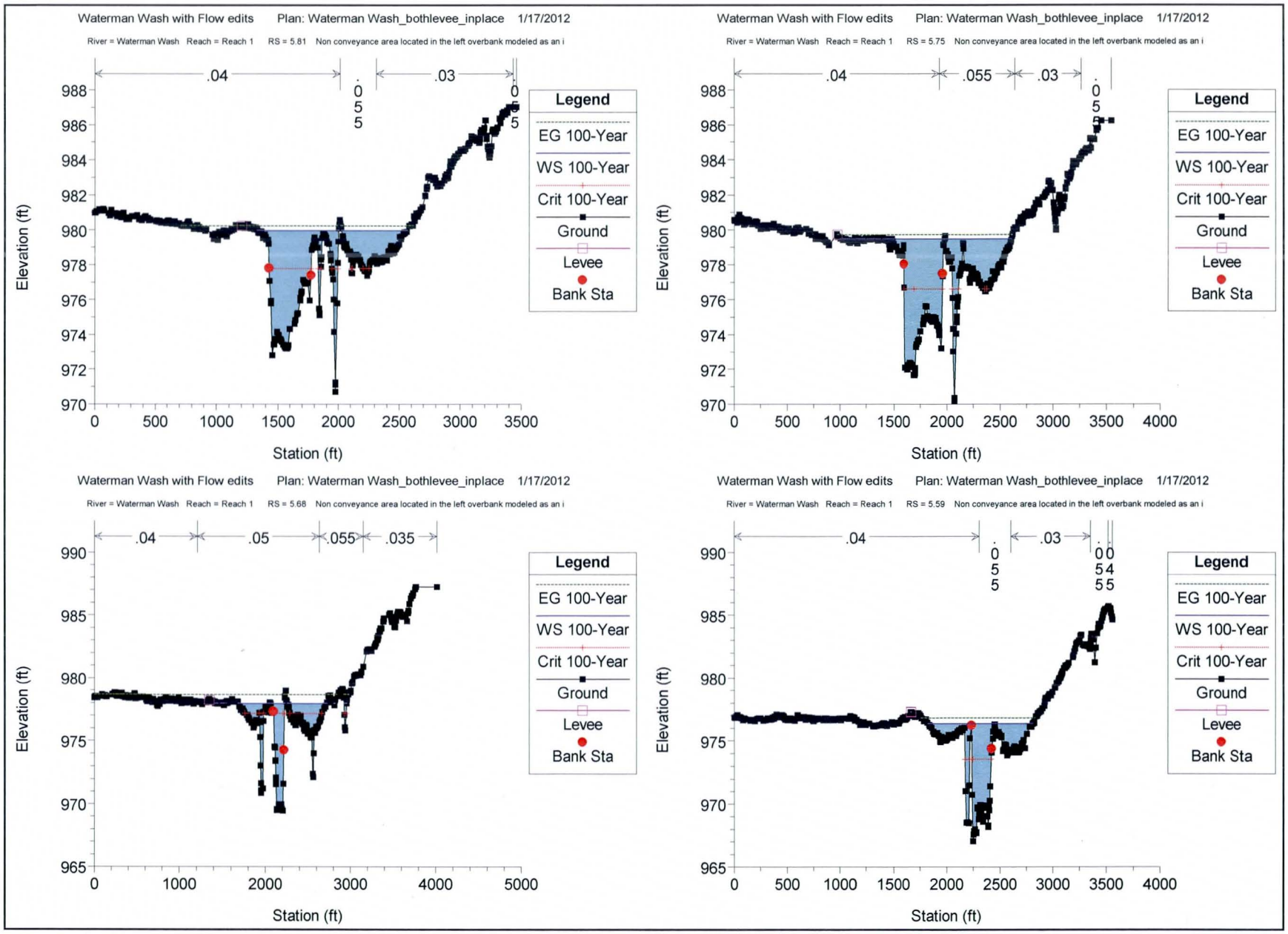

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.47 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.40 Water ponding in the farm fields in the left and right overbank
.04
.03
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.31 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.23 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

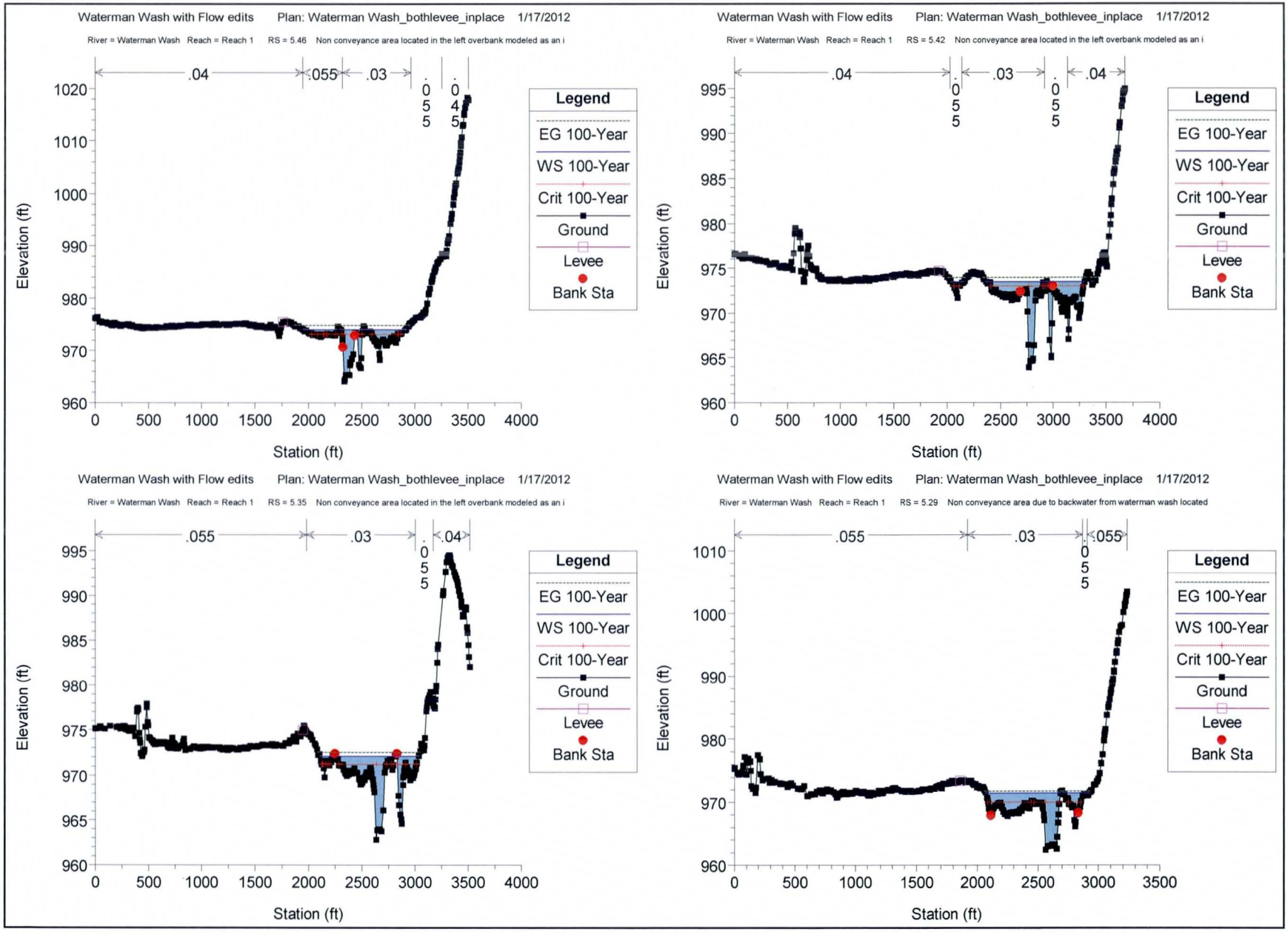

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.14 Water ponding in the farm fields in the left and right overbank
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.07 Water ponding in the farm fields in the left and right overbank
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.00 Water ponding in the farm fields in the left overbank modeled as
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.94 Water ponding in the farm fields in the left overbank modeled as
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

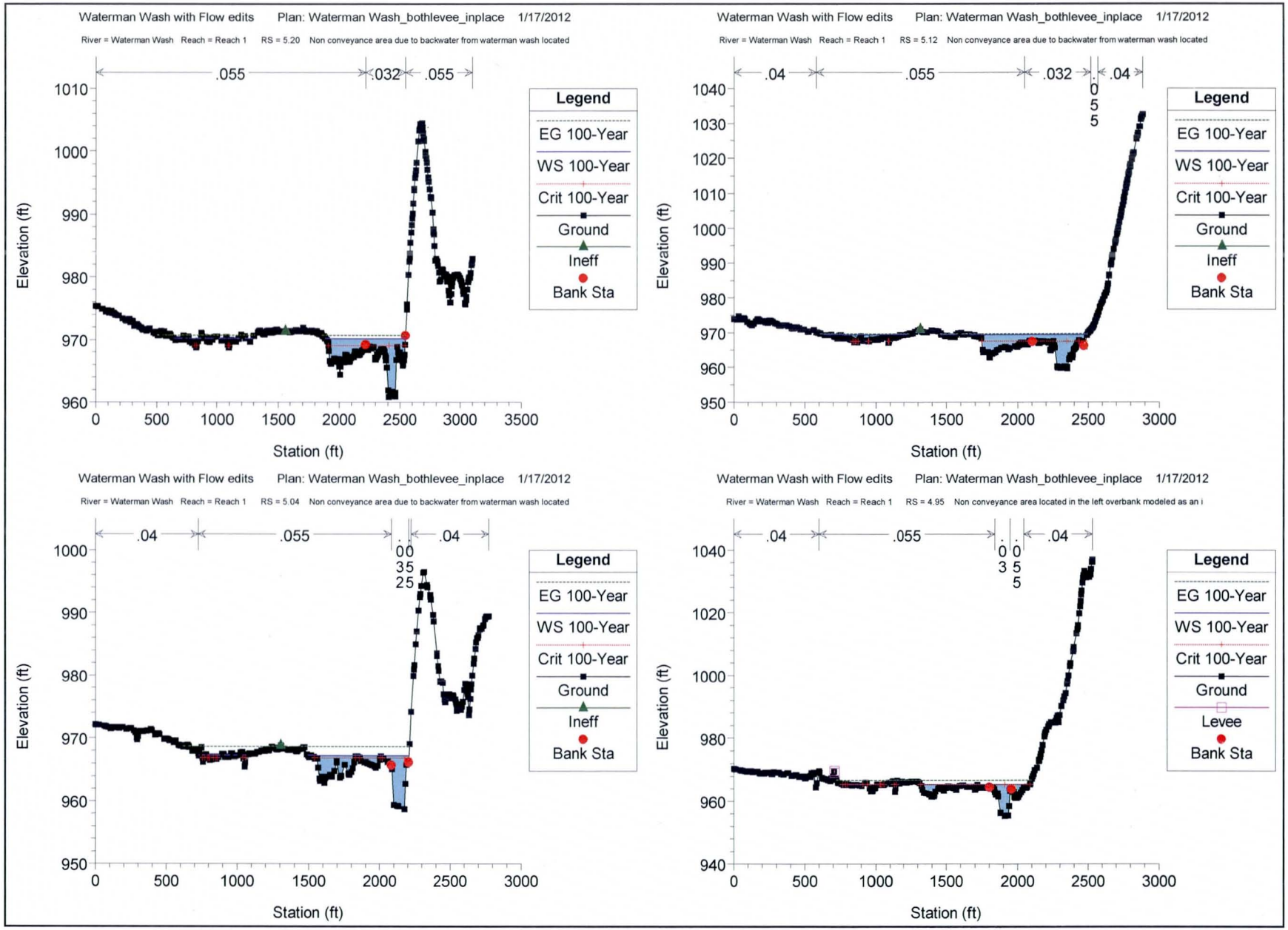

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.88 Water ponding in the farm fields in the left overbank modeled as
.04 .055 .032 .04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.75 Water ponding in the farm fields in the left overbank modeled as
.04 .055 .032 .055 .04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.68 Cross Section station in feet 35270
.04 .055 .032 .055 .04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.60 Cross Section station in feet 34848
.04 .055 .032 .055 .04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

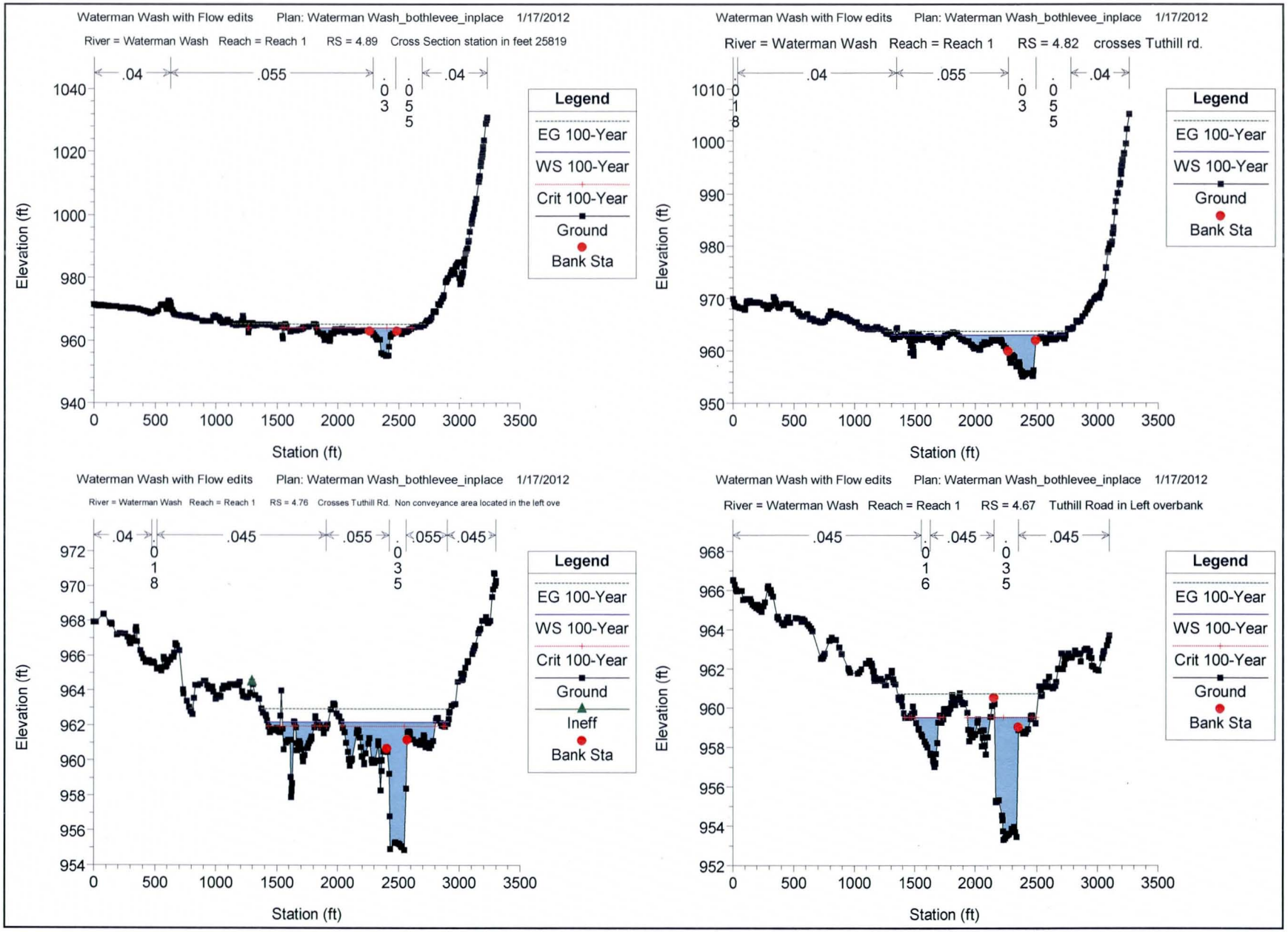

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.49 Cross Section station in feet 34267
.04
.055
.028
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.42 Cross Section station in feet 33898
.04
.055
.028
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.34 High points within the effective floodplain area that are not co
.04
.03
.055
.045
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.27 Cross Section station in feet 33106
.04
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

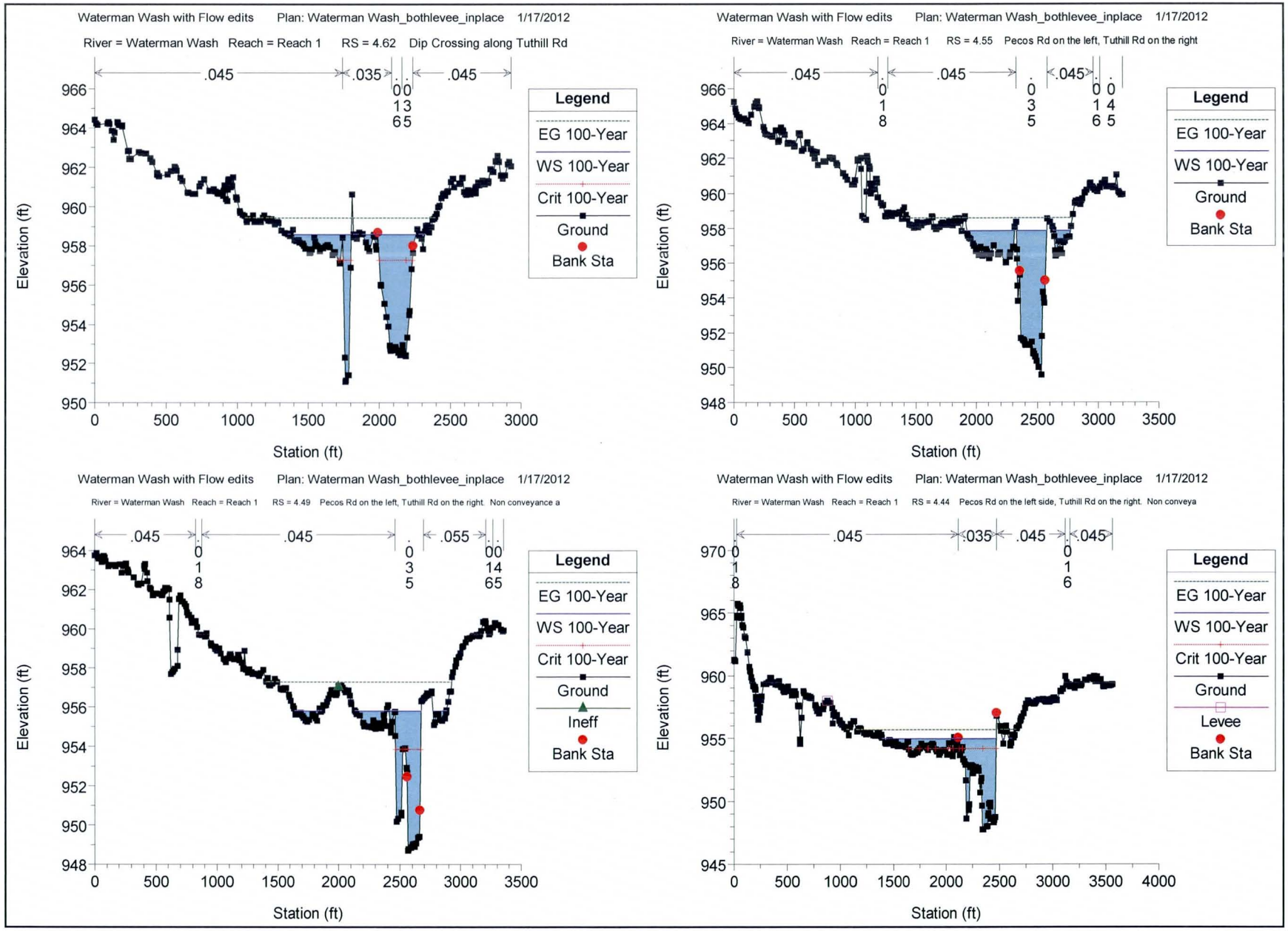

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.20 Cross Section station in feet 32736
.04
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.08 Non conveyance area located in the left overbank modeled as an i
.04
.055
.028
.055
.045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.96 Non conveyance area located in the right overbank modeled as an
.04
.055
.028
.055
.045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.88 Cross Section station in feet 31046
.04
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta

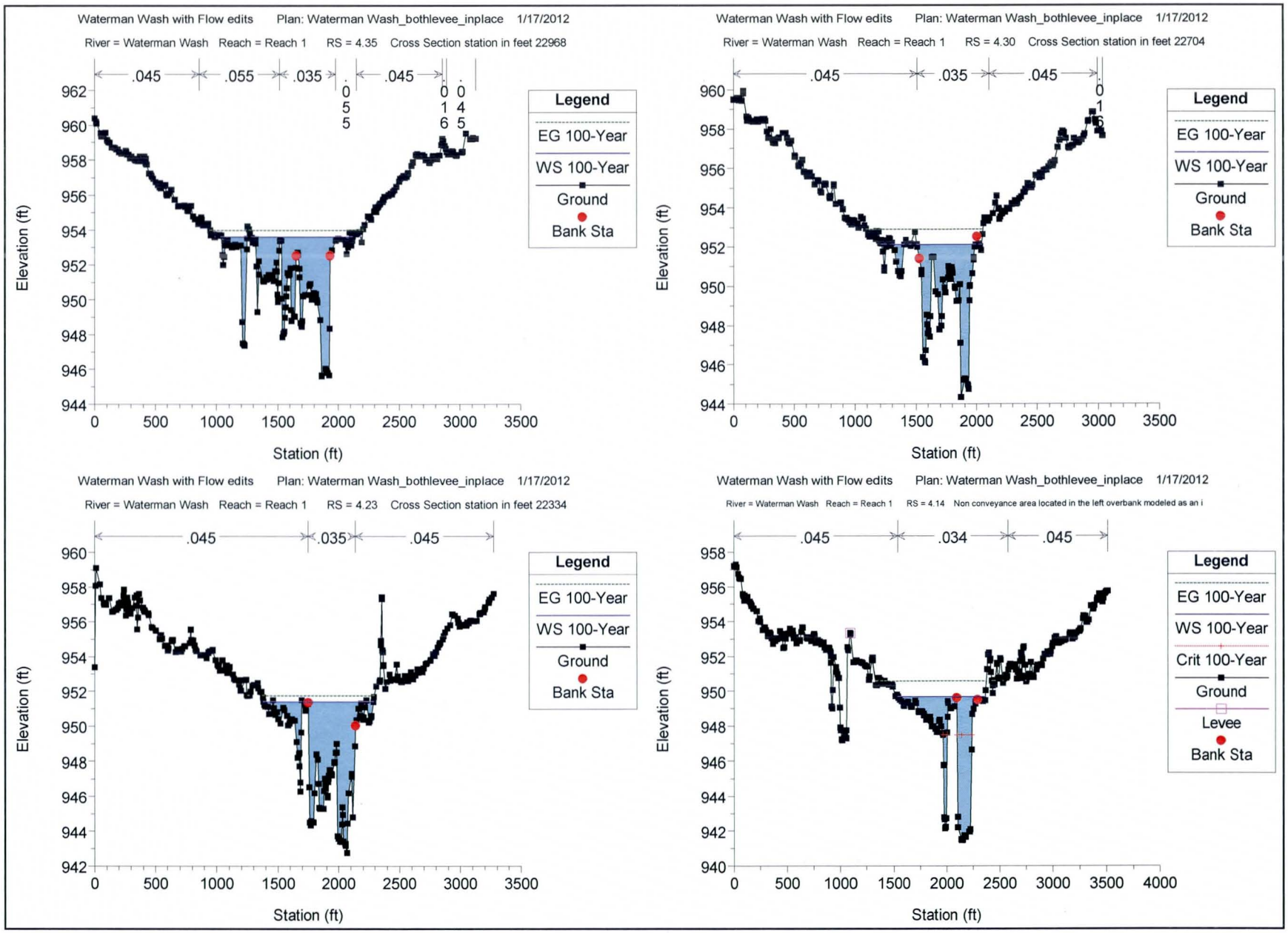

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.81 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.75 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.68 Non conveyance area located in the left overbank modeled as an i
.04
.05
.055
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.59 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

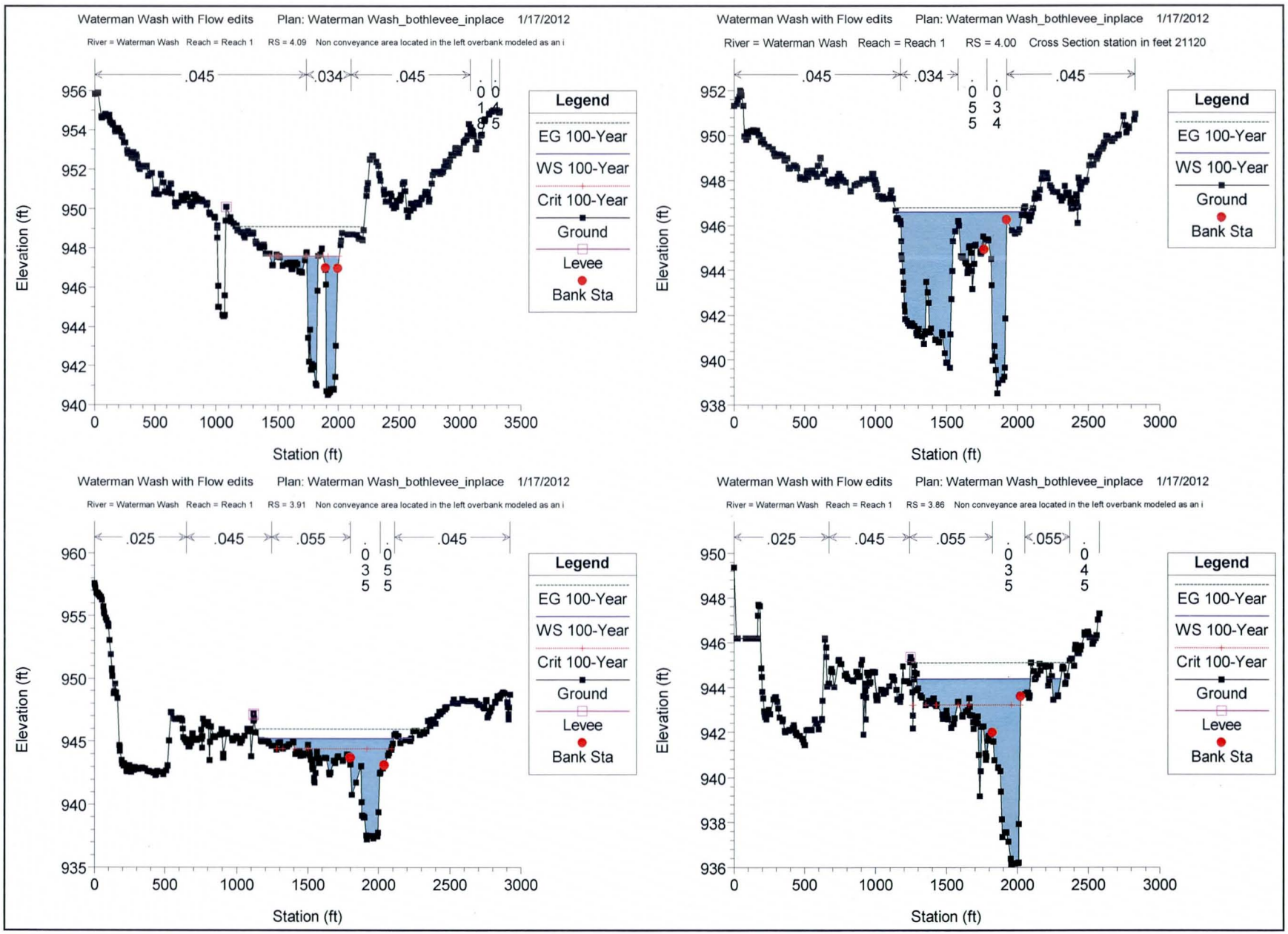

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.46 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
.045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.42 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.35 Non conveyance area located in the left overbank modeled as an i
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.29 Non conveyance area due to backwater from waterman wash located
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

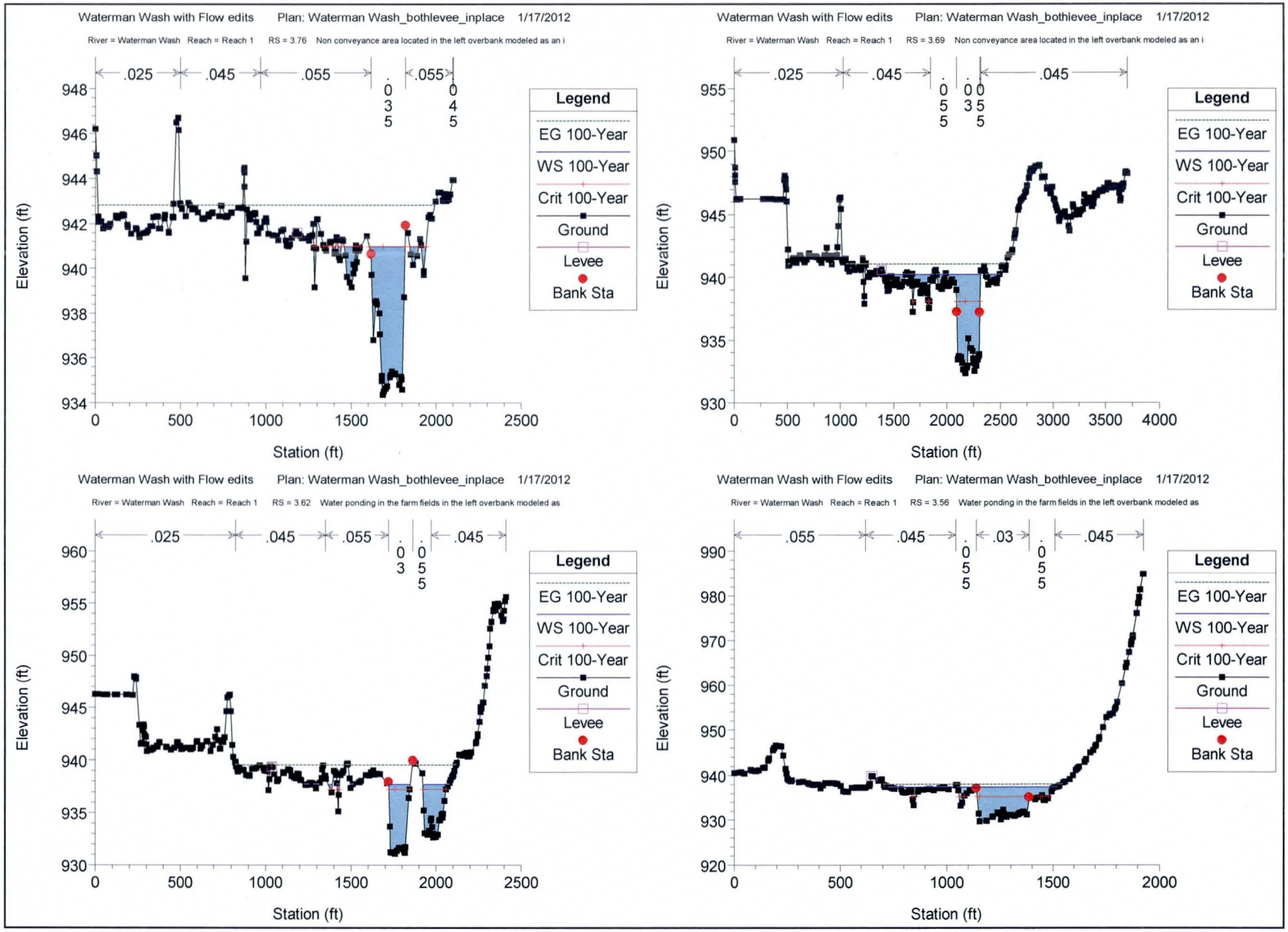

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.20 Non conveyance area due to backwater from waterman wash located
.055
.032
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.12 Non conveyance area due to backwater from waterman wash located
.04
.055
.032
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.04 Non conveyance area due to backwater from waterman wash located
.04
.055
.035
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.95 Non conveyance area located in the left overbank modeled as an i
.04
.055
.035
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

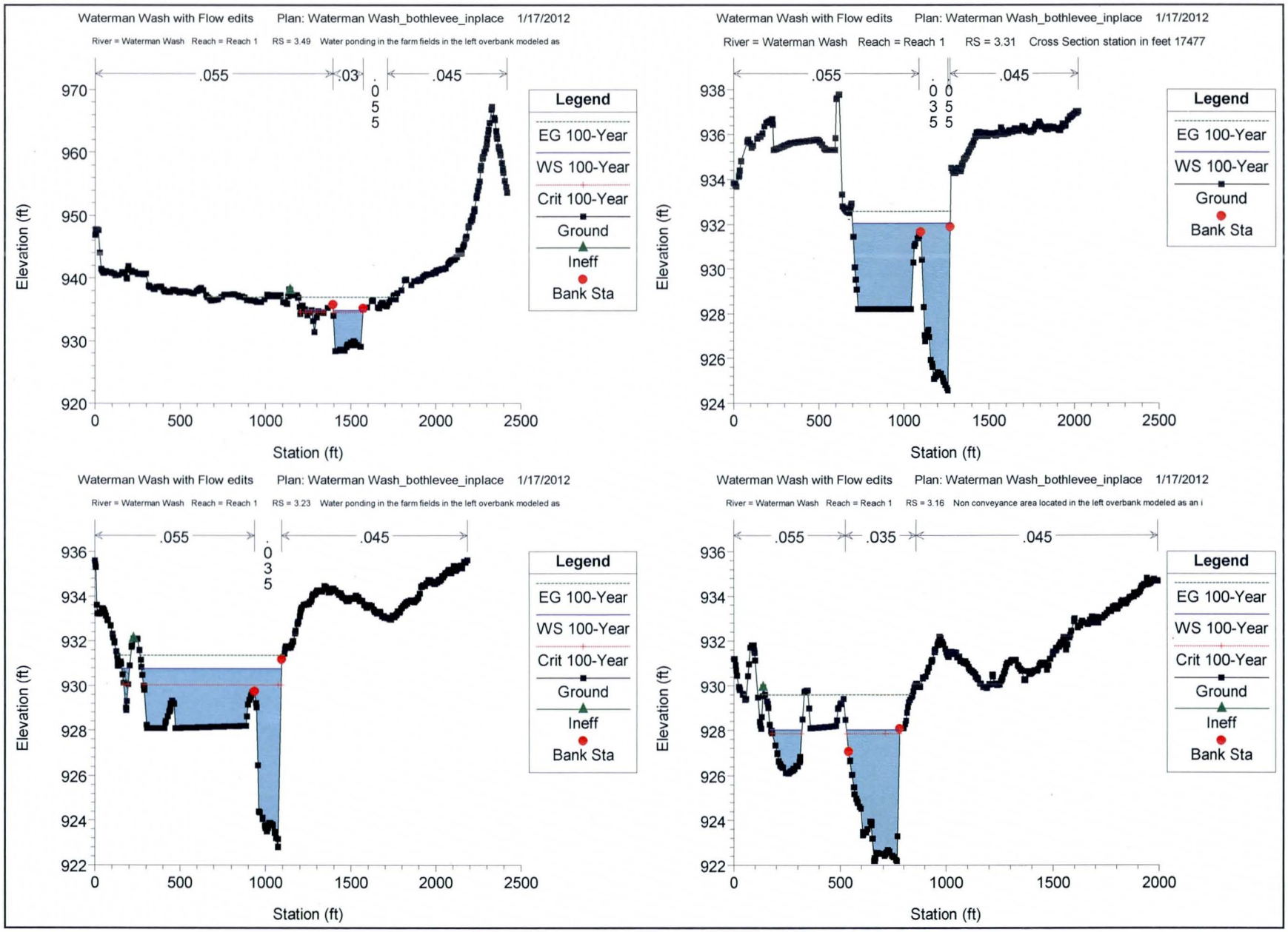

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.89 Cross Section station in feet 25819
.04 .055 .03 .055 .04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.82 crosses Tuthill rd.
.018 .04 .055 .03 .055 .04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.76 Crosses Tuthill Rd. Non conveyance area located in the left ove
.04 .018 .045 .055 .035 .055 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.67 Tuthill Road in Left overbank
.045 .016 .045 .035 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta

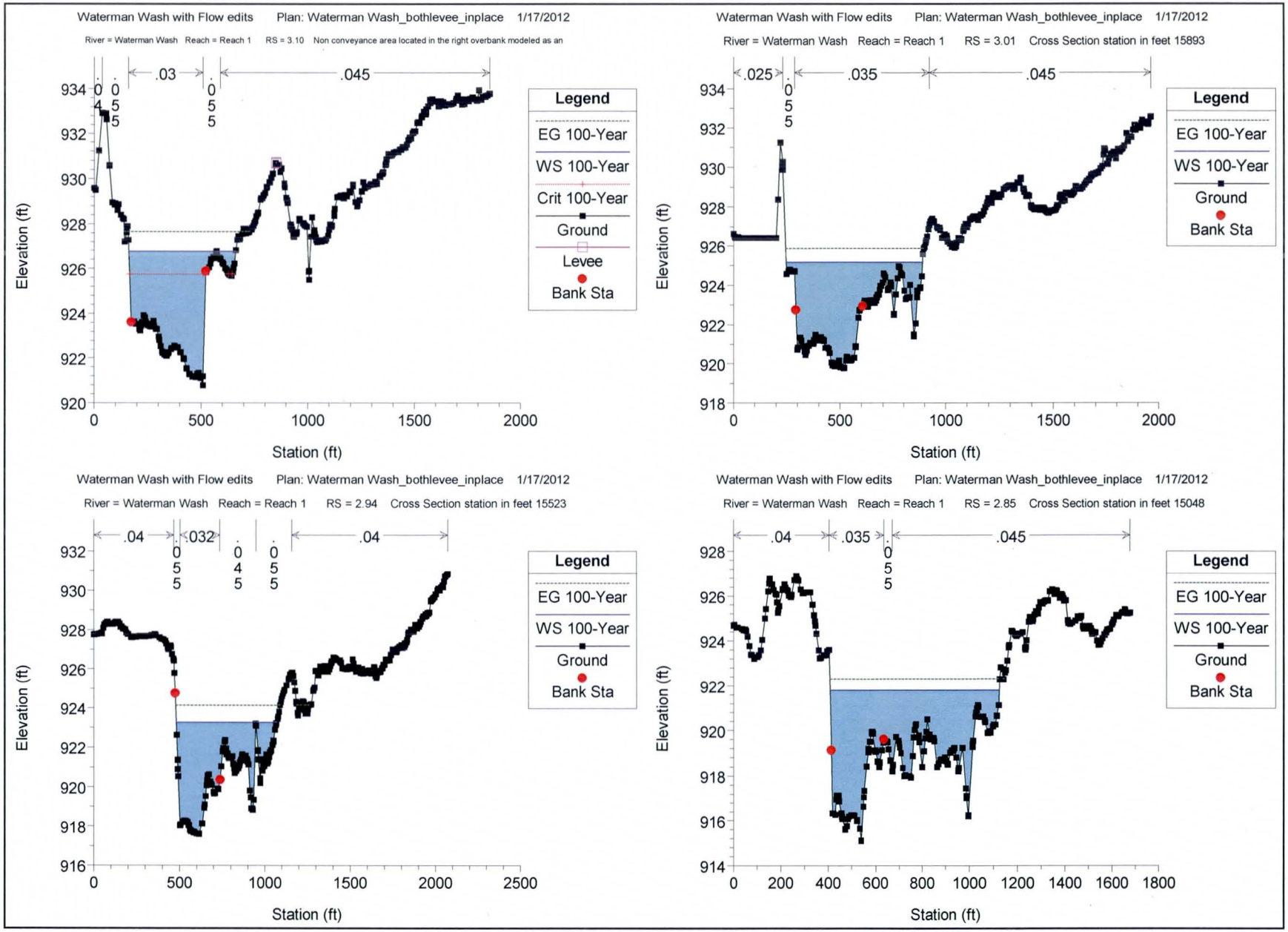

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.62 Dip Crossing along Tuthill Rd
.045 .035 .045
0 0
1 3
6 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.55 Pecos Rd on the left, Tuthill Rd on the right
.045 .045 .045
0 0 0 0
1 3 1 4
8 5 6 5
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.49 Pecos Rd on the left, Tuthill Rd on the right. Non conveyance a
.045 .045 .055
0 0 0
1 3 1
8 5 4
6 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.44 Pecos Rd on the left side, Tuthill Rd on the right. Non conveya
.045 .035 .045 .045
0 0
1 1
8 6
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

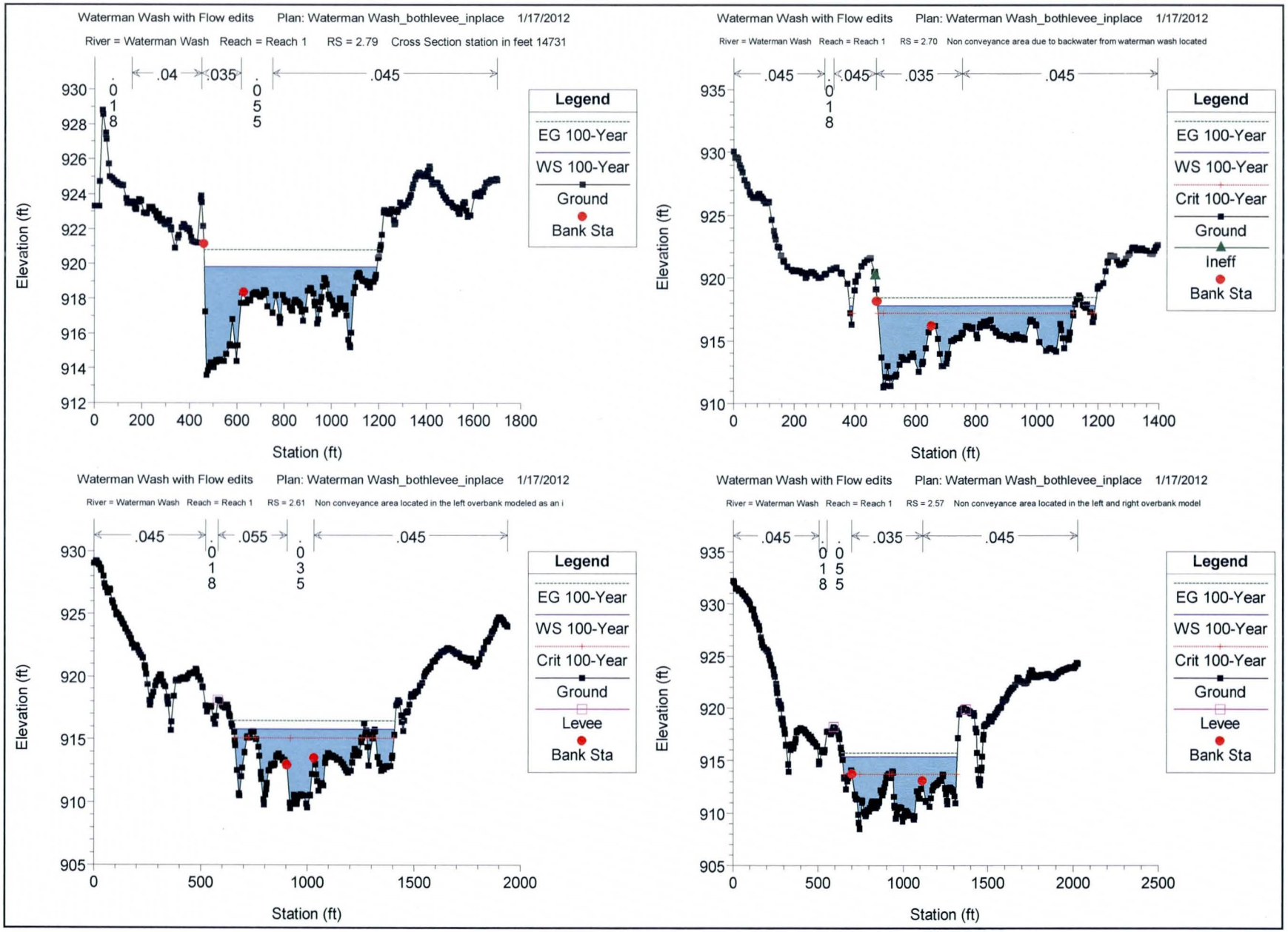

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.35 Cross Section station in feet 22968
.045 .055 .035 .055 .045 .016 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.30 Cross Section station in feet 22704
.045 .035 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.23 Cross Section station in feet 22334
.045 .035 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.14 Non conveyance area located in the left overbank modeled as an i
.045 .034 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

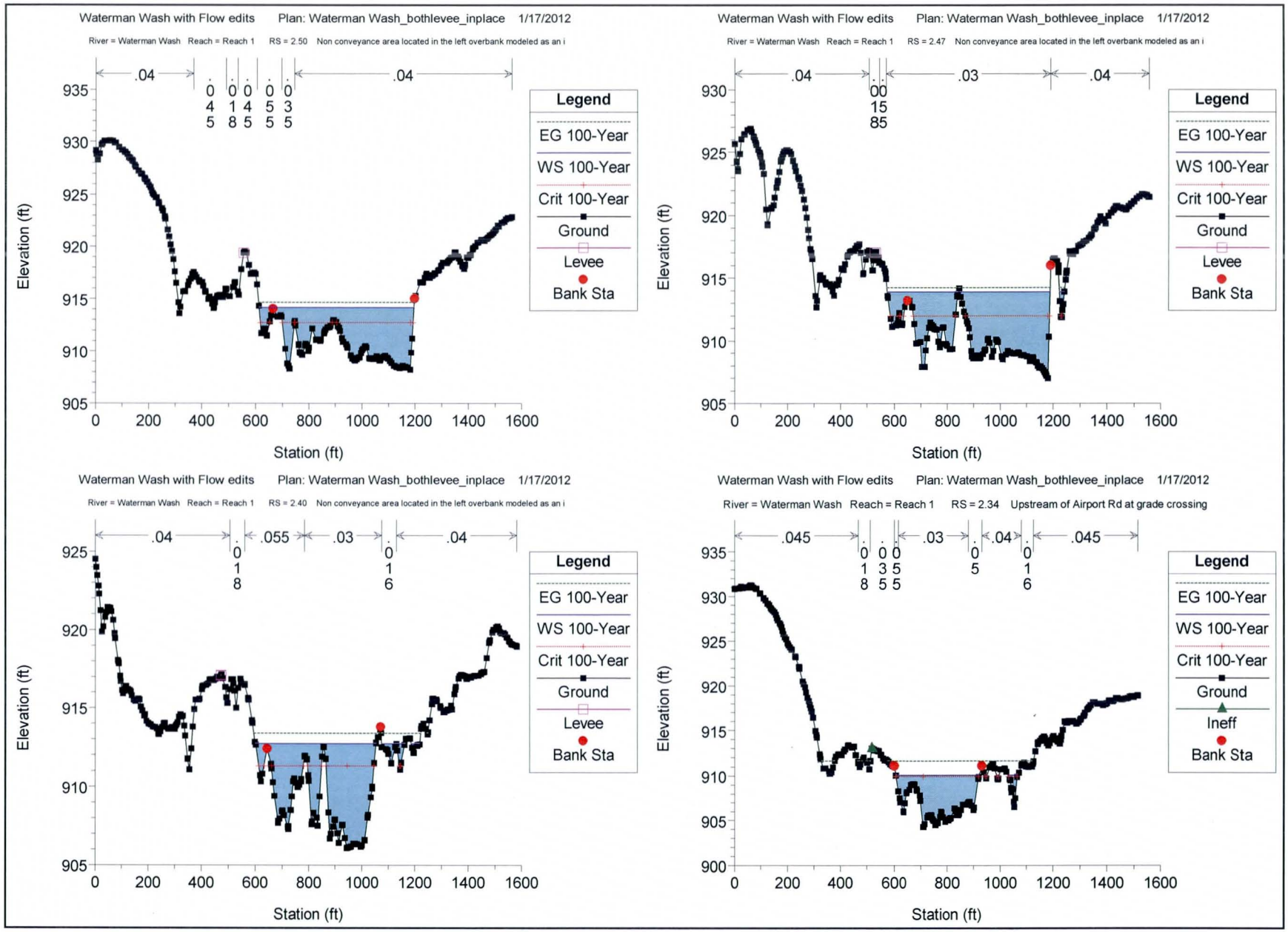

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.09 Non conveyance area located in the left overbank modeled as an i
.045
.034
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.00 Cross Section station in feet 21120
.045
.034
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.91 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.86 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

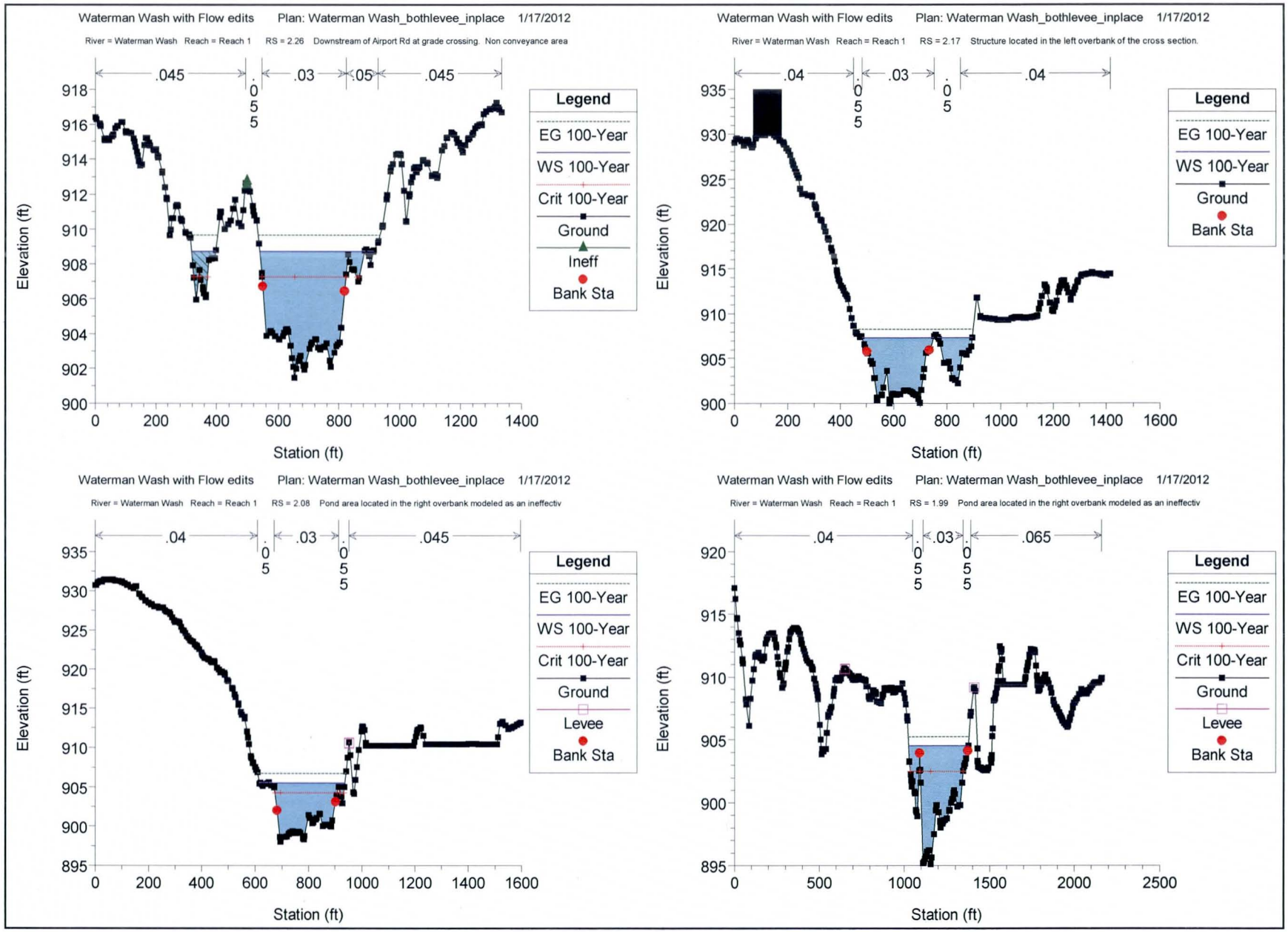

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.76 Non conveyance area located in the left overbank modeled as an i
.025 .045 .055 .035 .055 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.69 Non conveyance area located in the left overbank modeled as an i
.025 .045 .055 .035 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.62 Water ponding in the farm fields in the left overbank modeled as
.025 .045 .055 .035 .055 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.56 Water ponding in the farm fields in the left overbank modeled as
.055 .045 .055 .03 .055 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

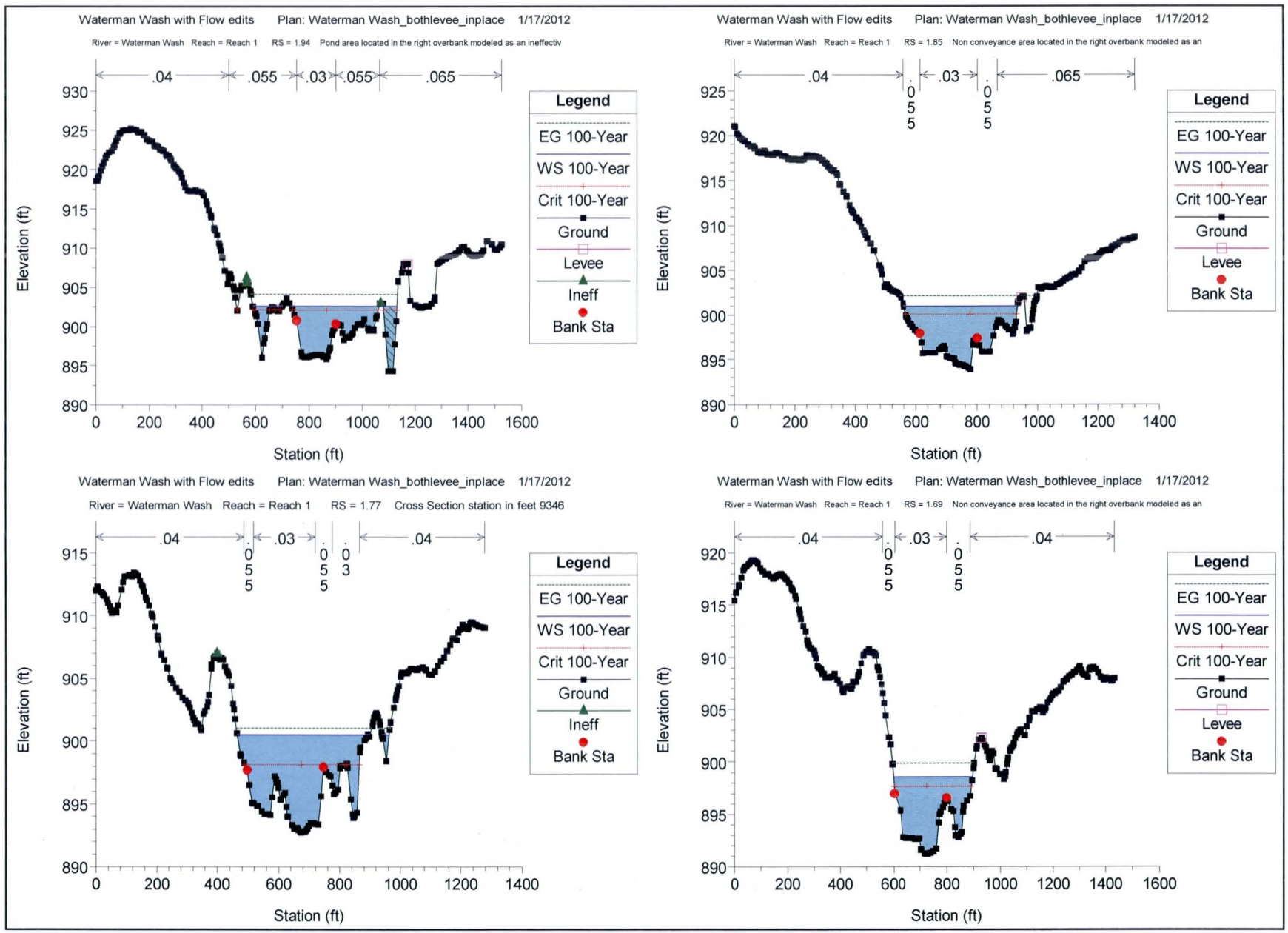

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.49 Water ponding in the farm fields in the left overbank modeled as
.055
.03
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.31 Cross Section station in feet 17477
.055
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.23 Water ponding in the farm fields in the left overbank modeled as
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.16 Non conveyance area located in the left overbank modeled as an i
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

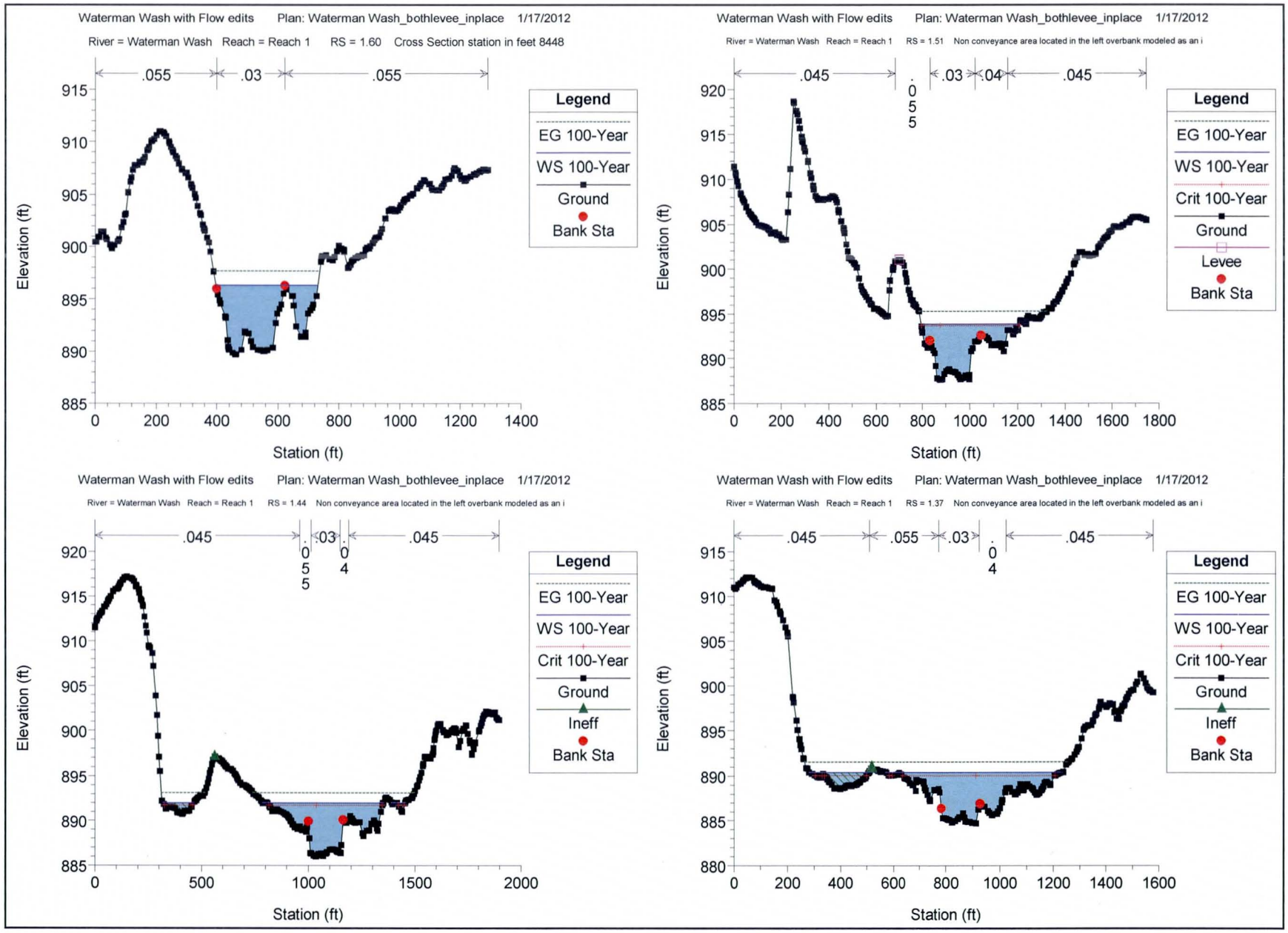

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.10 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.01 Cross Section station in feet 15893
.025
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.94 Cross Section station in feet 15523
.04
.055
.032
.045
.055
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.85 Cross Section station in feet 15048
.04
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

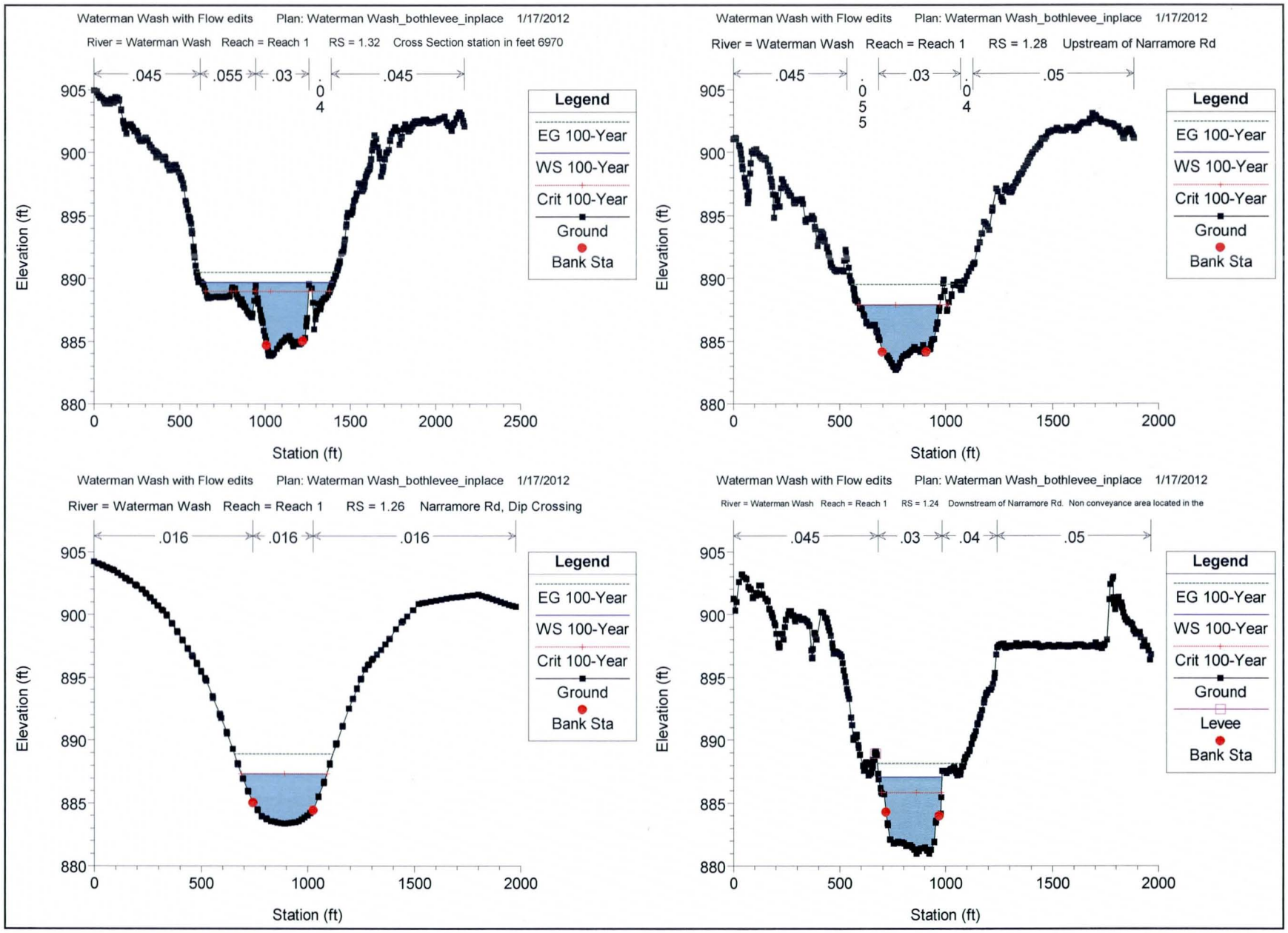

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.79 Cross Section station in feet 14731
.04
.035
.045
.018
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.70 Non conveyance area due to backwater from waterman wash located
.045
.045
.035
.045
.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.61 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
.018
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.57 Non conveyance area located in the left and right overbank model
.045
.035
.045
.018
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

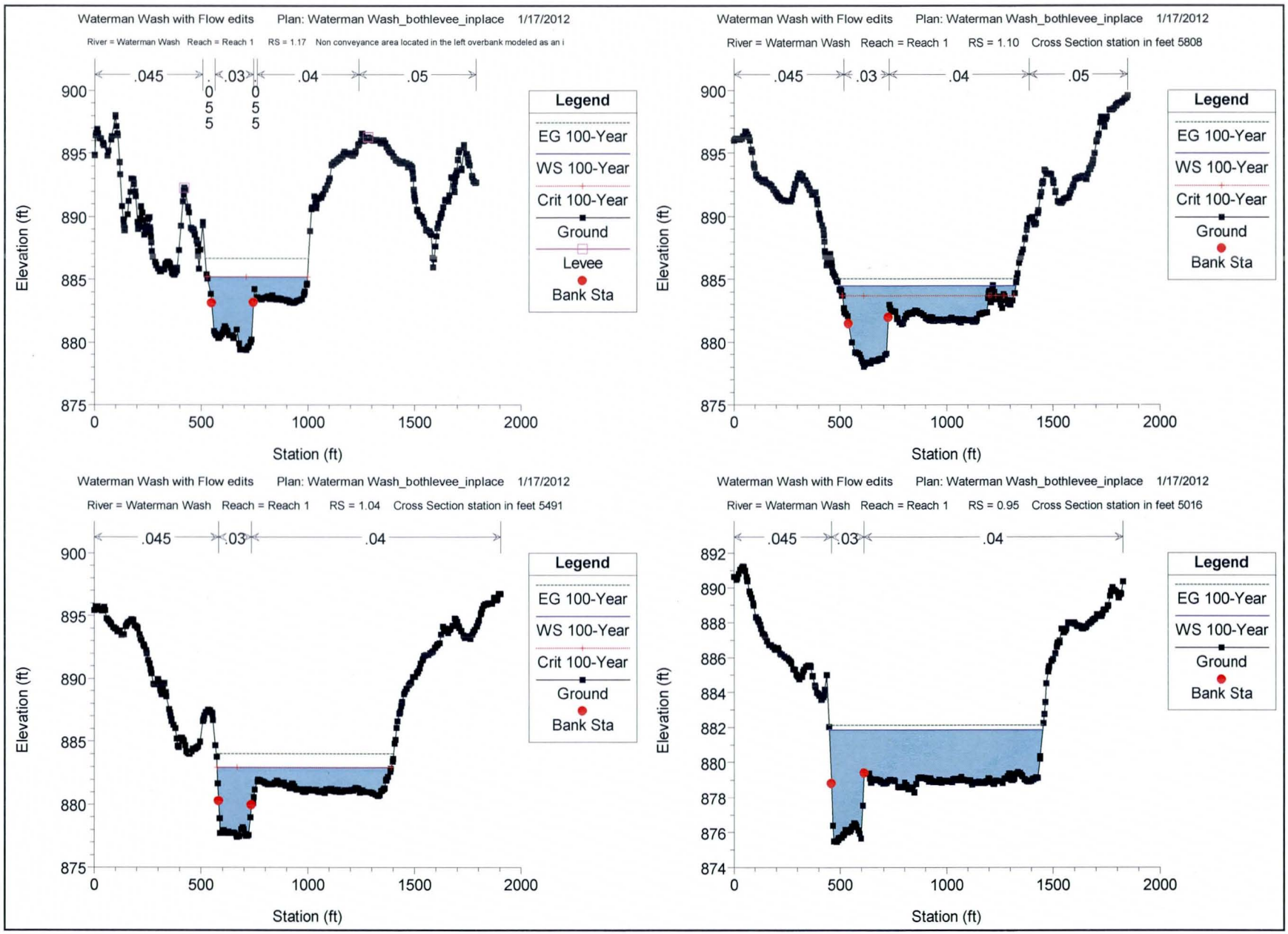

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.50 Non conveyance area located in the left overbank modeled as an i
.04
.045
.018
.045
.055
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.47 Non conveyance area located in the left overbank modeled as an i
.04
.03
.04
.0015
.0085
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.40 Non conveyance area located in the left overbank modeled as an i
.04
.018
.055
.03
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.34 Upstream of Airport Rd at grade crossing
.045
.018
.0035
.0055
.03
.05
.04
.016
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

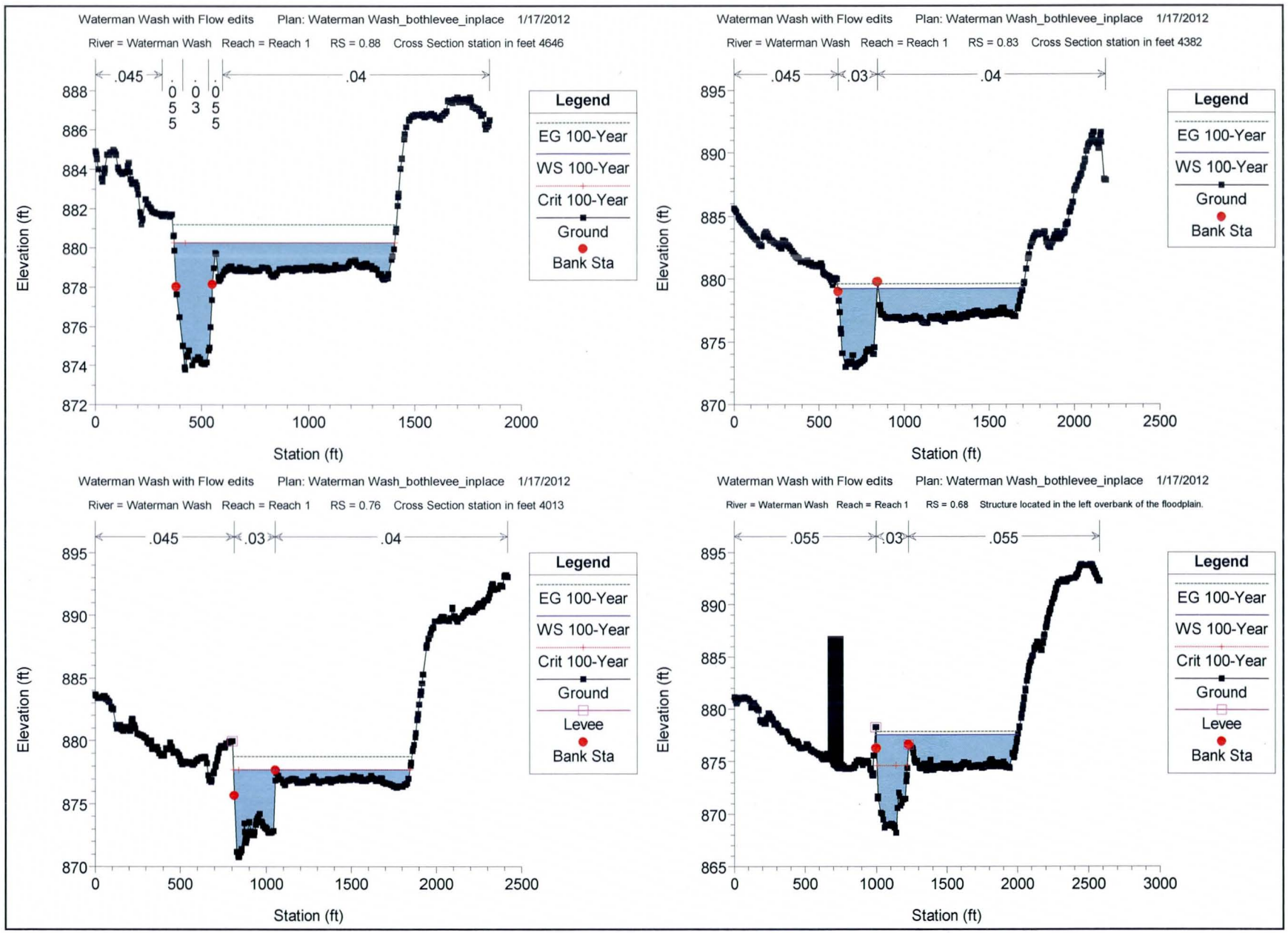

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.26 Downstream of Airport Rd at grade crossing. Non conveyance area
.045
.03
.05
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.17 Structure located in the left overbank of the cross section.
.04
.03
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.08 Pond area located in the right overbank modeled as an ineffectiv
.04
.03
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.99 Pond area located in the right overbank modeled as an ineffectiv
.04
.03
.065
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

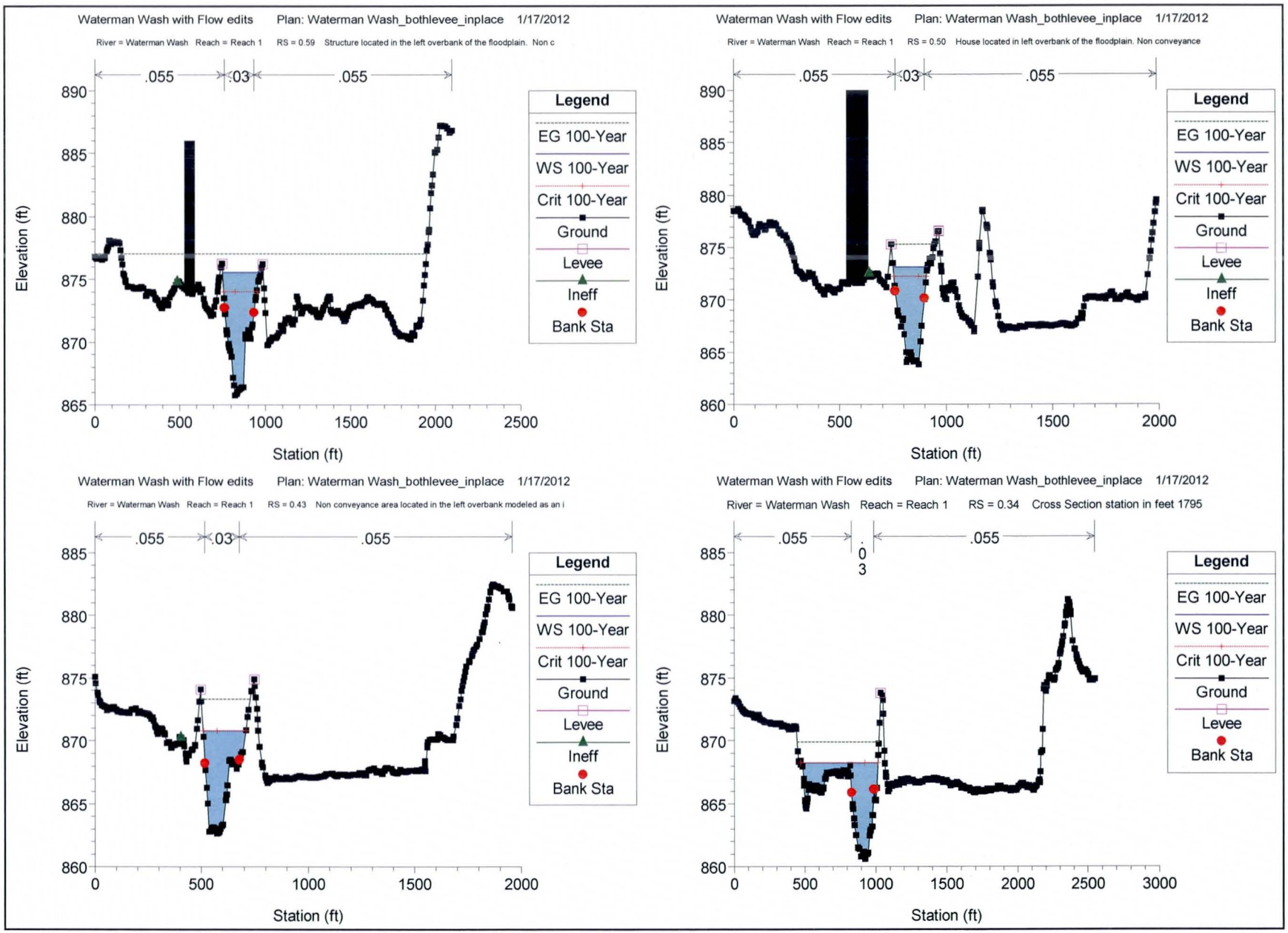

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.94 Pond area located in the right overbank modeled as an ineffectiv
.04
.055
.03
.055
.065
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.85 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.065
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.77 Cross Section station in feet 9346
.04
.055
.03
.055
.03
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.69 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

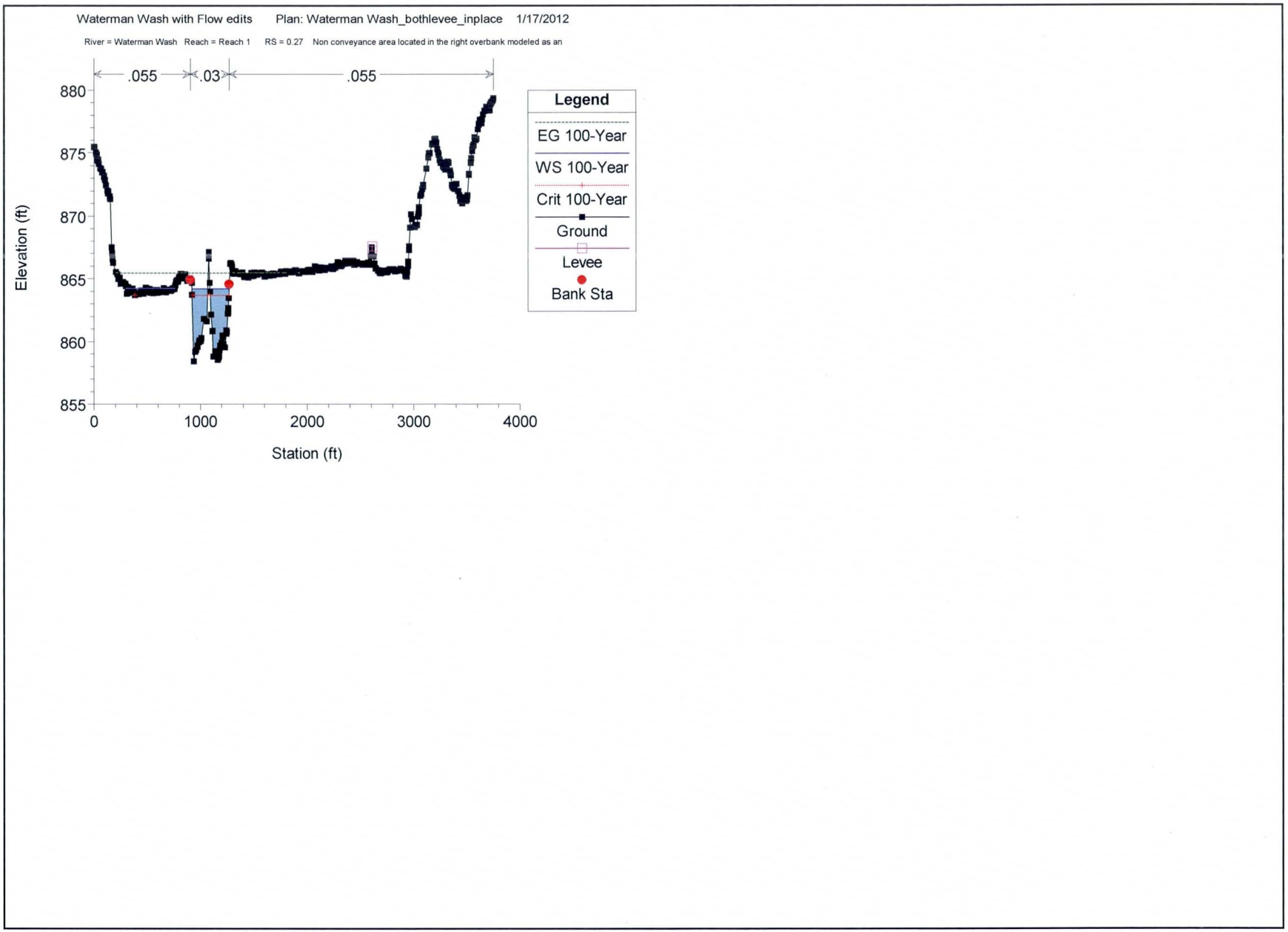

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.60 Cross Section station in feet 8448
.055
.03
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.51 Non conveyance area located in the left overbank modeled as an i
.045
.03
.04
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.44 Non conveyance area located in the left overbank modeled as an i
.045
.03
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.37 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)


Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.32 Cross Section station in feet 6970
.045
.055
.03
.04
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.28 Upstream of Narramore Rd
.045
.055
.03
.04
.05
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.26 Narramore Rd, Dip Crossing
.016
.016
.016
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.24 Downstream of Narramore Rd. Non conveyance area located in the
.045
.03
.04
.05
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

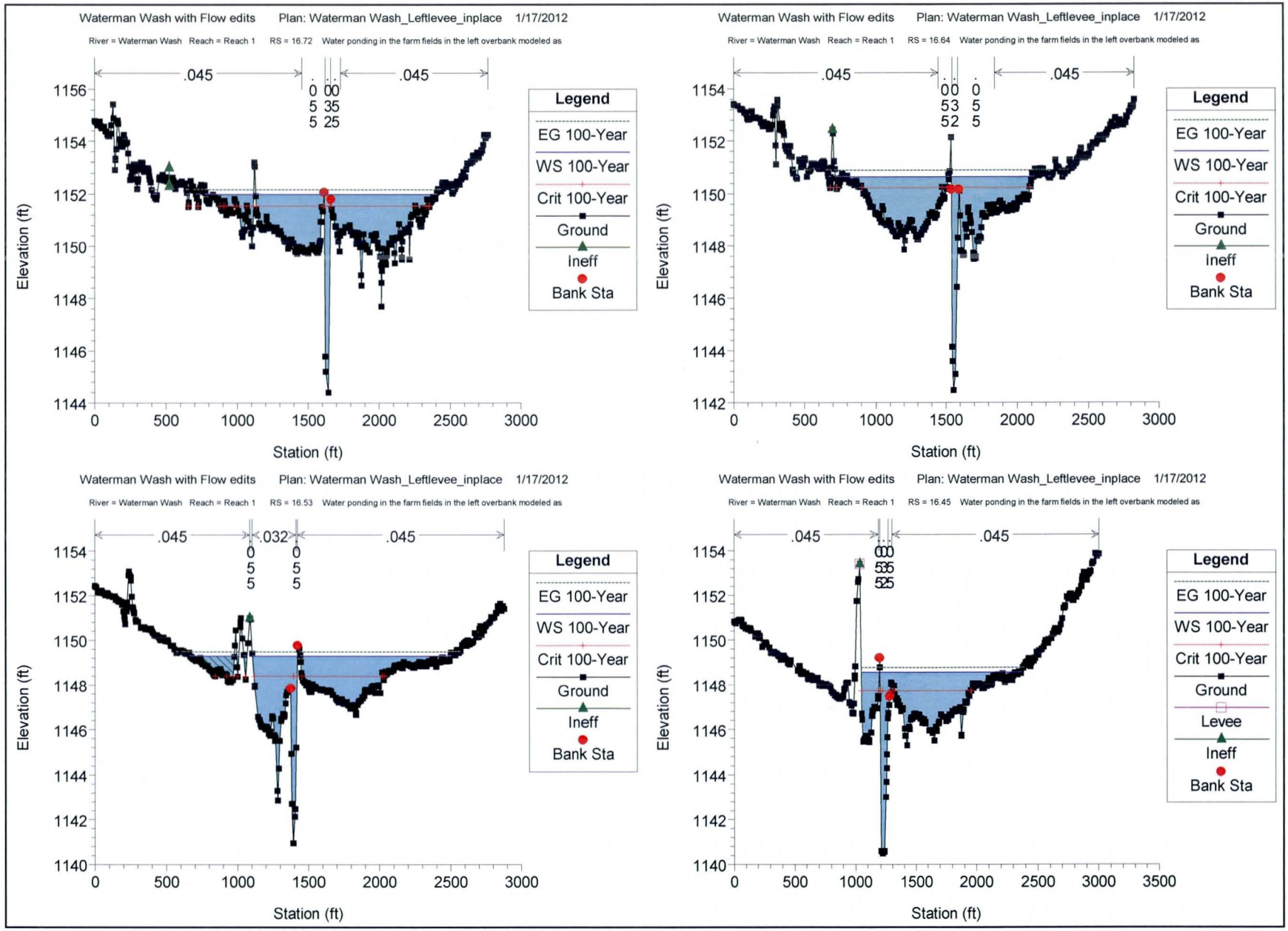

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.17 Non conveyance area located in the left overbank modeled as an i
.045
.03
.04
.05
0.055
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.10 Cross Section station in feet 5808
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.04 Cross Section station in feet 5491
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.95 Cross Section station in feet 5016

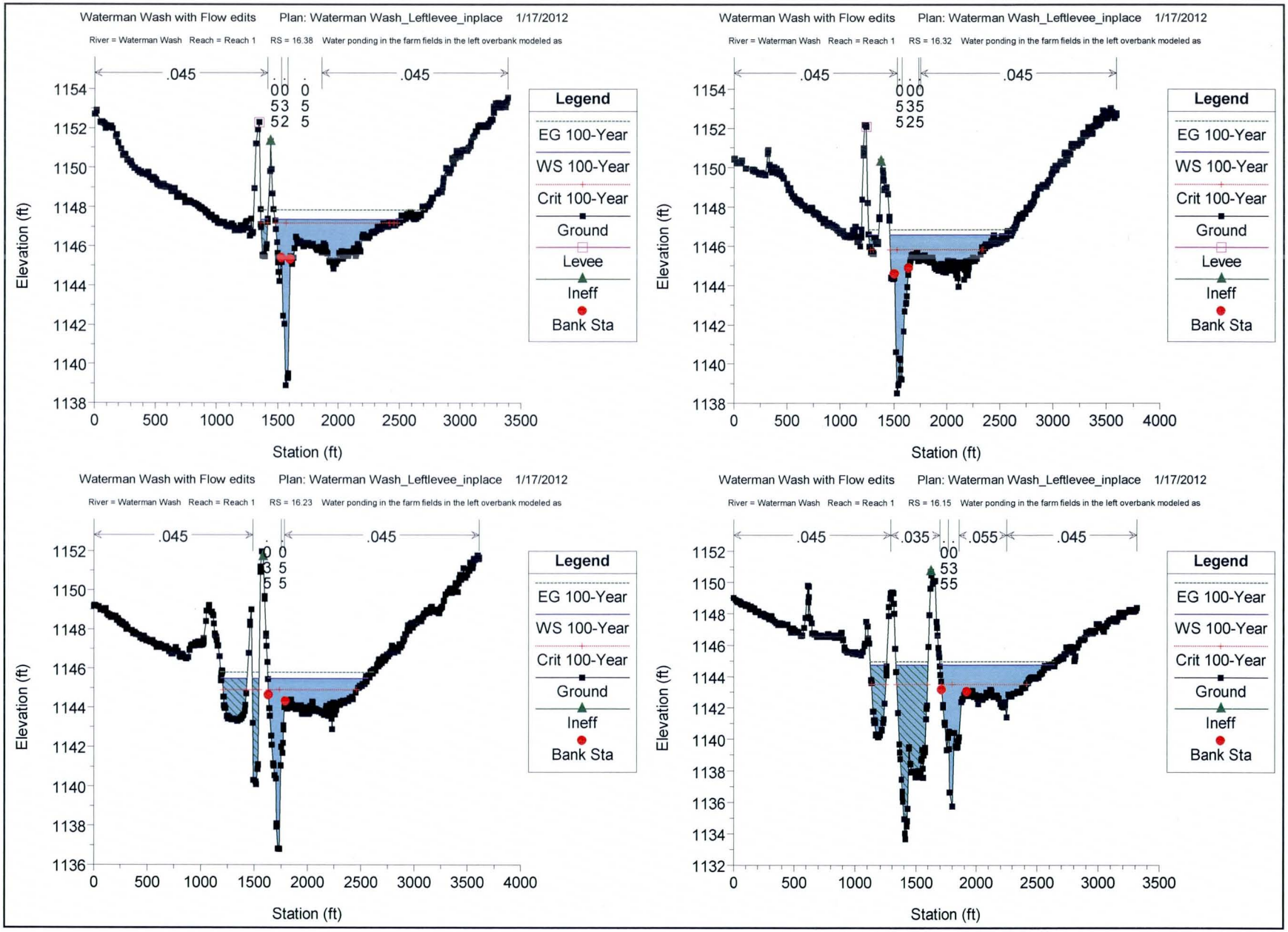

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.88 Cross Section station in feet 4646
.045
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.83 Cross Section station in feet 4382
.045
.03
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.76 Cross Section station in feet 4013
.045
.03
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.68 Structure located in the left overbank of the floodplain.
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

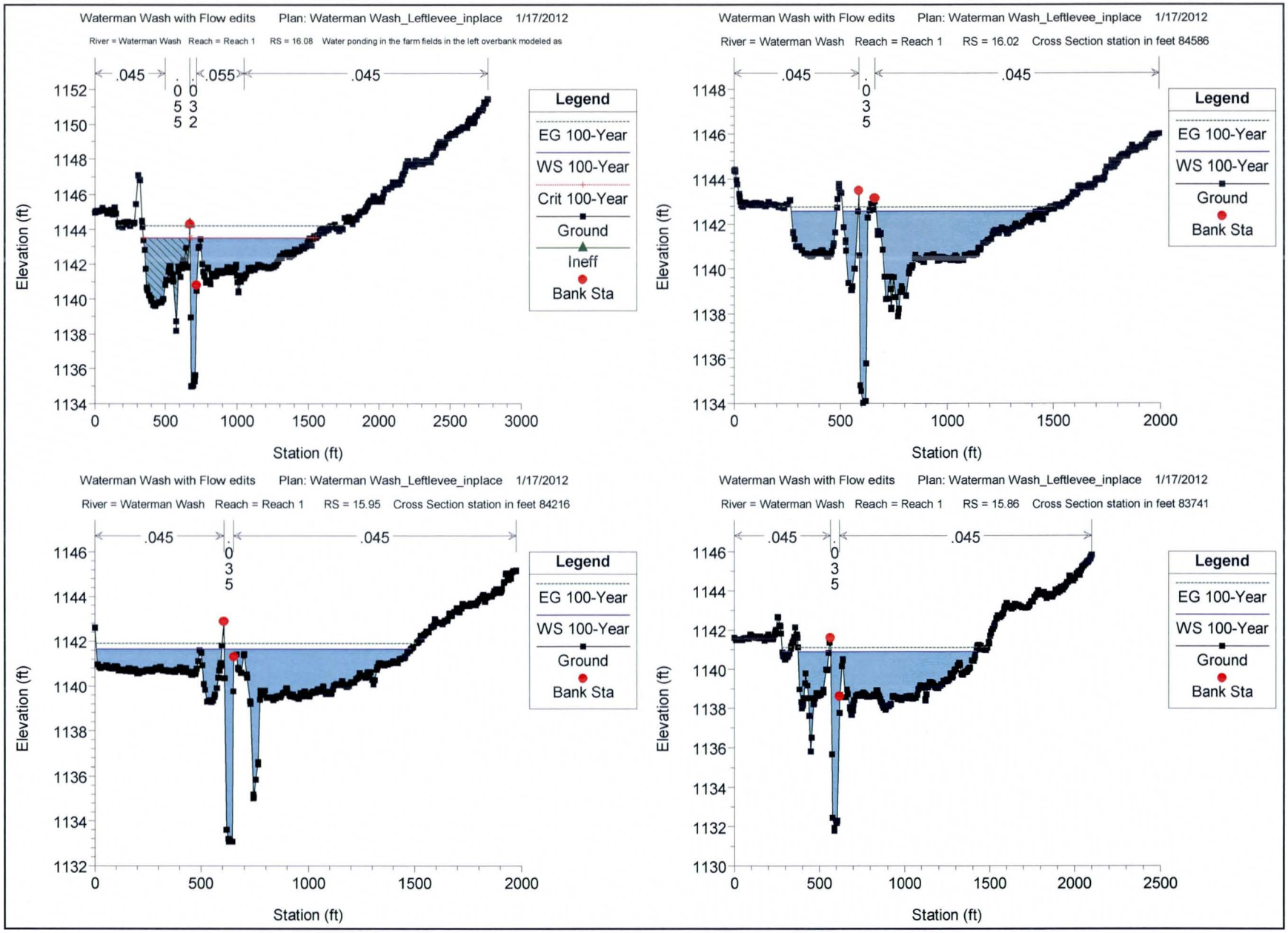

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.59 Structure located in the left overbank of the floodplain. Non c
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.50 House located in left overbank of the floodplain. Non conveyance
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.43 Non conveyance area located in the left overbank modeled as an i
Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.34 Cross Section station in feet 1795

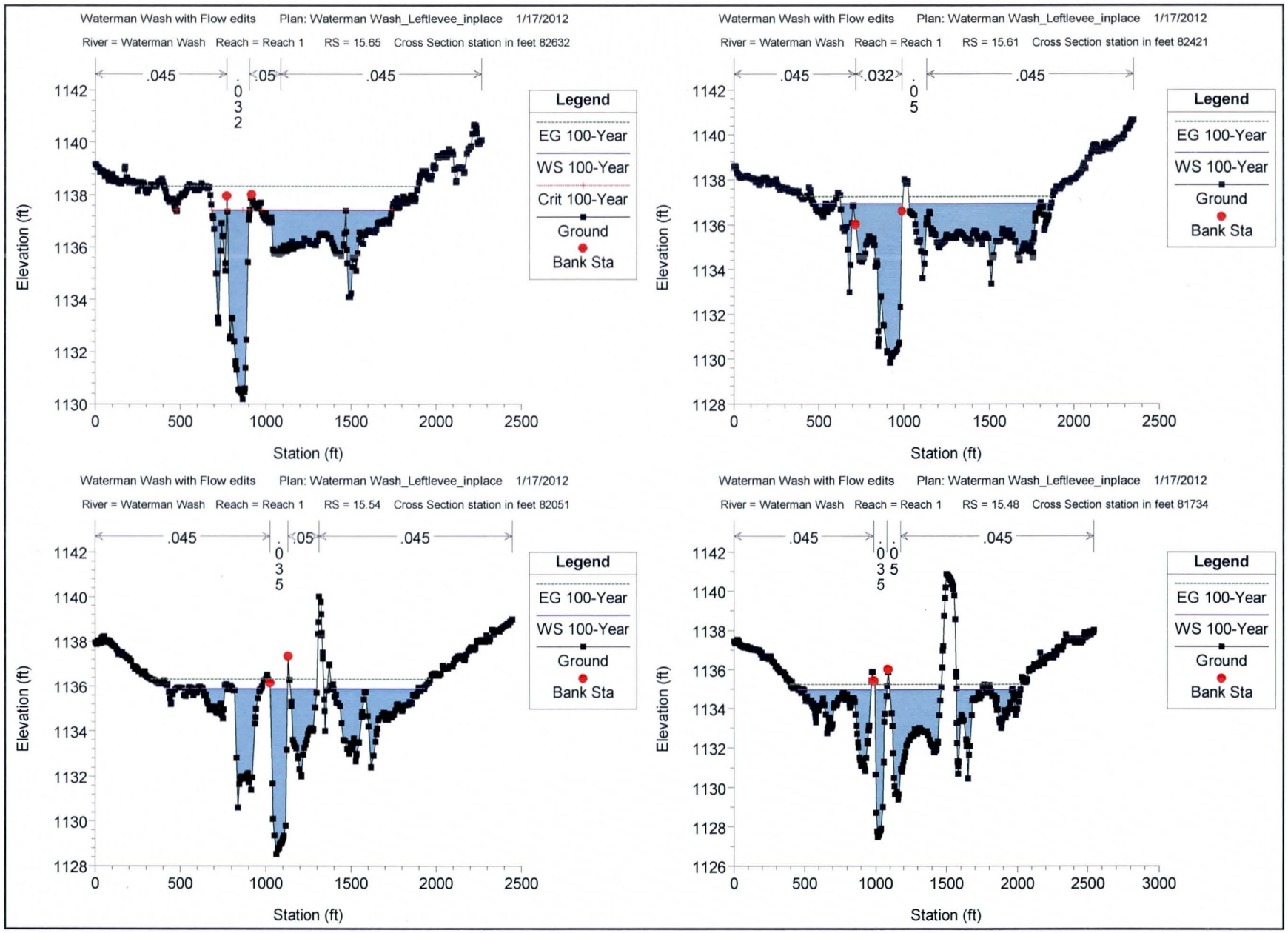

Waterman Wash with Flow edits Plan: Waterman Wash_bothlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.27 Non conveyance area located in the right overbank modeled as an
.055
.03
.055
880
875
870
865
860
855
Elevation (ft)
0
1000
2000
3000
4000
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

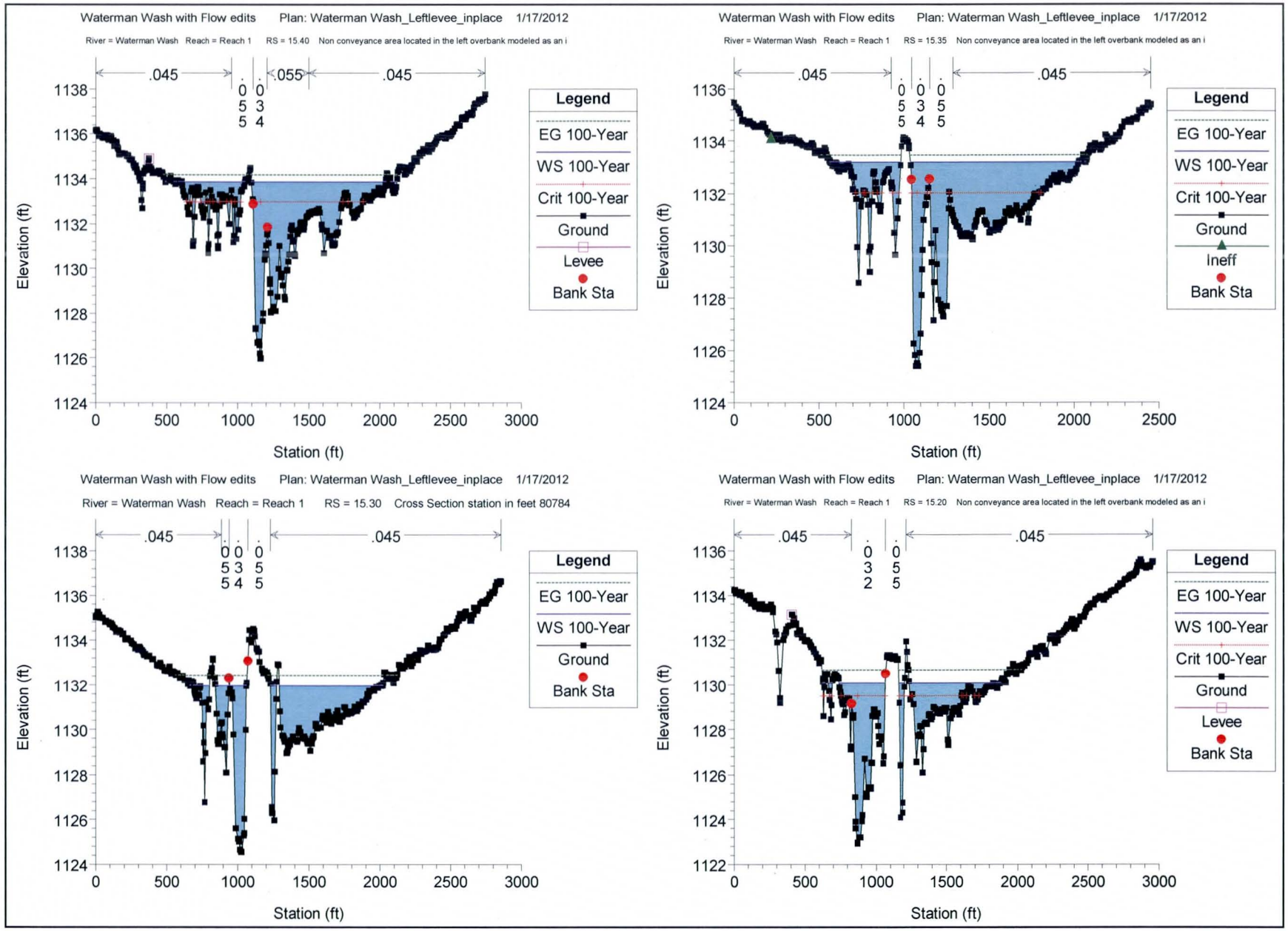
LEFT NON-LEVEE EMBANKMENT IN PLACE

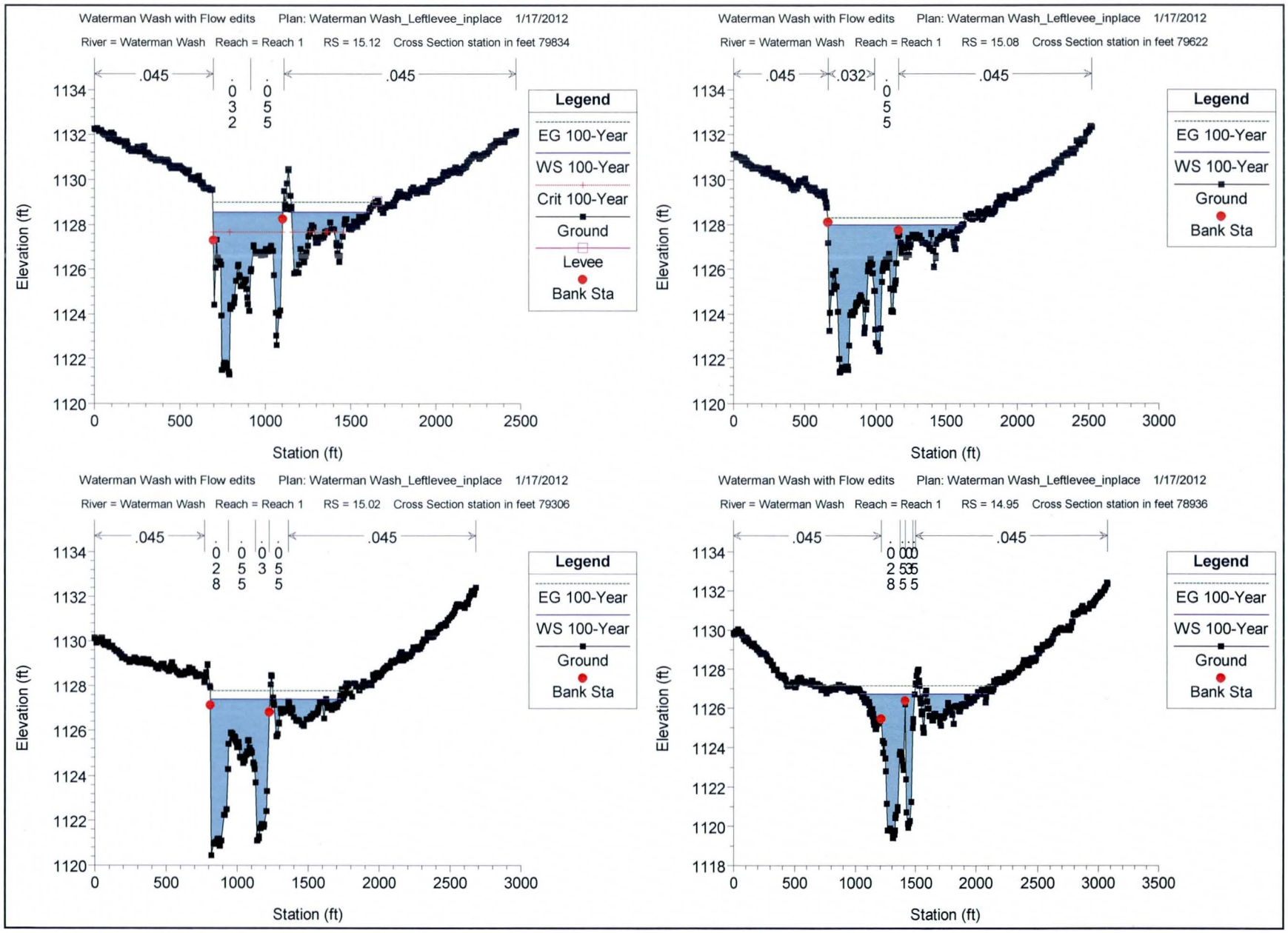

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.72 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.64 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.53 Water ponding in the farm fields in the left overbank modeled as
.045
.032
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.45 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

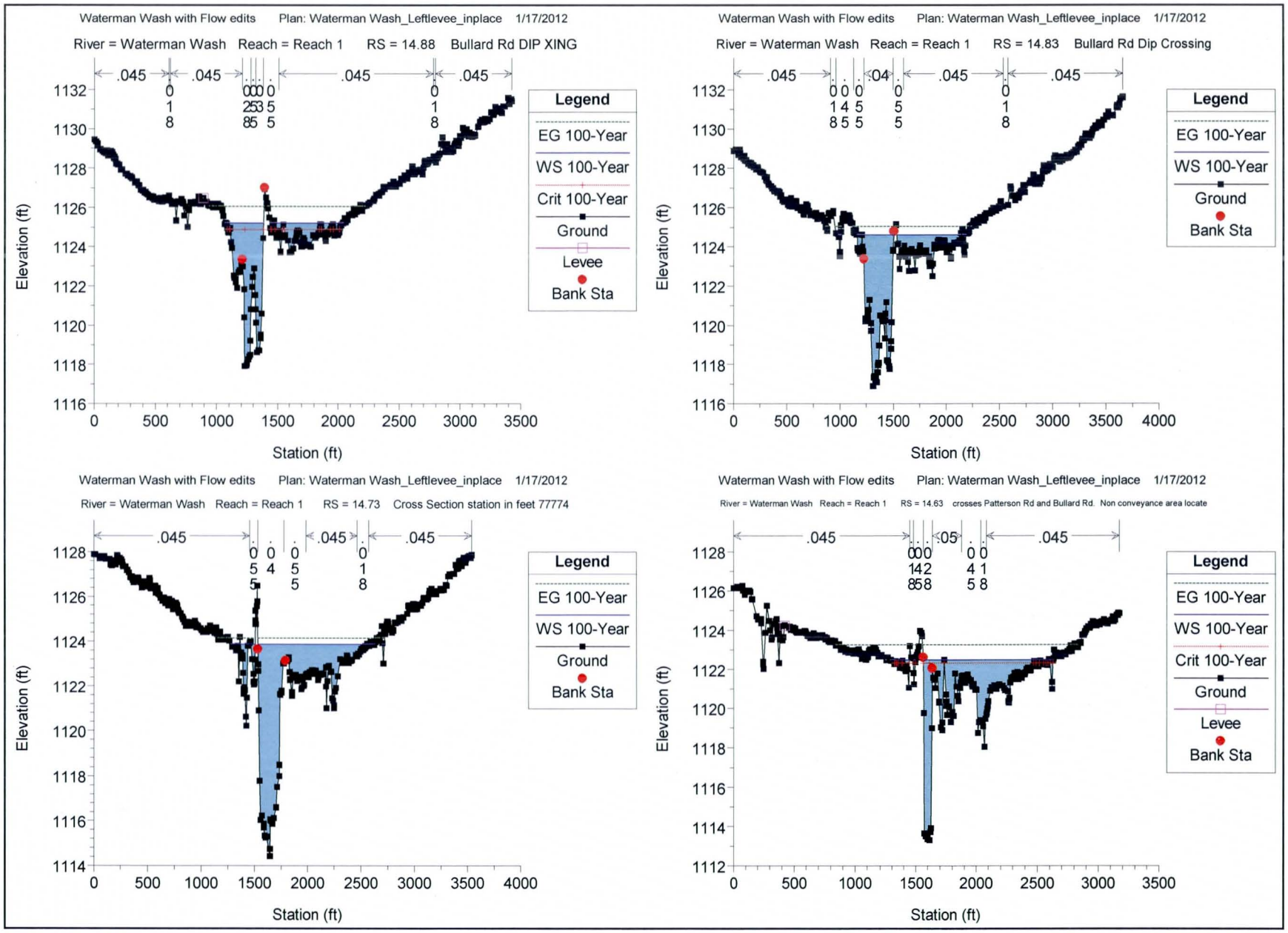

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.38 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.32 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.23 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.15 Water ponding in the farm fields in the left overbank modeled as
.045
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

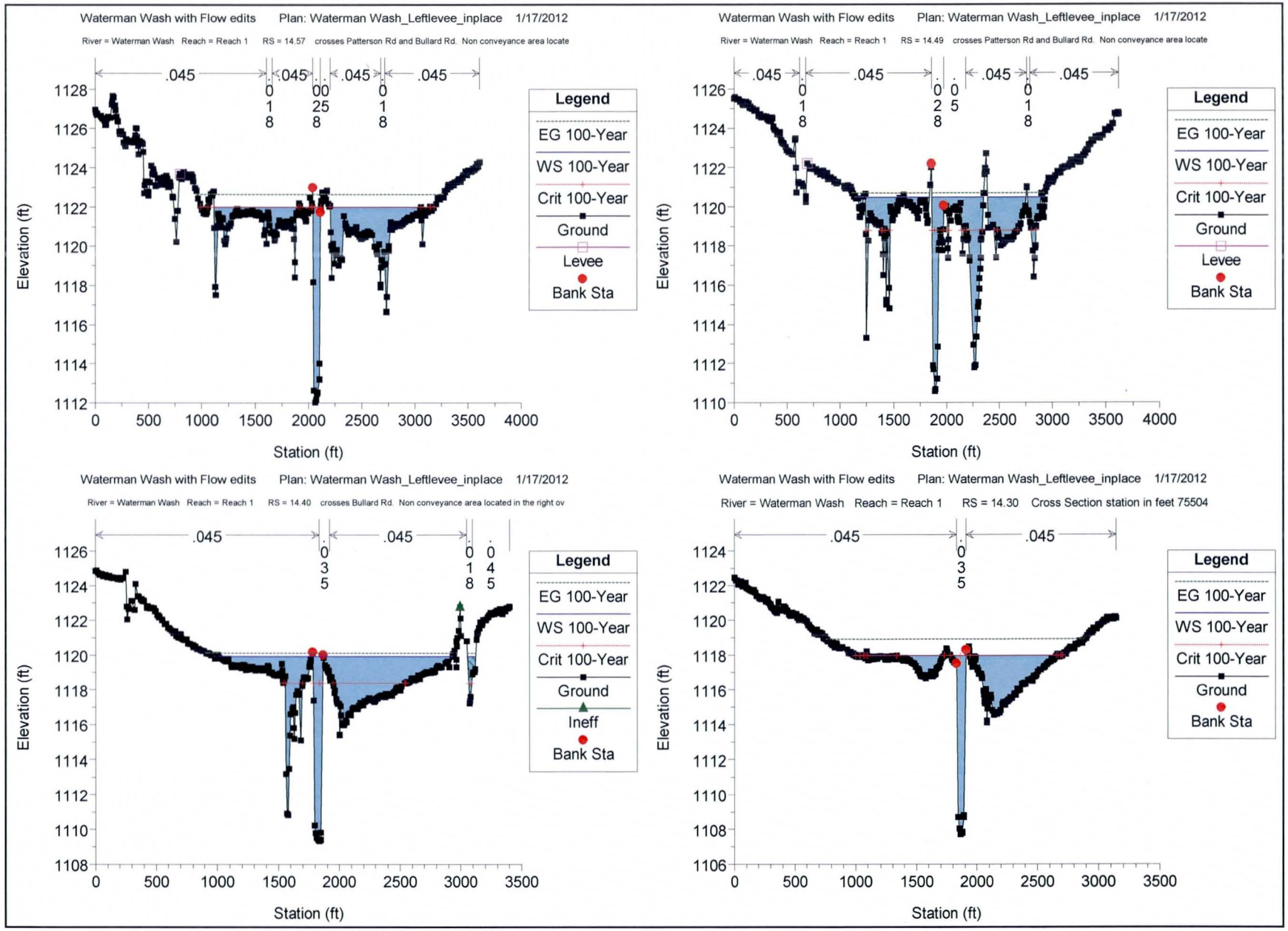

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.08 Water ponding in the farm fields in the left overbank modeled as
.045
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.02 Cross Section station in feet 84586
.045
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.95 Cross Section station in feet 84216
.045
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.86 Cross Section station in feet 83741
.045
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

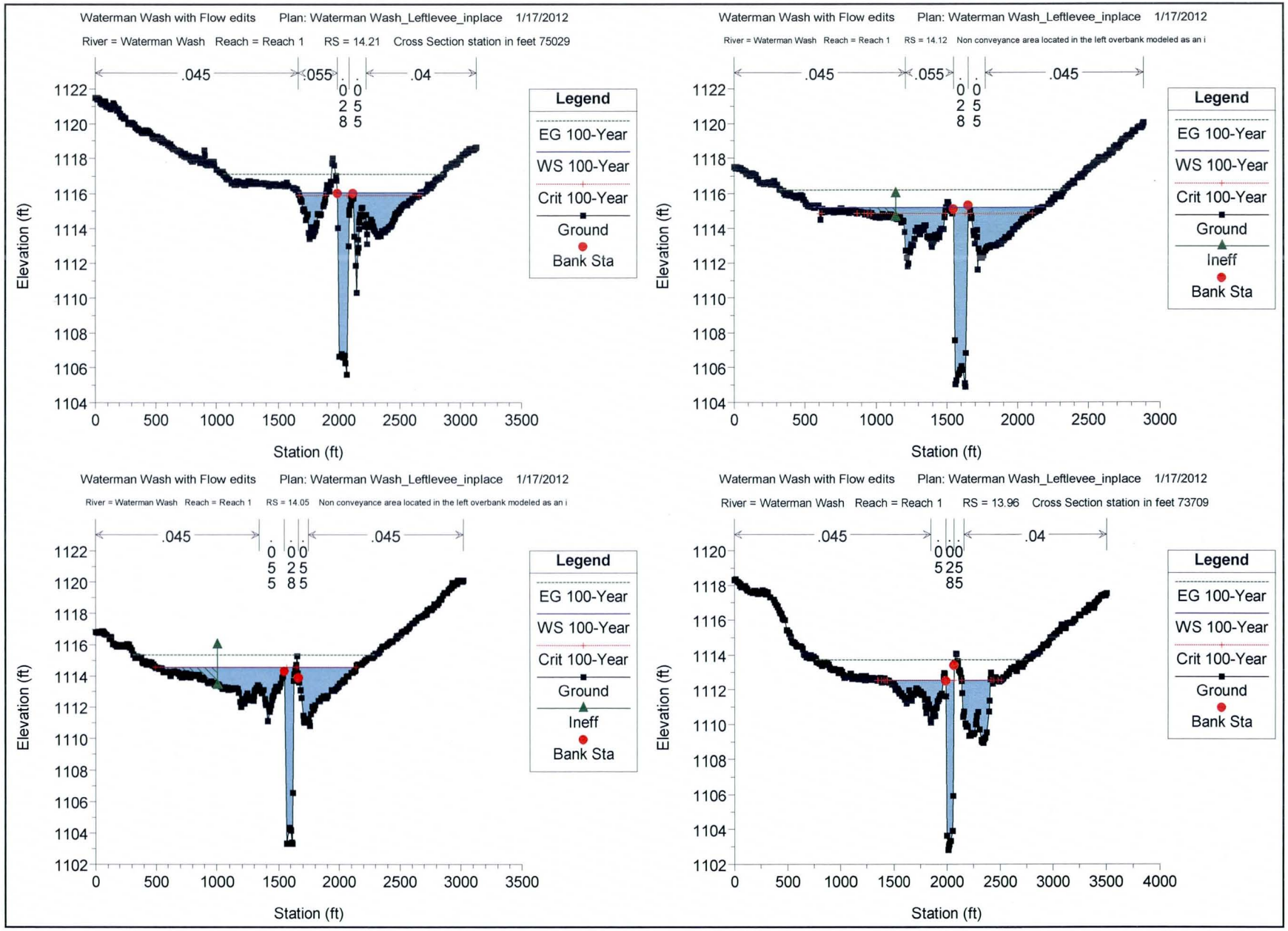

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.65 Cross Section station in feet 82632
.045
.032
.05
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.61 Cross Section station in feet 82421
.045
.032
.05
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.54 Cross Section station in feet 82051
.045
.035
.05
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.48 Cross Section station in feet 81734
.045
.035
.05
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

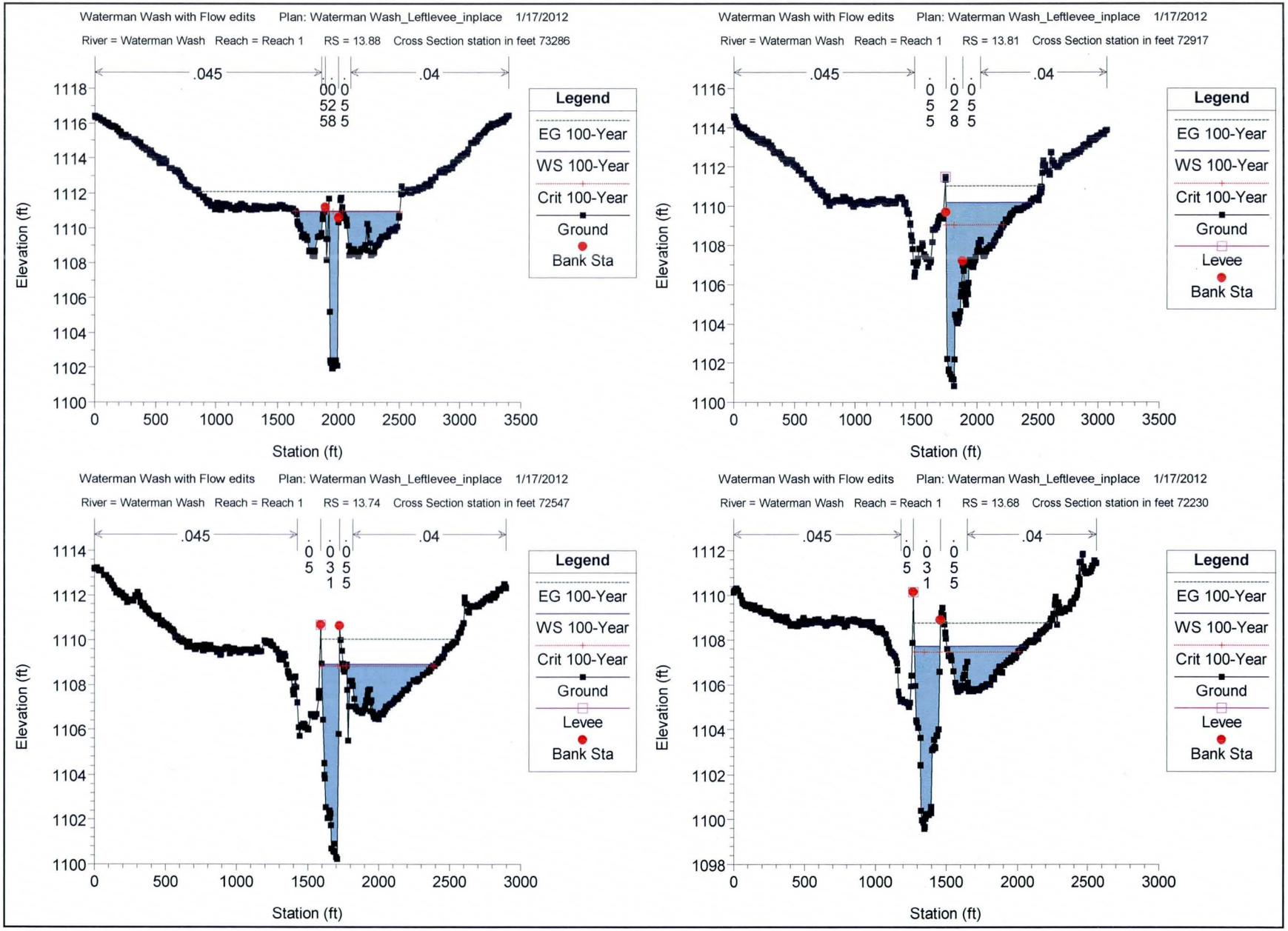

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.40 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
0554
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.35 Non conveyance area located in the left overbank modeled as an i
.045
.045
0554
0555
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.30 Cross Section station in feet 80784
.045
.045
05554
0555
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.20 Non conveyance area located in the left overbank modeled as an i
.045
.045
0325
0555
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

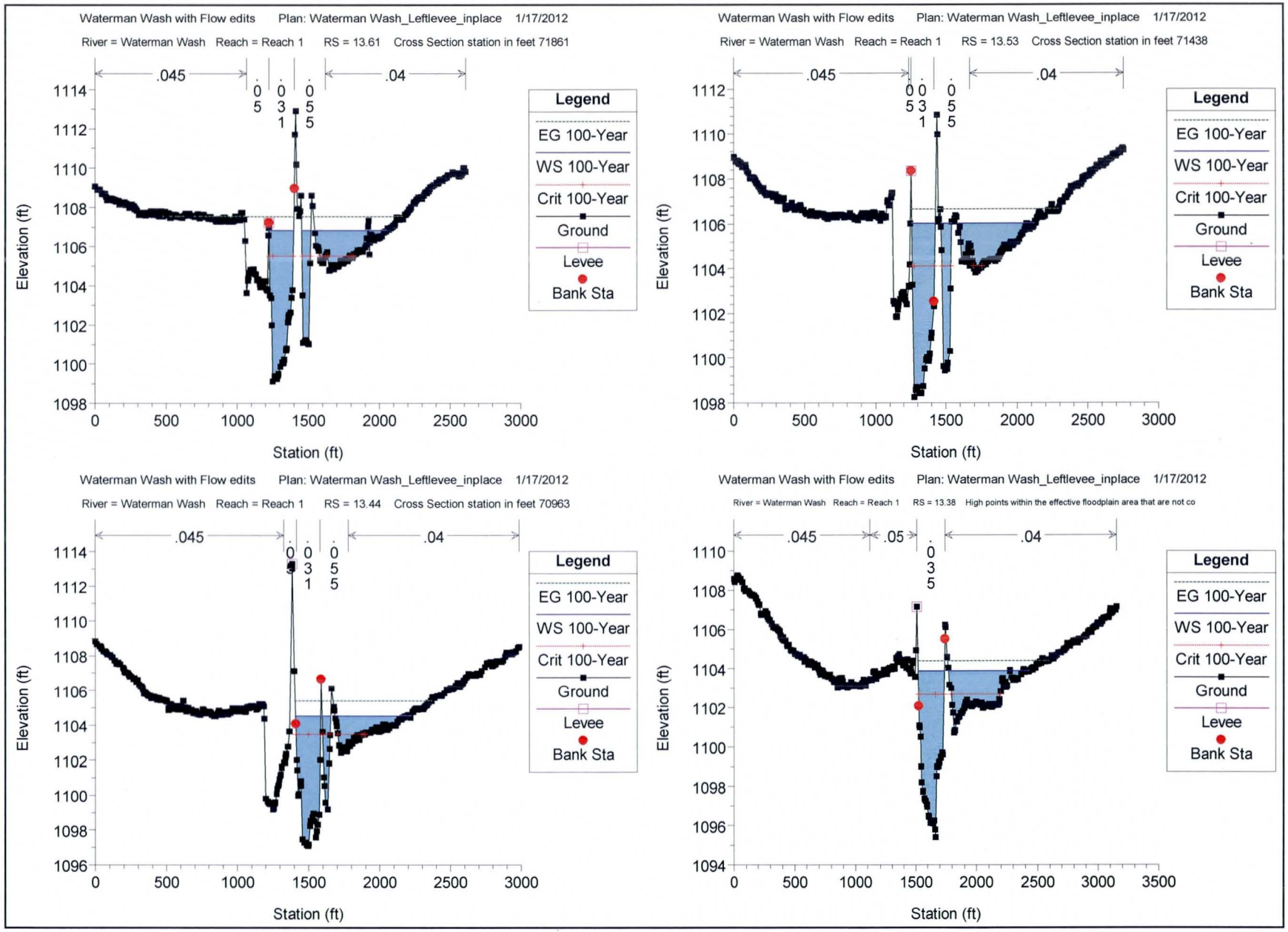

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.12 Cross Section station in feet 79834
.045
.032
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.08 Cross Section station in feet 79622
.045
.032
.055
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.02 Cross Section station in feet 79306
.045
.028
.055
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.95 Cross Section station in feet 78936
.045
.028
.055
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

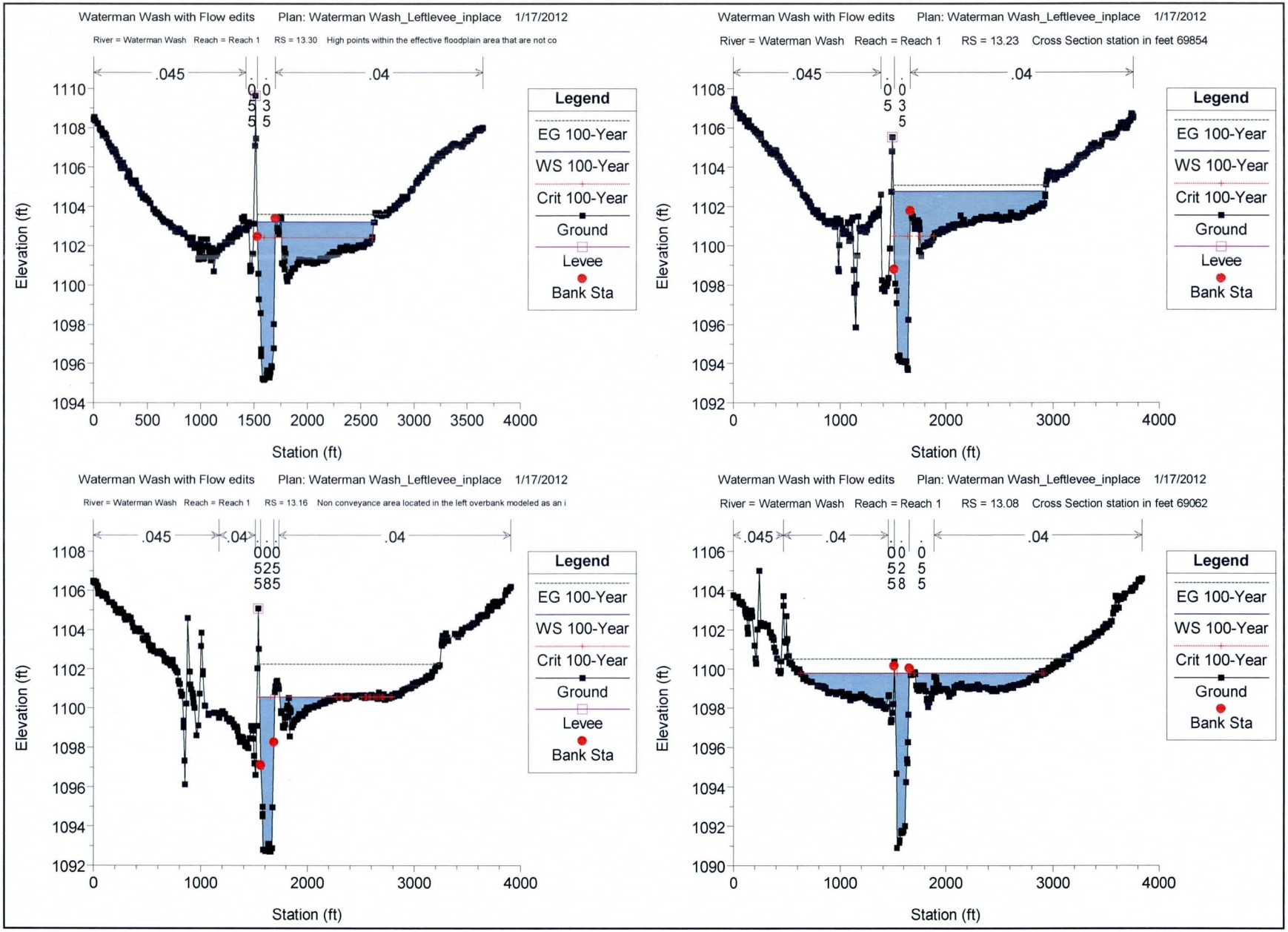

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.88 Bullard Rd DIP XING
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.83 Bullard Rd Dip Crossing
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.73 Cross Section station in feet 77774
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.63 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

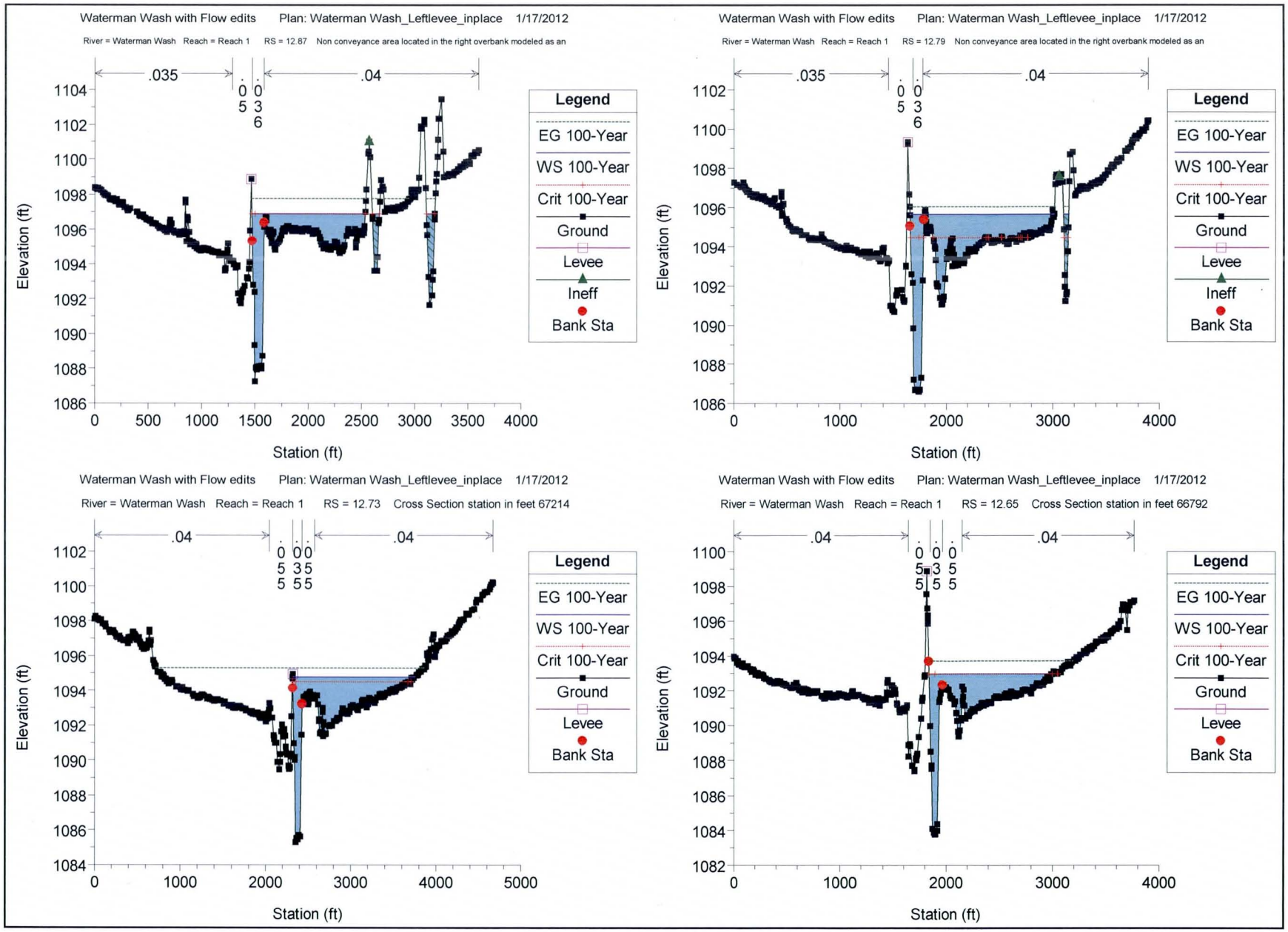

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.57 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
.045
.045
.045
.045
0.018
0.0025
0.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.49 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
.045
.045
.045
.045
0.018
0.028
0.05
0.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.40 crosses Bullard Rd. Non conveyance area located in the right ov
.045
.045
0.035
0.018
0.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.30 Cross Section station in feet 75504
.045
.045
0.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

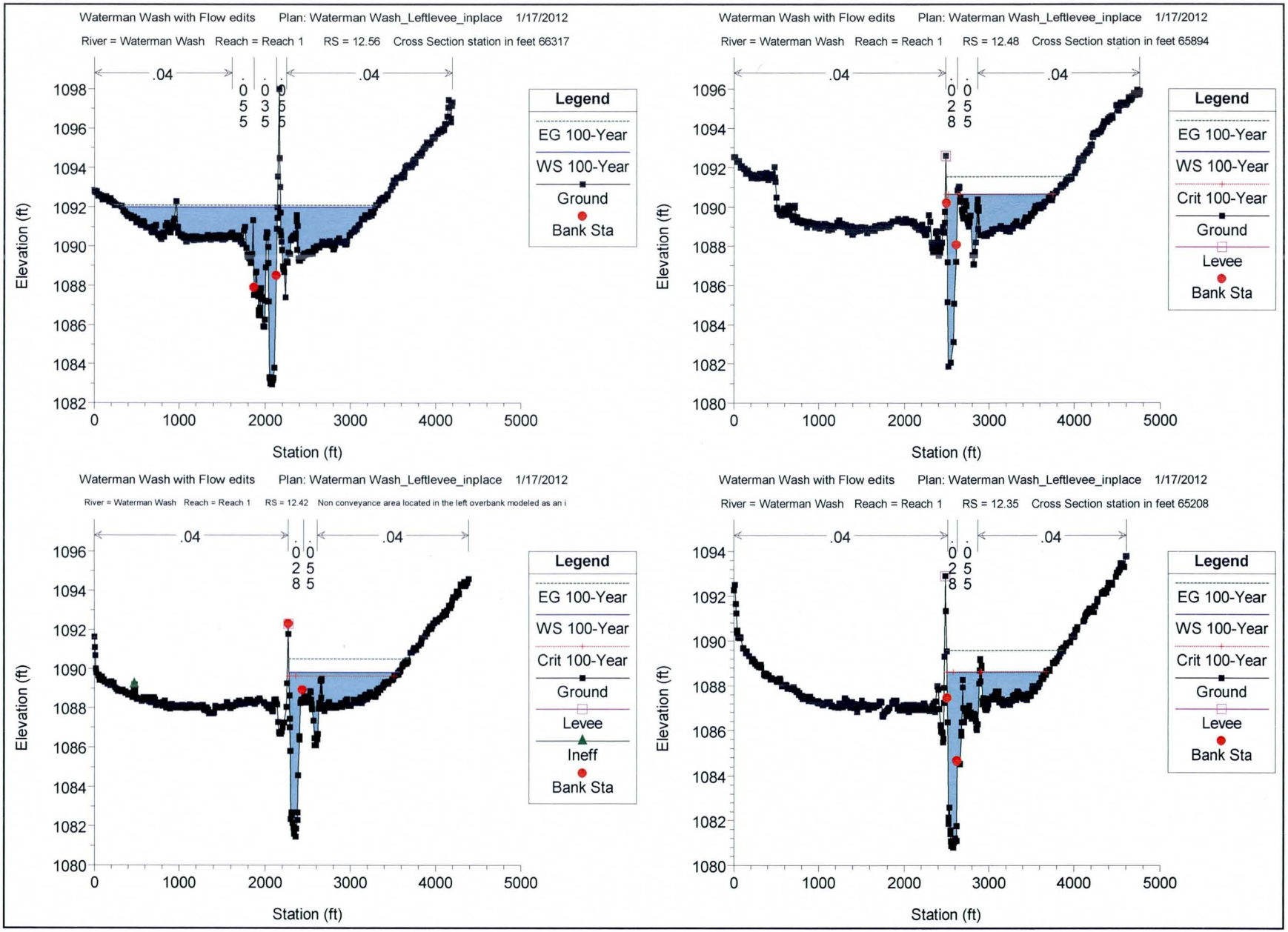

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.21 Cross Section station in feet 75029
.045
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.12 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.05 Non conveyance area located in the left overbank modeled as an i
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.96 Cross Section station in feet 73709
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

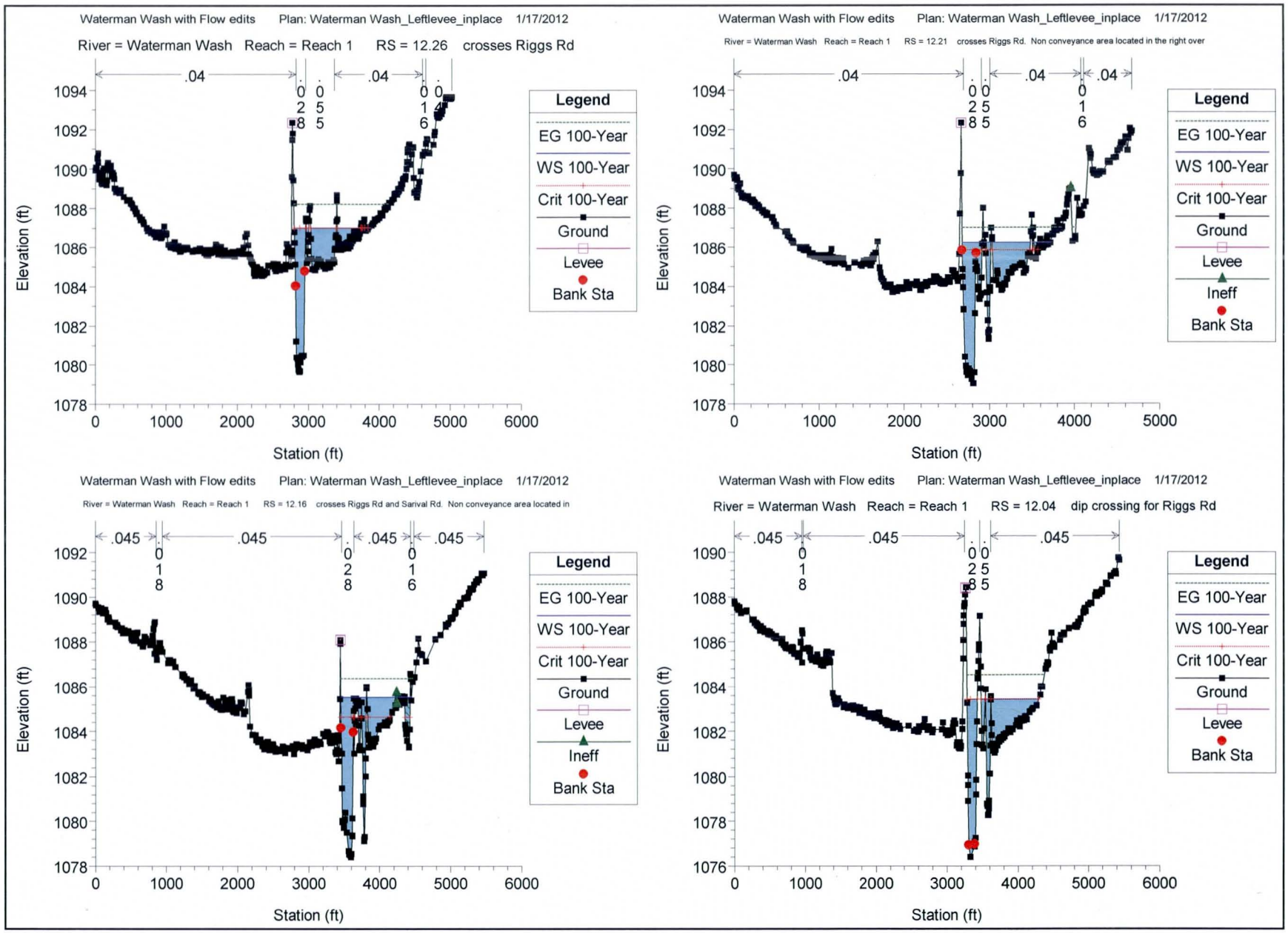

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.88 Cross Section station in feet 73286
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.81 Cross Section station in feet 72917
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.74 Cross Section station in feet 72547
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.68 Cross Section station in feet 72230
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

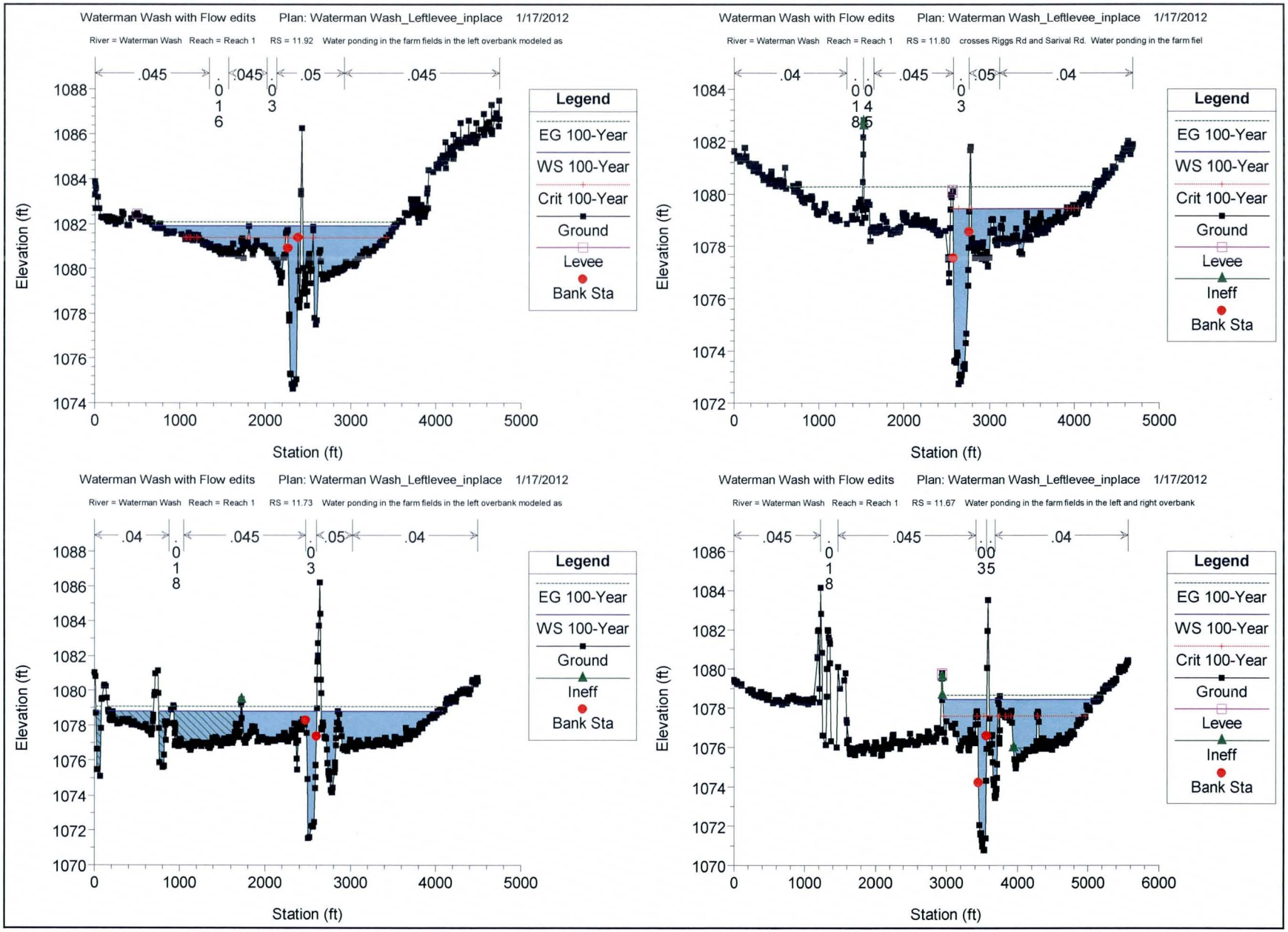

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.61 Cross Section station in feet 71861
.045
.04
0 5
0 3 1
0 5 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.53 Cross Section station in feet 71438
.045
.04
0 5 3 1
0 5 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.44 Cross Section station in feet 70963
.045
.04
0 3 1
0 5 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.38 High points within the effective floodplain area that are not co
.045
.05
.04
0 3 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

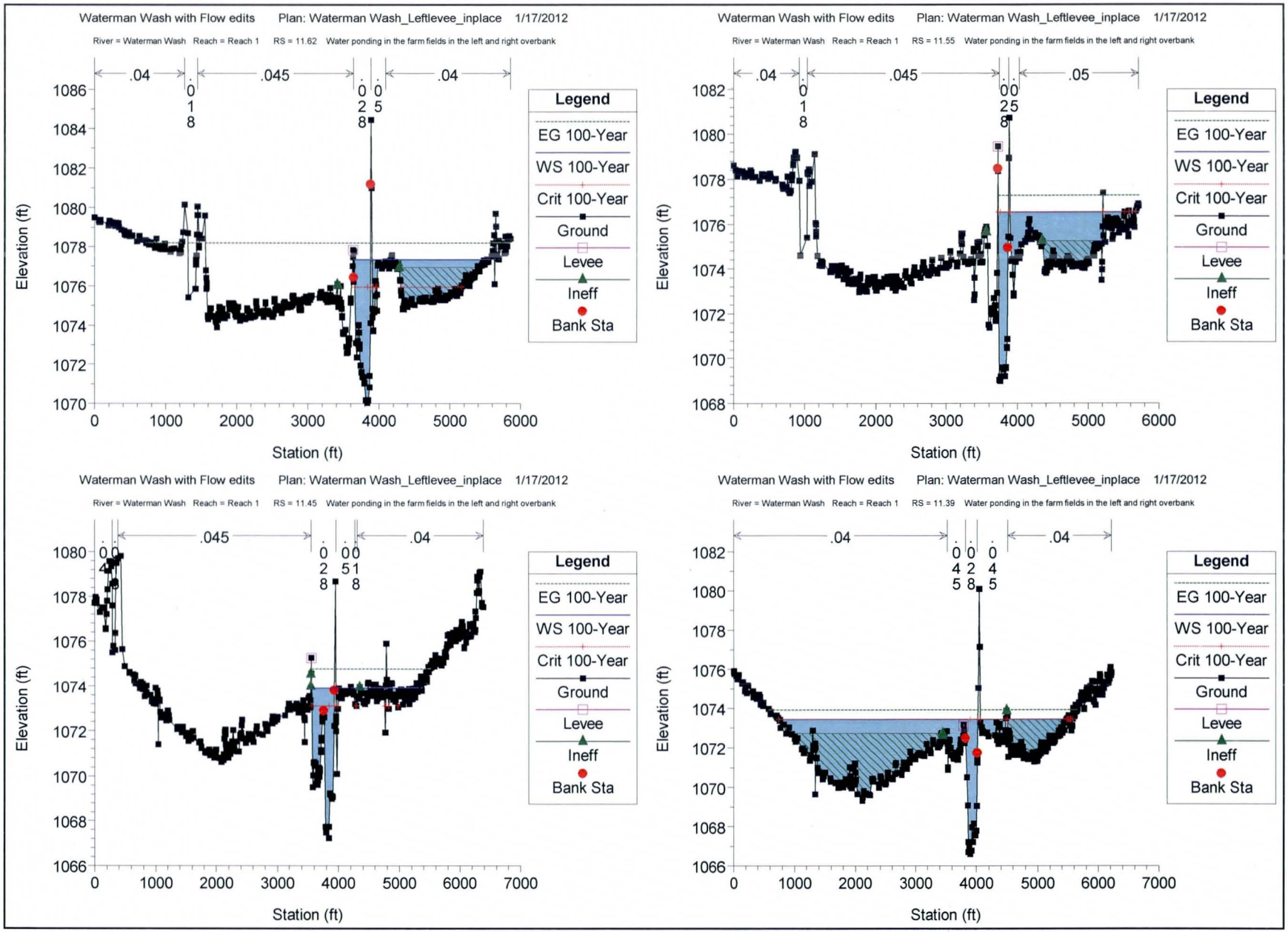

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.30 High points within the effective floodplain area that are not co
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.23 Cross Section station in feet 69854
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.16 Non conveyance area located in the left overbank modeled as an i
.045
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.08 Cross Section station in feet 69062
.045
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

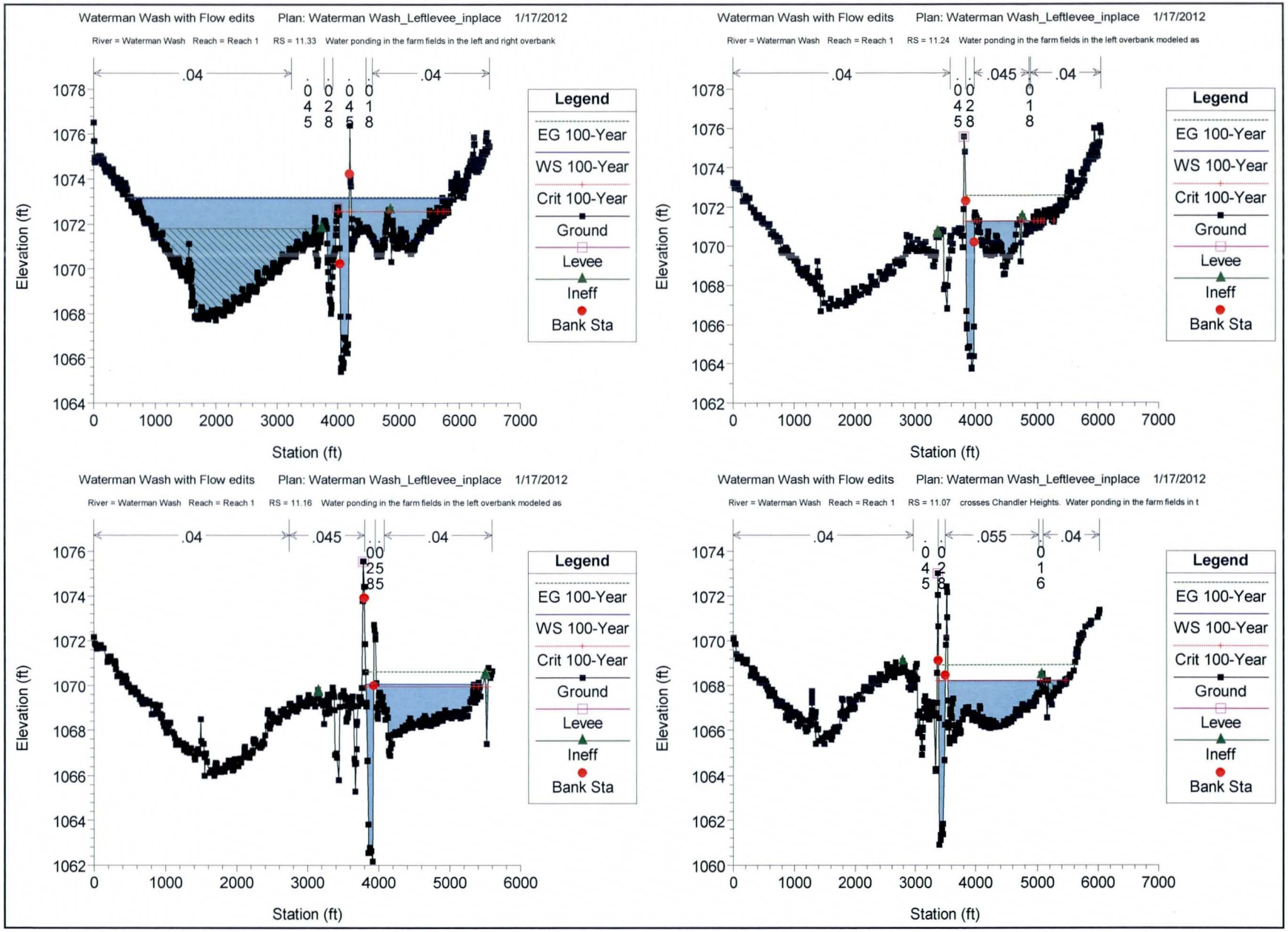

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.87 Non conveyance area located in the right overbank modeled as an
.035
.04
0.05 0.036
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.79 Non conveyance area located in the right overbank modeled as an
.035
.04
0.05 0.036
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.73 Cross Section station in feet 67214
.04
.04
0.055 0.035 0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.65 Cross Section station in feet 66792
.04
.04
0.055 0.035 0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

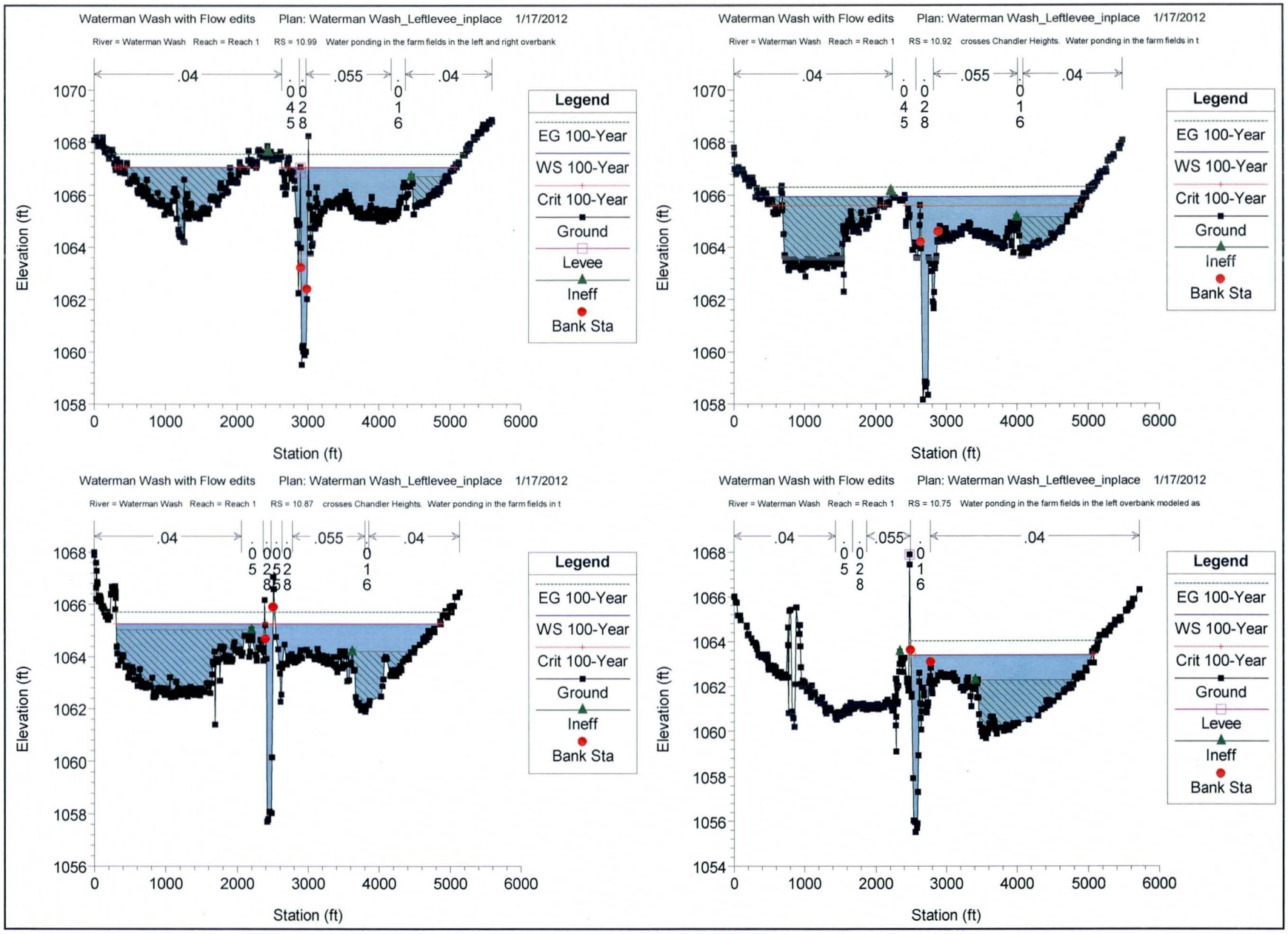

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.56 Cross Section station in feet 66317
.04
.04
0.055
0.035
0.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.48 Cross Section station in feet 65894
.04
.04
0.025
0.085
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.42 Non conveyance area located in the left overbank modeled as an i
.04
.04
0.025
0.085
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.35 Cross Section station in feet 65208
.04
.04
0.025
0.085
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

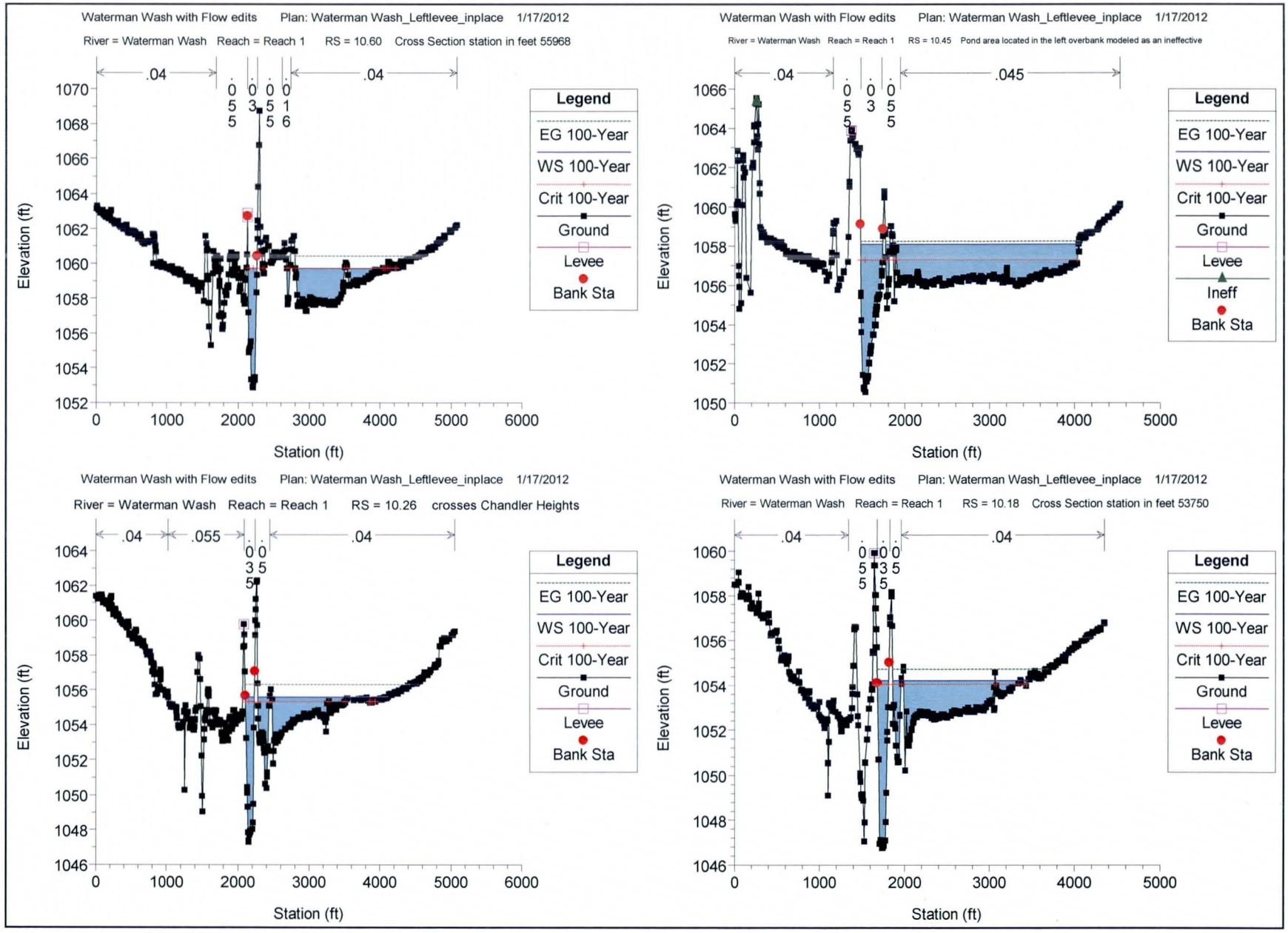

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.26 crosses Riggs Rd
.04
.04
.04
0.028
0.055
0.164
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.21 crosses Riggs Rd. Non conveyance area located in the right over
.04
.04
.04
.04
0.028
0.025
0.164
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.16 crosses Riggs Rd and Sarival Rd. Non conveyance area located in
.045
.045
.045
.045
0.018
0.028
0.164
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.04 dip crossing for Riggs Rd
.045
.045
.045
0.018
0.025
0.085
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

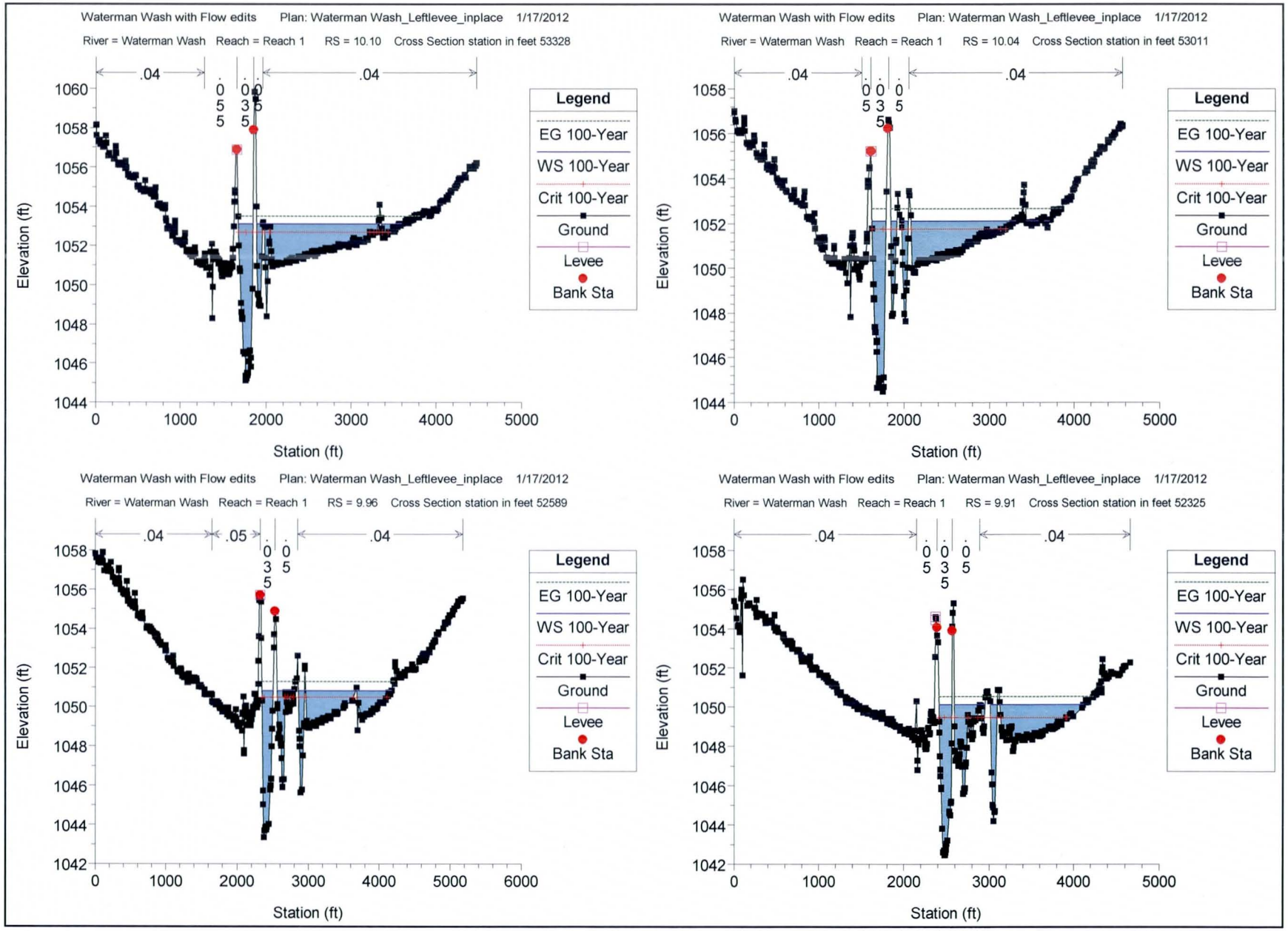

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.92 Water ponding in the farm fields in the left overbank modeled as
.045 .045 .05 .045
.016 .03
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.80 crosses Riggs Rd and Sarival Rd. Water ponding in the farm fiel
.04 .045 .05 .04
.0185 .03
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.73 Water ponding in the farm fields in the left overbank modeled as
.04 .045 .05 .04
.018 .03
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.67 Water ponding in the farm fields in the left and right overbank
.045 .045 .04
.018 .0035
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta

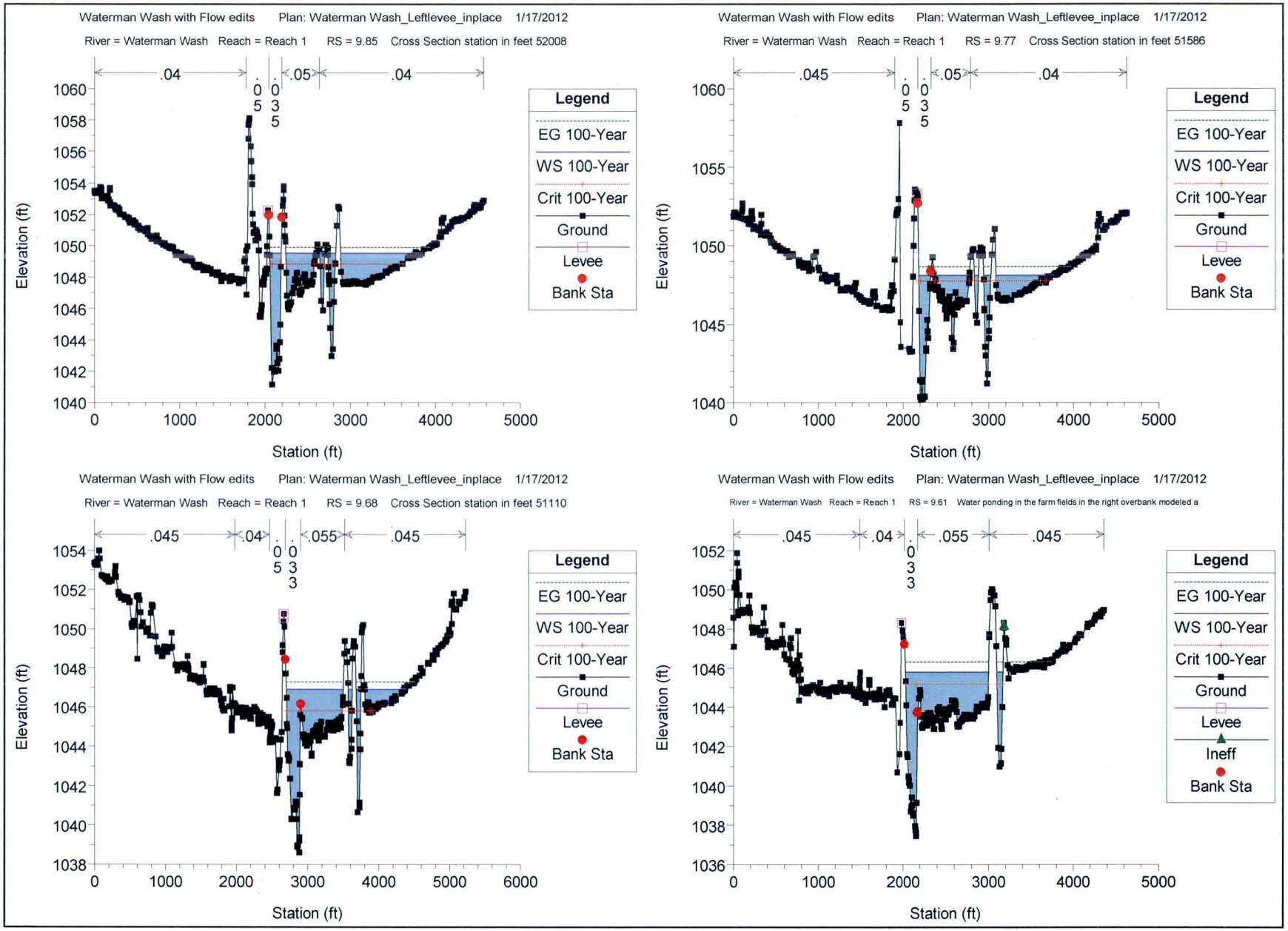

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.62 Water ponding in the farm fields in the left and right overbank
.04
.045
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.55 Water ponding in the farm fields in the left and right overbank
.04
.045
.05
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.45 Water ponding in the farm fields in the left and right overbank
.045
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.39 Water ponding in the farm fields in the left and right overbank
.04
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta

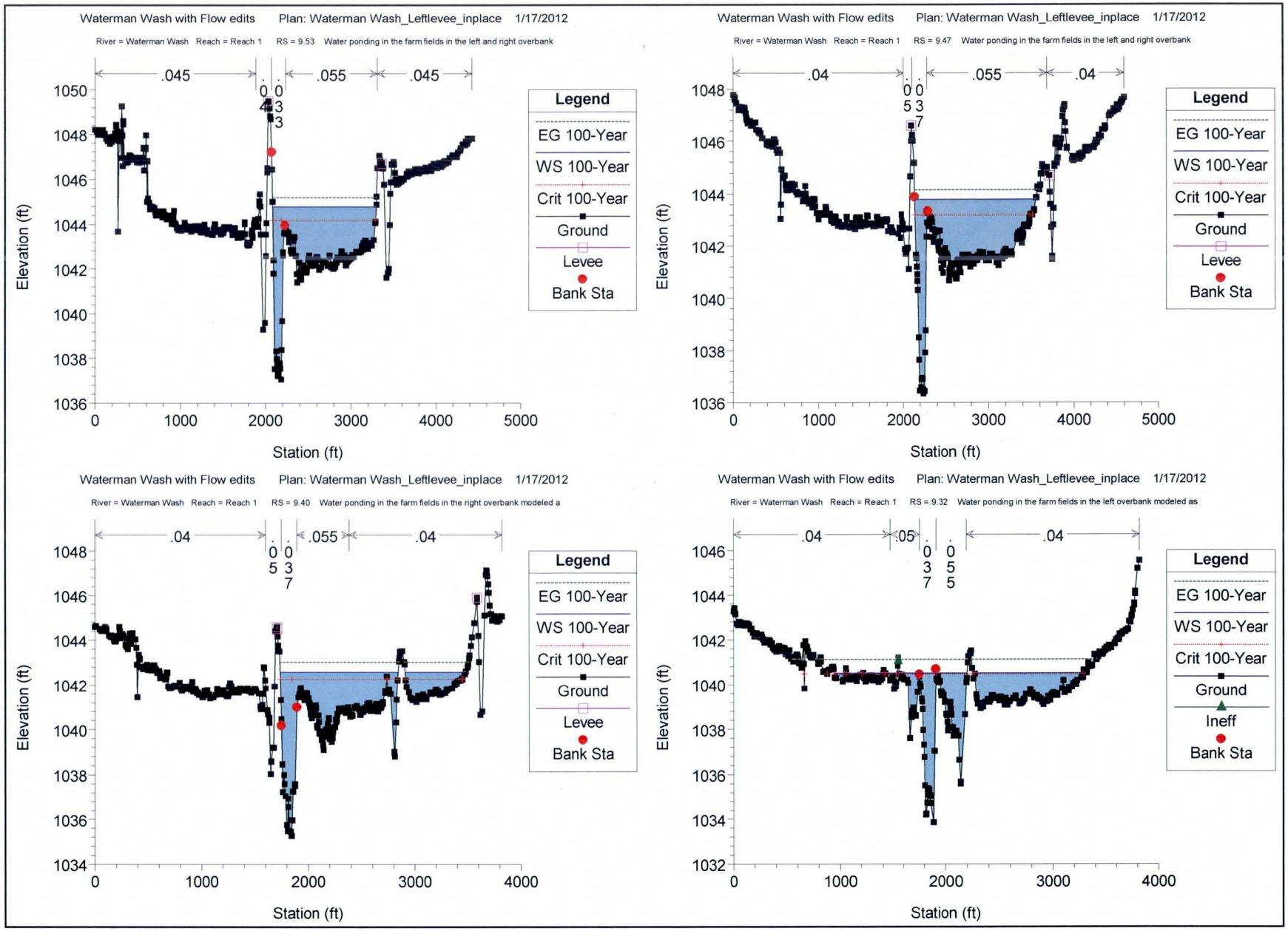

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.33 Water ponding in the farm fields in the left and right overbank
.04
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.24 Water ponding in the farm fields in the left overbank modeled as
.04
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.16 Water ponding in the farm fields in the left overbank modeled as
.04
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.07 crosses Chandler Heights. Water ponding in the farm fields in t
.04
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

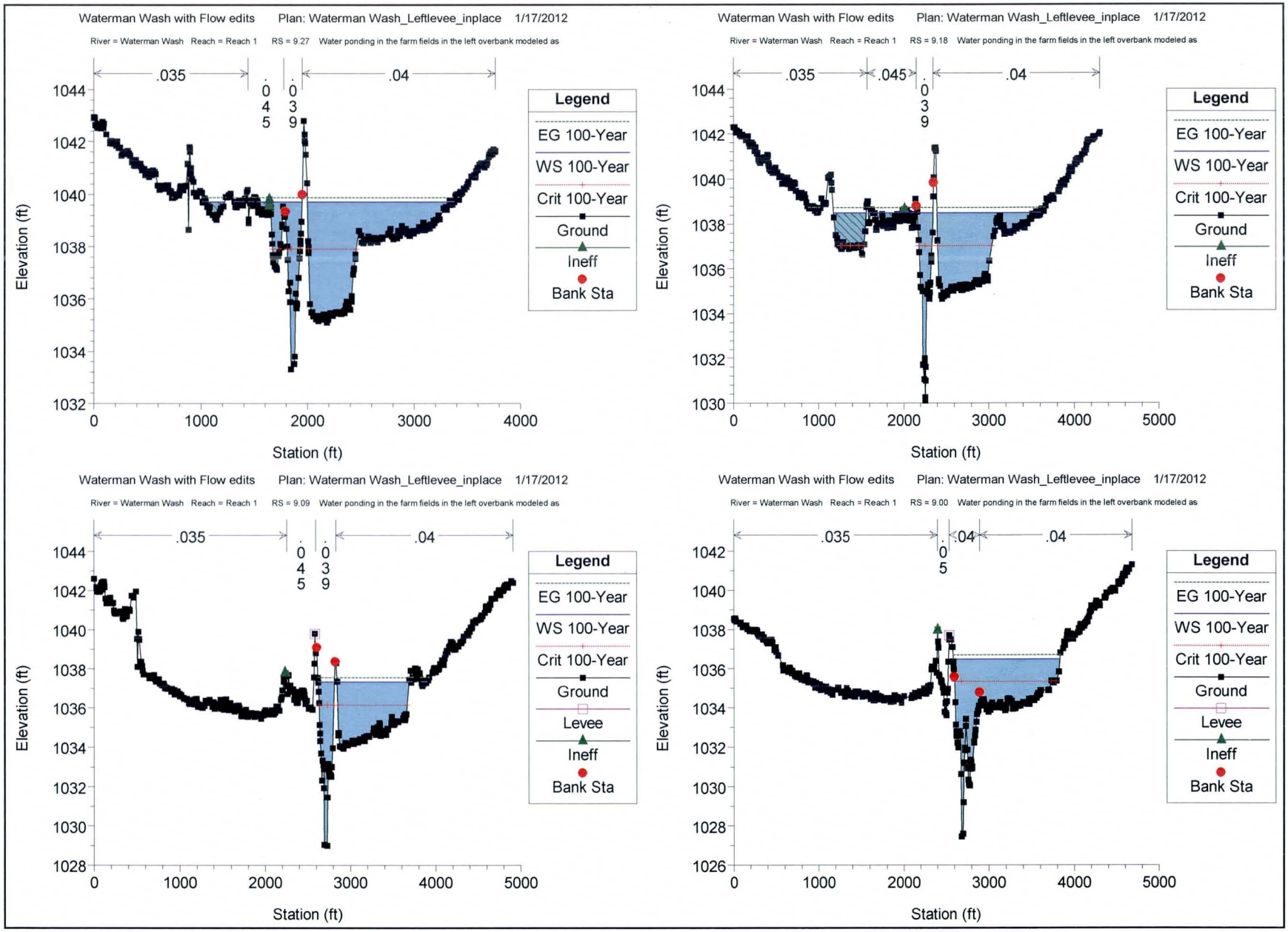

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.99 Water ponding in the farm fields in the left and right overbank
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.92 crosses Chandler Heights. Water ponding in the farm fields in t
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.87 crosses Chandler Heights. Water ponding in the farm fields in t
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.75 Water ponding in the farm fields in the left overbank modeled as
.04
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta

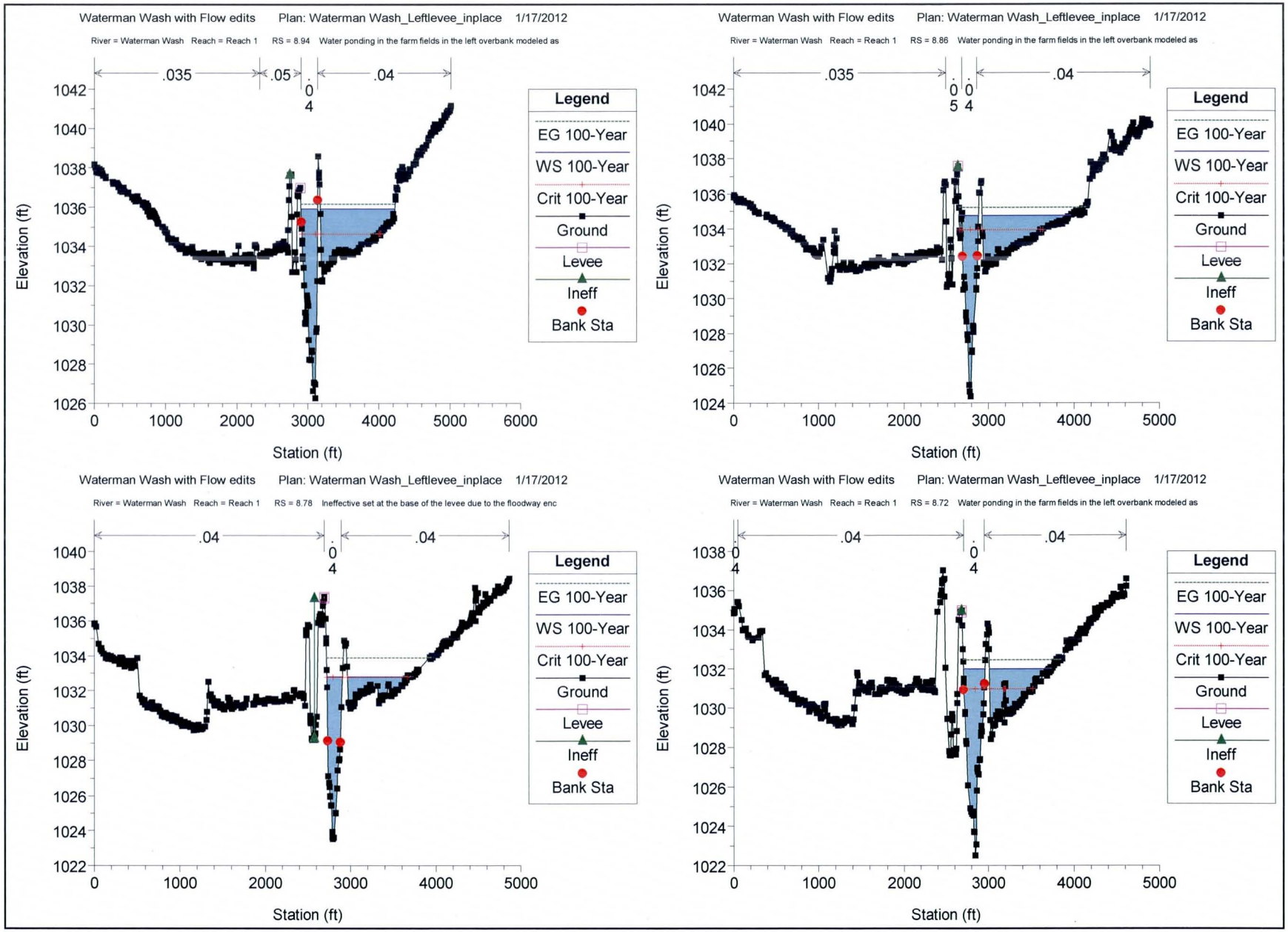

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.60 Cross Section station in feet 55968
.04
.04
0.055 0.035 0.055 0.016
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.45 Pond area located in the left overbank modeled as an ineffective
.04
.045
0.055 0.035 0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.26 crosses Chandler Heights
.04
.055
.04
0.035 0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.18 Cross Section station in feet 53750
.04
.04
0.055 0.035 0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

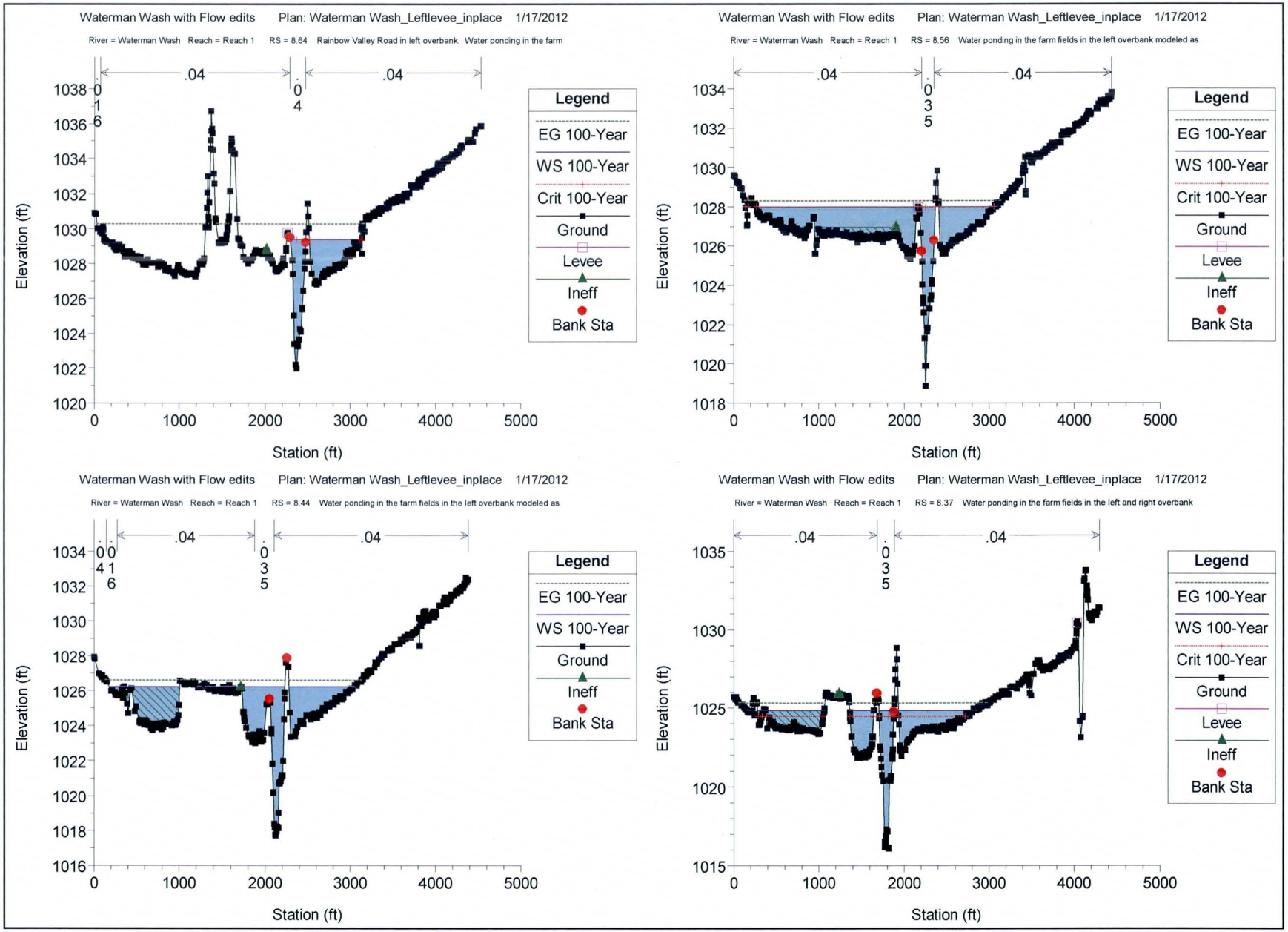

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.10 Cross Section station in feet 53328
.04
.05
.05
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.04 Cross Section station in feet 53011
.04
.05
.05
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.96 Cross Section station in feet 52589
.04
.05
.05
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.91 Cross Section station in feet 52325
.04
.05
.05
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

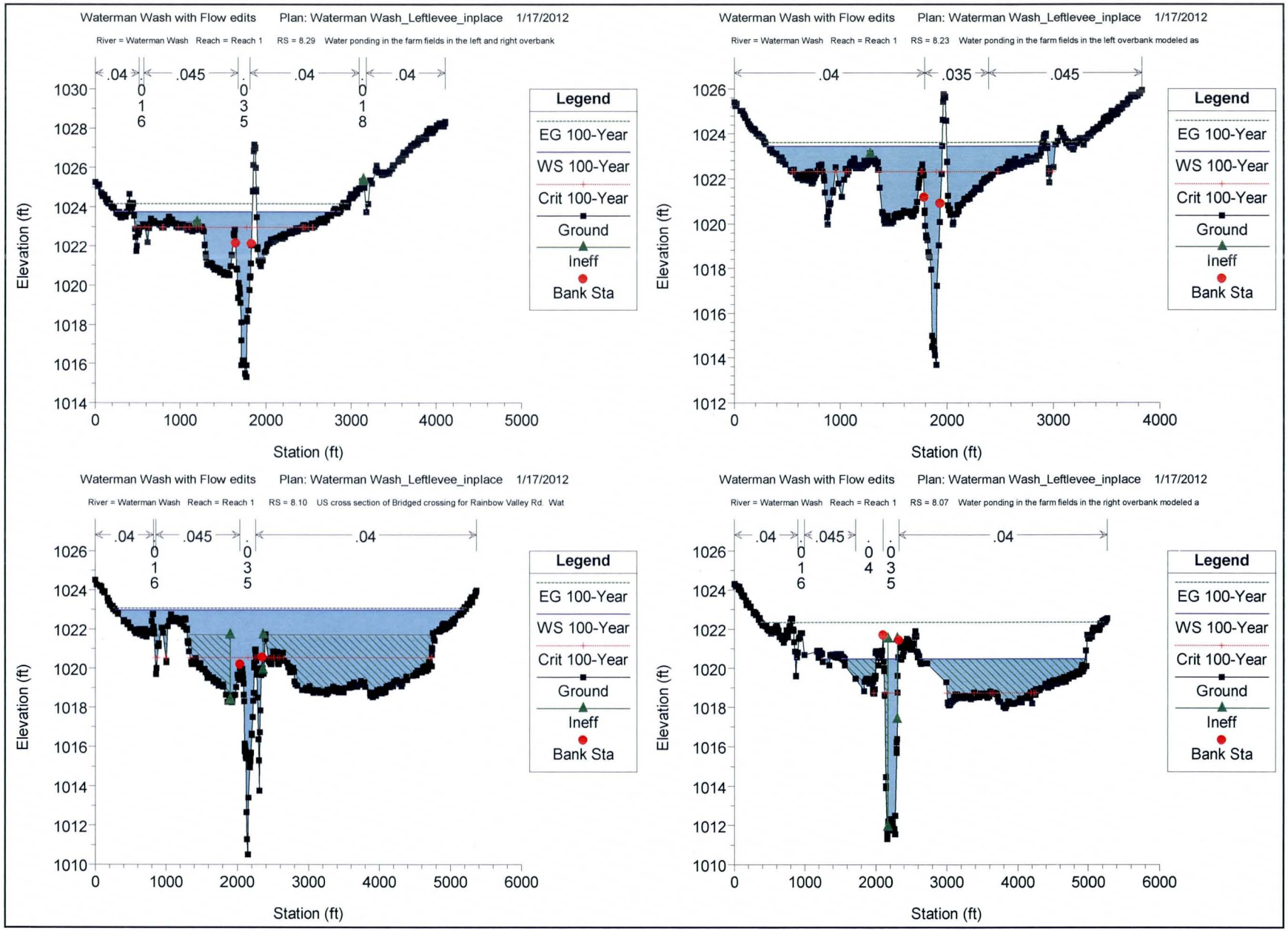

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.85 Cross Section station in feet 52008
.04
.05
.04
0.05
0.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.77 Cross Section station in feet 51586
.045
.05
.04
0.05
0.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.68 Cross Section station in feet 51110
.045
.04
.055
.045
0.05
0.033
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.61 Water ponding in the farm fields in the right overbank modeled a
.045
.04
.055
.045
0.033
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

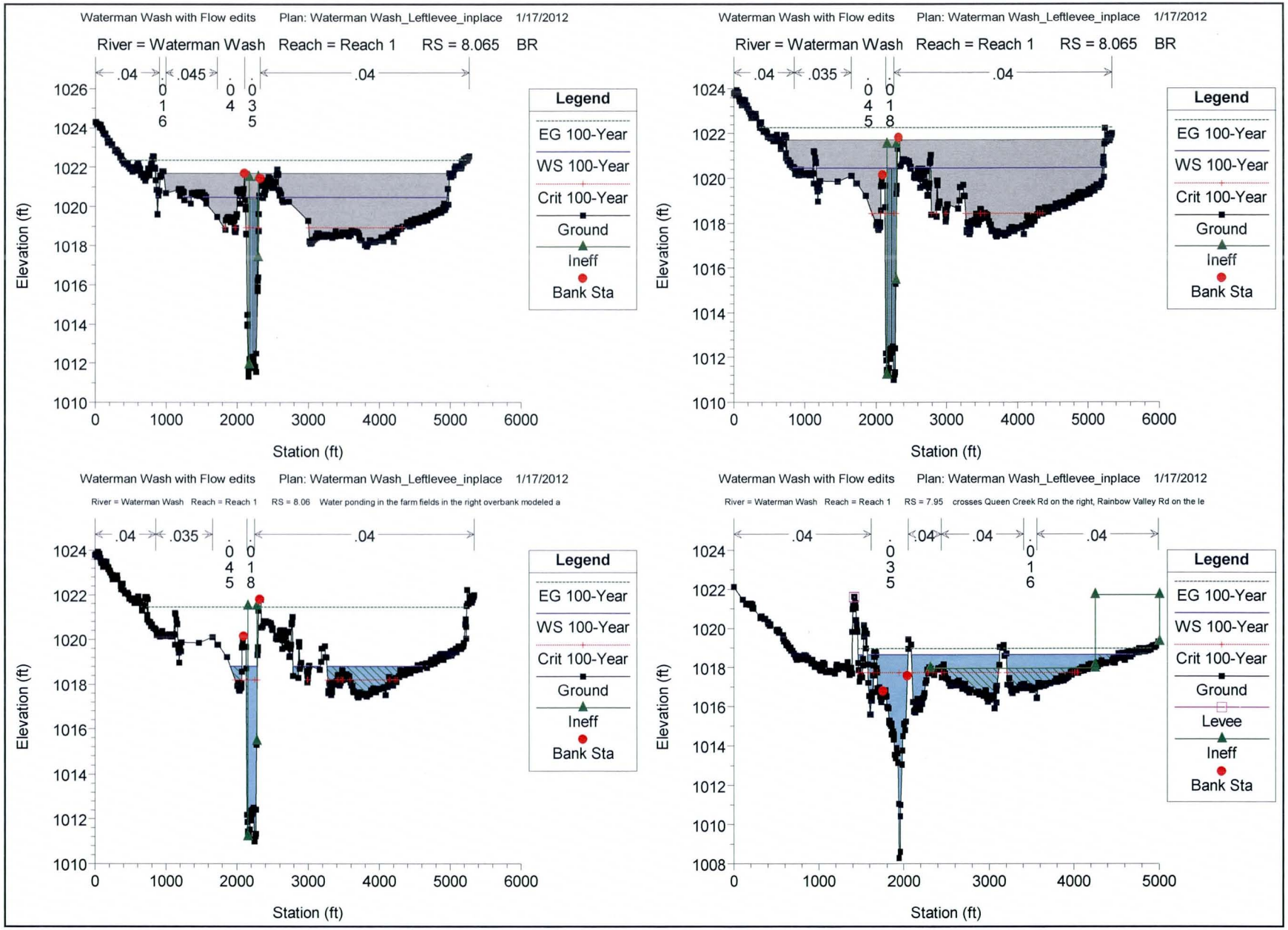

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.53 Water ponding in the farm fields in the left and right overbank
.045
.055
.045
0.043
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.47 Water ponding in the farm fields in the left and right overbank
.04
.055
.04
0.053
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.40 Water ponding in the farm fields in the right overbank modeled a
.04
.055
.04
0.053
0.037
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.32 Water ponding in the farm fields in the left overbank modeled as
.04
.05
.04
0.037
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

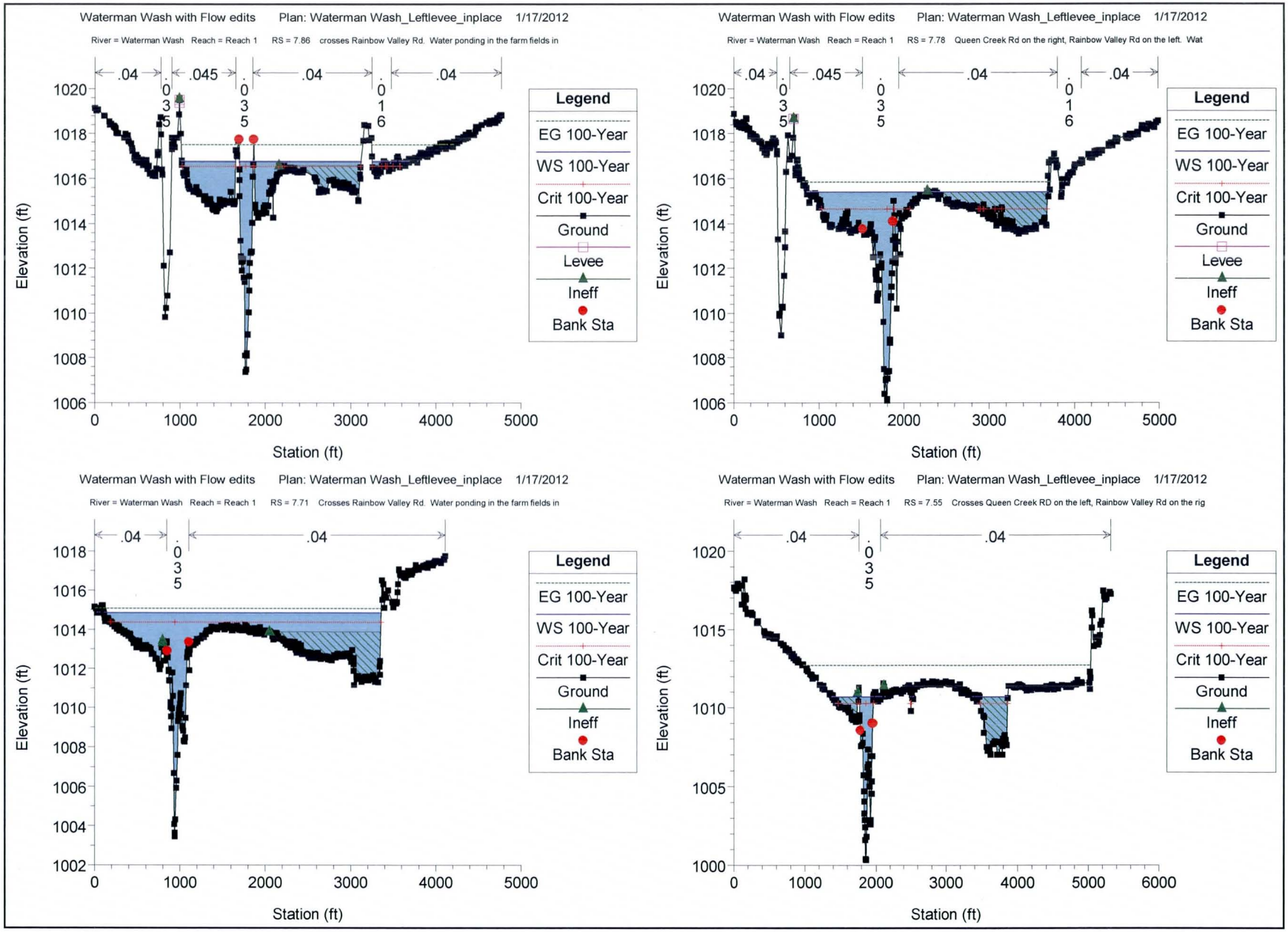

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.27 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.039
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.18 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.039
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.09 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.039
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.00 Water ponding in the farm fields in the left overbank modeled as
.035
.04
.04
.05
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

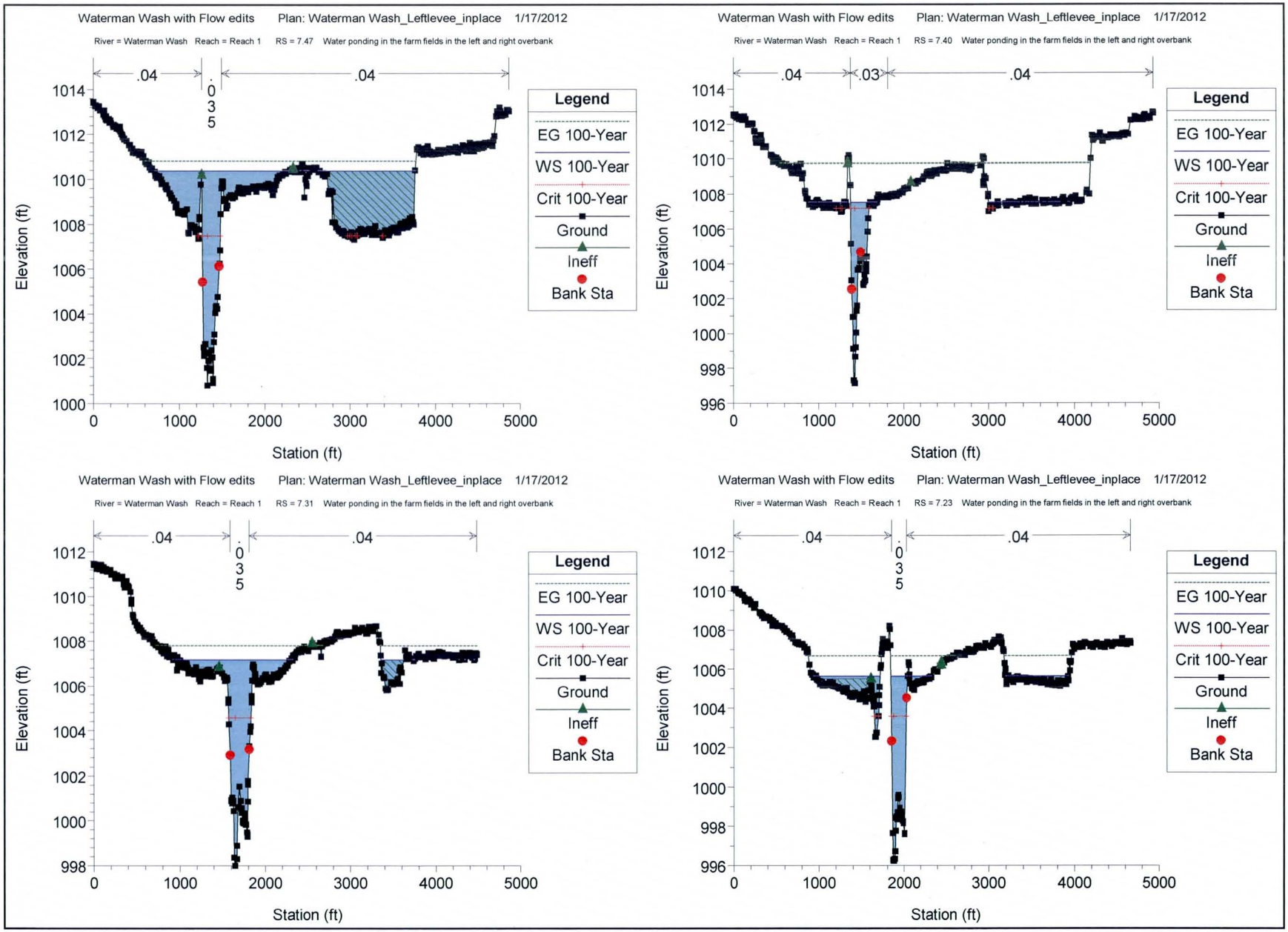

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.94 Water ponding in the farm fields in the left overbank modeled as
.035
.05
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.86 Water ponding in the farm fields in the left overbank modeled as
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.78 Ineffective set at the base of the levee due to the floodway enc
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.72 Water ponding in the farm fields in the left overbank modeled as
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

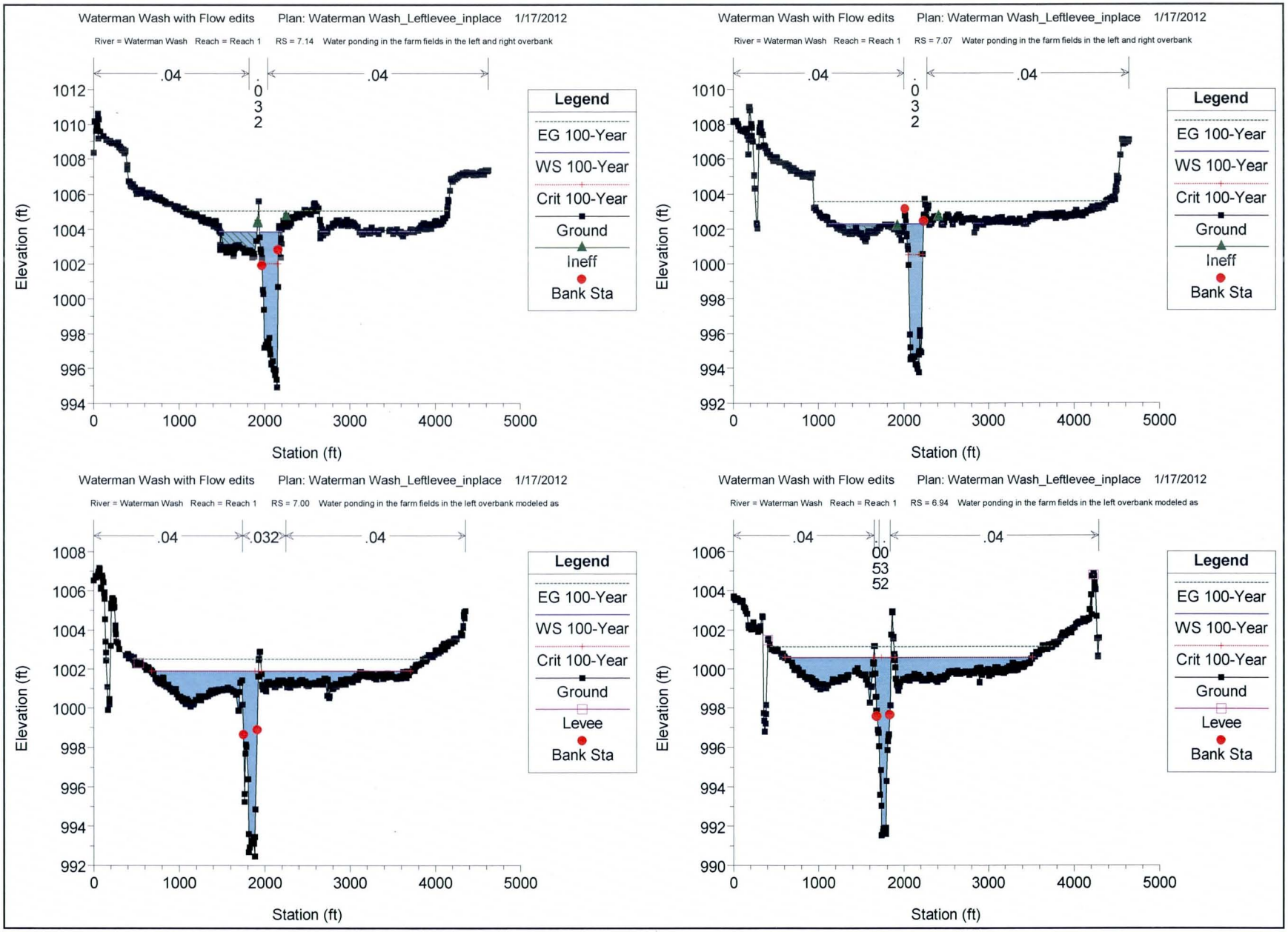

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.64 Rainbow Valley Road in left overbank. Water ponding in the farm
.04
.04
.04
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.56 Water ponding in the farm fields in the left overbank modeled as
.04
.04
.04
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.44 Water ponding in the farm fields in the left overbank modeled as
.04
.04
.04
.016
.035
Legend
EG 100-Year
WS 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.37 Water ponding in the farm fields in the left and right overbank
.04
.04
.04
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

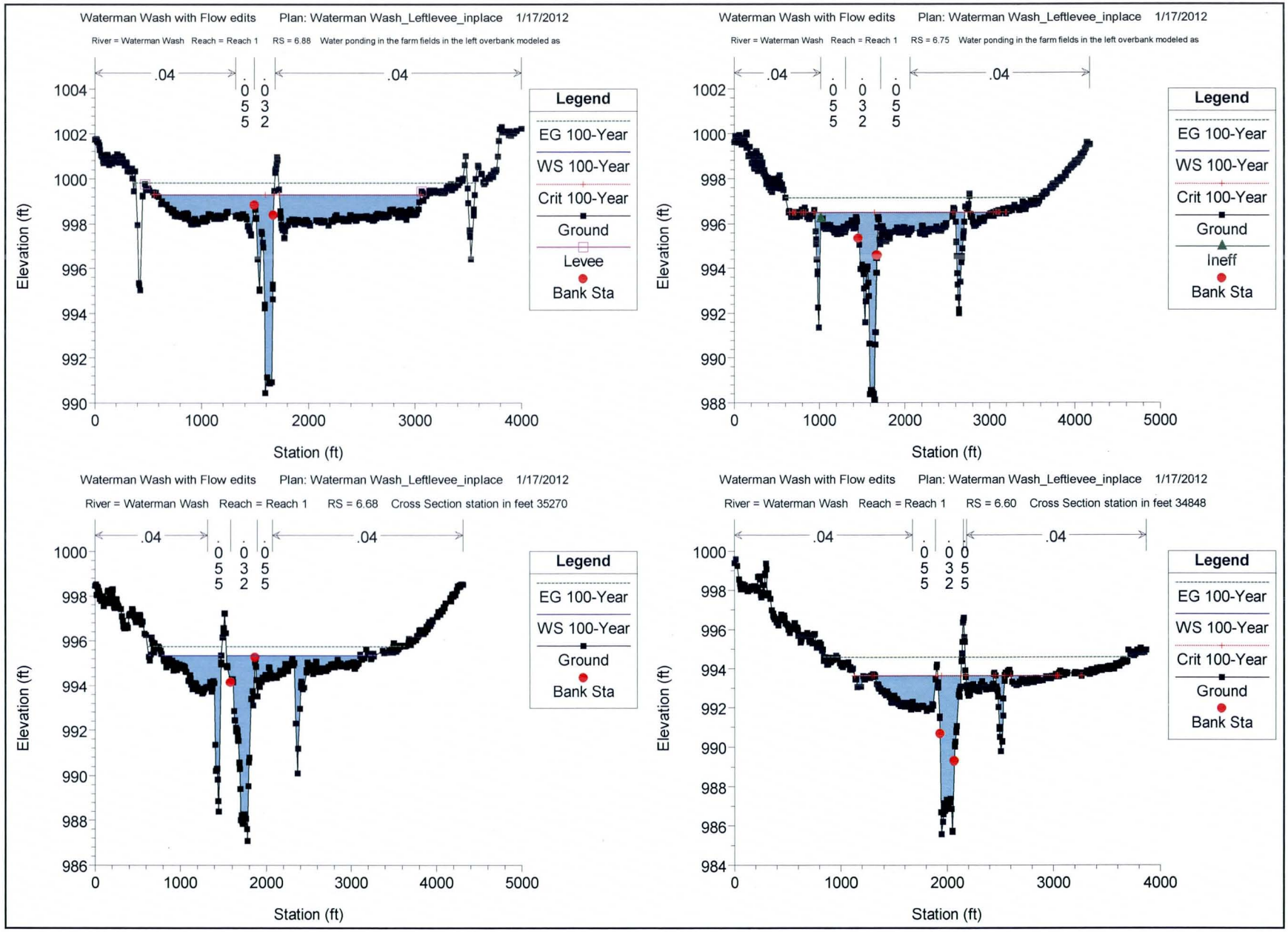

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.29 Water ponding in the farm fields in the left and right overbank
.04
.045
.04
.04
0.16
0.35
0.18
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.23 Water ponding in the farm fields in the left overbank modeled as
.04
.035
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.10 US cross section of Bridged crossing for Rainbow Valley Rd. Wat
.04
.045
.04
0.16
0.35
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.07 Water ponding in the farm fields in the right overbank modeled a
.04
.045
.04
0.16
0.04
0.35
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

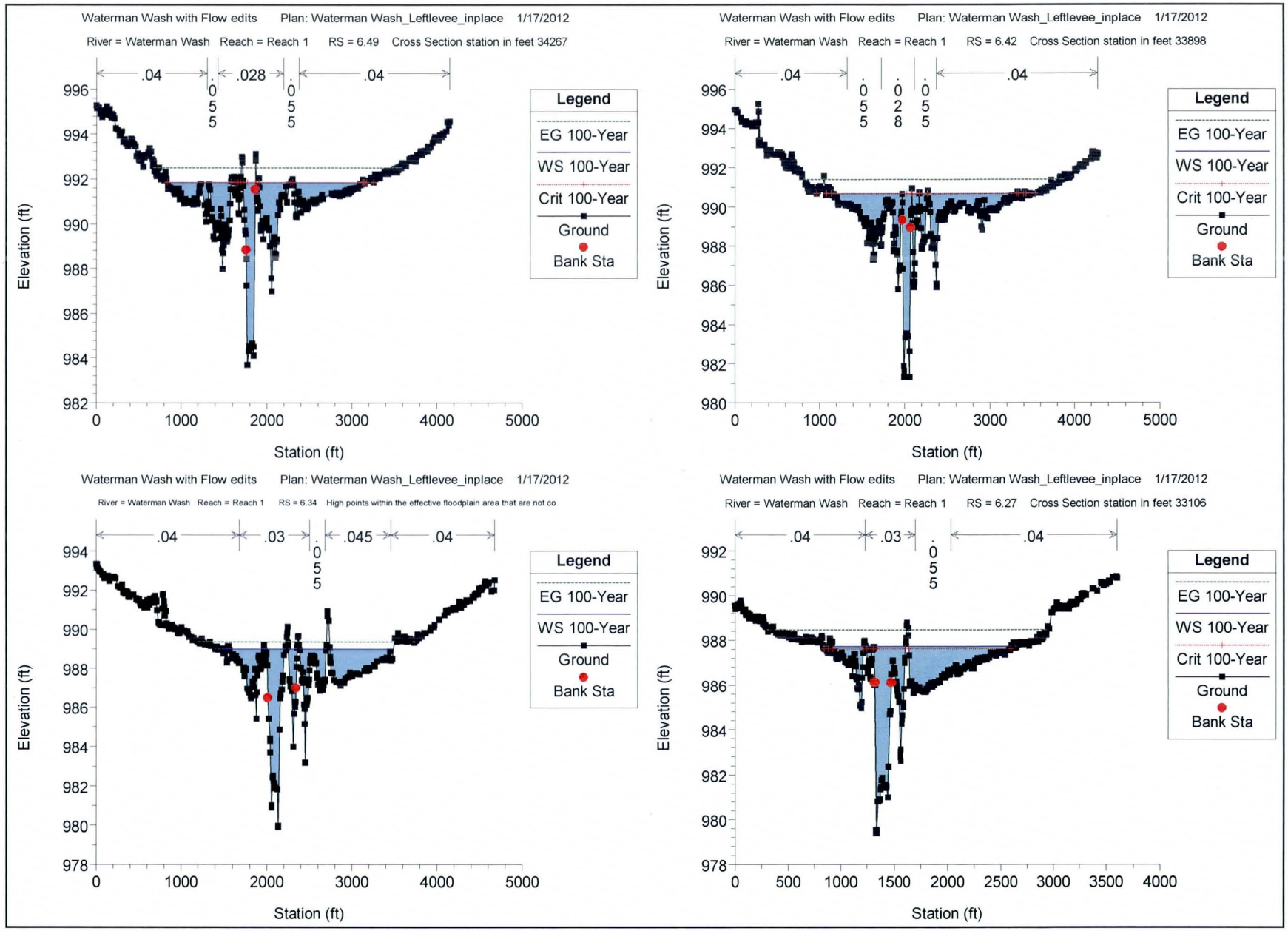

Waterman Wash with Flow edits
Plan: Waterman Wash_Leftlevee_inplace
1/17/2012
River = Waterman Wash
Reach = Reach 1
RS = 8.065
BR
.04
.045
.04
.016
.045
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits
Plan: Waterman Wash_Leftlevee_inplace
1/17/2012
River = Waterman Wash
Reach = Reach 1
RS = 8.065
BR
.04
.035
.04
.045
.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits
Plan: Waterman Wash_Leftlevee_inplace
1/17/2012
River = Waterman Wash
Reach = Reach 1
RS = 8.06
Water ponding in the farm fields in the right overbank modeled a
.04
.035
.04
.045
.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits
Plan: Waterman Wash_Leftlevee_inplace
1/17/2012
River = Waterman Wash
Reach = Reach 1
RS = 7.95
crosses Queen Creek Rd on the right, Rainbow Valley Rd on the le
.04
.04
.04
.04
.035
.016
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

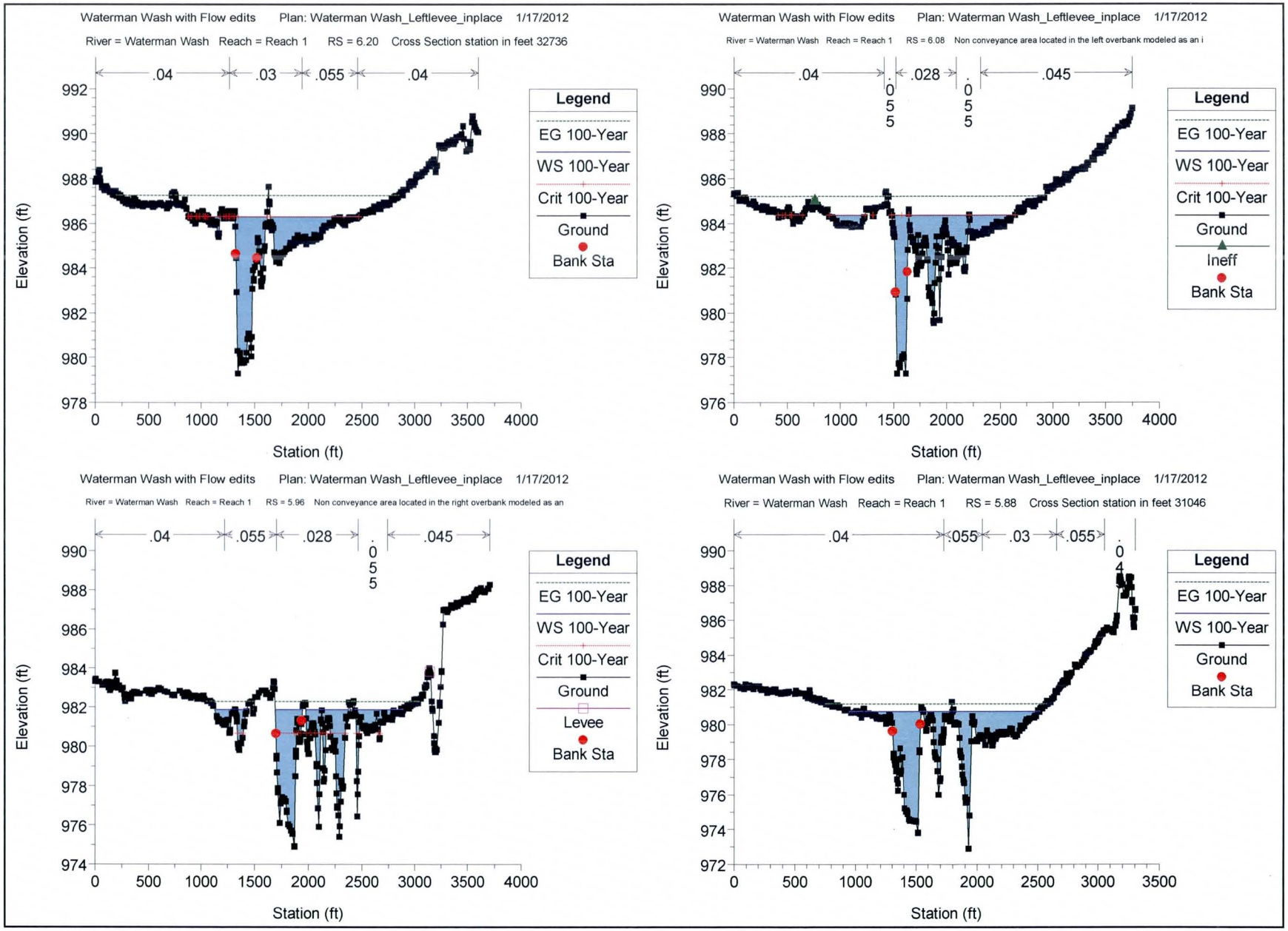

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.86 crosses Rainbow Valley Rd. Water ponding in the farm fields in
.04
.045
.04
.04
.035
.035
.016
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.78 Queen Creek Rd on the right, Rainbow Valley Rd on the left. Wat
.04
.045
.04
.04
.035
.035
.016
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.71 Crosses Rainbow Valley Rd. Water ponding in the farm fields in
.04
.04
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.55 Crosses Queen Creek RD on the left, Rainbow Valley Rd on the rig
.04
.04
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

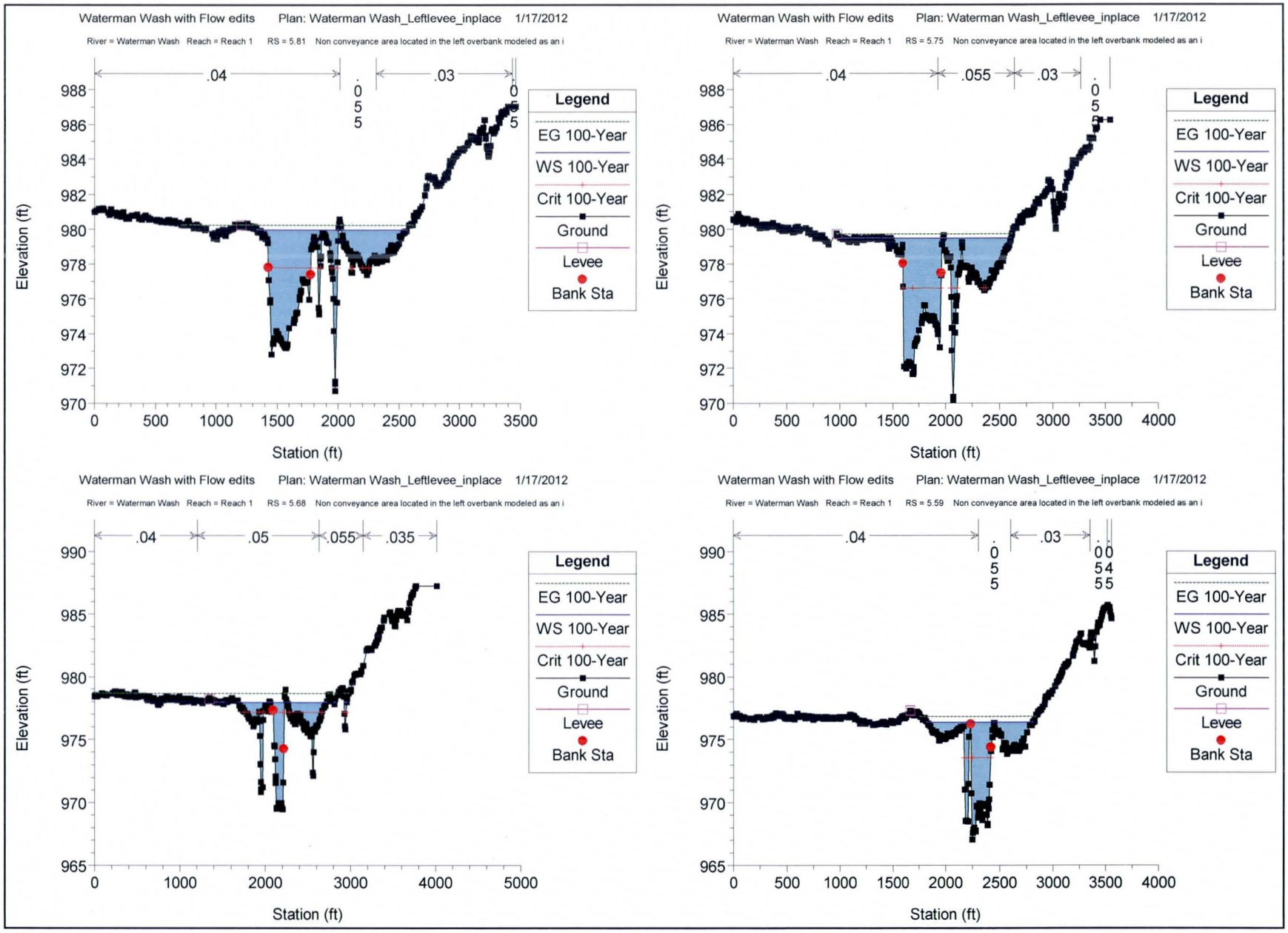

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.47 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.40 Water ponding in the farm fields in the left and right overbank
.04
.03
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.31 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.23 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta

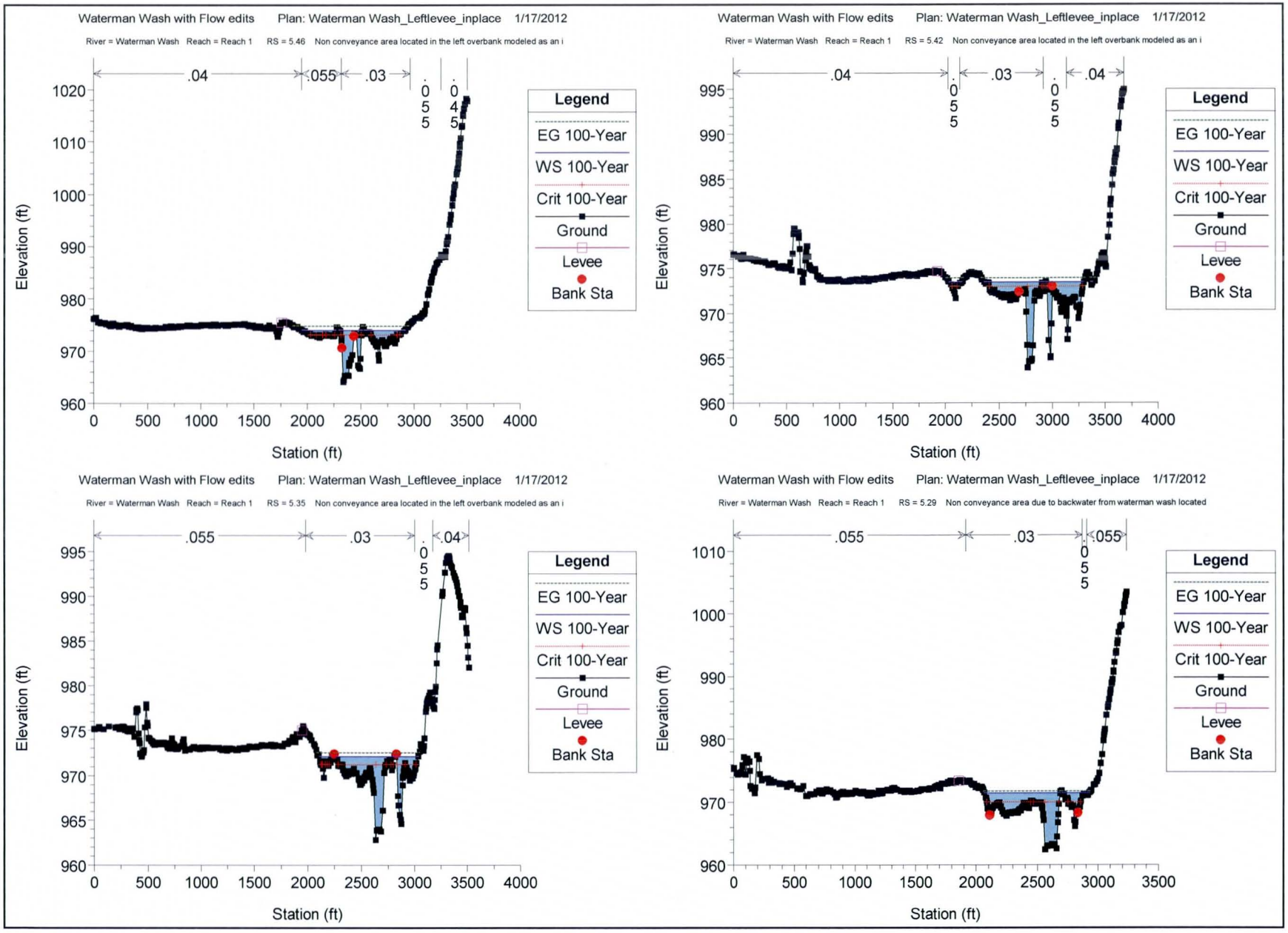

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.14 Water ponding in the farm fields in the left and right overbank
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.07 Water ponding in the farm fields in the left and right overbank
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.00 Water ponding in the farm fields in the left overbank modeled as
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.94 Water ponding in the farm fields in the left overbank modeled as
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

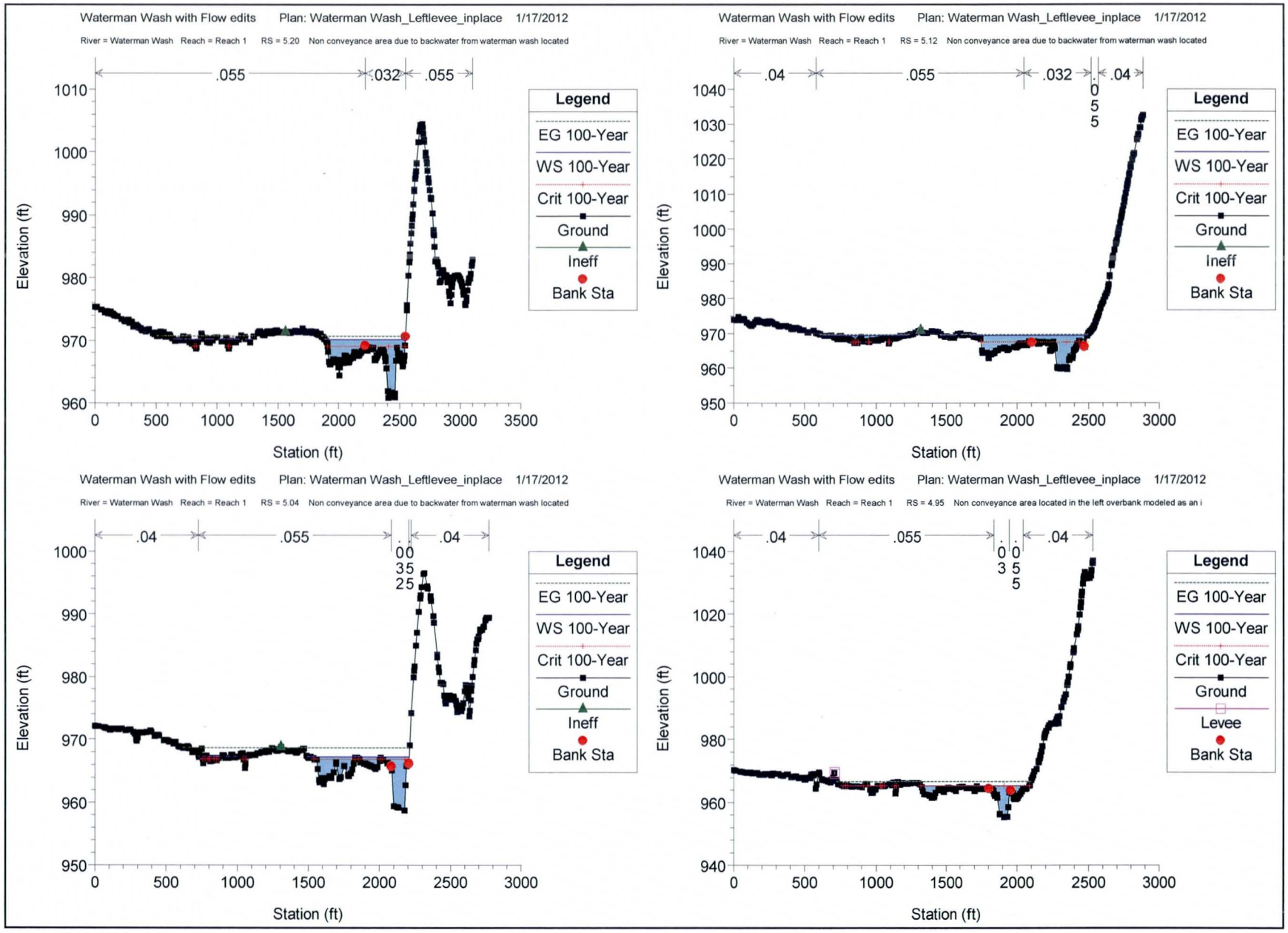

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.88 Water ponding in the farm fields in the left overbank modeled as
.04
.055
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.75 Water ponding in the farm fields in the left overbank modeled as
.04
.055
.032
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.68 Cross Section station in feet 35270
.04
.055
.032
.055
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.60 Cross Section station in feet 34848
.04
.055
.032
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

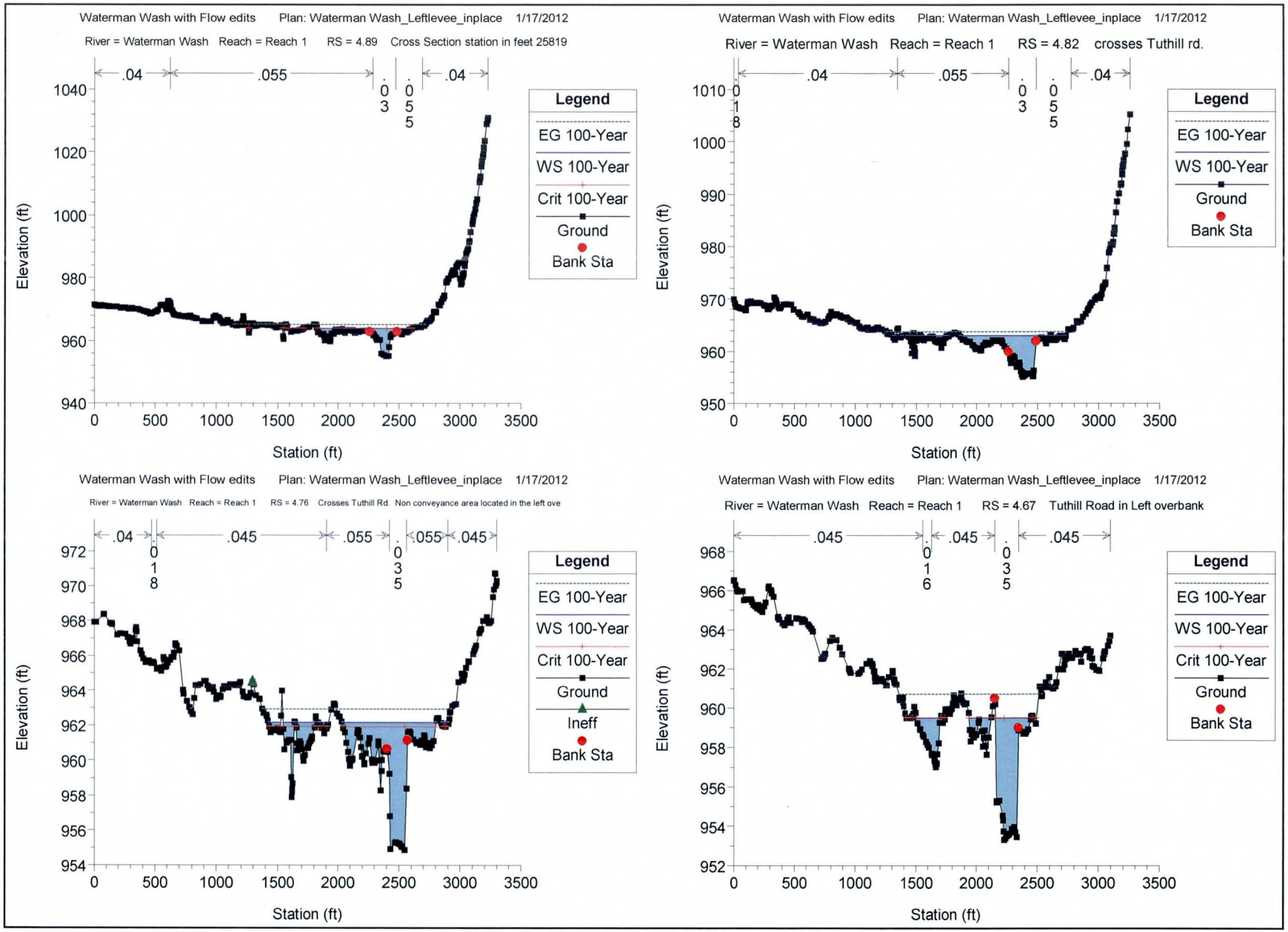

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.49 Cross Section station in feet 34267
.04
.055
.028
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.42 Cross Section station in feet 33898
.04
.055
.028
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.34 High points within the effective floodplain area that are not co
.04
.03
.055
.045
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.27 Cross Section station in feet 33106
.04
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

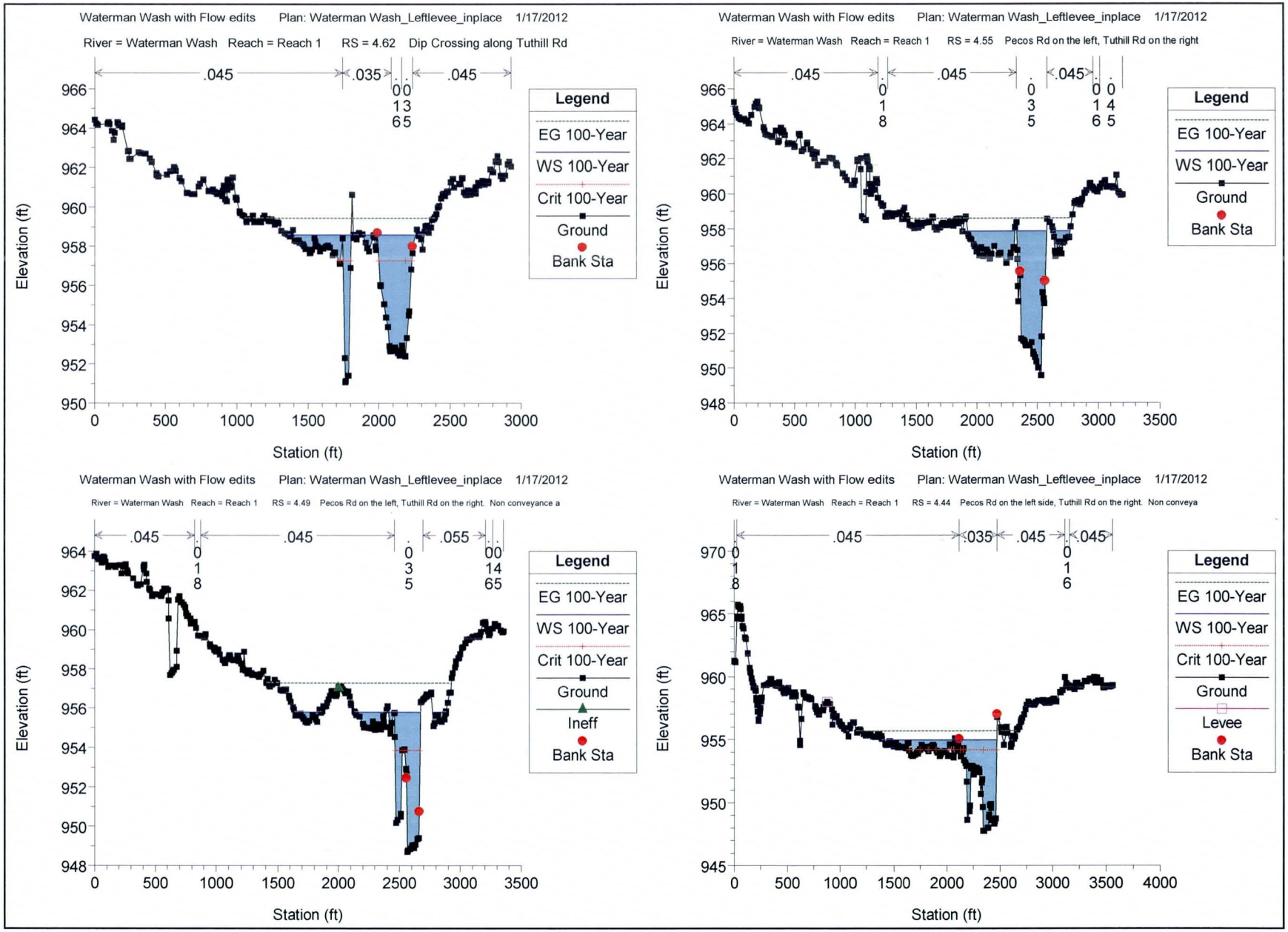

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.20 Cross Section station in feet 32736
.04
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.08 Non conveyance area located in the left overbank modeled as an i
.04
.055
.028
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.96 Non conveyance area located in the right overbank modeled as an
.04
.055
.028
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.88 Cross Section station in feet 31046
.04
.055
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

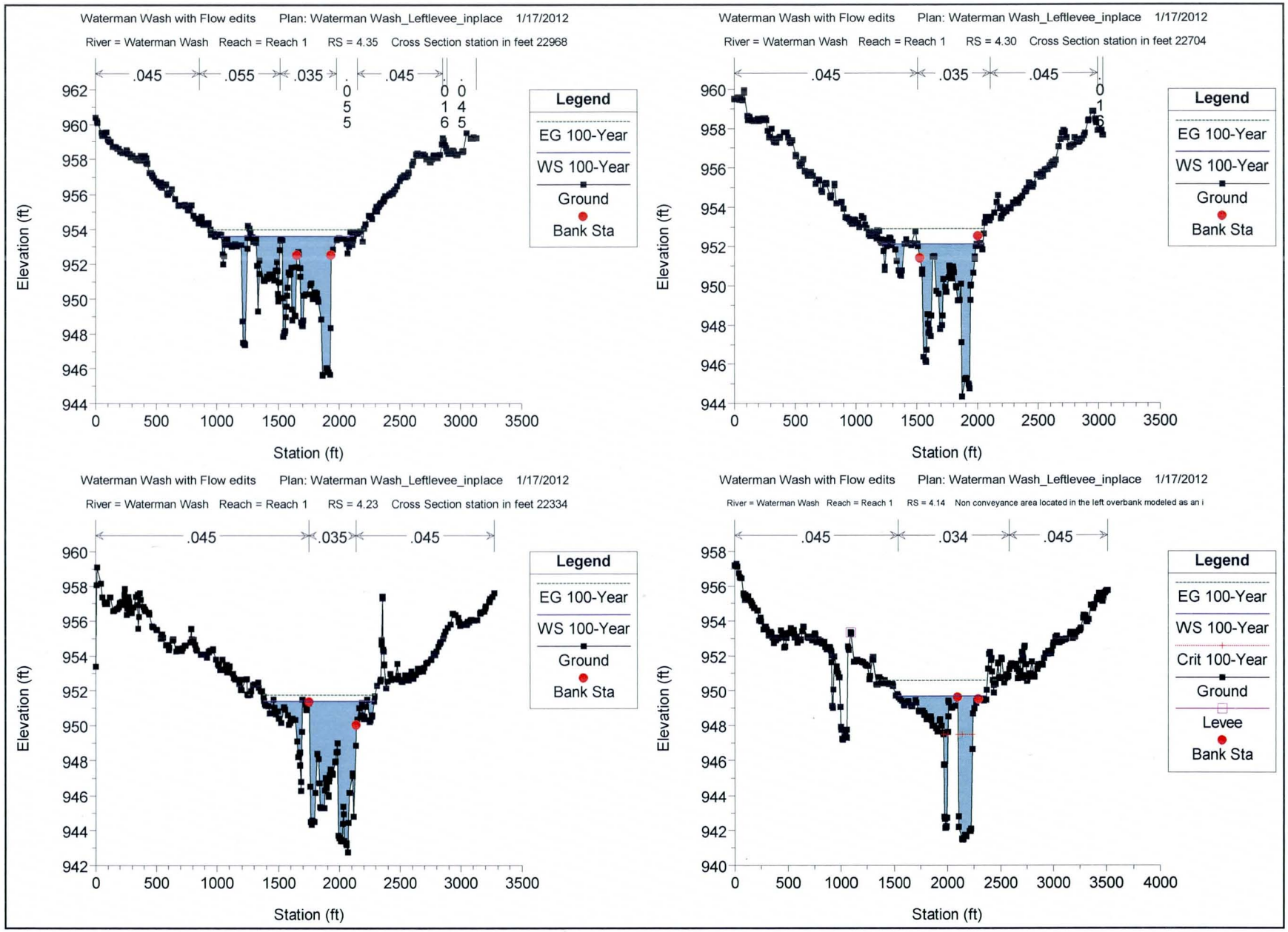

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.81 Non conveyance area located in the left overbank modeled as an i
.04
.03
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.75 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.68 Non conveyance area located in the left overbank modeled as an i
.04
.05
.055
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.59 Non conveyance area located in the left overbank modeled as an i
.04
.03
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

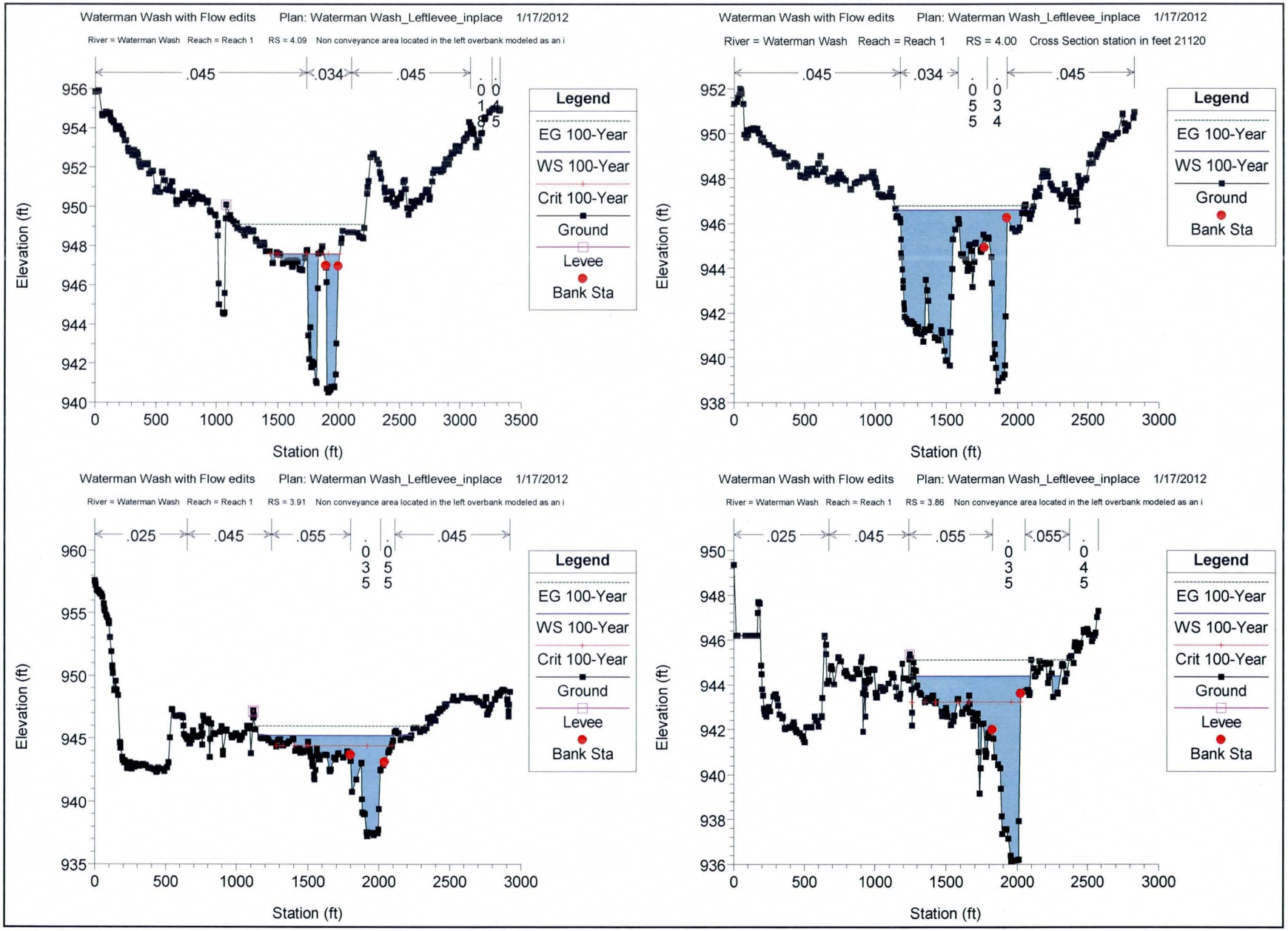

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.46 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
.045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.42 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.35 Non conveyance area located in the left overbank modeled as an i
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.29 Non conveyance area due to backwater from waterman wash located
.055
.03
.055
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

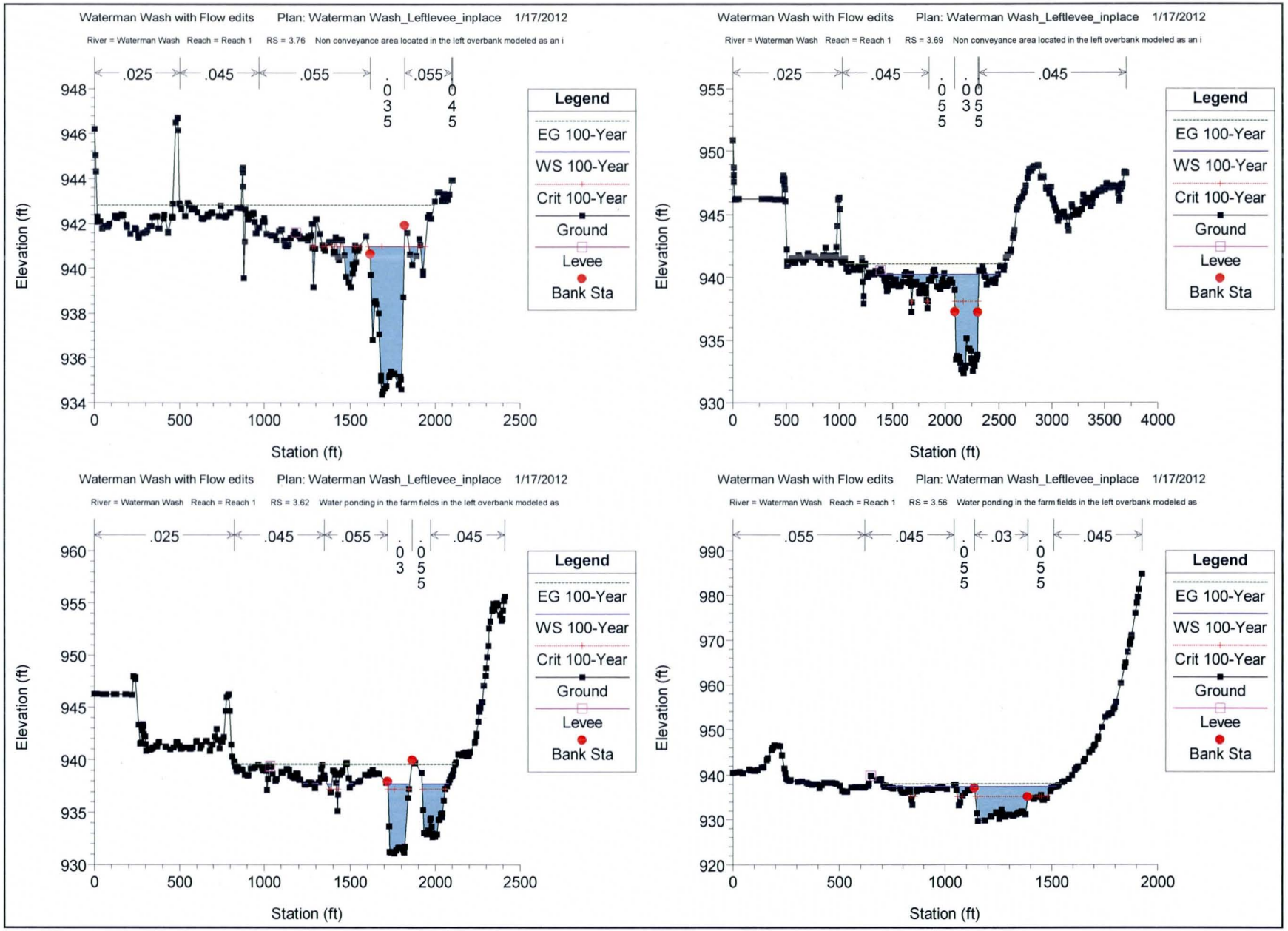

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.20 Non conveyance area due to backwater from waterman wash located
.055
.032
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.12 Non conveyance area due to backwater from waterman wash located
.04
.055
.032
.04
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.04 Non conveyance area due to backwater from waterman wash located
.04
.055
.04
.035
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.95 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
.04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

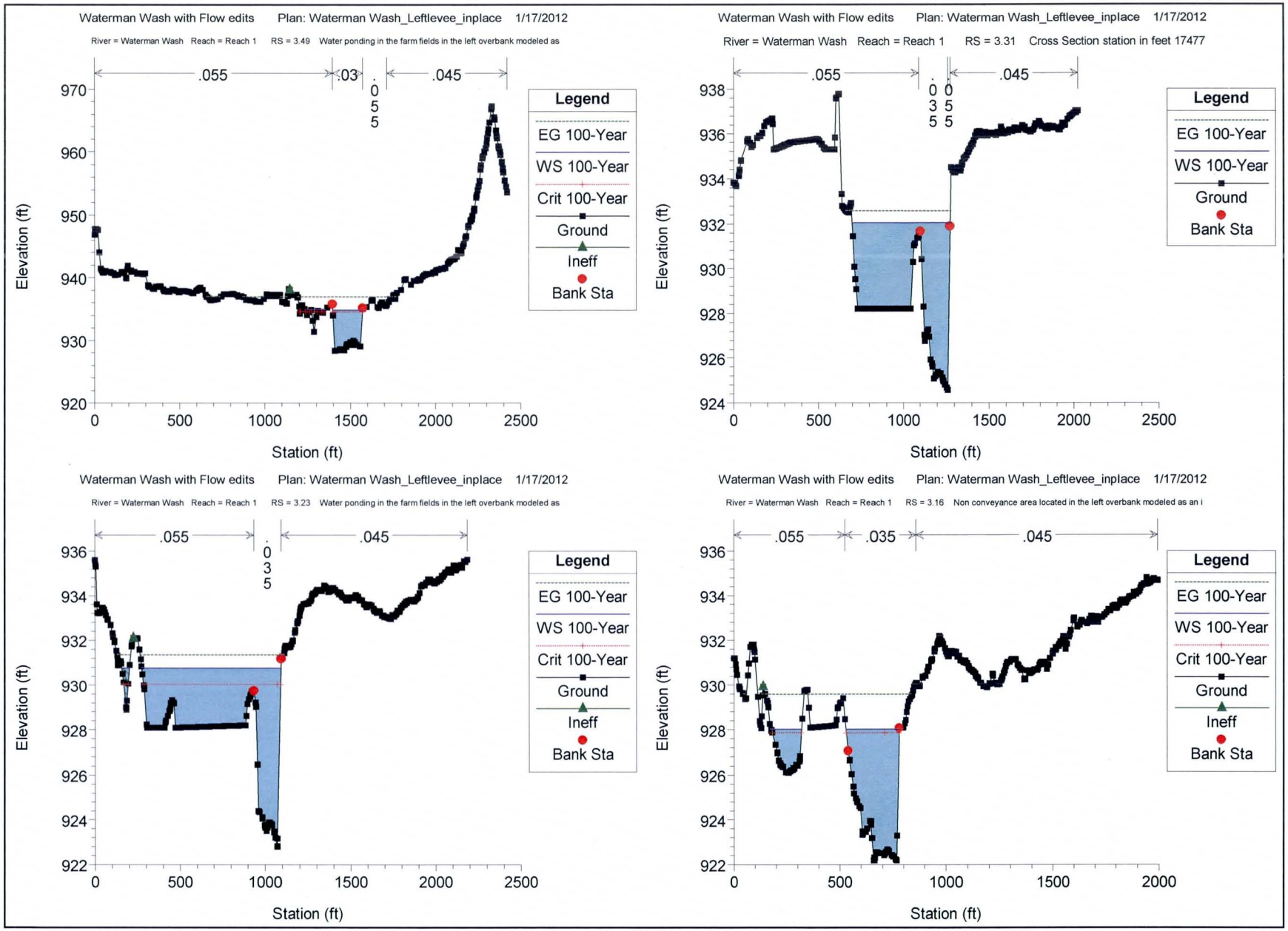

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.89 Cross Section station in feet 25819
.04 .055 .035 .04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.82 crosses Tuthill rd.
.04 .055 .018 .035 .04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.76 Crosses Tuthill Rd. Non conveyance area located in the left ove
.04 .018 .045 .055 .035 .055 .045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.67 Tuthill Road in Left overbank
.045 .016 .045 .035 .045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

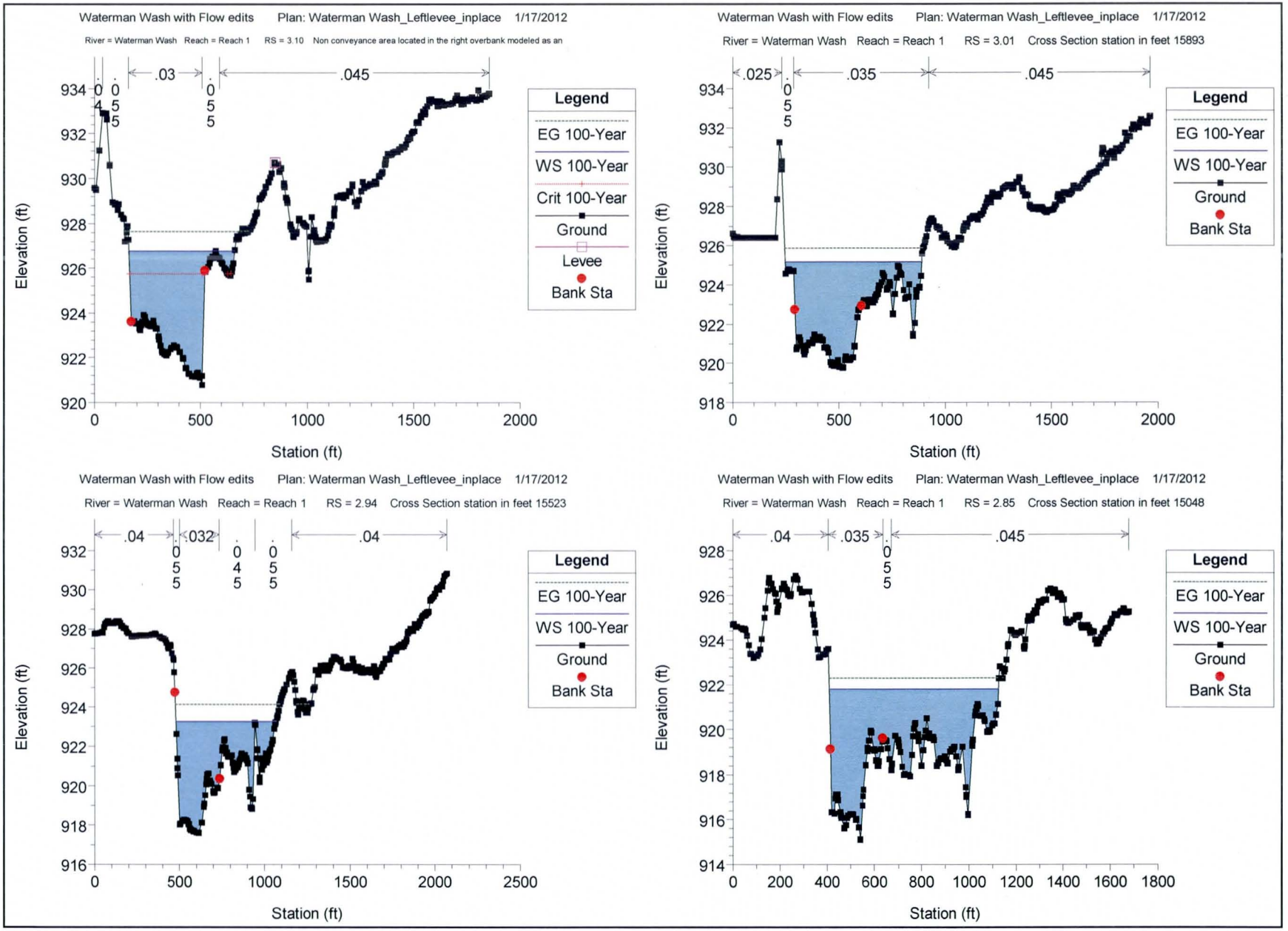

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.62 Dip Crossing along Tuthill Rd
.045
.035
.045
0 0
1 3
6 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.55 Pecos Rd on the left, Tuthill Rd on the right
.045
.045
.045
0
1
8
0
3
5
0 0
1 4
6 5
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.49 Pecos Rd on the left, Tuthill Rd on the right. Non conveyance a
.045
.045
.055
0
1
8
0
3
5
0 0
1 4
6 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.44 Pecos Rd on the left side, Tuthill Rd on the right. Non conveya
.045
.035
.045
.045
0
1
8
0
1
6
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

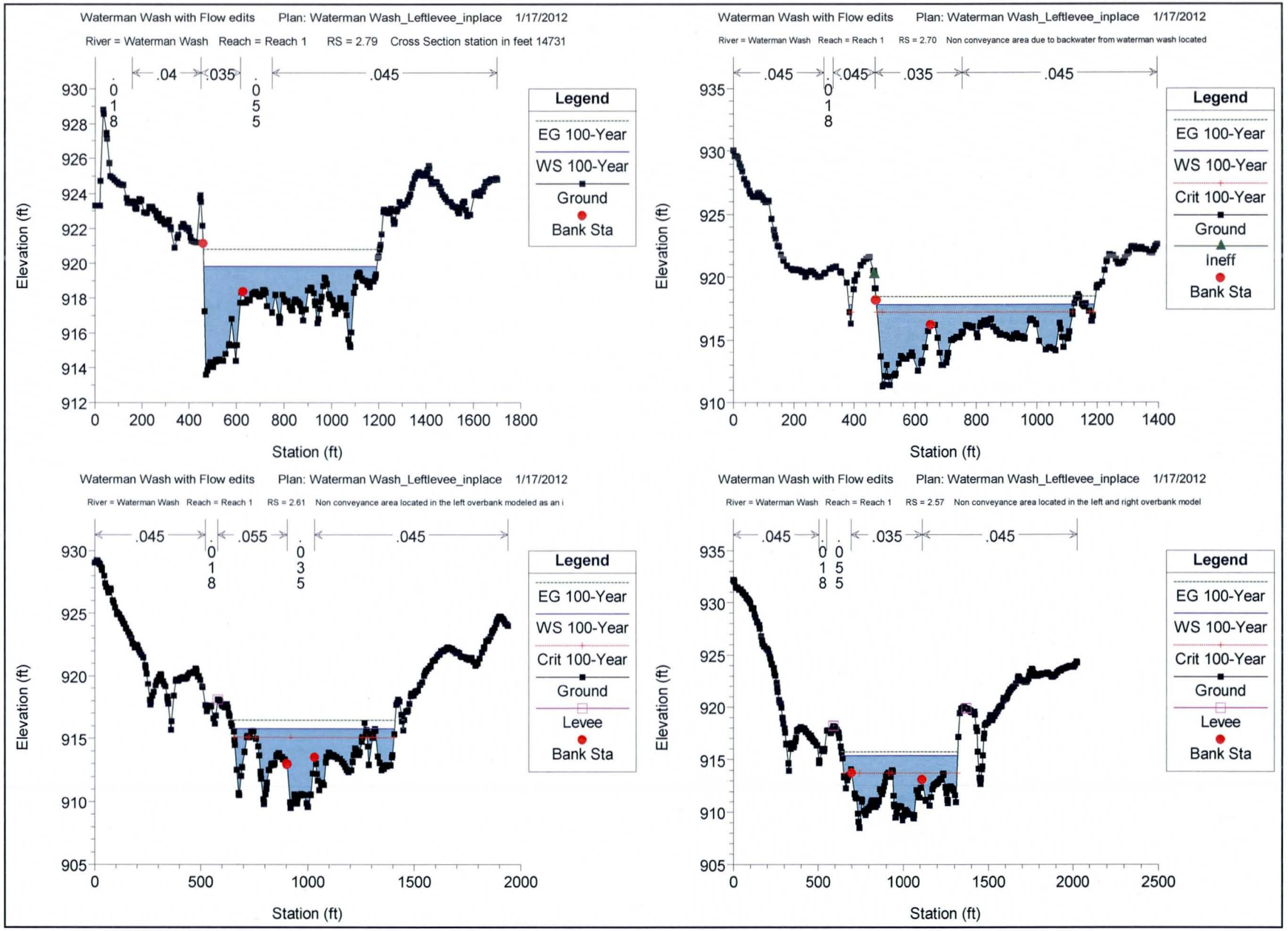

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.35 Cross Section station in feet 22968
.045
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.30 Cross Section station in feet 22704
.045
.035
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.23 Cross Section station in feet 22334
.045
.035
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.14 Non conveyance area located in the left overbank modeled as an i
.045
.034
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

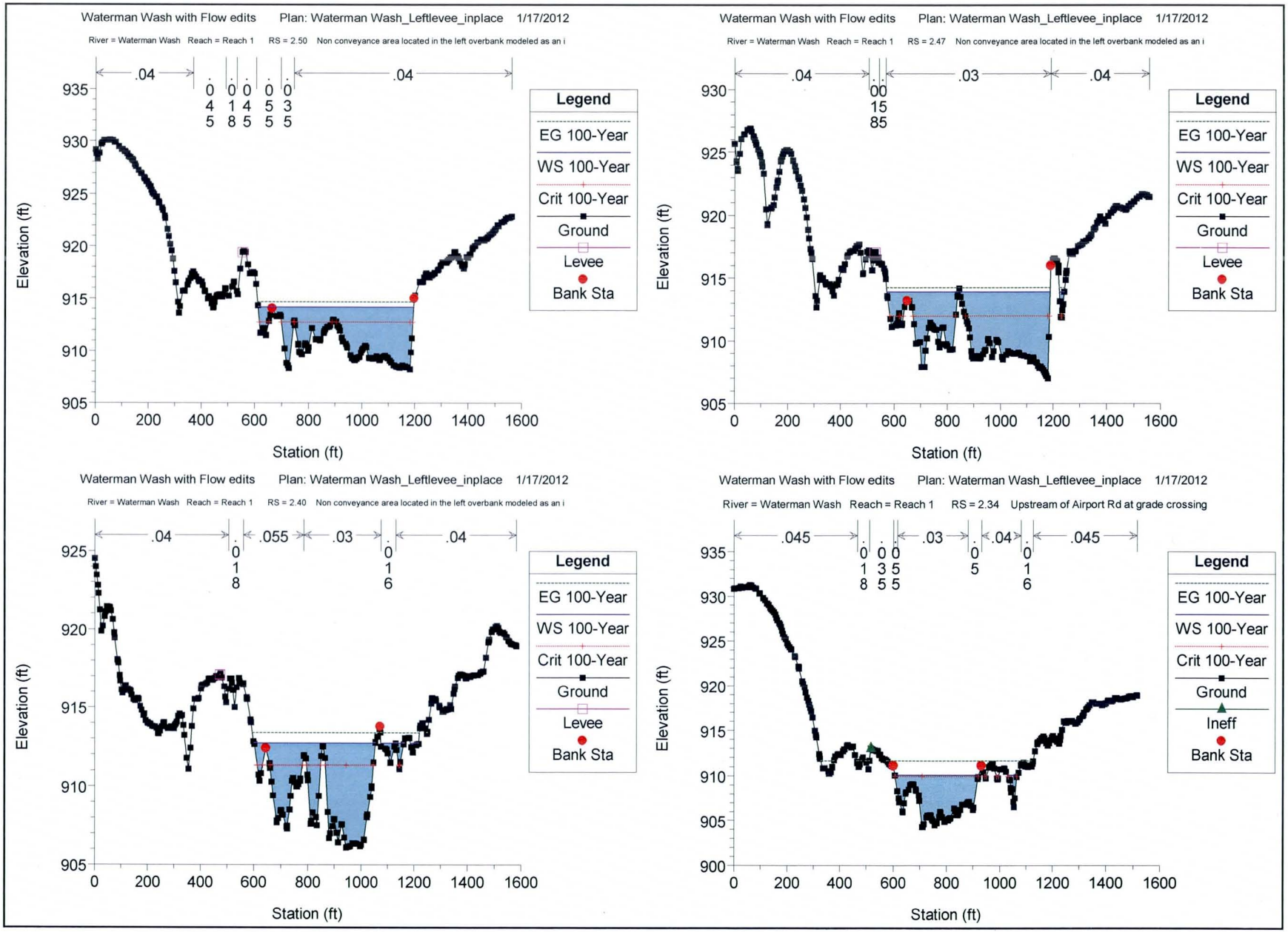

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.09 Non conveyance area located in the left overbank modeled as an i
.045
.034
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.00 Cross Section station in feet 21120
.045
.034
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.91 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.86 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

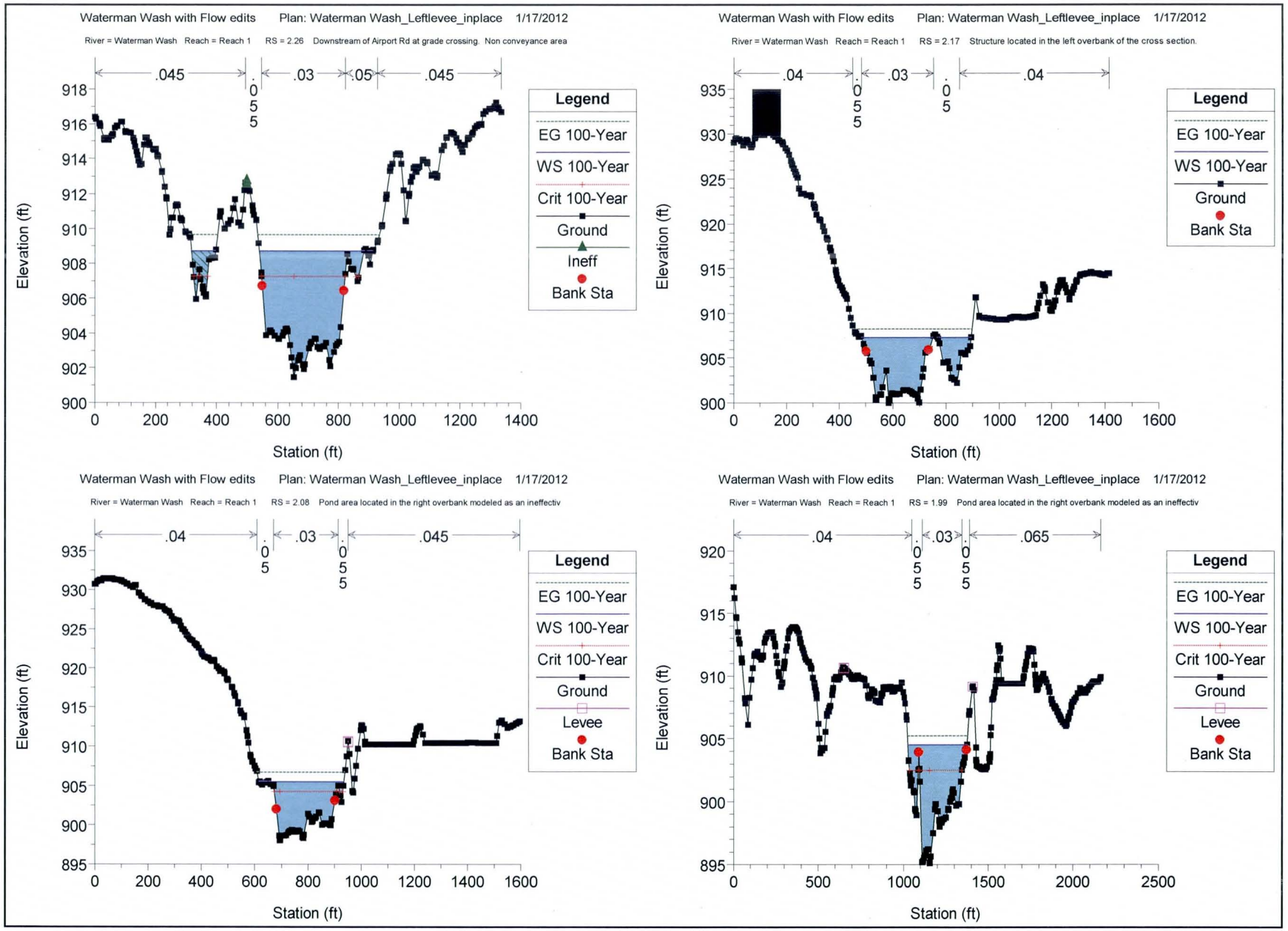

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.76 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.69 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.62 Water ponding in the farm fields in the left overbank modeled as
.025
.045
.055
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.56 Water ponding in the farm fields in the left overbank modeled as
.055
.045
.055
.03
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

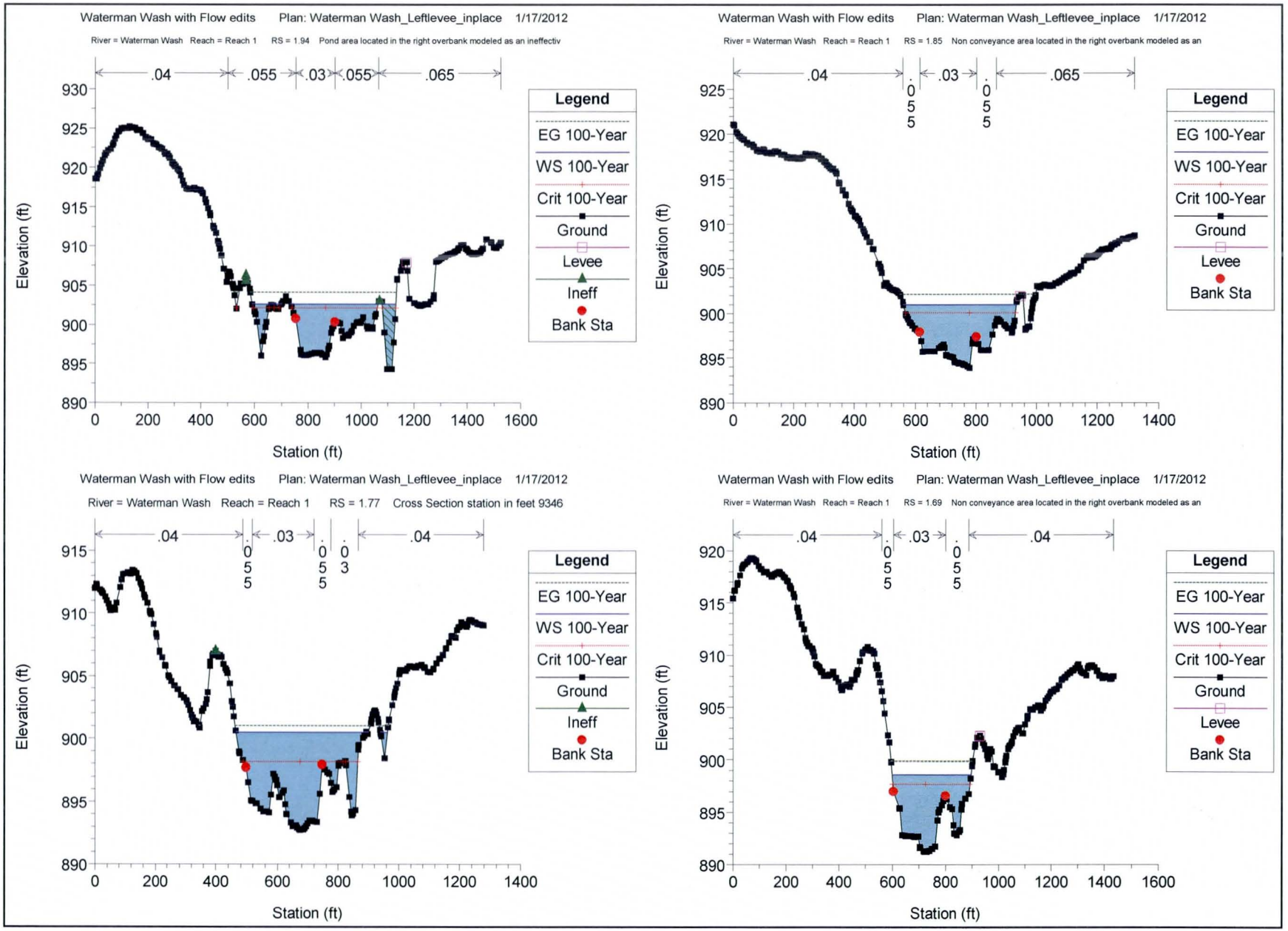

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.49 Water ponding in the farm fields in the left overbank modeled as
.055
.03
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.31 Cross Section station in feet 17477
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.23 Water ponding in the farm fields in the left overbank modeled as
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.16 Non conveyance area located in the left overbank modeled as an i
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

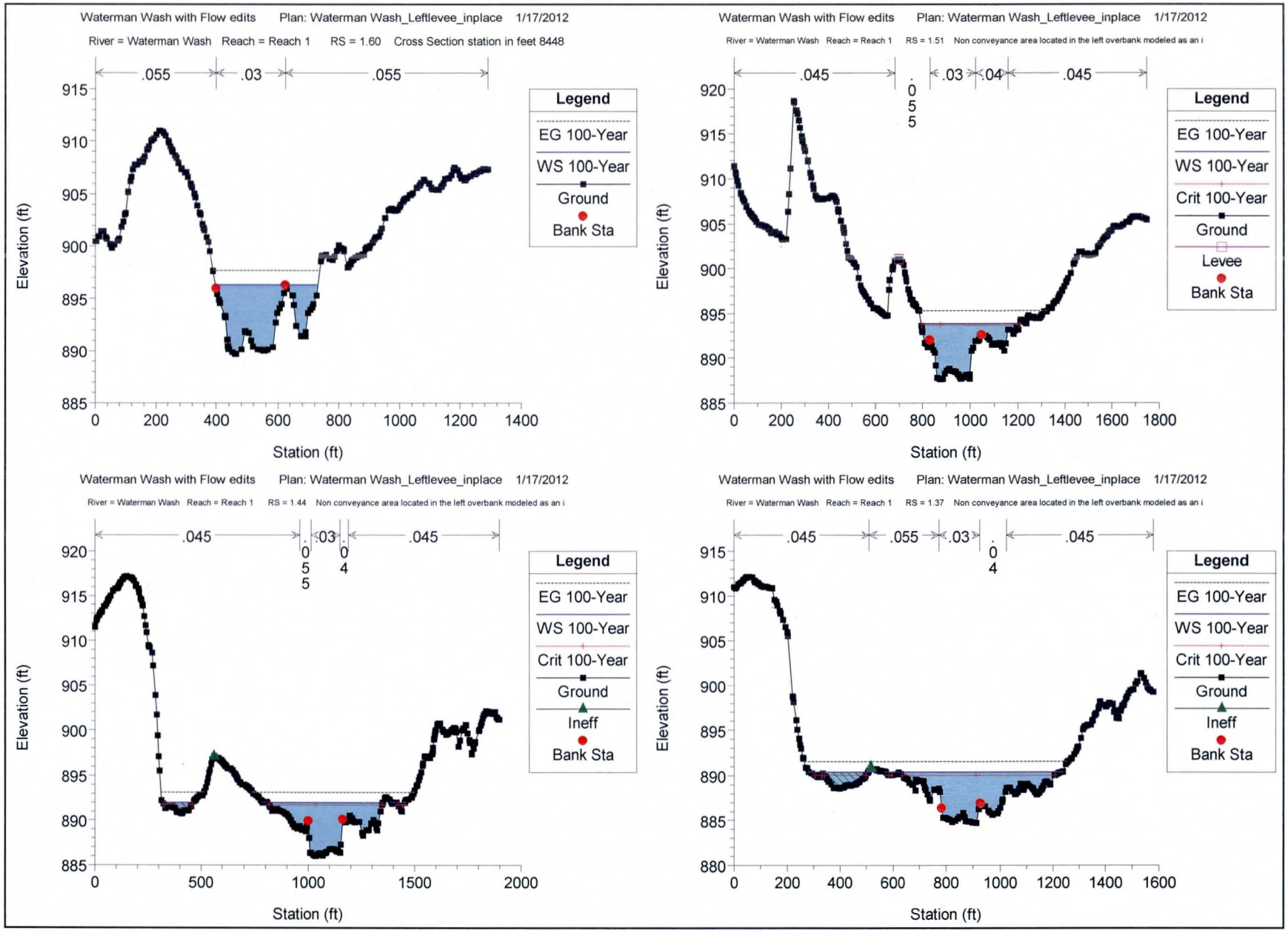

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.10 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.01 Cross Section station in feet 15893
.025
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.94 Cross Section station in feet 15523
.04
.032
.055
.045
.055
.04
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.85 Cross Section station in feet 15048
.04
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

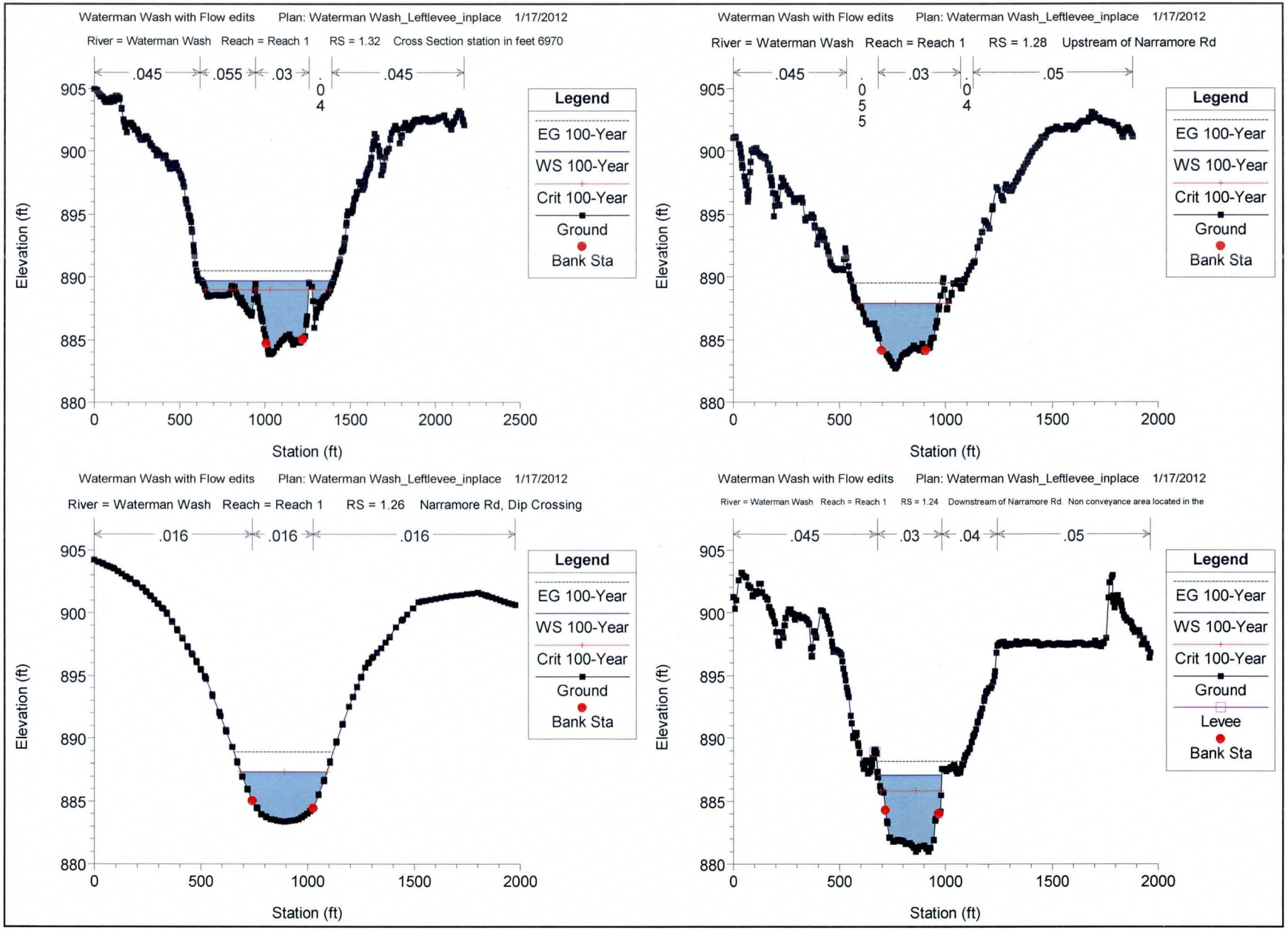

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.79 Cross Section station in feet 14731
.04
.035
.045
.018
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.70 Non conveyance area due to backwater from waterman wash located
.045
.045
.035
.045
.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.61 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
.018
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.57 Non conveyance area located in the left and right overbank model
.045
.035
.045
.018
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

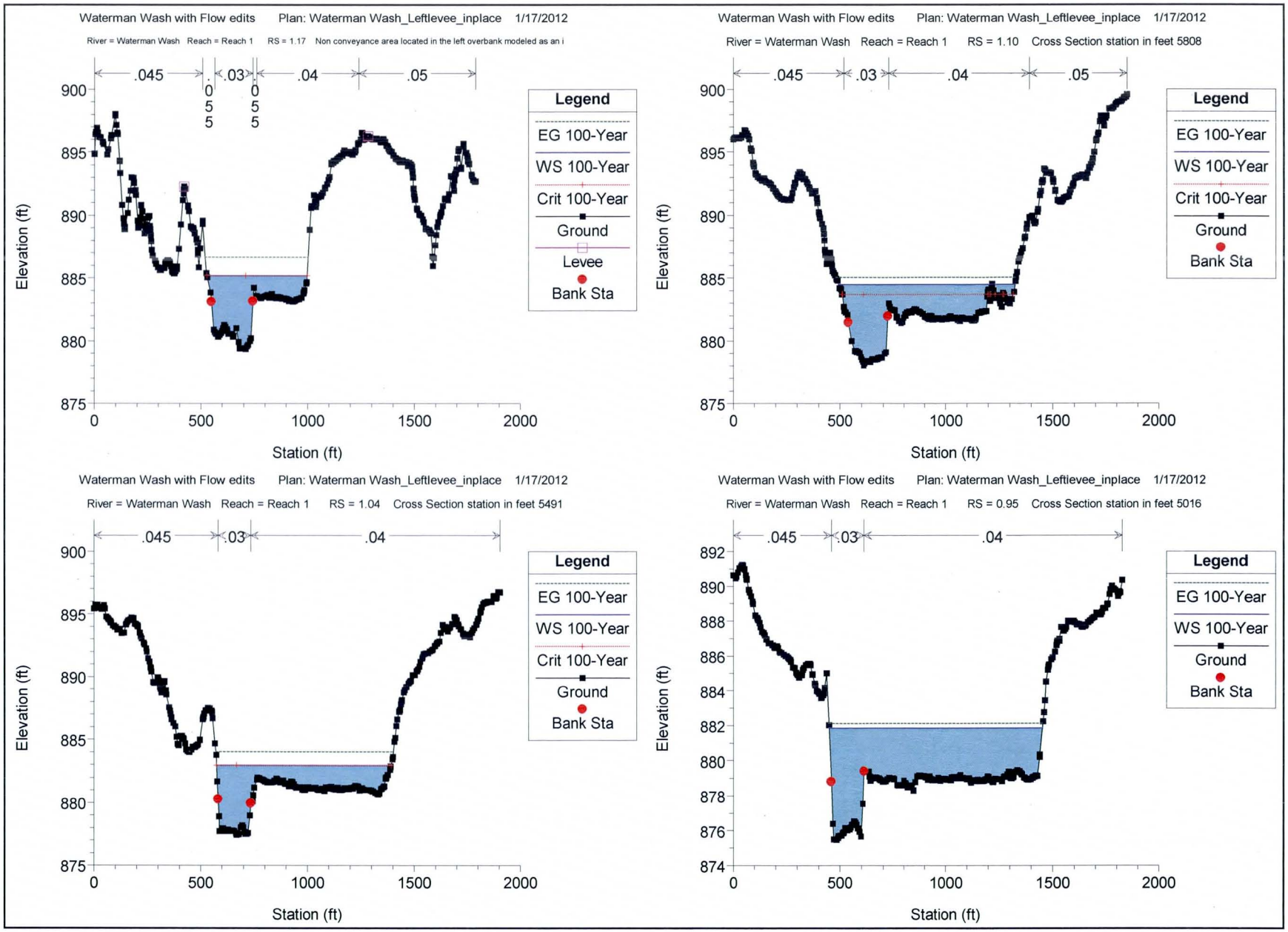

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.50 Non conveyance area located in the left overbank modeled as an i
.04
.04
0455
0185
0145
0555
0355
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.47 Non conveyance area located in the left overbank modeled as an i
.04
.03
.04
0015
0185
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.40 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.04
0185
0165
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.34 Upstream of Airport Rd at grade crossing
.045
.03
.04
.045
0185
0355
0055
0165
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

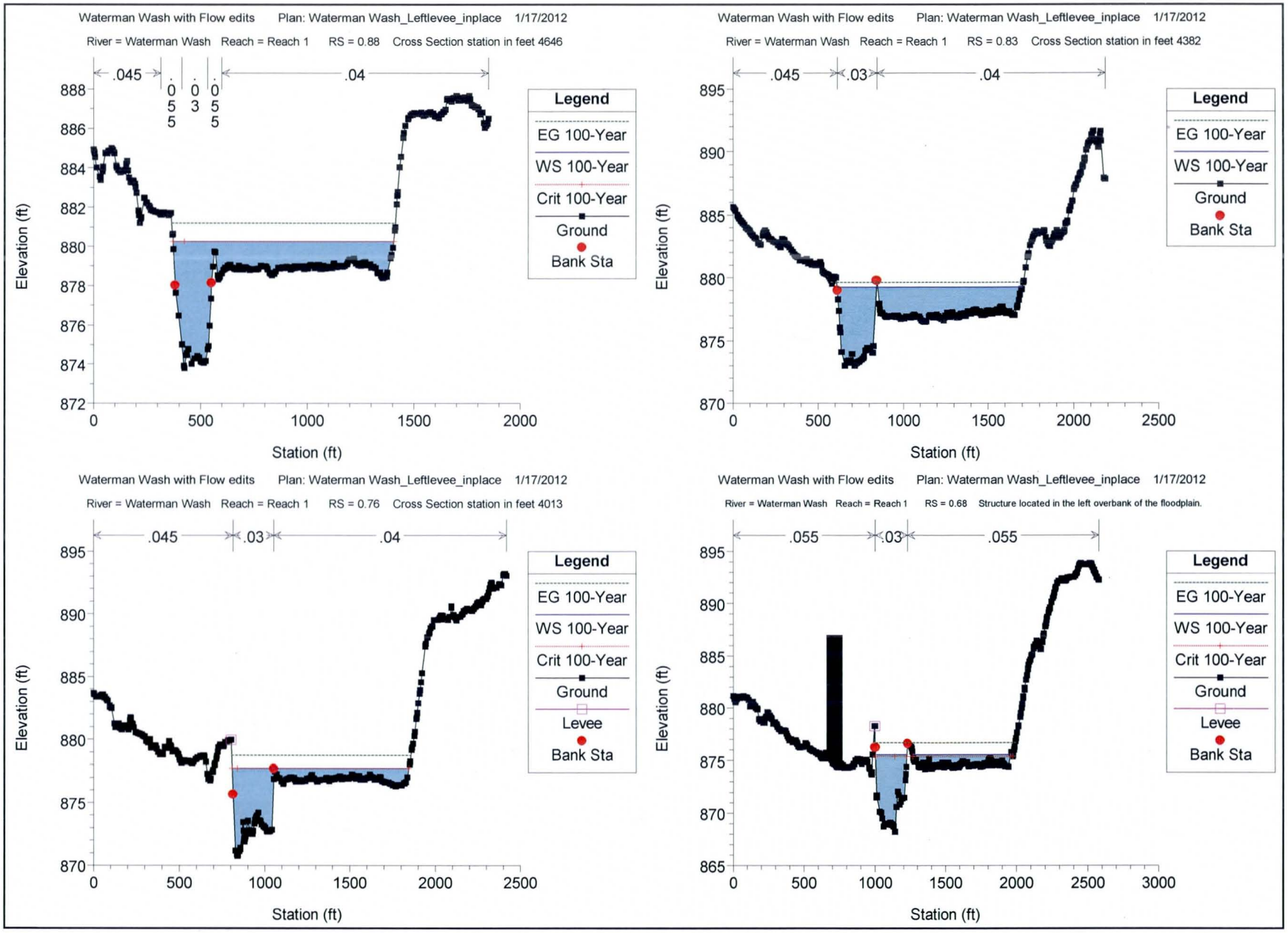

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.26 Downstream of Airport Rd at grade crossing. Non conveyance area
.045
.03
.05
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.17 Structure located in the left overbank of the cross section.
.04
.03
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.08 Pond area located in the right overbank modeled as an ineffectiv
.04
.03
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.99 Pond area located in the right overbank modeled as an ineffectiv
.04
.03
.065
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

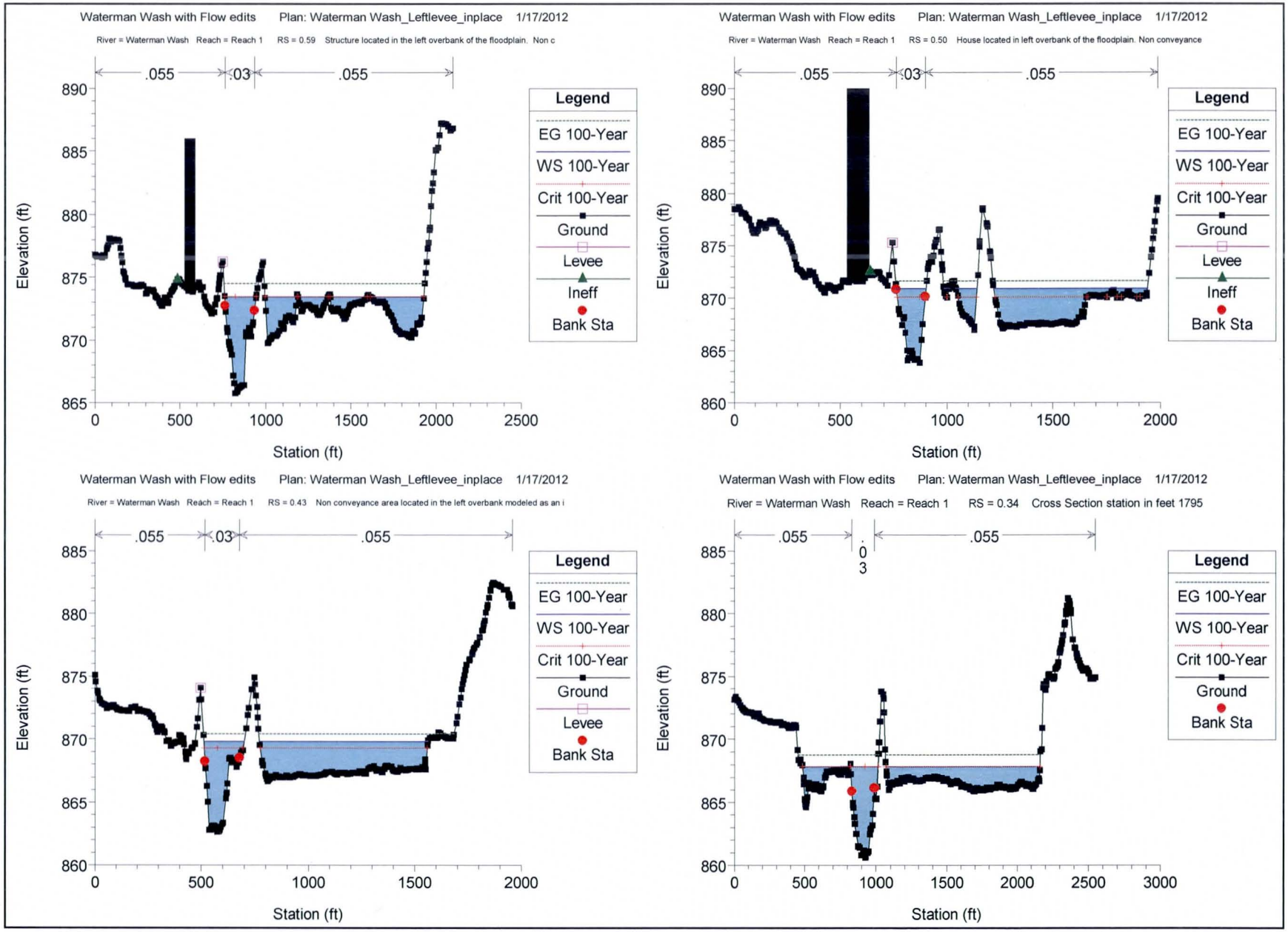

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.94 Pond area located in the right overbank modeled as an ineffectiv
.04
.055
.03
.055
.065
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.85 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.065
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.77 Cross Section station in feet 9346
.04
.055
.03
.055
.03
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.69 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

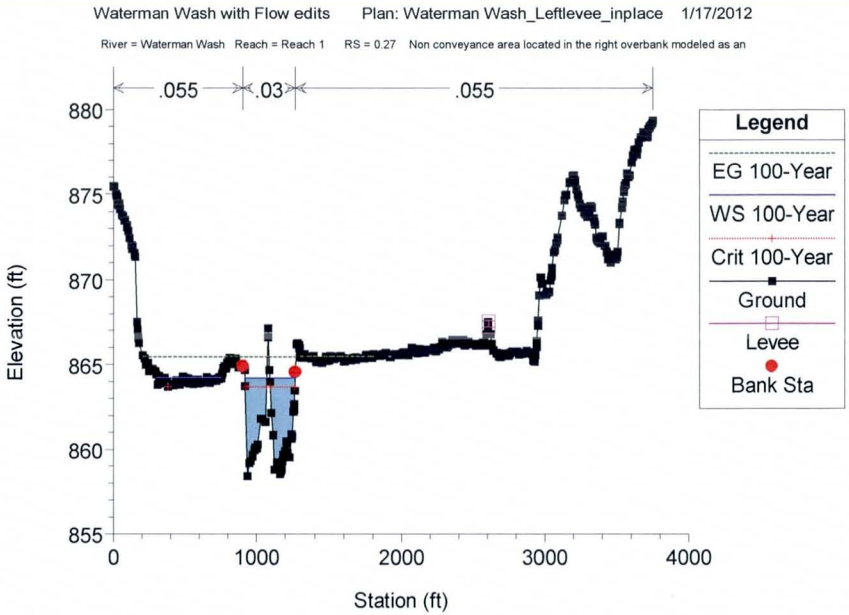

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.60 Cross Section station in feet 8448
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.51 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.04
.045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.44 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.04
.045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.37 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.04
.045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta


Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.32 Cross Section station in feet 6970
.045
.055
.03
.04
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.28 Upstream of Narramore Rd
.045
.055
.03
.04
.05
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.26 Narramore Rd, Dip Crossing
.016
.016
.016
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.24 Downstream of Narramore Rd. Non conveyance area located in the
.045
.03
.04
.05
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

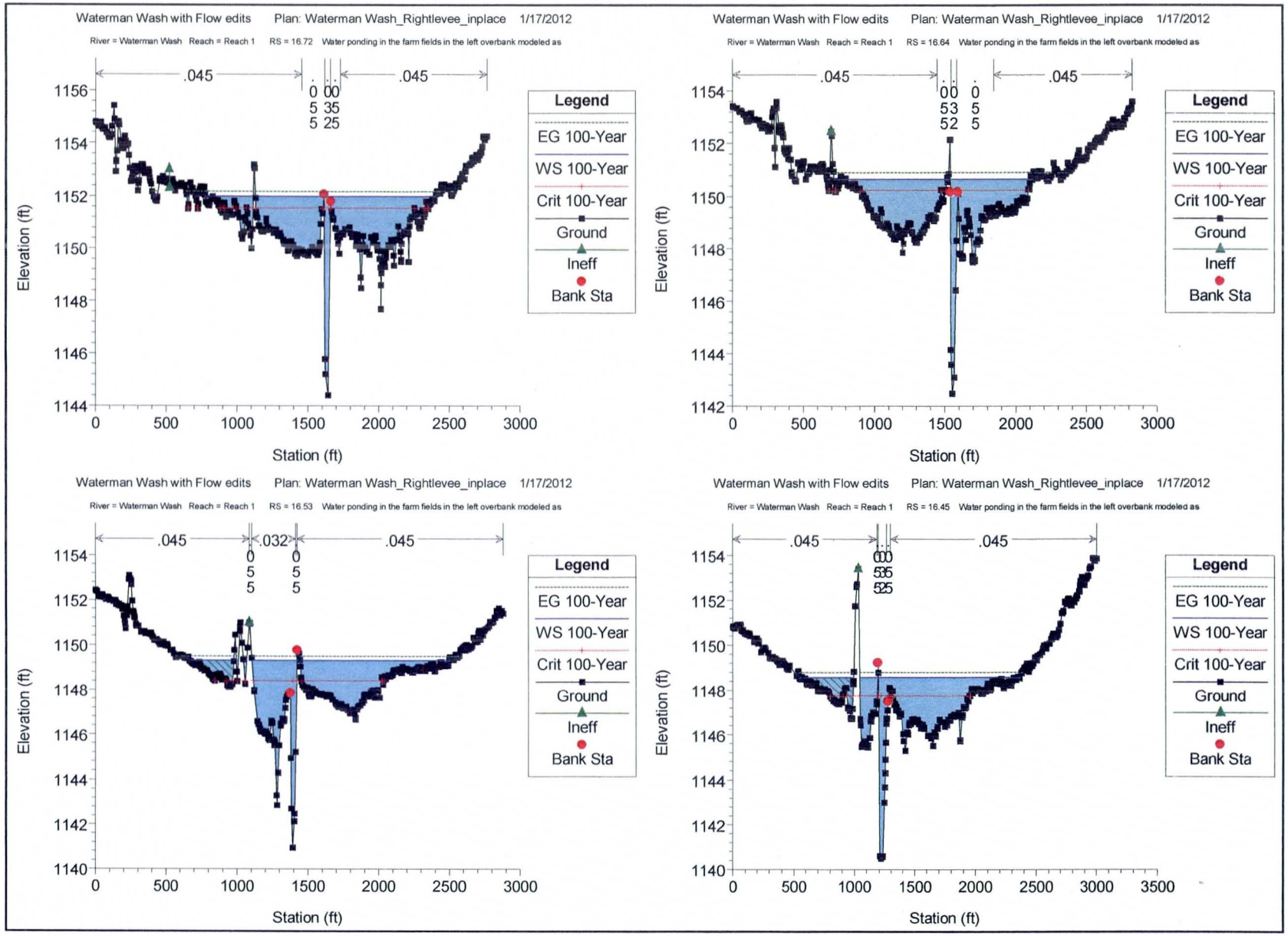

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.17 Non conveyance area located in the left overbank modeled as an i
.045
.03
.04
.05
0.055
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.10 Cross Section station in feet 5808
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.04 Cross Section station in feet 5491
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.95 Cross Section station in feet 5016

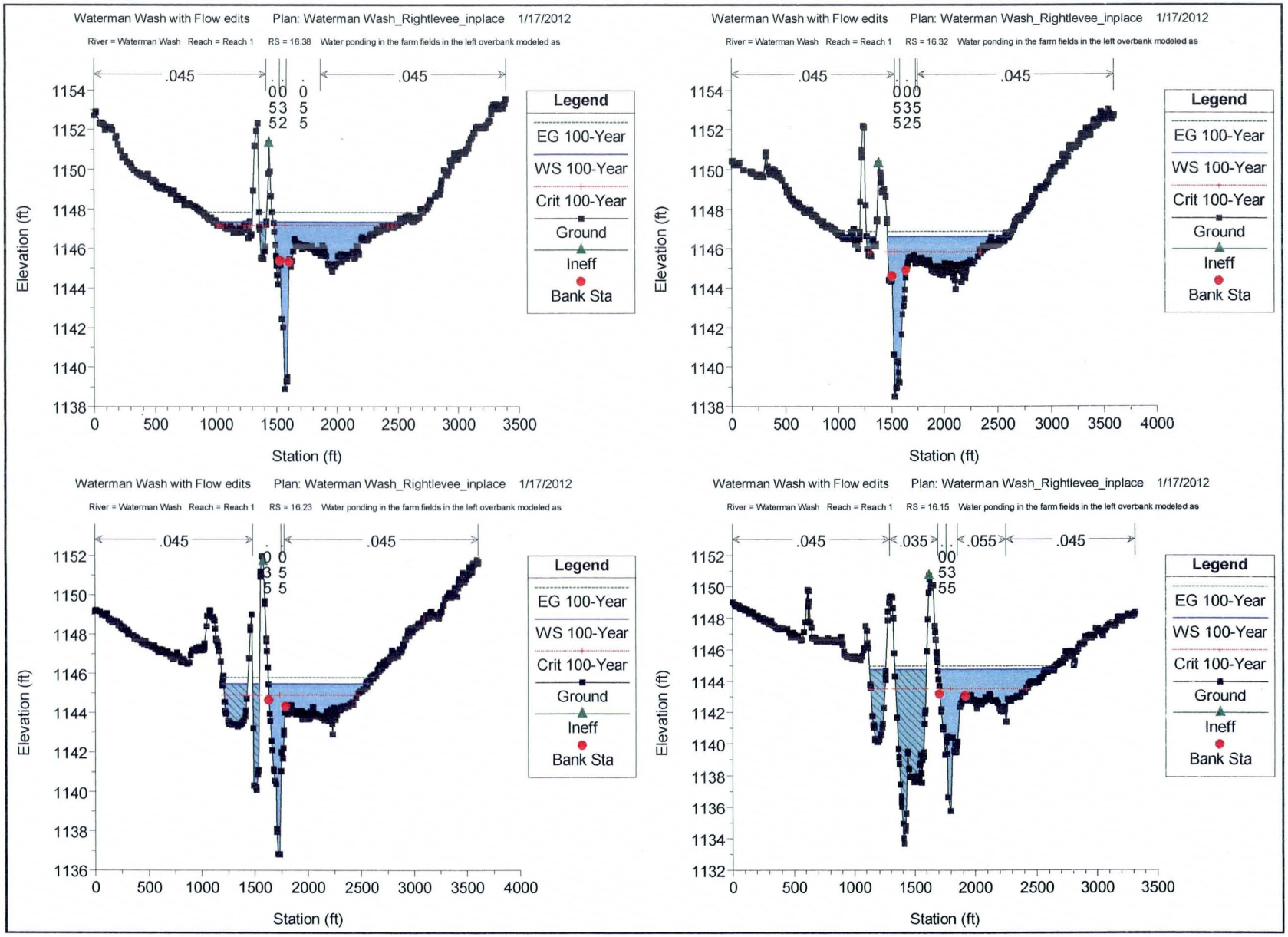

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.88 Cross Section station in feet 4646
.045
.055
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.83 Cross Section station in feet 4382
.045
.03
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.76 Cross Section station in feet 4013
.045
.03
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.68 Structure located in the left overbank of the floodplain.
.055
.03
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

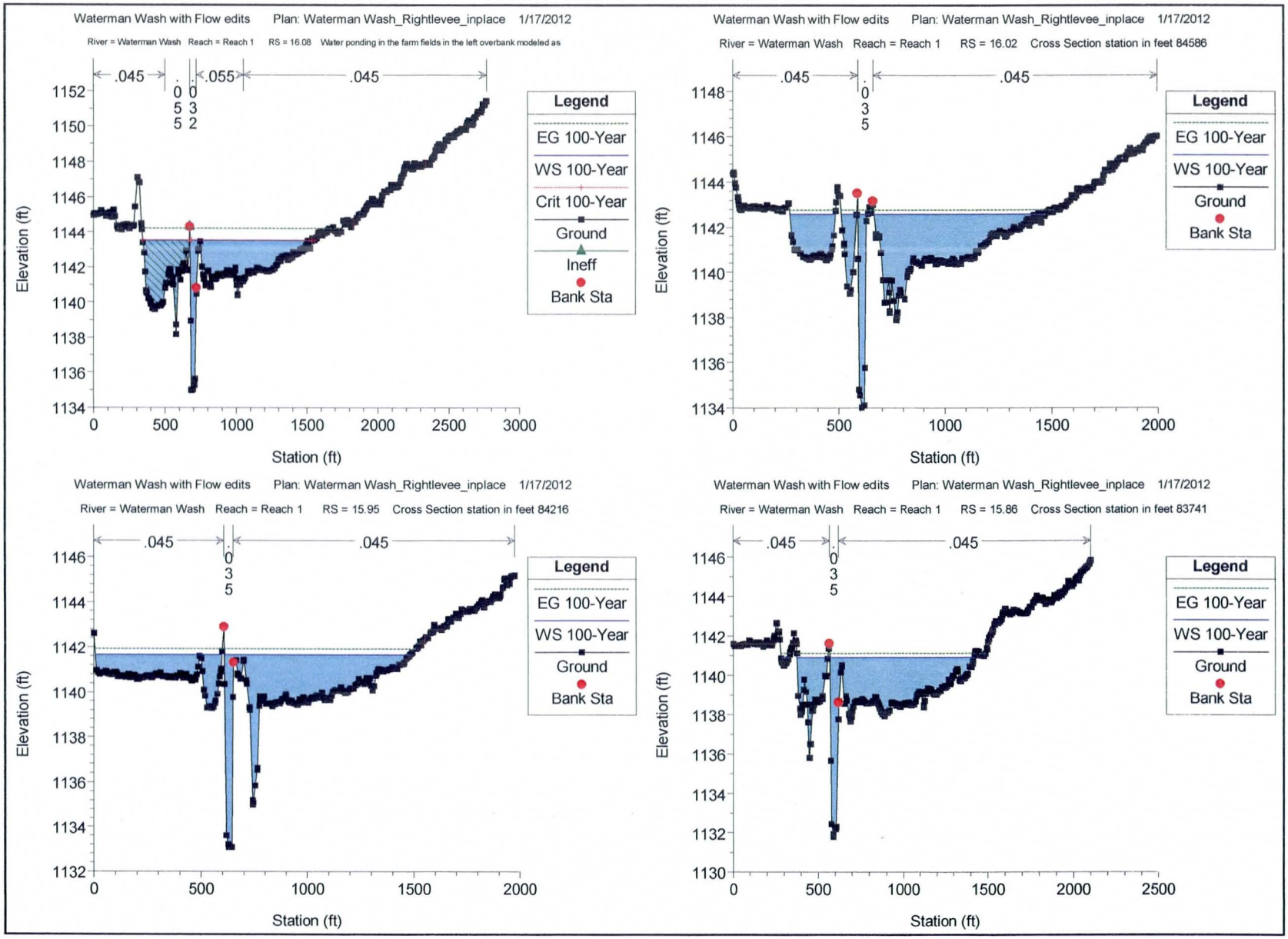

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.59 Structure located in the left overbank of the floodplain. Non c
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.50 House located in left overbank of the floodplain. Non conveyance
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.43 Non conveyance area located in the left overbank modeled as an i
Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.34 Cross Section station in feet 1795

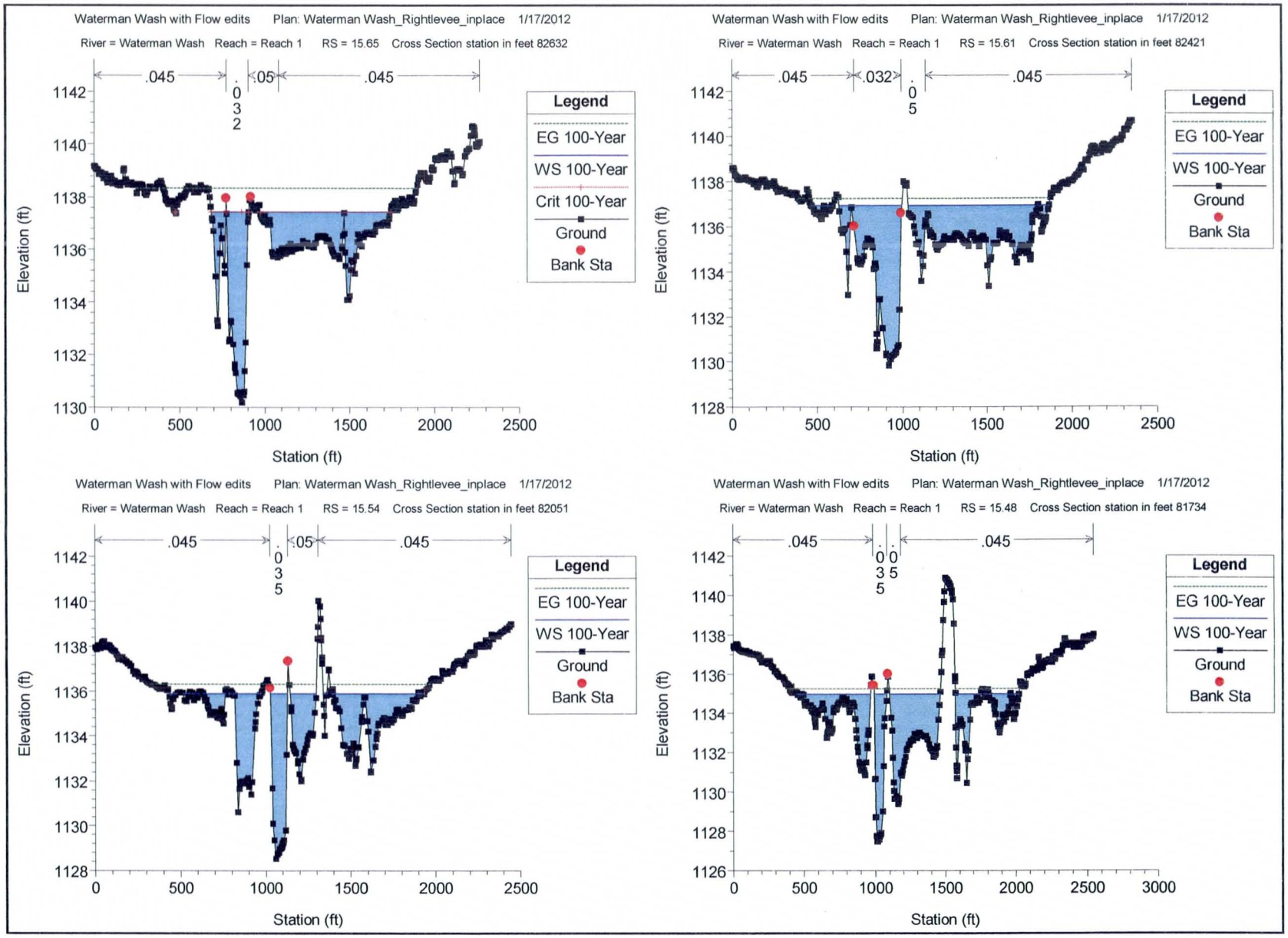

Waterman Wash with Flow edits Plan: Waterman Wash_Leftlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.27 Non conveyance area located in the right overbank modeled as an
.055
.03
.055
880
875
870
865
860
855
Elevation (ft)
0
1000
2000
3000
4000
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

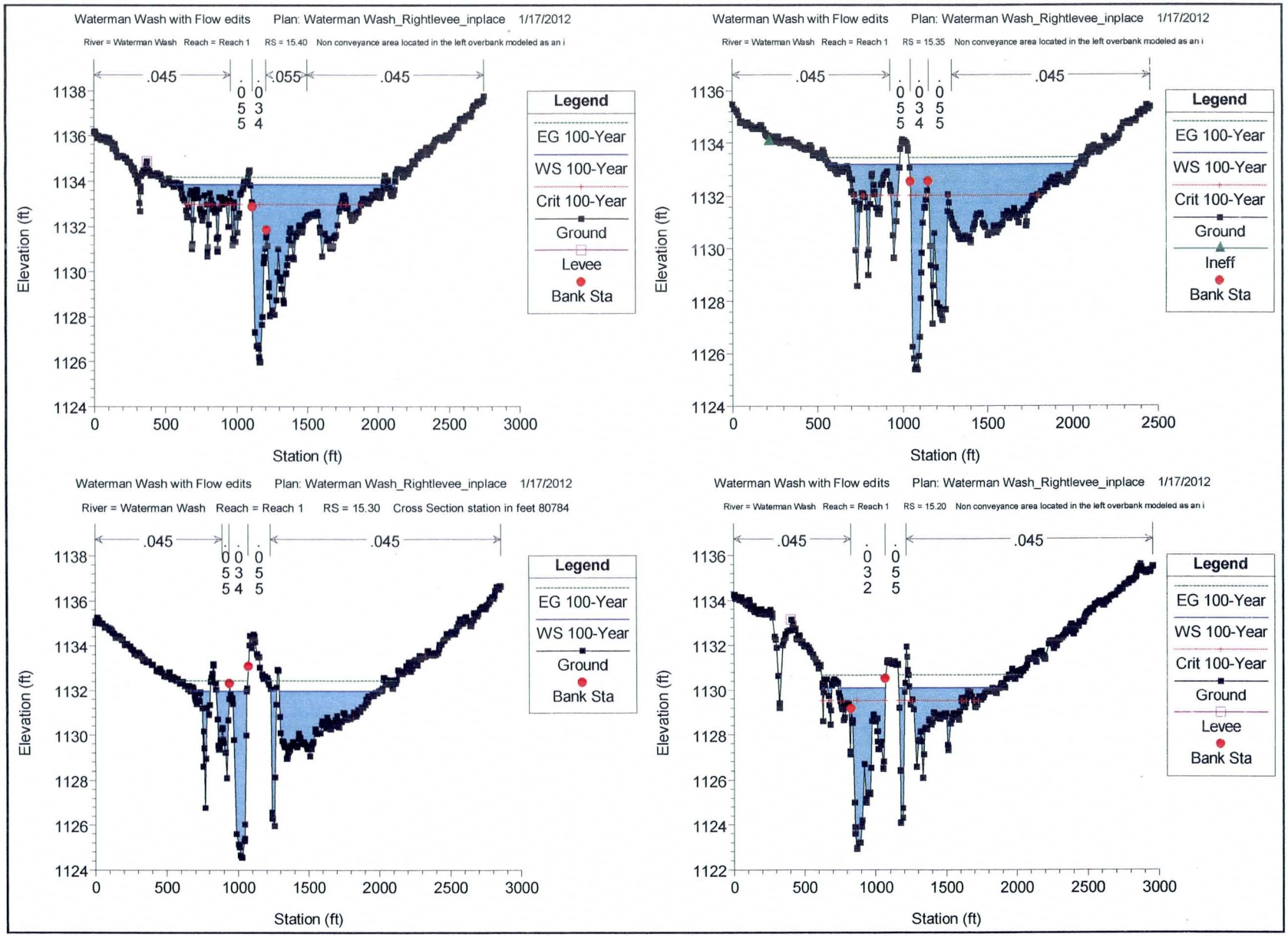
RIGHT NON-LEVEE EMBANKMENT IN PLACE

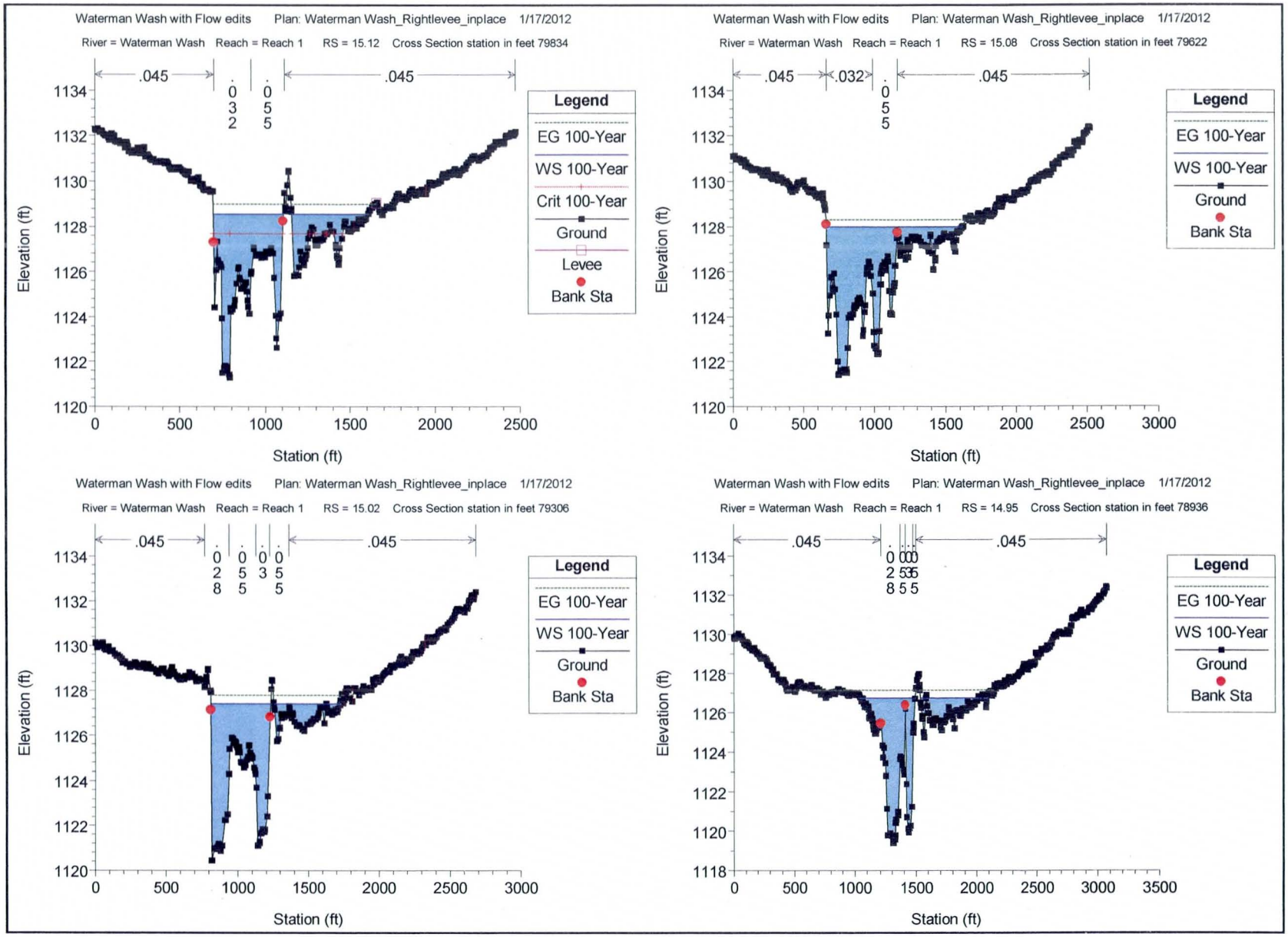

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.72 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.64 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.53 Water ponding in the farm fields in the left overbank modeled as
.045
.032
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.45 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

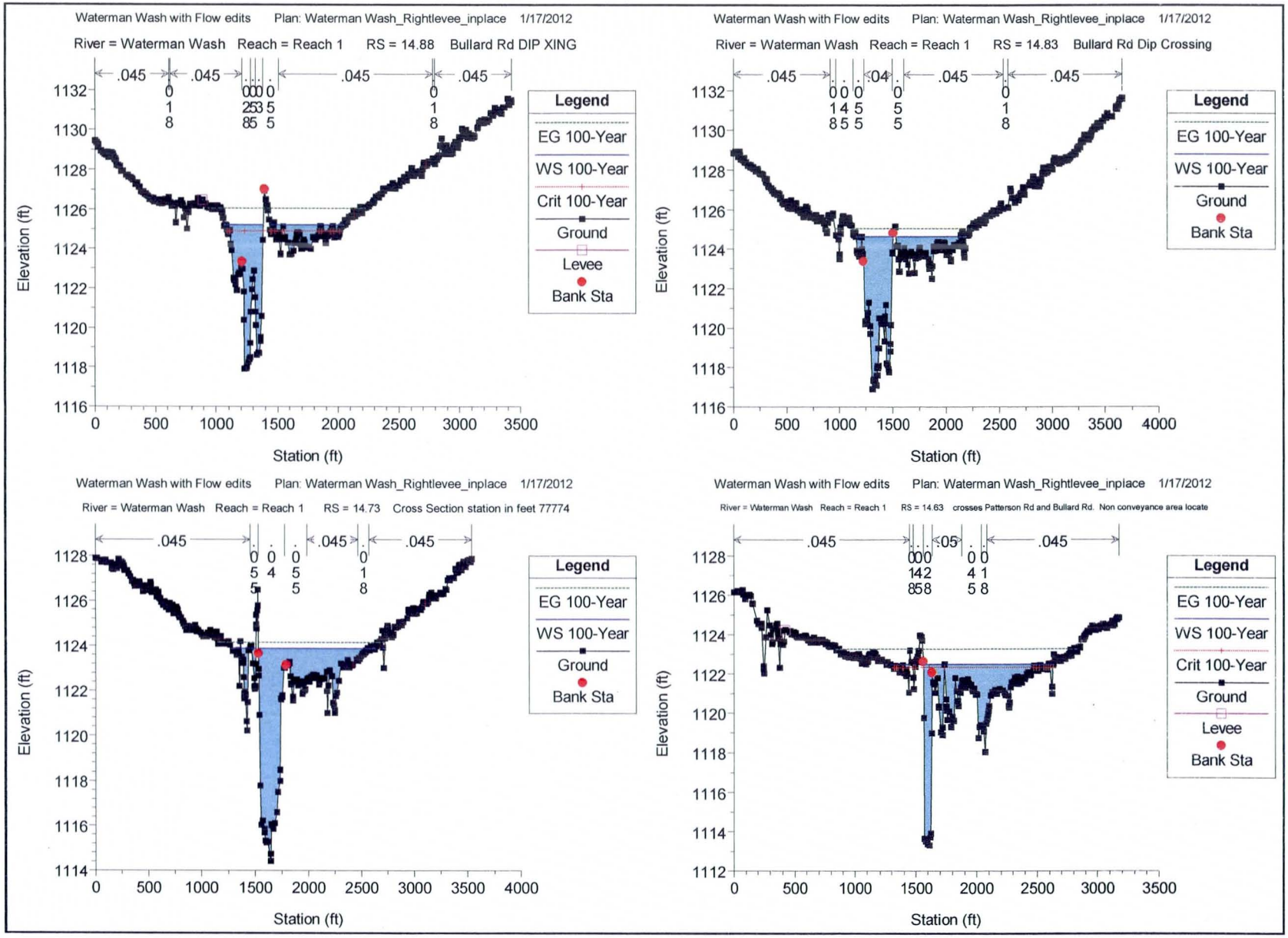

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.38 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.32 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.23 Water ponding in the farm fields in the left overbank modeled as
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.15 Water ponding in the farm fields in the left overbank modeled as
.045
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

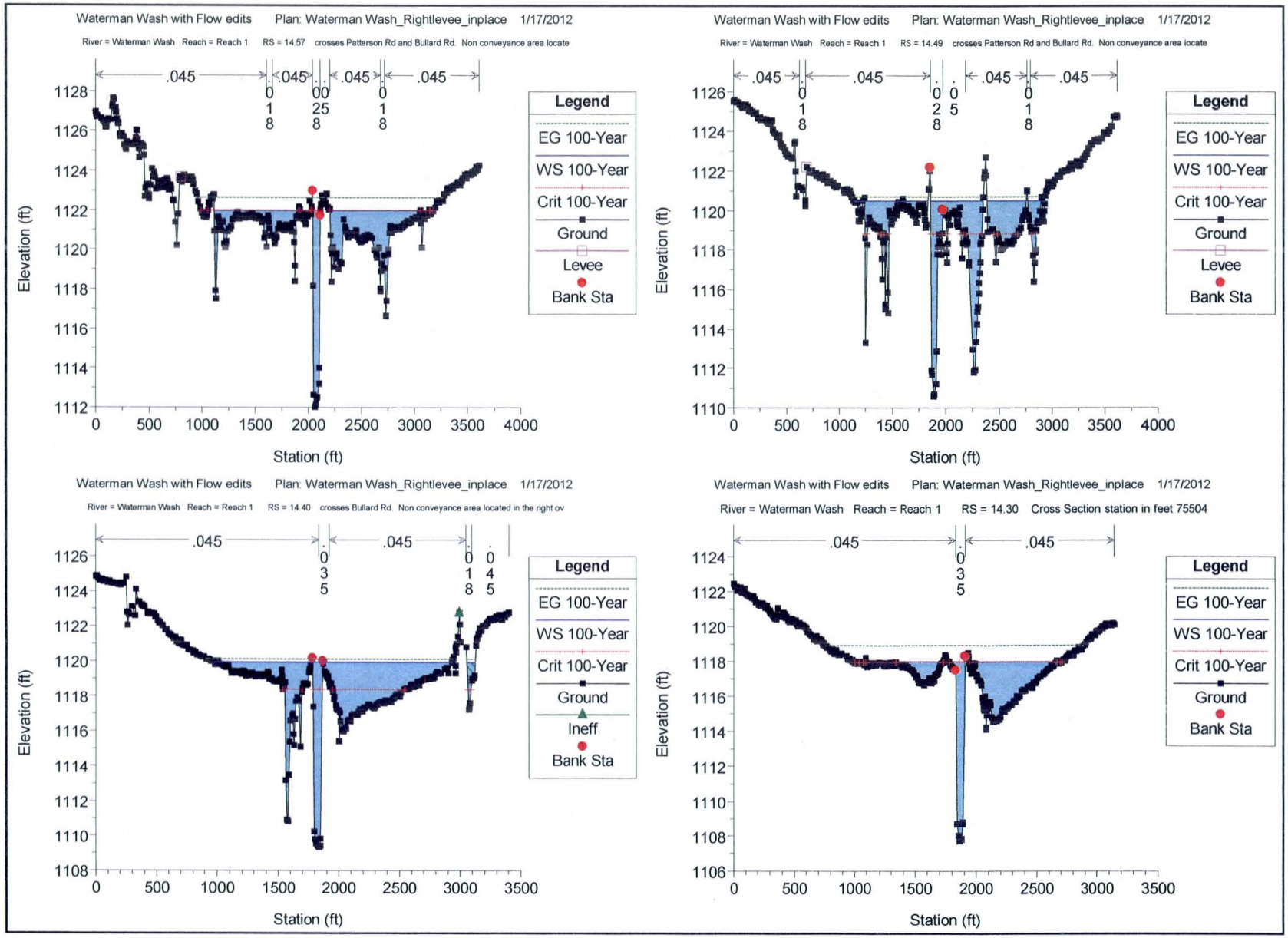

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.08 Water ponding in the farm fields in the left overbank modeled as
.045
.055
.045
.035
.032
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 16.02 Cross Section station in feet 84586
.045
.045
.035
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.95 Cross Section station in feet 84216
.045
.045
.035
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.86 Cross Section station in feet 83741
.045
.045
.035
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

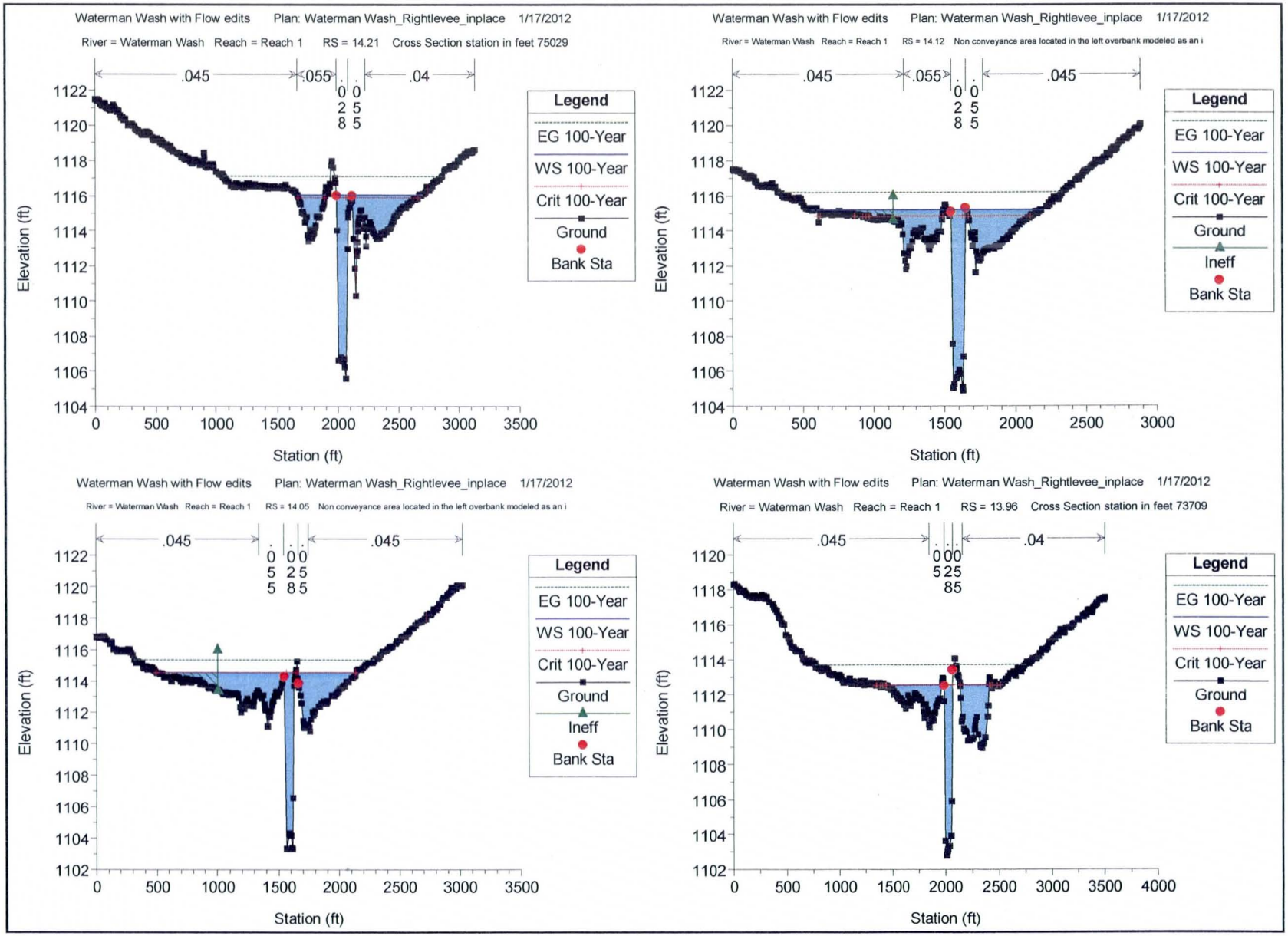

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.65 Cross Section station in feet 82632
.045
.032
.05
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.61 Cross Section station in feet 82421
.045
.032
.05
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.54 Cross Section station in feet 82051
.045
.035
.05
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.48 Cross Section station in feet 81734
.045
.035
.05
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

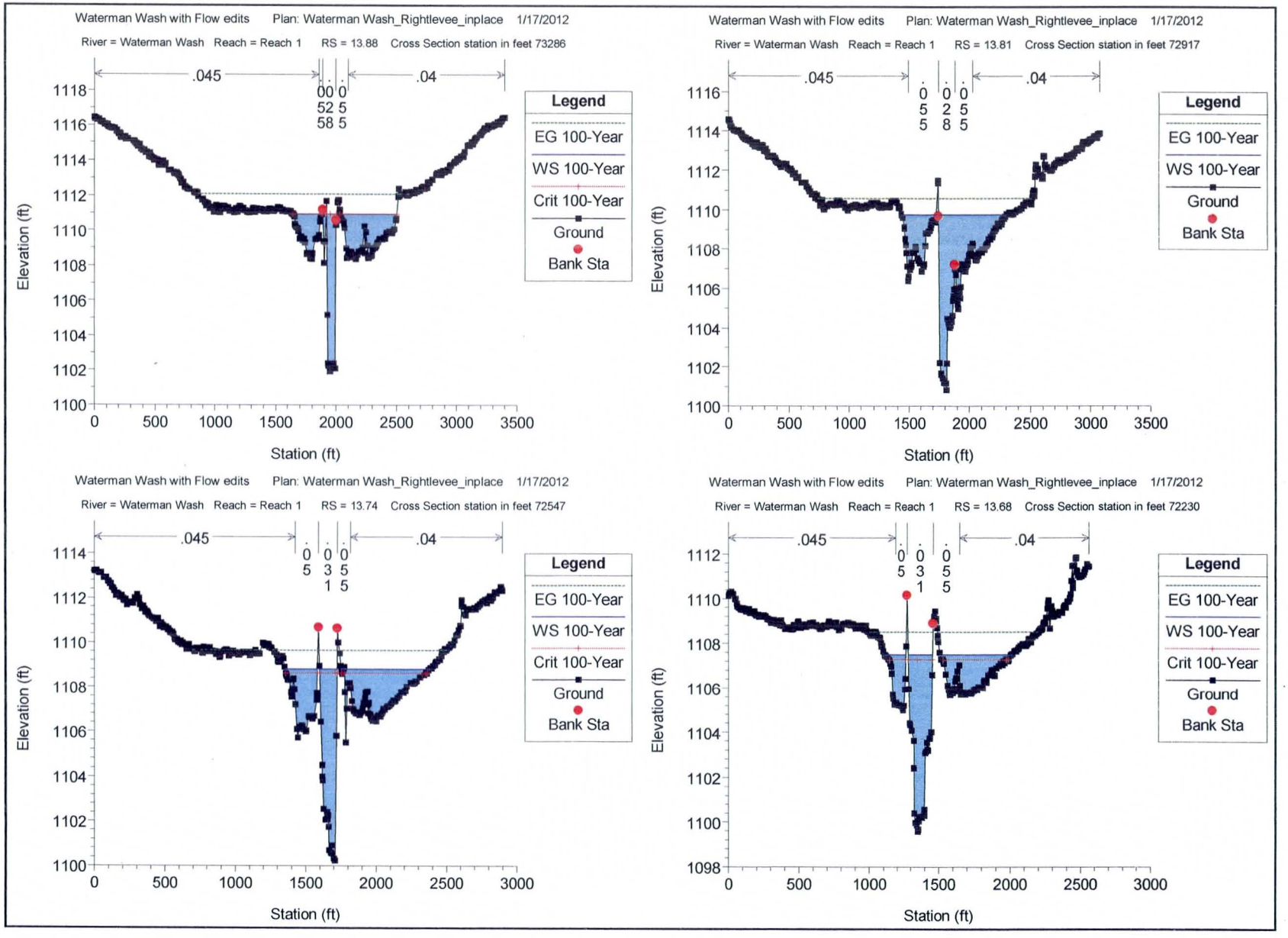

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.40 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
0.055
0.034
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.35 Non conveyance area located in the left overbank modeled as an i
.045
.045
0.055
0.034
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.30 Cross Section station in feet 80784
.045
.045
0.055
0.034
0.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.20 Non conveyance area located in the left overbank modeled as an i
.045
.045
0.032
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

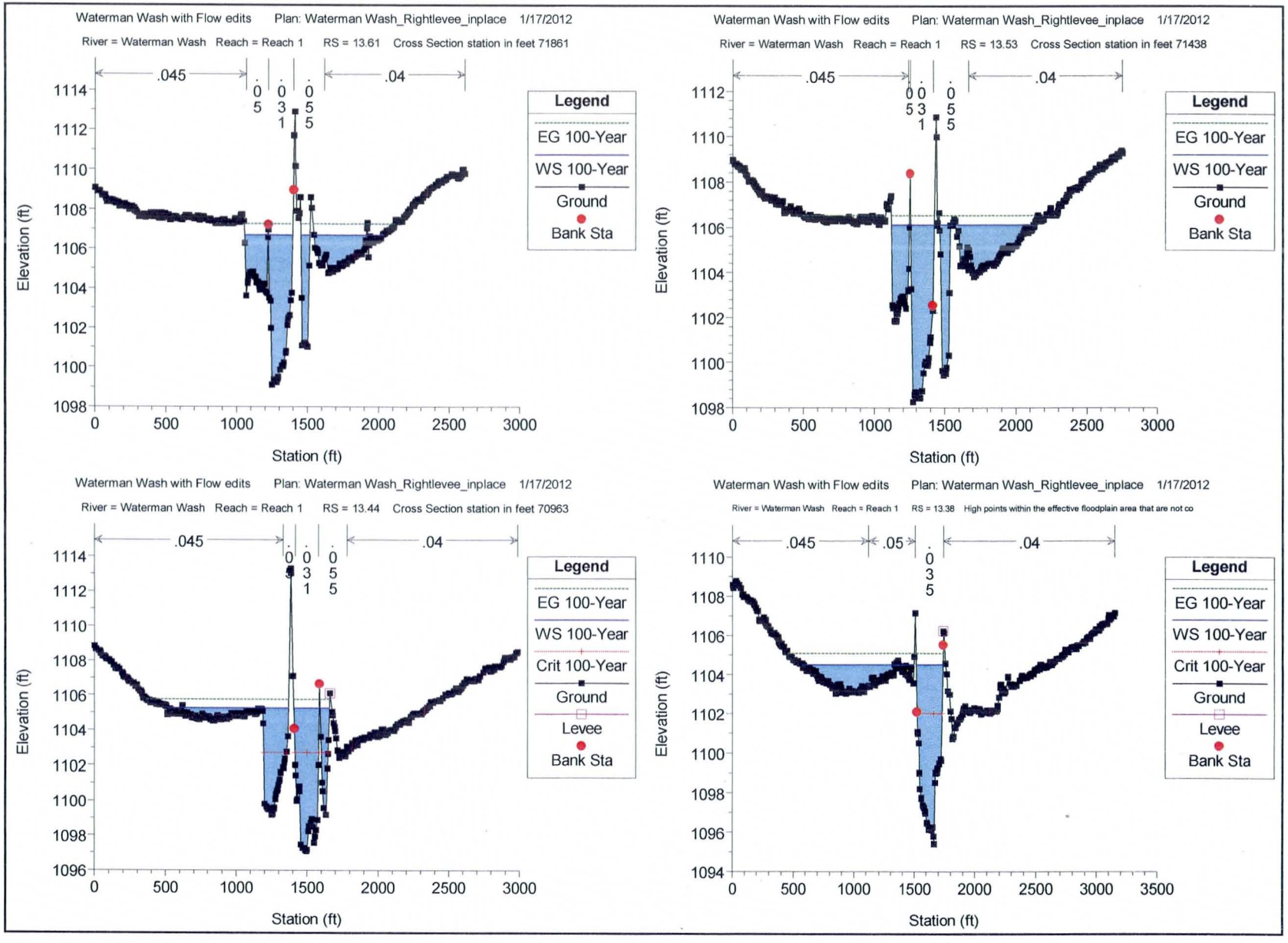

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.12 Cross Section station in feet 79834
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.08 Cross Section station in feet 79622
.045
.032
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 15.02 Cross Section station in feet 79306
.045
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.95 Cross Section station in feet 78936
.045
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

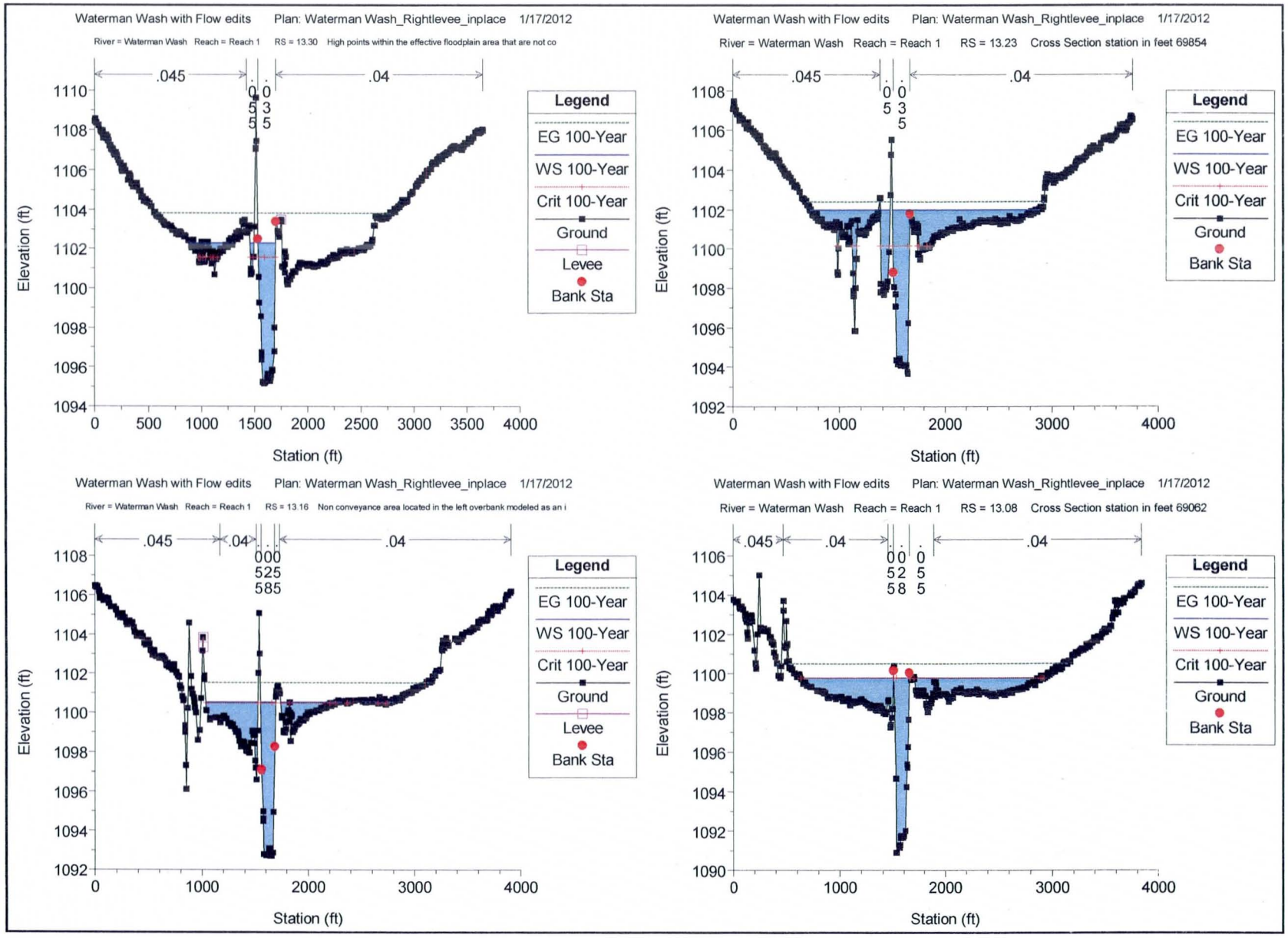

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.88 Bullard Rd DIP XING
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.83 Bullard Rd Dip Crossing
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.73 Cross Section station in feet 77774
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.63 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

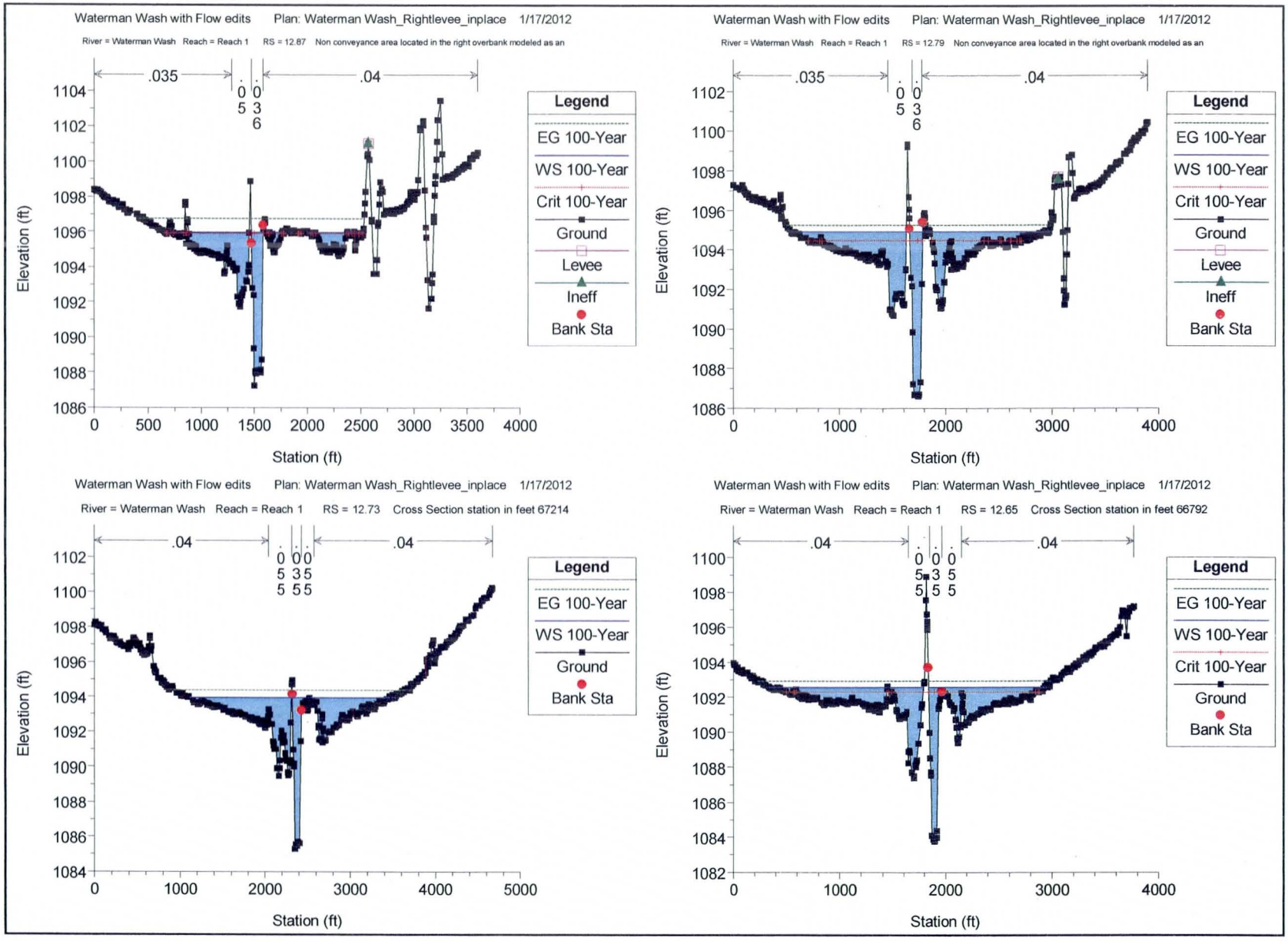

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.57 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
.045
.045
.045
.045
0.018
0.0025.8
0.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.49 crosses Patterson Rd and Bullard Rd. Non conveyance area locate
.045
.045
.045
.045
0.018
0.028
0.05
0.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.40 crosses Bullard Rd. Non conveyance area located in the right ov
.045
.045
0.035
0.018
0.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.30 Cross Section station in feet 75504
.045
.045
0.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

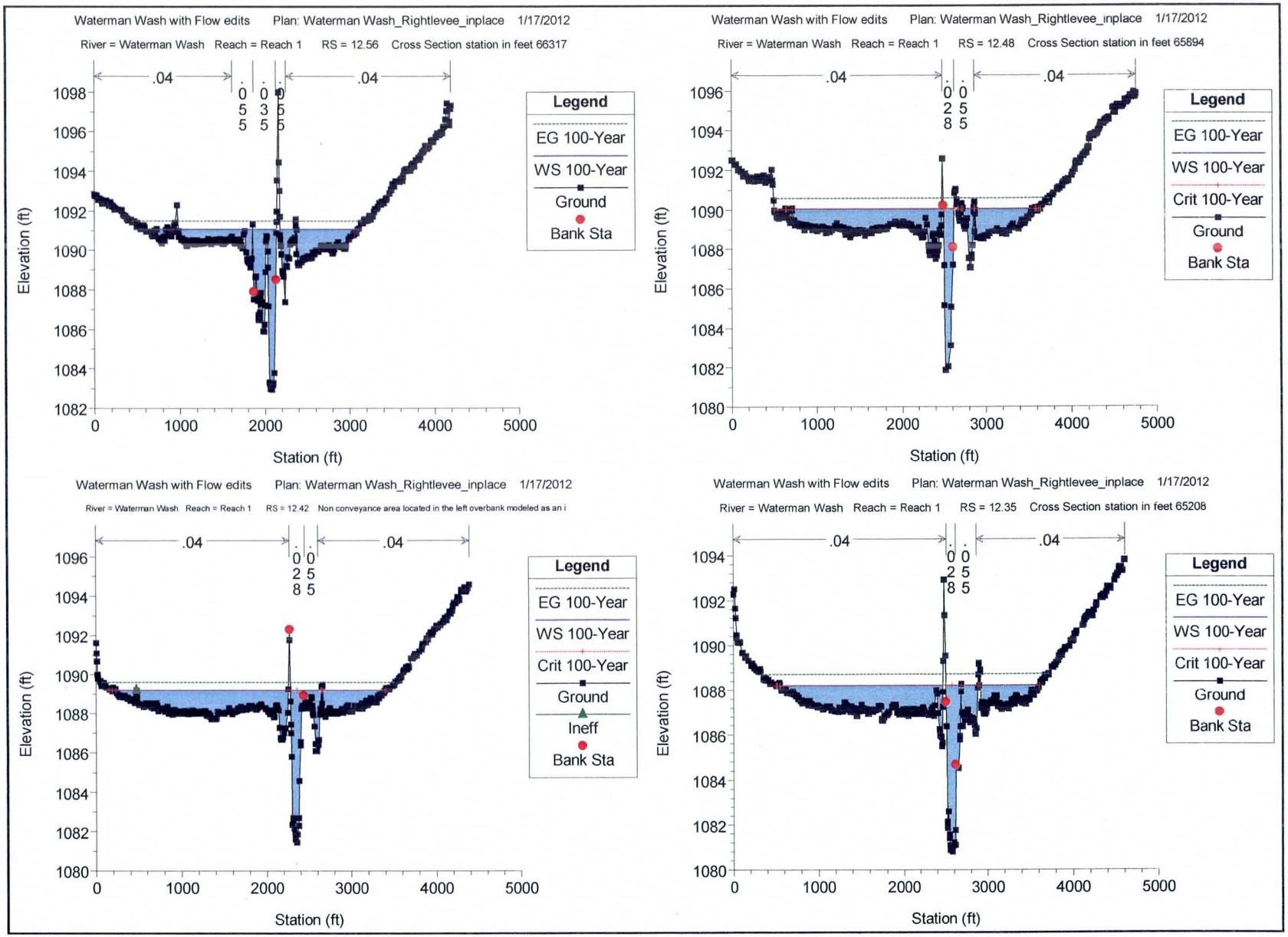

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.21 Cross Section station in feet 75029
.045
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.12 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 14.05 Non conveyance area located in the left overbank modeled as an i
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.96 Cross Section station in feet 73709
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

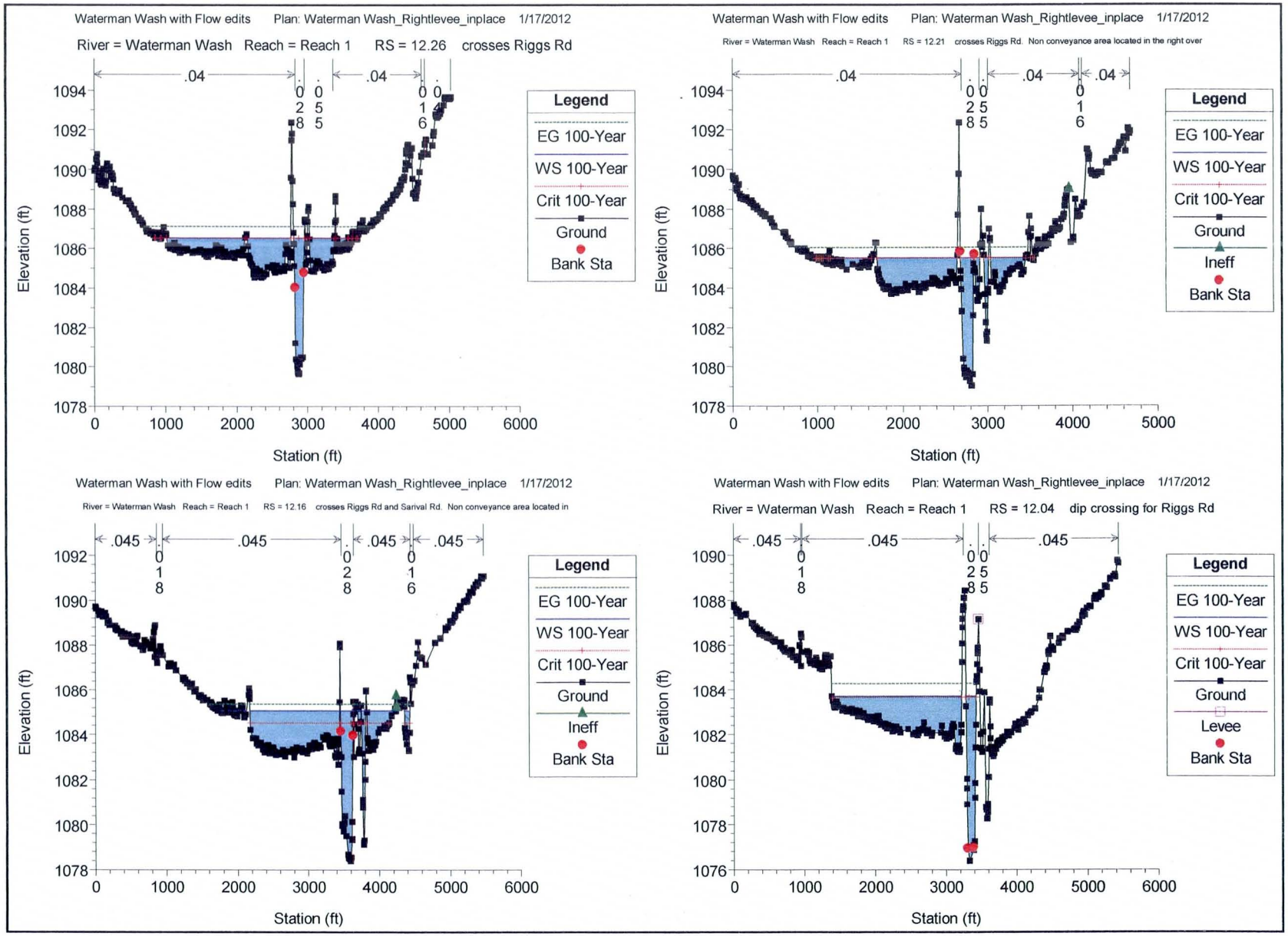

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.88 Cross Section station in feet 73286
.045
.04
0.00 0.05 0.05
52 58
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.81 Cross Section station in feet 72917
.045
.04
0.05 0.05 0.05
28
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.74 Cross Section station in feet 72547
.045
.04
0.05 0.05 0.05
31
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.68 Cross Section station in feet 72230
.045
.04
0.05 0.05 0.05
31
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

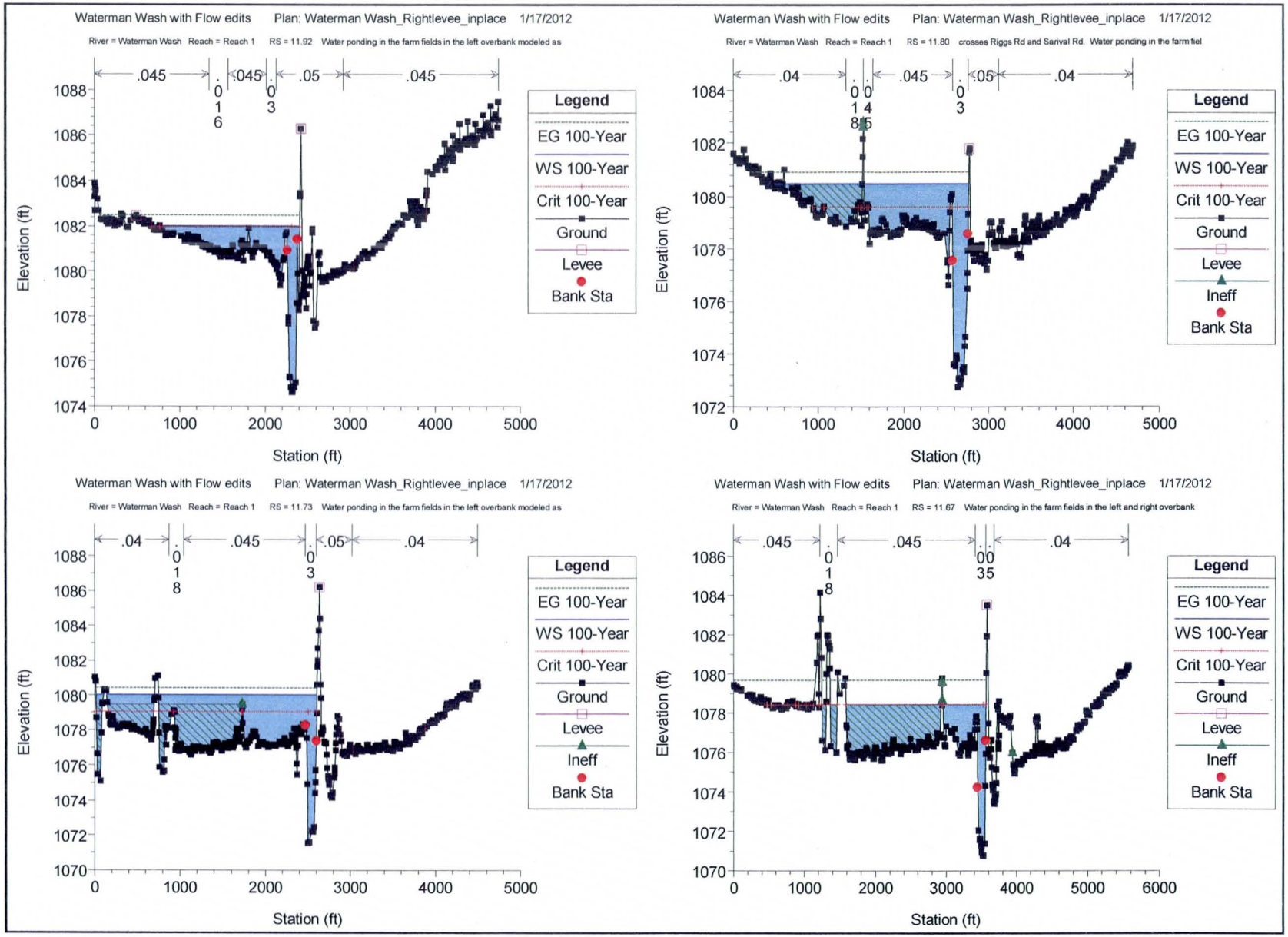

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.61 Cross Section station in feet 71861
.045
.04
.055
.031
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.53 Cross Section station in feet 71438
.045
.04
.055
.031
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.44 Cross Section station in feet 70963
.045
.04
.055
.031
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.38 High points within the effective floodplain area that are not co
.045
.05
.04
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

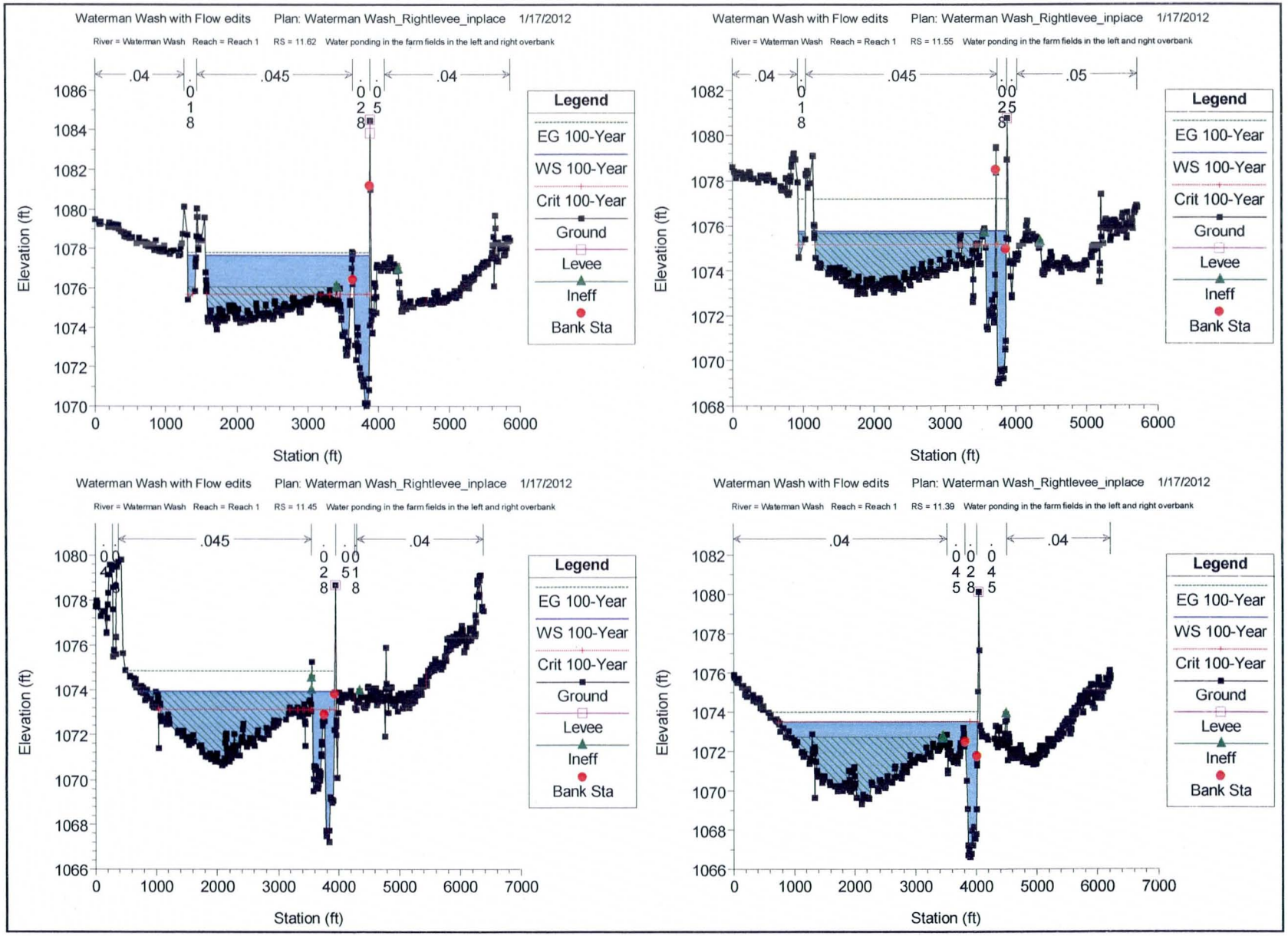

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.30 High points within the effective floodplain area that are not co
.045
.04
.04
0 0
5 3
5 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.23 Cross Section station in feet 69854
.045
.04
.04
0 0
5 3
5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.16 Non conveyance area located in the left overbank modeled as an i
.045
.04
.04
.04
0 0 0
5 2 5
5 8 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 13.08 Cross Section station in feet 69062
.045
.04
.04
0 0 0
5 2 5
5 8 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

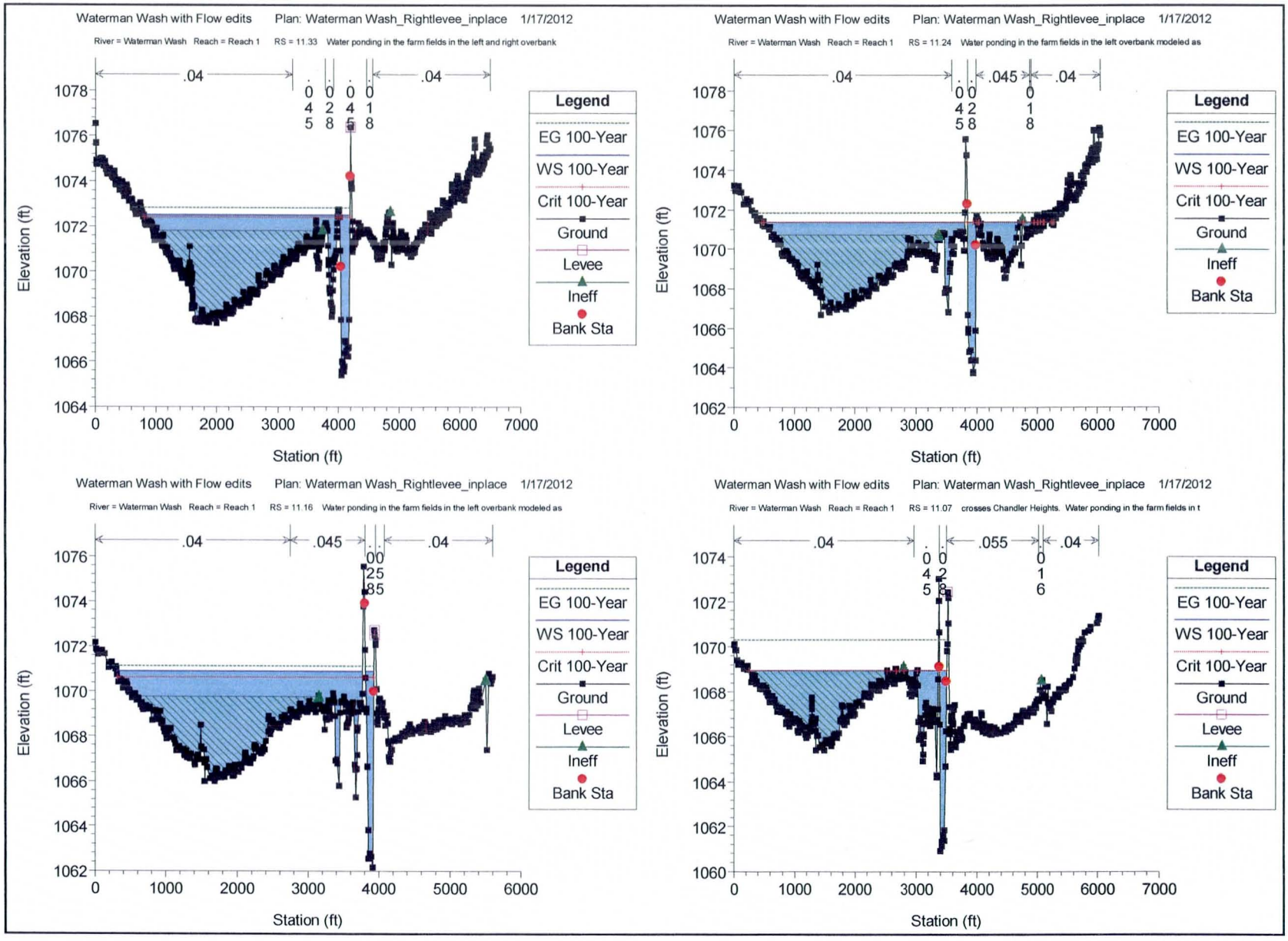

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.87 Non conveyance area located in the right overbank modeled as an
.035
.04
0.05
0.036
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.79 Non conveyance area located in the right overbank modeled as an
.035
.04
0.05
0.036
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.73 Cross Section station in feet 67214
.04
.04
0.055
0.035
0.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.65 Cross Section station in feet 66792
.04
.04
0.055
0.035
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

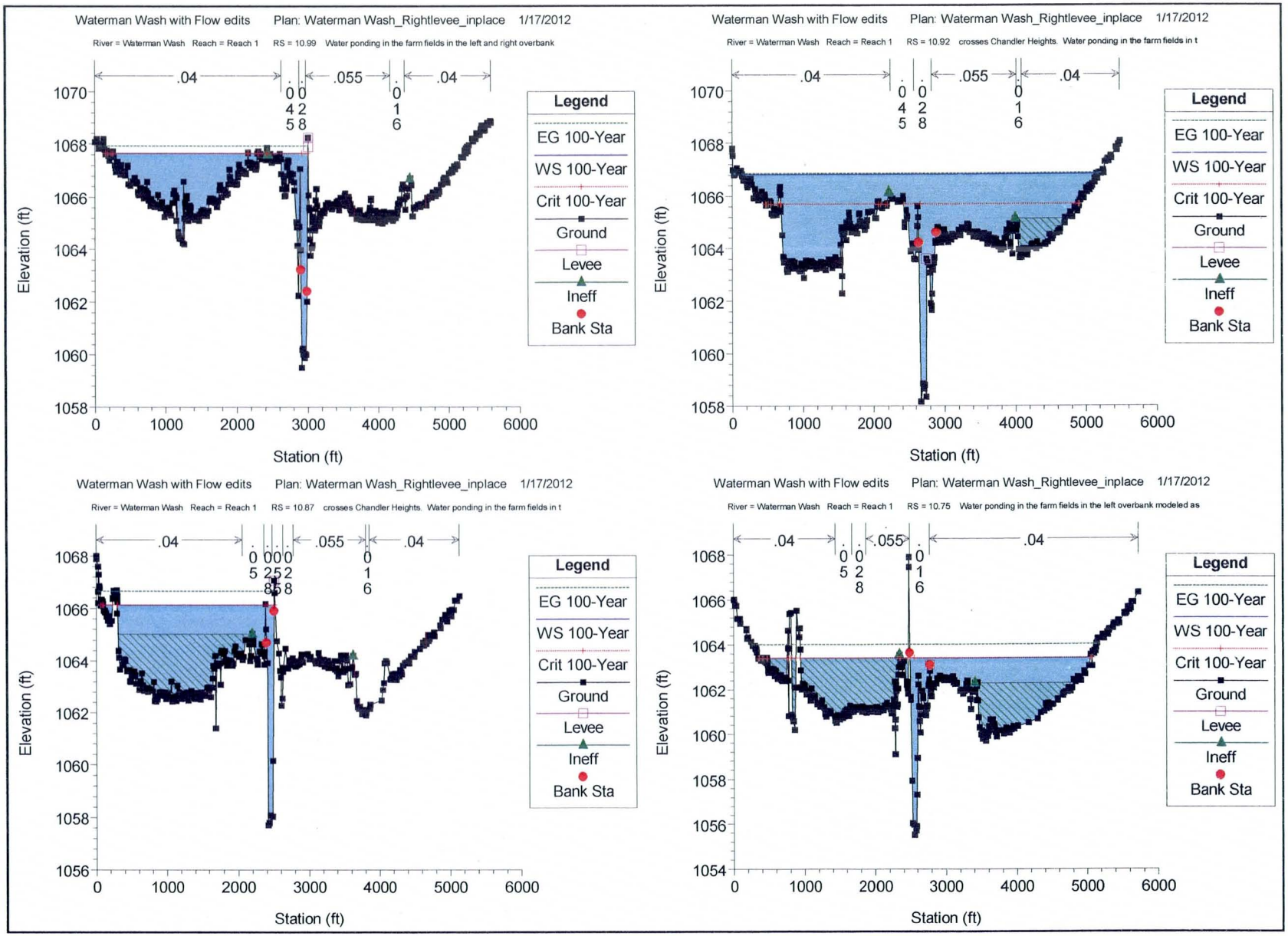

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.56 Cross Section station in feet 66317
.04
.055
.035
.05
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.48 Cross Section station in feet 65894
.04
.025
.085
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.42 Non conveyance area located in the left overbank modeled as an i
.04
.025
.085
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.35 Cross Section station in feet 65208
.04
.025
.085
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

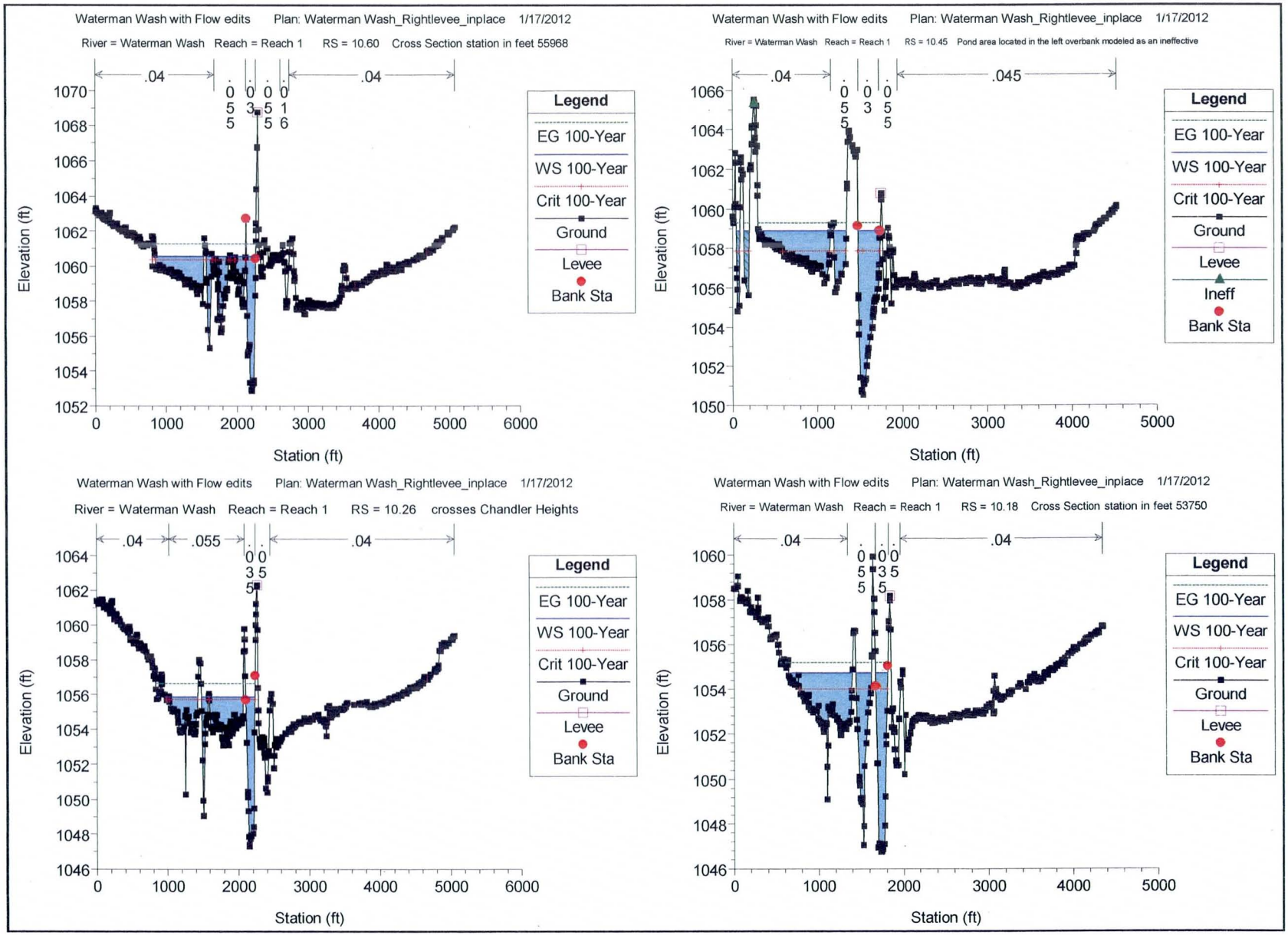

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.26 crosses Riggs Rd
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.21 crosses Riggs Rd. Non conveyance area located in the right over
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.16 crosses Riggs Rd and Sarival Rd. Non conveyance area located in
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 12.04 dip crossing for Riggs Rd
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

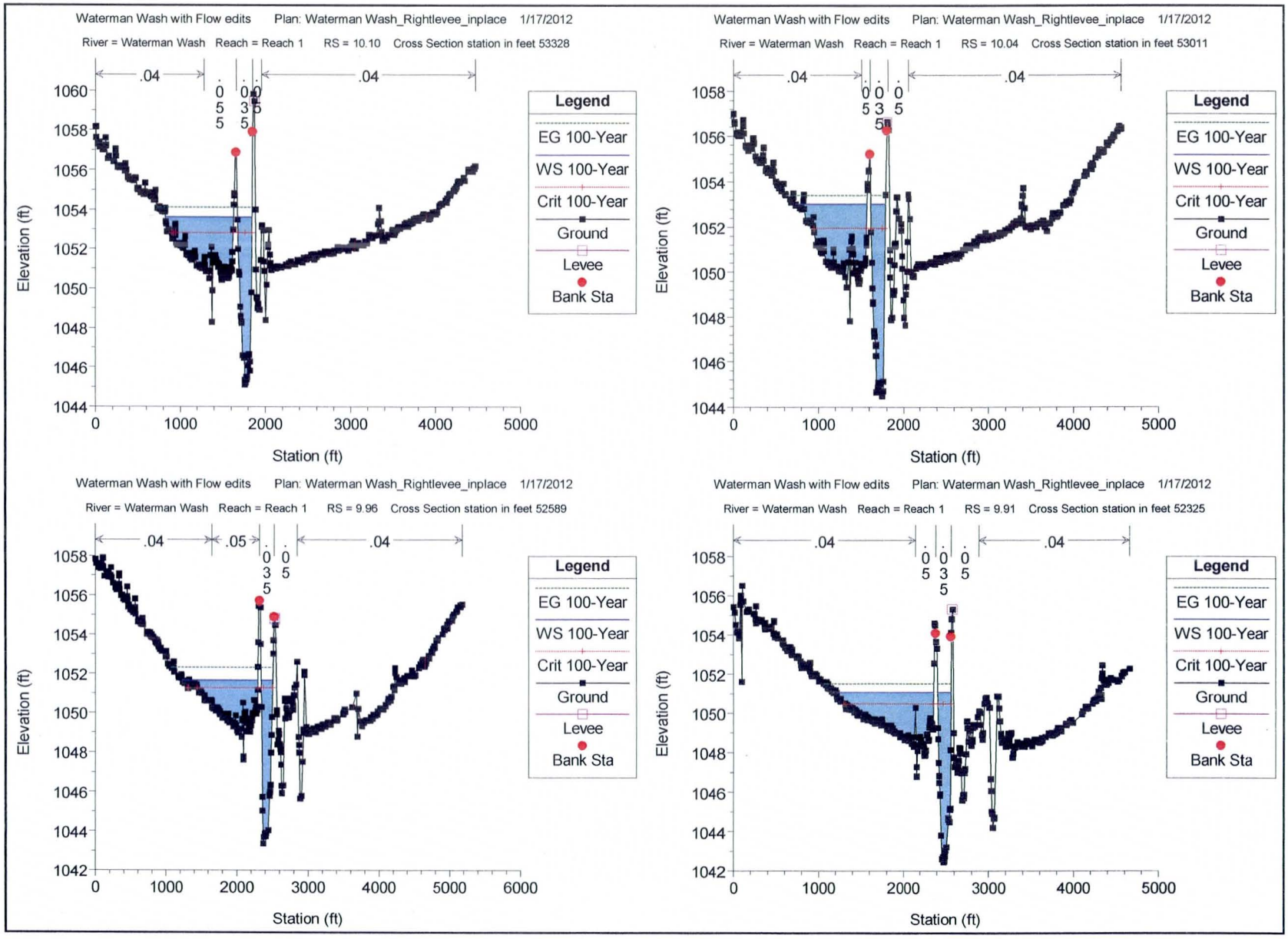

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.92 Water ponding in the farm fields in the left overbank modeled as
.045 .045 .05 .045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.80 crosses Riggs Rd and Sarival Rd. Water ponding in the farm fiel
.04 .045 .05 .04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.73 Water ponding in the farm fields in the left overbank modeled as
.04 .045 .05 .04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.67 Water ponding in the farm fields in the left and right overbank
.045 .045 .04
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta

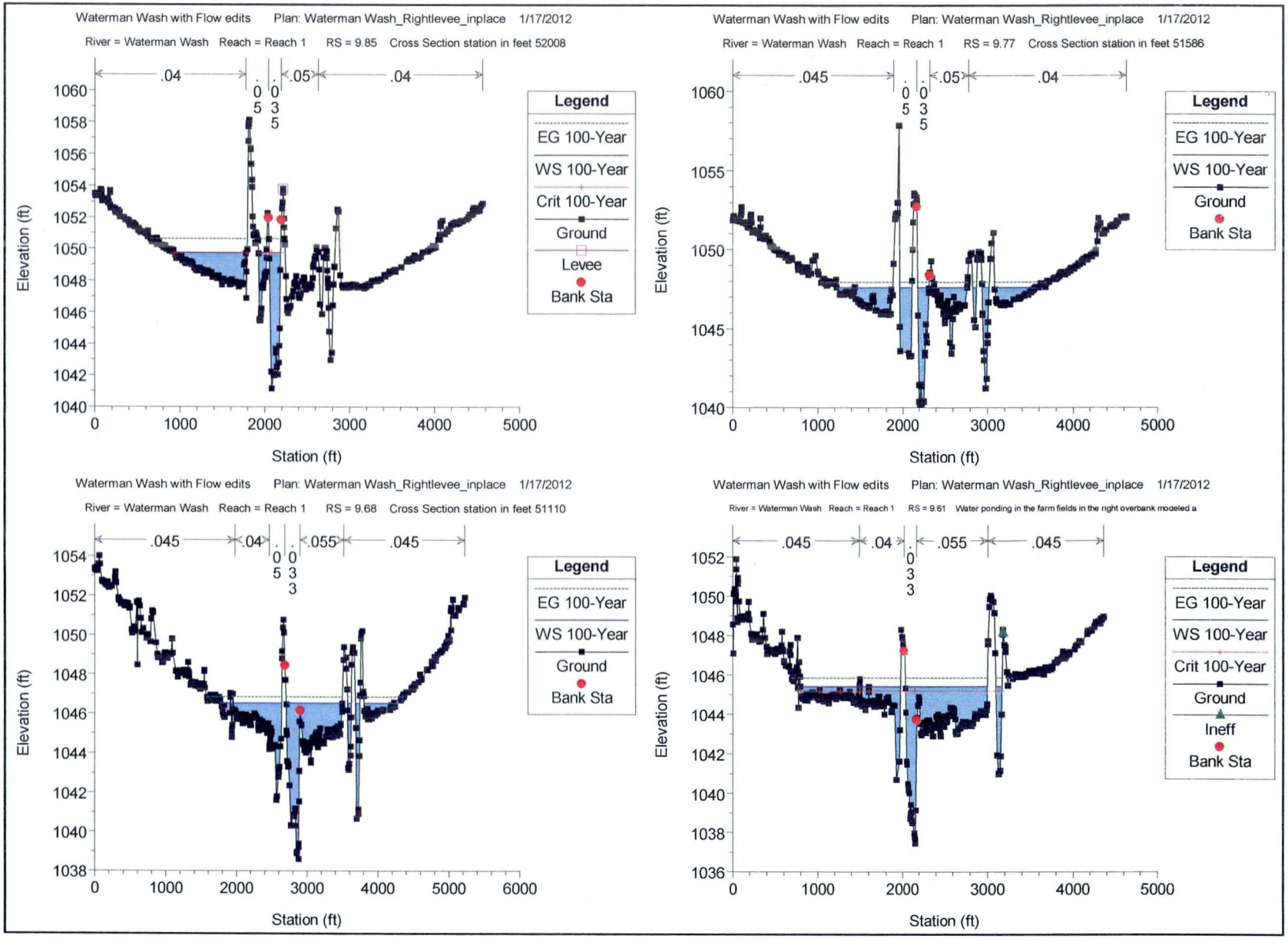

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.62 Water ponding in the farm fields in the left and right overbank
.04
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.55 Water ponding in the farm fields in the left and right overbank
.04
.045
.05
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.45 Water ponding in the farm fields in the left and right overbank
.045
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.39 Water ponding in the farm fields in the left and right overbank
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

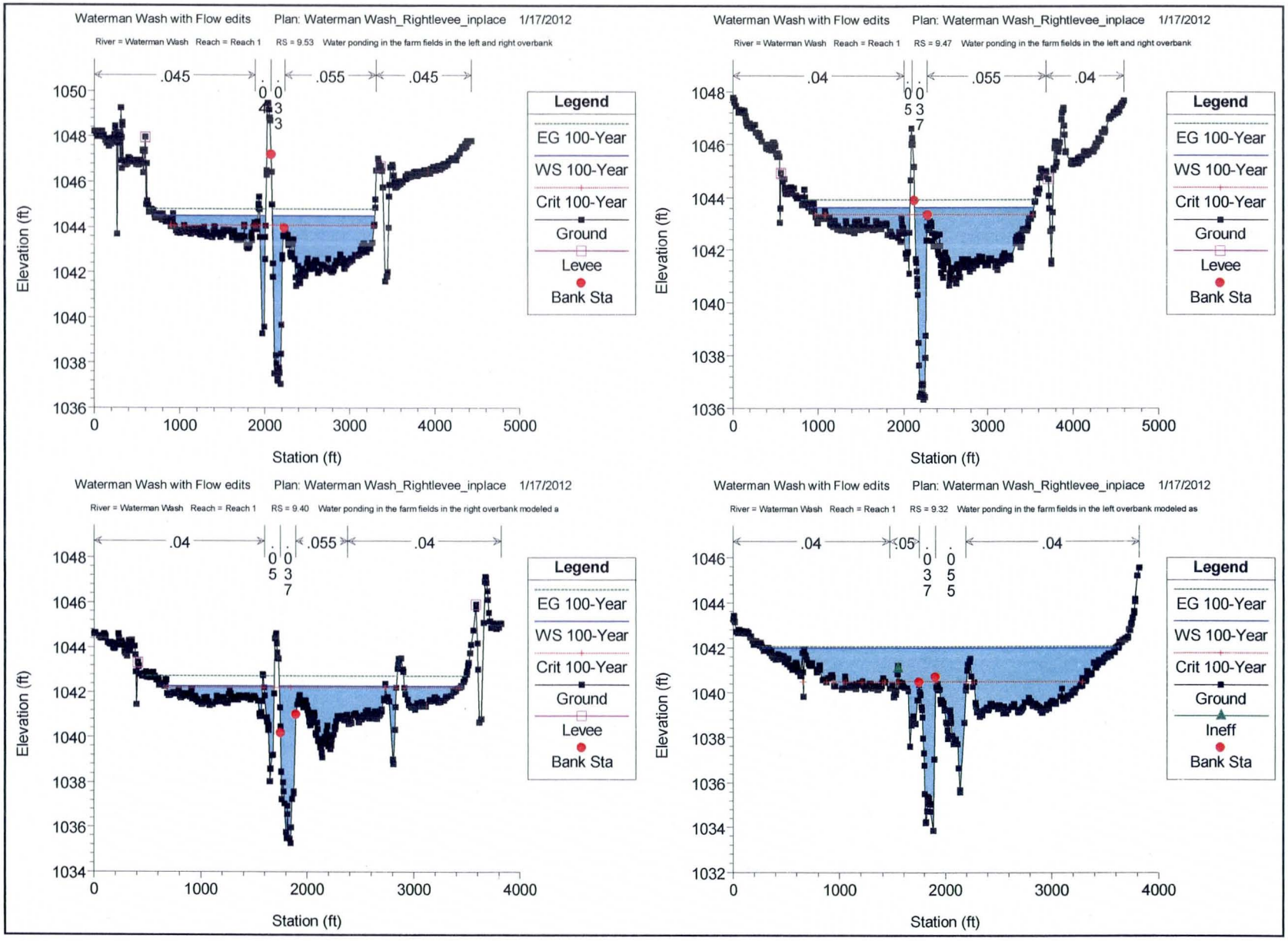

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.33 Water ponding in the farm fields in the left and right overbank
.04
.0045
.028
.045
.018
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.24 Water ponding in the farm fields in the left overbank modeled as
.04
.0045
.028
.045
.018
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.16 Water ponding in the farm fields in the left overbank modeled as
.04
.045
.0025
.0085
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 11.07 crosses Chandler Heights. Water ponding in the farm fields in t
.04
.0045
.028
.055
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

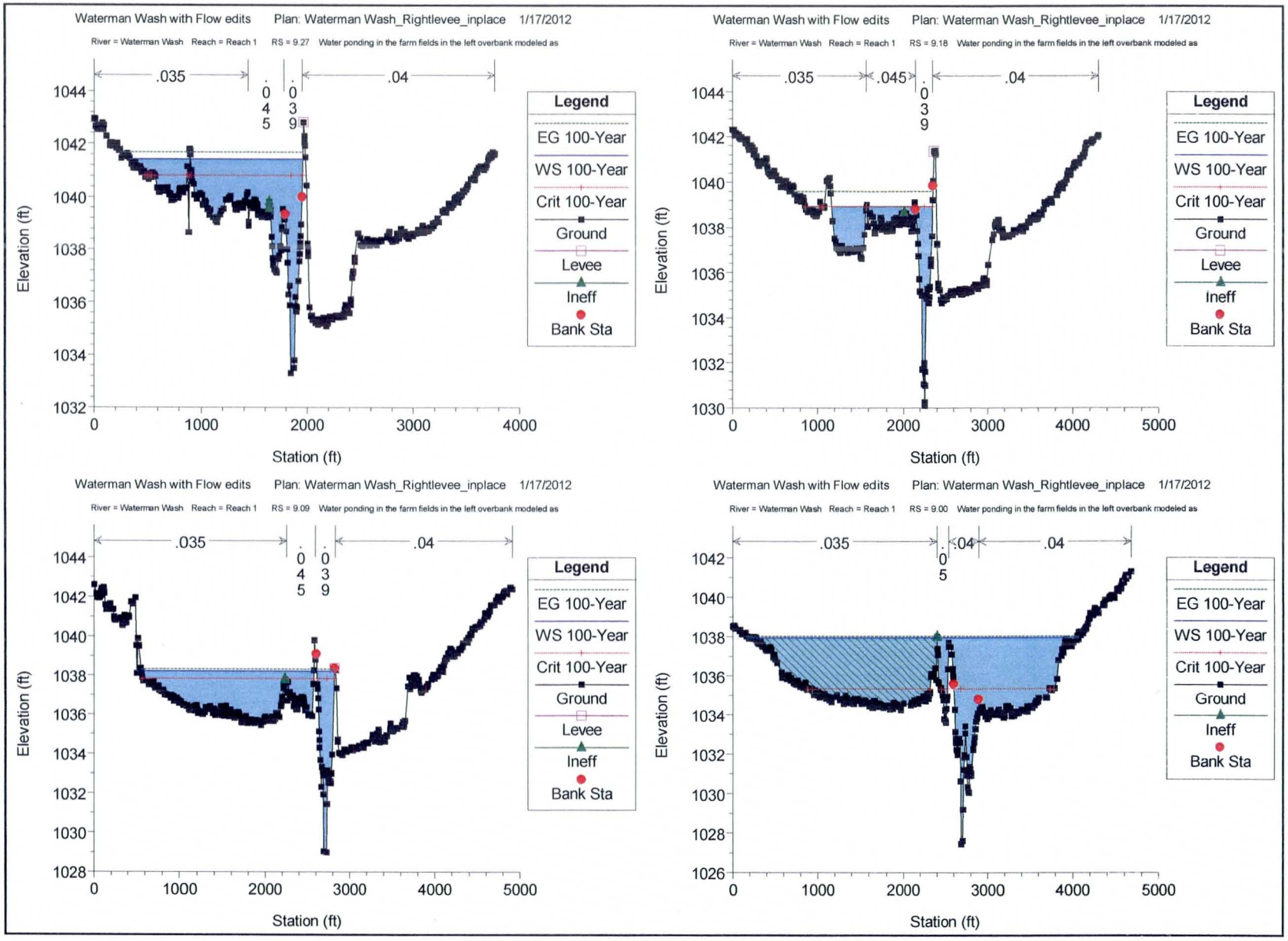

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.99 Water ponding in the farm fields in the left and right overbank
.04
.045
.028
.055
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.92 crosses Chandler Heights. Water ponding in the farm fields in t
.04
.045
.028
.055
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.87 crosses Chandler Heights. Water ponding in the farm fields in t
.04
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.75 Water ponding in the farm fields in the left overbank modeled as
.04
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

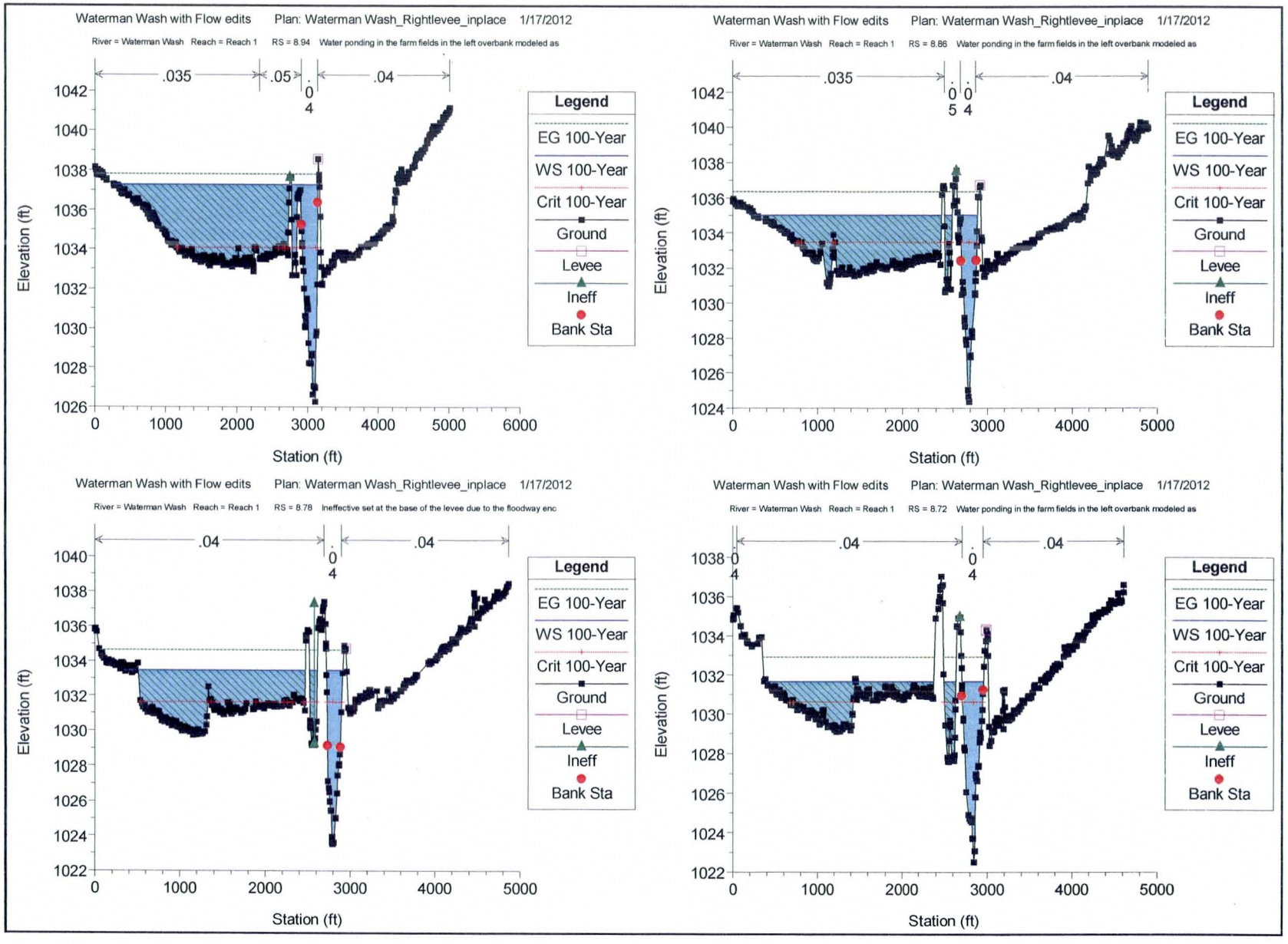

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.60 Cross Section station in feet 55968
.04
.04
0.055
0.035
0.055
0.016
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.45 Pond area located in the left overbank modeled as an ineffective
.04
.045
0.055
0.03
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.26 crosses Chandler Heights
.04
.055
.04
0.035
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.18 Cross Section station in feet 53750
.04
.04
0.055
0.035
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

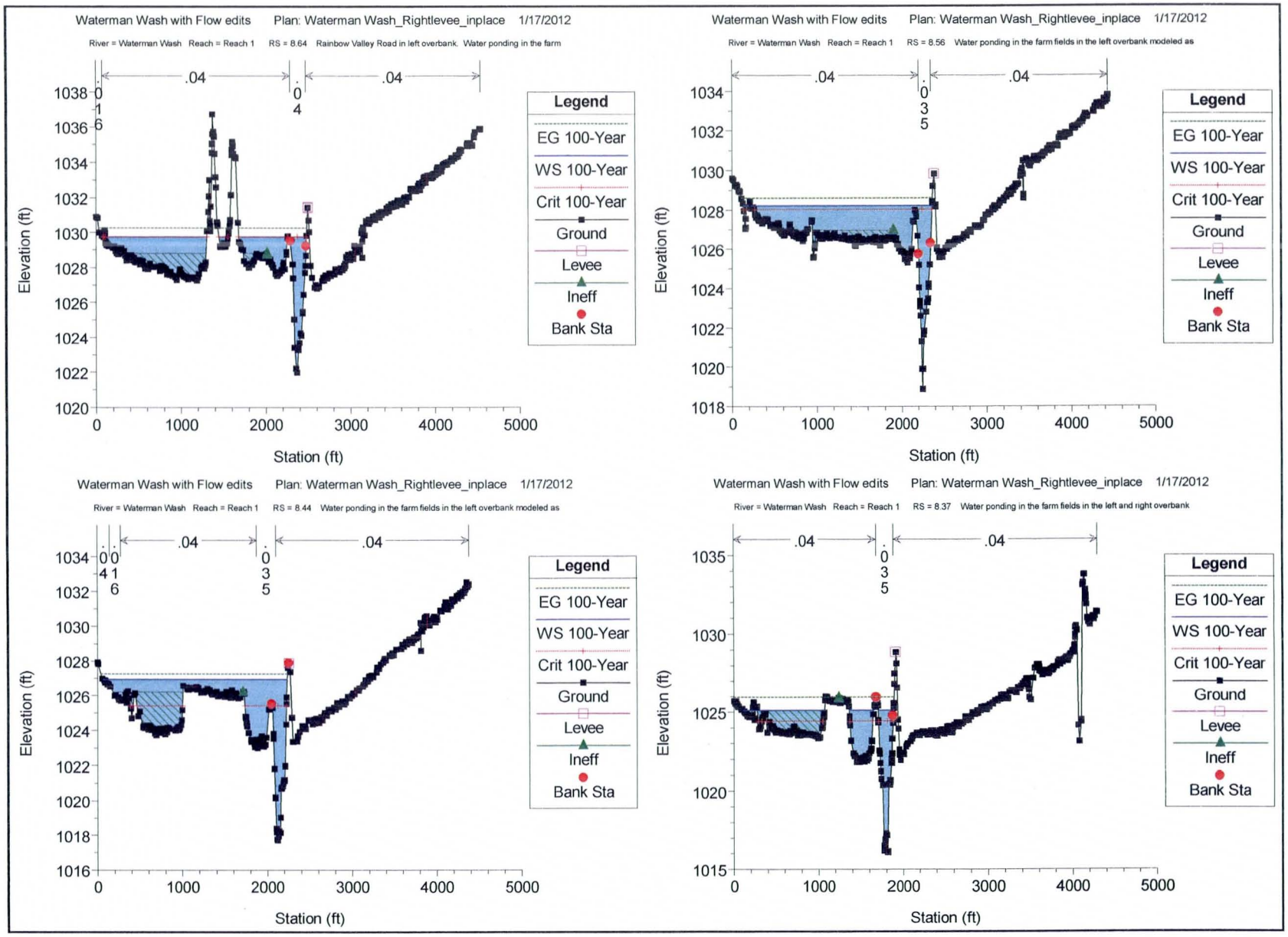

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.10 Cross Section station in feet 53328
.04 .05 .05 .05 .04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 10.04 Cross Section station in feet 53011
.04 .05 .05 .05 .04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.96 Cross Section station in feet 52589
.04 .05 .05 .05 .04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.91 Cross Section station in feet 52325
.04 .05 .05 .05 .04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

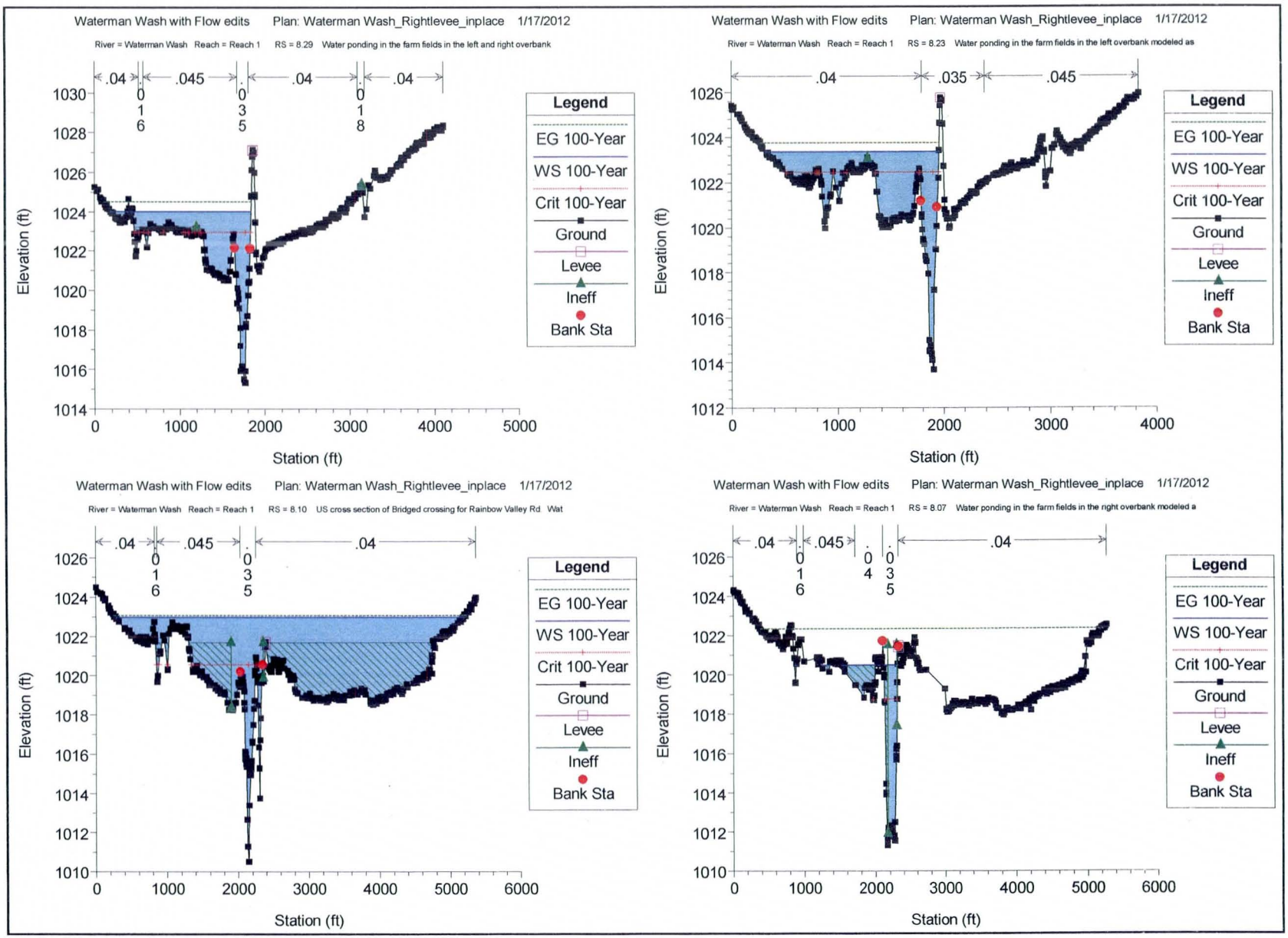

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.85 Cross Section station in feet 52008
.04
.05
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.77 Cross Section station in feet 51586
.045
.05
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.68 Cross Section station in feet 51110
.045
.04
.055
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.61 Water ponding in the farm fields in the right overbank modeled a
.045
.04
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

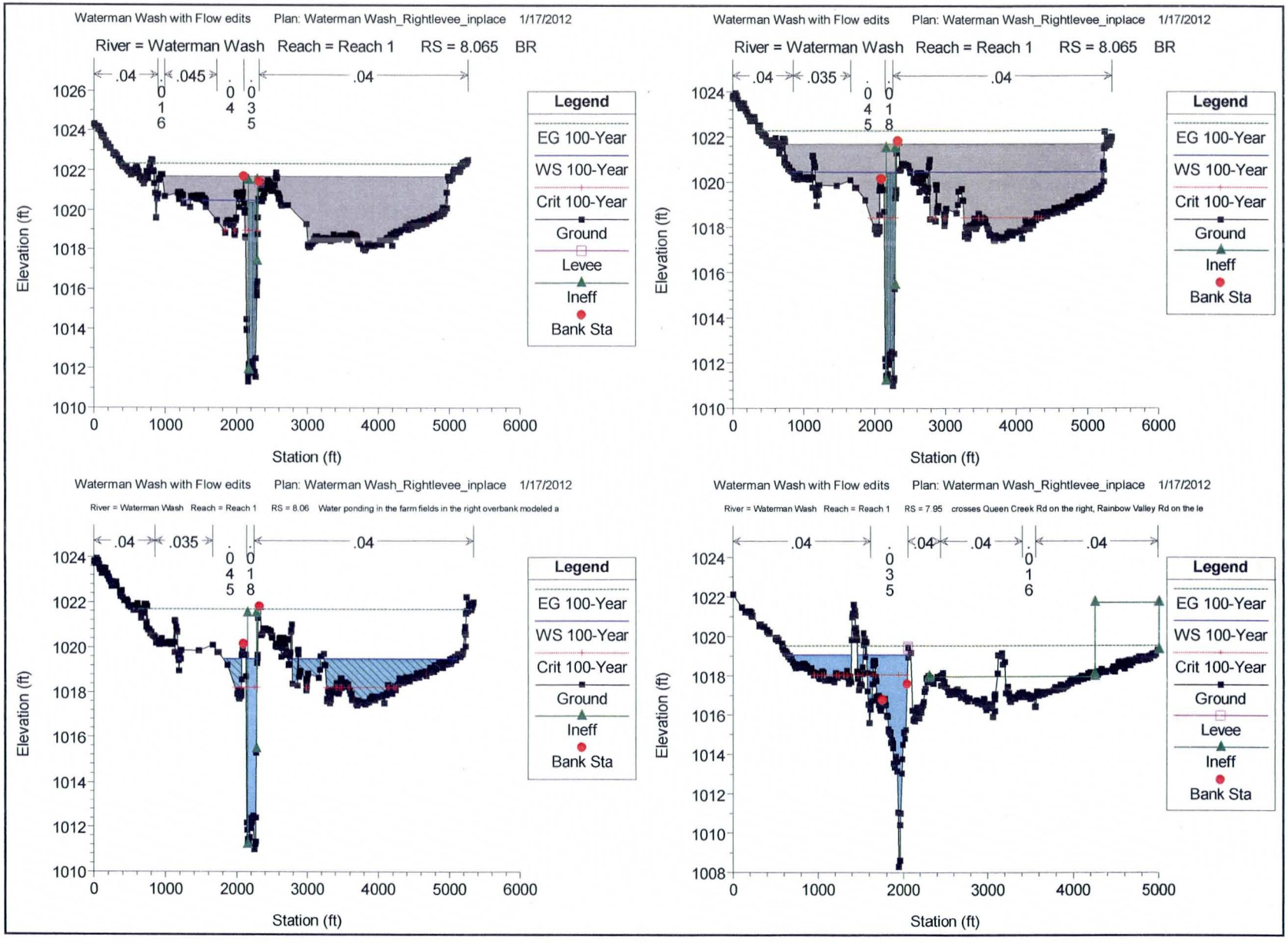

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.53 Water ponding in the farm fields in the left and right overbank
.045
.055
.045
0.043
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.47 Water ponding in the farm fields in the left and right overbank
.04
.055
.04
0.053
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.40 Water ponding in the farm fields in the right overbank modeled a
.04
.055
.04
0.053
0.037
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.32 Water ponding in the farm fields in the left overbank modeled as
.04
.05
.04
0.037
0.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta

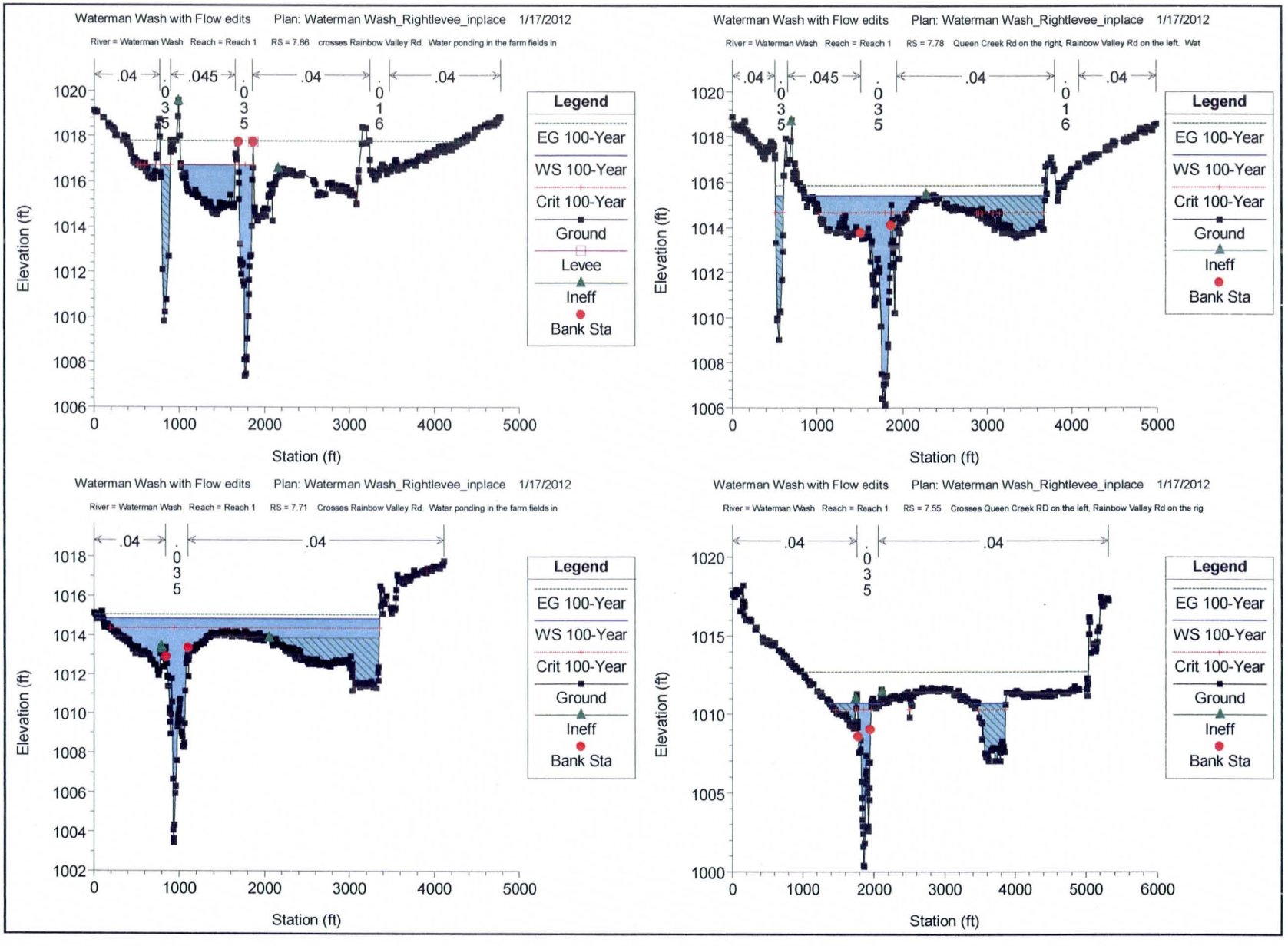

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.27 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.039
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.18 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.039
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.09 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.039
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 9.00 Water ponding in the farm fields in the left overbank modeled as
.035
.045
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

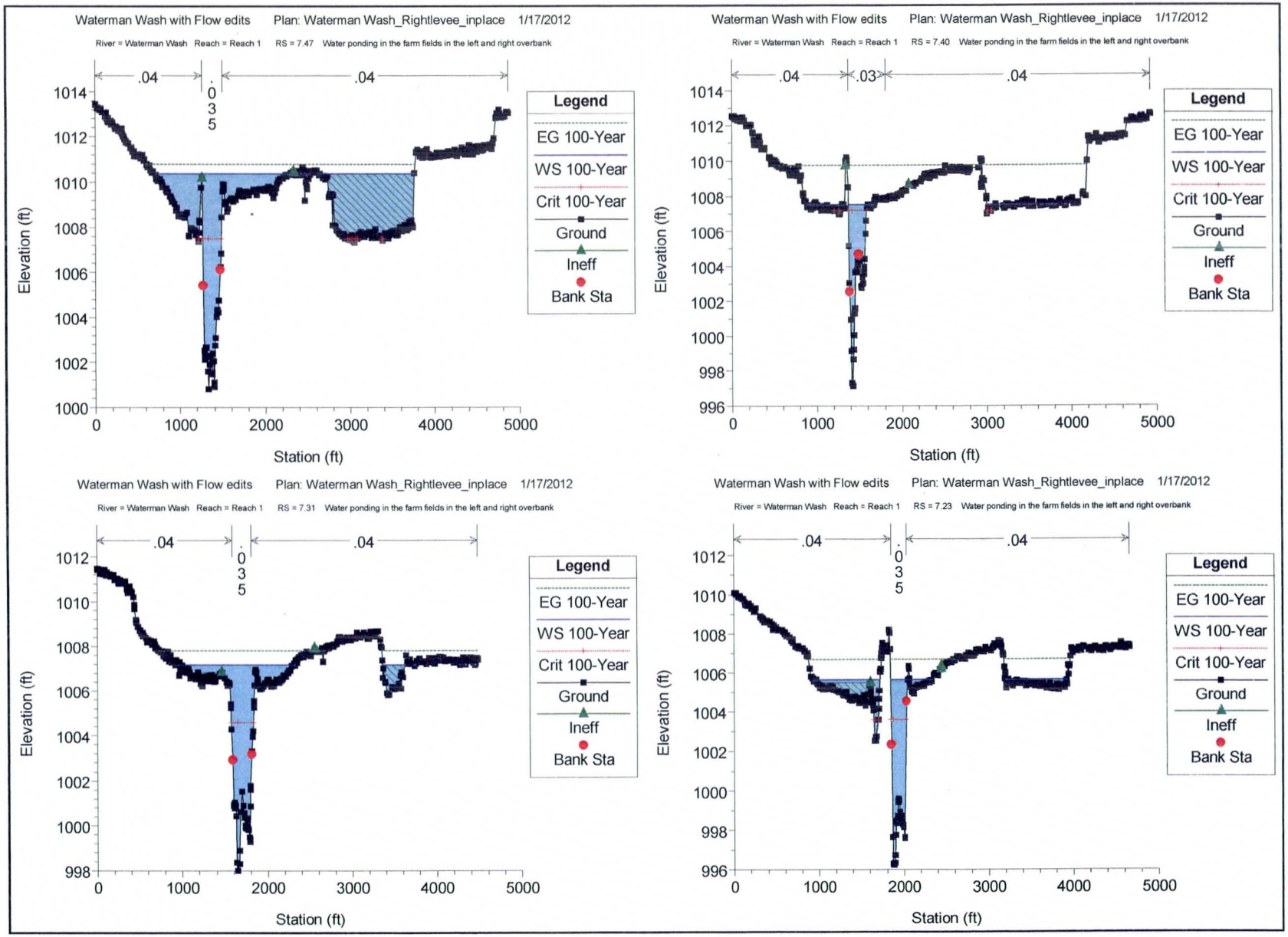

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.94 Water ponding in the farm fields in the left overbank modeled as
.035
.05
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.86 Water ponding in the farm fields in the left overbank modeled as
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.78 Ineffective set at the base of the levee due to the floodway enc
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.72 Water ponding in the farm fields in the left overbank modeled as
.04
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

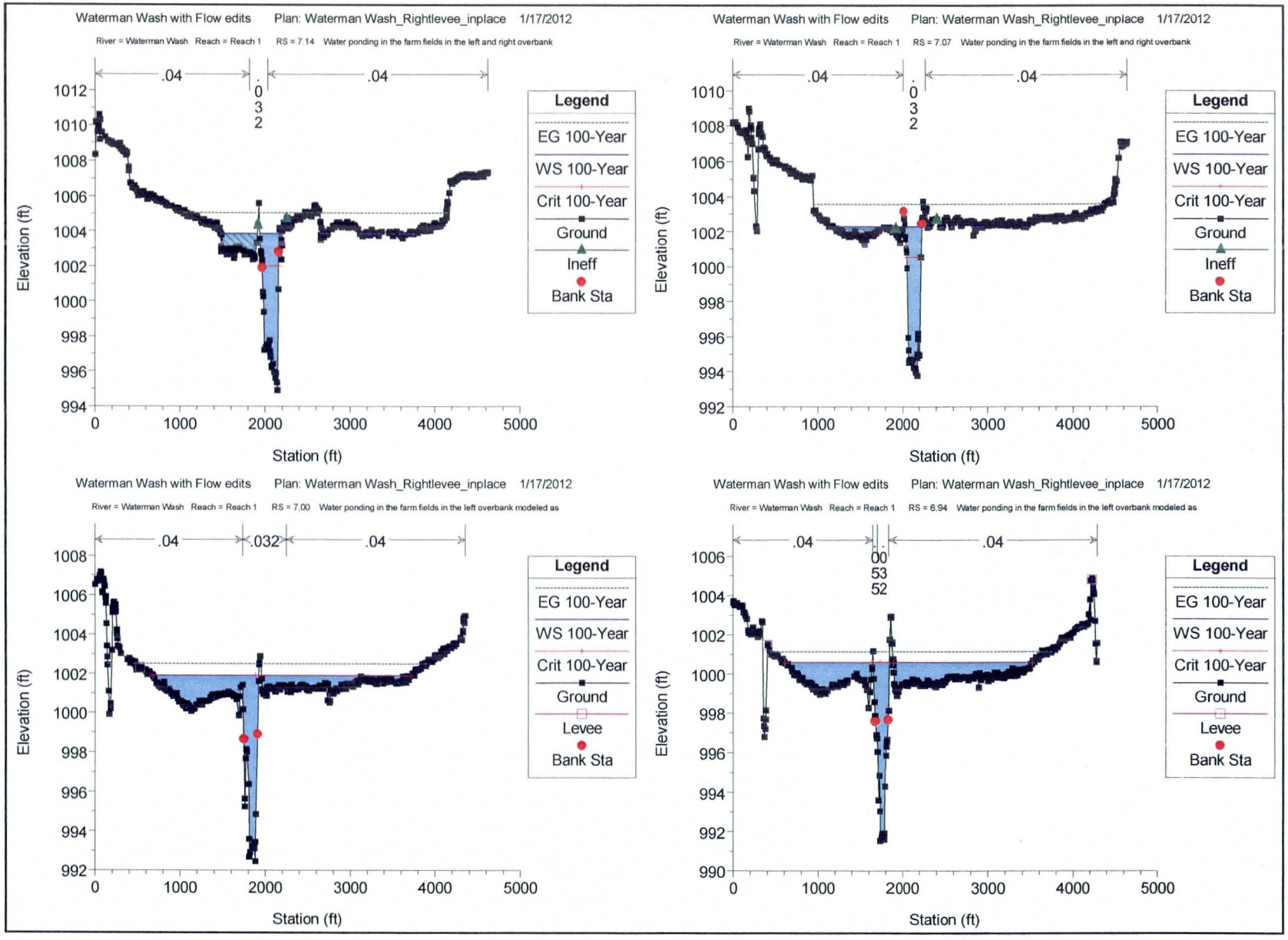

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.64 Rainbow Valley Road in left overbank. Water ponding in the farm
.04
.04
.04
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.56 Water ponding in the farm fields in the left overbank modeled as
.04
.04
.04
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.44 Water ponding in the farm fields in the left overbank modeled as
.04
.04
.04
.016
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.37 Water ponding in the farm fields in the left and right overbank
.04
.04
.04
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

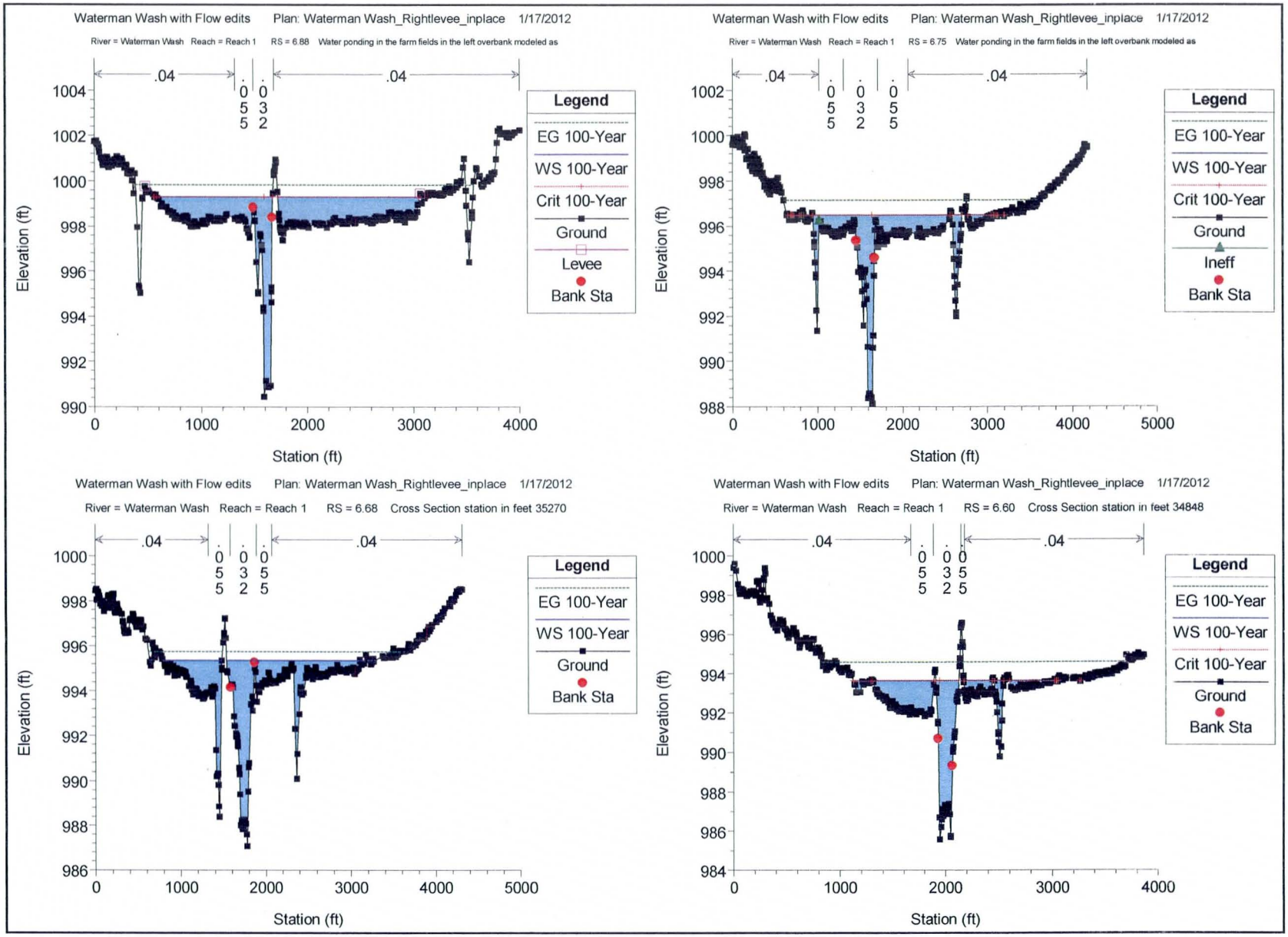

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.29 Water ponding in the farm fields in the left and right overbank
.04
.045
.04
.04
0.16
0.35
0.18
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.23 Water ponding in the farm fields in the left overbank modeled as
.04
.035
.045
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.10 US cross section of Bridged crossing for Rainbow Valley Rd. Wat
.04
.045
.04
0.16
0.35
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.07 Water ponding in the farm fields in the right overbank modeled a
.04
.045
.04
0.16
0.04
0.35
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta

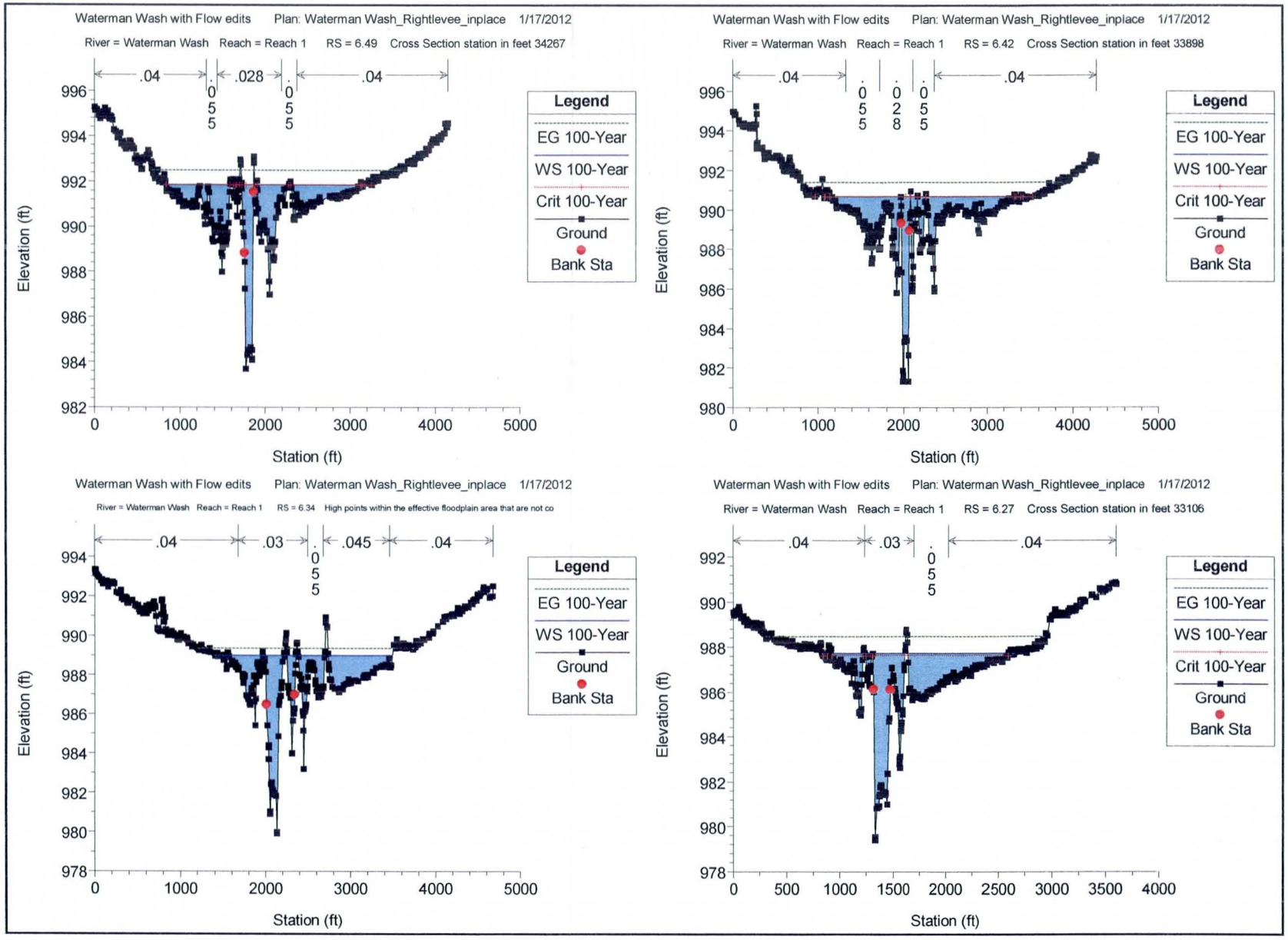

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.065 BR
.04 .045 .04
.016 .045 .035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.065 BR
.04 .035 .04
.045 .018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 8.06 Water ponding in the farm fields in the right overbank modeled a
.04 .035 .04
.045 .018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.95 crosses Queen Creek Rd on the right, Rainbow Valley Rd on the le
.04 .04 .04 .04
.035 .016
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)

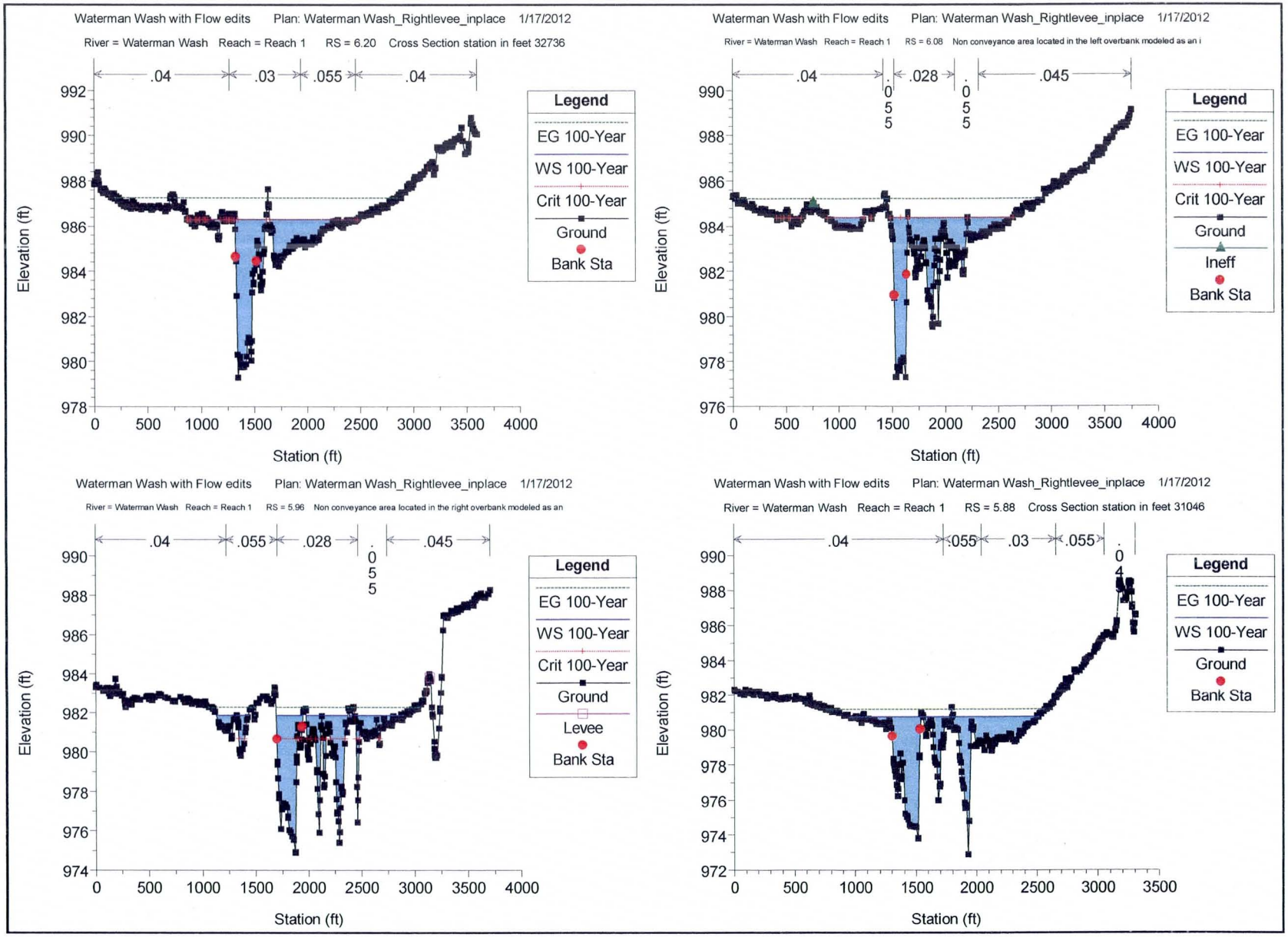

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.86 crosses Rainbow Valley Rd. Water ponding in the farm fields in
.04
.035
.045
.035
.04
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.78 Queen Creek Rd on the right, Rainbow Valley Rd on the left. Wat
.04
.035
.045
.035
.04
.016
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.71 Crosses Rainbow Valley Rd. Water ponding in the farm fields in
.04
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.55 Crosses Queen Creek RD on the left, Rainbow Valley Rd on the rig
.04
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

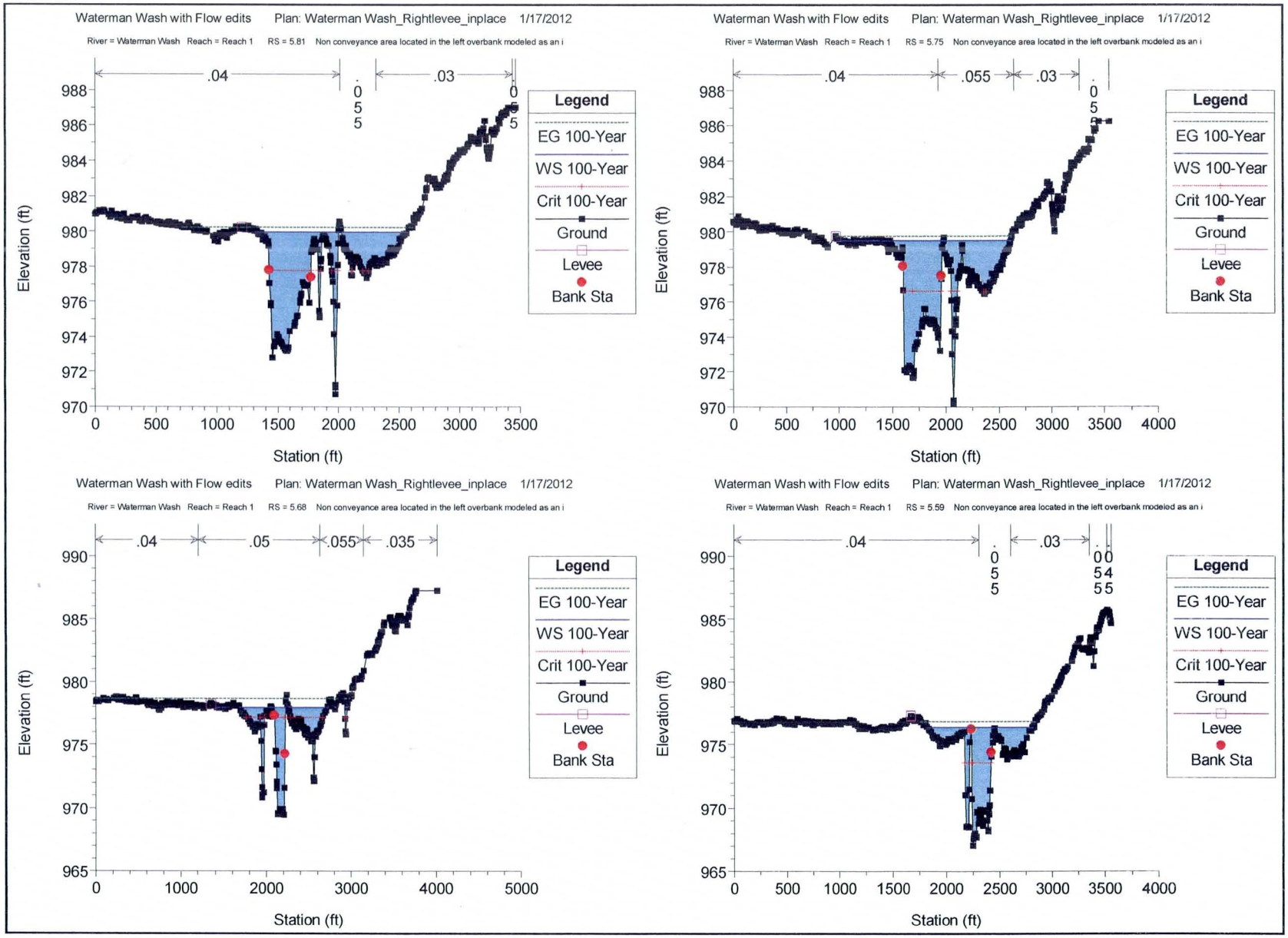

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.47 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.40 Water ponding in the farm fields in the left and right overbank
.04
.03
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.31 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.23 Water ponding in the farm fields in the left and right overbank
.04
.035
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

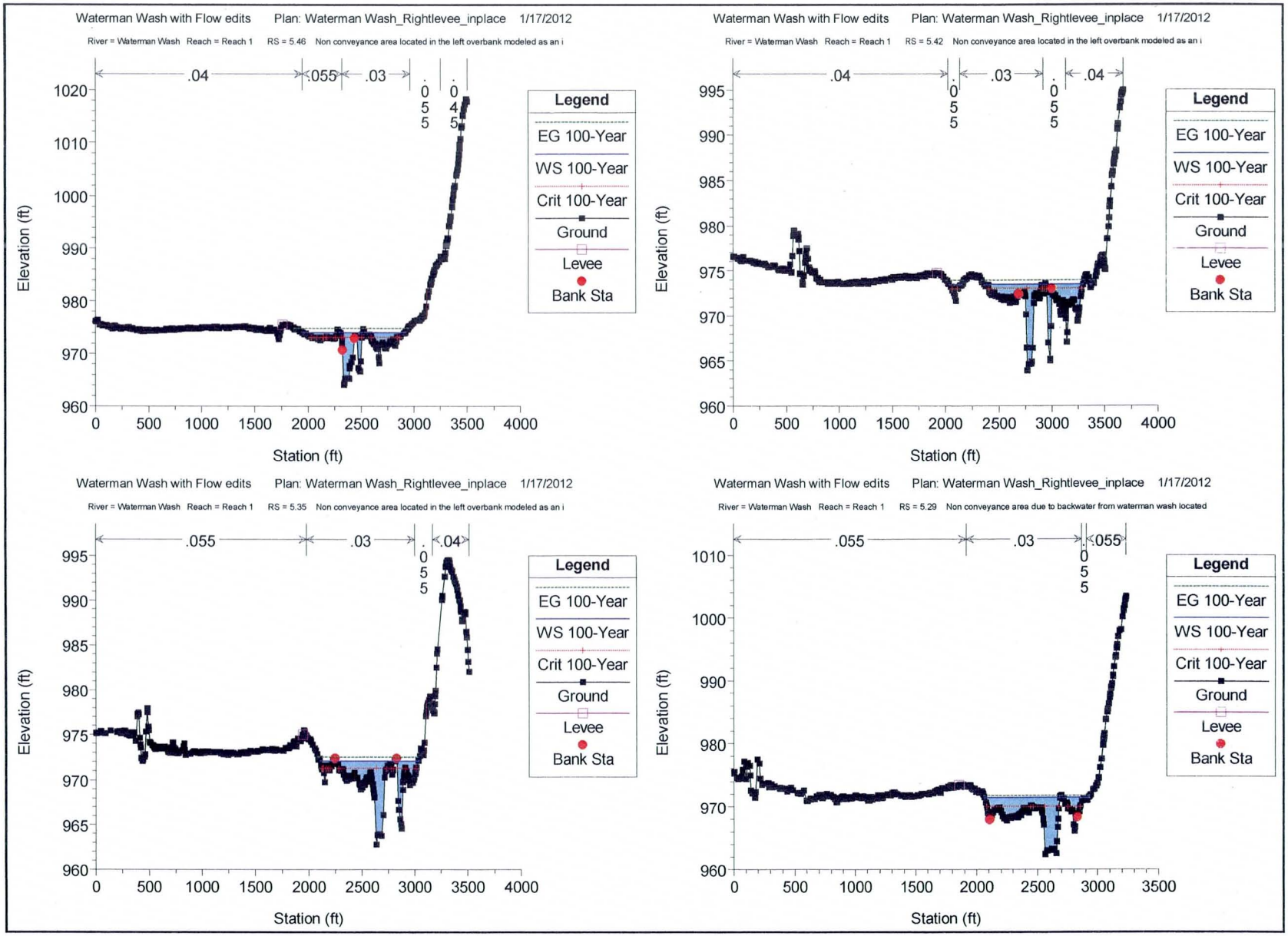

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.14 Water ponding in the farm fields in the left and right overbank
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.07 Water ponding in the farm fields in the left and right overbank
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 7.00 Water ponding in the farm fields in the left overbank modeled as
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.94 Water ponding in the farm fields in the left overbank modeled as
.04
.0053
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

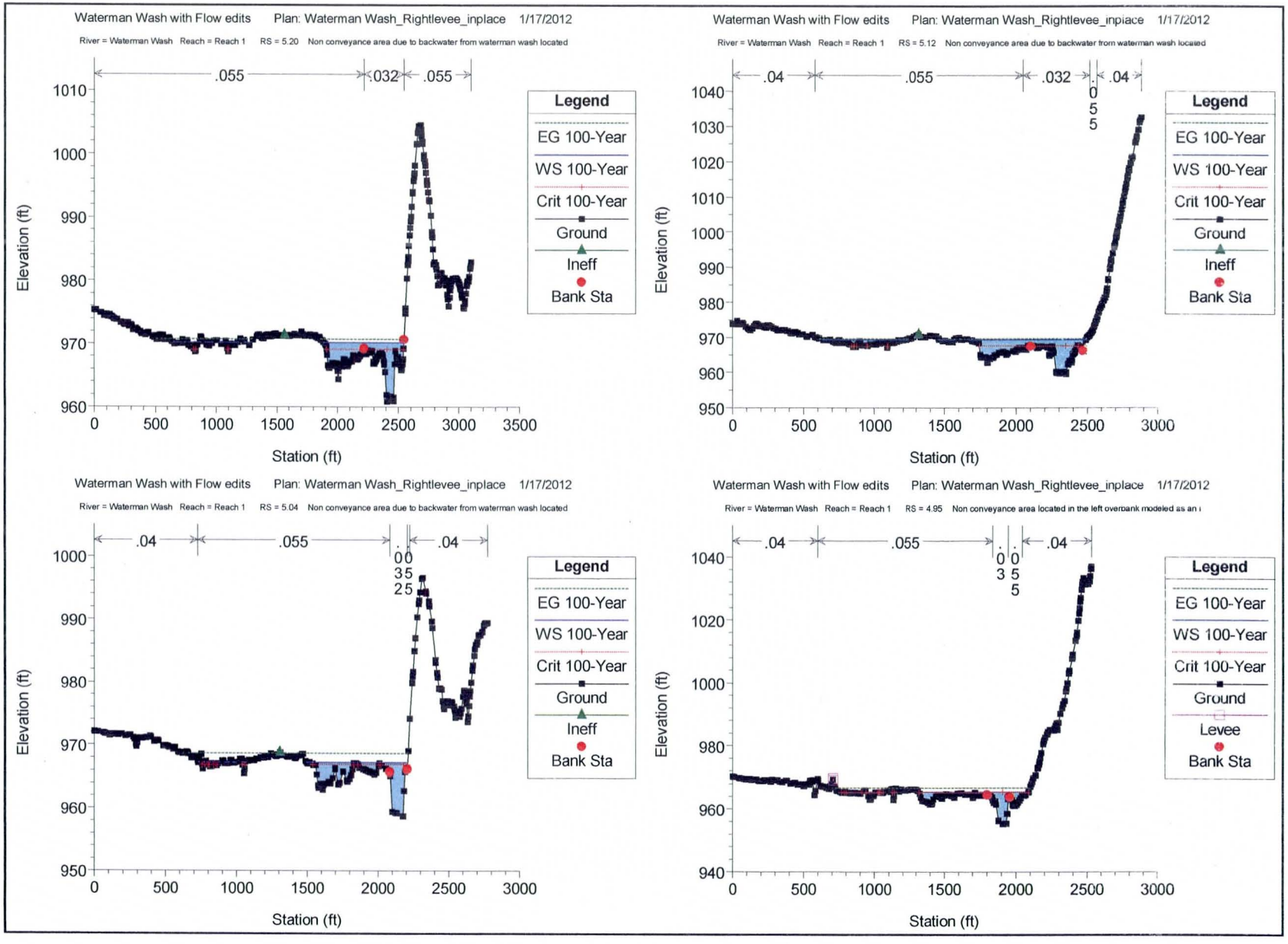

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.88 Water ponding in the farm fields in the left overbank modeled as
.04
.055
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.75 Water ponding in the farm fields in the left overbank modeled as
.04
.055
.032
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.68 Cross Section station in feet 35270
.04
.055
.032
.055
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.60 Cross Section station in feet 34848
.04
.055
.032
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

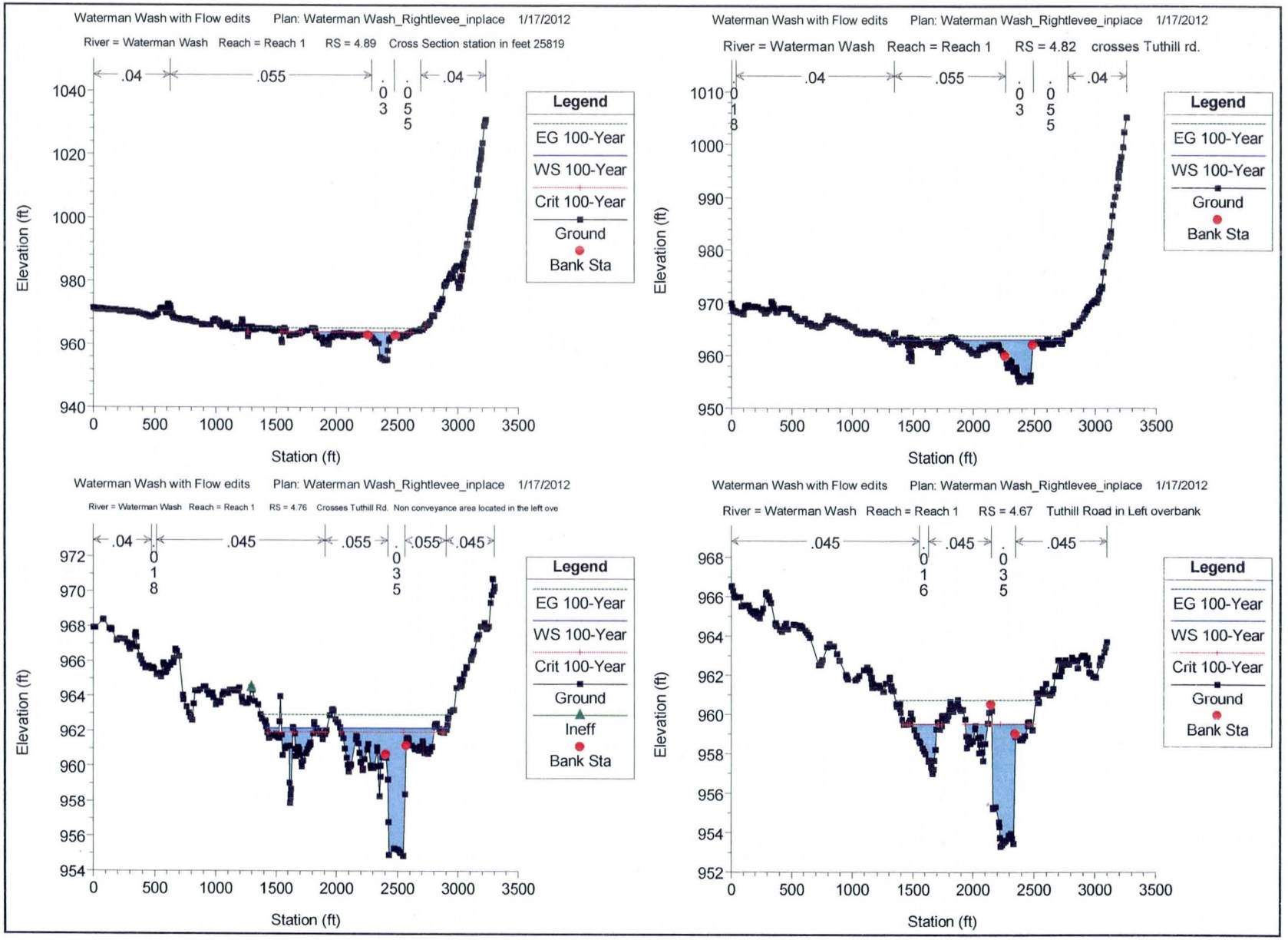

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.49 Cross Section station in feet 34267
.04
.028
.04
.055
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.42 Cross Section station in feet 33898
.04
.055
.028
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.34 High points within the effective floodplain area that are not co
.04
.03
.045
.04
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.27 Cross Section station in feet 33106
.04
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

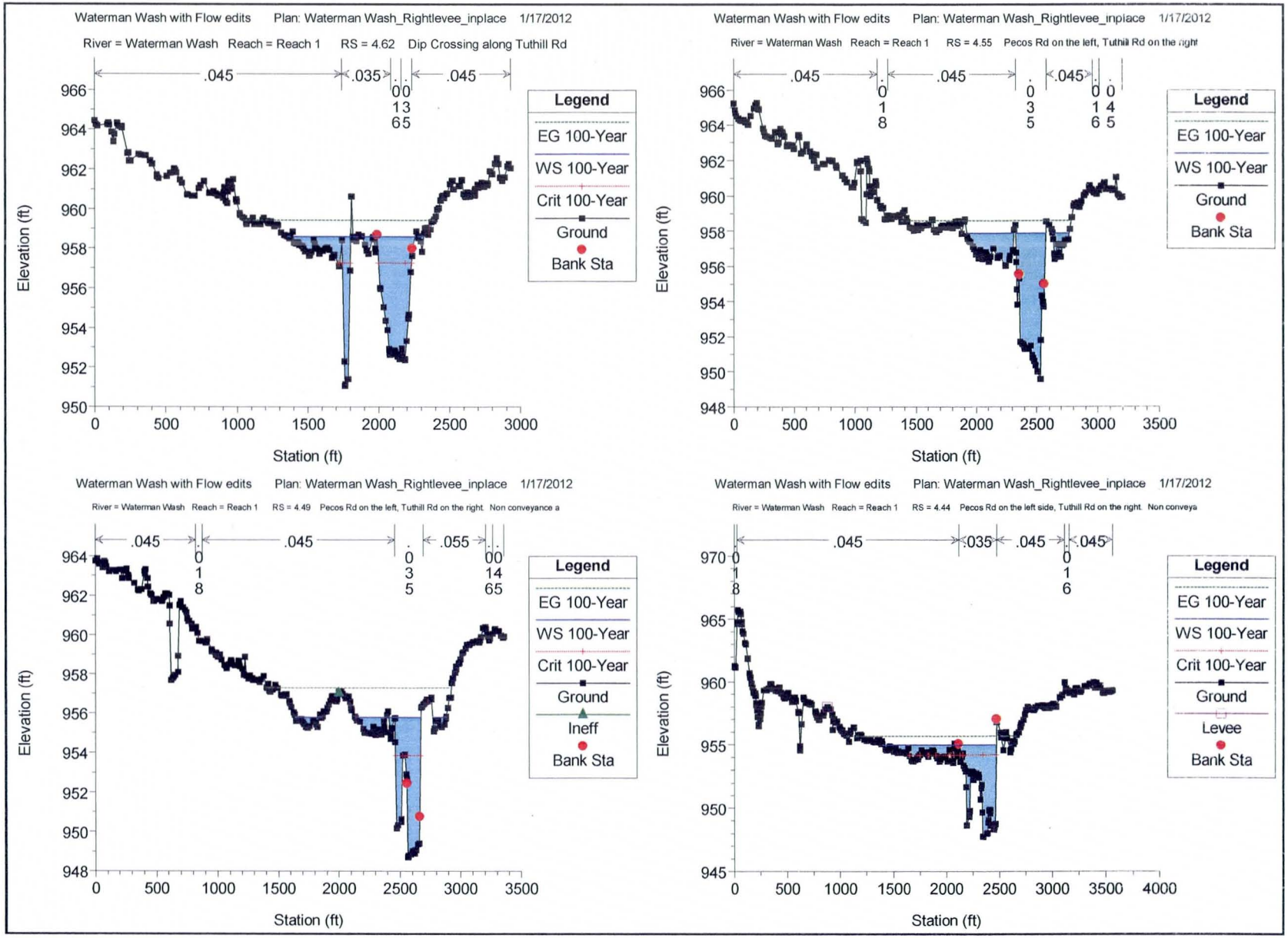

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.20 Cross Section station in feet 32736
.04
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 6.08 Non conveyance area located in the left overbank modeled as an i
.04
.055
.028
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.96 Non conveyance area located in the right overbank modeled as an
.04
.055
.028
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.88 Cross Section station in feet 31046
.04
.055
.03
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

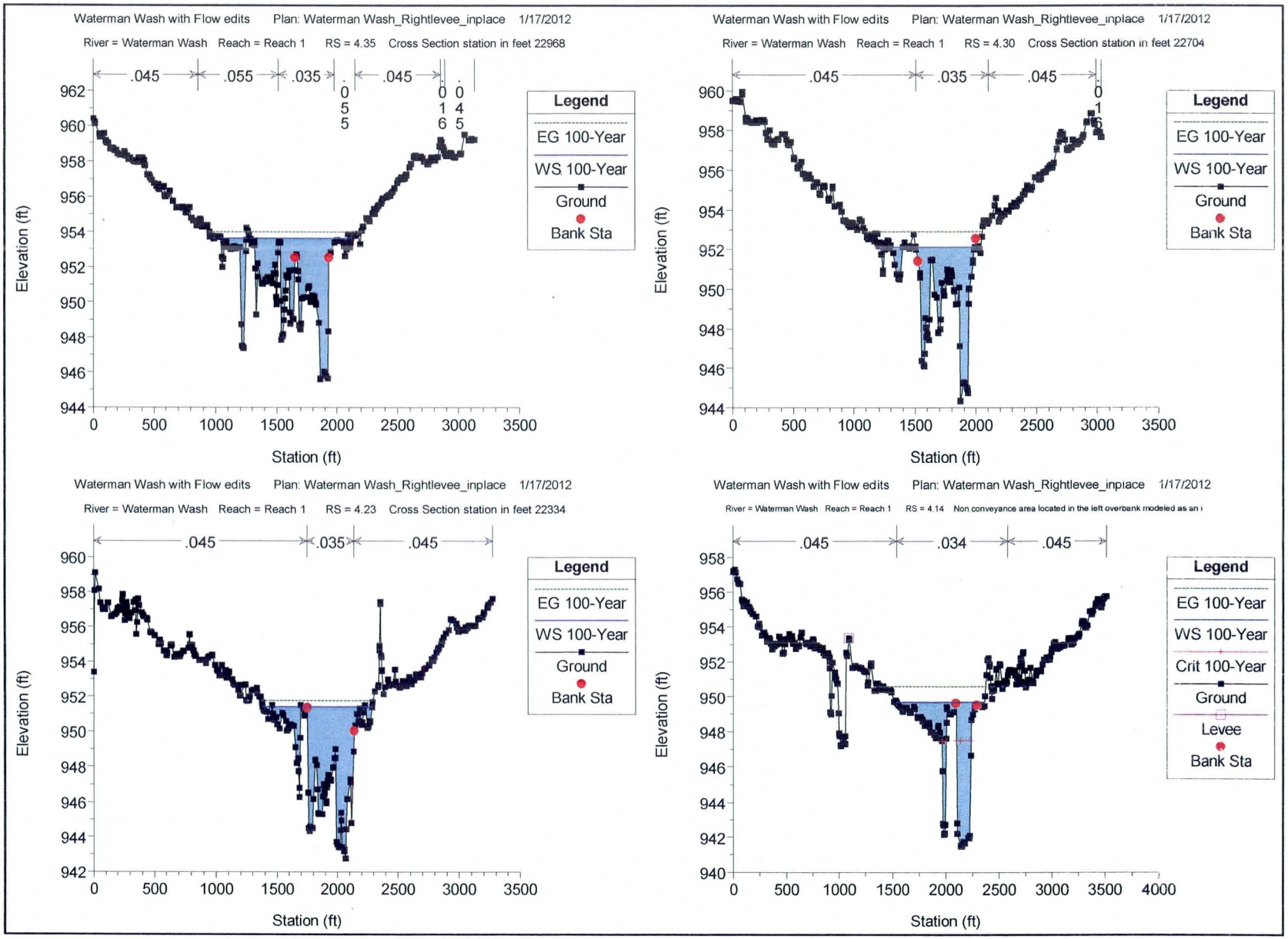

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.81 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.75 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.68 Non conveyance area located in the left overbank modeled as an i
.04
.05
.055
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.59 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

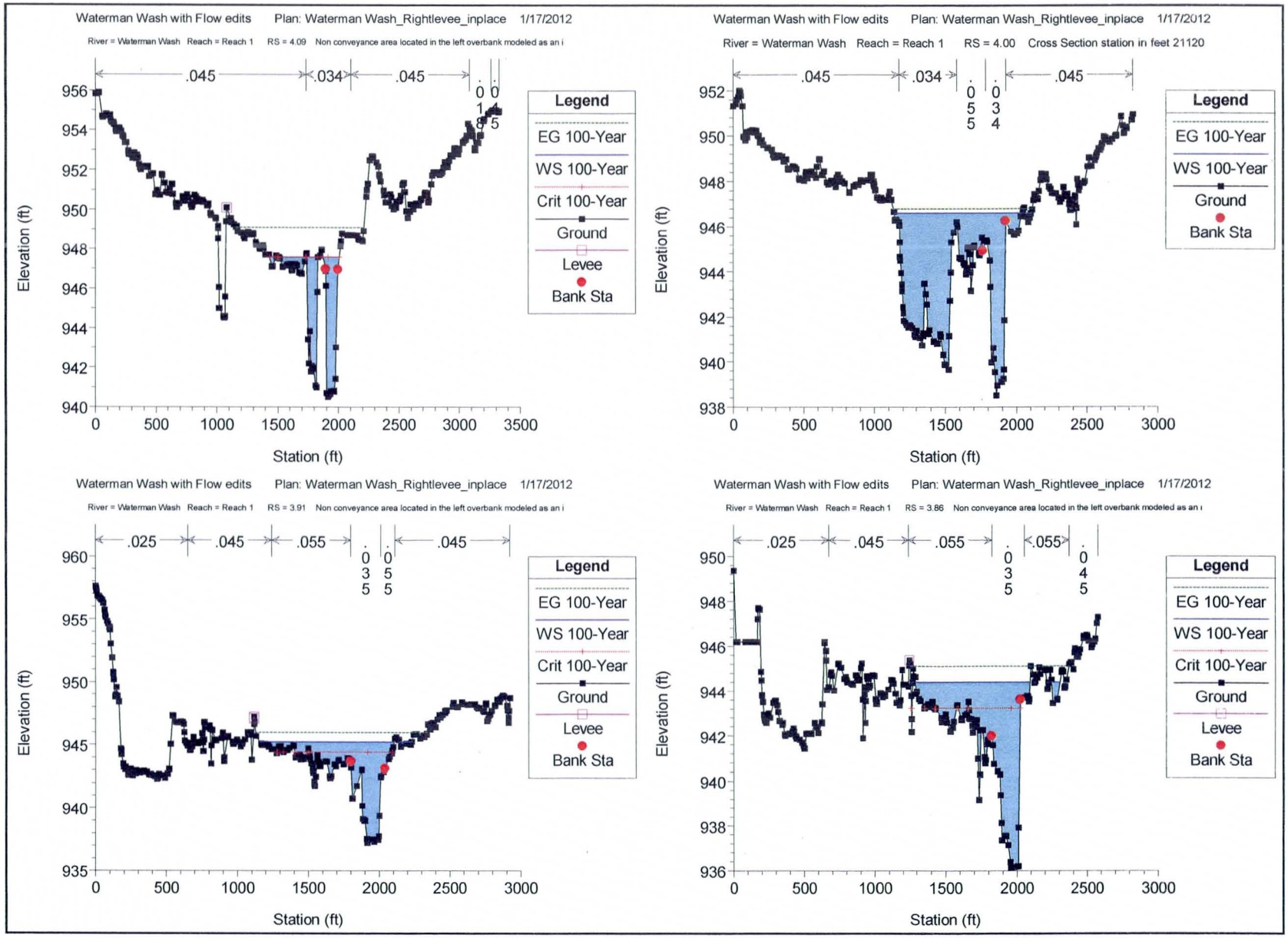

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.46 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.42 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.35 Non conveyance area located in the left overbank modeled as an i
.055
.03
.04
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.29 Non conveyance area due to backwater from waterman wash located
.055
.03
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

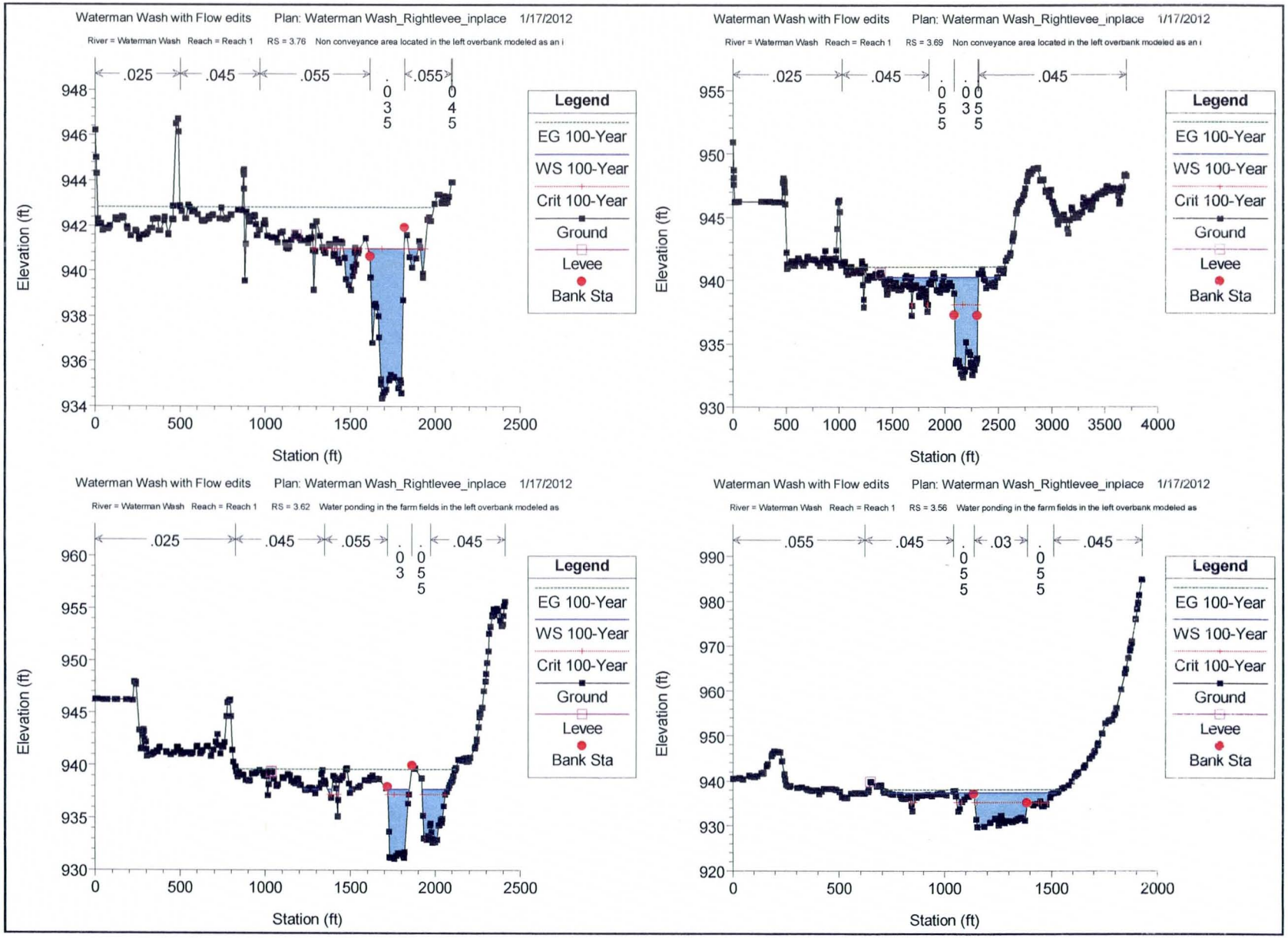

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.20 Non conveyance area due to backwater from waterman wash located
.055
.032
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.12 Non conveyance area due to backwater from waterman wash located
.04
.055
.032
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 5.04 Non conveyance area due to backwater from waterman wash located
.04
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.95 Non conveyance area located in the left overbank modeled as an
.04
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

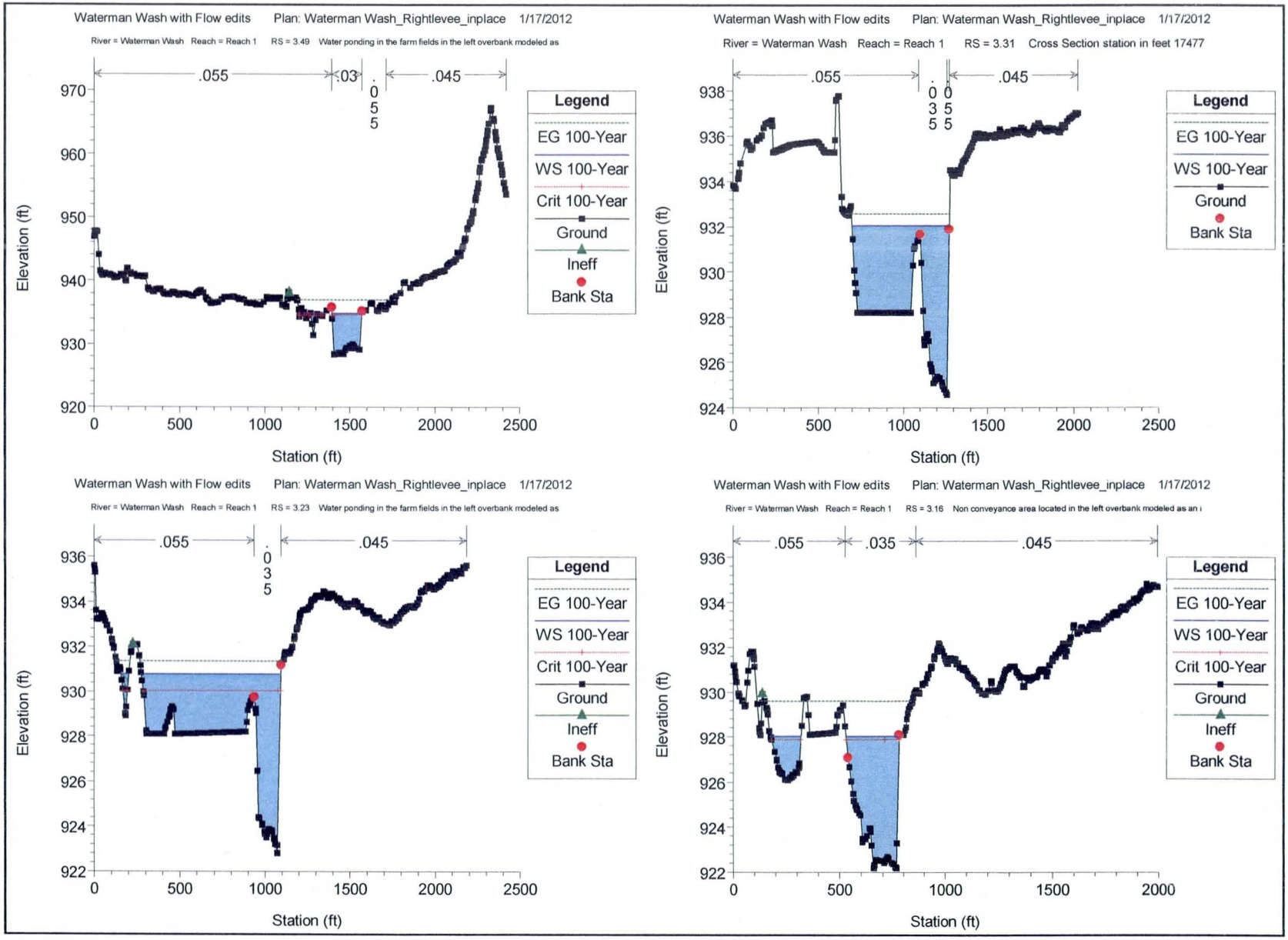

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.89 Cross Section station in feet 25819
.04 .055 .04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.82 crosses Tuthill rd.
.04 .055 .04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.76 Crosses Tuthill Rd. Non conveyance area located in the left ove
.04 .045 .055 .055 .045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.67 Tuthill Road in Left overbank
.045 .045 .045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

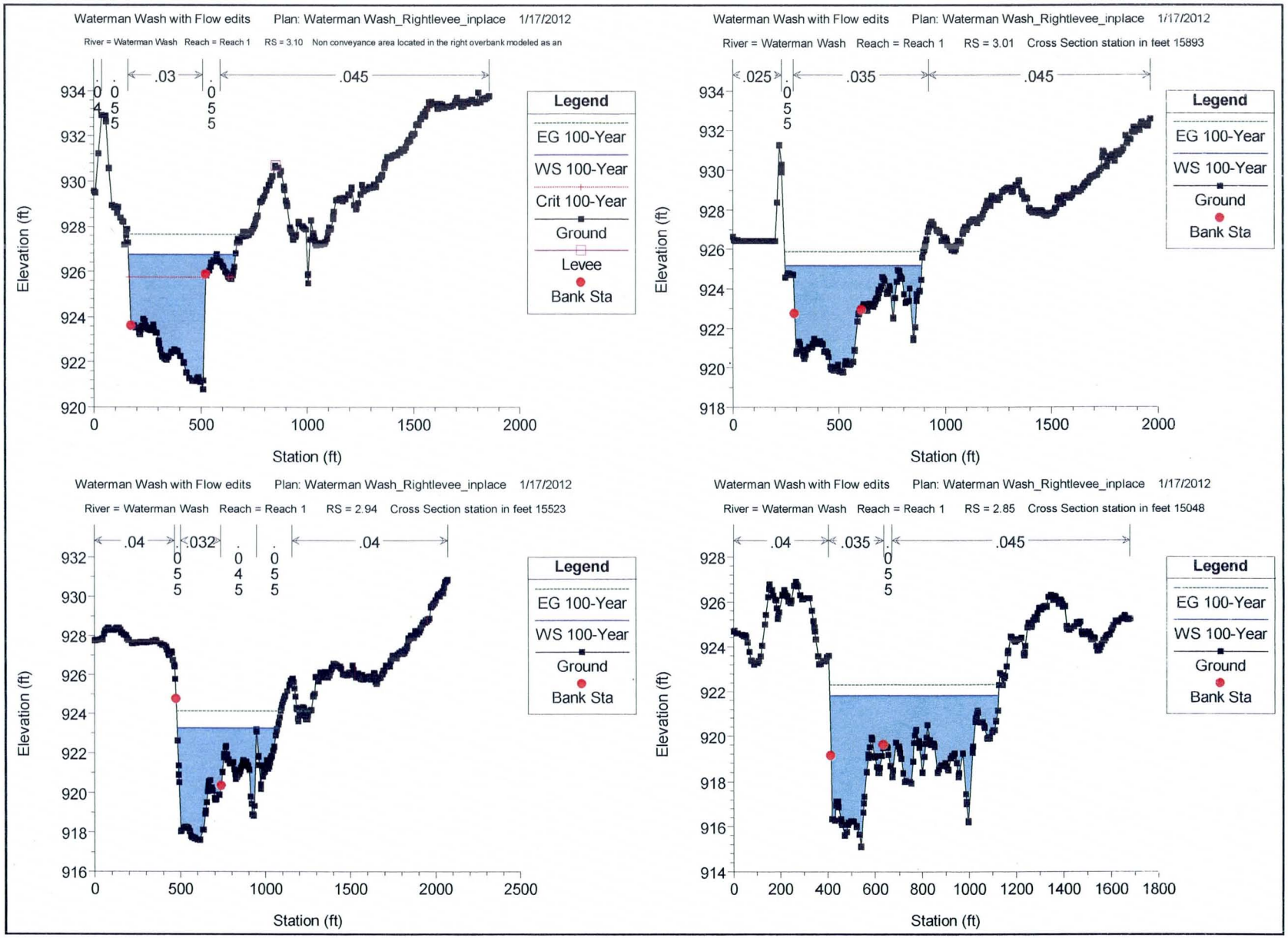

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.62 Dip Crossing along Tuthill Rd
.045
.035
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.55 Pecos Rd on the left, Tuthill Rd on the right
.045
.045
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.49 Pecos Rd on the left, Tuthill Rd on the right. Non conveyance a
.045
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.44 Pecos Rd on the left side, Tuthill Rd on the right. Non conveya
.045
.035
.045
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

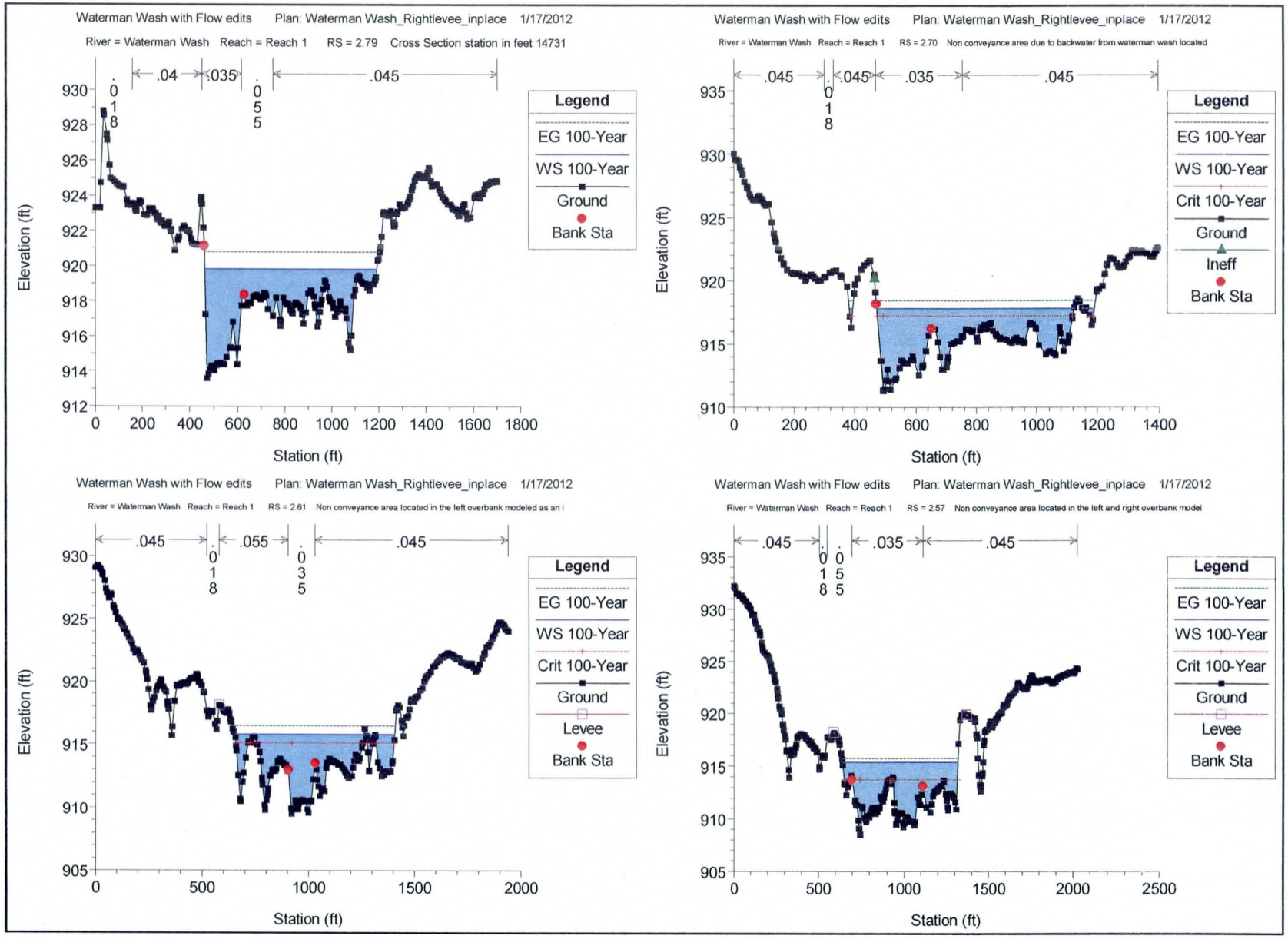

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.35 Cross Section station in feet 22968
.045
.055
.035
.045
0.055
0.016
0.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.30 Cross Section station in feet 22704
.045
.035
.045
0.016
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.23 Cross Section station in feet 22334
.045
.035
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.14 Non conveyance area located in the left overbank modeled as an
.045
.034
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

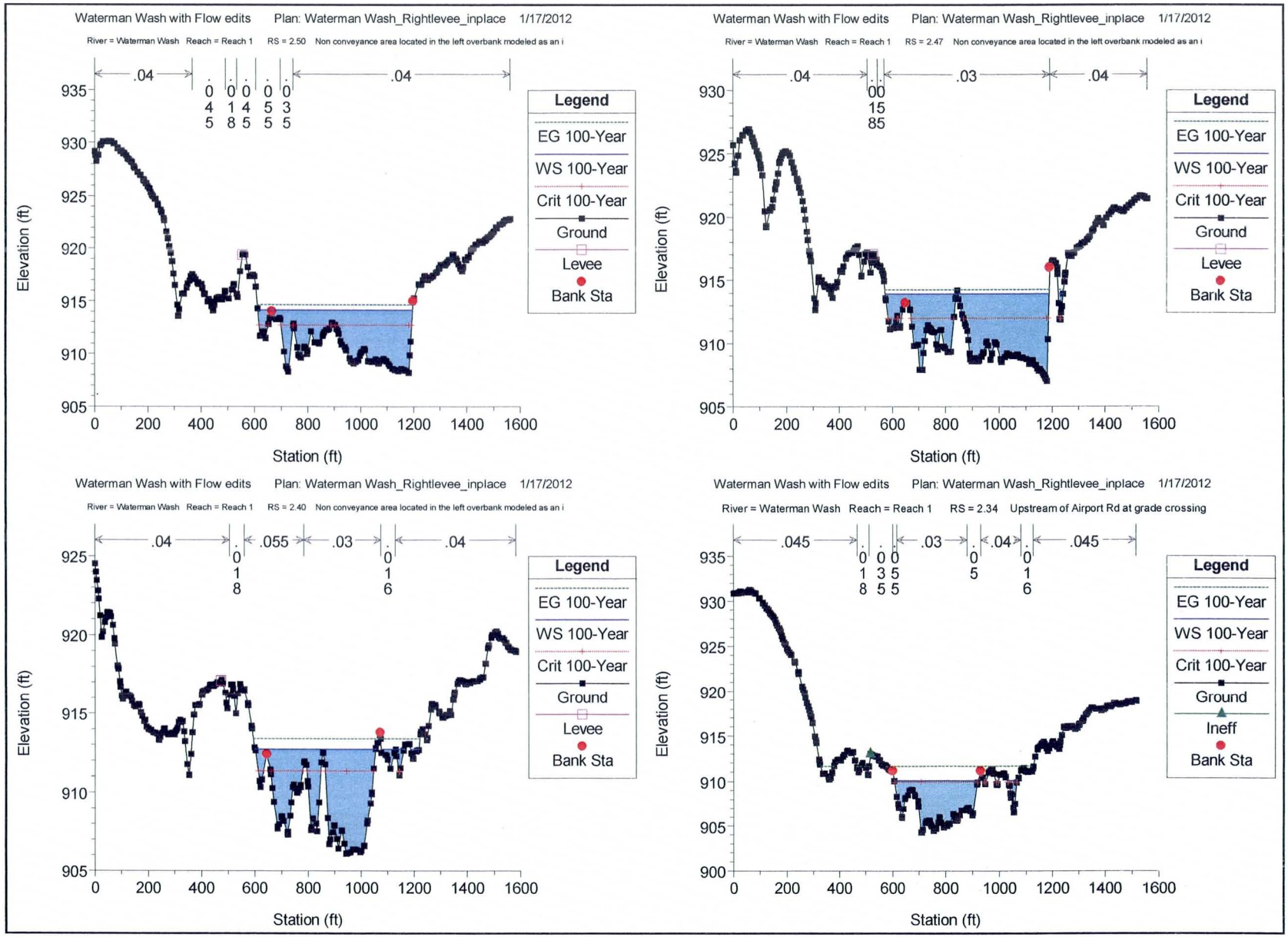

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.09 Non conveyance area located in the left overbank modeled as an i
.045
.034
.045
0.155
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 4.00 Cross Section station in feet 21120
.045
.034
.045
0.055
0.034
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.91 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.045
0.035
0.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.86 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.055
0.035
0.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

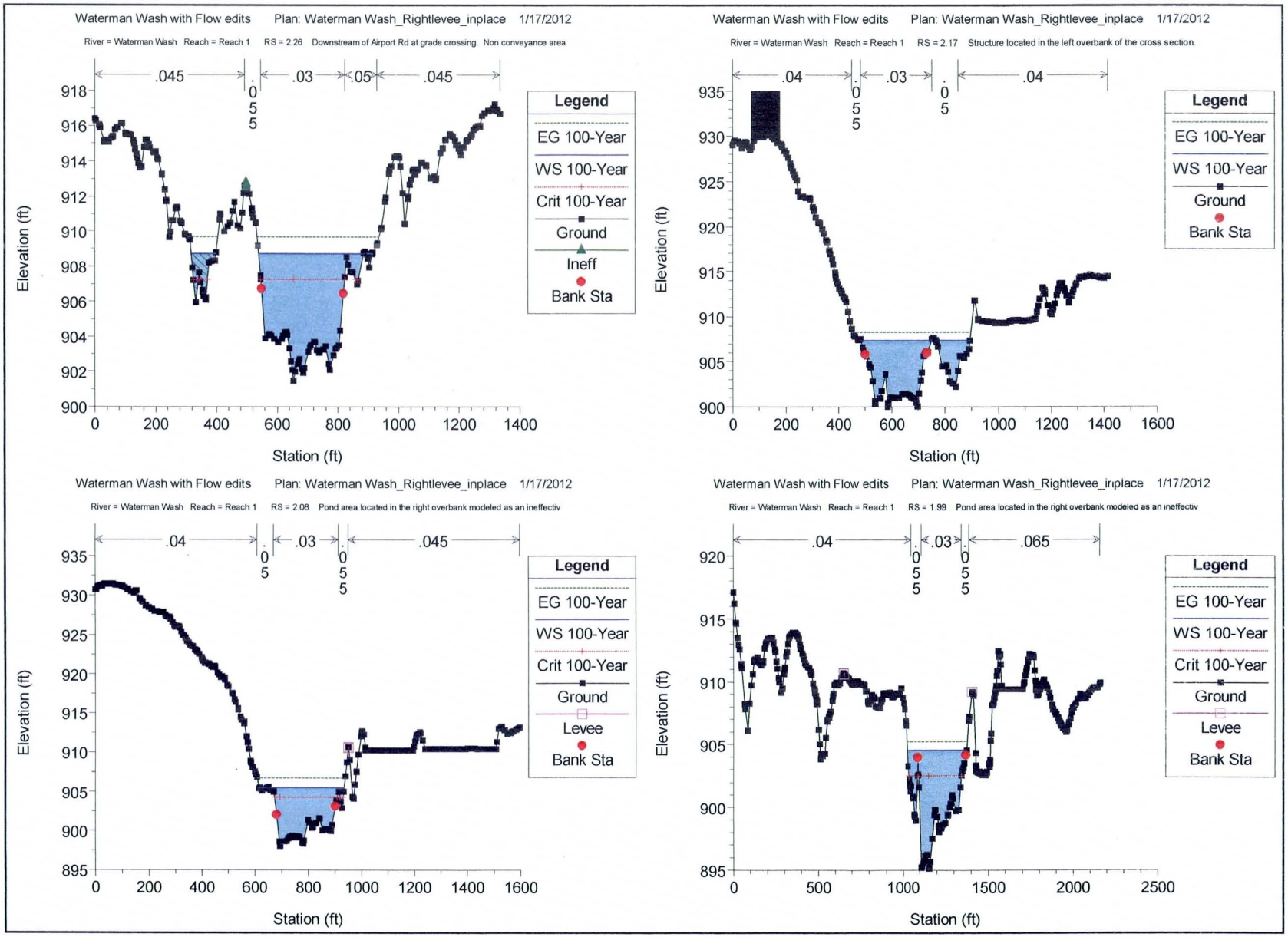

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.76 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.035
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.69 Non conveyance area located in the left overbank modeled as an i
.025
.045
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.62 Water ponding in the farm fields in the left overbank modeled as
.025
.045
.055
.045
.03
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.56 Water ponding in the farm fields in the left overbank modeled as
.055
.045
.055
.03
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

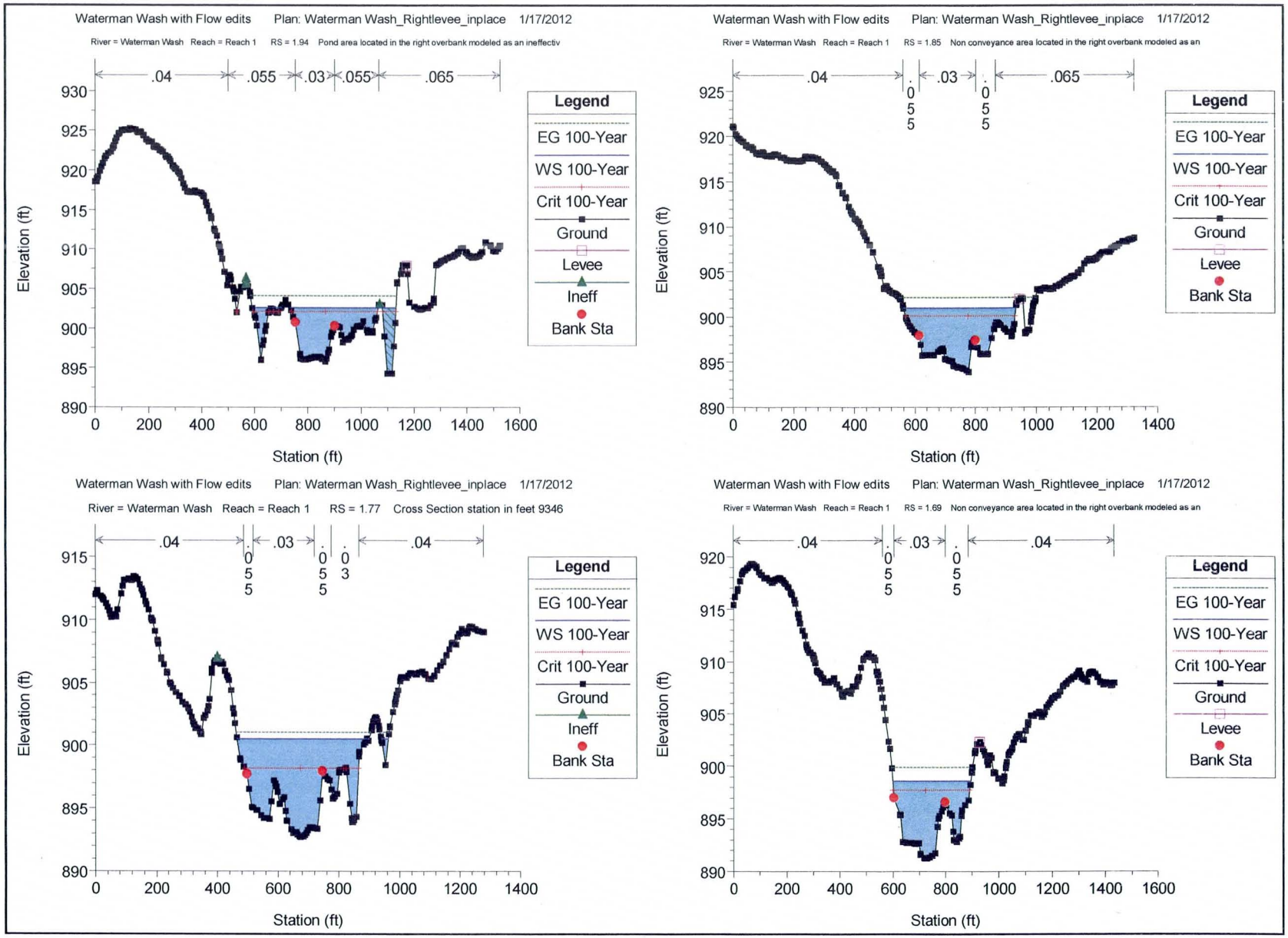

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.49 Water ponding in the farm fields in the left overbank modeled as
.055
.03
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.31 Cross Section station in feet 17477
.055
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.23 Water ponding in the farm fields in the left overbank modeled as
.055
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.16 Non conveyance area located in the left overbank modeled as an i
.055
.035
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

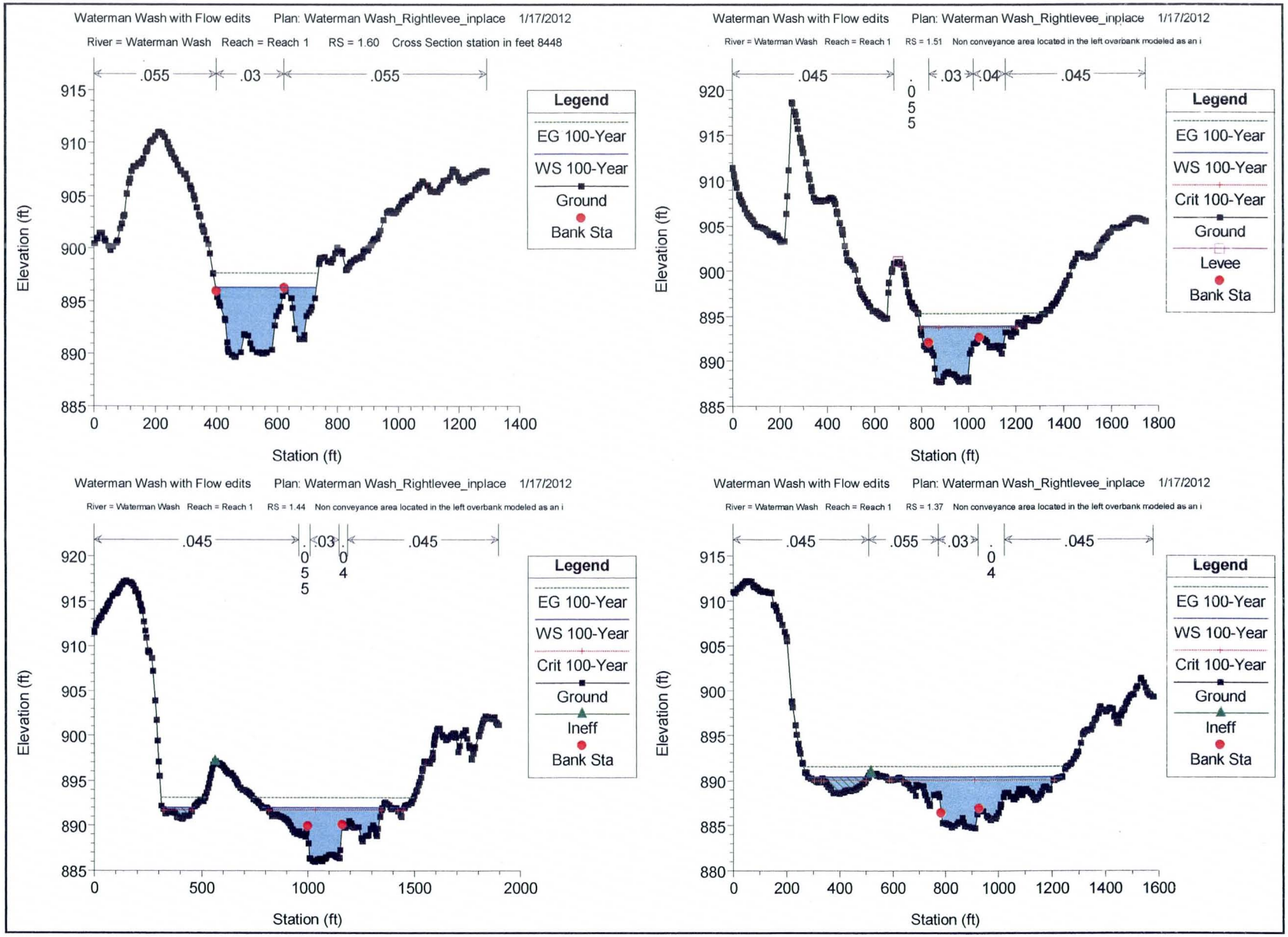

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.10 Non conveyance area located in the right overbank modeled as an
.03
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 3.01 Cross Section station in feet 15893
.025
.035
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.94 Cross Section station in feet 15523
.04
.032
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.85 Cross Section station in feet 15048
.04
.035
.045
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)

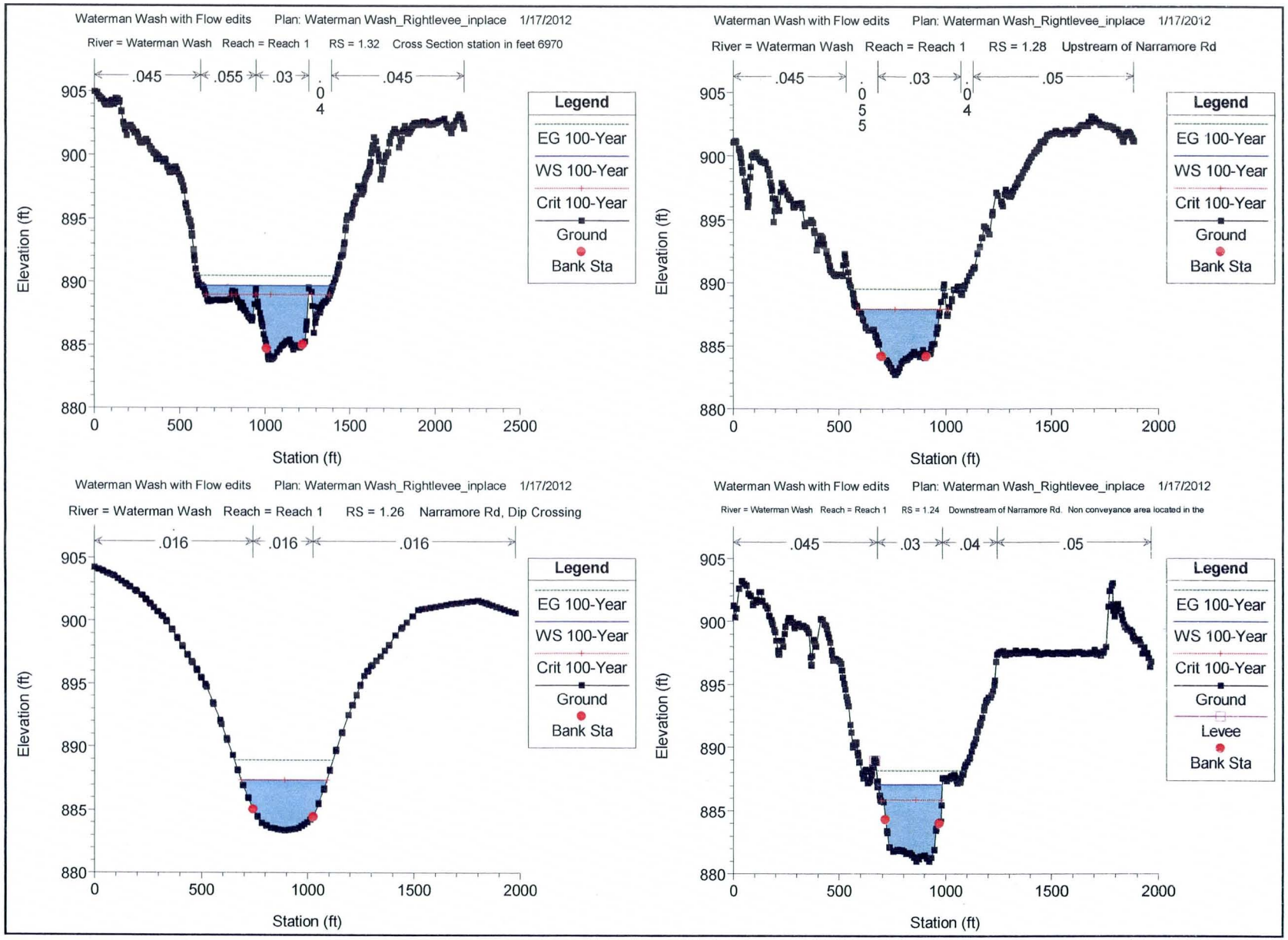

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.79 Cross Section station in feet 14731
.04
.035
.045
.018
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.70 Non conveyance area due to backwater from waterman wash located
.045
.045
.035
.045
.018
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.61 Non conveyance area located in the left overbank modeled as an i
.045
.055
.045
.018
.035
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.57 Non conveyance area located in the left and right overbank model
.045
.035
.045
.018
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

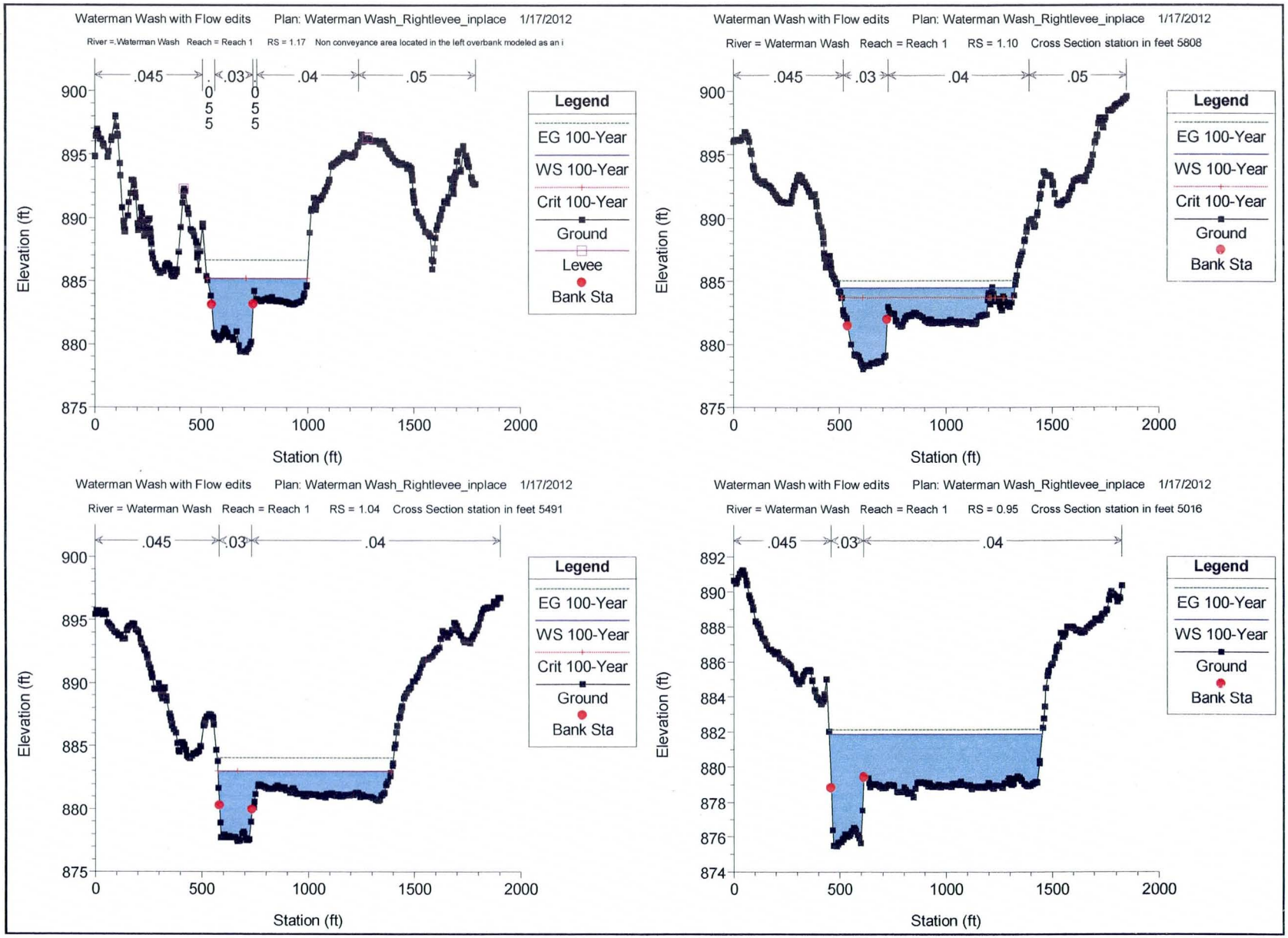

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.50 Non conveyance area located in the left overbank modeled as an i
.04
.04
0 4 5
0 1 8
0 4 5
0 5 5
0 3 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.47 Non conveyance area located in the left overbank modeled as an i
.04
.03
.04
0 0 1 5 8 5
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.40 Non conveyance area located in the left overbank modeled as an i
.04
.055
.03
.04
0 1 8
0 1 6
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.34 Upstream of Airport Rd at grade crossing
.045
.03
.04
.045
0 1 8
0 3 5
0 5 5
0 5
0 1 6
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

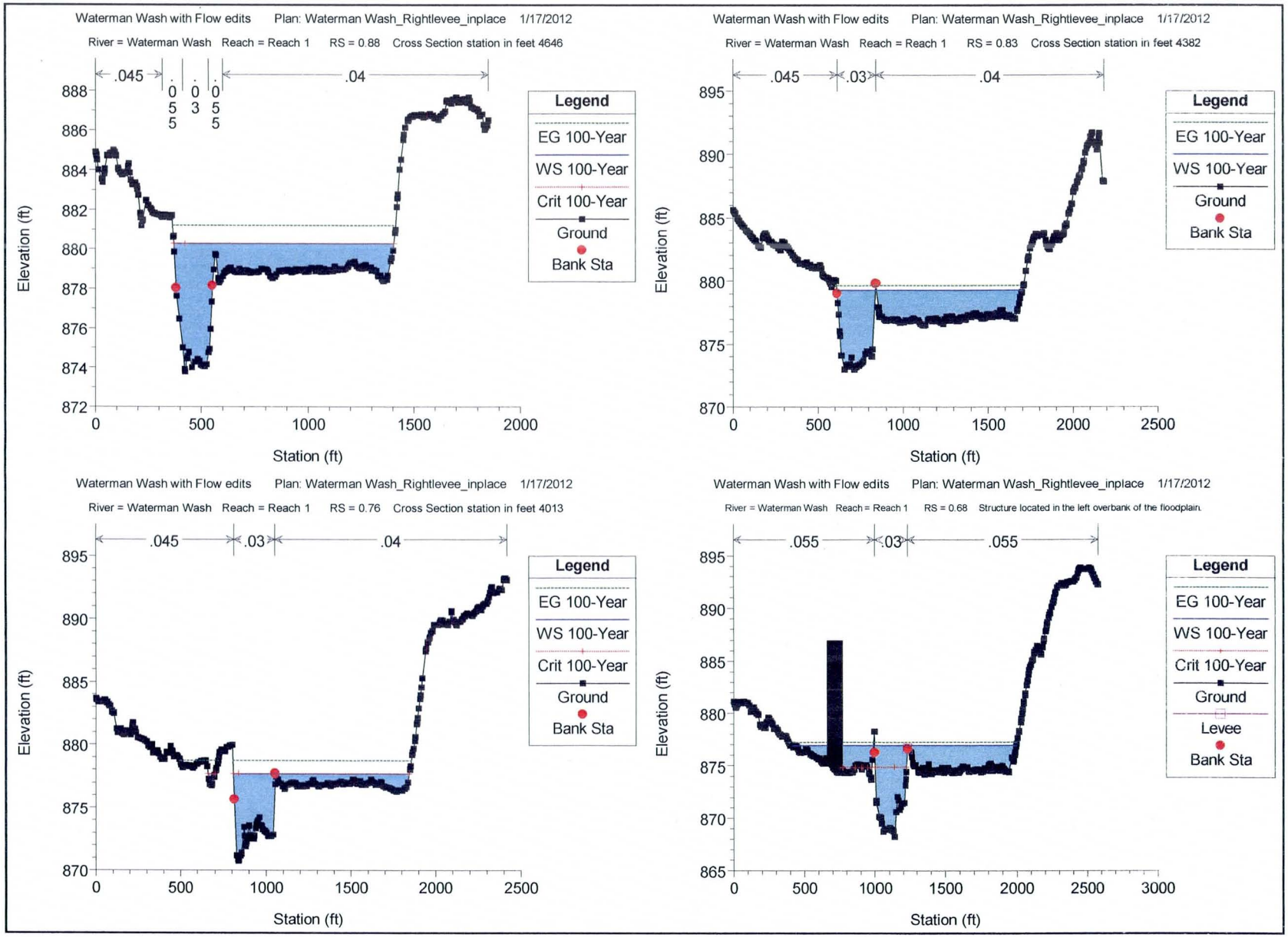

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.26 Downstream of Airport Rd at grade crossing. Non conveyance area
.045
.03
.05
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.17 Structure located in the left overbank of the cross section.
.04
.03
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 2.08 Pond area located in the right overbank modeled as an ineffectiv
.04
.03
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.99 Pond area located in the right overbank modeled as an ineffectiv
.04
.03
.065
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

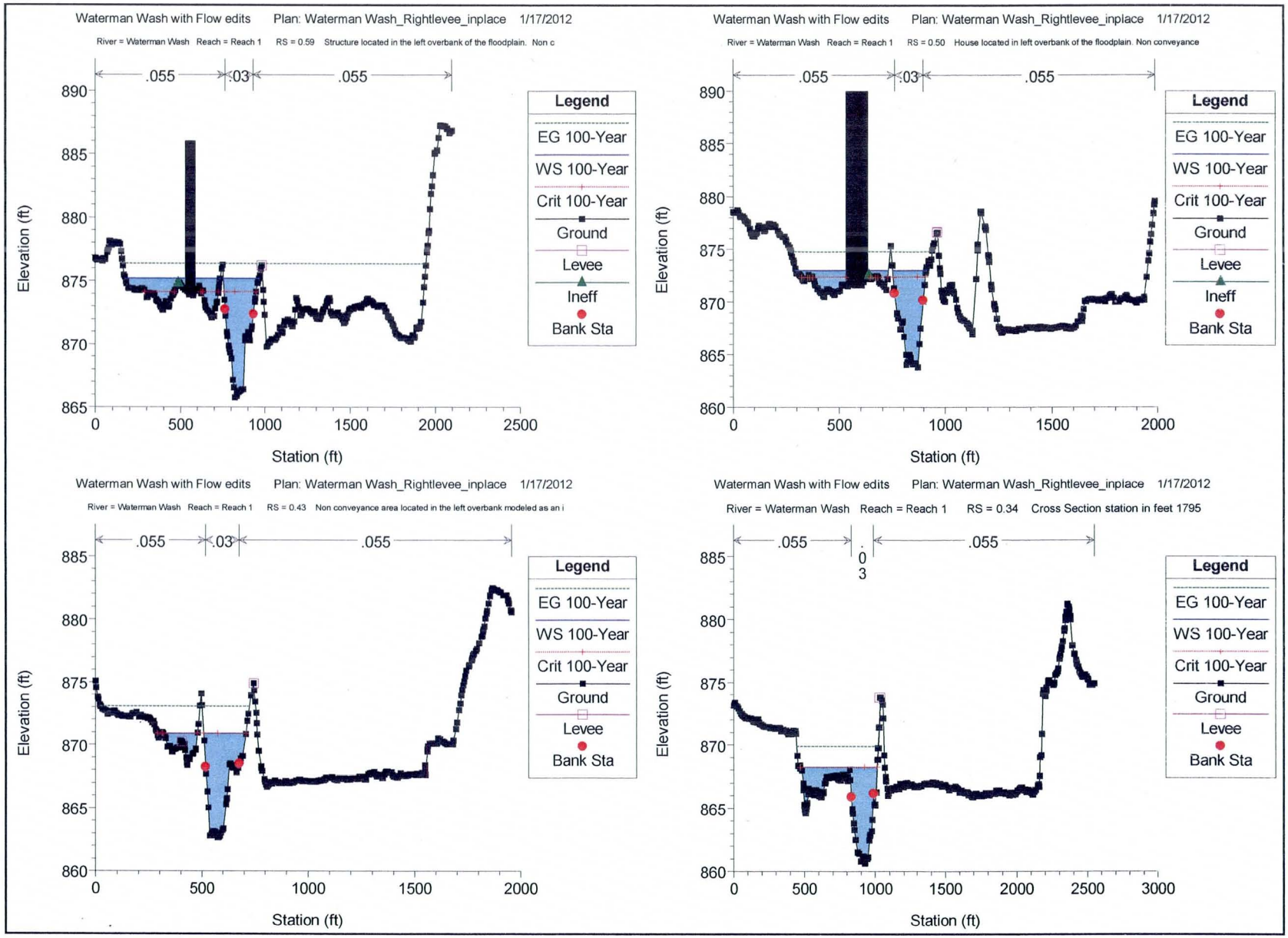

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.94 Pond area located in the right overbank modeled as an ineffectiv
.04
.055
.03
.055
.065
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.85 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.065
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.77 Cross Section station in feet 9346
.04
.055
.03
.055
.03
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.69 Non conveyance area located in the right overbank modeled as an
.04
.055
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)


Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.60 Cross Section station in feet 8448
.055
.03
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.51 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.04
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.44 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.04
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.37 Non conveyance area located in the left overbank modeled as an i
.045
.055
.03
.04
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)


Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.32 Cross Section station in feet 6970
.045
.055
.03
.04
.045
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.28 Upstream of Narramore Rd
.045
.055
.03
.04
.05
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.26 Narramore Rd, Dip Crossing
.016
.016
.016
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.24 Downstream of Narramore Rd. Non conveyance area located in the
.045
.03
.04
.05
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

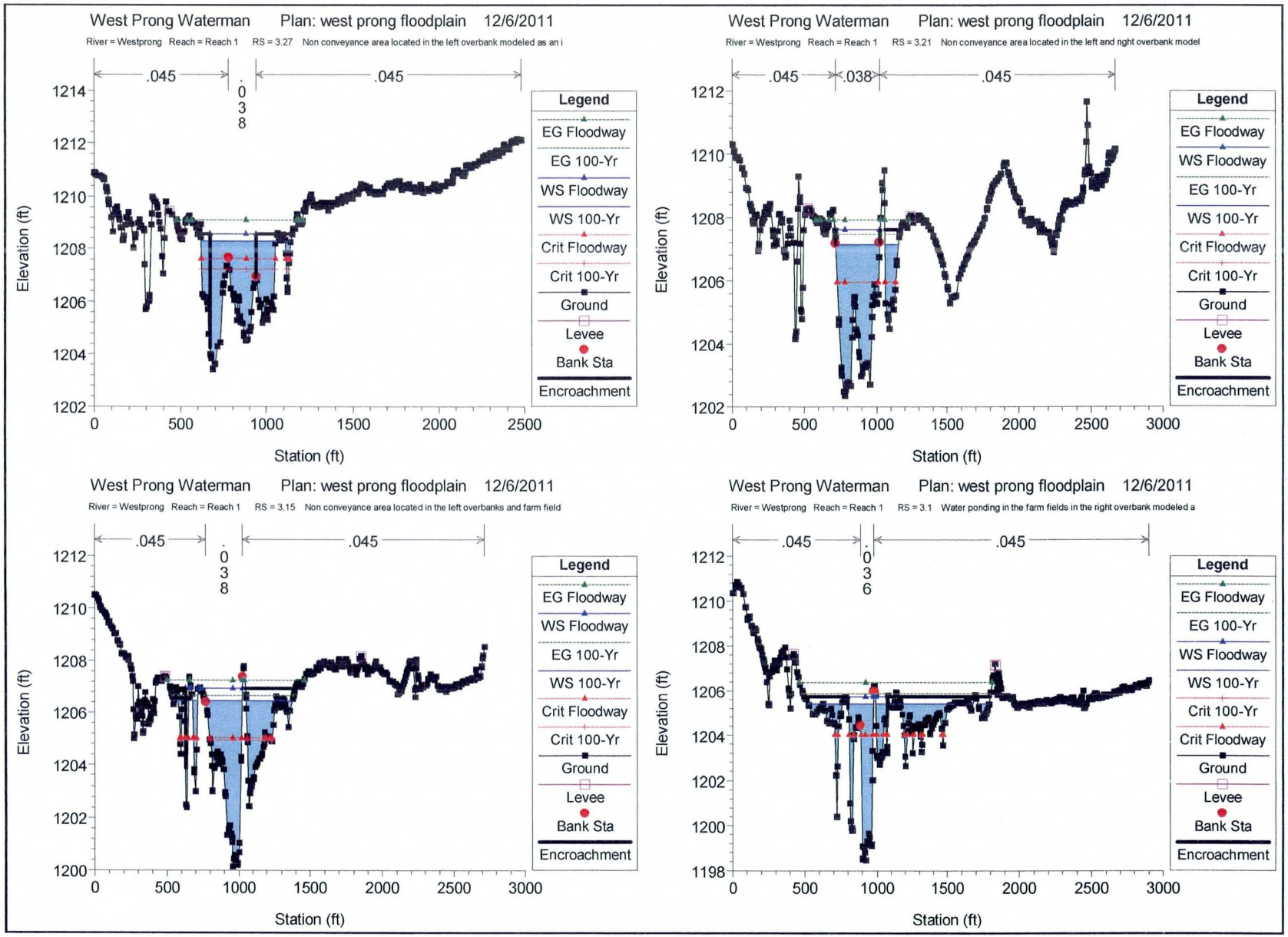

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River =.Waterman Wash Reach = Reach 1 RS = 1.17 Non conveyance area located in the left overbank modeled as an i
.045
.03
.04
.05
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.10 Cross Section station in feet 5808
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 1.04 Cross Section station in feet 5491
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.95 Cross Section station in feet 5016

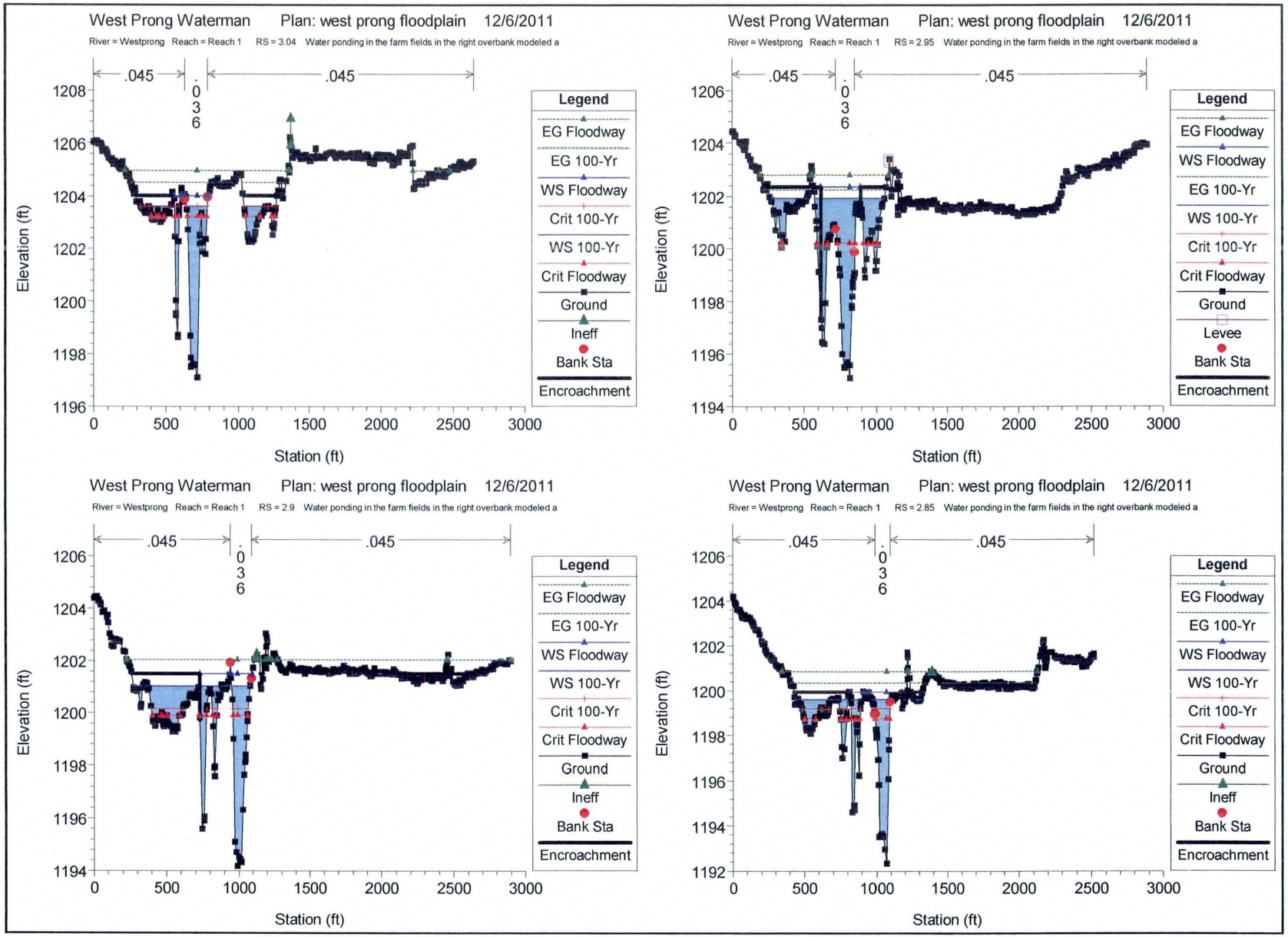

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.88 Cross Section station in feet 4646
.045
.055
.03
.055
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.83 Cross Section station in feet 4382
.045
.03
.04
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.76 Cross Section station in feet 4013
.045
.03
.04
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.68 Structure located in the left overbank of the floodplain.
.055
.03
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

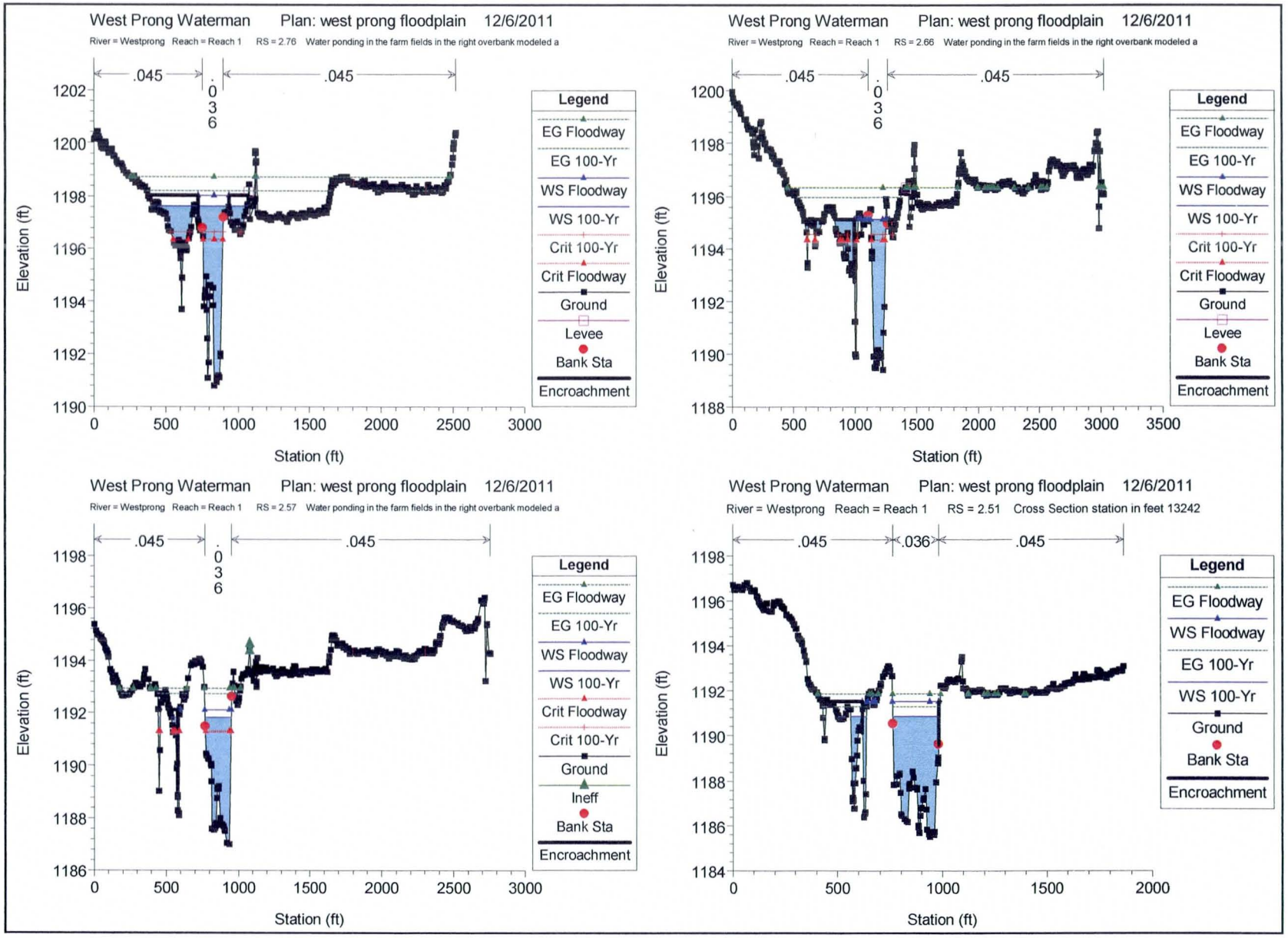

Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.59 Structure located in the left overbank of the floodplain. Non c
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.50 House located in left overbank of the floodplain. Non conveyance
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Ineff
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.43 Non conveyance area located in the left overbank modeled as an i
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.34 Cross Section station in feet 1795
.055
.03
.055
Elevation (ft)
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

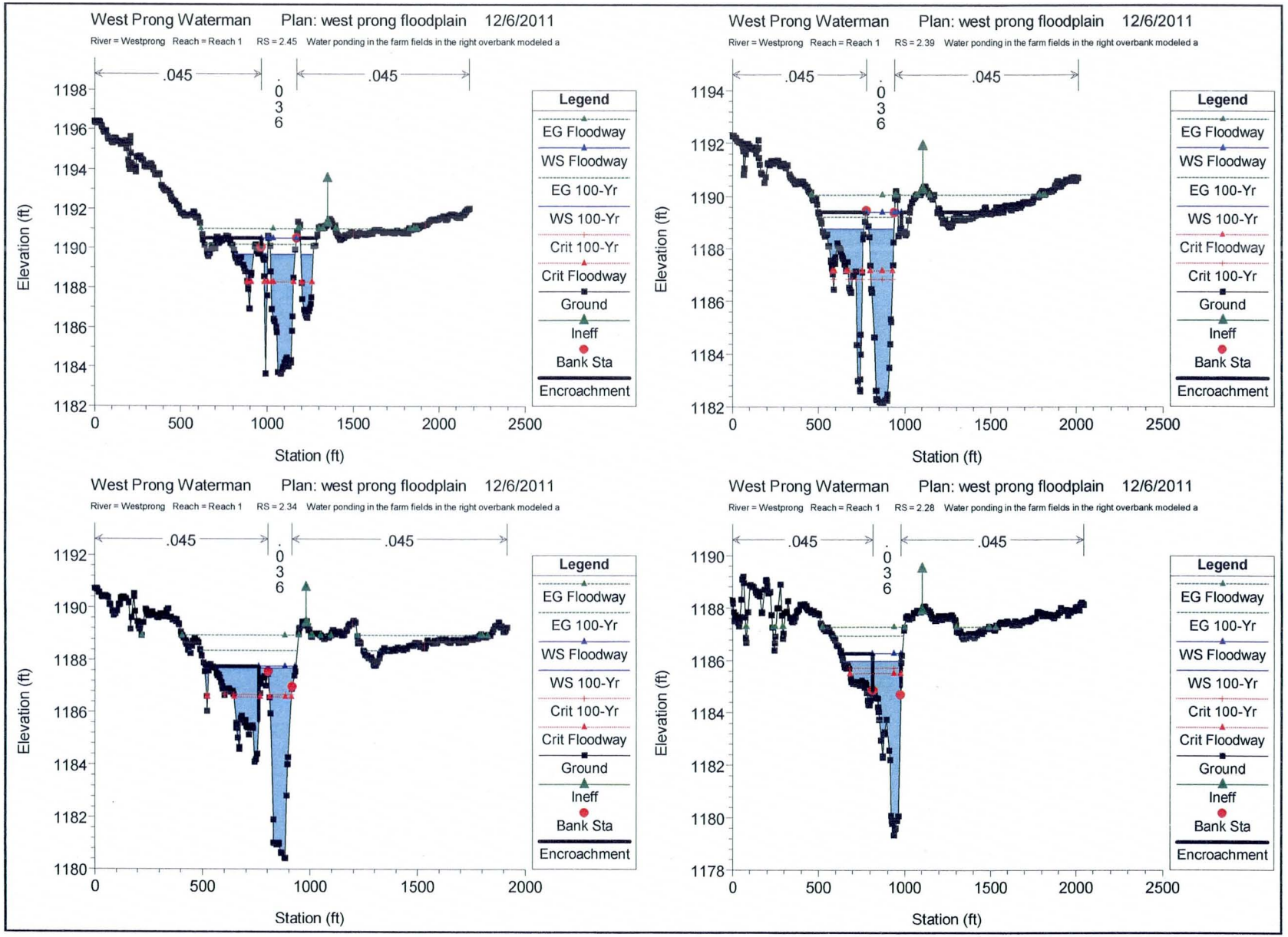
Waterman Wash with Flow edits Plan: Waterman Wash_Rightlevee_inplace 1/17/2012
River = Waterman Wash Reach = Reach 1 RS = 0.27 Non conveyance area located in the right overbank modeled as an
.055
.03
.055
880
875
870
865
860
855
Elevation (ft)
0
1000
2000
3000
4000
Station (ft)
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Levee
Bank Sta

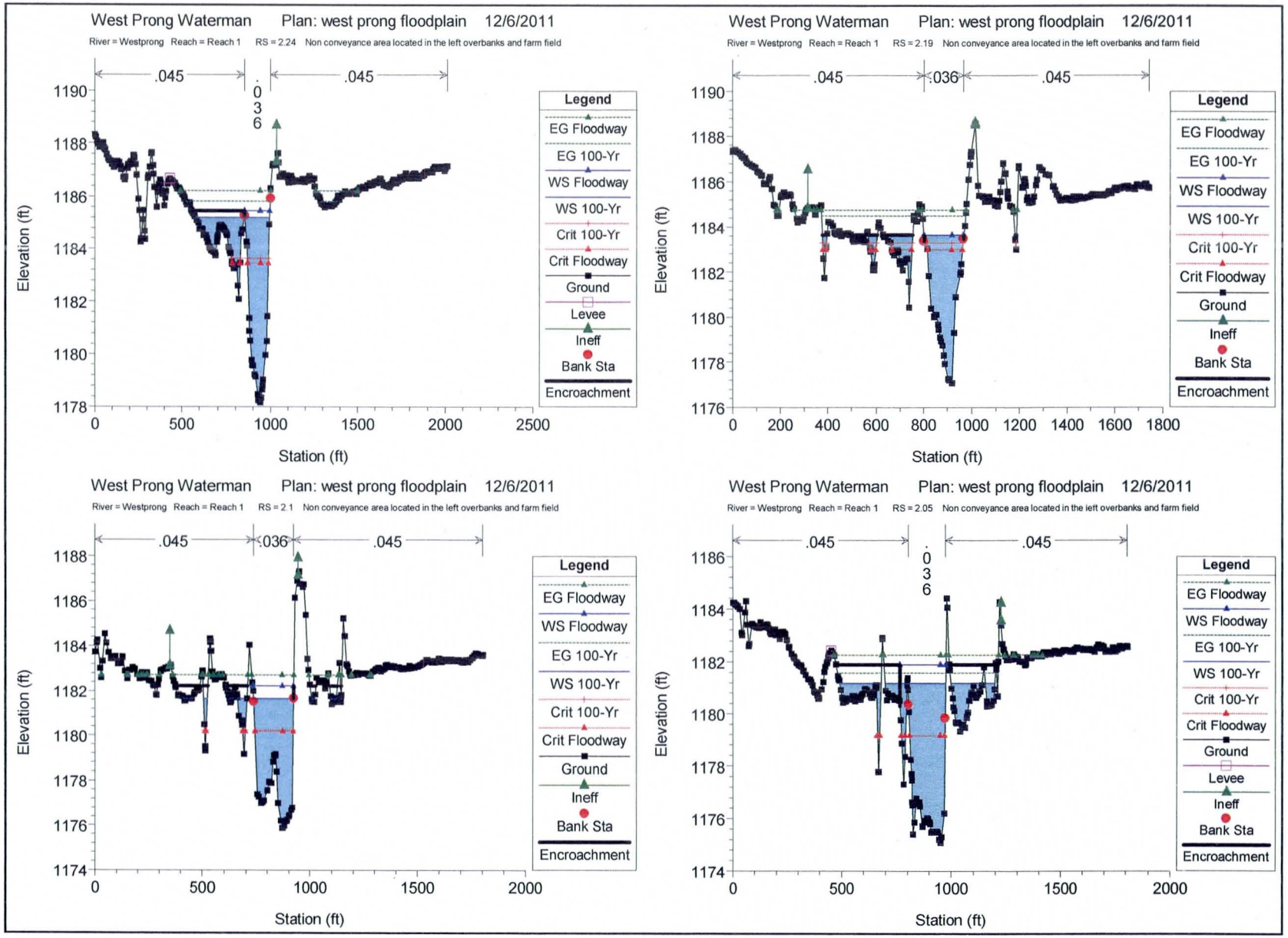
WESTPRONG OF WATERMAN WASH

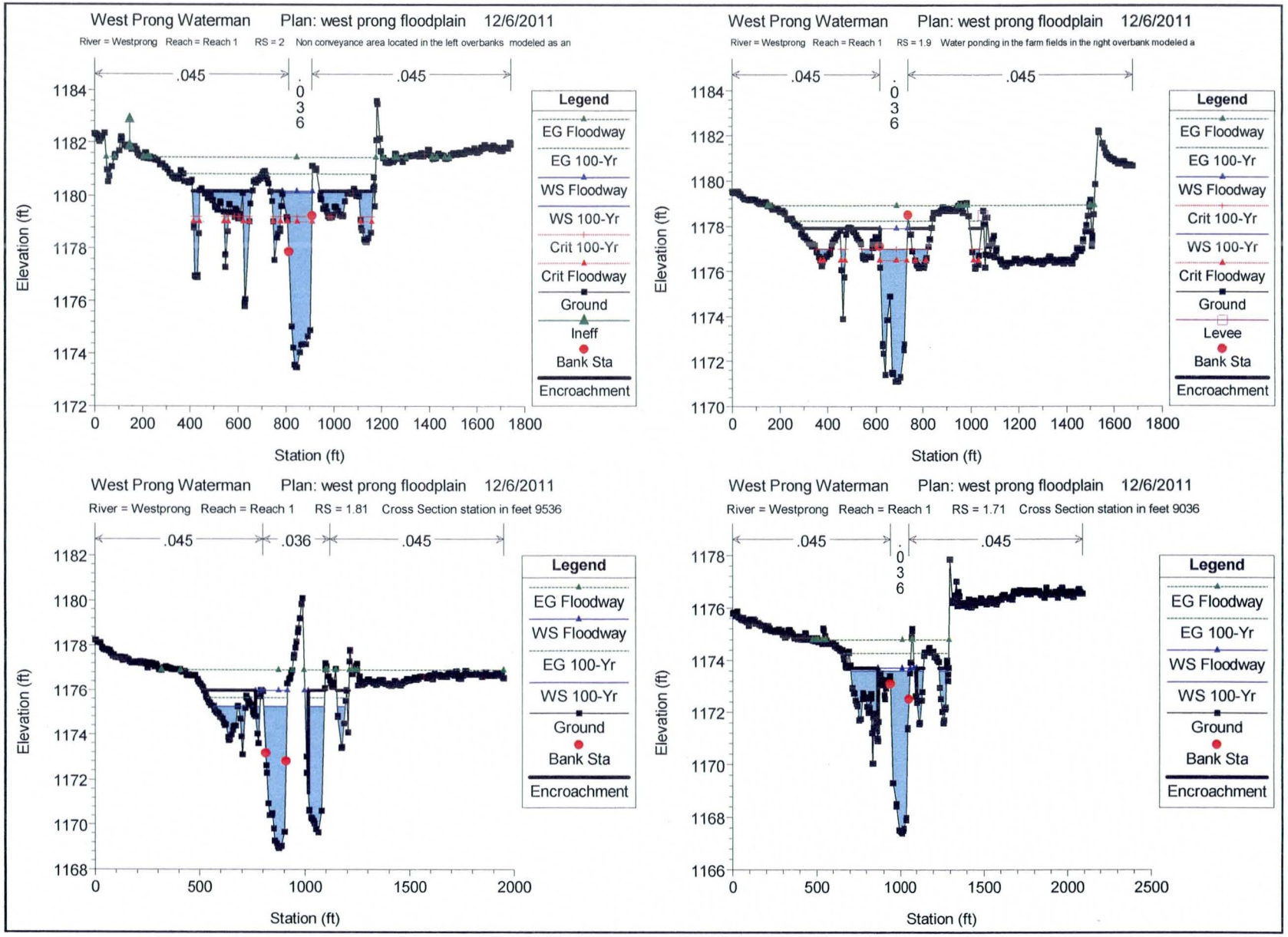

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 3.27 Non conveyance area located in the left overbank modeled as an i
.045
.038
.045
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit Floodway
Crit 100-Yr
Ground
Levee
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 3.21 Non conveyance area located in the left and right overbank model
.045
.038
.045
Elevation (ft)
Station (ft)
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 3.15 Non conveyance area located in the left overbanks and farm field
.045
.038
.045
Elevation (ft)
Station (ft)
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 3.1 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)

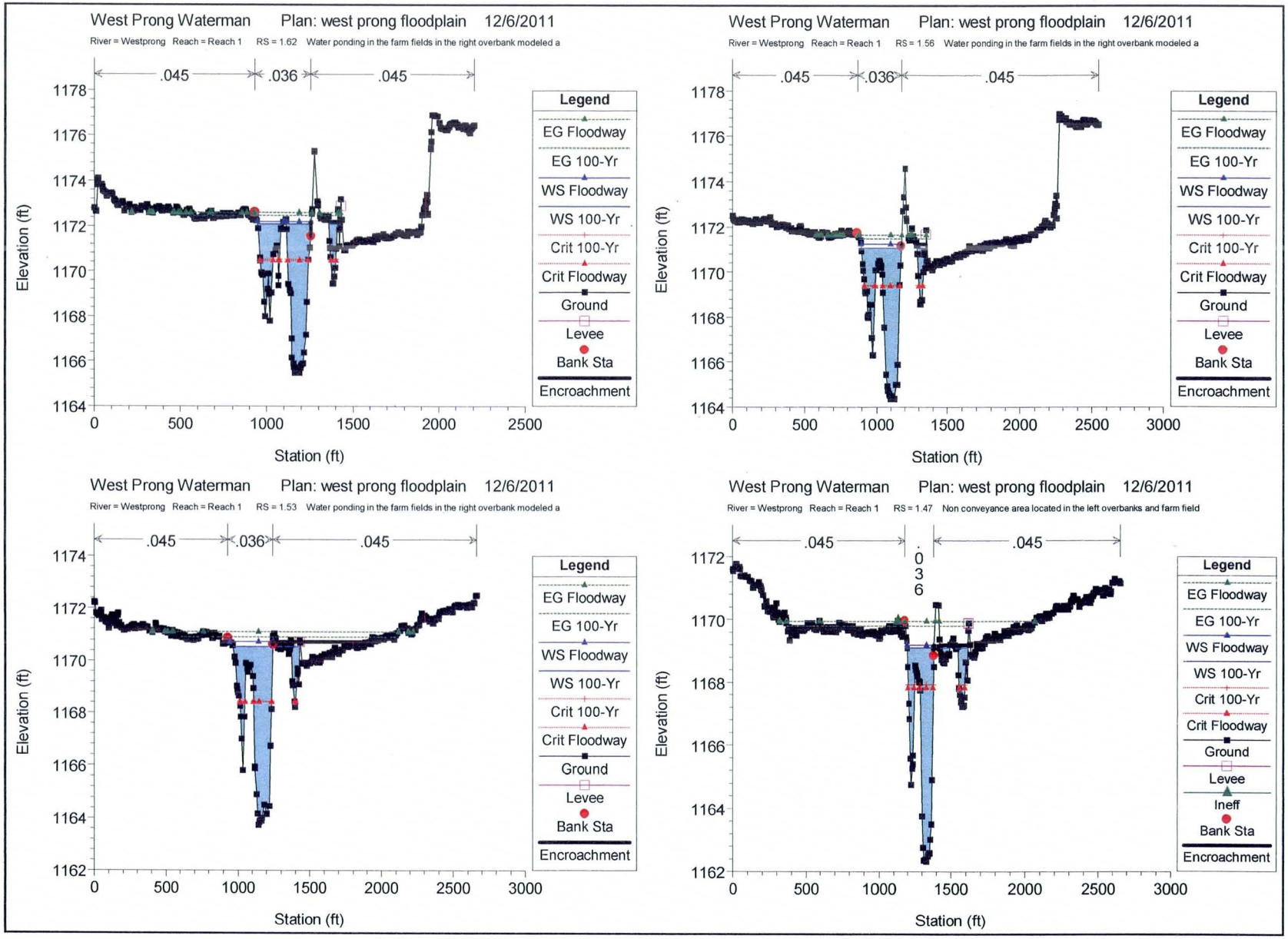

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 3.04 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
Crit 100-Yr
WS 100-Yr
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.95 Water ponding in the farm fields in the right overbank modeled a
Levee
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.9 Water ponding in the farm fields in the right overbank modeled a
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.85 Water ponding in the farm fields in the right overbank modeled a

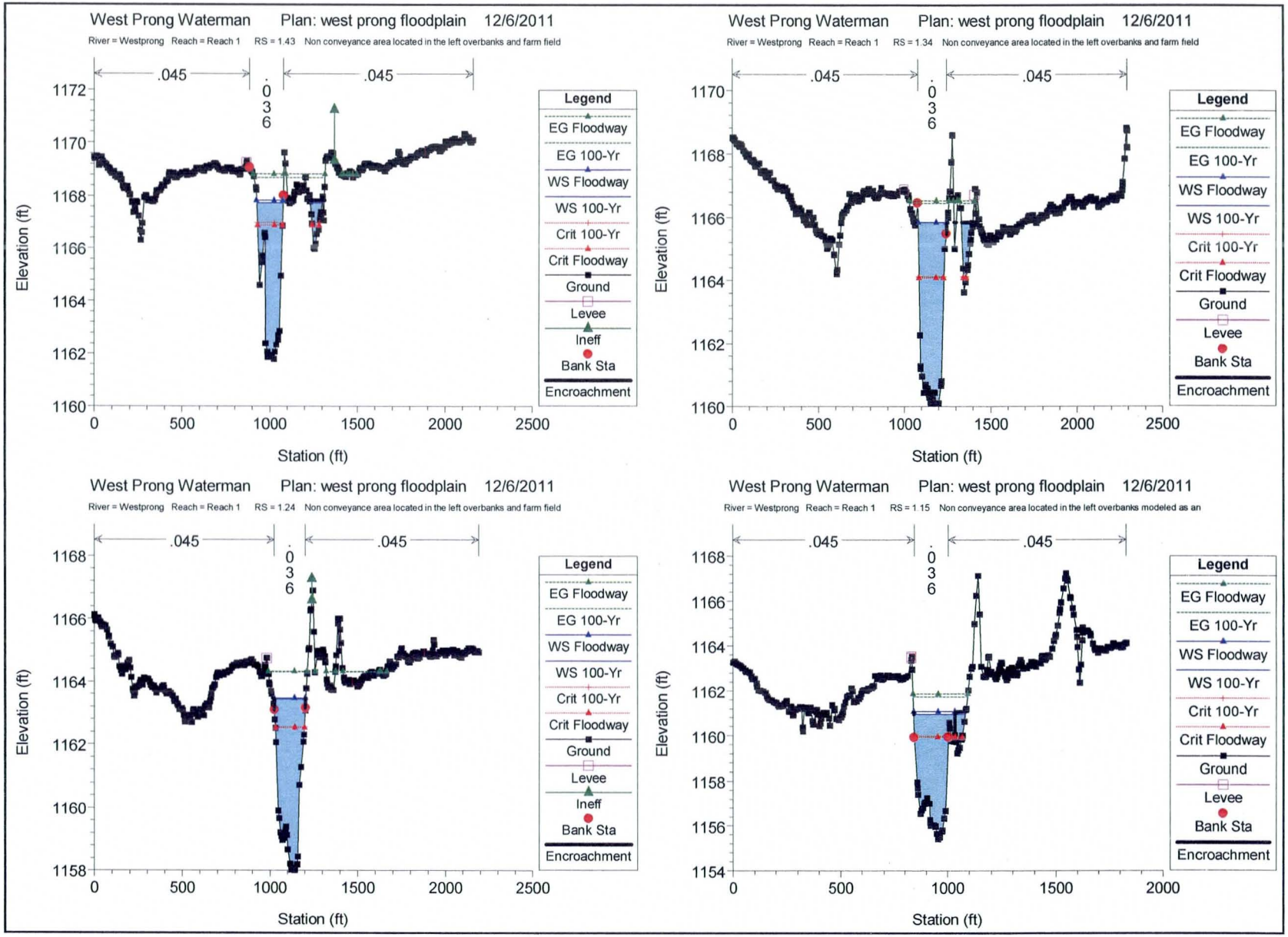

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.76 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.66 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.57 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit Floodway
Crit 100-Yr
Ground
Ineff
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.51 Cross Section station in feet 13242
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Yr
WS 100-Yr
Ground
Bank Sta
Encroachment

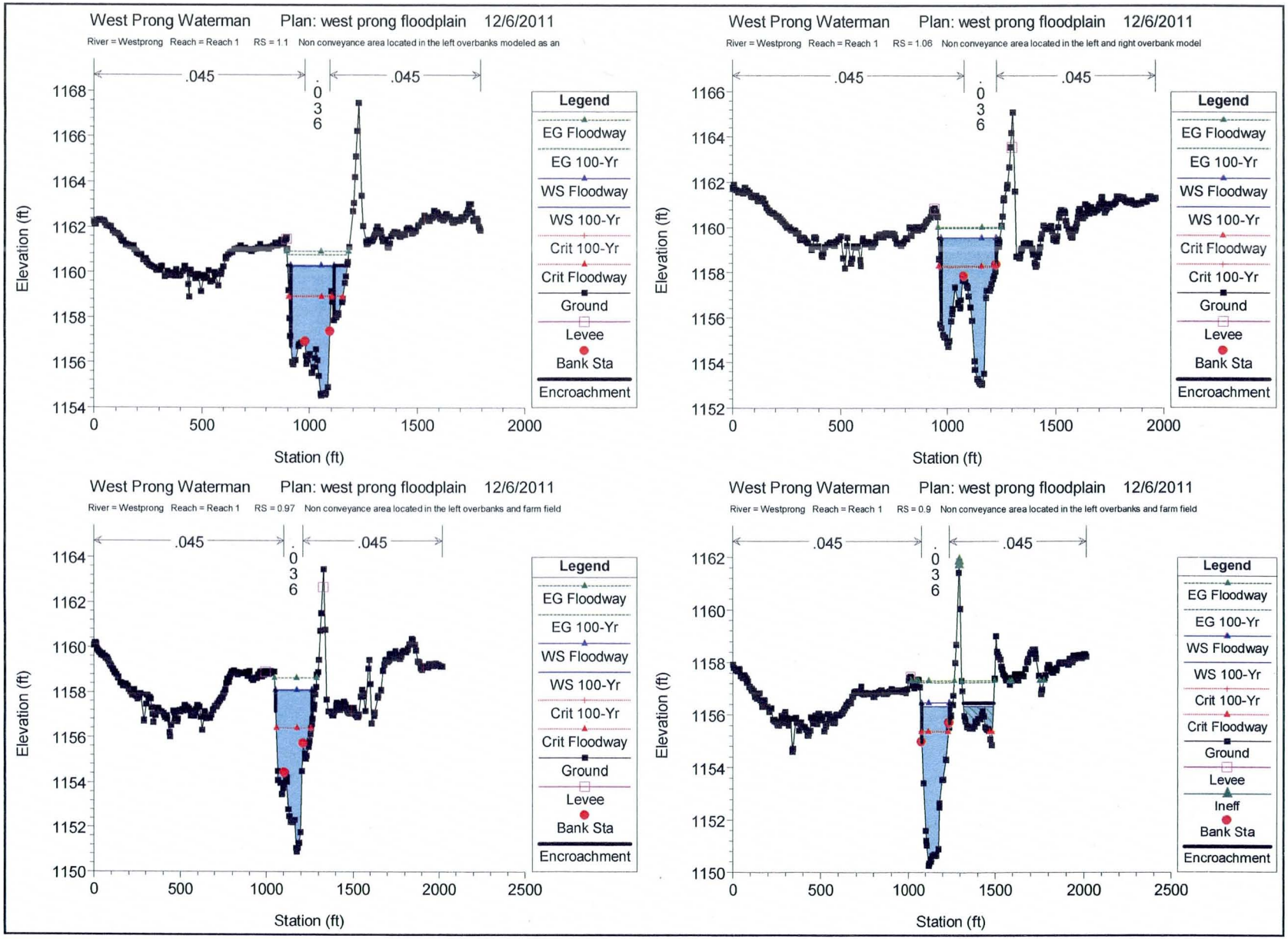

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.45 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Yr
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.39 Water ponding in the farm fields in the right overbank modeled a
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.34 Water ponding in the farm fields in the right overbank modeled a
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.28 Water ponding in the farm fields in the right overbank modeled a

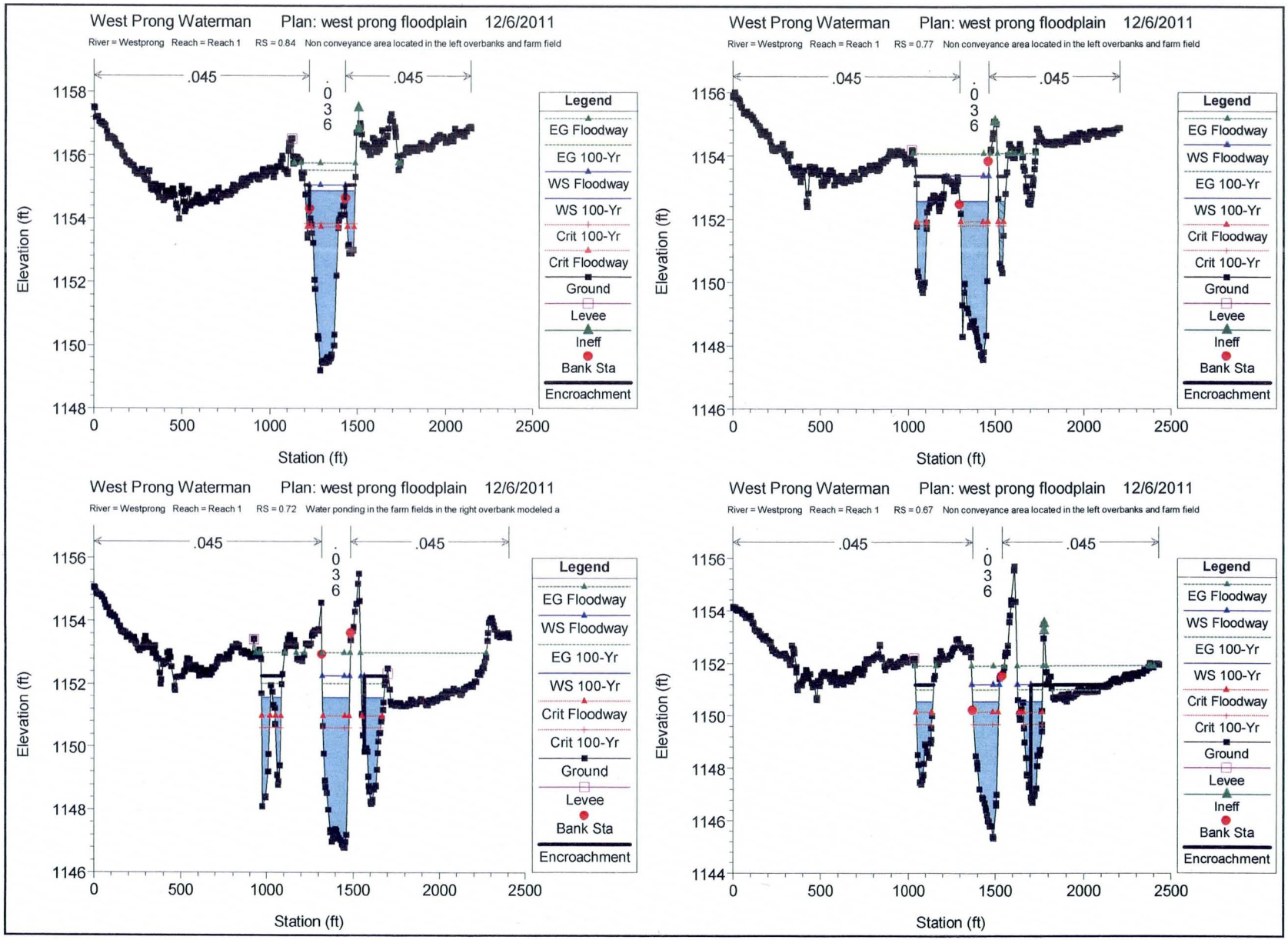

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.24 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Ineff
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.19 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.1 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2.05 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)

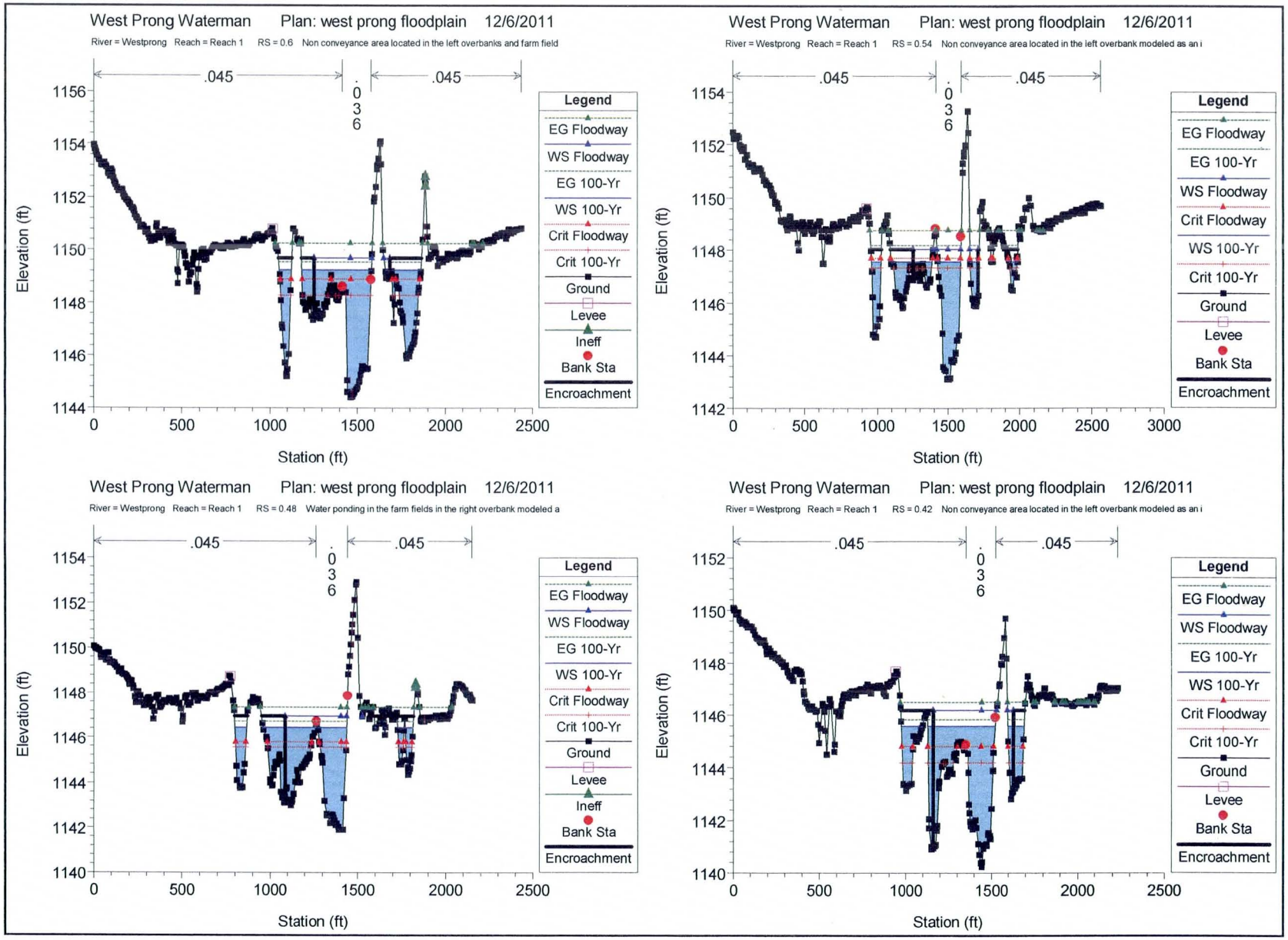

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 2 Non conveyance area located in the left overbanks modeled as an
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Ineff
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.9 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
Crit 100-Yr
WS 100-Yr
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.81 Cross Section station in feet 9536
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Yr
WS 100-Yr
Ground
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.71 Cross Section station in feet 9036
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Ground
Bank Sta
Encroachment

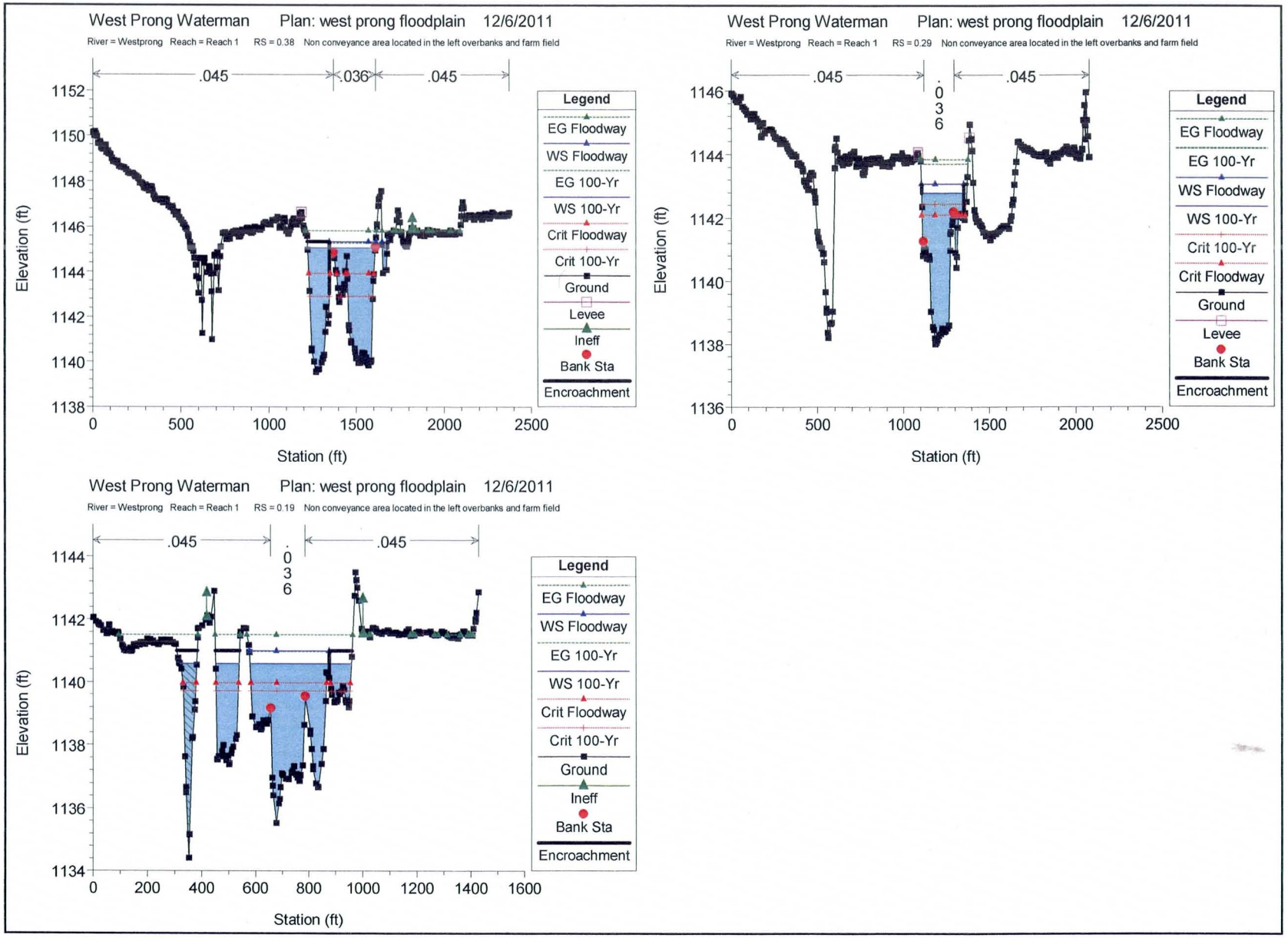

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.62 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.56 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.53 Water ponding in the farm fields in the right overbank modeled a
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.47 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Ineff
Bank Sta
Encroachment


West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.43 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Ineff
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.34 Non conveyance area located in the left overbanks and farm field
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.24 Non conveyance area located in the left overbanks and farm field
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.15 Non conveyance area located in the left overbanks modeled as an


West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.1 Non conveyance area located in the left overbanks modeled as an
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 1.06 Non conveyance area located in the left and right overbank model
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.97 Non conveyance area located in the left overbanks and farm field
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.9 Non conveyance area located in the left overbanks and farm field
Ineff

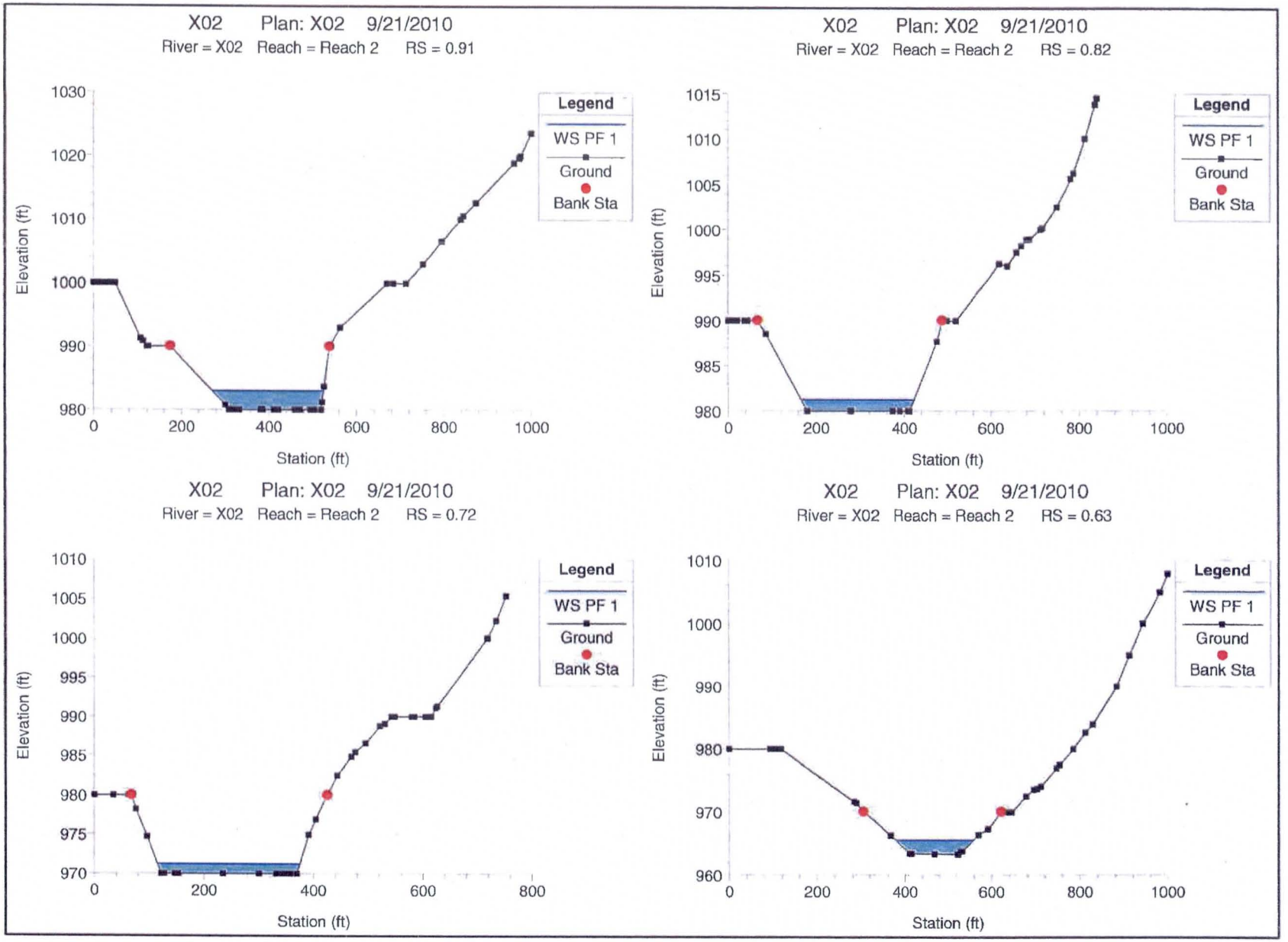

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.84 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG 100-Yr
WS Floodway
WS 100-Yr
Crit 100-Yr
Crit Floodway
Ground
Levee
Ineff
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.77 Non conveyance area located in the left overbanks and farm field
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.72 Water ponding in the farm fields in the right overbank modeled a
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.67 Non conveyance area located in the left overbanks and farm field

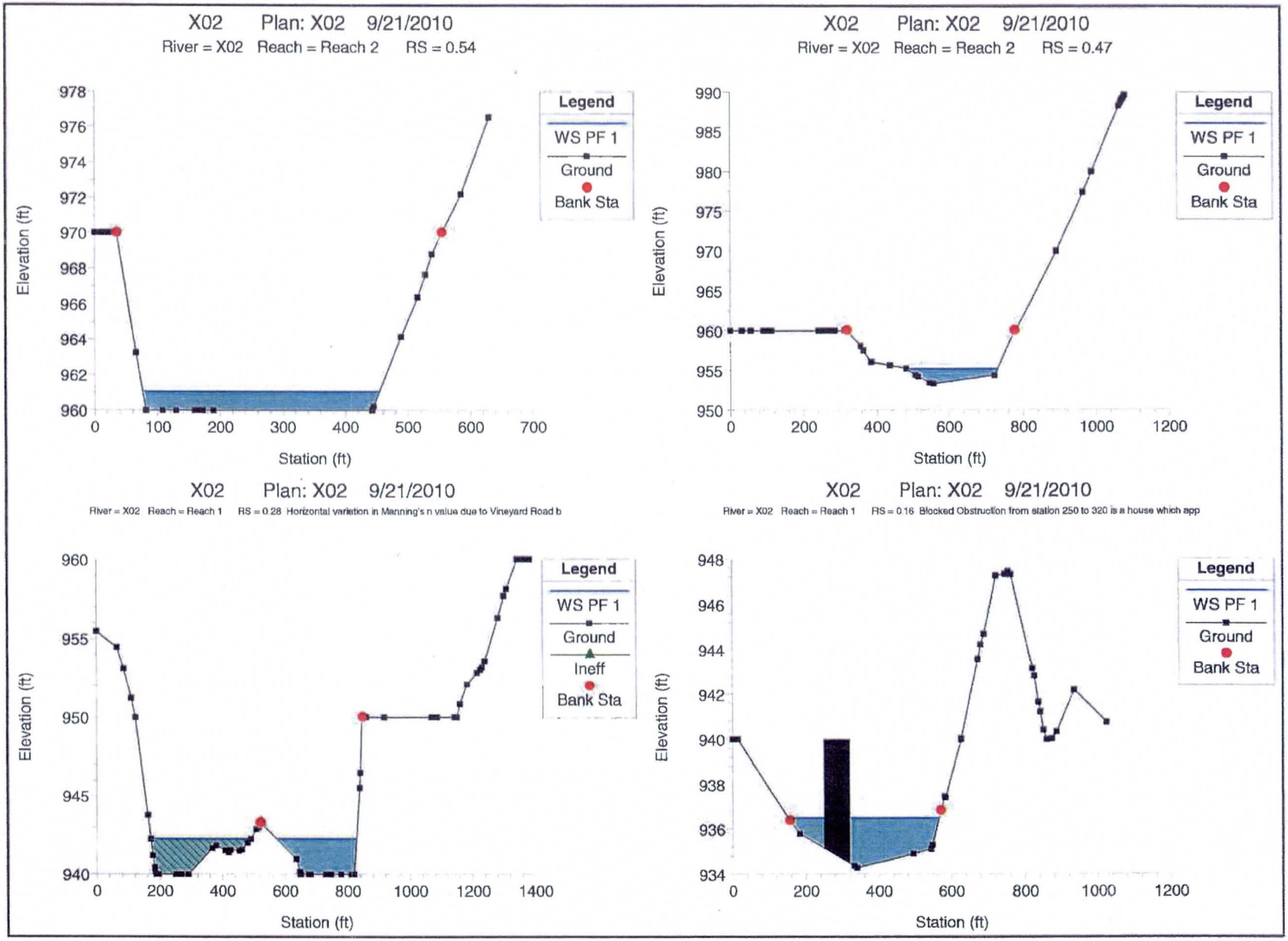

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.6 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Yr
WS 100-Yr
Crit Floodway
Crit 100-Yr
Ground
Levee
Ineff
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.54 Non conveyance area located in the left overbank modeled as an i
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.48 Water ponding in the farm fields in the right overbank modeled a
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.42 Non conveyance area located in the left overbank modeled as an i

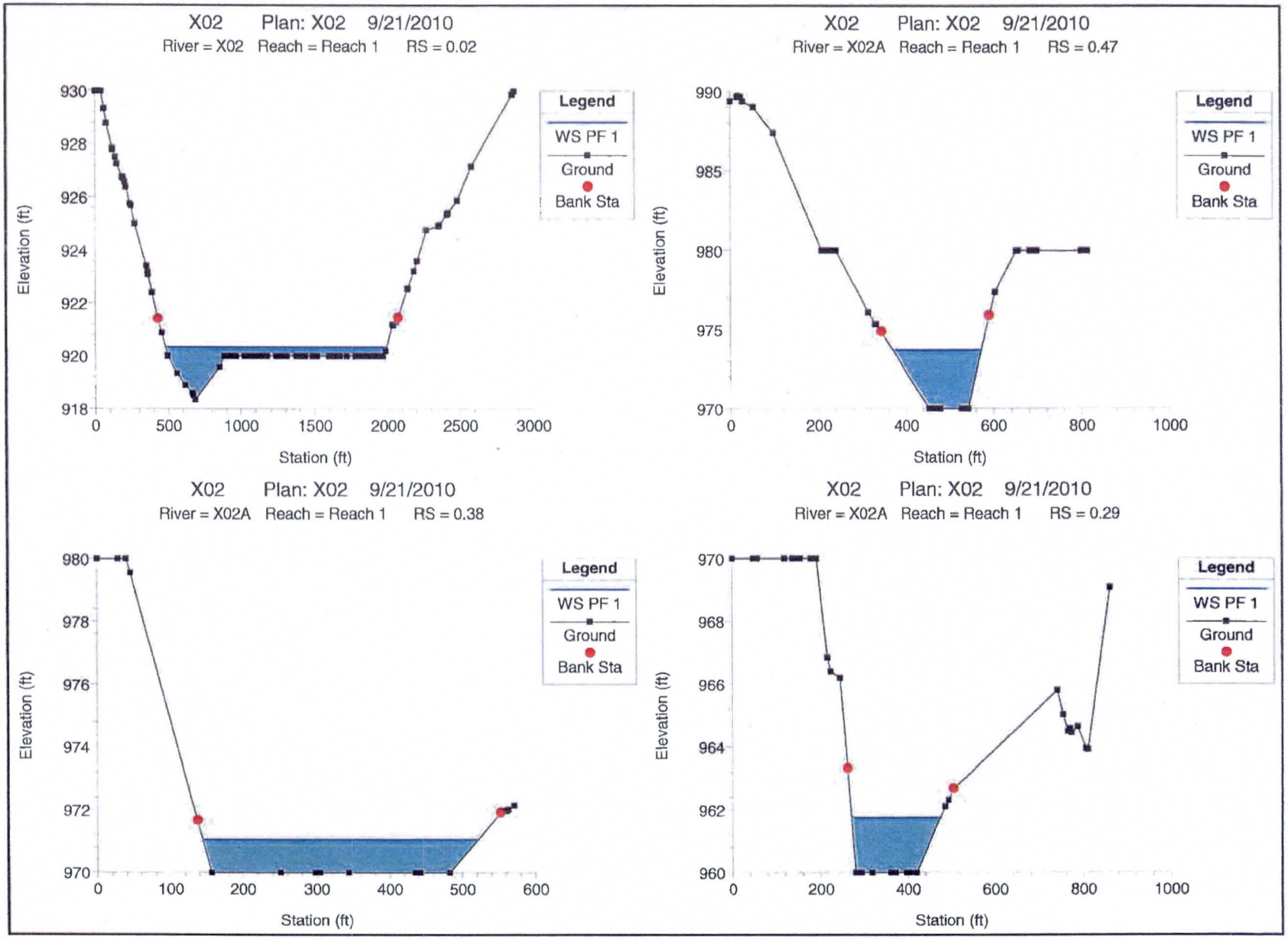

West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.38 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG 100-Yr
WS 100-Yr
Crit Floodway
Crit 100-Yr
Ground
Levee
Ineff
Bank Sta
Encroachment
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.29 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)
West Prong Waterman Plan: west prong floodplain 12/6/2011
River = Westprong Reach = Reach 1 RS = 0.19 Non conveyance area located in the left overbanks and farm field
.045
.036
.045
Elevation (ft)
Station (ft)

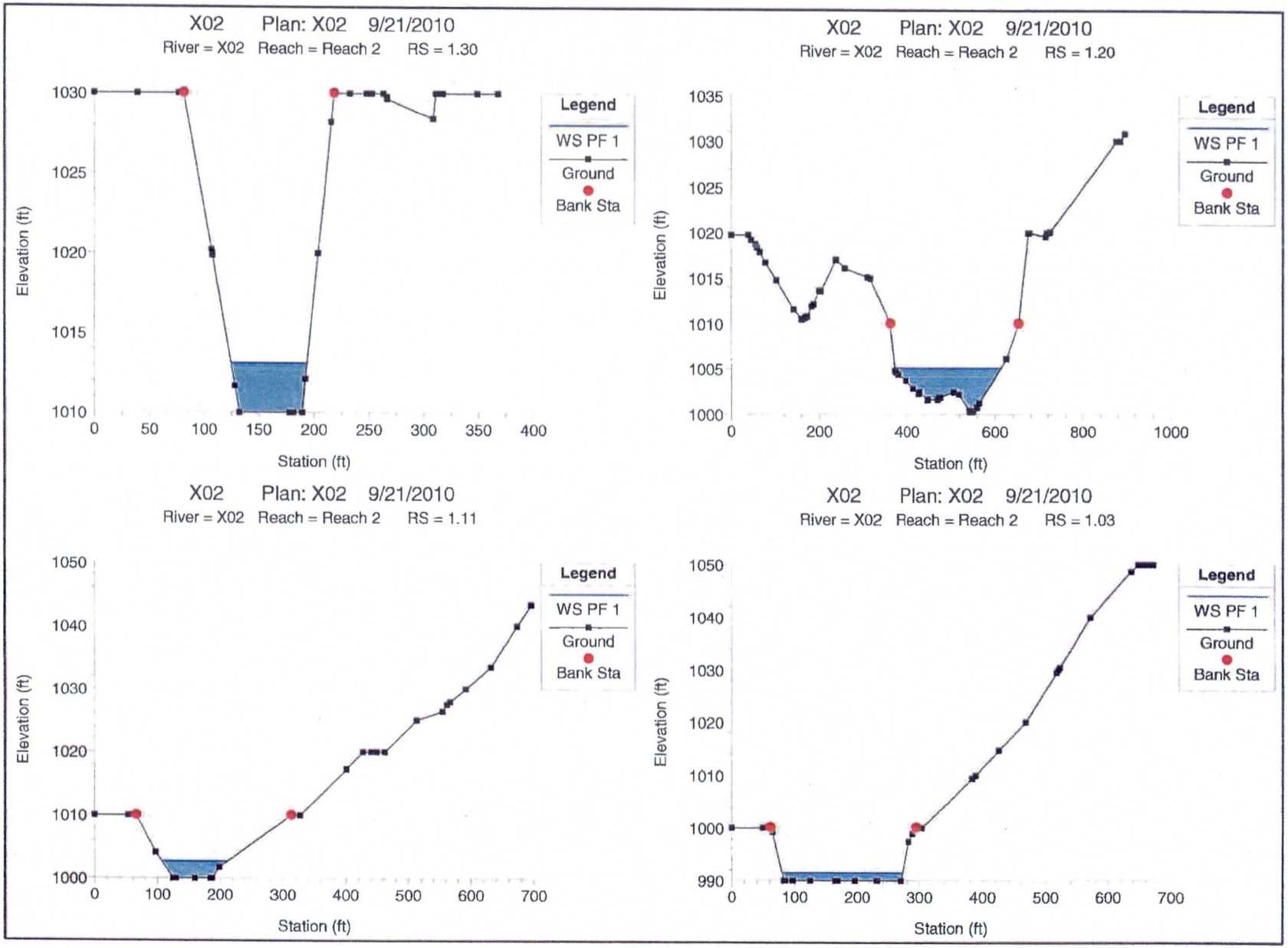
X02

HEC-RAS SECTIONS X02


X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 0.91
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 0.82
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 0.72
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 0.63
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta

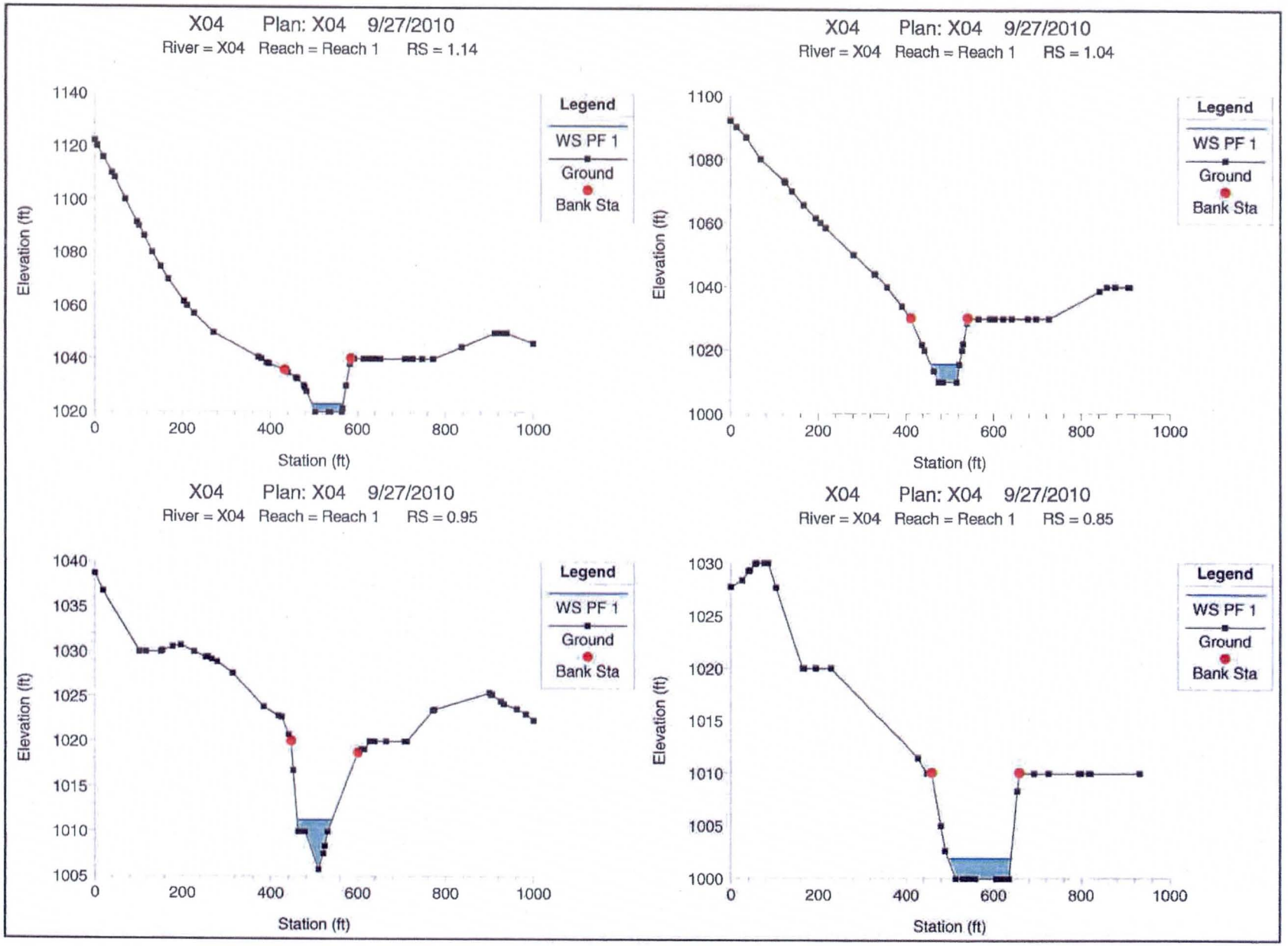

X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 0.54
Elevation (ft)
978
976
974
972
970
968
966
964
962
960
0
100
200
300
400
500
600
700
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 0.47
Elevation (ft)
990
985
980
975
970
965
960
955
950
0
200
400
600
800
1000
1200
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 1 RS = 0.28 Horizontal variation in Manning's n value due to Vineyard Road b
Elevation (ft)
960
955
950
945
940
0
200
400
600
800
1000
1200
1400
Station (ft)
Legend
WS PF 1
Ground
Ineff
Bank Sta
X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 1 RS = 0.16 Blocked Obstruction from station 250 to 320 is a house which app
Elevation (ft)
948
946
944
942
940
938
936
934
0
200
400
600
800
1000
1200
Station (ft)
Legend
WS PF 1
Ground
Bank Sta

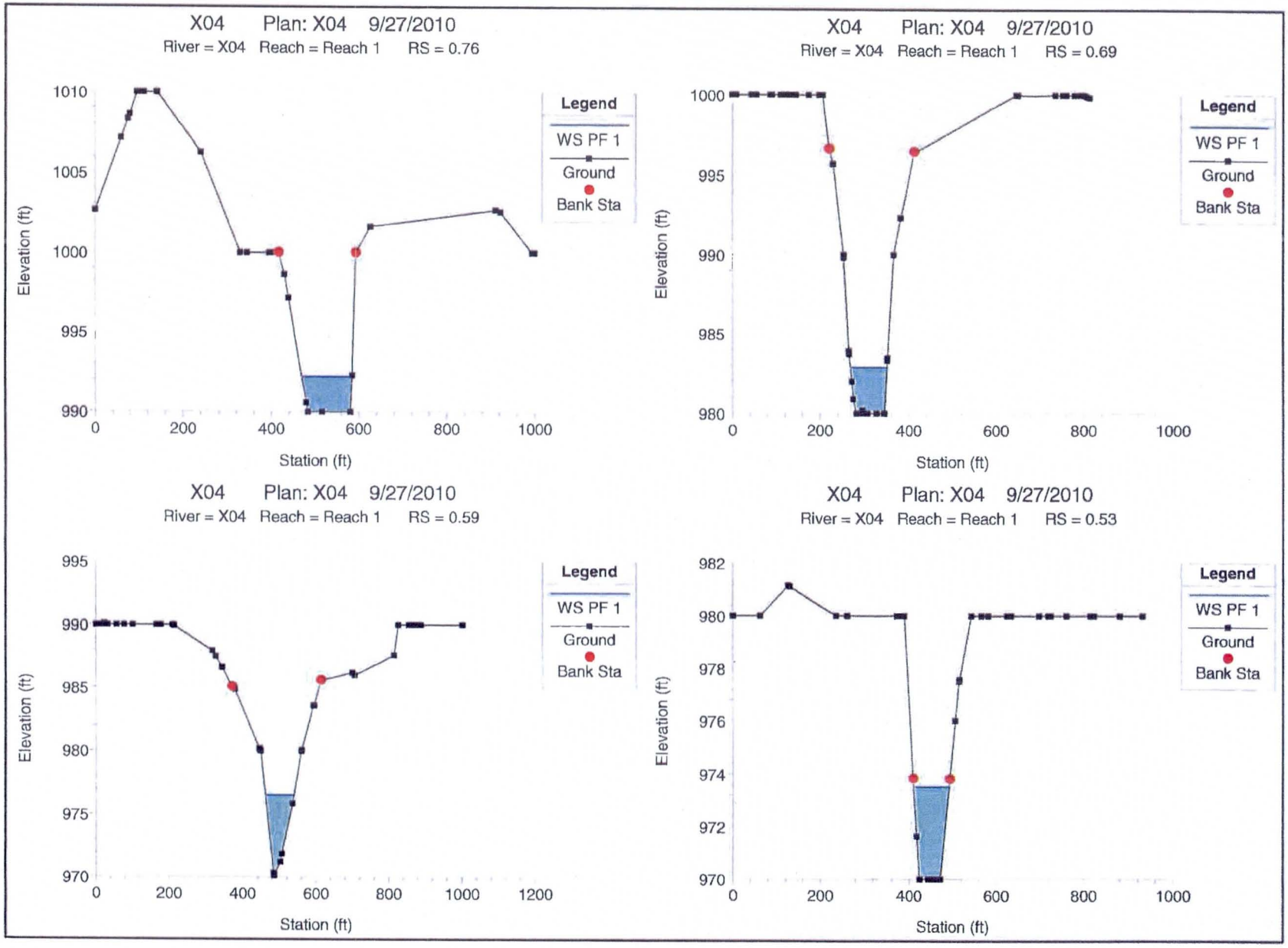

X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 1 RS = 0.02
Elevation (ft)
930
928
926
924
922
920
918
0
500
1000
1500
2000
2500
3000
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02A Reach = Reach 1 RS = 0.47
Elevation (ft)
990
985
980
975
970
0
200
400
600
800
1000
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02A Reach = Reach 1 RS = 0.38
Elevation (ft)
980
978
976
974
972
970
0
100
200
300
400
500
600
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02A Reach = Reach 1 RS = 0.29
Elevation (ft)
970
968
966
964
962
960
0
200
400
600
800
1000
Station (ft)
Legend
WS PF 1
Ground
Bank Sta

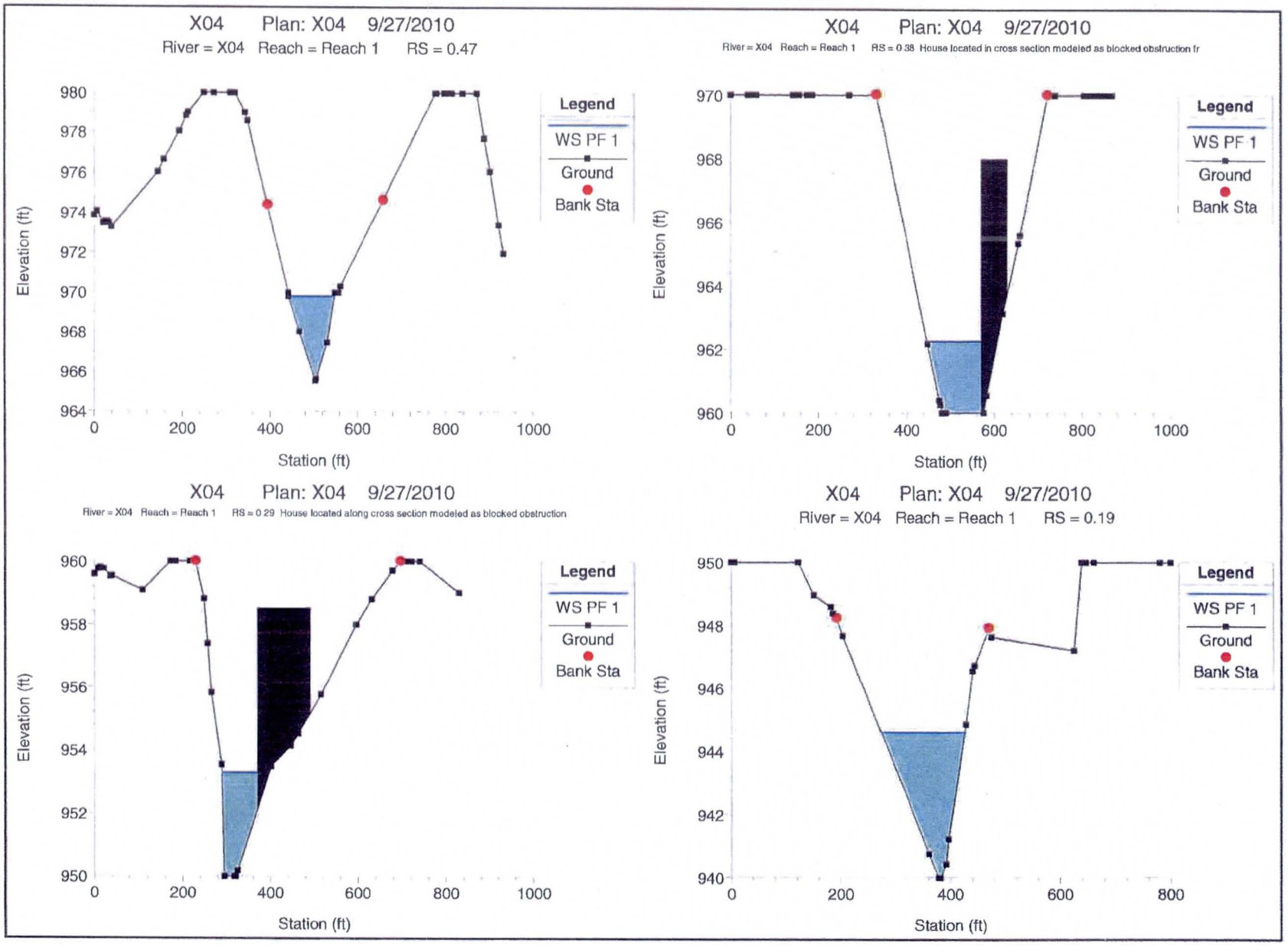

X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 1.30
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 1.20
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 1.11
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X02 Plan: X02 9/21/2010
River = X02 Reach = Reach 2 RS = 1.03
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta

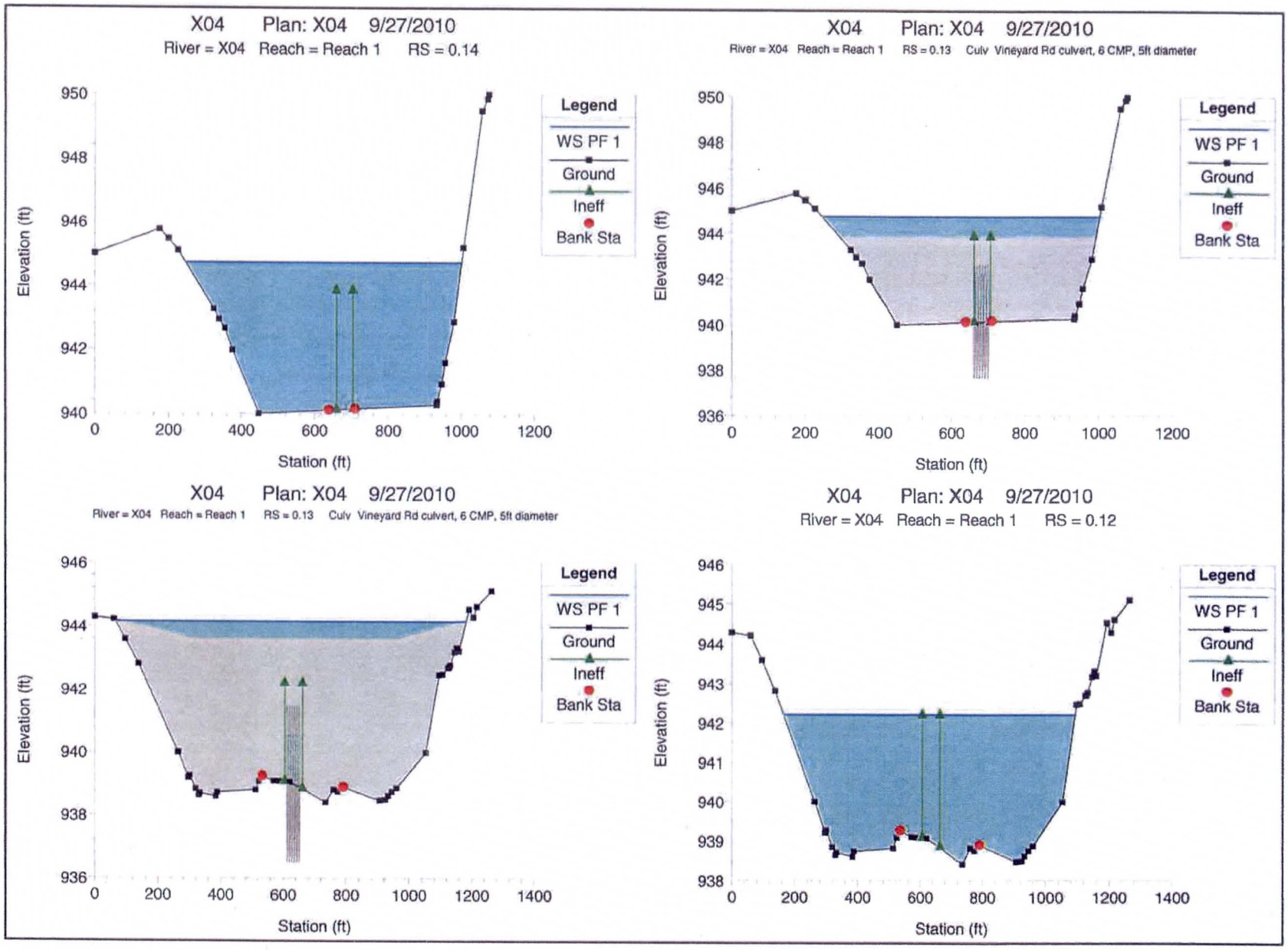
X04

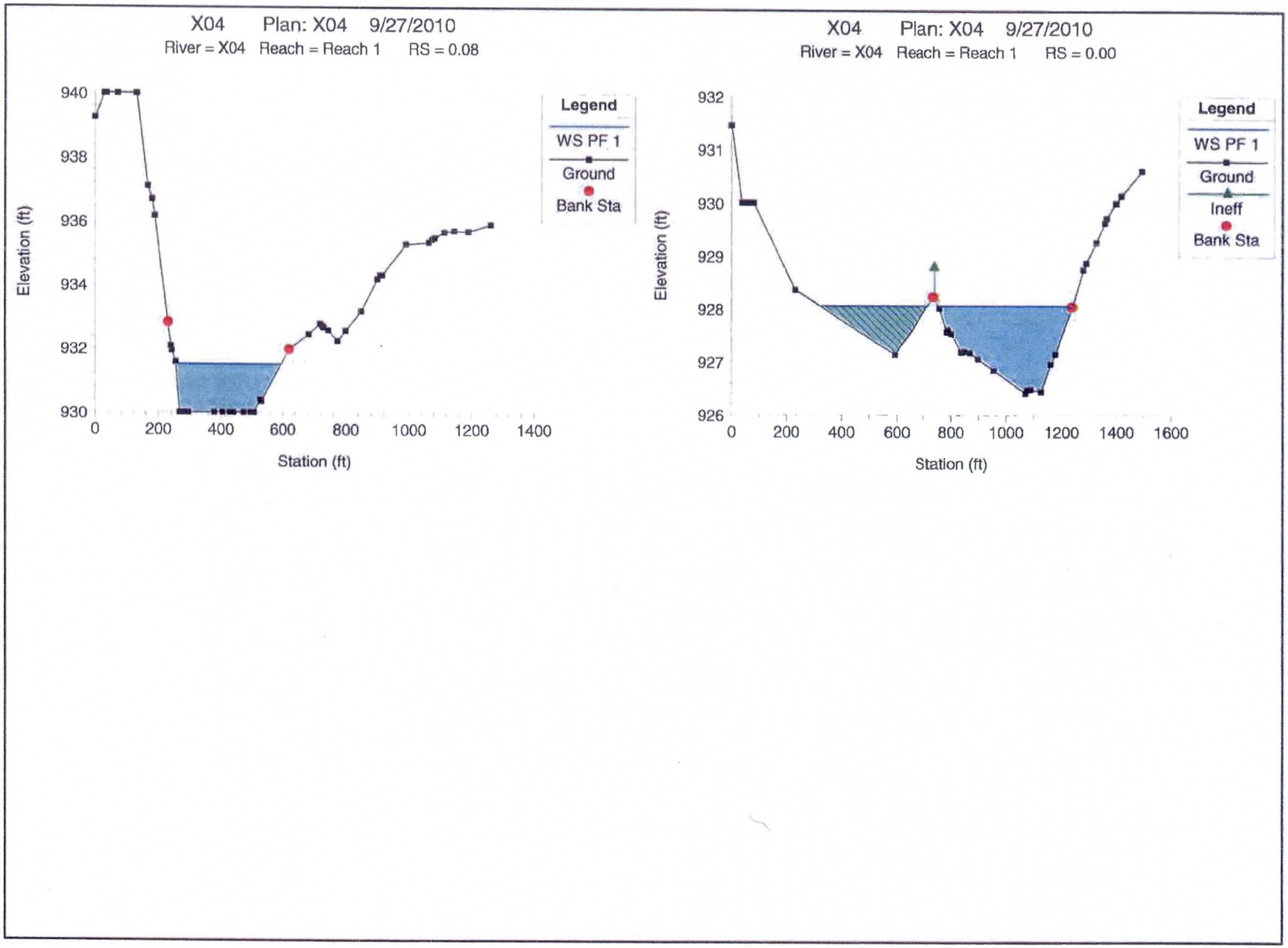
HEC-RAS SECTIONS X04


X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 1.14
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 1.04
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.95
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.85
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)


X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.76
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.69
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.59
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.53
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta

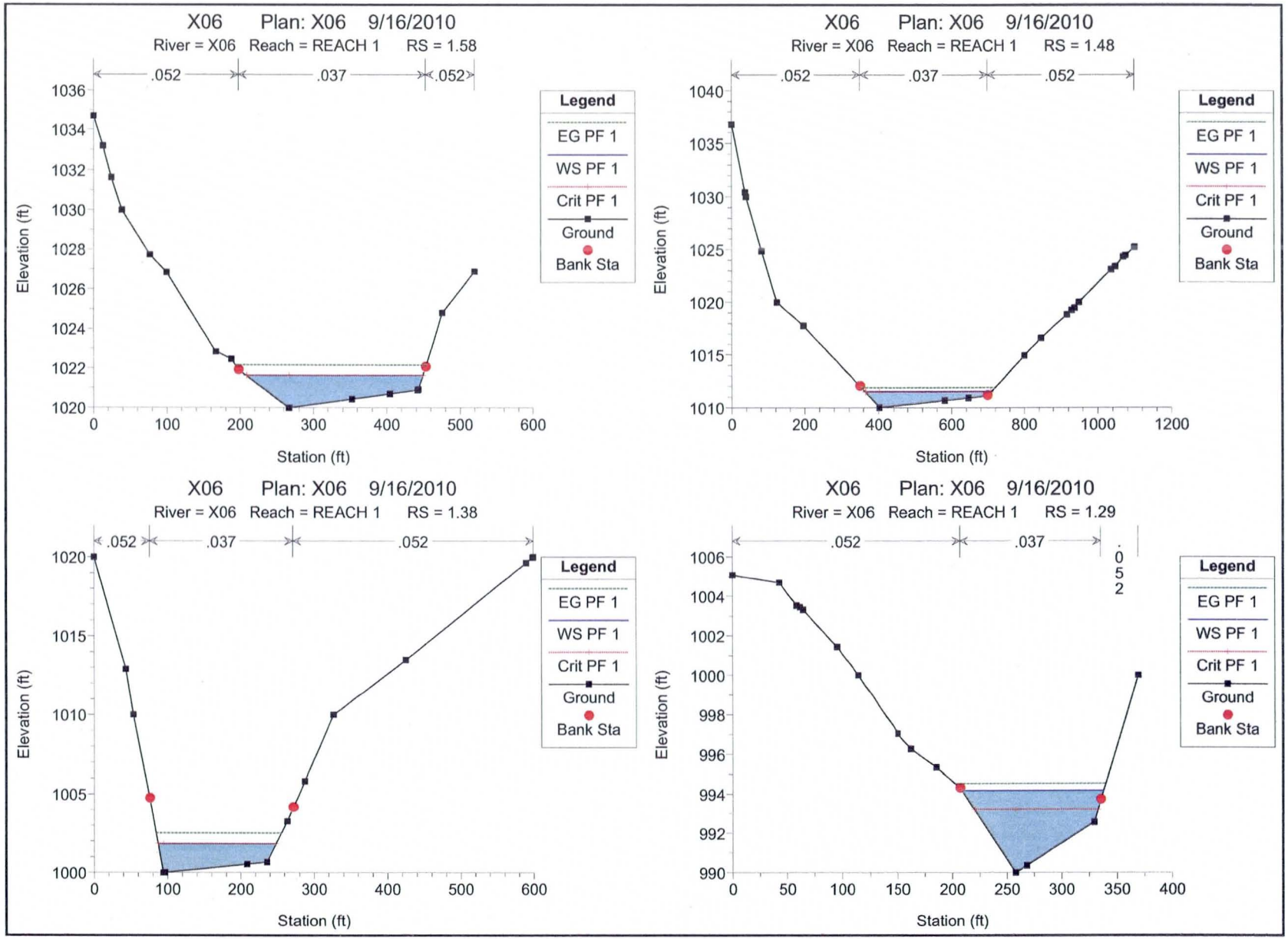

X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.47
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.38 House located in cross section modeled as blocked obstruction fr
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.29 House located along cross section modeled as blocked obstruction
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.19
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Bank Sta

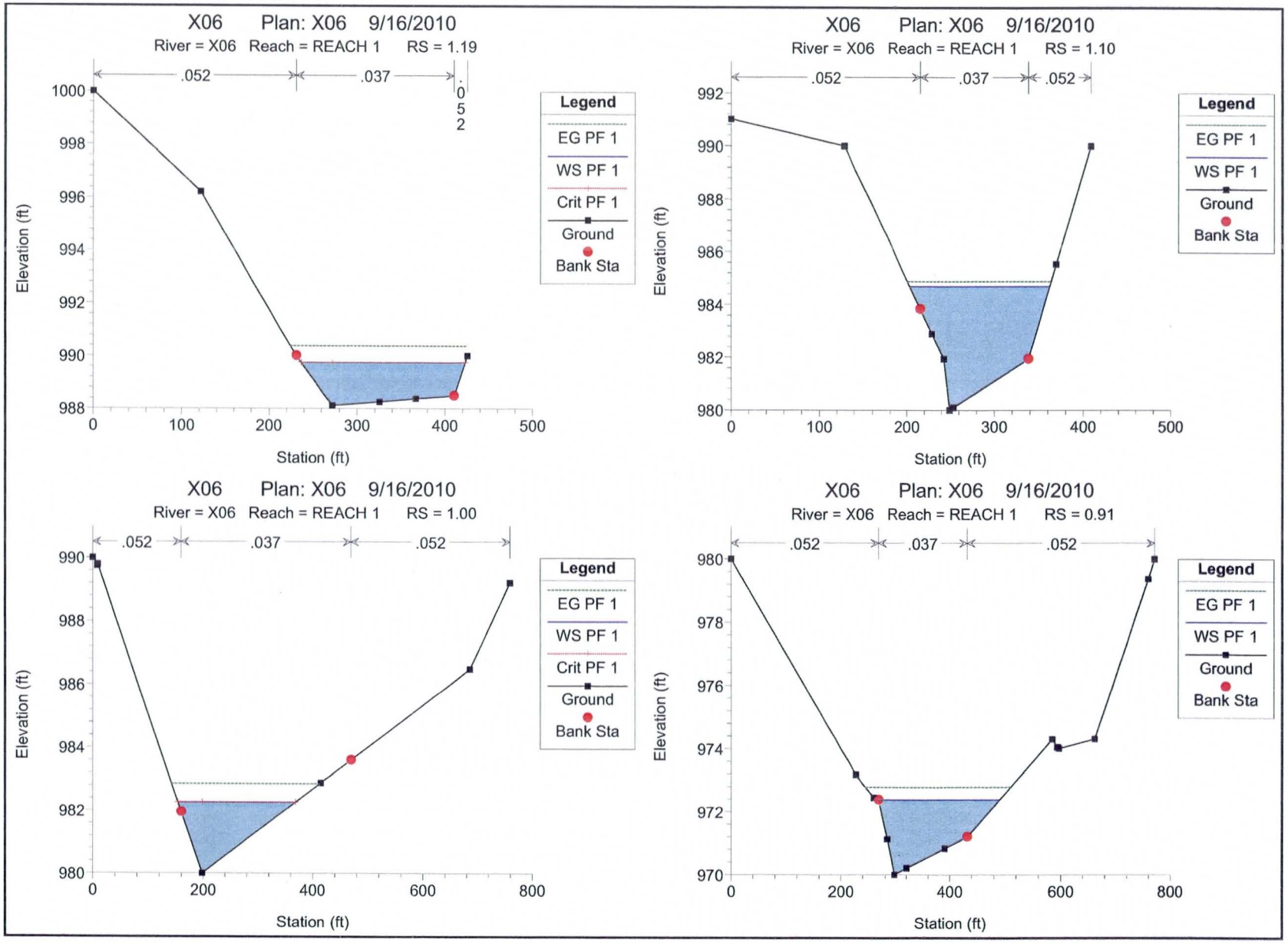

X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.14
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Ineff
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.13 Culv Vineyard Rd culvert, 6 CMP, 5ft diameter
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Ineff
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.13 Culv Vineyard Rd culvert, 6 CMP, 5ft diameter
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Ineff
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.12
Elevation (ft)
Station (ft)
Legend
WS PF 1
Ground
Ineff
Bank Sta

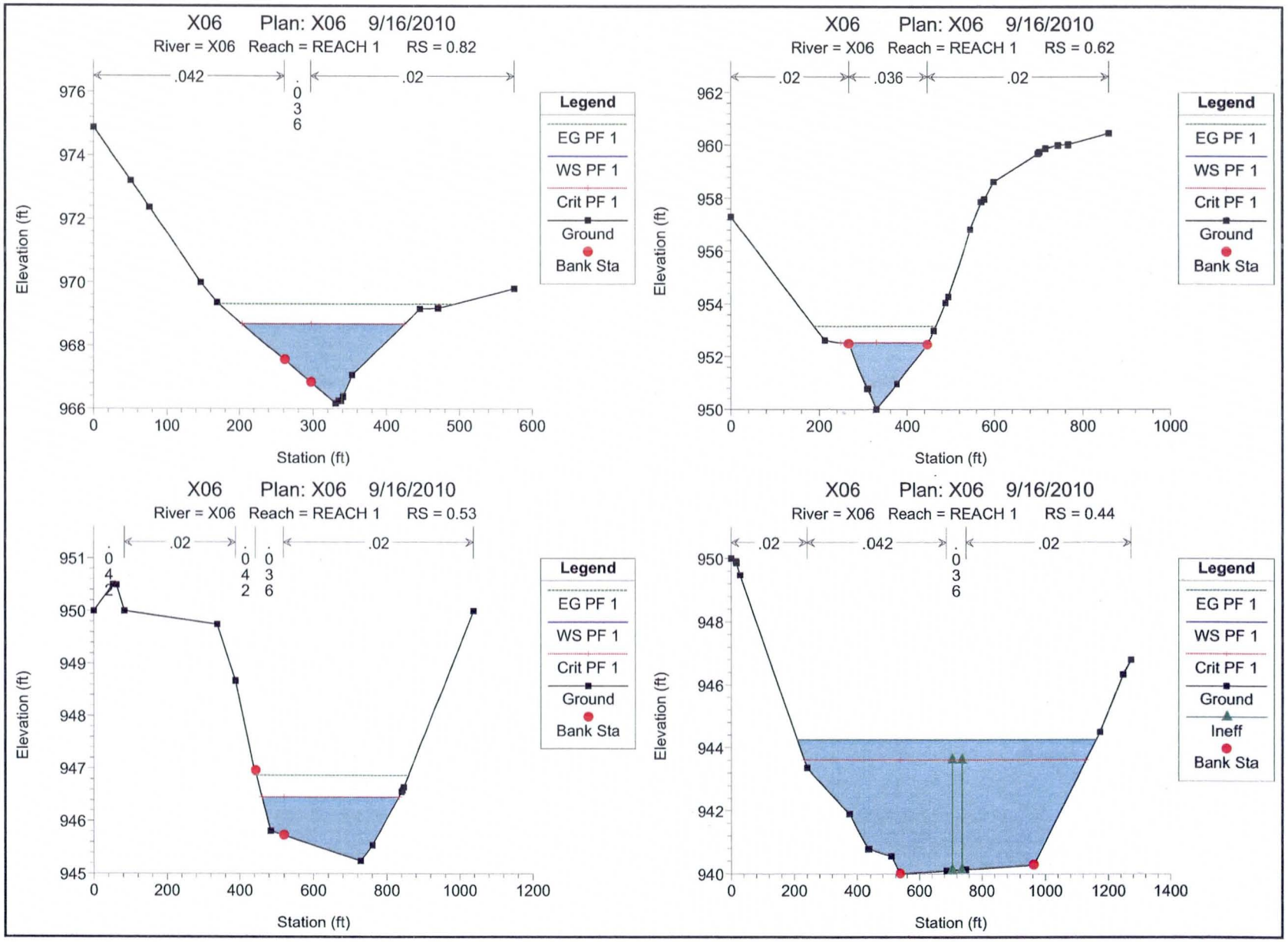

X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.08
Elevation (ft)
940
938
936
934
932
930
0
200
400
600
800
1000
1200
1400
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
X04 Plan: X04 9/27/2010
River = X04 Reach = Reach 1 RS = 0.00
Elevation (ft)
932
931
930
929
928
927
926
0
200
400
600
800
1000
1200
1400
1600
Station (ft)
Legend
WS PF 1
Ground
Ineff
Bank Sta

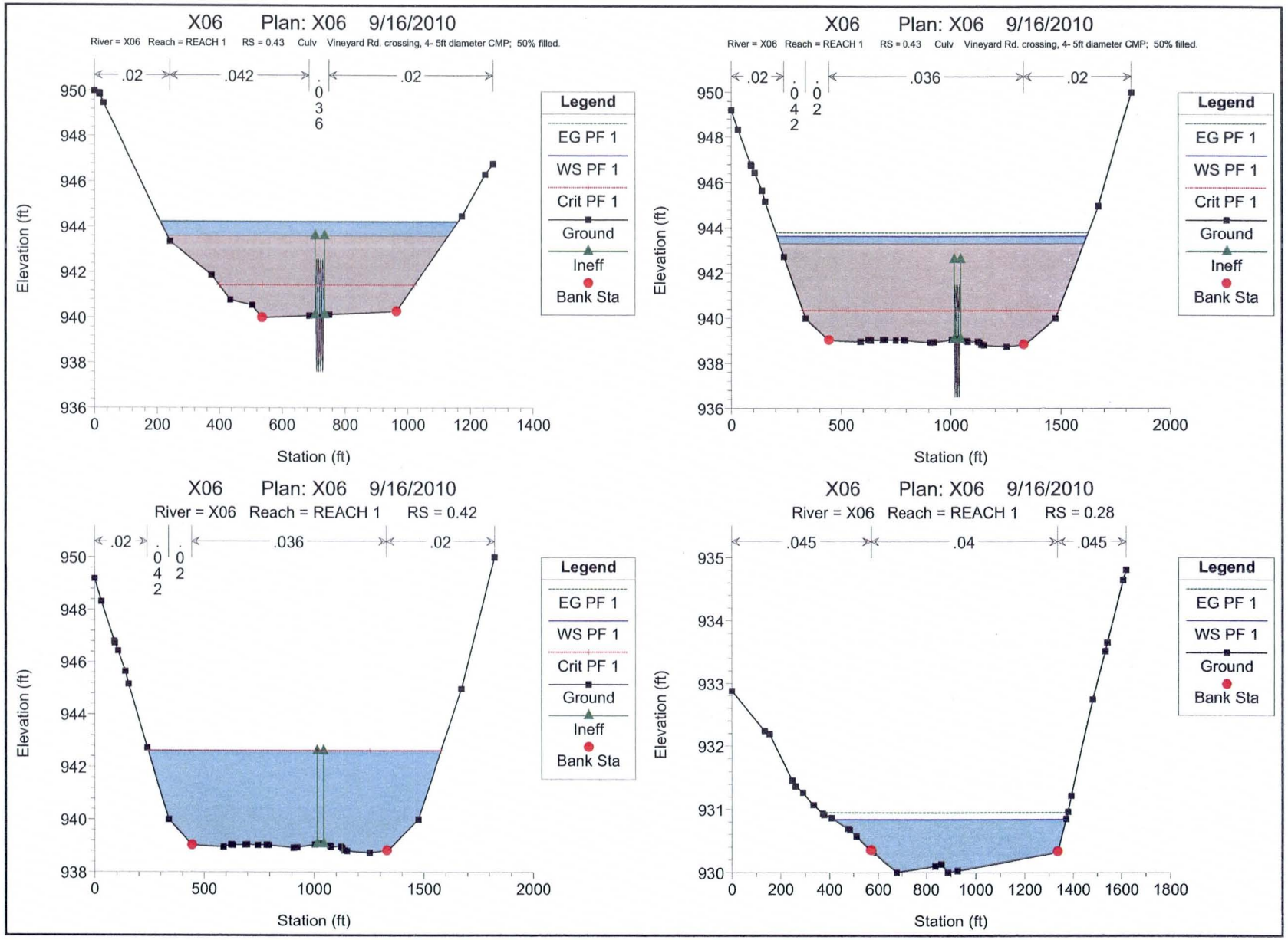
X06

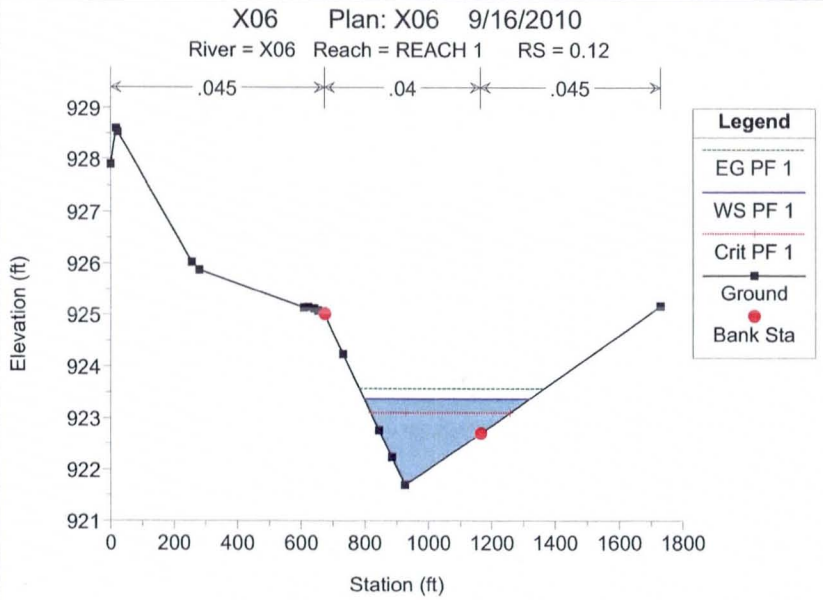
HEC-RAS SECTIONS X06


X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 1.58
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 1.48
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 1.38
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 1.29
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 1.19
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 1.10
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 1.00
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.91
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta

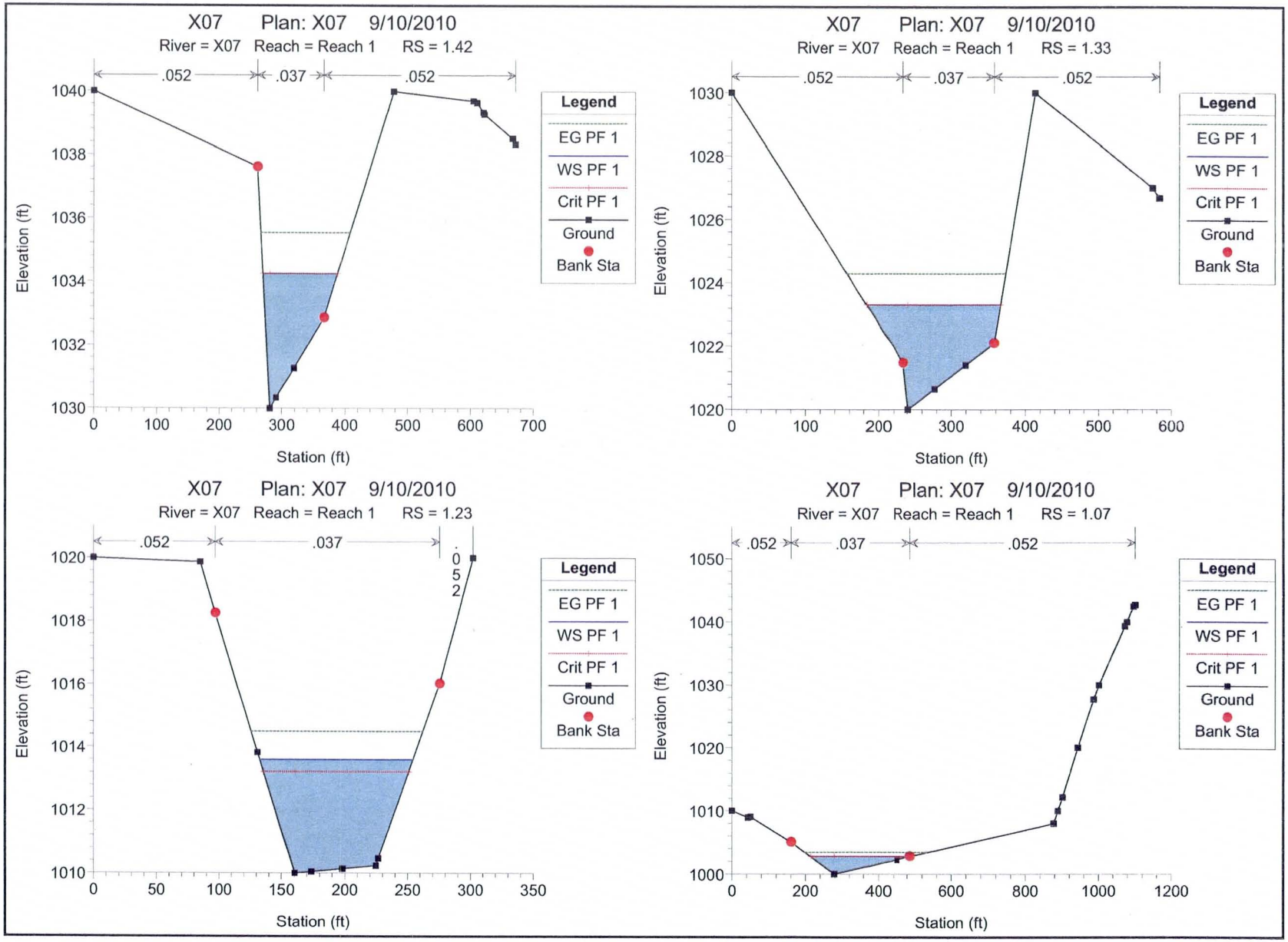

X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.82
.042
.036
.02
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.62
.02
.036
.02
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.53
.042
.02
.042
.036
.02
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.44
.02
.042
.036
.02
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta

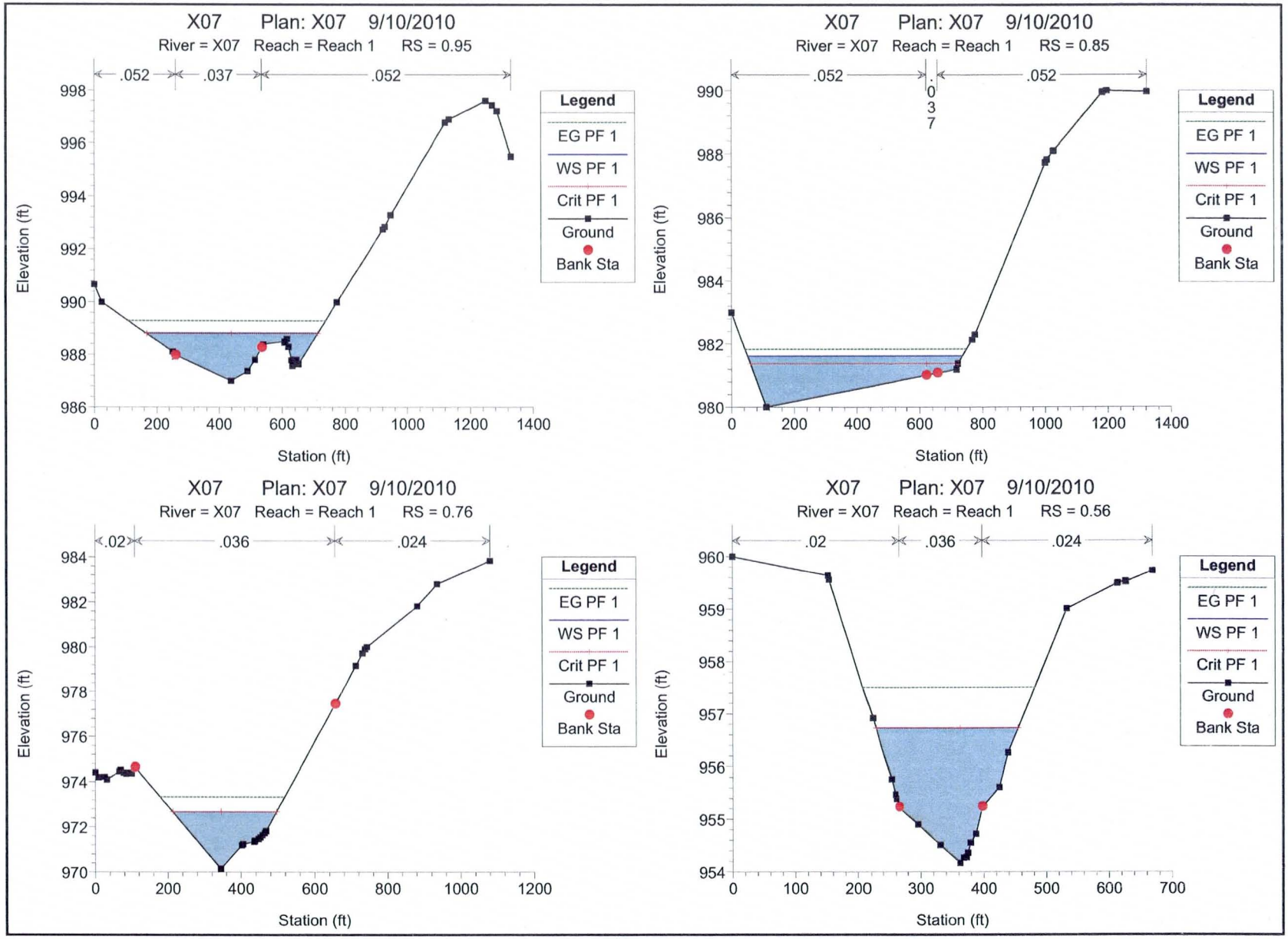

X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.43 Culv Vineyard Rd. crossing, 4- 5ft diameter CMP; 50% filled.
.02
.042
.036
.02
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.43 Culv Vineyard Rd. crossing, 4- 5ft diameter CMP; 50% filled.
.02
.042
.02
.036
.02
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.42
.02
.042
.02
.036
.02
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.28
.045
.04
.045
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)

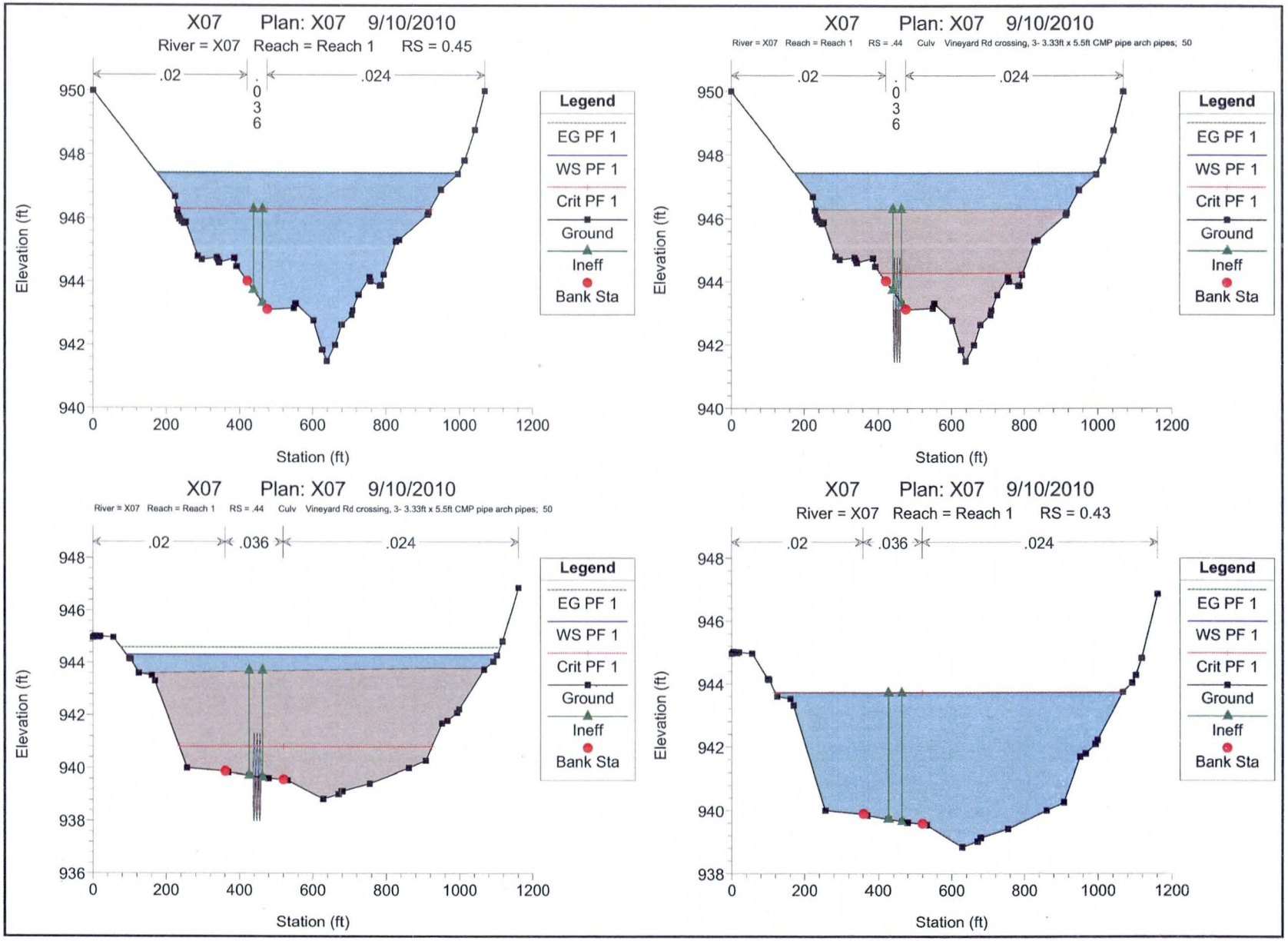

X06 Plan: X06 9/16/2010
River = X06 Reach = REACH 1 RS = 0.12
.045
.04
.045
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
929
928
927
926
925
924
923
922
921
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)

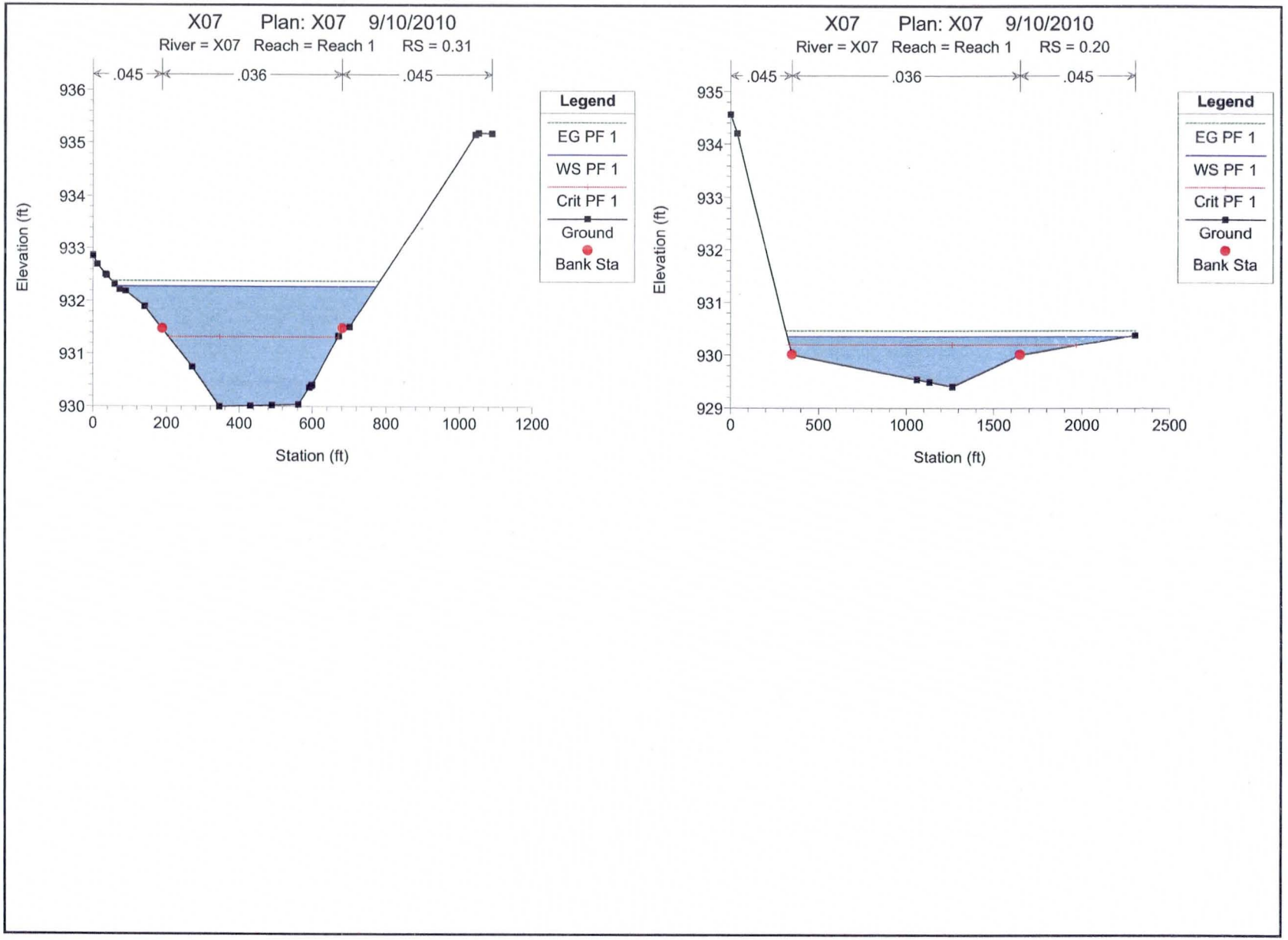
X07

HEC-RAS SECTIONS X07


X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 1.42
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 1.33
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 1.23
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 1.07
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 0.95
.052
.037
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 0.85
.052
.052
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 0.76
.02
.036
.024
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 0.56
.02
.036
.024
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 0.45
.02
.036
.024
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = .44 Culv Vineyard Rd crossing, 3- 3.33ft x 5.5ft CMP pipe arch pipes; 50
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = .44 Culv Vineyard Rd crossing, 3- 3.33ft x 5.5ft CMP pipe arch pipes; 50
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 0.43


X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 0.31
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
X07 Plan: X07 9/10/2010
River = X07 Reach = Reach 1 RS = 0.20
.045
.036
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

E.3 EXPANSION AND CONTRACTION COEFFICIENTS

Appendix E.3 Expansion and Contraction Coefficients

Expansion and contraction coefficients were selected using guidance from the FEMA Guidelines. The majority of all the washes use coefficients for gradual transitions. However, several washes encounter culverts or bridges requiring higher values. The following table summarizes the coefficients used in the project.

Description of Transition	Contraction Coefficient	Expansion Coefficient
Gradual Transition	0.1	0.3
Bridge/Culvert Cross Sections	0.3	0.5
Rapid Variation in Channel Geometry	0.3	0.5

E.4 ANALYSIS OF STRUCTURES

Analysis of Structures supporting documentation is not included under the scope of work for this TDN.

E.5 HYDRAULIC CALCULATIONS

F03/F05

F03/F05 HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: Max Flow Profile: 100-yr

River	Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
F05	Reach 1	2.74	700.00	1610.00	1610.18	1610.18	1610.26	0.039058	2.36	297.53	1705.91	0.99
F05	Reach 1	2.56	700.00	1600.00	1601.78		1601.80	0.001031	1.29	543.98	524.00	0.22
F05	Reach 1	2.4	700.00	1598.41	1599.07	1599.07	1599.27	0.030854	3.57	196.77	536.16	1.01
F05	Reach 1	2.2	700.00	1591.56	1592.47		1592.50	0.001719	1.29	573.06	902.57	0.26
F05	Reach 1	2.01	700.00	1587.84	1588.76	1588.61	1588.86	0.011576	2.52	278.21	593.71	0.64
F05	Reach 1	1.78	700.00	1580.00	1580.62		1580.67	0.004405	1.69	414.00	763.76	0.40
F05	Reach 1	1.56	700.00	1574.43	1575.16		1575.21	0.005282	1.76	400.63	832.57	0.44
F05	Reach 1	1.30	700.00	1568.36	1569.39	1569.05	1569.43	0.003461	1.56	453.48	851.32	0.36
F05	Reach 1	1.07	700.00	1560.00	1560.29	1560.26	1560.39	0.023657	2.57	279.28	1004.41	0.84
F05	Reach 1	0.89	700.00	1553.94	1555.01	1554.59	1555.04	0.002395	1.36	517.37	866.45	0.30
F05	Reach 1	0.74	700.00	1550.00	1550.15	1550.15	1550.22	0.042271	2.17	324.63	2251.41	1.00
F05	Reach 1	0.52	700.00	1541.24	1542.74		1542.77	0.001781	1.40	499.99	630.63	0.27
F05	Reach 1	0.34	700.00	1537.38	1538.22	1538.22	1538.44	0.030918	3.72	188.18	454.81	1.02
F03	Reach 2	6.30	660.00	1880.00	1881.03	1881.03	1881.52	0.021095	5.62	119.35	125.38	1.00
F03	Reach 2	6.05	660.00	1840.00	1842.37	1842.30	1842.91	0.017786	5.89	112.08	93.22	0.95
F03	Reach 2	5.88	660.00	1822.71	1823.95	1823.95	1824.29	0.024317	4.70	140.43	207.52	1.01
F03	Reach 2	5.67	660.00	1798.31	1798.87	1798.81	1798.98	0.017563	2.62	254.05	738.78	0.77
F03	Reach 2	5.54	660.00	1783.39	1784.26	1784.26	1784.54	0.024590	4.24	155.99	425.09	0.99
F03	Reach 2	5.29	660.00	1761.79	1762.86	1762.74	1762.95	0.008770	2.74	322.38	867.37	0.60
F03	Reach 2	5.11	660.00	1746.29	1747.12	1747.12	1747.29	0.036643	3.27	206.45	716.05	1.07
F03	Reach 2	4.89	660.00	1728.45	1729.53	1729.28	1729.61	0.006869	2.30	288.41	500.59	0.52
F03	Reach 2	4.73	660.00	1718.44	1718.85	1718.85	1718.98	0.032099	2.85	231.53	903.76	0.99
F03	Reach 2	4.50	660.00	1702.27	1703.11	1702.88	1703.20	0.006377	2.33	289.01	498.22	0.51
F03	Reach 2	4.20	660.00	1685.05	1685.85	1685.84	1686.03	0.028958	3.41	194.02	539.54	0.99
F03	Reach 2	4.01	660.00	1670.00	1670.80	1670.59	1670.91	0.008666	2.56	258.30	1759.80	0.59
F03	Reach 2	3.79	660.00	1655.71	1656.58	1656.51	1656.76	0.018454	3.36	196.25	389.58	0.84
F03	Reach 2	3.49	660.00	1638.36	1639.33		1639.43	0.007328	2.47	271.05	474.18	0.55
F03	Reach 2	3.22	660.00	1621.81	1622.62	1622.62	1622.84	0.020481	3.89	195.78	688.62	0.90
F03	Reach 2	2.84	660.00	1607.13	1608.00	1607.61	1608.03	0.002701	1.41	466.72	804.02	0.33
F03	Reach 2	2.49	660.00	1600.00	1600.51		1600.57	0.006722	2.04	325.47	648.08	0.50
F03	Reach 2	1.94	660.00	1570.00	1570.46	1570.40	1570.58	0.017852	2.84	237.91	1212.24	0.79
F03	Reach 2	1.72	675.00	1560.52	1561.46	1561.21	1561.51	0.004375	1.68	401.12	1779.92	0.41
F03	Reach 2	1.49	675.00	1550.00	1550.54	1550.54	1550.79	0.025330	4.11	175.97	366.62	0.99
F03	Reach 2	1.30	675.00	1540.00	1540.84		1540.87	0.001805	1.38	489.69	666.16	0.28
F03	Reach 2	1.09	1146.00	1534.11	1535.33	1535.16	1535.49	0.012255	3.25	352.16	540.28	0.71
F03	Reach 1	0.59	1146.00	1521.27	1522.52	1522.19	1522.56	0.002625	1.45	792.58	1324.14	0.33
F03	Reach 1	0.36	1146.00	1516.85	1517.86	1517.68	1517.90	0.005879	1.53	750.93	2123.84	0.45
F03	Reach 1	0.17	1146.00	1511.62	1512.38	1512.18	1512.44	0.005302	1.85	663.24	1463.27	0.45

CHECK-RAS NT F03/F05

CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.prj
Plan File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.p01
Geometry File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.g01
Flow File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.f01
Report File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.nt
Selected profiles: 100-yr
Date: 10/27/2010
Time: 2:49:29 PM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
F03,Reach 2						
6.3		0.055	0.038	0.055	0.1	0.3
6.05		0.055	0.038	0.055	0.1	0.3
5.88		0.055	0.038	0.055	0.1	0.3
5.67		0.055	0.038	0.055	0.1	0.3
5.54		0.055	0.038	0.055	0.1	0.3
5.29		0.055	0.038	0.055	0.1	0.3
5.11		0.055	0.038	0.055	0.1	0.3
4.89		0.055	0.038	0.055	0.1	0.3
4.73		0.055	0.038	0.055	0.1	0.3
4.5		0.055	0.038	0.055	0.1	0.3
4.2		0.055	0.038	0.055	0.1	0.3
4.01		0.055	0.038	0.055	0.1	0.3
3.79		0.055	0.038	0.055	0.1	0.3
3.49		0.055	0.038	0.055	0.1	0.3
3.22		0.055	0.038	0.055	0.1	0.3
2.84		0.055	0.038	0.055	0.1	0.3
2.49		0.055	0.038	0.055	0.1	0.3
1.94		0.055	0.038	0.055	0.1	0.3
1.72		0.055	0.038	0.055	0.1	0.3
.49		0.055	0.038	0.055	0.1	0.3
.3		0.055	0.038	0.055	0.1	0.3
F03,Reach 1						
1.09		0.055	0.038	0.055	0.1	0.3
.59		0.055	0.038	0.055	0.1	0.3
.36		0.055	0.038	0.055	0.1	0.3
F05,Reach 1						
.17		0.055	0.038	0.055	0.1	0.3
2.74		0.055	0.039	0.055	0.1	0.3
2.56		0.055	0.039	0.055	0.1	0.3
2.4		0.055	0.039	0.055	0.1	0.3
2.2		0.055	0.039	0.055	0.1	0.3
2.01		0.055	0.039	0.055	0.1	0.3
1.78		0.055	0.039	0.055	0.1	0.3
1.56		0.055	0.039	0.055	0.1	0.3
1.3		0.055	0.039	0.055	0.1	0.3
1.07		0.055	0.039	0.055	0.1	0.3
.89		0.055	0.039	0.055	0.1	0.3
.74		0.055	0.039	0.055	0.1	0.3
.52		0.055	0.039	0.055	0.1	0.3
.34		0.055	0.039	0.055	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.055	0.055
Right Overbank n Value:	0.055	0.055
Channel n Value:	0.038	0.039
Contraction Coefficient:	0.1	0.1
Expansion Coefficient:	0.3	0.3

ROUGHNESS COEFFICIENT CHECK

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

---END---

CHECK-RAS XS F03/F05

CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.prj
Plan File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.p01
Geometry File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.g01
Flow File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.f01
Report File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\F03_F05\F03_F05.xs
Selected profiles: 100-yr
Date: 10/27/2010
Time: 2:52:17 PM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
F03,Reach 2						
6.3	1386.39	1334.4	1305.76	125.37	660	C
6.05	849.57	898	887.59	90.66	660	C
5.88	1098.8	1089.3	1067.14	222.22	660	
5.67	718.87	699.26	685.78	724.42	660	
5.54	1325.2	1252.09	1265.02	307.12	660	
5.29	1031.35	985.94	1005.83	699.46	660	C
5.11	1221.28	1146.83	1151.78	962.5	660	D
4.89	822.85	827.95	830.47	414.74	660	C
4.73	1144.51	1292.83	1254.78	949.4	660	
4.5	1452.29	1452.29	1452.29	420.86	660	C
4.2	1050.72	1042.84	1055.3	539.57	660	
4.01	1159	1159.57	1159	461.78	660	D
3.79	1569	1568.86	1569	389.62	660	
3.49	1445.14	1443.65	1459.53	474.18	660	
3.22	1968.49	1979.1	1991.21	490.22	660	C
2.84	1729.3	1854.2	1994.03	804.4	660	
2.49	2956.72	2901.73	2755.05	648.07	660	
1.94	1121.71	1165.5	1196.49	639.11	660	
.72	1359.56	1225.96	1150.54	766.65	675	
.49	984.47	982.55	1009.78	366.62	675	C
1.3	1107.72	1115.08	1119.99	666.39	675	
1.09	0	0	0	539.8	1146	
F03,Reach 1						
.59	1208.33	1236.63	1257.66	1324.25	1146	
.36	958.54	977.06	1005.63	2123.23	1146	D
.17	0	0	0	1463.27	1146	
F05,Reach 1						
2.74	952.26	962.71	970.17	1705.89	700	C
2.56	835.48	852.56	865.31	523.91	700	
2.4	1039.66	1061.2	1077.21	536.25	700	C
2.2	1012.92	1015.43	1017.26	902.57	700	
2.01	1224.51	1213.16	1205.31	593.85	700	
1.78	1131.98	1131.61	1131.29	763.71	700	
1.56	1357.92	1365.31	1370.27	832.42	700	
1.3	1284.69	1245.87	1218.6	851.61	700	
1.07	919.77	967.43	1000.68	1004.27	700	
.89	792.45	771.34	759.66	866.68	700	
.74	1115.72	1153.38	1178.42	2251.37	700	C
.52	868.98	932.14	821.3	630.63	700	
.34	0	0	0	454.53	700	C

B=blocked obstruction XS SC 05
C=critial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02
K=known water-surface XS SC 04

DISTANCE CHECK

XS JT 01 Junction option is used.
For flood insurance study, this option should be used
if the tributary and main stream can have coincident peaks,
or it may be used for the stream without floodway.
It may also be used if the discharges at different time periods
are known from the rainfall-runoff model.
How to remove the junction is explained under Help.

SPACING CHECK

INEFFECTIVE FLOW CHECK

ISCHARGE CHECK

RS: 2.01
XS DC 04 There is no flow on the left overbank at the downstream
cross section. There is no flow on the right overbank at this section.

XS DC 02 Constant dicharge used for the F03,Reach 1

XS DC 02 Constant dicharge used for the F05,Reach 1

LOCATION CHECK

RS: 5.11
XS LC 01 Lenchl Up/TopwdthAct Dn = 2.77
MaxChlDpth Up/MaxChlDpth Dn = 1.19
TopwdthAct Up/TopwdthAct Dn = 2.32
This cross section is located too far upstream from the
critical depth cross section.

RS: 1.72
XS LC 01 Lenchl Up/TopwdthAct Dn = 3.34
MaxChlDpth Up/MaxChlDpth Dn = 2.70
TopwdthAct Up/TopwdthAct Dn = 2.09
This cross section is located too far upstream from the
critical depth cross section.

RS: 0.52
XS LC 01 Lenchl Up/TopwdthAct Dn = 2.05
MaxChlDpth Up/MaxChlDpth Dn = 1.79
TopwdthAct Up/TopwdthAct Dn = 1.39
This cross section is located too far upstream from the
critical depth cross section.

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is F03,Reach 1
Normal S = 0.0053 is specified as the downstream boundary
for profile 100-yr

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

NOTE: MAXIMUM NUMBER OF ITERATIONS IN THE HEC-RAS CALCULATION TOLERANCES IS SET TO THE DEFAULT OF 20.

LATERAL WEIRS CHECK

---END---

COINCIDENT PEAK ANALYSIS F03/F05

Coincident Peaks Analysis for the F05 and F03 Approximate Study

The assumption of Coincident Peaks may be appropriate if all the following are true:

1 The ratio of the drainage areas lies between 0.6 and 1.4
2 The times of peak flow are similar for the two combining watersheds
3 The likelihood of both watersheds being covered by the storm being modeled

Ratio of Drainage Area

F03 Drainage Area: (from downstream CP - CPF05) Contributing Basins	Area
From HEC-1 model for CPF05	11.0100
	11.0100

F05 Floodplain (from Downstream CP - CPF04) Contributing Basins	Area
From HEC-1 model for F04 along waterman wash	4.8200
	4.8200

Drainage Area ratio	
F03 Model	**11.0100**
F05 Model	**4.8200**
Ratio	**2.284232365**

does not meet ratio requirements for coincident peaks with stream F05

Time of Peak CPF05	12.83
Time of Peak CPF04	12.83

F25

F25 HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: F-25_with RR River: F25 Reach: Reach 1 Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	4.61	PF 1	671.00	1409.85	1410.95		1411.01	0.004298	2.03	341.03	632.65	0.44
Reach 1	4.42	PF 1	671.00	1403.91	1404.39	1404.30	1404.47	0.011066	2.31	297.08	827.02	0.65
Reach 1	4.23	PF 1	671.00	1397.21	1398.10	1397.80	1398.16	0.004077	1.90	357.01	634.45	0.43
Reach 1	3.83	PF 1	671.00	1383.49	1384.04	1383.95	1384.12	0.012498	2.46	389.77	2785.15	0.69
Reach 1	3.66	PF 1	671.00	1377.68	1378.48		1378.52	0.003888	1.57	477.28	1160.61	0.40
Reach 1	3.47	PF 1	1005.00	1371.99	1372.37		1372.43	0.008809	1.97	516.00	1494.65	0.58
Reach 1	3.28	PF 1	1005.00	1364.00	1366.06	1365.51	1366.13	0.004694	2.11	475.66	743.07	0.46
Reach 1	3.09	PF 1	1005.00	1360.00	1360.42		1360.47	0.006929	1.76	586.54	1734.15	0.51
Reach 1	2.90	PF 1	1005.00	1352.00	1353.78	1353.32	1353.90	0.005851	2.76	365.17	480.26	0.54
Reach 1	2.72	PF 1	1005.00	1348.00	1348.87		1348.95	0.004502	2.20	458.45	677.25	0.46
Reach 1	2.53	PF 1	1364.00	1343.94	1344.58		1344.63	0.004177	1.77	775.07	1486.28	0.42
Reach 1	2.34	PF 1	1364.00	1338.95	1339.91		1339.99	0.005174	2.18	651.97	1255.01	0.48
Reach 1	2.16	PF 1	1364.00	1333.14	1334.44	1334.27	1334.51	0.007033	2.35	658.51	1367.71	0.55
Reach 1	1.98	PF 1	1364.00	1329.60	1330.54		1330.57	0.002614	1.43	960.98	1784.31	0.34
Reach 1	1.87	PF 1	1364.00	1326.94	1327.73	1327.62	1327.82	0.010916	2.39	570.57	1382.38	0.66
Reach 1	1.69	PF 1	1364.00	1322.22	1323.49	1323.12	1323.53	0.002432	1.68	966.65	1851.75	0.34
Reach 1	1.52	PF 1	1605.00	1318.22	1318.96		1319.08	0.012201	2.78	625.08	1739.58	0.71
Reach 1	1.34	PF 1	1605.00	1313.93	1314.99	1314.61	1315.02	0.002116	1.45	1127.18	1869.02	0.31
Reach 1	1.20	PF 1	1605.00	1310.56	1311.16	1311.16	1311.32	0.027840	3.24	496.15	1547.23	1.00
Reach 1	0.99	PF 1	1605.00	1304.90	1306.26		1306.32	0.001635	1.87	934.82	1027.38	0.30
Reach 1	0.90	PF 1	1605.00	1303.60	1306.26		1306.26	0.000025	0.32	5224.63	3165.13	0.04
Reach 1	0.84	PF 1	2211.00	1300.00	1305.94	1302.59	1306.17	0.000814	3.82	579.05	6352.30	0.28
Reach 1	0.82		Mult Open									
Reach 1	0.80	PF 1	2211.00	1300.00	1302.29	1302.29	1303.34	0.014723	8.24	268.44	3719.59	1.00
Reach 1	0.76	PF 1	2211.00	1297.41	1300.38		1300.41	0.002752	1.24	1799.39	4233.05	0.33
Reach 1	0.60	PF 1	2211.00	1296.00	1296.69		1296.76	0.007366	2.07	1069.19	2397.27	0.55
Reach 1	0.42	PF 1	2211.00	1292.00	1292.78		1292.82	0.002561	1.48	1494.07	2505.55	0.34
Reach 1	0.13	PF 1	2211.00	1286.64	1288.00	1287.57	1288.09	0.004003	2.33	960.47	2556.41	0.45

CHECK-RAS NT F25

CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.prj
Plan File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.p01
Geometry File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.g01
Flow File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.f01
Report File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.nt
Selected profiles: PF 1
Date: 1/28/2011
Time: 1:42:56 PM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
F25,Reach 1						
4.61		0.056	0.036	0.056	0.1	0.3
4.42		0.056	0.036	0.056	0.1	0.3
4.23		0.056	0.036	0.056	0.1	0.3
3.83		0.056	0.036	0.056	0.1	0.3
3.66		0.056	0.036	0.056	0.1	0.3
3.47		0.056	0.036	0.056	0.1	0.3
3.28		0.056	0.036	0.056	0.1	0.3
3.09		0.056	0.036	0.056	0.1	0.3
2.9		0.056	0.036	0.056	0.1	0.3
2.72		0.056	0.036	0.056	0.1	0.3
2.53		0.056	0.036	0.056	0.1	0.3
2.34		0.056	0.036	0.056	0.1	0.3
2.16		0.056	0.036	0.056	0.1	0.3
1.98		0.056	0.036	0.056	0.1	0.3
1.87		0.056	0.036	0.056	0.1	0.3
1.69		0.056	0.036	0.056	0.1	0.3
1.52		0.056	0.036	0.056	0.1	0.3
1.34		0.056	0.036	0.056	0.1	0.3
1.2		0.056	0.036	0.056	0.1	0.3
.99		0.056	0.036	0.056	0.1	0.3
.9		0.056	0.036	0.056	0.3	0.5
.84		0.056	0.036	0.056	0.3	0.5
[redacted]	Multiple Opening-Up	0.056	0.036	0.056	0.3	0.5
[redacted]	Multiple Opening-Dn	0.056	0.036	0.056	0.3	0.5
[redacted]		0.056	0.036	0.056	0.3	0.5
.76		0.056	0.036	0.056	0.1	0.3
.6		0.056	0.036	0.056	0.1	0.3
.42		0.056	0.036	0.056	0.1	0.3
.13		0.056	0.036	0.056	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.056	0.056
Right Overbank n Value:	0.056	0.056
Channel n Value:	0.036	0.036
Contraction Coefficient:	0.1	0.3
Expansion Coefficient:	0.3	0.5

ROUGHNESS COEFFICIENT CHECK

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

---END---

CHECK-RAS XS F25

CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.prj
Plan File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.p01
Geometry File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.g01
Flow File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.f01
Report File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.xs
Selected profiles: PF 1
Date: 1/28/2011
Time: 1:44:57 PM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
F25,Reach 1						
4.61	999.01	1000	1000.8	632.56	671	
4.42	1005.58	1000	995.41	826.95	671	
4.23	2129.39	2125.61	2122.39	634.55	671	
3.83	869.08	871.09	872.81	2327.29	671	
3.66	1000.01	999.02	998.16	1163.71	671	D
3.47	1003.47	1004.28	1004.98	1493.87	1005	
3.28	997.44	1000	1002.17	743.93	1005	
3.09	1031.32	1032.11	1032.79	1732.48	1005	
2.9	967.86	967.89	967.9	482	1005	
2.72	999.37	1000	1000.52	675.78	1005	
2.53	999.67	1000	1000.27	1487.38	1364	
2.34	921.25	912.83	905.87	1252.13	1364	
2.16	967.18	974.6	974.21	1369.34	1364	D
1.98	580.61	582.33	588.35	1783.78	1364	
1.87	950.77	951.18	951.54	1383.43	1364	
1.69	899.97	895.55	891.76	1849.83	1364	
1.52	953.89	956.32	958.38	1740.41	1605	
1.34	708.25	707.17	706.28	1868.73	1605	
1.2	1117.23	1123.13	1128.01	1547.23	1605	C
.99	470.51	464.71	460.19	1052.69	1605	
.9	310.89	322.93	333.02	3179.12	1605	
.8	218.86	215.82	221.68	99.16	2211	D
.8	Culvert #1-Up					
.82	Culvert #1-Dn					
.82	Bridge-Up					
.82	Bridge-Dn					
.8	206.54	201.4	223.86	126.65	2211	D,C
.76	591.12	861.15	595.57	4233.85	2211	D
.6	981.64	972.22	991.46	2397.16	2211	
.42	1486.1	1494.85	1499.86	2506.1	2211	
.13	653.73	705.21	580.53	2556.41	2211	

B=blocked obstruction XS SC 05
C=critial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02
K=known water-surface XS SC 04

DISTANCE CHECK

SPACING CHECK

INEFFECTIVE FLOW CHECK

DISCHARGE CHECK

LOCATION CHECK

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is F25,Reach 1
Normal S = 0.004 is specified as the downstream boundary
for profile PF 1

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

CHECK-RAS STRUCTURE F25

CHECK-RAS Program: Structure Check

Project File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.prj
Plan File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.p01
Geometry File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.g01
[redacted]ile: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.f01
Report File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_F25\HEC-RAS\F25.br
Selected profiles: PF 1
Date: 1/28/2011
Time: 1:45:33 PM

RS	MaxLoChord	MnTpRd	EGEL	WSEL	MinChEl	Structure
F25,Reach 1						
4.61			1411.01	1410.95	1409.85	
4.42			1404.47	1404.39	1403.91	
4.23			1398.16	1398.1	1397.21	
3.83			1384.12	1384.03	1383.49	
3.66			1378.52	1378.48	1377.68	
3.47			1372.43	1372.37	1371.99	
3.28			1366.13	1366.06	1364	
3.09			1360.47	1360.42	1360	
2.9			1353.9	1353.79	1352	
2.72			1348.95	1348.87	1348	
2.53			1344.63	1344.58	1343.94	
2.34			1339.99	1339.91	1338.95	
2.16			1334.52	1334.44	1333.14	
1.98			1330.57	1330.54	1329.6	
1.87			1327.82	1327.73	1326.94	
1.69			1323.53	1323.49	1322.22	
1.52			1319.08	1318.96	1318.22	
1.34			1315.02	1314.99	1313.93	
1.2			1311.32	1311.16	1310.56	
0.99			1306.34	1306.3	1304.9	
0.9			1306.3	1306.29	1303.6	
0.84			1306.2	1305.98	1300	
0.82	1303.9	1306.64	0	1303.9	1299.9	Culvert #1-Up
[redacted]	1303.6	1306.64	0	1303.03	1299.6	Culvert #1-Dn
[redacted]	1303.16	1306.5	1306.21	1303.16	Null	Bridge-Up
[redacted]	1303.16	1306.5	1304.27	1302.86	0	Bridge-Dn
0.8			1303.34	1302.29	1300	
0.76			1300.41	1300.39	1297.41	
0.6			1296.76	1296.69	1296	
0.42			1292.82	1292.78	1292	
0.13			1288.09	1288	1286.64	

RIVER/REACH: F25, Reach 1
RIVER STATION: 0.82
TYPE OF STRUCTURE: MultiOpen

Description:	Crossing #1: UPRR MP 225.53, 3 SSP 4ft diameter c
Distance from Upstream XS:	95
Deck/Roadway Width:	40
Weir Coefficient:	2.6
Maximum allowable submergence for weir flow:	0.95
Elevation at which weir flow begins:	0
Weir crest shape:	Broad Crested

Sec	River Station	Length Channel	WSEL	Surch.	EGEL	TopWidth Actual	
4	0.9	322.93	1306.29		1306.3	3179.12	
3	0.84	215.82	1305.98		1306.2	99.16	
	0.82	60.00	1303.9		0	16	Culvert #1-Up
	0.82	65.82	1303.03		0	26.4	Culvert #1-Dn
	0.82	40.00	1303.16		1306.21	Null	Bridge-Up
	0.82	80.82	1302.86		1304.27	Null	Bridge-Dn
2	0.8	201.40	1302.29		1303.34	126.65	
[redacted]	0.76	861.15	1300.39		1300.41	4233.85	

	Ineffective Flow, Section 3 Sta L	Sta R	Elev	Ineffective Flow, Section 2 Sta L	Sta R	Elev
1	0	3002	1306.5	0	3121.38	1306.5
2	3018	4146	1306.5	3148	4131	1306.5
3	4229.16	7520.71	1306.5	4237	7189.26	1306.5

```
---------------------------------------------------------------------------

Opening Type       StagStaL  StagStaR  EncStaL   EncStaR   LIfStaS   RIfStaS
---------------------------------------------------------------------------
Bridge 1           3400      7900                          4146              U
                   3400      7800                          4131              D

BR[redacted]E:
B[redacted] Name:    Bridge
LowFlowMethod:  Highest Energy Answer
Momentum Cd:     0
HighFlowMethod: Pressure and Weir flow
SluiceGate Cd: 0        Submerged Cd:   0.8

---------------------------------------------------------------------------
Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line
---------------------------------------------------------------------------

---------------------------------------------------------------------------
MaxLowChord:   1303.16  MinTopRd:  1306.51       MinElPrs:       1303.16
---------------------------------------------------------------------------

                   LAbutSt   RAbutSt   LMnTpRd   RMnTpRd   MnTpRd    MxLoCd
---------------------------------------------------------------------------
Bridge             4146.01   4226      1306.5    1306.5    1306.5    1303.16  U
                   4146.01   4226      1306.5    1306.5    1306.5    1303.16  D
---------------------------------------------------------------------------

Opening Type       StagStaL  StagStaR  EncStaL   EncStaR   LIfStaS   RIfStaS
---------------------------------------------------------------------------
Culvert Group 1    0         3400                          3002      3018     U
                   0         3400                          3121.38   3148     D

CULVERT:
Culvert Name: Culvert #1
Shape:        Circular       Rise:      4        Span:           0        Barrels:        3
FHWA Chart #: # 1 - Concrete Pipe Culvert
FHWA Scale #: # 1 - Square edge entrance with headwall
Sc[redacted]ion Crit:Highest U.S. EG

Up[redacted]mDist:    90       Length:         60       n-Value:        0.012
EntLossCoef:   0.5      ExtLossCoef:    1        CulvInvElU      1299.9   CulvInvElD      1299.6
LCntStaU:      3004     RCntStaU:       3016     LCntStaD        3131     RCntStaD        3141
Culvert Depth Blocked:   0


---------------------------------------------------------------------------
Culv Area:     37.7     CulvQ:          275.88   MinTopRd:       1306.65
---------------------------------------------------------------------------

                   LAbutSt   RAbutSt   LMnTpRd   RMnTpRd   MnTpRd    MxLoCd
---------------------------------------------------------------------------
Culvert #1         3002      3018      1306.64   1306.64   1306.64   1303.9   U
                   3129      3143      1306.64   1306.64   1306.64   1303.6   D
---------------------------------------------------------------------------


Name          Q Total.  Q Struc   Q Weir    Selected Method     Flow Type
---------------------------------------------------------------------------
Bridge        1935.12   1935.12   0         Press Only  *       Sluicegate Pressure Flow
Culvert #1              275.88    0         Highest U.S. EG     Low Flow
---------------------------------------------------------------------------

GEOMETRIC CHECK
-----------------

RS:       0.82
ST GD 03  The end station of 8000 from downstream road/weir data
          is greater than the end station of 7189.26 from downstream internal
          section.
          The high chord elevation of 1306.6 for the end road/weir station is
          greater than the ground elevation of 1303.13 for the end ground station.
          The EGEL at section 3 of 1306.2 is greater than the ground elevation.
          The road/weir data should be included in the ground data

T[redacted]F FLOW CHECK
-----------------

RS:       0.82 This is Bridge
BR PF 01  Type of flow is sluicegate pressure flow because,
          1. EGEL 3 of 1306.2 is equal to or less than MinTopRd of 1306.51.
          2. EGEL 3 of 1306.2 is equal to or greater than MxLoCdU of 1303.16.
          3. WSEL 2 of 1302.29 is less than MxLoCdD of 1303.16.
```

```
RS:       0.82 This is Culvert #1
CV LF 01  Type of flow is low flow because,
          1. EGEL 3 of 1306.2 is less than or equal to MinTopRd of 1306.65.
          2. CulvWSIn of 1303.90 is greater than or equal to MxLoCdU of 1303.90.
          3. CulvWSout of 1303.03 is less than MxLoCdD of 1303.60.
          4. Q/AD^0.5 of 3.66 is less than 4.0.

DI[redacted]NCE CHECK
[redacted]---------

CULVERT COEFFICIENT CHECK
-------------------------

CULVERT CRITERIA CHECK
----------------------

INEFFECTIVE FLOW CHECK
----------------------

---END
```

COINCIDENT PEAK ANALYSIS F25

Coincident Peaks Analysis for the F25 Approximate Study

The assumption of Coincident Peaks may be appropriate if all the following are true:

1 The ratio of the drainage areas lies between 0.6 and 1.4
2 The times of peak flow are similar for the two combining watersheds
3 The likelihood of both watersheds being covered by the storm being modeled

Ratio of Drainage Area

F25 Drainage Area: (from downstream CP - CPF25) Contributing Basins	Area	Existing Floodplain (from Downstream CP - F27) Contributing Basins	Area
Contributing Area from CPF25 card in HEC-1 model	5.3580	From HEC-1 model for CPF27 card	4.2740

Drainage Area ratio	
F25	5.3580
Existing Floodplain	4.2740
Ratio	1.253626579

Time of Peak CPF25	12.83
Time of Peak CPF27	13.00

T1SR2WS32A (I63)

T1SR2WS32A (I63) HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: T1SR2WS32A River: T1SR2WS32A (I63) Reach: Reach 1 Profile: 100-year

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	2.51	1888.00	1011.92	1015.06	1014.88	1016.03	0.015845	8.33	280.07	355.02	0.97
Reach 1	2.42	1888.00	1008.24	1009.84	1009.75	1010.08	0.010186	4.38	588.82	932.54	0.70
Reach 1	2.29	1888.00	999.29	1001.74	1001.62	1002.08	0.013097	5.25	452.23	501.52	0.80
Reach 1	2.17	1888.00	993.20	995.69	995.36	995.90	0.007948	4.59	576.55	534.83	0.65
Reach 1	2.06	1888.00	987.47	990.03	989.93	990.28	0.011186	5.13	612.42	889.26	0.75
Reach 1	1.92	1888.00	981.70	984.62	984.11	984.76	0.005866	4.07	728.22	724.15	0.56
Reach 1	1.80	1888.00	976.00	979.30	979.21	979.59	0.010183	4.72	539.07	807.88	0.71
Reach 1	1.70	1888.00	972.20	975.22	974.76	975.40	0.006632	3.87	586.05	486.25	0.58
Reach 1	1.59	1888.00	966.40	971.33		971.66	0.006227	5.09	494.44	412.59	0.60
Reach 1	1.45	1888.00	962.57	968.26	967.11	968.50	0.002837	4.59	661.12	506.25	0.44
Reach 1	1.27	1888.00	958.80	965.29		965.49	0.003836	4.46	705.12	641.08	0.48
Reach 1	1.14	1888.00	956.70	962.03		962.29	0.005629	4.43	531.51	405.95	0.56
Reach 1	1.02	1888.00	952.80	959.30		959.44	0.003385	3.31	657.71	450.69	0.43
Reach 1	0.87	1888.00	949.30	956.11		956.43	0.004486	4.61	466.49	317.37	0.52
Reach 1	0.76	1888.00	948.00	954.15		954.32	0.002793	3.43	642.90	484.27	0.40
Reach 1	0.68	1888.00	945.87	951.49	951.49	952.14	0.011985	6.91	337.38	288.98	0.83
Reach 1	0.57	1888.00	944.55	949.00		949.10	0.001186	2.84	914.02	512.94	0.28
Reach 1	0.48	1888.00	941.82	947.86	946.33	948.28	0.002748	5.49	448.71	203.26	0.45
Reach 1	0.39	1888.00	938.92	945.15	944.70	945.78	0.011041	7.01	308.03	180.78	0.80
Reach 1	0.27	1888.00	936.62	943.52	940.92	943.65	0.001508	3.00	751.23	404.83	0.31
Reach 1	0.18	1888.00	934.39	940.65	940.65	942.07	0.009508	9.83	227.40	106.21	0.80
Reach 1	0.07	1888.00	931.77	935.17	934.30	935.43	0.004402	4.04	467.14	228.72	0.50

CHECK-RAS NT T1SR2WS32A (I63)

CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).prj
Plan File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).p01
Geometry File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).g01
Flow File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).f01
Report File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).nt
Selected profiles: 100-year;floodway
Date: 1/16/2012
Time: 12:14:29 PM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
T1SR2WS32A (I63),Reach 1						
2.51		0.05	0.039	0.05	0.1	0.3
2.42		0.05	0.039	0.05	0.1	0.3
2.29		0.05	0.039	0.05	0.1	0.3
2.17		0.05	0.039	0.05	0.1	0.3
2.06		0.05	0.039	0.05	0.1	0.3
1.92		0.05	0.039	0.05	0.1	0.3
1.8		0.05	0.039	0.05	0.1	0.3
1.7		0.05	0.039	0.05	0.1	0.3
1.59		0.05	0.039	0.05	0.1	0.3
1.45		0.05	0.039	0.05	0.1	0.3
1.27		0.05	0.039	0.05	0.1	0.3
1.14		0.05	0.039	0.05	0.1	0.3
1.02		0.05	0.039	0.05	0.1	0.3
.87		0.05	0.039	0.05	0.1	0.3
.76		0.05	0.039	0.05	0.1	0.3
.68		0.05	0.039	0.05	0.1	0.3
.57		0.05	0.039	0.05	0.1	0.3
.48		0.05	0.039	0.05	0.1	0.3
.39		0.05	0.039	0.05	0.1	0.3
.27		0.05	0.039	0.05	0.1	0.3
.18		0.05	0.039	0.05	0.1	0.3
.07		0.05	0.039	0.05	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.05	0.05
Right Overbank n Value:	0.05	0.05
Channel n Value:	0.039	0.039
Contraction Coefficient:	0.1	0.1
Expansion Coefficient:	0.3	0.3

ROUGHNESS COEFFICIENT CHECK

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

---END---

CHECK-RAS XS T1SR2WS32A (I63)

CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).xs
Selected profiles: 100-year;floodway
Date: 1/16/2012
Time: 12:14:30 PM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
T1SR2WS32A (I63),Reach 1						
2.51	464.13	453.78	474.16	222.37	1888	
2.42	716.9	693.73	691.35	932.54	1888	D
2.29	592.06	604.16	638.13	501.52	1888	D
2.17	619.14	597.82	595.52	534.83	1888	
2.06	698.42	696.66	688.61	889.26	1888	D
1.92	664.98	692.65	653.76	724.15	1888	
1.8	544.87	500.68	496.3	807.88	1888	D
1.7	573.01	582.02	585.56	486.25	1888	D
1.59	774.47	773.29	788.94	412.59	1888	
1.45	915.83	917.36	913.83	506.25	1888	D
1.27	687	696.93	688.84	641.08	1888	D
1.14	661.81	651.41	662.38	405.95	1888	
1.02	764.35	775.61	777.33	450.69	1888	D
.87	604.13	591.06	576.87	317.37	1888	
.76	423.74	417.49	423.74	484.27	1888	
.68	576.85	572.23	573.16	288.98	1888	D,C
.57	467.32	459.63	449.9	512.94	1888	
.48	516.64	506.68	503.71	203.26	1888	
.39	613.41	619.47	608.1	180.78	1888	D
.27	490.49	469.08	481.29	404.83	1888	D
.18	594.07	596.11	594.96	106.21	1888	C
.07	400.58	355.42	368.19	228.72	1888	D

B=blocked obstruction
C=critial depth
D=divided flow
E=cross section extended
K=known water-surface

XS SC 05
XS SC 03
XS SC 01
XS SC 02
XS SC 04

DISTANCE CHECK

SPACING CHECK

RS: 0.39
XS SP 01 Diff. HV = 0.51 ; Kratio = 2.71 ; Depth Ratio = 1.11
TopWdthAct ratio = 2.24 ; Length Chl Up / 500 = 1.24
Change in HV > 0.5
K ratio < 0.7 or K ratio > 1.4
Depth ratio < 0.9 or Depth ratio > 1.1
TopWdthAct ratio < 0.5 or TopWdthAct ratio > 2.0
and Length Chnl up / 500 > 1.1
addtional cross sections may need to be added between
river station up and river station dn.

RS: 0.18
XS SP 01 Diff. HV = 1.17 ; Kratio = 1.47 ; Depth Ratio = 0.54
TopWdthAct ratio = 2.15 ; Length Chl Up / 500 = 1.19

Change in HV > 0.5
K ratio < 0.7 or K ratio > 1.4
Depth ratio < 0.9 or Depth ratio > 1.1
TopWdthAct ratio < 0.5 or TopWdthAct ratio > 2.0
and Length Chnl up / 500 > 1.1
addtional cross sections may need to be added between
river station up and river station dn.

INEFFECTIVE FLOW CHECK

RS: 2.42
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.29
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.17
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.17
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.06
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.92
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.7
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.45
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.68
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

NOTE: Artificial levees were used to eliminate flow areas that are parrallel to the floodplain that do not provide conveyance.

DISCHARGE CHECK

XS DC 02 Constant dicharge used for the T1SR2WS32A (I63),Reach 1

LOCATION CHECK

RS: 0.27
XS LC 01 Lenchl Up/TopwdthAct Dn = 4.42
MaxChlDpth Up/MaxChlDpth Dn = 1.10
TopwdthAct Up/TopwdthAct Dn = 3.81
This cross section is located too far upstream from the
critical depth cross section.

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is T1SR2WS32A (I63),Reach 1

Normal S = 0.0044 is specified as the downstream boundary
for profile 100-year

XS BC 02 The name of the stream is T1SR2WS32A (I63),Reach 1
Normal S = 0.0044 is specified as the downstream boundary
for profile floodway

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

NOTE: The maximum number of iterations is set to 20 in the HEC-RAS tolerances.

LATERAL WEIRS CHECK

---END---

HEC-RAS FLOODWAY TABLE T1SR2WS32A (I63)

HEC-RAS Plan: T1SR2WS32A River: T1SR2WS32A (I63) Reach: Reach 1 Profile: floodway

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	2.51	167.00	286.22	6.60	1015.15	1015.06	0.09
Reach 1	2.42	326.67	410.90	4.59	1009.95	1009.84	0.10
Reach 1	2.29	197.57	333.47	5.66	1002.11	1001.74	0.37
Reach 1	2.17	271.90	404.11	4.67	995.92	995.69	0.23
Reach 1	2.06	264.16	417.39	4.52	990.51	990.03	0.48
Reach 1	1.92	220.02	416.13	4.54	984.96	984.62	0.33
Reach 1	1.80	244.32	400.22	4.72	979.58	979.30	0.28
Reach 1	1.70	243.00	405.83	4.65	975.59	975.22	0.38
Reach 1	1.59	242.00	409.13	4.61	971.45	971.33	0.12
Reach 1	1.45	153.00	508.16	3.72	968.95	968.26	0.68
Reach 1	1.27	156.65	356.16	5.30	965.59	965.29	0.30
Reach 1	1.14	237.00	492.78	3.83	962.46	962.03	0.43
Reach 1	1.02	212.65	436.79	4.32	959.63	959.30	0.34
Reach 1	0.87	256.00	467.14	4.04	956.16	956.11	0.05
Reach 1	0.76	257.50	546.94	3.45	954.25	954.15	0.10
Reach 1	0.68	236.00	310.95	6.07	951.52	951.49	0.03
Reach 1	0.57	229.00	622.25	3.03	949.10	949.00	0.10
Reach 1	0.48	162.21	435.48	4.34	947.90	947.86	0.04
Reach 1	0.39	112.03	304.03	6.21	945.43	945.15	0.28
Reach 1	0.27	194.98	565.91	3.34	943.61	943.52	0.09
Reach 1	0.18	106.06	237.61	7.95	940.74	940.65	0.10
Reach 1	0.07	228.73	467.19	4.04	935.17	935.17	0.00

CHECK-RAS FLOODWAY T1SR2WS32A (I63)

T1SR2WS32A(I63).fw
CHECK-RAS Program: Floodway Check
Encroachment Method, Starting WSEL, Floodway Width, and Surcharge Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\I63\T1SR2WS32A(I63).fw
Selected profiles: 100-year;floodway
Date: 1/16/2012
Time: 12:14:36 PM

SECNO	Method	Surcharge	EncStaL	EncStaR	LStaEff	RStaEff	Structure
T1SR2WS32A (I63),Reach 1							
2.51					425.26	647.63	
2.51	1	0.09	433	600	433	600	
2.42					381.65	1438.14	
2.42	1	0.1	629.33	956	629.33	956	
2.29					580.29	1096.43	
2.29	1	0.37	666	863.57	666	863.57	
2.17					738.38	1273.21	
2.17	1	0.23	780	1051.9	780	1051.9	
2.06					637.24	1572.29	
2.06	1	0.48	804.51	1068.67	804.51	1068.67	
1.92					447.07	1171.22	
1.92	1	0.33	776.03	996.05	776.03	996.05	
1.8					111.47	922.08	
1.8	1	0.28	651.1	895.42	651.1	895.42	
1.7					86.92	584.08	
1.7	1	0.38	310	553	310	553	
1.59					655.1	1067.69	
1.59	1	0.12	800	1042	800	1042	
1.45					540.45	1048.99	
1.45	1	0.68	771	924	771	924	
1.27					353.72	1122.02	
1.27	1	0.3	728.06	884.71	728.06	884.71	
1.14					454.86	860.82	
1.14	1	0.43	610	847	610	847	
1.02					535.42	1013.37	
1.02	1	0.34	678	890.65	678	890.65	
0.87					382.92	700.29	
0.87	1	0.05	407	663	407	663	
0.76					186.21	670.47	
0.76	1	0.1	314.89	572.39	314.89	572.39	
0.68					234.11	535.9	
0.68	1	0.03	260	496	260	496	
0.57					870.96	1383.9	
0.57	1	0.1	961	1190	961	1190	
0.48					455.74	659.01	
0.48	1	0.04	465.23	627.44	465.23	627.44	
0.39					393.42	595.94	
0.39	1	0.28	393.03	507	393.03	507	
0.27					461.64	906.09	
0.27	1	0.09	480.77	675.75	480.77	675.75	
0.18					183.16	289.37	
0.18	1	0.1	183.29	289.35	183.29	289.35	
0.07					367.87	722.84	
0.07	1	0	361.86	726.39	367.87	722.84	

ENCROACHMENT METHOD CHECK

FLOODWAY WIDTH CHECK

NOTE: The channel bank stations were verified with the aerial image and topographic mapping.

```
RS:         2.51
FW FW 03    The right channel bank station may not be at the proper
            location.

RS:         2.42
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         2.42
FW FW 03    The right channel bank station may not be at the proper
            location.

RS:         2.06
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         2.06
FW FW 03    The right channel bank station may not be at the proper
            location.

RS:         1.92
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         1.8
FW FW 03    The right channel bank station may not be at the proper
            location.

RS:         1.7
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         1.7
FW FW 03    The right channel bank station may not be at the proper
            location.

RS:         1.59
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         1.45
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         1.02
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         1.02
FW FW 03    The right channel bank station may not be at the proper
            location.

RS:         0.76
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         0.76
FW FW 03    The right channel bank station may not be at the proper
            location.

RS:         0.48
FW FW 03    The Left channel bank station may not be at the proper
            location.

SURCHARGE CHECK
---------------

DISCHARGE CHECK
---------------

STARTING WATER-SURFACE ELEVATION CHECK
--------------------------------------

---END---
```

COINCIDENT PEAK ANALYSIS T1SR2WS32A (I63)

Coincident Peaks Analysis for the T1SR2WS32A(I63) Detailed Study

The assumption of Coincident Peaks may be appropriate if all the following are true:

1 The ratio of the drainage areas lies between 0.6 and 1.4
2 The times of peak flow are similar for the two combining watersheds
3 The likelihood of both watersheds being covered by the storm being modeled

Ratio of Drainage Area

T1SR2WS32A(I63) Drainage Area: (from downstream CP - CPI63) Contributing Basins	Area
Contributing Area from CPI63 card in HEC-1 model	8.5430

Existing Floodplain (from Downstream CP - I63RIV) Contributing Basins	Area
From HEC-1 model for I63RIV card	413.5040

Drainage Area ratio	
T1SR2WS32A(I63)	8.5430
Existing Floodplain	413.5040
Ratio	0.020660018

Time of Peak CPI63	12.50
Time of Peak I63RIV	19.17

T2SR2WS7B (A51) / T2SR2WS17B (A63)

T2SR2WS7B (A51) / T2SR2WS17B (A63)

HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: Max Flow Profile: PF 1

River	Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T2S2WS7B (A51)	Reach 1	1.38	738.00	1013.80	1016.87	1016.39	1016.90	0.002735	2.11	611.48	954.20	0.32
T2S2WS7B (A51)	Reach 1	1.03	738.00	1009.50	1010.04		1010.07	0.005308	1.45	544.90	1180.47	0.37
T2S2WS7B (A51)	Reach 1	0.93	738.00	1005.57	1006.83	1006.55	1006.89	0.007203	1.91	387.38	692.93	0.45
T2S2WS7B (A51)	Reach 1	0.77	738.00	1000.32	1001.42	1001.12	1001.47	0.005573	1.91	416.16	1336.66	0.41
T2S2WS7B (A51)	Reach 1	0.58	738.00	993.10	994.25	994.06	994.31	0.009887	1.90	389.97	938.12	0.50
T2S2WS7B (A51)	Reach 1	0.37	738.00	984.70	986.75	986.38	986.81	0.004784	2.05	368.06	567.70	0.41
T2S2WS7B (A51)	Reach 1	0.19	738.00	979.41	981.31	981.04	981.38	0.007559	2.25	333.92	674.02	0.50
T2S2WS7B (A51)	Reach 1	0.01	738.00	974.52	976.03	975.62	976.09	0.004174	1.93	387.29	820.62	0.39
T2S2WS17B (A63)	Reach 2	3.42	1001.00	1042.57	1044.07		1044.12	0.002829	2.22	569.87	731.46	0.35
T2S2WS17B (A63)	Reach 2	3.31	1001.00	1039.95	1040.88		1040.96	0.009350	2.12	440.19	895.44	0.53
T2S2WS17B (A63)	Reach 2	3.16	1001.00	1035.95	1036.81		1036.86	0.003106	1.21	589.63	836.42	0.31
T2S2WS17B (A63)	Reach 2	2.98	1001.00	1030.44	1031.77	1031.72	1031.89	0.017480	3.22	370.94	1120.17	0.75
T2S2WS17B (A63)	Reach 2	2.89	1001.00	1027.83	1028.83	1028.31	1028.86	0.001744	1.13	734.76	2183.81	0.24
T2S2WS17B (A63)	Reach 2	2.76	1001.00	1026.03	1027.19	1027.19	1027.38	0.008146	2.05	389.29	1023.90	0.50
T2S2WS17B (A63)	Reach 2	2.56	1001.00	1017.72	1020.23	1019.68	1020.32	0.004016	2.55	453.64	688.23	0.41
T2S2WS17B (A63)	Reach 2	2.35	1001.00	1011.45	1012.90	1012.77	1013.01	0.013184	3.18	379.17	835.13	0.67
T2S2WS17B (A63)	Reach 2	2.13	1001.00	999.70	1004.39	1003.98	1004.45	0.004902	3.21	584.52	631.41	0.45
T2S2WS17B (A63)	Reach 2	1.93	1001.00	993.77	998.78	998.36	998.87	0.005256	2.56	509.97	1206.09	0.45
T2S2WS17B (A63)	Reach 2	1.72	1001.00	986.60	991.07	991.07	991.34	0.009278	5.24	279.84	608.02	0.66
T2S2WS17B (A63)	Reach 2	1.53	1001.00	981.08	984.78	984.36	984.84	0.004112	2.06	527.47	1121.29	0.39
T2S2WS17B (A63)	Reach 2	1.39	1001.00	977.70	980.18	979.99	980.29	0.009908	2.79	395.97	771.84	0.59
T2S2WS17B (A63)	Reach 2	1.26	1001.00	974.52	975.78		975.87	0.004403	1.69	437.88	572.11	0.37
T2S2WS17B (A63)	Reach 1	1.09	1001.00	968.47	970.07	969.81	970.24	0.010491	2.00	305.23	392.06	0.55
T2S2WS17B (A63)	Reach 1	0.94	1001.00	963.90	966.48	965.94	966.52	0.002558	2.17	580.32	764.29	0.33
T2S2WS17B (A63)	Reach 1	0.73	1001.00	956.78	960.21	960.21	960.42	0.017358	5.91	329.77	795.80	0.86
T2S2WS17B (A63)	Reach 1	0.60	1120.00	952.89	958.32	957.60	958.34	0.000885	1.21	1079.31	1332.06	0.19
T2S2WS17B (A63)	Reach 1	0.42	1120.00	947.96	954.02	954.02	956.02	0.019702	11.33	98.82	538.62	1.00

CHECK-RAS T2SR2WS17B_T2SR2WS7B NT REPORT

T2SR2WS17B_T2SR2WS7B.nt
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.nt
Selected profiles: PF 1
Date: 7/13/2011
Time: 11:04:15 AM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
T2SR2WS17B (A63),Reach 2						
3.42		0.04	0.042	0.04	0.1	0.3
3.31		0.04	0.042	0.04	0.1	0.3
3.16		0.04	0.042	0.04	0.1	0.3
2.98		0.04	0.042	0.04	0.1	0.3
2.89		0.04	0.042	0.04	0.1	0.3
2.76		0.04	0.042	0.04	0.1	0.3
2.56		0.04	0.042	0.04	0.1	0.3
2.35		0.04	0.042	0.04	0.1	0.3
2.13		0.04	0.042	0.065	0.1	0.3
1.93		0.04	0.042	0.04	0.1	0.3
1.72		0.04	0.042	0.04	0.1	0.3
1.53		0.04	0.042	0.04	0.1	0.3
1.39		0.04	0.042	0.04	0.1	0.3
T2SR2WS17B (A63),Reach 1						
1.26		0.04	0.042	0.04	0.1	0.3
1.09		0.04	0.042	0.04	0.1	0.3
.94		0.04	0.042	0.04	0.1	0.3
.73		0.04	0.042	0.04	0.1	0.3
.6		0.04	0.042	0.04	0.1	0.3
T2SR2WS7B (A51),Reach 1						
.42		0.04	0.042	0.04	0.1	0.3
1.38		0.05	0.045	0.05	0.1	0.3
1.03		0.05	0.045	0.05	0.1	0.3
.93		0.05	0.045	0.05	0.1	0.3
.77		0.05	0.045	0.05	0.1	0.3
.58		0.05	0.045	0.05	0.1	0.3
.37		0.05	0.042	0.05	0.1	0.3
.19		0.05	0.042	0.05	0.1	0.3
.01		0.05	0.042	0.05	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.04	0.05
Right Overbank n Value:	0.04	0.065
Channel n Value:	0.042	0.045
Contraction Coefficient:	0.1	0.1
Expansion Coefficient:	0.3	0.3

ROUGHNESS COEFFICIENT CHECK

RS: 3.42
NT RC 05 The left overbank n value of 0.04 and the right overbank n value of 0.04 are less than or equal to the channel n value of 0.042 The overbank n values should be reevaluated.

RS: 3.31
NT RC 05 The left overbank n value of 0.04 and the right overbank n value of 0.04 are less than or equal to the channel n value of 0.042 The overbank n values should be reevaluated.

```
RS:       3.16
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       2.98
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       2.89
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       2.76
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       2.56
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       2.35
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       1.93
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       1.72
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       1.53
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       1.39
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       1.26
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       1.09
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       0.94
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       0.73
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       0.6
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
         The overbank n values should be reevaluated.

RS:       0.42
NT RC 05 The left overbank n value of 0.04 and the right overbank n value
         of 0.04 are less than or equal to the channel n value of 0.042
```

The overbank n values should be reevaluated.

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

---END---

CHECK-RAS XS T2SR2WS7B (A51) / T2SR2WS17B (A63)

T2SR2WS17B_T2SR2WS7B.xs
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T2SR2WS17B_T2SR2WS7B\T2SR2WS17B_T2SR2WS7B.xs
Selected profiles: PF 1
Date: 7/13/2011
Time: 11:04:16 AM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
T2SR2WS17B (A63),Reach 2						
3.42	465.36	585.84	722.27	731.46	1001	D
3.31	784.27	794.15	819.41	895.44	1001	D
3.16	1091.33	910.77	792.24	836.42	1001	D
2.98	1170.69	488.27	512.32	1120.17	1001	D
2.89	394	685.7	159	954.31	1001	D
2.76	1035.52	1081.44	1596.23	1023.9	1001	D,C
2.56	1078.24	1091.77	1103.69	688.23	1001	D
2.35	1184.29	1147.96	1124.14	835.13	1001	D
2.13	1080.35	1091.78	1106.6	631.41	1001	D
1.93	1121.16	1093.8	1100.98	1206.09	1001	D
1.72	999.08	1006.48	996.05	503.02	1001	D,C
1.53	740.43	751.73	714.17	794.22	1001	D
1.39	735.69	682.47	702.01	768.18	1001	D
1.26	984.51	866.99	776.69	572.11	1001	D
T2SR2WS17B (A63),Reach 1						
1.09	812	785.11	800.55	392.06	1001	D
.94	764.07	1143.68	1141.06	764.29	1001	D
.73	933.43	696.88	655.55	795.8	1001	D,C
.6	891.43	913.56	813.55	1313.6	1120	D
.42	0	0	0	24.76	1120	C
T2SR2WS7B (A51),Reach 1						
1.38	1840	1840	1840	954.2	738	D
1.03	570.79	529.91	497.47	1180.47	738	D
.93	896.25	858.21	840.55	691.03	738	D
.77	980.34	983.31	1049.99	813.3	738	D
.58	1180.05	1126.7	1024.76	920.74	738	D
.37	901.64	914.46	915.5	557.52	738	D
.19	918.99	961.41	1006.81	548.03	738	D
.01	0	0	0	533.55	738	D

B=blocked obstruction XS SC 05
C=critial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02
K=known water-surface XS SC 04

DISTANCE CHECK

XS JT 01 Junction option is used.
For flood insurance study, this option should be used
if the tributary and main stream can have coincident peaks,
or it may be used for the stream without floodway.
It may also be used if the discharges at different time periods
are known from the rainfall-runoff model.
How to remove the junction is explained under Help.

XS JT 03 The name of junction is : 01
The reach length at the most downstream cross section for the
'T2SR2WS17B (A63) and Reach 2' is not equal to zero.
Please set the reach length equal to zero if juction can be considered.

SPACING CHECK

RS: 0.6
XS SP 01 Diff. HV = 1.97 ; Kratio = 0.21 ; Depth Ratio = 1.12
TopWdthAct ratio = 0.02 ; Length Chl Up / 500 = 1.83
Change in HV > 0.5
K ratio < 0.7 or K ratio > 1.4
Depth ratio < 0.9 or Depth ratio > 1.1
TopWdthAct ratio < 0.5 or TopWdthAct ratio > 2.0
and Length Chnl up / 500 > 1.1
addtional cross sections may need to be added between
river station up and river station dn.

INEFFECTIVE FLOW CHECK

DISCHARGE CHECK

XS DC 02 Constant dicharge used for the T2SR2WS17B (A63),Reach 2

XS DC 02 Constant dicharge used for the T2SR2WS7B (A51),Reach 1

LOCATION CHECK

RS: 1.93
XS LC 01 Lenchl Up/TopwdthAct Dn = 2.17
MaxChlDpth Up/MaxChlDpth Dn = 1.12
TopwdthAct Up/TopwdthAct Dn = 2.40
This cross section is located too far upstream from the
critical depth cross section.

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is T2SR2WS17B (A63),Reach 1
Normal S = 0.0054 is specified as the downstream boundary
for profile PF 1

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

COINCIDENT PEAK ANALYSIS T2SR2WS7B (A51)

Coincident Peaks Analysis for the T2SR2WS7B(A51) Approximate Study

The assumption of Coincident Peaks may be appropriate if all of the following are true:

1 The ratio of the drainage areas lies between 0.6 and 1.4
2 The times of peak flow are similar for the two combining watersheds
3 The likelihood of both watersheds being covered by the storm being modeled

Ratio of Drainage Area

T2SR2WS7B(A51) Drainage Area:
(from downstream CP - CPA51A)
Contributing Basins Area
From HEC-1 Model HC
card for CPA51A 3.0550

3.0550

T2SR2WS17B (A63)
(from Downstream CP - CPA51)
Contributing Basins Area

From HEC-1 model for CPA51 16.0650

16.0650

Drainage Area ratio	
T2SR2WS7B(A51)	3.0550
T2SR2WS17B (A63)	16.0650
Ratio	0.190164955

not coincident with T2SR2WS17B (A63) does not meet ratio requirements

Time of Peak CPA51A 13.00
Time of Peak CPA51 14.00

COINCIDENT PEAK ANALYSIS T2SR2WS17B (A63)

Coincident Peaks Analysis for the T2SR2WS17B (A63) Approximate Study

The assumption of Coincident Peaks may be appropriate if all of the following are true:

1 The ratio of the drainage areas lies between 0.6 and 1.4
2 The times of peak flow are similar for the two combining watersheds
3 The likelihood of both watersheds being covered by the storm being modeled

Ratio of Drainage Area

T2SR2WS17B(A63) Drainage Area:
(from downstream CP - CPA51)

Contributing Basins	Area
From HEC-1 model for CPA51	16.0650
	16.0650

Existing Floodplain (confluence with Waterman)
(from Downstream CP - A51RIV)

Contributing Basins	Area
From HEC-1 model for A51RIV along waterman wash	388.6400
	388.6400

Drainage Area ratio	
T2SR2WS17B(A63)	**16.0650**
Existing Floodplain	**388.6400**
Ratio	**0.041336455**

Time of Peak CPA51A	13.00
Time of Peak A51RIV	19.33

T3SR1WS4A (H71)

T3SR1WS4A (H71) HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: max flow River: T3SR1WS4A (H71) Reach: Reach 1 Profile: PF 1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	0.60	920.00	1128.00	1129.42	1128.84	1129.47	0.001946	1.86	552.99	783.09	0.32
Reach 1	0.41	920.00	1123.78	1124.25	1124.25	1124.39	0.030635	2.98	312.05	1214.19	1.00
Reach 1	0.18	920.00	1116.00	1118.65		1118.69	0.000827	1.88	666.27	674.42	0.23
Reach 1	0.02	920.00	1112.00	1115.88	1115.54	1116.92	0.006610	8.19	112.28	117.72	0.85

CHECK-RAS T3SR1WS4A NT REPORT (H71)

T3SR1WS4A.nt
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.nt
Selected profiles: PF 1
Date: 7/13/2011
Time: 10:41:50 AM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
T3SR1WS4A (H71),Reach 1						
.6		0.043	0.037	0.043	0.1	0.3
.41		0.043	0.037	0.043	0.1	0.3
.18		0.043	0.037	0.043	0.1	0.3
.02		0.042	0.029	0.042	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.042	0.043
Right Overbank n Value:	0.042	0.043
Channel n Value:	0.029	0.037
Contraction Coefficient:	0.1	0.1
Expansion Coefficient:	0.3	0.3

ROUGHNESS COEFFICIENT CHECK

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

---END---

CHECK-RAS XS T3SR1WS4A (H71)

CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4A\T3SR1WS4A.xs
Selected profiles: PF 1
Date: 7/13/2011
Time: 10:41:52 AM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
T3SR1WS4A (H71),Reach 1						
.6	1026.17	1021.64	1014.8	783.09	920	
.41	1157.58	1139.56	560.13	1214.19	920	C
.18	959.53	925.24	1232.7	674.42	920	
.02	21.13	90.55	135.45	39.28	920	D

B=blocked obstruction
C=critial depth
D=divided flow
E=cross section extended
K=known water-surface

XS SC 05
XS SC 03
XS SC 01
XS SC 02
XS SC 04

DISTANCE CHECK

SPACING CHECK

RS: 0.18
XS SP 01 Diff. HV = 1.00 ; Kratio = 0.35 ; Depth Ratio = 2.22
TopWdthAct ratio = 0.06 ; Length Chl Up / 500 = 1.85
Change in HV > 0.5
K ratio < 0.7 or K ratio > 1.4
Depth ratio < 0.9 or Depth ratio > 1.1
TopWdthAct ratio < 0.5 or TopWdthAct ratio > 2.0
and Length Chnl up / 500 > 1.1
addtional cross sections may need to be added between
river station up and river station dn.

INEFFECTIVE FLOW CHECK

DISCHARGE CHECK

XS DC 02 Constant dicharge used for the T3SR1WS4A (H71),Reach 1

LOCATION CHECK

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is T3SR1WS4A (H71),Reach 1
Normal S = 0.0066 is specified as the downstream boundary
for profile PF 1

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

COINCIDENT PEAK ANAYLSIS T3SR1WS4A (H71)

Coincident Peaks Analysis for the T3SR1WS4A(H71) Approximate Study

The assumption of Coincident Peaks may be appropriate if all the following are true:

1 The ratio of the drainage areas lies between 0.6 and 1.4
2 The times of peak flow are similar for the two combining watersheds
3 The likelihood of both watersheds being covered by the storm being modeled

Ratio of Drainage Area

T3S1WSR4A(H71) Drainage Area:
(from downstream CP - CPH72)
Contributing Basins Area
From HEC-1 model for
CPH72

Contributing Area from
CPH72 card in HEC-1
model 4.7110

Existing Floodplain
(from Downstream CP - H72RIV)
Contributing Basins Area
From HEC-1 model for H72RIV
along waterman wash 277.7390

Drainage Area ratio	
T3SR1WS4A(H71)	4.7110
Existing Floodplain	277.7390
Ratio	0.016961968

Time of Peak CPH72 15.67
Time of Peak H72RIV 16.33

T3SR1WS4B (H73)

T3SR1WS4B (H73) HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: max flow River: T3SR1WS4B (H73) Reach: Reach 1 Profile: PF 1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	1.09	1486.00	1139.80	1141.23		1141.26	0.003247	1.51	984.03	1368.31	0.31
Reach 1	0.86	1486.00	1134.92	1136.24		1136.28	0.005223	1.65	902.09	1572.79	0.38
Reach 1	0.64	1486.00	1128.41	1129.53		1129.57	0.006254	1.66	897.24	1849.08	0.41
Reach 1	0.47	1486.00	1123.05	1124.31	1123.97	1124.36	0.005349	1.72	866.10	1801.50	0.39
Reach 1	0.25	1486.00	1116.64	1117.79		1117.86	0.005994	2.08	715.32	976.48	0.43
Reach 1	0.04	1486.00	1109.23	1110.75	1110.45	1110.82	0.006601	2.10	708.65	1025.36	0.44

CHECK-RAS T3SR1WS4B NT REPORT (H73)

T3SR1WS4B.nt
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.nt
Selected profiles: PF 1
Date: 7/13/2011
Time: 10:58:18 AM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
T3SR1WS4B (H73),Reach 1						
1.09		0.045	0.045	0.045	0.1	0.3
.86		0.045	0.045	0.045	0.1	0.3
.64		0.045	0.045	0.045	0.1	0.3
.47		0.045	0.045	0.045	0.1	0.3
.25		0.045	0.045	0.045	0.1	0.3
.04		0.045	0.045	0.045	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.045	0.045
Right Overbank n Value:	0.045	0.045
Channel n Value:	0.045	0.045
Contraction Coefficient:	0.1	0.1
Expansion Coefficient:	0.3	0.3

ROUGHNESS COEFFICIENT CHECK

RS: 1.09
NT RC 05 The left overbank n value of 0.045 and the right overbank n value of 0.045 are less than or equal to the channel n value of 0.045 The overbank n values should be reevaluated.

RS: 0.86
NT RC 05 The left overbank n value of 0.045 and the right overbank n value of 0.045 are less than or equal to the channel n value of 0.045 The overbank n values should be reevaluated.

RS: 0.64
NT RC 05 The left overbank n value of 0.045 and the right overbank n value of 0.045 are less than or equal to the channel n value of 0.045 The overbank n values should be reevaluated.

RS: 0.47
NT RC 05 The left overbank n value of 0.045 and the right overbank n value of 0.045 are less than or equal to the channel n value of 0.045 The overbank n values should be reevaluated.

RS: 0.25
NT RC 05 The left overbank n value of 0.045 and the right overbank n value of 0.045 are less than or equal to the channel n value of 0.045 The overbank n values should be reevaluated.

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

---END---

CHECK-RAS XS T3SR1WS4B REPORT (H73)

T3SR1WS4B.xs
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\T3SR1WS4B\T3SR1WS4B.xs
Selected profiles: PF 1
Date: 7/13/2011
Time: 10:58:20 AM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
T3SR1WS4B (H73),Reach 1						
1.09	930.15	1227.66	918.44	1368.31	1486	D
.86	1168.33	1176.36	1208.47	1572.79	1486	D
.64	974.1	900.94	951.45	1849.08	1486	D
.47	1051.68	1149.75	1112.09	1446.14	1486	D
.25	915.49	1119.02	956.22	976.48	1486	
.04	0	0	0	1025.36	1486	

B=blocked obstruction XS SC 05
C=critial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02
K=known water-surface XS SC 04

DISTANCE CHECK

RS: 0.64
XS DT 01 Both right and left overbank distances are
longer than the channel distance.

SPACING CHECK

INEFFECTIVE FLOW CHECK

DISCHARGE CHECK

XS DC 02 Constant dicharge used for the T3SR1WS4B (H73),Reach 1

LOCATION CHECK

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is T3SR1WS4B (H73),Reach 1
Normal S = 0.0066 is specified as the downstream boundary
for profile PF 1

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

COINCIDENT PEAK ANALYSIS T3SR1WS4B (H73)

Coincident Peaks Analysis for the T3SR1WS4B(H73) Approximate Study

The assumption of Coincident Peaks may be appropriate if all the following are true:

1 The ratio of the drainage areas lies between 0.6 and 1.4
2 The times of peak flow are similar for the two combining watersheds
3 The likelihood of both watersheds being covered by the storm being modeled

Ratio of Drainage Area

T3S1WSR4B(H73) Drainage Area: (from downstream CP - CPH74) Contributing Basins	Area
Contributing Area from CPH74 card in HEC-1 model	11.8780

Existing Floodplain (from Downstream CP - H74RIV) Contributing Basins	Area
From HEC-1 model for H74RIV along waterman wash	290.0150

Drainage Area ratio	
T3S1WSR4B(H73)	11.8780
Existing Floodplain	290.0150
Ratio	0.040956502

Time of Peak CPH74	15.33
Time of Peak H74RIV	16.67

WATERMAN WASH

CHECK-RAS XS WATERMAN WASH

BOTH LEVEE FAIL + FLOODWAY

No Levee
+
FLOODWAY

WatermanWashwith.xs
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.xs
Selected profiles: 100-Year;Floodway
Date: 1/11/2012
Time: 10:13:37 AM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
Waterman Wash,Reach 1						
16.72	404.08	448.8	517.85	1653.74	5805	D
16.64	676.46	595.37	600.83	1366.25	5805	D
16.53	472.26	403.34	339.73	1371.7	5805	D
16.45	393.63	354.01	317.66	1290.06	5805	D
16.38	319.5	348.14	334.23	1040.4	5805	D
16.32	559.19	482.29	454.61	1125.78	5805	D
16.23	331.21	415.03	490.74	934.27	5805	D
16.15	279.47	314.57	319.83	939.95	5805	D
16.08	328.83	329.57	352.58	861.05	5805	D,C
16.02	386.58	394.67	400.94	1133.87	5805	D
15.95	439.12	452.2	460.53	1465.95	5805	D
15.86	1309.61	1099.69	923.54	1075.75	5805	D
15.65	224.85	221.54	216.04	988.08	8568	D,C
15.61	376.34	370.15	366.44	1310.73	8568	D
15.54	304.19	349.22	387.24	1208.66	8568	D
15.48	348.3	397.53	439.79	1370.11	8568	D
15.4	264.65	279.95	293.08	1476.29	8568	D
15.35	241.16	283.4	364.3	1410.47	8568	D
15.3	495.47	501.45	395.4	1092.21	8568	D
15.2	527.9	427.46	407.54	1055.6	8568	D
15.12	228.21	234.54	240.04	863.65	8568	D
15.08	253.95	281.92	249.71	954.42	8568	
15.02	478.6	381.4	349.61	889.04	8568	D
14.95	237.44	380.92	508.92	954.98	8568	D
14.88	258.28	265.64	271.69	917.53	8568	D
14.83	499.38	493.03	492.7	1000.12	8568	D
14.73	557.66	530.26	501.99	1302.12	8568	D
14.63	361.64	316.62	277.59	1239.26	8568	D
14.57	456.23	450.7	446.27	1993.16	8568	D,C
14.49	474.13	466.06	458.74	1678.25	8568	D
14.4	588.12	545.34	541.17	1926.25	8568	D
14.3	471.53	474.3	478.9	1577.21	9764	D,C
14.21	481.8	450.92	421.78	938.65	9764	D
14.12	318.55	371.2	412.07	1028.08	9764	D
14.05	438.29	470.2	502.75	1119.63	9764	D,C
13.96	483.78	444.56	396.35	968.03	9764	D,C
13.88	365.75	383.87	384.19	816.2	9764	D,C
13.81	236.52	347.55	471.6	848.57	9764	D
13.74	254.58	323.38	380.77	987.25	9764	D
13.68	411.35	376.86	348.16	827.06	9764	D
13.61	381.52	380.5	382.16	789.55	9764	D
13.53	491.67	484.87	476.75	783.8	9764	D
13.44	340.95	353.44	363.92	978.98	9764	D
13.38	331.9	380.54	420.8	1211.62	9764	D
13.3	391.6	376.16	363.6	1575.17	9764	D
13.23	449.62	406.3	355.92	2106.11	9764	D
13.16	550.52	443.99	367.97	1288.77	9764	D
13.08	1072.44	1051.92	1034.1	2254.52	10213	D,C
12.87	419.81	420.01	420.19	1492.42	10213	D
12.79	314.79	308.87	303.76	2327.59	10213	D
12.73	480.77	463.53	448.8	2341.51	10213	D
12.65	466.2	458.39	451.83	2540.11	10213	D

12.56	377.73	380.88	383.31	2384.65	10213	D
12.48	334.63	331.29	328.46	3005.1	10213	D,C
12.42	380.85	381.71	382.4	3167.26	10213	D,C
12.35	459.45	478.95	495.74	2985.14	10213	D,C
12.26	271.68	274.29	276.53	2518.14	10213	D,C
12.21	227.84	244.91	259.67	2241.42	10213	D,C
12.16	598.21	629.82	656.82	1960.92	10213	D
12.04	555.41	613.02	662.42	2672.43	10213	D,C
11.92	686.05	664.01	632.66	2645.33	10213	D
11.8	328.73	348.49	377.25	2394.8	10213	D,C
11.73	271.46	317.2	354.8	2223.26	10213	D
11.67	393.15	286.02	196.77	1813.49	10213	D,C
11.62	314.74	354.23	376.51	3668.3	10213	D
11.55	648.14	532.19	443.74	4540.82	10846	D,C
11.45	326.01	295.5	262.16	721.71	10846	D
11.39	484.95	365.19	266.52	3699.95	10846	D,C
11.33	378.98	456.96	525.83	3994.13	10846	D
11.24	275.07	421.28	548.23	4214.83	10846	D,C
11.16	215.36	470.43	681.12	4879.45	10846	D,C
11.07	428.15	401.17	379.83	1980.33	10846	D
10.99	454.27	426.23	403.47	2380.37	10846	D,C
10.92	320.24	240.39	202.41	2688.44	10846	D
10.87	541.96	643	698.17	4497.95	10846	D,C
10.75	958.84	790.92	654.93	2688.98	10846	D,C
10.6	873.18	785.62	738.97	1889.03	10846	D,C
10.45	1027.14	1029.17	1000.24	3178.15	10971	D
10.26	433.03	419.12	407.17	2131.16	10971	D,C
10.18	421.31	411.18	402.74	2312.12	10971	D
10.1	330.32	307.85	288.1	2316.54	10971	D
10.04	458.34	424.34	394.74	2114.62	10971	D
9.96	317.26	280.33	247.78	2262.67	10971	D
9.91	327.15	283.9	245.24	2386.23	10971	D
9.85	466.33	445.58	427.47	2023.06	10971	D
9.77	332.56	444.72	543.36	1934.01	10971	D
9.68	409.51	419.96	429.8	2229.29	10971	D
9.61	355.82	383.57	407.41	2220.61	10971	D
9.53	306.75	327.08	344.6	2481.1	10971	D
9.47	359.17	352.51	346.99	2530.84	10971	D
9.4	429.24	422.68	418.19	2739.88	10971	D
9.32	293.76	300.22	304.44	1684.06	10971	D
9.27	535.05	479.39	431.08	1683.02	10971	D
9.18	484.7	473.34	462.27	1483.4	10971	D
9.09	435.93	433.69	431.97	1394.44	10971	D
9	340.44	323.41	308.11	1358.23	10971	D
8.94	447.56	465.85	477.06	1366.36	10971	D
8.86	344.85	372.52	396.7	1220.79	10971	D
8.78	291.56	334.96	373.15	927.79	10971	D
8.72	391.66	401.51	523.31	815.66	10971	D
8.64	429.19	403.91	355.23	2628.45	10971	D
8.56	495.97	636.29	668.88	2769.95	10971	D
8.44	439.16	417.38	399.1	2550.29	11053	D
8.37	407.38	401.76	397.19	1343.43	11053	D
8.29	281.88	325.66	278.33	2467.79	11053	D
8.23	274.55	680.81	1004.7	2662	11053	D
8.1	108.29	156.54	197.67	4915.39	11053	
8.07	108.34	86.94	79.42	127.43	11053	
8.065	Bridge #1-Up					
8.065	Bridge #1-Dn					
8.06	923.65	556.98	340.59	122.44	11053	
7.95	509.18	462.23	421.3	3294.2	11053	D
7.86	445.14	440.72	441.61	2459.48	11053	D
7.78	330.76	378.11	404.76	1419.52	11053	
7.71	900.07	839.85	797.83	3280.02	11053	D
7.55	419.63	423.97	428.65	289.1	11053	D
7.47	400.57	353.25	341.19	1594.59	11053	D
7.4	511.71	445.35	390.75	301.27	11053	
7.31	567.96	467.72	384.33	1355.35	11053	D
7.23	397.42	471.92	511.41	1248.1	11053	D
7.14	380.9	375.1	373.95	246.43	11053	D
7.07	340.6	338.15	323.53	1099.53	11053	D
7	328.5	342.01	353.82	2975.46	11053	D,C
6.94	289.05	314.91	336.96	2862.31	11053	D,C
6.88	660.1	683.68	703.78	2430.73	11053	D,C
6.75	376.47	365.47	356.12	2282.71	11053	D,C
6.68	401.98	399.26	395.29	2402.36	11053	D
6.6	603.46	615.29	627.12	1738.29	11053	D,C
6.49	356.38	366.53	375.1	2176.91	11053	D,C
6.42	416.41	418.73	420.71	2268.12	11053	D,C
6.34	386.68	351.55	321.54	1884.67	11053	D

6.27	423.11	390.3	363.05	1708	11053	D
6.2	650.83	638.45	626.95	1350.42	11053	D,C
6.08	538.25	630.83	709.9	1506.14	11053	D,C
5.96	405.42	404.97	404.68	1438.36	11053	D
5.88	356.42	359.42	319.8	1491.31	11053	D
5.81	407.2	334.59	316.8	1215.83	11053	D
5.75	399.87	399.25	396.73	1495.89	11053	D
5.68	380.08	438.19	486.75	1089.15	11053	D
5.59	525.73	687.21	838.29	985.8	11053	
5.46	291.14	246.55	191.12	924.54	11053	D
5.42	316.8	346.08	373.4	1061.56	11053	D
5.35	314.2	305.89	299.05	869.56	11053	D
5.29	457.44	454.08	451.34	842.08	11053	D
5.2	442.74	460.86	475.72	658.42	11053	
5.12	379.55	409.57	433.85	920.7	11053	D
5.04	468.6	472.88	476.47	707.97	11053	D
4.95	338.27	333.46	329.53	1011.77	11053	D,C
4.89	390.75	375.05	362.37	945	11053	D,C
4.82	294.59	292.48	269.23	1277.01	11053	D
4.76	450.14	451.63	448.52	1306.65	11053	D
4.67	367.36	285.68	274.43	780.74	11053	D,C
4.62	367.21	371.75	345.45	868.83	11053	D
4.55	406.59	331.41	139.06	779.75	11053	D
4.49	347.19	259.79	314.21	633.19	11053	D
4.44	478.6	459.33	442.68	1122.33	11053	D
4.35	233.78	278.23	169.2	1061.32	11053	D
4.3	488.6	390.25	401.64	661.04	11053	D
4.23	509.97	478.75	429.32	882.35	11053	D
4.14	331.09	259.67	267.77	829.14	11053	
4.09	486.59	450.57	418.6	500.39	11053	D,C
4	468.49	473.03	477.39	950.02	11053	D
3.91	257.12	292.58	324.55	1035.69	11053	D
3.86	410.9	490.26	975.61	909.85	11053	D
3.76	327.23	373.78	414.68	465.47	11053	D,C
3.69	301.55	405.84	495.3	994.51	11381	D
3.62	303.17	315.36	301.98	402.44	11381	D
3.56	410.37	359.42	314.95	773.84	11381	D
3.49	947.8	976.29	991.82	304.72	11381	D
3.31	388.75	417.06	449.94	578.82	11381	
3.23	354.19	367.5	379.26	821.14	11381	
3.16	311.29	325.39	337.21	392.68	11381	D
3.1	401.68	450.36	491.14	501.17	11381	
3.01	695.1	388.82	385.69	642.85	11381	
2.94	217.85	448.46	367	588.91	11381	
2.85	400.22	343.35	283.43	716.28	11381	
2.79	595.69	451.55	327.05	729.43	11381	
2.7	620.42	463.17	311.24	687.22	11421	D
2.61	202.76	221.06	244.98	749.02	11421	D
2.57	121.27	363.17	575.59	678.17	11421	
2.5	130.87	174.7	94.59	584.64	11421	
2.47	262.08	392.56	625.49	628.92	11421	D
2.4	294.95	315.78	337.54	573.07	11421	D
2.34	388.81	378.82	369.25	373.12	11421	D
2.26	470.75	479.33	486.47	364.5	11421	D
2.17	655.61	492.77	353.57	395.08	11421	D,B
2.08	525.12	459.95	402.8	314.7	11421	D
1.99	334.87	282.91	237.02	347.51	11421	
1.94	491.45	454.63	421.07	440.91	11421	D
1.85	469.53	421.13	376.18	374.31	11421	
1.77	392.78	433.41	470.52	455.72	11421	D
1.69	398.27	479.42	552.85	298.23	11421	
1.6	415.9	462.26	503.31	333.98	11421	
1.51	410.66	407.33	404.47	413.39	11421	
1.44	356.33	337.06	320.11	629.65	11421	D
1.37	264.63	260.87	247.75	664.26	11421	
1.32	244.37	206.14	79.67	773.96	11421	
1.28	241.64	133.96	132.44	395.7	11421	D,C
1.26	96.68	101.28	101.84	404.66	11421	C
1.24	301.71	344.22	392.89	304.59	11421	
1.17	340.3	364.37	386.25	470.8	11421	C
1.1	282.53	322.96	358.47	830.59	11421	D
1.04	480.73	470.16	461.47	816.93	11421	C
.95	423.98	413.74	406.05	1004.24	11421	
.88	268.51	264.49	259.04	1033.99	11421	C
.83	340.54	344.84	348.77	1081.52	11421	D
.76	424.36	449.52	472.19	1077.38	11421	D,C
.68	336.32	472.25	591.58	1170.27	11421	D,B
.59	316.14	457.4	577.1	1158.7	11421	D,C,B
.5	297.81	349.43	259.63	990.44	11421	D,B

.43	615.07	483.77	464.95	1031.76	11421	D
.34	396.87	359.39	344.36	1616.5	11421	D,C
.27	1428.51	1445.97	1448.47	756.18	11421	D

B=blocked obstruction XS SC 05
C=critial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02
K=known water-surface XS SC 04

DISTANCE CHECK

RS: 4.49
XS DT 01 Both right and left overbank distances are longer than the channel distance.

NOTE: Distances were verified.

SPACING CHECK

INEFFECTIVE FLOW CHECK

RS: 15.4
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 15.2
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 15.12
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 14.88
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 14.63
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 14.57
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 14.49
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 13.16
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 11.92
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 9.53
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 9.53
XS IF 01 Right Levee option is used at this river station

NOTE: Artificial levees were used at actual Non-Levee Embankment locations. In addition Artificial levees were also used to eliminate flow areas that are parrallel to the floodplain that do not provide conveyance.

Please investigate whether the NFIP requirements
for levees are met.

RS: 9.47
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.47
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.4
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.4
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 8.37
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 7
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.94
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.94
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.88
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.88
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.96
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.81
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.75
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.68
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.59
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.46

XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.42
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.35
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.29
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.95
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.44
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.14
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.09
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.91
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.86
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.76
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.69
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.62
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.56
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.1
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.61
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.57
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.57
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.5
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.47
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.4
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.08
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.99
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.99
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.94
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.85
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.69
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.51
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.24
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.17
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.17
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.43
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

```
RS:       0.27
XS IF 01 Right Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.


DISCHARGE CHECK
---------------


LOCATION CHECK
--------------


BOUNDARY CONDITION CHECK
------------------------

XS BC 02 The name of the stream is Waterman Wash,Reach 1
         Normal S = 0.0055 is specified as the downstream boundary
         for profile 100-Year

XS BC 02 The name of the stream is Waterman Wash,Reach 1
         Normal S = 0.0055 is specified as the upstream boundary
         for profile 100-Year

XS BC 02 The name of the stream is Waterman Wash,Reach 1
         Normal S = 0.0055 is specified as the downstream boundary
         for profile Floodway

XS BC 02 The name of the stream is Waterman Wash,Reach 1
         Normal S = 0.0055 is specified as the upstream boundary
         for profile Floodway

XS BC 03 Maximum number of iterations is 0
         It should not be less than 20.


LATERAL WEIRS CHECK
-----------------------

---END---
```

CHECK-RAS FLOODWAY WATERMAN WASH

No Levee + Floodway

WatermanWashwith.fw
CHECK-RAS Program: Floodway Check
Encroachment Method, Starting WSEL, Floodway Width, and Surcharge Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.fw
Selected profiles: 100-Year;Floodway
Date: 1/11/2012
Time: 10:13:41 AM

SECNO	Method	Surcharge	EncStaL	EncStaR	LStaEff	RStaEff	Structure
Waterman Wash,Reach 1							
16.72					646.86	2403.35	
16.72	1	0.73	1189	2104	1189	2104	
16.64					715.64	2318.38	
16.64	1	0.92	1220	1700	1220	1700	
16.53					1106.24	2498.83	
16.53	11	0.95	1260.77	1770.09	1260.77	1770.09	
16.45					1045.54	2361.06	
16.45	1	0.81	1180	1600	1180	1600	
16.38					1475.39	2528.49	
16.38	1	0.84	1500	1880	1500	1880	
16.32					1458.98	2609.79	
16.32	1	0.76	1500	1800	1500	1800	
16.23					1625.23	2564.08	
16.23	11	0.51	1625.23	1940	1625.23	1940	
16.15					1695.99	2642.11	
16.15	1	0.39	1700	2050	1700	2050	
16.08					674.27	1552.53	
16.08	1	0.44	673.52	1130	673.85	1130	
16.02					268.31	1467.46	
16.02	1	0.88	571.85	1020	571.85	1020	
15.95					6.78	1482.6	
15.95	1	0.96	550	1020	550	1020	
15.86					283.49	1419.06	
15.86	1	0.98	567.37	981.13	567.37	981.13	
15.65					474.01	1740.94	
15.65	1	0.57	700	1120	700	1120	
15.61					466.52	1865.35	
15.61	1	0.98	710	1140	710	1140	
15.54					429.93	1930.64	
15.54	1	0.97	918.47	1510.26	918.47	1510.26	
15.48					455.03	2018.64	
15.48	1	0.98	957.72	1415.06	957.72	1415.06	
15.4					489.06	2120.21	
15.4	1	0.96	1060	1460	1060	1460	
15.35					565.14	2069.81	
15.35	1	0.93	1020	1417.62	1020	1417.62	
15.3					665.42	2019.64	
15.3	1	0.97	920	1460	920	1460	
15.2					626.77	1880.1	
15.2	1	0.28	750	1065.94	750	1065.46	
15.12					693.09	1606.47	
15.12	1	0.39	695.89	1102.18	695.89	1102.18	
15.08					662.2	1616.61	
15.08	1	0.65	661.99	1156.63	661.99	1156.63	
15.02					812.83	1725.99	
15.02	1	0.89	813.16	1226	813.16	1226	
14.95					1043.32	2087.14	
14.95	1	0.71	1200	1450	1200	1450	
14.88					1063.88	2040.34	
14.88	1	0.49	1208.5	1393.29	1208.5	1386.64	
14.83					985.58	2186.38	
14.83	11	0.87	1227.71	1503.59	1227.71	1503.59	
14.73					1276.11	2721.14	

14.73	11	0.98	1530.63	1790.15	1530.63	1790.15
14.63					1249.04	2631.54
14.63	1	0.87	1480	2020	1480	2020
14.57					992.04	3179.06
14.57	1	0.31	1980	2640	1980	2640
14.49					1143.89	2930.36
14.49	11	0.9	1857.22	2403.46	1858.24	2403.46
14.4					975.29	2966.43
14.4	1	0.95	1680	2280	1680	2280
14.3					997.84	2706.07
14.3	1	0.51	1800	2200	1800	2200
14.21					1662.59	2695.51
14.21	11	0.95	1987.63	2165.37	1987.63	2165.37
14.12					1133.91	2185.28
14.12	11	0.66	1401.06	1691.09	1401.06	1691.09
14.05					1008	2139.28
14.05	11	0.36	1328.69	1752.32	1328.69	1752.32
13.96					1341.78	2511.14
13.96	1	0.93	1810	2250	1810	2250
13.88					1645.23	2503.14
13.88	1	0.45	1870	2200	1870	2200
13.81					1431.75	2299.15
13.81	1	0.96	1720	1940	1720	1940
13.74					1353.34	2394.74
13.74	1	0.68	1580	1930	1580	1930
13.68					1106.44	2005.96
13.68	1	0.57	1265	1540	1265	1540
13.61					1054.7	1989.55
13.61	11	0.83	1221.93	1520	1221.93	1520
13.53					1117.77	2019.26
13.53	11	0.88	1252.14	1550	1256.42	1550
13.44					823.5	2222.84
13.44	11	0.9	1305.96	1771.23	1305.96	1771.23
13.38					750.68	2361.71
13.38	11	0.87	1526.22	1741.93	1526.22	1739.02
13.3					825.22	2614.07
13.3	1	0.72	1500	1850	1526.21	1850
13.23					729.49	2874.02
13.23	11	0.55	1445.87	1846.31	1445.87	1846.31
13.16					1037.12	2788.57
13.16	1	0.83	1460	1880	1460	1880
13.08					629.16	2920.54
13.08	1	0.45	1400	1810	1400	1810
12.87					656.24	2526.8
12.87	1	0.82	1339	1582.17	1339	1582.17
12.79					547.17	2970.75
12.79	1	0.89	1434.4	1947.34	1434.4	1947.34
12.73					1111.83	3523.81
12.73	1	0.83	2070	2660	2070	2660
12.65					336.14	2945.49
12.65	1	0.57	1450	2120	1450	2120
12.56					546.27	3099.8
12.56	1	0.89	1550	2280	1550	2280
12.48					507.39	3640.88
12.48	1	0.69	1800	2800	1800	2800
12.42					155.82	3398.1
12.42	1	0.91	1720	2450	1720	2450
12.35					552.39	3604.43
12.35	11	0.66	1996.74	2624.77	1996.74	2624.77
12.26					849.32	3713.67
12.26	12	0.36	2470.78	2947.27	2470.78	2947.27
12.21					985.32	3552.62
12.21	12	0.57	2287.11	2846.65	2287.11	2846.65
12.16					1953.34	4172.04
12.16	13	0.87	3003.64	3626.84	3003.64	3626.84
12.04					1420.15	4270.86
12.04	1	0.82	2750	3450	2750	3428.31
11.92					811.55	3492.9
11.92	11	0.62	1814.78	2597.7	1814.78	2597.7
11.8					1545.18	4047.05
11.8	1	0.67	2200	2950	2200	2950
11.73					1738.79	4018.81
11.73	1	0.87	2000	2900	2000	2900
11.67					2961.52	4968.14
11.67	1	0.45	3000	3800	3000	3800
11.62					1316.86	5637.78
11.62	1	0.63	3400	3989	3400	3989
11.55					932.62	5665.62
11.55	1	0.01	3500	4090	3500	4090

11.45					3562.25	4347.18
11.45	1	0.78	3642	3955	3642	3934.08
11.39					739.94	4477.34
11.39	1	0.7	3500	4190	3500	4190
11.33					780.14	4829.02
11.33	1	0.9	3700	4360	3700	4360
11.24					457.78	4751.55
11.24	1	0.23	3260	4240	3260	4240
11.16					480.56	5467.49
11.16	1	0.46	3240	4220	3240	4220
11.07					2883.38	5038.4
11.07	1	0.91	2883.4	3950	2883.4	3950
10.99					2628.35	5060.64
10.99	12	0.54	2628.36	3690	2628.36	3690
10.92					2245.51	4975.72
10.92	1	0.87	2400	3420	2400	3420
10.87					305.95	4868.02
10.87	1	0.59	2260	3280	2260	3280
10.75					2343.84	5077.75
10.75	1	0.21	2350	3280	2350	3280
10.6					1160.77	3915.55
10.6	12	0.73	2126.97	3082.08	2132.99	3082.08
10.45					588.06	4053.61
10.45	11	0.74	1476.82	2530	1477.73	2530
10.26					1052.66	3468.9
10.26	1	0.84	1945	2700	1945	2700
10.18					773.99	3298.25
10.18	1	0.79	1490	2260	1490	2260
10.1					901.25	3511.46
10.1	1	0.84	1560	2300	1560	2300
10.04					949.11	3689.76
10.04	1	0.75	1550	2350	1550	2350
9.96					1549.19	4159.13
9.96	1	0.82	2250	3100	2250	3100
9.91					1453.49	4089.58
9.91	1	0.71	2300	3150	2300	3150
9.85					1159.59	3623.96
9.85	1	0.8	2000	2800	2000	2800
9.77					1224.67	3555.18
9.77	1	0.82	1980	2890	1980	2879.69
9.68					1776.63	4280.67
9.68	1	0.81	2550	3280	2550	3280
9.61					768.44	3167.5
9.61	1	0.8	1830	2570	1830	2570
9.53					704.18	3293.17
9.53	1	0.72	1890	2710	1890	2710
9.47					920.6	3542.33
9.47	1	0.85	2000	2900	2000	2900
9.4					606.33	3474.46
9.4	1	0.81	1680	2500	1680	2500
9.32					1548.51	3287.8
9.32	1	0.73	1650	2260	1650	2260
9.27					1638.04	3378.41
9.27	1	0.74	1770	2300	1770	2300
9.18					2012.98	3596.33
9.18	1	0.74	2100	2700	2100	2700
9.09					2256.22	3887.61
9.09	1	0.73	2390	3170	2390	3170
9					2413.54	3828.82
9	1	0.75	2480	3220	2480	3220
8.94					2769.94	4221.35
8.94	1	0.69	2850	3460	2850	3460
8.86					2652.16	3923.76
8.86	1	0.46	2652.2	3080	2652.2	3080
8.78					2575.47	3730.29
8.78	1	0.6	2580	3040	2580	3040
8.72					2704.57	3613.32
8.72	12	0.52	2704.58	3040	2704.58	3040
8.64					110.63	3142.78
8.64	1	0.83	2050	2700	2050	2700
8.56					137.52	3053.95
8.56	1	0.54	1850	2540	1850	2540
8.44					174.32	3044.62
8.44	1	0.41	1820	2380	1820	2380
8.37					1362.72	2848.61
8.37	1	0.48	1440	2100	1440	2100
8.29					233.79	2868.84
8.29	1	0.74	1200	1920	1200	1920
8.23					307.56	3194.95

8.23	11	0.64	1421.83	2120	1421.83	2120	
8.1					278.26	5193.64	
8.1	12	0.22	2020.18	3100	2020.18	3100	
8.07					2167.57	2295	
8.07	1	0.84	1835	3040	2167.57	2295	
8.065					2167.57	2294.24	Bridge #1-Up
8.065					2154.61	2277.05	Bridge #1-Dn
8.065	0	0.84	1835	3040	2167.57	2294.24	Bridge #1-Up
8.065	0	0.84	1835	3040	2154.61	2277.05	Bridge #1-Dn
8.06					2154.61	2277.05	
8.06	1	0.56	1835	3040	2154.61	2277.05	
7.95					716.6	4251	
7.95	1	0.66	1680	2800	1680	2800	
7.86					1016.53	3782.92	
7.86	1	0.19	1600	2460	1600	2460	
7.78					854.48	2274	
7.78	1	0.83	1500	2274	1500	2274	
7.71					27.89	3360.33	
7.71	1	0.39	830	1545	830	1545	
7.55					1745.83	2071.29	
7.55	1	0.6	1765	1965	1765	1965	
7.47					708.59	2312.2	
7.47	1	0.04	1270	1520	1270	1520	
7.4					1372.87	1674.14	
7.4	11	0.02	1372.88	1548	1372.88	1548	
7.31					918.15	2321.61	
7.31	1	0.11	1575	1820	1575	1820	
7.23					932.98	2333.74	
7.23	1	0.07	1840	2040	1840	2040	
7.14					1938.48	2199.88	
7.14	1	0.35	1960	2170	1960	2170	
7.07					270.52	2322.95	
7.07	1	0.85	1980	2260	1980	2260	
7					683.75	3699.93	
7	1	0.18	1580	2110	1580	2110	
6.94					603.34	3517.45	
6.94	11	0.53	1597.12	2145.18	1597.12	2145.18	
6.88					557.05	3055	
6.88	11	0.86	1489.75	2009.08	1489.75	2009.08	
6.75					650.78	3202.13	
6.75	1	0.67	1400	1800	1400	1800	
6.68					632.82	3290.11	
6.68	11	0.78	1580.67	1958.4	1580.67	1958.4	
6.6					1131.74	3263.47	
6.6	1	0.69	1790	2130	1790	2130	
6.49					837.47	3168.84	
6.49	11	0.86	1664.52	2077.32	1664.52	2077.32	
6.42					1078.48	3466.02	
6.42	11	0.14	1913.23	2334.86	1913.23	2334.86	
6.34					1435.43	3489.01	
6.34	12	0.82	2010.24	2459.97	2010.24	2459.97	
6.27					835.07	2770.05	
6.27	1	0.66	1250	1620	1250	1615.78	
6.2					885.53	2461.35	
6.2	1	0.79	1290	1560	1290	1560	
6.08					891.35	2642.01	
6.08	1	0.05	1500	1880	1500	1880	
5.96					1127.41	2890.34	
5.96	11	0.85	1696.69	2108.36	1696.69	2108.36	
5.88					951.44	2514.23	
5.88	1	0.81	1250	1750	1250	1750	
5.81					1330.42	2568.31	
5.81	1	0.82	1410	1790	1410	1790	
5.75					1001.68	2607.01	
5.75	1	0.83	1590	1970	1590	1970	
5.68					1419.08	2954.39	
5.68	1	0.57	1900	2410	1900	2410	
5.59					1825.83	2811.63	
5.59	1	0.63	2180	2440	2180	2440	
5.46					1949.53	2915.95	
5.46	1	0.8	2260	2670	2260	2670	
5.42					2037.57	3376.91	
5.42	1	0.06	2640	3100	2640	3100	
5.35					2106.16	3036.03	
5.35	12	0.47	2250.56	2900	2250.56	2900	
5.29					2065.5	2927.4	
5.29	1	0.81	2112.5	2833.78	2112.5	2833.78	
5.2					1887.78	2546.19	
5.2	1	0.76	2170	2547.29	2170	2547.29	

5.12					1463.74	2489.92
5.12	1	0.78	2050	2471.43	2050	2471.43
5.04					1495.74	2208.14
5.04	1	0.56	1770	2206.14	1770	2206.14
4.95					766.1	2086.07
4.95	1	0.53	1640	2000	1640	2000
4.89					1261.49	2611.66
4.89	12	0.21	2260.47	2486.63	2260.47	2486.63
4.82					1296.46	2730.22
4.82	12	0.81	2263.82	2489.18	2263.82	2489.18
4.76					1421.98	2908.13
4.76	1	0.71	2280	2640	2280	2640
4.67					1416.46	2495.38
4.67	1	0.12	2080	2380	2080	2380
4.62					1358.18	2318.42
4.62	11	0.26	1989.66	2236.96	1989.66	2236.96
4.55					1879.21	2767.71
4.55	12	0.21	2355.28	2562.31	2355.28	2562.31
4.49					2135	2882.34
4.49	1	0.31	2450	2663.14	2450	2663.14
4.44					1391.14	2618.55
4.44	12	0.68	2114.01	2474.86	2114.01	2472.66
4.35					986.52	2198.1
4.35	1	0.04	1600	1940	1600	1940
4.3					1210.94	2041.9
4.3	11	0.54	1528.69	2004.51	1528.69	2004.51
4.23					1381.83	2286.26
4.23	1	0.76	1749.2	2138.91	1749.2	2138.91
4.14					1535.24	2364.37
4.14	1	0.28	2000	2315	2000	2315
4.09					1435.95	2007.31
4.09	1	0.53	1755	2000	1755	2000
4					1136.79	2424.73
4	1	0.71	1450	1924.33	1450	1924.33
3.91					1154.88	2228.83
3.91	1	0.59	1700	2080	1700	2080
3.86					1257.29	2347.96
3.86	1	0.15	1790	2030	1790	2030
3.76					1281.33	1940.84
3.76	1	0.12	1617.5	1818.93	1617.5	1816.54
3.69					1398.76	2491.19
3.69	1	0.45	2070	2320	2070	2320
3.62					1228.82	2076.16
3.62	11	0.05	1719.24	2005	1719.51	2005
3.56					707.89	1519.59
3.56	1	0.07	1120	1400	1120	1400
3.49					1200.81	1572.13
3.49	11	0.58	1394.11	1572.89	1394.72	1572.89
3.31					697.64	1276.46
3.31	1	0.63	880	1276.16	880	1276.16
3.23					273.47	1094.61
3.23	1	0.19	615	1095.72	615	1095.14
3.16					174.13	777.4
3.16	1	0.01	280	777.54	280	777.42
3.1					160.96	662.13
3.1	1	0.51	172.79	522.56	172.79	522.56
3.01					247.22	890.08
3.01	1	0.6	293.23	606.3	293.23	606.3
2.94					480.23	1069.14
2.94	1	0.65	474.23	790	477.57	790
2.85					408.19	1124.47
2.85	1	0.63	413.09	835	413.09	835
2.79					462.02	1191.45
2.79	1	0.62	459.96	875	461.05	875
2.7					472.67	1190.5
2.7	1	0.54	471.61	880	471.61	880
2.61					651.03	1449.45
2.61	1	0.24	800	1260	800	1260
2.57					641.05	1319.23
2.57	1	0.04	690	1120	690	1120
2.5					612.27	1196.91
2.5	1	0.1	664.56	1198.9	664.56	1197.16
2.47					571.69	1241.38
2.47	1	0.07	648.51	1190.63	648.51	1188.45
2.4					598.67	1217.3
2.4	1	0.04	643.51	1072.87	643.51	1054.46
2.34					604.4	1067.52
2.34	1	0.13	599.67	932.32	603.79	922.92
2.26					539.21	913.85

2.26	1	0.5	549.12	818.65	549.12	818.65
2.17					483.34	894.75
2.17	1	0.05	502.14	734.56	502.14	734.56
2.08					614.9	934.96
2.08	1	0.37	680.58	901.02	680.58	901.02
1.99					1026.67	1374.18
1.99	11	0.48	1091.05	1371.65	1091.05	1371.65
1.94					590.61	1064.03
1.94	1	0.36	700	1000	700	1000
1.85					558.75	933.05
1.85	1	0.54	600	830	600	830
1.77					464.91	963
1.77	1	0.46	470	770	470	770
1.69					597.04	895.27
1.69	1	0.23	601.98	820	601.98	820
1.6					396.85	730.83
1.6	1	0.34	399.08	624.28	399.08	624.28
1.51					794.67	1208.06
1.51	1	0.47	832.05	1048.99	832.05	1048.99
1.44					785.98	1454.67
1.44	1	0.35	930	1225	930	1225
1.37					570.26	1234.53
1.37	1	0.54	740	1020	740	1020
1.32					627.5	1401.46
1.32	1	0.36	990	1240	990	1240
1.28					589.09	1013.96
1.28	1	0.14	680	920	680	920
1.26					685.62	1090.28
1.26	0	0	0	0	685.62	1090.29
1.24					679.06	983.65
1.24	1	0.39	716.49	971.43	716.49	971.43
1.17					526.73	997.53
1.17	1	0.65	540	850	540	850
1.1					493.15	1324.71
1.1	1	0.66	540.22	950	540.22	950
1.04					574.7	1391.63
1.04	1	0.38	582.21	1055	582.21	1055
0.95					448.59	1452.83
0.95	1	0.66	459.02	1000	459.02	1000
0.88					372.12	1406.11
0.88	1	0.13	381.61	895	381.61	895
0.83					611.38	1699.08
0.83	1	0.34	613.58	1059.63	613.58	1059.63
0.76					659.89	1845.15
0.76	1	0	814.73	1190	814.73	1190
0.68					612.46	1975.38
0.68	1	0.63	970	1260	970	1260
0.59					640.88	1927.42
0.59	1	0.51	680	1170	680	1170
0.5					756.4	1938.85
0.5	1	0.31	756.4	1370	756.4	1370
0.43					418.38	1561
0.43	1	0.24	460	1230	460	1230
0.34					484.93	2159.3
0.34	1	0.19	484.94	1770	484.94	1770
0.27					301.34	1270.11
0.27	1	0	325	2016	325.25	1270.12

ENCROACHMENT METHOD CHECK

RS: 8.065
FW EM 01 Floodway encroachment method is not selected at this section.

RS: 1.26
FW EM 01 Floodway encroachment method is not selected at this section.

FLOODWAY WIDTH CHECK

RS: 16.23
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 16.15
FW FW 03 The Left channel bank station may not be at the proper

BANK STATIONS WERE VERIFIED FOR REASONABLENESS. NO Changes made.

location.

RS: 16.15
FW FW 03 The right channel bank station may not be at the proper location.

RS: 15.4
FW FW 03 The right channel bank station may not be at the proper location.

RS: 15.35
FW FW 03 The right channel bank station may not be at the proper location.

RS: 15.2
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 15.12
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 15.02
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 14.95
FW FW 03 The right channel bank station may not be at the proper location.

RS: 14.21
FW FW 03 The right channel bank station may not be at the proper location.

RS: 13.81
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 13.44
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 13.3
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 13.23
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 13.16
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 13.16
FW FW 03 The right channel bank station may not be at the proper location.

RS: 12.87
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 12.56
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 12.56
FW FW 03 The right channel bank station may not be at the proper location.

RS: 12.48
FW FW 03 The right channel bank station may not be at the proper location.

RS: 12.35
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 12.16

FW FW 03 The Left channel bank station may not be at the proper location.

RS: 12.04
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 12.04
FW FW 03 The right channel bank station may not be at the proper location.

RS: 11.8
FW FW 03 The right channel bank station may not be at the proper location.

RS: 11.73
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 11.73
FW FW 03 The right channel bank station may not be at the proper location.

RS: 11.67
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 11.67
FW FW 03 The right channel bank station may not be at the proper location.

RS: 11.55
FW FW 03 The right channel bank station may not be at the proper location.

RS: 11.39
FW FW 03 The right channel bank station may not be at the proper location.

RS: 10.99
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 10.99
FW FW 03 The right channel bank station may not be at the proper location.

RS: 10.92
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 10.87
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 10.75
FW FW 03 The right channel bank station may not be at the proper location.

RS: 9.47
FW FW 03 The right channel bank station may not be at the proper location.

RS: 9.4
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 9.32
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 9
FW FW 03 The right channel bank station may not be at the proper location.

RS: 8.86
FW FW 03 The right channel bank station may not be at the proper location.

RS: 8.78
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 8.78
FW FW 03 The right channel bank station may not be at the proper location.

RS: 8.72
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 8.72
FW FW 03 The right channel bank station may not be at the proper location.

RS: 8.64
FW FW 03 The right channel bank station may not be at the proper location.

RS: 8.56
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 8.56
FW FW 03 The right channel bank station may not be at the proper location.

RS: 8.29
FW FW 03 The right channel bank station may not be at the proper location.

RS: 8.23
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 8.1
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 7.95
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 7.71
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 7.71
FW FW 03 The right channel bank station may not be at the proper location.

RS: 7.55
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 7.47
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 7.4
FW FW 03 The right channel bank station may not be at the proper location.

RS: 6.94
FW FW 03 The right channel bank station may not be at the proper location.

RS: 6.88
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 6.75
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 6.75
FW FW 03 The right channel bank station may not be at the proper location.

RS: 6.68
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 6.6
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 6.34
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 6.34
FW FW 03 The right channel bank station may not be at the proper location.

RS: 6.2
FW FW 03 The right channel bank station may not be at the proper location.

RS: 6.08
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 5.96
FW FW 03 The right channel bank station may not be at the proper location.

RS: 5.81
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 5.81
FW FW 03 The right channel bank station may not be at the proper location.

RS: 5.75
FW FW 03 The right channel bank station may not be at the proper location.

RS: 5.46
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 5.46
FW FW 03 The right channel bank station may not be at the proper location.

RS: 5.42
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 5.29
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 5.29
FW FW 03 The right channel bank station may not be at the proper location.

RS: 5.12
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 5.12
FW FW 03 The right channel bank station may not be at the proper location.

RS: 5.04
FW FW 03 The right channel bank station may not be at the proper location.

RS: 4.95
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 4.89
FW FW 03 The Left channel bank station may not be at the proper

location.

RS: 4.82
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 4.49
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 4.35
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 4
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 3.91
FW FW 03 The right channel bank station may not be at the proper location.

RS: 3.69
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 3.31
FW FW 03 The right channel bank station may not be at the proper location.

RS: 3.16
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 3.1
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 3.01
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 3.01
FW FW 03 The right channel bank station may not be at the proper location.

RS: 2.94
FW FW 03 The right channel bank station may not be at the proper location.

RS: 2.85
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2.79
FW FW 03 The right channel bank station may not be at the proper location.

RS: 2.57
FW FW 03 The right channel bank station may not be at the proper location.

RS: 2.5
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2.47
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2.4
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2.26
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2.26

FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.99
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.99
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.85
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.69
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.69
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.6
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.51
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.37
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.32
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.32
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.28
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.26
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.26
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.24
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.24
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.17
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.1
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.04
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 0.95
FW FW 03 The Left channel bank station may not be at the proper location.

```
RS:         0.88
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         0.59
FW FW 03    The right channel bank station may not be at the proper
            location.

RS:         0.5
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         0.5
FW FW 03    The right channel bank station may not be at the proper
            location.

RS:         0.43
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         0.34
FW FW 03    The Left channel bank station may not be at the proper
            location.

RS:         0.27
FW FW 06    The right station effective of 1270.12 for the floodway profile is less
            than the right channel bank station of 1271.03
            The right side of the floodway boundary is within the channel.
            The right encroachment station of 2016 is greater than the right channel
            bank station.
            The right encroachment station should be the same as the right
            channel bank station.

SURCHARGE CHECK
----------------

DISCHARGE CHECK
----------------

STARTING WATER-SURFACE ELEVATION CHECK
---------------------------------------

---END---
```

CHECK-RAS NT WATERMAN WASH

BOTH LEVEE FAIL + FLOODWAY

No LEVEE + FW

WatermanWashwith.nt
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.nt
Selected profiles: 100-Year;Floodway
Date: 1/11/2012
Time: 10:13:36 AM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
Waterman Wash,Reach 1						
16.72		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
16.64		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
		-----	0.055	-----		
16.53		0.045	0.032	0.045	0.1	0.3
		0.055	0.055	-----		
		0.032	-----	-----		
16.45		0.045	0.055	0.055	0.1	0.3
		-----	0.032	0.045		
		-----	0.055	-----		
16.38		0.045	0.032	0.055	0.1	0.3
		0.055	0.055	0.045		
		0.032	-----	-----		
16.32		0.045	0.045	0.032	0.1	0.3
		-----	0.055	0.055		
		-----	0.032	0.045		
16.23		0.045	0.035	-----	0.1	0.3
		0.035	0.055	-----		
		-----	0.045	-----		
16.15		0.045	0.055	0.055	0.1	0.3
		0.035	0.035	0.045		
		0.055	0.055	-----		
16.08		0.045	0.032	0.055	0.1	0.3
		0.055	-----	0.045		
16.02		0.045	0.035	0.045	0.1	0.3
15.95		0.045	0.035	0.045	0.1	0.3
15.86		0.045	0.035	0.045	0.1	0.3
15.65		0.045	0.032	0.05	0.1	0.3
		-----	0.05	0.045		
15.61		0.045	0.032	0.05	0.1	0.3
		-----	-----	0.045		
15.54		0.045	0.035	0.05	0.1	0.3
		-----	-----	0.045		
15.48		0.045	0.035	0.05	0.1	0.3
		-----	0.05	0.045		
15.4		0.045	0.034	0.055	0.1	0.3
		0.055	-----	0.045		
15.35		0.045	0.034	0.055	0.1	0.3
		0.055	-----	0.045		
15.3		0.045	0.034	0.055	0.1	0.3
		0.055	-----	0.045		
15.2		0.045	0.032	0.055	0.1	0.3
		-----	-----	0.045		
15.12		0.045	0.032	0.055	0.1	0.3
		-----	0.055	0.045		
15.08		0.045	0.032	0.045	0.1	0.3
		-----	0.055	-----		
15.02		0.045	0.028	0.055	0.1	0.3
		0.028	0.055	0.045		
		-----	0.03	-----		
14.95		0.045	0.028	0.03	0.1	0.3
		-----	0.055	0.055		

	-----	-----	0.045		
14.88	0.045	0.028	0.055	0.1	0.3
	0.018	0.055	0.045		
	0.045	0.03	0.018		
	-----	0.055	0.045		
14.83	0.045	0.04	0.055	0.1	0.3
	0.018	0.055	0.045		
	0.045	-----	0.018		
	0.055	-----	0.045		
14.73	0.045	0.04	0.055	0.1	0.3
	0.055	0.055	0.045		
	-----	-----	0.018		
	-----	-----	0.045		
14.63	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.57	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.49	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.4	0.045	0.045	0.035	0.1	0.3
	-----	0.035	0.045		
	-----	-----	0.018		
	-----	-----	0.045		
14.3	0.045	0.035	0.045	0.1	0.3
14.21	0.045	0.028	0.055	0.1	0.3
	0.055	0.055	0.04		
14.12	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.045		
14.05	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.045		
13.96	0.045	0.028	0.055	0.1	0.3
	0.05	-----	0.04		
13.88	0.045	0.028	0.055	0.1	0.3
	0.055	0.055	0.04		
13.81	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.04		
13.74	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.68	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.61	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.53	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.44	0.045	0.05	0.055	0.1	0.3
	0.05	0.031	0.04		
	-----	0.055	-----		
13.38	0.045	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.035	-----	-----		
13.3	0.045	0.035	0.04	0.1	0.3
	0.055	-----	-----		
13.23	0.045	0.035	0.04	0.1	0.3
	0.05	-----	-----		
13.16	0.045	0.028	0.055	0.1	0.3
	0.04	-----	0.04		
	0.055	-----	-----		
13.08	0.045	-----	-----	0.1	0.3
	0.04	-----	-----		
	0.055	-----	-----		
	0.028	-----	-----		
12.87	0.035	0.036	0.04	0.1	0.3
	0.05	-----	-----		
12.79	0.035	0.05	-----	0.1	0.3
	0.05	0.036	-----		
	-----	0.04	-----		
12.73	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
12.65	0.04	0.055	0.055	0.1	0.3
	0.055	0.035	0.04		
12.56	0.04	0.035	0.055	0.1	0.3
	0.055	-----	0.04		

12.48	0.04	-----	-----	0.1	0.3
	0.028	-----	-----		
12.42	0.04	0.028	0.028	0.1	0.3
	-----	-----	0.055		
	-----	-----	0.04		
12.35	0.04	0.04	0.055	0.1	0.3
	-----	0.028	0.04		
12.26	0.04	0.04	0.028	0.1	0.3
	-----	0.028	0.055		
	-----	-----	0.04		
	-----	-----	0.016		
	-----	-----	0.04		
12.21	0.04	0.04	0.028	0.1	0.3
	-----	0.028	0.055		
	-----	-----	0.04		
	-----	-----	0.016		
	-----	-----	0.04		
12.16	0.045	0.045	0.028	0.1	0.3
	0.018	0.028	0.045		
	0.045	-----	0.016		
	-----	-----	0.045		
12.04	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.028	-----	-----		
11.92	0.045	-----	-----	0.1	0.3
	0.016	-----	-----		
	0.045	-----	-----		
	0.03	-----	-----		
	0.05	-----	-----		
11.8	0.04	0.03	0.05	0.1	0.3
	0.018	-----	0.04		
	0.045	-----	-----		
	0.045	-----	-----		
11.73	0.04	0.03	0.05	0.1	0.3
	0.018	-----	0.04		
	0.045	-----	-----		
11.67	0.045	0.03	0.05	0.1	0.3
	0.018	0.05	0.04		
	0.045	-----	-----		
	0.03	-----	-----		
11.62	0.04	0.028	0.028	0.1	0.3
	0.018	-----	0.05		
	0.045	-----	0.04		
11.55	0.04	0.045	0.028	0.1	0.3
	0.018	0.028	0.05		
	0.045	-----	0.05		
11.45	0.04	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.028	-----	-----		
11.39	0.04	0.028	0.045	0.1	0.3
	0.045	0.045	0.04		
11.33	0.04	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.028	-----	-----		
	0.045	-----	-----		
11.24	0.04	0.028	0.045	0.1	0.3
	0.045	-----	0.018		
	-----	-----	0.04		
11.16	0.04	0.045	0.028	0.1	0.3
	0.045	0.028	0.055		
	-----	-----	0.04		
11.07	0.04	0.028	0.055	0.1	0.3
	0.045	-----	0.016		
	-----	-----	0.04		
10.99	0.04	0.028	0.055	0.1	0.3
	0.045	0.055	0.016		
	0.028	-----	0.04		
10.92	0.04	0.028	0.055	0.1	0.3
	0.045	0.055	0.016		
	0.028	-----	0.04		
10.87	0.04	0.028	0.055	0.1	0.3
	0.05	0.055	0.028		
	0.028	-----	0.055		
	-----	-----	0.016		
	-----	-----	0.04		
10.75	0.04	0.016	-----	0.1	0.3
	0.05	0.04	-----		

	0.028	-----	-----		
	0.055	-----	-----		
10.6	0.04	0.03	0.03	0.1	0.3
	0.055	-----	0.055		
	-----	-----	0.016		
	-----	-----	0.04		
10.45	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.045		
	-----	0.055	-----		
10.26	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
10.18	0.04	0.035	0.035	0.1	0.3
	0.055	-----	0.05		
	-----	-----	0.04		
10.1	0.04	0.035	0.05	0.1	0.3
	0.055	-----	0.04		
10.04	0.04	0.035	0.035	0.1	0.3
	0.05	-----	0.05		
	-----	-----	0.04		
9.96	0.04	0.035	0.05	0.1	0.3
	0.05	-----	0.04		
9.91	0.04	0.035	0.035	0.1	0.3
	0.05	-----	0.05		
	-----	-----	0.04		
9.85	0.04	0.035	0.05	0.1	0.3
	0.05	-----	0.04		
9.77	0.045	0.035	0.05	0.1	0.3
	0.05	-----	0.04		
9.68	0.045	0.033	0.055	0.1	0.3
	0.04	-----	0.045		
	0.05	-----	-----		
9.61	0.045	0.033	0.055	0.1	0.3
	0.04	-----	0.045		
9.53	0.045	0.033	0.033	0.1	0.3
	0.04	-----	0.055		
	-----	-----	0.045		
9.47	0.04	0.037	0.055	0.1	0.3
	0.05	0.055	0.04		
	0.037	-----	-----		
9.4	0.04	0.037	0.055	0.1	0.3
	0.05	-----	0.04		
9.32	0.04	0.037	0.055	0.1	0.3
	0.05	-----	0.04		
9.27	0.035	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.039	-----	-----		
9.18	0.035	0.039	0.04	0.1	0.3
	0.045	-----	-----		
9.09	0.035	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.039	-----	-----		
9	0.035	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.04	-----	-----		
8.94	0.035	0.04	0.04	0.1	0.3
	0.05	-----	-----		
8.86	0.035	0.04	-----	0.1	0.3
	0.05	0.04	-----		
	0.04	-----	-----		
8.78	0.04	-----	-----	0.1	0.3
	0.04	-----	-----		
8.72	0.04	0.04	0.04	0.1	0.3
	0.04	-----	-----		
8.64	0.016	0.04	0.04	0.1	0.3
	0.04	-----	-----		
8.56	0.04	0.035	0.04	0.1	0.3
8.44	0.04	0.035	-----	0.1	0.3
	0.016	0.04	-----		
	0.04	-----	-----		
	0.035	-----	-----		
8.37	0.04	0.035	0.035	0.1	0.3
	-----	-----	0.04		
8.29	0.04	0.045	0.04	0.1	0.3
	0.016	0.035	0.018		
	0.045	0.04	0.04		
8.23	0.04	0.04	0.035	0.1	0.3
	-----	0.035	0.045		
8.1	0.04	0.035	-----	0.3	0.5

		0.016	0.04	-----		
		0.045	-----	-----		
		0.035	-----	-----		
8.07		0.04	0.035	0.04	0.3	0.5
		0.016	-----	-----		
		0.045	-----	-----		
		0.04	-----	-----		
8.065	Bridge-Up	0.04	0.035	0.04	0.3	0.5
		0.016	-----	-----		
		0.045	-----	-----		
		0.04	-----	-----		
8.065	Bridge-Dn	0.04	0.045	-----	0.3	0.5
		0.035	0.018	-----		
		0.045	0.04	-----		
8.06		0.04	0.045	-----	0.3	0.5
		0.035	0.018	-----		
		0.045	0.04	-----		
7.95		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.86		0.04	0.035	0.04	0.1	0.3
		0.035	0.04	0.016		
		0.045	-----	0.04		
		0.035	-----	-----		
7.78		0.04	0.035	0.035	0.1	0.3
		0.035	-----	0.04		
		0.045	-----	0.016		
		-----	-----	0.04		
7.71		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.55		0.04	-----	-----	0.3	0.5
		0.035	-----	-----		
7.47		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.4		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
7.31		0.04	0.035	0.04	0.1	0.3
7.23		0.04	0.035	0.04	0.1	0.3
7.14		0.04	0.032	-----	0.1	0.3
		0.032	0.04	-----		
7.07		0.04	-----	-----	0.1	0.3
		0.032	-----	-----		
7		0.04	-----	-----	0.1	0.3
		0.032	-----	-----		
6.94		0.04	0.055	0.032	0.1	0.3
		0.055	0.032	0.04		
6.88		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.75		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.68		0.04	0.032	0.032	0.1	0.3
		0.055	-----	0.055		
		-----	-----	0.04		
6.6		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.49		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.028	-----	-----		
6.42		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.028	-----	-----		
6.34		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
6.27		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
6.2		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
6.08		0.04	0.028	0.028	0.1	0.3
		0.055	-----	0.055		
		-----	-----	0.045		
5.96		0.04	0.055	0.028	0.1	0.3
		0.055	0.028	0.055		
		-----	-----	0.045		
5.88		0.04	-----	-----	0.1	0.3
5.81		0.04	-----	-----	0.1	0.3
5.75		0.04	0.04	0.055	0.1	0.3
		-----	0.055	0.03		

	-----	-----	0.055		
5.68	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
5.59	0.04	0.04	0.055	0.1	0.3
	-----	0.055	0.03		
	-----	-----	0.055		
	-----	-----	0.045		
5.46	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
5.42	0.04	0.03	0.055	0.1	0.3
	0.055	0.055	0.04		
	0.03	-----	-----		
5.35	0.055	-----	-----	0.1	0.3
	0.03	-----	-----		
5.29	0.055	-----	-----	0.1	0.3
	0.03	-----	-----		
5.2	0.055	0.032	0.055	0.1	0.3
5.12	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.032	-----	-----		
5.04	0.04	0.032	0.055	0.1	0.3
	0.055	-----	0.04		
4.95	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
4.89	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
4.82	0.018	0.03	0.055	0.1	0.3
	0.04	-----	0.04		
	0.055	-----	-----		
4.76	0.04	0.055	0.055	0.1	0.3
	0.018	0.035	0.045		
	0.045	0.055	-----		
	0.055	-----	-----		
4.67	0.045	0.035	0.045	0.1	0.3
	0.016	-----	-----		
	0.045	-----	-----		
4.62	0.045	0.035	0.045	0.1	0.3
	0.035	0.016	-----		
	-----	0.035	-----		
4.55	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
4.49	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
4.44	0.018	0.035	0.045	0.1	0.3
	0.045	-----	0.016		
	-----	-----	0.045		
4.35	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
4.3	0.045	0.035	0.035	0.1	0.3
	-----	-----	0.045		
	-----	-----	0.016		
4.23	0.045	0.035	0.045	0.1	0.3
4.14	0.045	-----	-----	0.1	0.3
	0.034	-----	-----		
4.09	0.045	-----	-----	0.1	0.3
	0.034	-----	-----		
4	0.045	0.055	0.045	0.1	0.3
	0.034	0.034	-----		
	0.055	-----	-----		
3.91	0.025	0.035	0.055	0.1	0.3
	0.045	0.055	0.045		
	0.055	-----	-----		
3.86	0.025	0.035	0.035	0.1	0.3
	0.045	-----	0.055		
	0.055	-----	0.045		
3.76	0.025	0.035	0.055	0.1	0.3
	0.045	-----	0.045		
	0.055	-----	-----		
3.69	0.025	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.055	-----	-----		

	0.03	-----	-----		
3.62	0.025	0.03	0.055	0.3	0.5
	0.045	-----	0.045		
	0.055	-----	-----		
3.56	0.055	0.03	0.055	0.1	0.3
	0.045	-----	0.045		
	0.055	-----	-----		
3.49	0.055	0.03	0.055	0.1	0.3
	-----	0.055	0.045		
3.31	0.055	0.035	0.045	0.1	0.3
	0.035	0.055	-----		
3.23	0.055	0.035	0.045	0.1	0.3
3.16	0.055	-----	-----	0.1	0.3
	0.035	-----	-----		
3.1	0.04	0.03	0.055	0.1	0.3
	0.055	0.055	0.045		
	0.03	-----	-----		
3.01	0.025	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
2.94	0.04	0.055	0.045	0.1	0.3
	0.055	0.032	0.055		
	-----	0.045	0.04		
2.85	0.04	-----	-----	0.1	0.3
	0.035	-----	-----		
2.79	0.018	0.035	0.055	0.1	0.3
	0.04	0.055	0.045		
	0.035	-----	-----		
2.7	0.045	0.035	0.035	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	-----		
2.61	0.045	0.035	0.045	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
2.57	0.045	0.035	0.045	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
2.5	0.04	0.055	-----	0.1	0.3
	0.045	0.035	-----		
	0.018	0.04	-----		
	0.045	-----	-----		
	0.055	-----	-----		
2.47	0.04	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
	0.03	-----	-----		
2.4	0.04	0.055	0.03	0.1	0.3
	0.018	0.03	0.016		
	0.055	-----	0.04		
2.34	0.045	0.055	0.04	0.1	0.3
	0.018	0.03	0.016		
	0.035	0.05	0.045		
2.26	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
2.17	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
2.08	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.03	-----	-----		
1.99	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.065		
	-----	0.055	-----		
1.94	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.065		
1.85	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.065		
1.77	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.03		
	-----	0.055	0.04		
1.69	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.04		
1.6	0.055	0.03	0.055	0.1	0.3
1.51	0.045	0.03	0.04	0.1	0.3
	0.055	0.04	0.045		
1.44	0.045	0.055	0.04	0.1	0.3
	0.055	0.03	0.045		
	-----	0.04	-----		

1.37	0.045	0.03	0.04	0.1	0.3
	0.055	0.04	0.045		
	0.03	-----	-----		
1.32	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
1.28	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
1.26	0.016	0.016	0.016	0.1	0.3
1.24	0.045	-----	-----	0.1	0.3
	0.03	-----	-----		
1.17	0.045	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	-----	0.05		
1.1	0.045	-----	-----	0.1	0.3
	0.03	-----	-----		
1.04	0.045	0.03	0.04	0.1	0.3
.95	0.045	0.03	0.04	0.1	0.3
.88	0.045	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
.83	0.045	0.03	0.04	0.1	0.3
.76	0.045	0.03	0.04	0.1	0.3
.68	0.055	0.03	0.055	0.1	0.3
.59	0.055	0.03	0.055	0.1	0.3
.5	0.055	0.03	0.055	0.1	0.3
.43	0.055	0.03	0.055	0.1	0.3
.34	0.055	0.03	0.055	0.1	0.3
.27	0.055	0.03	0.055	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.016	0.055
Right Overbank n Value:	0.016	0.065
Channel n Value:	0.016	0.055
Contraction Coefficient:	0.1	0.3
Expansion Coefficient:	0.3	0.5

ROUGHNESS COEFFICIENT CHECK

RS: 1.26
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 1.26
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 1.26
NT RC 03 Channel n value is equal to or less than 0.025
The n value of the channel is usually larger than 0.025.
The n value should be reevaluated it if is not representing a concrete lined channel.

RS: 1.26
NT RC 05 The left overbank n value of 0.016 and the right overbank n value of 0.016 are less than or equal to the channel n value of 0.016
The overbank n values should be reevaluated.

NOTE: R.S. 1.26 represents Narramore Rd. No changes were made.

TRANSITION LOSS COEFFICIENT CHECK

RS: 7.55
NT TL 02 Contraction and expansion loss coefficients are 0.3 and 0.5 respectively. However, this cross section is not at the structure.
They should be equal to 0.1 and 0.3.

RS: 3.62
NT TL 02 Contraction and expansion loss coefficients are 0.3 and 0.5 respectively. However, this cross section is not at the structure.
They should be equal to 0.1 and 0.3.

ROUGHNESS COEFFICIENT AT STRUCTURES

RS: 8.065
NT RS 02 The channel n value of 0.035 for the upstream internal bridge opening section is equal or larger than the channel n value of 0.035 at Section 3. Usually, the channel n value of the bridge opening section is less than the channel n value of Section 3. The selection of the n value(s) should be reevaluated.

RS: 8.065
NT RS 02 The channel n value of 0.018 for the downstream internal bridge opening section is equal or larger than the channel n value of 0.018 at Section 2 Usually, the channel n value of the bridge opening section is less than the channel n value of Section 2. The selection of the n value(s) should be reevaluated.

---END---

A channel 'n' value of 0.035 was used for debris on the upstream side.

A channel 'n' value of 0.018 was used to account for the clean sandy bottom.

CHECK-RAS STRUCTURE WATERMAN WASH

BOTH LEVEE FAIL + FLOODWAY

No Levee + FW

WatermanWashwith.br
CHECK-RAS Program: Structure Check

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.br
Selected profiles: 100-Year;Floodway
Date: 1/11/2012
Time: 10:13:43 AM

RS	MaxLoChord	MnTpRd	EGEL	WSEL	MinChEl	Structure
Waterman Wash,Reach 1						
16.72			1152.18	1152	1144.4	
16.64			1150.9	1150.65	1142.47	
16.53			1149.49	1149.29	1140.96	
16.45			1148.78	1148.52	1140.48	
16.38			1147.87	1147.37	1138.9	
16.32			1146.87	1146.62	1138.5	
16.23			1145.82	1145.51	1136.8	
16.15			1144.96	1144.75	1135.74	
16.08			1144.21	1143.51	1134.97	
16.02			1142.77	1142.58	1134.03	
15.95			1141.92	1141.67	1133.08	
15.86			1141.12	1140.91	1131.78	
15.65			1138.33	1137.43	1130.19	
15.61			1137.27	1136.94	1129.85	
15.54			1136.34	1135.88	1128.52	
15.48			1135.25	1134.96	1127.48	
15.4			1134.18	1133.87	1125.97	
15.35			1133.46	1133.21	1125.39	
15.3			1132.44	1131.98	1124.54	
15.2			1130.66	1130.09	1122.94	
15.12			1129.01	1128.57	1121.3	
15.08			1128.31	1128	1121.4	
15.02			1127.79	1127.4	1120.45	
14.95			1127.17	1126.73	1119.41	
14.88			1126.08	1125.23	1117.9	
14.83			1125.06	1124.62	1116.9	
14.73			1124.14	1123.88	1114.43	
14.63			1123.26	1122.48	1113.3	
14.57			1122.66	1122.01	1112.03	
14.49			1120.72	1120.49	1110.58	
14.4			1120.13	1119.93	1109.34	
14.3			1118.9	1117.96	1107.7	
14.21			1117.13	1116.08	1105.6	
14.12			1116.22	1115.21	1104.91	
14.05			1115.34	1114.56	1103.29	
13.96			1113.73	1112.54	1102.82	
13.88			1112.09	1110.95	1101.92	
13.81			1110.58	1109.77	1100.83	
13.74			1109.67	1108.84	1100.24	
13.68			1108.51	1107.48	1099.59	
13.61			1107.14	1106.42	1099.1	
13.53			1106.1	1105.44	1098.25	
13.44			1105	1104.58	1097.1	
13.38			1104.24	1103.67	1095.4	
13.3			1103.25	1102.66	1095.17	
13.23			1102.41	1102	1093.66	
13.16			1101.55	1100.54	1092.7	
13.08			1100.52	1099.79	1090.9	
12.87			1096.77	1095.95	1087.24	
12.79			1095.26	1094.92	1086.6	
12.73			1094.4	1093.95	1085.3	
12.65			1092.93	1092.59	1083.78	
12.56			1091.51	1091.08	1082.94	
12.48			1090.59	1090.05	1081.86	

12.42			1089.61	1089.21	1081.44	
12.35			1088.69	1088.17	1080.81	
12.26			1087.14	1086.54	1079.64	
12.21			1086.06	1085.51	1079.03	
12.16			1085.25	1084.85	1078.4	
12.04			1083.87	1083.24	1076.41	
11.92			1081.98	1081.75	1074.64	
11.8			1080.09	1079.47	1072.73	
11.73			1079.01	1078.71	1071.55	
11.67			1078.22	1077.59	1070.78	
11.62			1077.32	1076.96	1070.03	
11.55			1076.72	1076.26	1069	
11.45			1074.78	1073.9	1067.22	
11.39			1073.94	1073.46	1066.61	
11.33			1072.74	1072.53	1065.4	
11.24			1071.85	1071.37	1063.75	
11.16			1070.4	1069.98	1062.16	
11.07			1068.69	1068.08	1060.9	
10.99			1067.54	1067	1059.5	
10.92			1066.31	1065.94	1058.17	
10.87			1065.71	1065.27	1057.7	
10.75			1064.03	1063.41	1055.53	
10.6			1060.09	1059.44	1052.86	
10.45			1058.05	1057.87	1050.55	
10.26			1055.81	1055.14	1047.3	
10.18			1054.28	1053.95	1046.76	
10.1			1053.13	1052.73	1045.1	
10.04			1052.3	1051.93	1044.49	
9.96			1051.09	1050.64	1043.36	
9.91			1050.3	1049.92	1042.45	
9.85			1049.46	1048.91	1041.16	
9.77			1047.95	1047.6	1040.21	
9.68			1046.85	1046.53	1038.6	
9.61			1045.86	1045.43	1037.45	
9.53			1044.84	1044.55	1037.06	
9.47			1043.87	1043.54	1036.35	
9.4			1042.81	1042.51	1035.27	
9.32			1041.13	1040.51	1033.86	
9.27			1039.88	1039.73	1033.3	
9.18			1038.7	1038.47	1030.11	
9.09			1037.52	1037.3	1029	
9			1036.65	1036.45	1027.46	
8.94			1036.14	1035.92	1026.26	
8.86			1035.17	1034.64	1024.39	
8.78			1033.79	1032.83	1023.52	
8.72			1032.14	1031.43	1022.5	
8.64			1029.85	1029.43	1021.98	
8.56			1028.32	1027.97	1018.86	
8.44			1026.62	1026.24	1017.72	
8.37			1025.33	1024.85	1016.1	
8.29			1024.17	1023.78	1015.3	
8.23			1023.61	1023.44	1013.7	
8.1			1023.07	1022.99	1010.5	
8.07			1022.35	1020.48	1011.31	
8.065	1020.4	1021.5	1022.35	1020.48	1011.55	Bridge #1-Up
8.065	1020.4	1021.58	1022.26	1020.48	1011	Bridge #1-Dn
8.06			1021.45	1018.76	1011	
7.95			1018.93	1018.64	1008.3	
7.86			1017.5	1016.77	1007.38	
7.78			1015.85	1015.41	1006.1	
7.71			1015.07	1014.87	1003.45	
7.55			1012.7	1010.71	1000.34	
7.47			1010.81	1010.38	1000.8	
7.4			1009.76	1007.54	997.15	
7.31			1007.81	1007.19	998	
7.23			1006.69	1005.63	996.25	
7.14			1005.06	1003.87	994.92	
7.07			1003.59	1002.33	993.78	
7			1002.5	1001.85	992.45	
6.94			1001.13	1000.59	991.53	
6.88			999.83	999.31	990.45	
6.75			997.16	996.49	988.14	
6.68			995.76	995.35	987.07	
6.6			994.58	993.63	985.56	
6.49			992.51	991.85	983.7	
6.42			991.41	990.66	981.3	
6.34			989.35	988.96	979.9	
6.27			988.47	987.75	979.4	
6.2			987.25	986.28	979.3	

6.08	985.22	984.38	977.3
5.96	982.3	981.88	974.9
5.88	981.19	980.75	973.8
5.81	980.26	979.98	972.8
5.75	979.72	979.49	971.65
5.68	978.67	977.96	969.46
5.59	976.83	976.37	967.03
5.46	974.88	974.01	964.1
5.42	973.97	973.47	963.9
5.35	972.55	972.09	962.8
5.29	971.79	971.48	962.4
5.2	970.7	970.17	960.86
5.12	969.7	969.44	959.6
5.04	968.66	967.19	958.65
4.95	966.68	965.41	955.24
4.89	965.2	964.04	954.9
4.82	963.74	963.07	955.1
4.76	962.95	962.19	954.86
4.67	960.72	959.53	953.3
4.62	959.45	958.6	952.38
4.55	958.6	957.86	949.57
4.49	957.29	955.81	948.7
4.44	955.7	954.98	947.77
4.35	954.02	953.61	945.6
4.3	952.92	952.13	944.35
4.23	951.76	951.4	942.76
4.14	950.59	949.67	941.46
4.09	949.1	947.58	940.5
4	946.8	946.6	938.51
3.91	945.98	945.24	937.22
3.86	945.11	944.4	936.12
3.76	942.84	940.98	934.37
3.69	941.05	940.21	932.35
3.62	939.59	937.75	931.07
3.56	938.1	937.48	929.78
3.49	936.98	934.89	928.34
3.31	932.58	932.07	924.58
3.23	931.38	930.79	922.8
3.16	929.59	928.02	922.2
3.1	927.65	926.77	920.78
3.01	925.87	925.19	919.77
2.94	924.15	923.28	917.6
2.85	922.32	921.81	915.1
2.79	920.81	919.82	913.6
2.7	918.47	917.8	911.28
2.61	916.49	915.8	909.5
2.57	915.72	915.36	908.5
2.5	914.69	914.21	908.2
2.47	914.27	913.91	907
2.4	913.4	912.73	906.1
2.34	911.62	910.09	904.3
2.26	909.67	908.72	901.48
2.17	908.31	907.37	900
2.08	906.78	905.56	898
1.99	905.24	904.52	895.1
1.94	904.14	902.64	895.8
1.85	902.16	901.01	893.9
1.77	901.02	900.49	892.72
1.69	899.89	898.6	891.24
1.6	897.71	896.32	889.68
1.51	895.33	893.86	887.63
1.44	893.13	892	886.02
1.37	891.53	890.42	884.7
1.32	890.48	889.7	883.82
1.28	889.51	887.89	882.69
1.26	888.91	887.38	883.36
1.24	888.15	887.09	880.98
1.17	886.67	885.21	879.35
1.1	885.05	884.5	878.04
1.04	884.01	882.98	877.42
0.95	882.13	881.85	875.46
0.88	881.2	880.26	873.8
0.83	879.63	879.26	872.97
0.76	878.73	877.72	870.77
0.68	876.62	875.52	868.24
0.59	874.5	873.47	865.76
0.5	871.65	870.93	863.8
0.43	870.41	869.84	862.64
0.34	868.75	867.87	860.62

0.27	865.47	864.23	858.4

RIVER/REACH: Waterman Wash, Reach 1
RIVER STATION: 8.065
TYPE OF STRUCTURE: Bridge

Description:

Distance from Upstream XS:	10
Deck/Roadway Width:	31
Weir Coefficient:	2.6
Maximum allowable submergence for weir flow:	0.98
Elevation at which weir flow begins:	1021.7
Weir crest shape:	Broad Crested

Sec	River Station	Length Channel	WSEL	Surch.	EGEL	TopWidth Actual	
4	8.1	156.54	1022.99	0	1023.07	4915.39	
4	8.1	156.54	1023.22	0.22	1023.51	1079.82	
3	8.07	86.94	1020.48	0	1022.35	127.43	
3	8.07	86.94	1021.32	0.84	1022.85	127.43	
	8.065	31.00	1020.48	0	1022.35	0	Bridge #1-Up
	8.065	45.94	1020.48	0	1022.26	0	Bridge #1-Dn
	8.065	31.00	1021.32	0.84	1022.85	0	Bridge #1-Up
	8.065	45.94	1021.32	0.84	1022.74	0	Bridge #1-Dn
2	8.06	556.98	1018.76	0	1021.45	122.44	
2	8.06	556.98	1019.32	0.56	1021.62	122.44	
1	7.95	462.23	1018.64	0	1018.93	3294.2	
1	7.95	462.23	1019.3	0.66	1019.62	1104.64	

	Ineffective Flow, Section 3 Sta L	Sta R	Elev	Ineffective Flow, Section 2 Sta L	Sta R	Elev
1	0	2167.57	1021.5	0	2154.61	1021.5
2	2295	5263.74	1021.5	2277.05	5339.02	1021.5

BRIDGE:
Bridge Name: Bridge #1
LowFlowMethod: Highest Energy Answer
Momentum Cd: 1.22
HighFlowMethod: Pressure and Weir flow
SluiceGate Cd: 0 Submerged Cd: 0.8

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

MaxLowChord:	1020.4	MinTopRd:	1021.7	MinElPrs:	1020.4
	1020.4		1021.71		1020.4

Opening Type	StagStaL	StagStaR	EncStaL	EncStaR	LIfStaS	RIfStaS	
Bridge					2167.57	2295	U
					2154.61	2277.05	D
			1835	3040			U
			1835	3040			D

	LAbutSt	RAbutSt	LMnTpRd	RMnTpRd	MnTpRd	MxLoCd	
Bridge #1	2167.57	2294.24	1021.70	1021.50	1021.50	1020.40	U
	2154.61	2277.06	1021.70	1021.58	1021.58	1020.40	D

	2167.57	2294.24	1021.70	1021.70	1021.70	1020.40 U
	2154.61	2277.06	1021.70	1021.70	1021.70	1020.40 D

Name	Q Total.	Q Struc	Q Weir	Selected Method	Flow Type
Bridge #1	11053	4951.5	6101.5	Press/Weir	Sluicegate Pressure and Weir Flow
	11053	7421.84	3631.16	Press/Weir	Sluicegate Pressure and Weir Flow

GEOMETRIC CHECK

RS: 8.065
ST GD 03 The end station of 5000.087 from upstream road/weir data
is less than the end station of 5263.74 from upstream internal
section/section 3.
The high chord elevation of 1021.7 for the end road/weir station is
greater than the ground elevation of 1021.5 for the same ground station.
The road/weir profile may need to be extended.

RS: 8.065
ST GD 03 The end station of 5250.087 from downstream road/weir data
is less than the end station of 5339.02 from downstream internal
section.
The high chord elevation of 1021.7 for the end road/weir station is
greater than the ground elevation of 1021.594 for the same ground station.
The road/weir profile may need to be extended.

TYPE OF FLOW CHECK

RS: 8.065 This is Bridge #1
BR PW 01 Type of sluicegate pressure and weir flow because,
1. EGEL 3 of 1022.35 is greater than MinTopRd of 1021.70.
2. EGEL 3 of 1022.35 is equal to or greater than MxLoCdU of 1020.40.
3. WSEL 2 of 1018.76 is less than MxLoCdD of 1020.40.

RS: 8.065 This is Bridge #1
BR PW 01 Type of sluicegate pressure and weir flow because,
1. EGEL 3 of 1022.85 is greater than MinTopRd of 1021.71.
2. EGEL 3 of 1022.85 is equal to or greater than MxLoCdU of 1020.40.
3. WSEL 2 of 1019.32 is less than MxLoCdD of 1020.40.

DISTANCE CHECK

INEFFECTIVE FLOW CHECK

RS: 8.07 This is Section 3
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 0
and 2167.57 is equal to or greater than the WSEL of 1020.48
The LMnTpRdU is 1021.7
The ineffective flow elevation should be equal to or lower than the MnTpRd
It should also be less than the WSEL.

RS: 8.07 This is Section 3
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 2295
and 5263.74 is equal to or greater than the WSEL of 1020.48
The RMnTpRdU is 1021.5
The ineffective flow elevation should be equal to or lower than the MnTpRd
It should also be less than the WSEL.

RS: 8.06 This is Section 2
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 0
and 2154.61 is equal to or greater than the WSEL of 1018.76
The LMnTpRdD is 1021.7 and the MxLoCdD is 1020.4
The ineffective flow elevation should be between the LMnTpRdD and the MxLoCdD
if LMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to LMnTpRdD.
It should also be less than the WSEL.

RS: 8.06 This is Section 2
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 2277.05

and 5339.02 is equal to or greater than the WSEL of 1018.76
The RMnTpRdD is 1021.58 and the MxLoCdD is 1020.4
The ineffective flow elevation should be between the RMnTpRdD and the MxLoCdD
if RMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to RMnTpRdD.
It should also be less than the WSEL.

RS: 8.1 This is Section 4
ST IF 07 Ineffective flow option was considered at this section.
However, it should be a fully expanded cross section.
Ineffective flow stations and elevations should be cleared from
this section, unless the areas beyond the ineffective flow stations
are not within the flow path of the stream.
This message should be ignored if this section is Section 2 of
the upstream structure.

RS: 7.95 This is Section 1
ST IF 07 Ineffective flow option was considered at this section.
However, it should be a fully expanded cross section.
Ineffective flow stations and elevations should be cleared from
this section, unless the ares beyond the ineffective flow stations
are not within the flow path of the stream.
This message should be ignored if this section is Section 3 of the downstream
structure.

FLOODWAY CHECK

RS: 8.065 This is Bridge
ST FW 01 Encroachment Method was not specified at this river station.
For flood insurance studies Encroachment Methods 4 and 1
should be used.

---END

CHECK-RAS XS WATERMAN WASH

BOTH LEVEES IN PLACE

BOTH LEVEES IN PLACE

WatermanWashwith.xs
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.xs
Selected profiles: 100-Year
Date: 1/11/2012
Time: 10:03:23 AM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
Waterman Wash,Reach 1						
16.72	404.08	448.8	517.85	1653.81	5805	D
16.64	676.46	595.37	600.83	1365.13	5805	D
16.53	472.26	403.34	339.73	1372.04	5805	D
16.45	393.63	354.01	317.66	1306.6	5805	D
16.38	319.5	348.14	334.23	1040.4	5805	D
16.32	559.19	482.29	454.61	1125.78	5805	D
16.23	331.21	415.03	490.74	934.26	5805	D
16.15	279.47	314.57	319.83	939.92	5805	D
16.08	328.83	329.57	352.58	861.05	5805	D,C
16.02	386.58	394.67	400.94	1133.99	5805	D
15.95	439.12	452.2	460.53	1465.75	5805	D
15.86	1309.61	1099.69	923.54	1074.86	5805	D
15.65	224.85	221.54	216.04	989.4	8568	D,C
15.61	376.34	370.15	366.44	1310.68	8568	D
15.54	304.19	349.22	387.24	1208.28	8568	D
15.48	348.3	397.53	439.79	1369.78	8568	D
15.4	264.65	279.95	293.08	1474.05	8568	D
15.35	241.16	283.4	364.3	1410.47	8568	D
15.3	495.47	501.45	395.4	1092.21	8568	D
15.2	527.9	427.46	407.54	1055.6	8568	D
15.12	228.21	234.54	240.04	863.65	8568	D
15.08	253.95	281.92	249.71	954.42	8568	
15.02	478.6	381.4	349.61	889.04	8568	D
14.95	237.44	380.92	508.92	954.98	8568	D
14.88	258.28	265.64	271.69	917.53	8568	D
14.83	499.38	493.03	492.7	1000.12	8568	D
14.73	557.66	530.26	501.99	1302.12	8568	D
14.63	361.64	316.62	277.59	1239.26	8568	D
14.57	456.23	450.7	446.27	1993.16	8568	D,C
14.49	474.13	466.06	458.74	1678.25	8568	D
14.4	588.12	545.34	541.17	1926.25	8568	D
14.3	471.53	474.3	478.9	1577.21	9764	D,C

14.21	481.8	450.92	421.78	938.46	9764	D
14.12	318.55	371.2	412.07	1028.08	9764	D
14.05	438.29	470.2	502.75	1119.63	9764	D,C
13.96	483.78	444.56	396.35	968.03	9764	D,C
13.88	365.75	383.87	384.19	834.35	9764	D
13.81	236.52	347.55	471.6	689.17	9764	
13.74	254.58	323.38	380.77	780.74	9764	D
13.68	411.35	376.86	348.16	696.35	9764	D
13.61	381.52	380.5	382.16	1072.44	9764	D
13.53	491.67	484.87	476.75	1008.28	9764	D
13.44	340.95	353.44	363.92	246.84	9764	D
13.38	331.9	380.54	420.8	222.02	9764	
13.3	391.6	376.16	363.6	178.6	9764	D
13.23	449.62	406.3	355.92	1437.4	9764	
13.16	550.52	443.99	367.97	878.16	9764	D,C
13.08	1072.44	1051.92	1034.1	2254.52	10213	D,C
12.87	419.81	420.01	420.19	1069.23	10213	C
12.79	314.79	308.87	303.76	1337.78	10213	D
12.73	480.77	463.53	448.8	1431.31	10213	
12.65	466.2	458.39	451.83	1156.36	10213	D,C
12.56	377.73	380.88	383.31	2920.07	10213	D
12.48	334.63	331.29	328.46	1225.52	10213	D,C
12.42	380.85	381.71	382.4	1295.76	10213	
12.35	459.45	478.95	495.74	1160.27	10213	D,C
12.26	271.68	274.29	276.53	1038.42	10213	D
12.21	227.84	244.91	259.67	1155.07	10213	D
12.16	598.21	629.82	656.82	1070.88	10213	
12.04	555.41	613.02	662.42	150.43	10213	
11.92	686.05	664.01	632.66	1735.53	10213	
11.8	328.73	348.49	377.25	1233.64	10213	
11.73	271.46	317.2	354.8	2510.16	10213	D
11.67	393.15	286.02	196.77	611.41	10213	
11.62	314.74	354.23	376.51	3719.35	10213	D,E
11.55	648.14	532.19	443.74	138	10846	C
11.45	326.01	295.5	262.16	376.38	10846	
11.39	484.95	365.19	266.52	3857.4	10846	D
11.33	378.98	456.96	525.83	4184	10846	E
11.24	275.07	421.28	548.23	2152.68	10846	D,E
11.16	215.36	470.43	681.12	126.28	10846	E
11.07	428.15	401.17	379.83	134.46	10846	E
10.99	454.27	426.23	403.47	415.64	10846	D,C
10.92	320.24	240.39	202.41	5060.3	10846	D
10.87	541.96	643	698.17	2344.32	10846	D,C
10.75	958.84	790.92	654.93	2831.99	10846	
10.6	873.18	785.62	738.97	138.52	10846	
10.45	1027.14	1029.17	1000.24	246.71	10971	C
10.26	433.03	419.12	407.17	148.93	10971	
10.18	421.31	411.18	402.74	156.7	10971	
10.1	330.32	307.85	288.1	186.57	10971	
10.04	458.34	424.34	394.74	182.23	10971	
9.96	317.26	280.33	247.78	179.61	10971	
9.91	327.15	283.9	245.24	167.07	10971	E
9.85	466.33	445.58	427.47	131.61	10971	C
9.77	332.56	444.72	543.36	1375.71	10971	D
9.68	409.51	419.96	429.8	1493.21	10971	D
9.61	355.82	383.57	407.41	1045.59	10971	D
9.53	306.75	327.08	344.6	1211.71	10971	
9.47	359.17	352.51	346.99	1432.46	10971	
9.4	429.24	422.68	418.19	1634.14	10971	D,C
9.32	293.76	300.22	304.44	3304.04	10971	D
9.27	535.05	479.39	431.08	1597.93	10971	D
9.18	484.7	473.34	462.27	1991.74	10971	D
9.09	435.93	433.69	431.97	198.96	10971	C

9	340.44	323.41	308.11	3890.2	10971	D
8.94	447.56	465.85	477.06	379.26	10971	
8.86	344.85	372.52	396.7	238.28	10971	
8.78	291.56	334.96	373.15	187.12	10971	
8.72	391.66	401.51	523.31	252.56	10971	
8.64	429.19	403.91	355.23	2122.62	10971	D,C
8.56	495.97	636.29	668.88	2201.7	10971	D
8.44	439.16	417.38	399.1	2169.57	11053	
8.37	407.38	401.76	397.19	474.76	11053	D
8.29	281.88	325.66	278.33	1619.18	11053	D
8.23	274.55	680.81	1004.7	1634.08	11053	
8.1	108.29	156.54	197.67	4915.37	11053	
8.07	108.34	86.94	79.42	127.43	11053	
8.065	Bridge #1-Up					
8.065	Bridge #1-Dn					
8.06	923.65	556.98	340.59	122.44	11053	
7.95	509.18	462.23	421.3	554.74	11053	D
7.86	445.14	440.72	441.61	796.31	11053	D,C
7.78	330.76	378.11	404.76	1419.52	11053	
7.71	900.07	839.85	797.83	3280.02	11053	D
7.55	419.63	423.97	428.65	289.1	11053	D
7.47	400.57	353.25	341.19	1594.59	11053	D
7.4	511.71	445.35	390.75	301.27	11053	
7.31	567.96	467.72	384.33	1355.25	11053	D
7.23	397.42	471.92	511.41	1248.46	11053	D
7.14	380.9	375.1	373.95	246.7	11053	D
7.07	340.6	338.15	323.53	1083.53	11053	D
7	328.5	342.01	353.82	2998.22	11053	D,C
6.94	289.05	314.91	336.96	2863.35	11053	D,C
6.88	660.1	683.68	703.78	2430.73	11053	D,C
6.75	376.47	365.47	356.12	2296.06	11053	D,C
6.68	401.98	399.26	395.29	2392.41	11053	D
6.6	603.46	615.29	627.12	1764.98	11053	D,C
6.49	356.38	366.53	375.1	2186.58	11053	D,C
6.42	416.41	418.73	420.71	2353.72	11053	D,C
6.34	386.68	351.55	321.54	1914.2	11053	D
6.27	423.11	390.3	363.05	1694.07	11053	D
6.2	650.83	638.45	626.95	1416.22	11053	D,C
6.08	538.25	630.83	709.9	1506.14	11053	D,C
5.96	405.42	404.97	404.68	1435.16	11053	D
5.88	356.42	359.42	319.8	1490.5	11053	D
5.81	407.2	334.59	316.8	1216	11053	D
5.75	399.87	399.25	396.73	1500.96	11053	D
5.68	380.08	438.19	486.75	1103.57	11053	D
5.59	525.73	687.21	838.29	988.11	11053	
5.46	291.14	246.55	191.12	924.51	11053	D
5.42	316.8	346.08	373.4	1061.47	11053	D
5.35	314.2	305.89	299.05	869.52	11053	D
5.29	457.44	454.08	451.34	842.08	11053	D
5.2	442.74	460.86	475.72	658.42	11053	
5.12	379.55	409.57	433.85	920.7	11053	D
5.04	468.6	472.88	476.47	707.97	11053	D
4.95	338.27	333.46	329.53	1011.77	11053	D,C
4.89	390.75	375.05	362.37	942.01	11053	D,C
4.82	294.59	292.48	269.23	1277.04	11053	D
4.76	450.14	451.63	448.52	1306.65	11053	D
4.67	367.36	285.68	274.43	780.74	11053	D,C
4.62	367.21	371.75	345.45	868.83	11053	D
4.55	406.59	331.41	139.06	779.75	11053	D
4.49	347.19	259.79	314.21	633.2	11053	D
4.44	478.6	459.33	442.68	1122.3	11053	D
4.35	233.78	278.23	169.2	1060.58	11053	D
4.3	488.6	390.25	401.64	661.34	11053	D

4.23	509.97	478.75	429.32	882.37	11053	D
4.14	331.09	259.67	267.77	829.12	11053	
4.09	486.59	450.57	418.6	500.56	11053	D,C
4	468.49	473.03	477.39	950.26	11053	D
3.91	257.12	292.58	324.55	1035.06	11053	D
3.86	410.9	490.26	975.61	909.85	11053	D
3.76	327.23	373.78	414.68	465.47	11053	D,C
3.69	301.55	405.84	495.3	994.97	11381	D
3.62	303.17	315.36	301.98	399.9	11381	D
3.56	410.37	359.42	314.95	774.21	11381	D
3.49	947.8	976.29	991.82	304.71	11381	D
3.31	388.75	417.06	449.94	578.82	11381	
3.23	354.19	367.5	379.26	821.14	11381	
3.16	311.29	325.39	337.21	392.68	11381	D
3.1	401.68	450.36	491.14	501.18	11381	
3.01	695.1	388.82	385.69	642.83	11381	
2.94	217.85	448.46	367	588.9	11381	
2.85	400.22	343.35	283.43	716.28	11381	
2.79	595.69	451.55	327.05	729.42	11381	
2.7	620.42	463.17	311.24	687.24	11421	D
2.61	202.76	221.06	244.98	748.98	11421	D
2.57	121.27	363.17	575.59	678.17	11421	
2.5	130.87	174.7	94.59	584.64	11421	
2.47	262.08	392.56	625.49	628.92	11421	D
2.4	294.95	315.78	337.54	573.07	11421	D
2.34	388.81	378.82	369.25	373.12	11421	D
2.26	470.75	479.33	486.47	364.5	11421	D
2.17	655.61	492.77	353.57	395.08	11421	D,B
2.08	525.12	459.95	402.8	314.7	11421	D
1.99	334.87	282.91	237.02	347.51	11421	
1.94	491.45	454.63	421.07	440.91	11421	D
1.85	469.53	421.13	376.18	374.31	11421	
1.77	392.78	433.41	470.52	455.72	11421	D
1.69	398.27	479.42	552.85	298.23	11421	
1.6	415.9	462.26	503.31	333.98	11421	
1.51	410.66	407.33	404.47	413.39	11421	
1.44	356.33	337.06	320.11	629.65	11421	D
1.37	264.63	260.87	247.75	664.26	11421	
1.32	244.37	206.14	79.67	773.96	11421	
1.28	241.64	133.96	132.44	395.7	11421	D,C
1.26	96.68	101.28	101.84	404.66	11421	C
1.24	301.71	344.22	392.89	304.59	11421	
1.17	340.3	364.37	386.25	470.8	11421	C
1.1	282.53	322.96	358.47	830.59	11421	D
1.04	480.73	470.16	461.47	816.93	11421	C
.95	423.98	413.74	406.05	1004.24	11421	
.88	268.51	264.49	259.04	1033.99	11421	C
.83	340.54	344.84	348.77	1081.64	11421	D
.76	424.36	449.52	472.19	1036.55	11421	
.68	336.32	472.25	591.58	1006.74	11421	B
.59	316.14	457.4	577.1	221.18	11421	B
.5	297.81	349.43	259.63	163.74	11421	B
.43	615.07	483.77	464.95	198.47	11421	C
.34	396.87	359.39	344.36	544.5	11421	C
.27	1428.51	1445.97	1448.47	756.18	11421	D

B=blocked obstruction XS SC 05
C=critial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02
K=known water-surface XS SC 04

DISTANCE CHECK

RS: 4.49
XS DT 01 Both right and left overbank distances are longer than the channel distance.

NOTE: Distances were verified No changes were made.

SPACING CHECK

RS: 12.16
XS SP 01 Diff. HV = 2.26 ; Kratio = 0.37 ; Depth Ratio = 0.84
TopWdthAct ratio = 0.14 ; Length Chl Up / 500 = 1.26
Change in HV > 0.5
K ratio < 0.7 or K ratio > 1.4
Depth ratio < 0.9 or Depth ratio > 1.1
TopWdthAct ratio < 0.5 or TopWdthAct ratio > 2.0
and Length Chnl up / 500 > 1.1
addtional cross sections may need to be added between river station up and river station dn.

INEFFECTIVE FLOW CHECK

RS: 15.4
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 15.2
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 15.12
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 14.88
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 14.63
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 14.57
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 14.49
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements for levees are met.

RS: 13.16

NOTE:
Artificial levees were used at actual Non-Levee Embankment locations. In addition Artificial levees were also used to eliminate flow areas that are parrallel to the floodplain that do not provide conveyance.

XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 11.92
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.53
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.53
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.47
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.47
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.4
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.4
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 8.37
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 7
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.94
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.94
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.88
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.88
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.96
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.81
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.75
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.68
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.59
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.46
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.42
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.35
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.29
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.95
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.44
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.14
XS IF 01 Left Levee option is used at this river station

Please investigate whether the NFIP requirements
for levees are met.

RS: 4.09
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.91
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.86
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.76
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.69
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.62
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.56
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.1
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.61
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.57
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.57
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.5
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

```
RS:       2.47
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       2.4
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       2.08
XS IF 01 Right Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       1.99
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       1.99
XS IF 01 Right Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       1.94
XS IF 01 Right Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       1.85
XS IF 01 Right Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       1.69
XS IF 01 Right Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       1.51
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       1.24
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       1.17
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       1.17
XS IF 01 Right Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       0.43
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
```

for levees are met.

RS: 0.27
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

DISCHARGE CHECK

RS: 11.62
XS DC 04 There is no flow on the left overbank at the downstream
cross section. There is no flow on the right overbank at this section.

LOCATION CHECK

RS: 11.62
XS LC 01 Lenchl Up/TopwdthAct Dn = 2.57
MaxChlDpth Up/MaxChlDpth Dn = 1.32
TopwdthAct Up/TopwdthAct Dn = 26.95
This cross section is located too far upstream from the
critical depth cross section.

RS: 9.91
XS LC 01 Lenchl Up/TopwdthAct Dn = 2.16
MaxChlDpth Up/MaxChlDpth Dn = 1.25
TopwdthAct Up/TopwdthAct Dn = 1.27
This cross section is located too far upstream from the
critical depth cross section.

RS: 9.18
XS LC 01 Lenchl Up/TopwdthAct Dn = 2.38
MaxChlDpth Up/MaxChlDpth Dn = 1.26
TopwdthAct Up/TopwdthAct Dn = 10.01
This cross section is located too far upstream from the
critical depth cross section.

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is Waterman Wash,Reach 1
Normal S = 0.0055 is specified as the downstream boundary
for profile 100-Year

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

CHECK-RAS NT WATERMAN WASH

BOTH LEVEES IN PLACE

BOTH LEVEES IN PLACE

WatermanWashwith.nt
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.nt
Selected profiles: 100-Year
Date: 1/11/2012
Time: 10:03:21 AM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
Waterman Wash,Reach 1						
16.72		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
16.64		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
		-----	0.055	-----		
16.53		0.045	0.032	0.045	0.1	0.3
		0.055	0.055	-----		
		0.032	-----	-----		
16.45		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
		-----	0.055	-----		
16.38		0.045	0.032	0.055	0.1	0.3
		0.055	0.055	0.045		
		0.032	-----	-----		
16.32		0.045	0.045	0.032	0.1	0.3
		-----	0.055	0.055		
		-----	0.032	0.045		
16.23		0.045	0.035	-----	0.1	0.3
		0.035	0.055	-----		
		-----	0.045	-----		
16.15		0.045	0.055	0.055	0.1	0.3
		0.035	0.035	0.045		
		0.055	0.055	-----		
16.08		0.045	0.032	0.055	0.1	0.3
		0.055	-----	0.045		
16.02		0.045	0.035	0.045	0.1	0.3
15.95		0.045	0.035	0.045	0.1	0.3
15.86		0.045	0.035	0.045	0.1	0.3
15.65		0.045	0.032	0.05	0.1	0.3
		-----	0.05	0.045		
15.61		0.045	0.032	0.05	0.1	0.3
		-----	-----	0.045		
15.54		0.045	0.035	0.05	0.1	0.3

	-----	-----	0.045		
15.48	0.045	0.035	0.05	0.1	0.3
	-----	0.05	0.045		
15.4	0.045	0.034	0.055	0.1	0.3
	0.055	0.055	0.045		
15.35	0.045	0.034	0.055	0.1	0.3
	0.055	-----	0.045		
15.3	0.045	0.034	0.055	0.1	0.3
	0.055	-----	0.045		
15.2	0.045	0.032	0.055	0.1	0.3
	-----	-----	0.045		
15.12	0.045	0.032	0.055	0.1	0.3
	-----	0.055	0.045		
15.08	0.045	0.032	0.045	0.1	0.3
	-----	0.055	-----		
15.02	0.045	0.028	0.055	0.1	0.3
	0.028	0.055	0.045		
	-----	0.03	-----		
14.95	0.045	0.028	0.03	0.1	0.3
	-----	0.055	0.055		
	-----	-----	0.045		
14.88	0.045	0.028	0.055	0.1	0.3
	0.018	0.055	0.045		
	0.045	0.03	0.018		
	-----	0.055	0.045		
14.83	0.045	0.04	0.055	0.1	0.3
	0.018	0.055	0.045		
	0.045	-----	0.018		
	0.055	-----	0.045		
14.73	0.045	0.04	0.055	0.1	0.3
	0.055	0.055	0.045		
	-----	-----	0.018		
	-----	-----	0.045		
14.63	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.57	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.49	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.4	0.045	0.045	0.035	0.1	0.3
	-----	0.035	0.045		
	-----	-----	0.018		
	-----	-----	0.045		
14.3	0.045	0.035	0.045	0.1	0.3
14.21	0.045	0.028	0.055	0.1	0.3
	0.055	0.055	0.04		
14.12	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.045		
14.05	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.045		
13.96	0.045	0.028	0.055	0.1	0.3
	0.05	-----	0.04		
13.88	0.045	0.028	0.055	0.1	0.3
	0.055	0.055	0.04		
13.81	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.04		
13.74	0.045	0.031	0.055	0.1	0.3

	0.05	-----	0.04		
13.68	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.61	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.53	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.44	0.045	0.05	0.055	0.1	0.3
	0.05	0.031	0.04		
	-----	0.055	-----		
13.38	0.045	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.035	-----	-----		
13.3	0.045	0.035	0.04	0.1	0.3
	0.055	-----	-----		
13.23	0.045	0.035	0.04	0.1	0.3
	0.05	-----	-----		
13.16	0.045	0.028	0.055	0.1	0.3
	0.04	-----	0.04		
	0.055	-----	-----		
13.08	0.045	-----	-----	0.1	0.3
	0.04	-----	-----		
	0.055	-----	-----		
	0.028	-----	-----		
12.87	0.035	0.036	0.04	0.1	0.3
	0.05	-----	-----		
12.79	0.035	0.05	-----	0.1	0.3
	0.05	0.036	-----		
	-----	0.04	-----		
12.73	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
12.65	0.04	0.055	0.055	0.1	0.3
	0.055	0.035	0.04		
12.56	0.04	0.035	0.055	0.1	0.3
	0.055	-----	0.04		
12.48	0.04	-----	-----	0.1	0.3
	0.028	-----	-----		
12.42	0.04	0.028	0.028	0.1	0.3
	-----	-----	0.055		
	-----	-----	0.04		
12.35	0.04	0.04	0.055	0.1	0.3
	-----	0.028	0.04		
12.26	0.04	0.04	0.028	0.1	0.3
	-----	0.028	0.055		
	-----	-----	0.04		
	-----	-----	0.016		
	-----	-----	0.04		
12.21	0.04	0.04	0.028	0.1	0.3
	-----	0.028	0.055		
	-----	-----	0.04		
	-----	-----	0.016		
	-----	-----	0.04		
12.16	0.045	0.045	0.028	0.1	0.3
	0.018	0.028	0.045		
	0.045	-----	0.016		
	-----	-----	0.045		
12.04	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.028	-----	-----		
11.92	0.045	-----	-----	0.1	0.3
	0.016	-----	-----		

	0.045	-----	-----		
	0.03	-----	-----		
	0.05	-----	-----		
11.8	0.04	0.03	0.05	0.1	0.3
	0.018	-----	0.04		
	0.045	-----	-----		
	0.045	-----	-----		
11.73	0.04	0.03	0.05	0.1	0.3
	0.018	-----	0.04		
	0.045	-----	-----		
11.67	0.045	0.03	0.05	0.1	0.3
	0.018	0.05	0.04		
	0.045	-----	-----		
	0.03	-----	-----		
11.62	0.04	0.028	0.028	0.1	0.3
	0.018	-----	0.05		
	0.045	-----	0.04		
11.55	0.04	0.045	0.028	0.1	0.3
	0.018	0.028	0.05		
	0.045	-----	0.05		
11.45	0.04	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.028	-----	-----		
11.39	0.04	0.028	0.045	0.1	0.3
	0.045	0.045	0.04		
11.33	0.04	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.028	-----	-----		
	0.045	-----	-----		
11.24	0.04	0.028	0.045	0.1	0.3
	0.045	-----	0.018		
	-----	-----	0.04		
11.16	0.04	0.045	0.028	0.1	0.3
	0.045	0.028	0.055		
	-----	-----	0.04		
11.07	0.04	0.028	0.055	0.1	0.3
	0.045	-----	0.016		
	-----	-----	0.04		
10.99	0.04	0.028	0.055	0.1	0.3
	0.045	0.055	0.016		
	0.028	-----	0.04		
10.92	0.04	0.028	0.055	0.1	0.3
	0.045	0.055	0.016		
	0.028	-----	0.04		
10.87	0.04	0.028	0.055	0.1	0.3
	0.05	0.055	0.028		
	0.028	-----	0.055		
	-----	-----	0.016		
	-----	-----	0.04		
10.75	0.04	0.016	-----	0.1	0.3
	0.05	0.04	-----		
	0.028	-----	-----		
	0.055	-----	-----		
10.6	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
10.45	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.045		
	-----	0.055	-----		
10.26	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		

10.18	0.04	0.035	0.035	0.1	0.3
	0.055	-----	0.05		
	-----	-----	0.04		
10.1	0.04	0.035	0.05	0.1	0.3
	0.055	-----	0.04		
10.04	0.04	0.035	0.035	0.1	0.3
	0.05	-----	0.05		
	-----	-----	0.04		
9.96	0.04	0.035	0.05	0.1	0.3
	0.05	-----	0.04		
9.91	0.04	0.035	0.035	0.1	0.3
	0.05	-----	0.05		
	-----	-----	0.04		
9.85	0.04	0.035	0.05	0.1	0.3
	0.05	-----	0.04		
9.77	0.045	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.035	-----	-----		
9.68	0.045	0.033	0.055	0.1	0.3
	0.04	-----	0.045		
	0.05	-----	-----		
9.61	0.045	-----	-----	0.1	0.3
	0.04	-----	-----		
	0.033	-----	-----		
9.53	0.045	0.033	0.033	0.1	0.3
	0.04	-----	0.055		
	-----	-----	0.045		
9.47	0.04	0.037	0.055	0.1	0.3
	0.05	0.055	0.04		
	0.037	-----	-----		
9.4	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.037	-----	-----		
9.32	0.04	0.037	0.055	0.1	0.3
	0.05	-----	0.04		
9.27	0.035	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.039	-----	-----		
9.18	0.035	0.039	-----	0.1	0.3
	0.045	0.04	-----		
9.09	0.035	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.039	-----	-----		
9	0.035	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.04	-----	-----		
8.94	0.035	0.04	0.04	0.1	0.3
	0.05	-----	-----		
8.86	0.035	0.04	-----	0.1	0.3
	0.05	0.04	-----		
	0.04	-----	-----		
8.78	0.04	-----	-----	0.1	0.3
	0.04	-----	-----		
8.72	0.04	0.04	-----	0.1	0.3
	0.04	0.04	-----		
	0.04	-----	-----		
8.64	0.016	0.04	0.04	0.1	0.3
	0.04	-----	-----		
8.56	0.04	0.035	0.04	0.1	0.3
8.44	0.04	0.035	-----	0.1	0.3
	0.016	0.04	-----		
	0.04	-----	-----		
	0.035	-----	-----		

8.37		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
8.29		0.04	0.045	0.04	0.1	0.3
		0.016	0.035	0.018		
		0.045	0.04	0.04		
8.23		0.04	0.04	0.035	0.1	0.3
		-----	0.035	0.045		
8.1		0.04	0.035	-----	0.3	0.5
		0.016	0.04	-----		
		0.045	-----	-----		
		0.035	-----	-----		
8.07		0.04	0.035	0.04	0.3	0.5
		0.016	-----	-----		
		0.045	-----	-----		
		0.04	-----	-----		
8.065	Bridge-Up	0.04	0.035	0.04	0.3	0.5
		0.016	-----	-----		
		0.045	-----	-----		
		0.04	-----	-----		
8.065	Bridge-Dn	0.04	0.045	-----	0.3	0.5
		0.035	0.018	-----		
		0.045	0.04	-----		
8.06		0.04	0.045	-----	0.3	0.5
		0.035	0.018	-----		
		0.045	0.04	-----		
7.95		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.86		0.04	0.035	0.04	0.1	0.3
		0.035	0.04	0.016		
		0.045	-----	0.04		
		0.035	-----	-----		
7.78		0.04	0.035	0.035	0.1	0.3
		0.035	-----	0.04		
		0.045	-----	0.016		
		-----	-----	0.04		
7.71		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.55		0.04	-----	-----	0.3	0.5
		0.035	-----	-----		
7.47		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.4		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
7.31		0.04	0.035	0.04	0.1	0.3
7.23		0.04	0.035	0.04	0.1	0.3
7.14		0.04	0.032	-----	0.1	0.3
		0.032	0.04	-----		
7.07		0.04	-----	-----	0.1	0.3
		0.032	-----	-----		
7		0.04	-----	-----	0.1	0.3
		0.032	-----	-----		
6.94		0.04	0.055	0.032	0.1	0.3
		0.055	0.032	0.04		
6.88		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.75		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.68		0.04	0.032	0.032	0.1	0.3
		0.055	-----	0.055		
		-----	-----	0.04		
6.6		0.04	-----	-----	0.1	0.3

	0.055	-----	-----		
	0.032	-----	-----		
6.49	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.028	-----	-----		
6.42	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.028	-----	-----		
6.34	0.04	-----	-----	0.1	0.3
	0.03	-----	-----		
6.27	0.04	-----	-----	0.1	0.3
	0.03	-----	-----		
6.2	0.04	-----	-----	0.1	0.3
	0.03	-----	-----		
6.08	0.04	0.028	0.028	0.1	0.3
	0.055	-----	0.055		
	-----	-----	0.045		
5.96	0.04	0.055	0.028	0.1	0.3
	0.055	0.028	0.055		
	-----	-----	0.045		
5.88	0.04	-----	-----	0.1	0.3
5.81	0.04	-----	-----	0.1	0.3
5.75	0.04	0.04	0.055	0.1	0.3
	-----	0.055	0.03		
	-----	-----	0.055		
	-----	-----	0.045		
5.68	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
5.59	0.04	0.04	0.055	0.1	0.3
	-----	0.055	0.03		
	-----	-----	0.055		
	-----	-----	0.045		
5.46	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
5.42	0.04	0.03	0.055	0.1	0.3
	0.055	0.055	0.04		
	0.03	-----	-----		
5.35	0.055	-----	-----	0.1	0.3
	0.03	-----	-----		
5.29	0.055	-----	-----	0.1	0.3
	0.03	-----	-----		
5.2	0.055	0.032	0.055	0.1	0.3
5.12	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.032	-----	-----		
5.04	0.04	0.032	0.055	0.1	0.3
	0.055	-----	0.04		
4.95	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
4.89	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
4.82	0.018	0.03	0.055	0.1	0.3
	0.04	-----	0.04		
	0.055	-----	-----		
4.76	0.04	0.055	0.055	0.1	0.3
	0.018	0.035	0.045		
	0.045	0.055	-----		
	0.055	-----	-----		
4.67	0.045	0.035	0.045	0.1	0.3
	0.016	-----	-----		

	0.045	-----	-----		
4.62	0.045	0.035	0.045	0.1	0.3
	0.035	0.016	-----		
	-----	0.035	-----		
4.55	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
4.49	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
4.44	0.018	0.035	0.045	0.1	0.3
	0.045	-----	0.016		
	-----	-----	0.045		
4.35	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
4.3	0.045	-----	-----	0.1	0.3
	0.035	-----	-----		
4.23	0.045	0.035	0.045	0.1	0.3
4.14	0.045	-----	-----	0.1	0.3
	0.034	-----	-----		
4.09	0.045	-----	-----	0.1	0.3
	0.034	-----	-----		
4	0.045	0.055	0.045	0.1	0.3
	0.034	0.034	-----		
	0.055	-----	-----		
3.91	0.025	0.035	0.055	0.1	0.3
	0.045	0.055	0.045		
	0.055	-----	-----		
3.86	0.025	0.035	0.035	0.1	0.3
	0.045	-----	0.055		
	0.055	-----	0.045		
3.76	0.025	0.035	0.055	0.1	0.3
	0.045	-----	0.045		
	0.055	-----	-----		
3.69	0.025	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.055	-----	-----		
	0.03	-----	-----		
3.62	0.025	0.03	0.055	0.3	0.5
	0.045	-----	0.045		
	0.055	-----	-----		
3.56	0.055	0.03	0.055	0.1	0.3
	0.045	-----	0.045		
	0.055	-----	-----		
3.49	0.055	0.03	0.055	0.1	0.3
	-----	0.055	0.045		
3.31	0.055	0.035	0.045	0.1	0.3
	0.035	0.055	-----		
3.23	0.055	0.035	0.045	0.1	0.3
3.16	0.055	-----	-----	0.1	0.3
	0.035	-----	-----		
3.1	0.04	0.03	0.055	0.1	0.3
	0.055	0.055	0.045		
	0.03	-----	-----		
3.01	0.025	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
2.94	0.04	0.055	0.045	0.1	0.3
	0.055	0.032	0.055		
	-----	0.045	0.04		

2.85	0.04	-----	-----	0.1	0.3
	0.035	-----	-----		
2.79	0.018	0.035	0.055	0.1	0.3
	0.04	0.055	0.045		
	0.035	-----	-----		
2.7	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
2.61	0.045	0.035	0.045	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
2.57	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
	0.035	-----	-----		
2.5	0.04	0.055	-----	0.1	0.3
	0.045	0.035	-----		
	0.018	0.04	-----		
	0.045	-----	-----		
	0.055	-----	-----		
2.47	0.04	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
	0.03	-----	-----		
2.4	0.04	0.055	0.03	0.1	0.3
	0.018	0.03	0.016		
	0.055	-----	0.04		
2.34	0.045	0.055	0.04	0.1	0.3
	0.018	0.03	0.016		
	0.035	0.05	0.045		
2.26	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
2.17	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
2.08	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.03	-----	-----		
1.99	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.065		
	-----	0.055	-----		
1.94	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.065		
1.85	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.065		
1.77	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.03		
	-----	0.055	0.04		
1.69	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.04		
1.6	0.055	0.03	0.055	0.1	0.3
1.51	0.045	0.03	0.04	0.1	0.3
	0.055	0.04	0.045		
1.44	0.045	0.055	0.04	0.1	0.3
	0.055	0.03	0.045		
	-----	0.04	-----		
1.37	0.045	0.03	0.04	0.1	0.3
	0.055	0.04	0.045		
	0.03	-----	-----		
1.32	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		

	0.03	-----	-----		
1.28	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
1.26	0.016	0.016	0.016	0.1	0.3
1.24	0.045	-----	-----	0.1	0.3
	0.03	-----	-----		
1.17	0.045	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	-----	0.05		
1.1	0.045	-----	-----	0.1	0.3
	0.03	-----	-----		
1.04	0.045	0.03	0.04	0.1	0.3
.95	0.045	0.03	0.04	0.1	0.3
.88	0.045	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
.83	0.045	0.03	0.04	0.1	0.3
.76	0.045	0.03	0.04	0.1	0.3
.68	0.055	0.03	0.055	0.1	0.3
.59	0.055	0.03	0.055	0.1	0.3
.5	0.055	0.03	0.055	0.1	0.3
.43	0.055	0.03	0.055	0.1	0.3
.34	0.055	0.03	0.055	0.1	0.3
.27	0.055	0.03	0.055	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.016	0.055
Right Overbank n Value:	0.016	0.065
Channel n Value:	0.016	0.055
Contraction Coefficient:	0.1	0.3
Expansion Coefficient:	0.3	0.5

ROUGHNESS COEFFICIENT CHECK

RS: 1.26
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 1.26
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 1.26
NT RC 03 Channel n value is equal to or less than 0.025
The n value of the channel is usually larger than 0.025.
The n value should be reevaluated it if is not representing a concrete lined channel.

RS: 1.26
NT RC 05 The left overbank n value of 0.016 and the right overbank n value of 0.016 are less than or equal to the channel n value of 0.016
The overbank n values should be reevaluated.

NOTE: R.S. 1.26 represents Narramore Rd.
No changes were made.

TRANSITION LOSS COEFFICIENT CHECK

```
RS:       7.55
NT TL 02 Contraction and expansion loss coefficients are 0.3 and 0.5
         respectively. However, this cross section is not at the structure.
         They should be equal to 0.1 and 0.3.

RS:       3.62
NT TL 02 Contraction and expansion loss coefficients are 0.3 and 0.5
         respectively. However, this cross section is not at the structure.
         They should be equal to 0.1 and 0.3.

ROUGHNESS COEFFICIENT AT STRUCTURES
-----------------------------------

RS:       8.065
NT RS 02 The channel n value of 0.035 for the upstream internal bridge opening
         section is equal or larger than the channel n value of 0.035 at Section 3.
         Usually, the channel n value of the bridge opening section is
         less than the channel n value of Section 3.
         The selection of the n value(s) should be reevaluated.

RS:       8.065
NT RS 02 The channel n value of 0.018 for the downstream internal bridge opening
         section is equal or larger than the channel n value of 0.018 at Section 2
         Usually, the channel n value of the bridge opening section is
         less than the channel n value of Section 2.
         The selection of the n value(s) should be reevaluated.

---END---
```

NOTE: 1) A channel 'n' value of 0.035 was used to account for the debris on the upstream side.

2) the 'n' value of 0.018 was used to account for the clean sandy bottom.

CHECK-RAS STRUCTURE WATERMAN WASH

BOTH LEVEES IN PLACE

BOTH LEVEES IN PLACE

WatermanWashwith.br
CHECK-RAS Program: Structure Check

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.br
Selected profiles: 100-Year
Date: 1/11/2012
Time: 10:03:25 AM

RS	MaxLoChord	MnTpRd	EGEL	WSEL	MinChEl	Structure
Waterman Wash,Reach 1						
16.72			1152.18	1152	1144.4	
16.64			1150.89	1150.65	1142.47	
16.53			1149.49	1149.3	1140.96	
16.45			1148.79	1148.56	1140.48	
16.38			1147.87	1147.37	1138.9	
16.32			1146.87	1146.62	1138.5	
16.23			1145.82	1145.51	1136.8	
16.15			1144.96	1144.75	1135.74	
16.08			1144.21	1143.51	1134.97	
16.02			1142.77	1142.58	1134.03	
15.95			1141.92	1141.66	1133.08	
15.86			1141.11	1140.9	1131.78	
15.65			1138.34	1137.44	1130.19	
15.61			1137.27	1136.94	1129.85	
15.54			1136.34	1135.88	1128.52	
15.48			1135.25	1134.96	1127.48	
15.4			1134.18	1133.87	1125.97	
15.35			1133.46	1133.21	1125.39	
15.3			1132.44	1131.98	1124.54	
15.2			1130.66	1130.09	1122.94	
15.12			1129.01	1128.57	1121.3	
15.08			1128.31	1128	1121.4	
15.02			1127.79	1127.4	1120.45	
14.95			1127.17	1126.73	1119.41	
14.88			1126.08	1125.23	1117.9	
14.83			1125.06	1124.62	1116.9	
14.73			1124.14	1123.88	1114.43	
14.63			1123.26	1122.48	1113.3	
14.57			1122.66	1122.01	1112.03	
14.49			1120.72	1120.49	1110.58	
14.4			1120.13	1119.93	1109.34	
14.3			1118.9	1117.96	1107.7	
14.21			1117.14	1116.07	1105.6	
14.12			1116.22	1115.21	1104.91	

14.05	1115.34	1114.56	1103.29
13.96	1113.73	1112.54	1102.82
13.88	1112.09	1110.99	1101.92
13.81	1111.04	1110.21	1100.83
13.74	1110.04	1108.92	1100.24
13.68	1108.75	1107.64	1099.59
13.61	1107.71	1107.33	1099.1
13.53	1107.18	1106.74	1098.25
13.44	1106.3	1105.45	1097.1
13.38	1105.46	1104.73	1095.4
13.3	1104.2	1102.73	1095.17
13.23	1103.08	1102.78	1093.66
13.16	1102.25	1100.56	1092.7
13.08	1100.52	1099.79	1090.9
12.87	1097.77	1096.91	1087.24
12.79	1096.06	1095.68	1086.6
12.73	1095.32	1094.8	1085.3
12.65	1093.72	1092.98	1083.78
12.56	1092.11	1092	1082.94
12.48	1091.56	1090.66	1081.86
12.42	1090.52	1089.83	1081.44
12.35	1089.57	1088.62	1080.81
12.26	1088.23	1087.16	1079.64
12.21	1087.57	1087.21	1079.03
12.16	1087.33	1087.09	1078.4
12.04	1086.2	1083.71	1076.41
11.92	1082.5	1082.02	1074.64
11.8	1080.91	1080.48	1072.73
11.73	1080.41	1079.98	1071.55
11.67	1079.73	1078.74	1070.78
11.62	1079.33	1079.3	1070.03
11.55	1078.91	1076	1069
11.45	1075.5	1074.92	1067.22
11.39	1075.21	1075.16	1066.61
11.33	1075.14	1075.13	1065.4
11.24	1075.08	1075.03	1063.75
11.16	1074.66	1072.26	1062.16
11.07	1072.77	1070.46	1060.9
10.99	1070.55	1067.4	1059.5
10.92	1066.86	1066.83	1058.17
10.87	1066.66	1066.14	1057.7
10.75	1064.85	1064.71	1055.53
10.6	1064.15	1061.96	1052.86
10.45	1059.19	1057.22	1050.55
10.26	1059.86	1058.38	1047.3
10.18	1058.28	1056.52	1046.76
10.1	1056.78	1055.86	1045.1
10.04	1056	1054.94	1044.49
9.96	1054.78	1053.65	1043.36
9.91	1053.98	1052.85	1042.45
9.85	1052.46	1049.46	1041.16
9.77	1048.66	1048.13	1040.21
9.68	1047.3	1046.93	1038.6
9.61	1046.31	1045.81	1037.45
9.53	1045.22	1044.82	1037.06
9.47	1044.26	1043.96	1036.35
9.4	1042.95	1042.27	1035.27
9.32	1042.04	1041.98	1033.86
9.27	1041.65	1041.33	1033.3
9.18	1040.93	1040.84	1030.11
9.09	1039.8	1037.53	1029
9	1038.01	1037.99	1027.46
8.94	1037.85	1037.34	1026.26

8.86			1036.52	1035.28	1024.39	
8.78			1034.81	1033.44	1023.52	
8.72			1032.89	1031.61	1022.5	
8.64			1030.28	1029.81	1021.98	
8.56			1028.6	1028.23	1018.86	
8.44			1027.26	1026.95	1017.72	
8.37			1025.97	1025.13	1016.1	
8.29			1024.52	1024.03	1015.3	
8.23			1023.75	1023.37	1013.7	
8.1			1023.07	1022.99	1010.5	
8.07			1022.35	1020.48	1011.31	
8.065	1020.4	1021.5	1022.35	1020.48	1011.55	Bridge #1-Up
8.065	1020.4	1021.58	1022.26	1020.48	1011	Bridge #1-Dn
8.06			1021.77	1019.68	1011	
7.95			1019.72	1019.09	1008.3	
7.86			1017.78	1016.75	1007.38	
7.78			1015.85	1015.41	1006.1	
7.71			1015.07	1014.87	1003.45	
7.55			1012.7	1010.71	1000.34	
7.47			1010.81	1010.38	1000.8	
7.4			1009.76	1007.54	997.15	
7.31			1007.81	1007.18	998	
7.23			1006.69	1005.64	996.25	
7.14			1005.06	1003.87	994.92	
7.07			1003.59	1002.31	993.78	
7			1002.51	1001.91	992.45	
6.94			1001.14	1000.6	991.53	
6.88			999.83	999.31	990.45	
6.75			997.16	996.5	988.14	
6.68			995.75	995.35	987.07	
6.6			994.58	993.65	985.56	
6.49			992.51	991.86	983.7	
6.42			991.42	990.69	981.3	
6.34			989.36	988.99	979.9	
6.27			988.47	987.72	979.4	
6.2			987.26	986.32	979.3	
6.08			985.22	984.38	977.3	
5.96			982.3	981.88	974.9	
5.88			981.19	980.75	973.8	
5.81			980.26	979.99	972.8	
5.75			979.73	979.49	971.65	
5.68			978.68	977.97	969.46	
5.59			976.83	976.39	967.03	
5.46			974.88	974.01	964.1	
5.42			973.97	973.47	963.9	
5.35			972.55	972.09	962.8	
5.29			971.79	971.48	962.4	
5.2			970.7	970.17	960.86	
5.12			969.7	969.44	959.6	
5.04			968.66	967.19	958.65	
4.95			966.68	965.41	955.24	
4.89			965.2	964.01	954.9	
4.82			963.74	963.07	955.1	
4.76			962.95	962.19	954.86	
4.67			960.72	959.53	953.3	
4.62			959.45	958.6	952.38	
4.55			958.6	957.86	949.57	
4.49			957.29	955.81	948.7	
4.44			955.7	954.98	947.77	
4.35			954.02	953.61	945.6	
4.3			952.92	952.13	944.35	
4.23			951.76	951.4	942.76	
4.14			950.59	949.67	941.46	

4.09	949.1	947.58	940.5
4	946.81	946.61	938.51
3.91	945.99	945.24	937.22
3.86	945.11	944.4	936.12
3.76	942.84	940.98	934.37
3.69	941.05	940.22	932.35
3.62	939.59	937.75	931.07
3.56	938.1	937.48	929.78
3.49	936.98	934.89	928.34
3.31	932.58	932.07	924.58
3.23	931.38	930.79	922.8
3.16	929.59	928.02	922.2
3.1	927.65	926.77	920.78
3.01	925.87	925.19	919.77
2.94	924.15	923.28	917.6
2.85	922.32	921.81	915.1
2.79	920.81	919.82	913.6
2.7	918.47	917.8	911.28
2.61	916.49	915.8	909.5
2.57	915.72	915.36	908.5
2.5	914.69	914.21	908.2
2.47	914.27	913.91	907
2.4	913.4	912.73	906.1
2.34	911.62	910.09	904.3
2.26	909.67	908.72	901.48
2.17	908.31	907.37	900
2.08	906.78	905.56	898
1.99	905.24	904.52	895.1
1.94	904.14	902.64	895.8
1.85	902.16	901.01	893.9
1.77	901.02	900.49	892.72
1.69	899.89	898.6	891.24
1.6	897.71	896.32	889.68
1.51	895.33	893.86	887.63
1.44	893.13	892	886.02
1.37	891.53	890.42	884.7
1.32	890.48	889.7	883.82
1.28	889.51	887.89	882.69
1.26	888.91	887.38	883.36
1.24	888.15	887.09	880.98
1.17	886.67	885.21	879.35
1.1	885.05	884.5	878.04
1.04	884.01	882.98	877.42
0.95	882.13	881.85	875.46
0.88	881.2	880.26	873.8
0.83	879.63	879.27	872.97
0.76	878.74	877.74	870.77
0.68	877.85	877.56	868.24
0.59	877.05	875.57	865.76
0.5	875.3	873.15	863.8
0.43	873.33	870.78	862.64
0.34	869.89	868.24	860.62
0.27	865.47	864.23	858.4

RIVER/REACH: Waterman Wash, Reach 1
RIVER STATION: 8.065
TYPE OF STRUCTURE: Bridge

Description:
Distance from Upstream XS: 10

Deck/Roadway Width: 31
Weir Coefficient: 2.6
Maximum allowable submergence for weir flow: 0.98
Elevation at which weir flow begins: 1021.7
Weir crest shape: Broad Crested

Sec	River Station	Length Channel	WSEL	Surch.	EGEL	TopWidth Actual	
4	8.1	156.54	1022.99		1023.07	4915.37	
3	8.07	86.94	1020.48		1022.35	127.43	
	8.065	31.00	1020.48		1022.35	0	Bridge #1-Up
	8.065	45.94	1020.48		1022.26	0	Bridge #1-Dn
2	8.06	556.98	1019.68		1021.77	122.44	
1	7.95	462.23	1019.09		1019.72	554.74	

	Ineffective Flow, Section 3 Sta L	Sta R	Elev	Ineffective Flow, Section 2 Sta L	Sta R	Elev
1	0	2167.57	1021.5	0	2154.61	1021.5
2	2295	5263.74	1021.5	2277.05	5339.02	1021.5

BRIDGE:
Bridge Name: Bridge #1
LowFlowMethod: Highest Energy Answer
Momentum Cd: 1.22
HighFlowMethod: Pressure and Weir flow
SluiceGate Cd: 0 Submerged Cd: 0.8

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

MaxLowChord: 1020.4 MinTopRd: 1021.7 MinElPrs: 1020.4

Opening Type	StagStaL	StagStaR	EncStaL	EncStaR	LIfStaS	RIfStaS
Bridge					2167.57	2295 U
					2154.61	2277.05D

	LAbutSt	RAbutSt	LMnTpRd	RMnTpRd	MnTpRd	MxLoCd
Bridge #1	2167.57	2294.24	1021.70	1021.50	1021.50	1020.40 U
	2154.61	2277.06	1021.70	1021.58	1021.58	1020.40 D

Name	Q Total.	Q Struc	Q Weir	Selected Method	Flow Type
Bridge #1	11053	4951.5	6101.5	Press/Weir	Sluicegate Pressure and Weir Flow

---

GEOMETRIC CHECK

RS: 8.065
ST GD 03 The end station of 5000.087 from upstream road/weir data
is less than the end station of 5263.74 from upstream internal
section/section 3.
The high chord elevation of 1021.7 for the end road/weir station is
greater than the ground elevation of 1021.5 for the same ground station.
The road/weir profile may need to be extended.

RS: 8.065
ST GD 03 The end station of 5250.087 from downstream road/weir data
is less than the end station of 5339.02 from downstream internal
section.
The high chord elevation of 1021.7 for the end road/weir station is
greater than the ground elevation of 1021.594 for the same ground station.
The road/weir profile may need to be extended.

TYPE OF FLOW CHECK

RS: 8.065 This is Bridge #1
BR PW 01 Type of sluicegate pressure and weir flow because,
1. EGEL 3 of 1022.35 is greater than MinTopRd of 1021.70.
2. EGEL 3 of 1022.35 is equal to or greater than MxLoCdU of 1020.40.
3. WSEL 2 of 1019.68 is less than MxLoCdD of 1020.40.

DISTANCE CHECK

INEFFECTIVE FLOW CHECK

The ineffective elev. is lower than the MnTpRd 1021.7

RS: 8.07 This is Section 3
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 0
and 2167.57 is equal to or greater than the WSEL of 1020.48
The LMnTpRdU is 1021.7
The ineffective flow elevation should be equal to or lower than the MnTpRd
It should also be less than the WSEL.

The ineffective elev. is equal to MnTpRd 1021.5

RS: 8.07 This is Section 3
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 2295
and 5263.74 is equal to or greater than the WSEL of 1020.48
The RMnTpRdU is 1021.5
The ineffective flow elevation should be equal to or lower than the MnTpRd
It should also be less than the WSEL.

The ineffective elev. is between LMnTpRdD and the MxLoCdD. (1021.5)

RS: 8.06 This is Section 2
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 0
and 2154.61 is equal to or greater than the WSEL of 1019.68
The LMnTpRdD is 1021.7 and the MxLoCdD is 1020.4
The ineffective flow elevation should be between the LMnTpRdD and the
MxLoCdD
if LMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to
LMnTpRdD.
It should also be less than the WSEL.

The ineffective elev. 1021.5, is between RMnTpRdD and MxLoCdD.

```
RS:       8.06 This is Section 2
ST IF 02  Weir flow occurs at Bridge
          However, the ineffective flow elevation of 1021.5 between stations 2277.05
          and 5339.02 is equal to or greater than the WSEL of 1019.68
          The RMnTpRdD is 1021.58 and the MxLoCdD is 1020.4
          The ineffective flow elevation should be between the RMnTpRdD and the
MxLoCdD
          if RMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to
RMnTpRdD.
          It should also be less than the WSEL.

RS:       8.1 This is Section 4
ST IF 07  Ineffective flow option was considered at this section.
          However, it should be a fully expanded cross section.
          Ineffective flow stations and elevations should be cleared from
          this section, unless the areas beyond the ineffective flow stations
          are not within the flow path of the stream.
          This message should be ignored if this section is Section 2 of
          the upstream structure.

RS:       7.95 This is Section 1
ST IF 07  Ineffective flow option was considered at this section.
          However, it should be a fully expanded cross section.
          Ineffective flow stations and elevations should be cleared from
          this section, unless the ares beyond the ineffective flow stations
          are not within the flow path of the stream.
          This message should be ignored if this section is Section 3 of the
downstream
          structure.

---END
```

CHECK-RAS XS WATERMAN WASH

LEFT LEVEES IN PLACE

LEFT LEVEE
IN PLACE

WatermanWashwith.xs
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.xs
Selected profiles: 100-Year
Date: 1/11/2012
Time: 10:08:41 AM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
Waterman Wash,Reach 1						
16.72	404.08	448.8	517.85	1653.81	5805	D
16.64	676.46	595.37	600.83	1365.13	5805	D
16.53	472.26	403.34	339.73	1372.04	5805	D
16.45	393.63	354.01	317.66	1306.6	5805	D
16.38	319.5	348.14	334.23	1040.4	5805	D
16.32	559.19	482.29	454.61	1125.78	5805	D
16.23	331.21	415.03	490.74	934.26	5805	D
16.15	279.47	314.57	319.83	939.92	5805	D
16.08	328.83	329.57	352.58	861.05	5805	D,C
16.02	386.58	394.67	400.94	1133.99	5805	D
15.95	439.12	452.2	460.53	1465.75	5805	D
15.86	1309.61	1099.69	923.54	1074.86	5805	D
15.65	224.85	221.54	216.04	989.4	8568	D,C
15.61	376.34	370.15	366.44	1310.68	8568	D
15.54	304.19	349.22	387.24	1208.28	8568	D
15.48	348.3	397.53	439.79	1369.78	8568	D
15.4	264.65	279.95	293.08	1474.05	8568	D
15.35	241.16	283.4	364.3	1410.47	8568	D
15.3	495.47	501.45	395.4	1092.21	8568	D
15.2	527.9	427.46	407.54	1055.6	8568	D
15.12	228.21	234.54	240.04	863.65	8568	D
15.08	253.95	281.92	249.71	954.42	8568	
15.02	478.6	381.4	349.61	889.04	8568	D
14.95	237.44	380.92	508.92	954.98	8568	D
14.88	258.28	265.64	271.69	917.53	8568	D
14.83	499.38	493.03	492.7	1000.12	8568	D
14.73	557.66	530.26	501.99	1302.12	8568	D
14.63	361.64	316.62	277.59	1239.26	8568	D
14.57	456.23	450.7	446.27	1993.16	8568	D,C
14.49	474.13	466.06	458.74	1678.25	8568	D
14.4	588.12	545.34	541.17	1926.25	8568	D
14.3	471.53	474.3	478.9	1577.21	9764	D,C

14.21	481.8	450.92	421.78	938.46	9764	D
14.12	318.55	371.2	412.07	1028.08	9764	D
14.05	438.29	470.2	502.75	1119.63	9764	D,C
13.96	483.78	444.56	396.35	968.03	9764	D,C
13.88	365.75	383.87	384.19	834.44	9764	D
13.81	236.52	347.55	471.6	689.35	9764	
13.74	254.58	323.38	380.77	780.43	9764	D
13.68	411.35	376.86	348.16	724.21	9764	D
13.61	381.52	380.5	382.16	737.95	9764	D
13.53	491.67	484.87	476.75	782.42	9764	D
13.44	340.95	353.44	363.92	757.56	9764	D
13.38	331.9	380.54	420.8	865.92	9764	D
13.3	391.6	376.16	363.6	1082.85	9764	D
13.23	449.62	406.3	355.92	1437.4	9764	
13.16	550.52	443.99	367.97	878.16	9764	D,C
13.08	1072.44	1051.92	1034.1	2254.52	10213	D,C
12.87	419.81	420.01	420.19	1069.23	10213	C
12.79	314.79	308.87	303.76	1337.78	10213	D
12.73	480.77	463.53	448.8	1431.31	10213	
12.65	466.2	458.39	451.83	1156.36	10213	D,C
12.56	377.73	380.88	383.31	2920.07	10213	D
12.48	334.63	331.29	328.46	1225.52	10213	D,C
12.42	380.85	381.71	382.4	1295.79	10213	
12.35	459.45	478.95	495.74	1160.27	10213	D,C
12.26	271.68	274.29	276.53	959.58	10213	D,C
12.21	227.84	244.91	259.67	919.4	10213	D
12.16	598.21	629.82	656.82	778.87	10213	D
12.04	555.41	613.02	662.42	948.78	10213	D,C
11.92	686.05	664.01	632.66	2803.56	10213	D
11.8	328.73	348.49	377.25	1415.51	10213	D,C
11.73	271.46	317.2	354.8	2262.88	10213	D
11.67	393.15	286.02	196.77	2147.11	10213	D
11.62	314.74	354.23	376.51	1894.86	10213	D
11.55	648.14	532.19	443.74	1906.66	10846	D,C
11.45	326.01	295.5	262.16	724.24	10846	D
11.39	484.95	365.19	266.52	3697.84	10846	D,C
11.33	378.98	456.96	525.83	5227.6	10846	D
11.24	275.07	421.28	548.23	851.73	10846	D,C
11.16	215.36	470.43	681.12	1614.3	10846	D
11.07	428.15	401.17	379.83	1621.48	10846	D,C
10.99	454.27	426.23	403.47	2400.99	10846	D,C
10.92	320.24	240.39	202.41	2688.54	10846	D
10.87	541.96	643	698.17	4497.95	10846	D,C
10.75	958.84	790.92	654.93	2565.56	10846	D,C
10.6	873.18	785.62	738.97	1462.48	10846	D,C
10.45	1027.14	1029.17	1000.24	2499.4	10971	D
10.26	433.03	419.12	407.17	1931.4	10971	D
10.18	421.31	411.18	402.74	1693.27	10971	D
10.1	330.32	307.85	288.1	1823.66	10971	D
10.04	458.34	424.34	394.74	1721.61	10971	D
9.96	317.26	280.33	247.78	1673.62	10971	D
9.91	327.15	283.9	245.24	1590.91	10971	D
9.85	466.33	445.58	427.47	1592.45	10971	D
9.77	332.56	444.72	543.36	1375.76	10971	D
9.68	409.51	419.96	429.8	1493.18	10971	D
9.61	355.82	383.57	407.41	1045.53	10971	D
9.53	306.75	327.08	344.6	1211.25	10971	
9.47	359.17	352.51	346.99	1422.2	10971	
9.4	429.24	422.68	418.19	1683.21	10971	D
9.32	293.76	300.22	304.44	1684.04	10971	D
9.27	535.05	479.39	431.08	1683.1	10971	D
9.18	484.7	473.34	462.27	1493.23	10971	D
9.09	435.93	433.69	431.97	1110.73	10971	D

9	340.44	323.41	308.11	1243.88	10971	
8.94	447.56	465.85	477.06	1285.89	10971	D
8.86	344.85	372.52	396.7	1265.02	10971	D
8.78	291.56	334.96	373.15	889.67	10971	D
8.72	391.66	401.51	523.31	974.52	10971	D
8.64	429.19	403.91	355.23	788.41	10971	D,C
8.56	495.97	636.29	668.88	2777.77	10971	D,C
8.44	439.16	417.38	399.1	2550.29	11053	D
8.37	407.38	401.76	397.19	1343.43	11053	D
8.29	281.88	325.66	278.33	2467.82	11053	D
8.23	274.55	680.81	1004.7	2662	11053	D
8.1	108.29	156.54	197.67	4915.39	11053	
8.07	108.34	86.94	79.42	127.43	11053	
8.065	Bridge #1-Up					
8.065	Bridge #1-Dn					
8.06	923.65	556.98	340.59	122.44	11053	
7.95	509.18	462.23	421.3	2619.97	11053	D
7.86	445.14	440.72	441.61	2459.48	11053	D
7.78	330.76	378.11	404.76	1419.52	11053	
7.71	900.07	839.85	797.83	3280.02	11053	D
7.55	419.63	423.97	428.65	289.1	11053	D
7.47	400.57	353.25	341.19	1594.59	11053	D
7.4	511.71	445.35	390.75	301.27	11053	
7.31	567.96	467.72	384.33	1355.25	11053	D
7.23	397.42	471.92	511.41	1248.46	11053	D
7.14	380.9	375.1	373.95	246.7	11053	D
7.07	340.6	338.15	323.53	1083.53	11053	D
7	328.5	342.01	353.82	2998.22	11053	D,C
6.94	289.05	314.91	336.96	2863.35	11053	D,C
6.88	660.1	683.68	703.78	2430.73	11053	D,C
6.75	376.47	365.47	356.12	2296.06	11053	D,C
6.68	401.98	399.26	395.29	2392.41	11053	D
6.6	603.46	615.29	627.12	1764.98	11053	D,C
6.49	356.38	366.53	375.1	2186.58	11053	D,C
6.42	416.41	418.73	420.71	2353.72	11053	D,C
6.34	386.68	351.55	321.54	1914.2	11053	D
6.27	423.11	390.3	363.05	1694.07	11053	D
6.2	650.83	638.45	626.95	1416.22	11053	D,C
6.08	538.25	630.83	709.9	1506.14	11053	D,C
5.96	405.42	404.97	404.68	1435.16	11053	D
5.88	356.42	359.42	319.8	1490.5	11053	D
5.81	407.2	334.59	316.8	1216	11053	D
5.75	399.87	399.25	396.73	1500.96	11053	D
5.68	380.08	438.19	486.75	1103.57	11053	D
5.59	525.73	687.21	838.29	988.11	11053	
5.46	291.14	246.55	191.12	924.51	11053	D
5.42	316.8	346.08	373.4	1061.47	11053	D
5.35	314.2	305.89	299.05	869.52	11053	D
5.29	457.44	454.08	451.34	842.08	11053	D
5.2	442.74	460.86	475.72	658.42	11053	
5.12	379.55	409.57	433.85	920.7	11053	D
5.04	468.6	472.88	476.47	707.97	11053	D
4.95	338.27	333.46	329.53	1011.77	11053	D,C
4.89	390.75	375.05	362.37	942.01	11053	D,C
4.82	294.59	292.48	269.23	1277.04	11053	D
4.76	450.14	451.63	448.52	1306.65	11053	D
4.67	367.36	285.68	274.43	780.74	11053	D,C
4.62	367.21	371.75	345.45	868.83	11053	D
4.55	406.59	331.41	139.06	779.75	11053	D
4.49	347.19	259.79	314.21	633.2	11053	D
4.44	478.6	459.33	442.68	1122.3	11053	D
4.35	233.78	278.23	169.2	1060.58	11053	D
4.3	488.6	390.25	401.64	661.34	11053	D

4.23	509.97	478.75	429.32	882.37	11053	D
4.14	331.09	259.67	267.77	829.12	11053	
4.09	486.59	450.57	418.6	500.56	11053	D,C
4	468.49	473.03	477.39	950.26	11053	D
3.91	257.12	292.58	324.55	1035.06	11053	D
3.86	410.9	490.26	975.61	909.85	11053	D
3.76	327.23	373.78	414.68	465.47	11053	D,C
3.69	301.55	405.84	495.3	994.97	11381	D
3.62	303.17	315.36	301.98	399.9	11381	D
3.56	410.37	359.42	314.95	774.21	11381	D
3.49	947.8	976.29	991.82	304.71	11381	D
3.31	388.75	417.06	449.94	578.82	11381	
3.23	354.19	367.5	379.26	821.14	11381	
3.16	311.29	325.39	337.21	392.68	11381	D
3.1	401.68	450.36	491.14	501.18	11381	
3.01	695.1	388.82	385.69	642.83	11381	
2.94	217.85	448.46	367	588.9	11381	
2.85	400.22	343.35	283.43	716.28	11381	
2.79	595.69	451.55	327.05	729.42	11381	
2.7	620.42	463.17	311.24	687.24	11421	D
2.61	202.76	221.06	244.98	748.98	11421	D
2.57	121.27	363.17	575.59	678.17	11421	
2.5	130.87	174.7	94.59	584.64	11421	
2.47	262.08	392.56	625.49	628.92	11421	D
2.4	294.95	315.78	337.54	573.07	11421	D
2.34	388.81	378.82	369.25	373.12	11421	D
2.26	470.75	479.33	486.47	364.5	11421	D
2.17	655.61	492.77	353.57	395.08	11421	D,B
2.08	525.12	459.95	402.8	314.7	11421	D
1.99	334.87	282.91	237.02	347.51	11421	
1.94	491.45	454.63	421.07	440.91	11421	D
1.85	469.53	421.13	376.18	374.31	11421	
1.77	392.78	433.41	470.52	455.72	11421	D
1.69	398.27	479.42	552.85	298.23	11421	
1.6	415.9	462.26	503.31	333.98	11421	
1.51	410.66	407.33	404.47	413.39	11421	
1.44	356.33	337.06	320.11	629.65	11421	D
1.37	264.63	260.87	247.75	664.26	11421	
1.32	244.37	206.14	79.67	773.96	11421	
1.28	241.64	133.96	132.44	395.7	11421	D,C
1.26	96.68	101.28	101.84	404.66	11421	C
1.24	301.71	344.22	392.89	304.59	11421	
1.17	340.3	364.37	386.25	470.8	11421	C
1.1	282.53	322.96	358.47	830.59	11421	D
1.04	480.73	470.16	461.47	816.93	11421	C
.95	423.98	413.74	406.05	1004.24	11421	
.88	268.51	264.49	259.04	1033.99	11421	C
.83	340.54	344.84	348.77	1081.76	11421	D
.76	424.36	449.52	472.19	1036.43	11421	C
.68	336.32	472.25	591.58	923.86	11421	D,B
.59	316.14	457.4	577.1	1080.37	11421	D,C,B
.5	297.81	349.43	259.63	991.05	11421	D,B
.43	615.07	483.77	464.95	977.26	11421	D
.34	396.87	359.39	344.36	1616.5	11421	D,C
.27	1428.51	1445.97	1448.47	756.18	11421	D

B=blocked obstruction XS SC 05
C=critial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02
K=known water-surface XS SC 04

DISTANCE CHECK

RS: 4.49
XS DT 01 Both right and left overbank distances are longer than the channel distance.

NOTE: Distances were verified

SPACING CHECK

INEFFECTIVE FLOW CHECK

RS: 15.4
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 15.2
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 15.12
XS IF 01 Right Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 14.88
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 14.63
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 14.57
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 14.49
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 13.16
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 11.92
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 9.53
XS IF 01 Left Levee option is used at this river station

NOTE: Artificial levees were used at actual Non-Levee embankment locations. In addition Artificial levees were also used to eliminate flow areas that are parrallel to the floodplain that do not provide conveyance.

Please investigate whether the NFIP requirements
for levees are met.

RS: 9.53
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.47
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.47
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.4
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.4
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 8.37
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 7
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.94
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.94
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.88
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.88
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.96
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

```
RS:       5.81
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       5.75
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       5.68
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       5.59
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       5.46
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       5.42
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       5.35
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       5.29
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       4.95
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       4.44
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       4.14
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       4.09
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
         for levees are met.

RS:       3.91
XS IF 01 Left Levee option is used at this river station
         Please investigate whether the NFIP requirements
```

for levees are met.

RS: 3.86
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.76
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.69
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.62
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.56
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.1
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.61
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.57
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.57
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.5
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.47
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.4
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.08

XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.99
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.99
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.94
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.85
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.69
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.51
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.24
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.17
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.17
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.43
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.27
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

DISCHARGE CHECK

LOCATION CHECK

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is Waterman Wash,Reach 1
Normal S = 0.0055 is specified as the downstream boundary
for profile 100-Year

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

CHECK-RAS NT WATERMAN WASH

LEFT LEVEE IN PLACE

LEFT LEVEE IN PLACE

WatermanWashwith.nt
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.nt
Selected profiles: 100-Year
Date: 1/11/2012
Time: 10:08:39 AM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
Waterman Wash,Reach 1						
16.72		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
16.64		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
		-----	0.055	-----		
16.53		0.045	0.032	0.045	0.1	0.3
		0.055	0.055	-----		
		0.032	-----	-----		
16.45		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
		-----	0.055	-----		
16.38		0.045	0.032	0.055	0.1	0.3
		0.055	0.055	0.045		
		0.032	-----	-----		
16.32		0.045	0.045	0.032	0.1	0.3
		-----	0.055	0.055		
		-----	0.032	0.045		
16.23		0.045	0.035	-----	0.1	0.3
		0.035	0.055	-----		
		-----	0.045	-----		
16.15		0.045	0.055	0.055	0.1	0.3
		0.035	0.035	0.045		
		0.055	0.055	-----		
16.08		0.045	0.032	0.055	0.1	0.3
		0.055	-----	0.045		
16.02		0.045	0.035	0.045	0.1	0.3
15.95		0.045	0.035	0.045	0.1	0.3
15.86		0.045	0.035	0.045	0.1	0.3
15.65		0.045	0.032	0.05	0.1	0.3
		-----	0.05	0.045		
15.61		0.045	0.032	0.05	0.1	0.3
		-----	-----	0.045		
15.54		0.045	0.035	0.05	0.1	0.3
		-----	-----	0.045		
15.48		0.045	0.035	0.05	0.1	0.3
		-----	0.05	0.045		
15.4		0.045	0.034	0.055	0.1	0.3
		0.055	0.055	0.045		
15.35		0.045	0.034	0.055	0.1	0.3
		0.055	-----	0.045		
15.3		0.045	0.034	0.055	0.1	0.3
		0.055	-----	0.045		
15.2		0.045	0.032	0.055	0.1	0.3
		-----	-----	0.045		
15.12		0.045	0.032	0.055	0.1	0.3
		-----	0.055	0.045		
15.08		0.045	0.032	0.045	0.1	0.3
		-----	0.055	-----		
15.02		0.045	0.028	0.055	0.1	0.3
		0.028	0.055	0.045		
		-----	0.03	-----		
14.95		0.045	0.028	0.03	0.1	0.3
		-----	0.055	0.055		

	-----	-----	0.045		
14.88	0.045	0.028	0.055	0.1	0.3
	0.018	0.055	0.045		
	0.045	0.03	0.018		
	-----	0.055	0.045		
14.83	0.045	0.04	0.055	0.1	0.3
	0.018	0.055	0.045		
	0.045	-----	0.018		
	0.055	-----	0.045		
14.73	0.045	0.04	0.055	0.1	0.3
	0.055	0.055	0.045		
	-----	-----	0.018		
	-----	-----	0.045		
14.63	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.57	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.49	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.4	0.045	0.045	0.035	0.1	0.3
	-----	0.035	0.045		
	-----	-----	0.018		
	-----	-----	0.045		
14.3	0.045	0.035	0.045	0.1	0.3
14.21	0.045	0.028	0.055	0.1	0.3
	0.055	0.055	0.04		
14.12	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.045		
14.05	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.045		
13.96	0.045	0.028	0.055	0.1	0.3
	0.05	-----	0.04		
13.88	0.045	0.028	0.055	0.1	0.3
	0.055	0.055	0.04		
13.81	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.04		
13.74	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.68	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.61	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.53	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.44	0.045	0.05	0.055	0.1	0.3
	0.05	0.031	0.04		
	-----	0.055	-----		
13.38	0.045	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.035	-----	-----		
13.3	0.045	0.035	0.04	0.1	0.3
	0.055	-----	-----		
13.23	0.045	0.035	0.04	0.1	0.3
	0.05	-----	-----		
13.16	0.045	0.028	0.055	0.1	0.3
	0.04	-----	0.04		
	0.055	-----	-----		
13.08	0.045	-----	-----	0.1	0.3
	0.04	-----	-----		
	0.055	-----	-----		
	0.028	-----	-----		
12.87	0.035	0.036	0.04	0.1	0.3
	0.05	-----	-----		
12.79	0.035	0.05	-----	0.1	0.3
	0.05	0.036	-----		
	-----	0.04	-----		
12.73	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
12.65	0.04	0.055	0.055	0.1	0.3
	0.055	0.035	0.04		
12.56	0.04	0.035	0.055	0.1	0.3
	0.055	-----	0.04		

12.48	0.04	-----	-----	0.1	0.3
	0.028	-----	-----		
12.42	0.04	0.028	0.028	0.1	0.3
	-----	-----	0.055		
	-----	-----	0.04		
12.35	0.04	0.04	0.055	0.1	0.3
	-----	0.028	0.04		
12.26	0.04	0.04	0.028	0.1	0.3
	-----	0.028	0.055		
	-----	-----	0.04		
	-----	-----	0.016		
	-----	-----	0.04		
12.21	0.04	0.04	0.028	0.1	0.3
	-----	0.028	0.055		
	-----	-----	0.04		
	-----	-----	0.016		
	-----	-----	0.04		
12.16	0.045	0.045	0.028	0.1	0.3
	0.018	0.028	0.045		
	0.045	-----	0.016		
	-----	-----	0.045		
12.04	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.028	-----	-----		
11.92	0.045	-----	-----	0.1	0.3
	0.016	-----	-----		
	0.045	-----	-----		
	0.03	-----	-----		
	0.05	-----	-----		
11.8	0.04	0.03	0.05	0.1	0.3
	0.018	-----	0.04		
	0.045	-----	-----		
	0.045	-----	-----		
11.73	0.04	0.03	0.05	0.1	0.3
	0.018	-----	0.04		
	0.045	-----	-----		
11.67	0.045	0.03	0.05	0.1	0.3
	0.018	0.05	0.04		
	0.045	-----	-----		
	0.03	-----	-----		
11.62	0.04	0.028	0.028	0.1	0.3
	0.018	-----	0.05		
	0.045	-----	0.04		
11.55	0.04	0.045	0.028	0.1	0.3
	0.018	0.028	0.05		
	0.045	-----	0.05		
11.45	0.04	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.028	-----	-----		
11.39	0.04	0.028	0.045	0.1	0.3
	0.045	0.045	0.04		
11.33	0.04	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.028	-----	-----		
	0.045	-----	-----		
11.24	0.04	0.028	0.045	0.1	0.3
	0.045	-----	0.018		
	-----	-----	0.04		
11.16	0.04	0.045	0.028	0.1	0.3
	0.045	0.028	0.055		
	-----	-----	0.04		
11.07	0.04	0.028	0.055	0.1	0.3
	0.045	-----	0.016		
	-----	-----	0.04		
10.99	0.04	0.028	0.055	0.1	0.3
	0.045	0.055	0.016		
	0.028	-----	0.04		
10.92	0.04	0.028	0.055	0.1	0.3
	0.045	0.055	0.016		
	0.028	-----	0.04		
10.87	0.04	0.028	0.055	0.1	0.3
	0.05	0.055	0.028		
	0.028	-----	0.055		
	-----	-----	0.016		
	-----	-----	0.04		
10.75	0.04	0.016	-----	0.1	0.3
	0.05	0.04	-----		

	0.028	-----	-----		
	0.055	-----	-----		
10.6	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
10.45	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.045		
	-----	0.055	-----		
10.26	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
10.18	0.04	0.035	0.035	0.1	0.3
	0.055	-----	0.05		
	-----	-----	0.04		
10.1	0.04	0.035	0.05	0.1	0.3
	0.055	-----	0.04		
10.04	0.04	0.035	0.035	0.1	0.3
	0.05	-----	0.05		
	-----	-----	0.04		
9.96	0.04	0.035	0.05	0.1	0.3
	0.05	-----	0.04		
9.91	0.04	0.035	0.035	0.1	0.3
	0.05	-----	0.05		
	-----	-----	0.04		
9.85	0.04	0.035	0.05	0.1	0.3
	0.05	-----	0.04		
9.77	0.045	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.035	-----	-----		
9.68	0.045	0.033	0.055	0.1	0.3
	0.04	-----	0.045		
	0.05	-----	-----		
9.61	0.045	-----	-----	0.1	0.3
	0.04	-----	-----		
	0.033	-----	-----		
9.53	0.045	0.033	0.033	0.1	0.3
	0.04	-----	0.055		
	-----	-----	0.045		
9.47	0.04	0.037	0.055	0.1	0.3
	0.05	0.055	0.04		
	0.037	-----	-----		
9.4	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.037	-----	-----		
9.32	0.04	0.037	0.055	0.1	0.3
	0.05	-----	0.04		
9.27	0.035	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.039	-----	-----		
9.18	0.035	0.039	-----	0.1	0.3
	0.045	0.04	-----		
9.09	0.035	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.039	-----	-----		
9	0.035	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.04	-----	-----		
8.94	0.035	0.04	0.04	0.1	0.3
	0.05	-----	-----		
8.86	0.035	0.04	-----	0.1	0.3
	0.05	0.04	-----		
	0.04	-----	-----		
8.78	0.04	-----	-----	0.1	0.3
	0.04	-----	-----		
8.72	0.04	0.04	-----	0.1	0.3
	0.04	0.04	-----		
	0.04	-----	-----		
8.64	0.016	0.04	0.04	0.1	0.3
	0.04	-----	-----		
8.56	0.04	0.035	0.04	0.1	0.3
8.44	0.04	0.035	-----	0.1	0.3
	0.016	0.04	-----		
	0.04	-----	-----		
	0.035	-----	-----		
8.37	0.04	-----	-----	0.1	0.3
	0.035	-----	-----		
8.29	0.04	0.045	0.04	0.1	0.3
	0.016	0.035	0.018		
	0.045	0.04	0.04		

8.23		0.04	0.04	0.035	0.1	0.3
		-----	0.035	0.045		
8.1		0.04	0.035	-----	0.3	0.5
		0.016	0.04	-----		
		0.045	-----	-----		
		0.035	-----	-----		
8.07		0.04	0.035	0.04	0.3	0.5
		0.016	-----	-----		
		0.045	-----	-----		
		0.04	-----	-----		
8.065	Bridge-Up	0.04	0.035	0.04	0.3	0.5
		0.016	-----	-----		
		0.045	-----	-----		
		0.04	-----	-----		
8.065	Bridge-Dn	0.04	0.045	-----	0.3	0.5
		0.035	0.018	-----		
		0.045	0.04	-----		
8.06		0.04	0.045	-----	0.3	0.5
		0.035	0.018	-----		
		0.045	0.04	-----		
7.95		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.86		0.04	0.035	0.04	0.1	0.3
		0.035	0.04	0.016		
		0.045	-----	0.04		
		0.035	-----	-----		
7.78		0.04	0.035	0.035	0.1	0.3
		0.035	-----	0.04		
		0.045	-----	0.016		
		-----	-----	0.04		
7.71		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.55		0.04	-----	-----	0.3	0.5
		0.035	-----	-----		
7.47		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.4		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
7.31		0.04	0.035	0.04	0.1	0.3
7.23		0.04	0.035	0.04	0.1	0.3
7.14		0.04	0.032	-----	0.1	0.3
		0.032	0.04	-----		
7.07		0.04	-----	-----	0.1	0.3
		0.032	-----	-----		
7		0.04	-----	-----	0.1	0.3
		0.032	-----	-----		
6.94		0.04	0.055	0.032	0.1	0.3
		0.055	0.032	0.04		
6.88		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.75		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.68		0.04	0.032	0.032	0.1	0.3
		0.055	-----	0.055		
		-----	-----	0.04		
6.6		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.49		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.028	-----	-----		
6.42		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.028	-----	-----		
6.34		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
6.27		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
6.2		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
6.08		0.04	0.028	0.028	0.1	0.3
		0.055	-----	0.055		
		-----	-----	0.045		
5.96		0.04	0.055	0.028	0.1	0.3
		0.055	0.028	0.055		
		-----	-----	0.045		
5.88		0.04	-----	-----	0.1	0.3

5.81	0.04	-----	-----	0.1	0.3
5.75	0.04	0.04	0.055	0.1	0.3
	-----	0.055	0.03		
	-----	-----	0.055		
	-----	-----	0.045		
5.68	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
5.59	0.04	0.04	0.055	0.1	0.3
	-----	0.055	0.03		
	-----	-----	0.055		
	-----	-----	0.045		
5.46	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
5.42	0.04	0.03	0.055	0.1	0.3
	0.055	0.055	0.04		
	0.03	-----	-----		
5.35	0.055	-----	-----	0.1	0.3
	0.03	-----	-----		
5.29	0.055	-----	-----	0.1	0.3
	0.03	-----	-----		
5.2	0.055	0.032	0.055	0.1	0.3
5.12	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.032	-----	-----		
5.04	0.04	0.032	0.055	0.1	0.3
	0.055	-----	0.04		
4.95	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
4.89	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
4.82	0.018	0.03	0.055	0.1	0.3
	0.04	-----	0.04		
	0.055	-----	-----		
4.76	0.04	0.055	0.055	0.1	0.3
	0.018	0.035	0.045		
	0.045	0.055	-----		
	0.055	-----	-----		
4.67	0.045	0.035	0.045	0.1	0.3
	0.016	-----	-----		
	0.045	-----	-----		
4.62	0.045	0.035	0.045	0.1	0.3
	0.035	0.016	-----		
	-----	0.035	-----		
4.55	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
4.49	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
4.44	0.018	0.035	0.045	0.1	0.3
	0.045	-----	0.016		
	-----	-----	0.045		
4.35	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
4.3	0.045	-----	-----	0.1	0.3
	0.035	-----	-----		
4.23	0.045	0.035	0.045	0.1	0.3
4.14	0.045	-----	-----	0.1	0.3
	0.034	-----	-----		
4.09	0.045	-----	-----	0.1	0.3
	0.034	-----	-----		
4	0.045	0.055	0.045	0.1	0.3
	0.034	0.034	-----		
	0.055	-----	-----		
3.91	0.025	0.035	0.055	0.1	0.3
	0.045	0.055	0.045		
	0.055	-----	-----		
3.86	0.025	0.035	0.035	0.1	0.3
	0.045	-----	0.055		
	0.055	-----	0.045		
3.76	0.025	0.035	0.055	0.1	0.3
	0.045	-----	0.045		
	0.055	-----	-----		

3.69	0.025	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.055	-----	-----		
	0.03	-----	-----		
3.62	0.025	0.03	0.055	0.3	0.5
	0.045	-----	0.045		
	0.055	-----	-----		
3.56	0.055	0.03	0.055	0.1	0.3
	0.045	-----	0.045		
	0.055	-----	-----		
3.49	0.055	0.03	0.055	0.1	0.3
	-----	0.055	0.045		
3.31	0.055	0.035	0.045	0.1	0.3
	0.035	0.055	-----		
3.23	0.055	0.035	0.045	0.1	0.3
3.16	0.055	-----	-----	0.1	0.3
	0.035	-----	-----		
3.1	0.04	0.03	0.055	0.1	0.3
	0.055	0.055	0.045		
	0.03	-----	-----		
3.01	0.025	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
2.94	0.04	0.055	0.045	0.1	0.3
	0.055	0.032	0.055		
	-----	0.045	0.04		
2.85	0.04	-----	-----	0.1	0.3
	0.035	-----	-----		
2.79	0.018	0.035	0.055	0.1	0.3
	0.04	0.055	0.045		
	0.035	-----	-----		
2.7	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
2.61	0.045	0.035	0.045	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
2.57	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
	0.035	-----	-----		
2.5	0.04	0.055	-----	0.1	0.3
	0.045	0.035	-----		
	0.018	0.04	-----		
	0.045	-----	-----		
	0.055	-----	-----		
2.47	0.04	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
	0.03	-----	-----		
2.4	0.04	0.055	0.03	0.1	0.3
	0.018	0.03	0.016		
	0.055	-----	0.04		
2.34	0.045	0.055	0.04	0.1	0.3
	0.018	0.03	0.016		
	0.035	0.05	0.045		
2.26	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
2.17	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
2.08	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.03	-----	-----		
1.99	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.065		
	-----	0.055	-----		
1.94	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.065		
1.85	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.065		
1.77	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.03		
	-----	0.055	0.04		
1.69	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.04		
1.6	0.055	0.03	0.055	0.1	0.3

1.51	0.045	0.03	0.04	0.1	0.3
	0.055	0.04	0.045		
1.44	0.045	0.055	0.04	0.1	0.3
	0.055	0.03	0.045		
	-----	0.04	-----		
1.37	0.045	0.03	0.04	0.1	0.3
	0.055	0.04	0.045		
	0.03	-----	-----		
1.32	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
1.28	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
1.26	0.016	0.016	0.016	0.1	0.3
1.24	0.045	-----	-----	0.1	0.3
	0.03	-----	-----		
1.17	0.045	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	-----	0.05		
1.1	0.045	-----	-----	0.1	0.3
	0.03	-----	-----		
1.04	0.045	0.03	0.04	0.1	0.3
.95	0.045	0.03	0.04	0.1	0.3
.88	0.045	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
.83	0.045	0.03	0.04	0.1	0.3
.76	0.045	0.03	0.04	0.1	0.3
.68	0.055	0.03	0.055	0.1	0.3
.59	0.055	0.03	0.055	0.1	0.3
.5	0.055	0.03	0.055	0.1	0.3
.43	0.055	0.03	0.055	0.1	0.3
.34	0.055	0.03	0.055	0.1	0.3
.27	0.055	0.03	0.055	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.016	0.055
Right Overbank n Value:	0.016	0.065
Channel n Value:	0.016	0.055
Contraction Coefficient:	0.1	0.3
Expansion Coefficient:	0.3	0.5

ROUGHNESS COEFFICIENT CHECK

NOTE: R.S. 1.26 is Narramore Rd. No changes were made.

RS: 1.26
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 1.26
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 1.26
NT RC 03 Channel n value is equal to or less than 0.025
The n value of the channel is usually larger than 0.025.
The n value should be reevaluated it if is not representing a concrete lined channel.

RS: 1.26
NT RC 05 The left overbank n value of 0.016 and the right overbank n value of 0.016 are less than or equal to the channel n value of 0.016
The overbank n values should be reevaluated.

TRANSITION LOSS COEFFICIENT CHECK

RS: 7.55
NT TL 02 Contraction and expansion loss coefficients are 0.3 and 0.5 respectively. However, this cross section is not at the structure.
They should be equal to 0.1 and 0.3.

RS: 3.62
NT TL 02 Contraction and expansion loss coefficients are 0.3 and 0.5
respectively. However, this cross section is not at the structure.
They should be equal to 0.1 and 0.3.

ROUGHNESS COEFFICIENT AT STRUCTURES

RS: 8.065
NT RS 02 The channel n value of 0.035 for the upstream internal bridge opening
section is equal or larger than the channel n value of 0.035 at Section 3.
Usually, the channel n value of the bridge opening section is
less than the channel n value of Section 3.
The selection of the n value(s) should be reevaluated.

RS: 8.065
NT RS 02 The channel n value of 0.018 for the downstream internal bridge opening
section is equal or larger than the channel n value of 0.018 at Section 2
Usually, the channel n value of the bridge opening section is
less than the channel n value of Section 2.
The selection of the n value(s) should be reevaluated.

---END---

NOTE
Channel 'n' value of 0.035 represents debris on the upstream side.

Channel 'n' value of 0.018 was used to ~~calculate~~ represent clean sandy bottom.

CHECK-RAS STRUCTURE WATERMAN WASH

LEFT LEVEE IN PLACE

LEFT LEVEE IN PLACE

WatermanWashwith.br
CHECK-RAS Program: Structure Check

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.br
Selected profiles: 100-Year
Date: 1/11/2012
Time: 10:08:42 AM

RS	MaxLoChord	MnTpRd	EGEL	WSEL	MinChEl	Structure
Waterman Wash,Reach 1						
16.72			1152.18	1152	1144.4	
16.64			1150.89	1150.65	1142.47	
16.53			1149.49	1149.3	1140.96	
16.45			1148.79	1148.56	1140.48	
16.38			1147.87	1147.37	1138.9	
16.32			1146.87	1146.62	1138.5	
16.23			1145.82	1145.51	1136.8	
16.15			1144.96	1144.75	1135.74	
16.08			1144.21	1143.51	1134.97	
16.02			1142.77	1142.58	1134.03	
15.95			1141.92	1141.66	1133.08	
15.86			1141.11	1140.9	1131.78	
15.65			1138.34	1137.44	1130.19	
15.61			1137.27	1136.94	1129.85	
15.54			1136.34	1135.88	1128.52	
15.48			1135.25	1134.96	1127.48	
15.4			1134.18	1133.87	1125.97	
15.35			1133.46	1133.21	1125.39	
15.3			1132.44	1131.98	1124.54	
15.2			1130.66	1130.09	1122.94	
15.12			1129.01	1128.57	1121.3	
15.08			1128.31	1128	1121.4	
15.02			1127.79	1127.4	1120.45	
14.95			1127.17	1126.73	1119.41	
14.88			1126.08	1125.23	1117.9	
14.83			1125.06	1124.62	1116.9	
14.73			1124.14	1123.88	1114.43	
14.63			1123.26	1122.48	1113.3	
14.57			1122.66	1122.01	1112.03	
14.49			1120.72	1120.49	1110.58	
14.4			1120.13	1119.93	1109.34	
14.3			1118.9	1117.96	1107.7	
14.21			1117.14	1116.07	1105.6	
14.12			1116.22	1115.21	1104.91	
14.05			1115.34	1114.56	1103.29	
13.96			1113.73	1112.54	1102.82	
13.88			1112.09	1110.99	1101.92	
13.81			1111.04	1110.21	1100.83	
13.74			1110.04	1108.92	1100.24	
13.68			1108.77	1107.72	1099.59	
13.61			1107.55	1106.85	1099.1	
13.53			1106.68	1106.03	1098.25	
13.44			1105.42	1104.54	1097.1	
13.38			1104.39	1103.88	1095.4	
13.3			1103.61	1103.22	1095.17	
13.23			1103.08	1102.78	1093.66	
13.16			1102.25	1100.56	1092.7	
13.08			1100.52	1099.79	1090.9	
12.87			1097.77	1096.91	1087.24	
12.79			1096.06	1095.68	1086.6	
12.73			1095.32	1094.8	1085.3	
12.65			1093.72	1092.98	1083.78	
12.56			1092.11	1092	1082.94	
12.48			1091.56	1090.66	1081.86	

12.42			1090.52	1089.83	1081.44	
12.35			1089.57	1088.62	1080.81	
12.26			1088.22	1087.02	1079.64	
12.21			1087.02	1086.24	1079.03	
12.16			1086.38	1085.53	1078.4	
12.04			1084.52	1083.42	1076.41	
11.92			1082.1	1081.94	1074.64	
11.8			1080.29	1079.44	1072.73	
11.73			1079.08	1078.81	1071.55	
11.67			1078.64	1078.43	1070.78	
11.62			1078.18	1077.35	1070.03	
11.55			1077.28	1076.54	1069	
11.45			1074.78	1073.9	1067.22	
11.39			1073.94	1073.45	1066.61	
11.33			1073.19	1073.15	1065.4	
11.24			1072.58	1071.28	1063.75	
11.16			1070.64	1070.07	1062.16	
11.07			1068.93	1068.22	1060.9	
10.99			1067.54	1067.06	1059.5	
10.92			1066.31	1065.94	1058.17	
10.87			1065.71	1065.27	1057.7	
10.75			1064.04	1063.4	1055.53	
10.6			1060.44	1059.73	1052.86	
10.45			1058.26	1058.1	1050.55	
10.26			1056.34	1055.6	1047.3	
10.18			1054.73	1054.22	1046.76	
10.1			1053.52	1053.13	1045.1	
10.04			1052.66	1052.12	1044.49	
9.96			1051.32	1050.82	1043.36	
9.91			1050.54	1050.13	1042.45	
9.85			1049.9	1049.54	1041.16	
9.77			1048.66	1048.13	1040.21	
9.68			1047.3	1046.93	1038.6	
9.61			1046.31	1045.81	1037.45	
9.53			1045.21	1044.8	1037.06	
9.47			1044.16	1043.8	1036.35	
9.4			1043.02	1042.6	1035.27	
9.32			1041.13	1040.51	1033.86	
9.27			1039.88	1039.73	1033.3	
9.18			1038.73	1038.5	1030.11	
9.09			1037.57	1037.35	1029	
9			1036.71	1036.49	1027.46	
8.94			1036.17	1035.94	1026.26	
8.86			1035.24	1034.77	1024.39	
8.78			1033.9	1032.82	1023.52	
8.72			1032.46	1032	1022.5	
8.64			1030.3	1029.41	1021.98	
8.56			1028.33	1028	1018.86	
8.44			1026.62	1026.24	1017.72	
8.37			1025.33	1024.85	1016.1	
8.29			1024.17	1023.78	1015.3	
8.23			1023.61	1023.44	1013.7	
8.1			1023.07	1022.99	1010.5	
8.07			1022.35	1020.48	1011.31	
8.065	1020.4	1021.5	1022.35	1020.48	1011.55	Bridge #1-Up
8.065	1020.4	1021.58	1022.26	1020.48	1011	Bridge #1-Dn
8.06			1021.46	1018.81	1011	
7.95			1018.97	1018.65	1008.3	
7.86			1017.5	1016.77	1007.38	
7.78			1015.85	1015.41	1006.1	
7.71			1015.07	1014.87	1003.45	
7.55			1012.7	1010.71	1000.34	
7.47			1010.81	1010.38	1000.8	
7.4			1009.76	1007.54	997.15	
7.31			1007.81	1007.18	998	
7.23			1006.69	1005.64	996.25	
7.14			1005.06	1003.87	994.92	
7.07			1003.59	1002.31	993.78	
7			1002.51	1001.91	992.45	
6.94			1001.14	1000.6	991.53	
6.88			999.83	999.31	990.45	
6.75			997.16	996.5	988.14	
6.68			995.75	995.35	987.07	
6.6			994.58	993.65	985.56	
6.49			992.51	991.86	983.7	
6.42			991.42	990.69	981.3	
6.34			989.36	988.99	979.9	
6.27			988.47	987.72	979.4	
6.2			987.26	986.32	979.3	

6.08	985.22	984.38	977.3
5.96	982.3	981.88	974.9
5.88	981.19	980.75	973.8
5.81	980.26	979.99	972.8
5.75	979.73	979.49	971.65
5.68	978.68	977.97	969.46
5.59	976.83	976.39	967.03
5.46	974.88	974.01	964.1
5.42	973.97	973.47	963.9
5.35	972.55	972.09	962.8
5.29	971.79	971.48	962.4
5.2	970.7	970.17	960.86
5.12	969.7	969.44	959.6
5.04	968.66	967.19	958.65
4.95	966.68	965.41	955.24
4.89	965.2	964.01	954.9
4.82	963.74	963.07	955.1
4.76	962.95	962.19	954.86
4.67	960.72	959.53	953.3
4.62	959.45	958.6	952.38
4.55	958.6	957.86	949.57
4.49	957.29	955.81	948.7
4.44	955.7	954.98	947.77
4.35	954.02	953.61	945.6
4.3	952.92	952.13	944.35
4.23	951.76	951.4	942.76
4.14	950.59	949.67	941.46
4.09	949.1	947.58	940.5
4	946.81	946.61	938.51
3.91	945.99	945.24	937.22
3.86	945.11	944.4	936.12
3.76	942.84	940.98	934.37
3.69	941.05	940.22	932.35
3.62	939.59	937.75	931.07
3.56	938.1	937.48	929.78
3.49	936.98	934.89	928.34
3.31	932.58	932.07	924.58
3.23	931.38	930.79	922.8
3.16	929.59	928.02	922.2
3.1	927.65	926.77	920.78
3.01	925.87	925.19	919.77
2.94	924.15	923.28	917.6
2.85	922.32	921.81	915.1
2.79	920.81	919.82	913.6
2.7	918.47	917.8	911.28
2.61	916.49	915.8	909.5
2.57	915.72	915.36	908.5
2.5	914.69	914.21	908.2
2.47	914.27	913.91	907
2.4	913.4	912.73	906.1
2.34	911.62	910.09	904.3
2.26	909.67	908.72	901.48
2.17	908.31	907.37	900
2.08	906.78	905.56	898
1.99	905.24	904.52	895.1
1.94	904.14	902.64	895.8
1.85	902.16	901.01	893.9
1.77	901.02	900.49	892.72
1.69	899.89	898.6	891.24
1.6	897.71	896.32	889.68
1.51	895.33	893.86	887.63
1.44	893.13	892	886.02
1.37	891.53	890.42	884.7
1.32	890.48	889.7	883.82
1.28	889.51	887.89	882.69
1.26	888.91	887.38	883.36
1.24	888.15	887.09	880.98
1.17	886.67	885.21	879.35
1.1	885.05	884.5	878.04
1.04	884.01	882.98	877.42
0.95	882.13	881.85	875.46
0.88	881.2	880.26	873.8
0.83	879.63	879.27	872.97
0.76	878.74	877.73	870.77
0.68	876.7	875.56	868.24
0.59	874.52	873.46	865.76
0.5	871.66	870.94	863.8
0.43	870.42	869.83	862.64
0.34	868.75	867.87	860.62

0.27		865.47	864.23	858.4

RIVER/REACH: Waterman Wash, Reach 1
RIVER STATION: 8.065
TYPE OF STRUCTURE: Bridge

Description:

Distance from Upstream XS:	10
Deck/Roadway Width:	31
Weir Coefficient:	2.6
Maximum allowable submergence for weir flow:	0.98
Elevation at which weir flow begins:	1021.7
Weir crest shape:	Broad Crested

Sec	River Station	Length Channel	WSEL	Surch.	EGEL	TopWidth Actual	
4	8.1	156.54	1022.99		1023.07	4915.39	
3	8.07	86.94	1020.48		1022.35	127.43	
	8.065	31.00	1020.48		1022.35	0	Bridge #1-Up
	8.065	45.94	1020.48		1022.26	0	Bridge #1-Dn
2	8.06	556.98	1018.81		1021.46	122.44	
1	7.95	462.23	1018.65		1018.97	2619.97	

	Ineffective Flow, Section 3 Sta L	Sta R	Elev	Ineffective Flow, Section 2 Sta L	Sta R	Elev
1	0	2167.57	1021.5	0	2154.61	1021.5
2	2295	5263.74	1021.5	2277.05	5339.02	1021.5

BRIDGE:
Bridge Name: Bridge #1
LowFlowMethod: Highest Energy Answer
Momentum Cd: 1.22
HighFlowMethod: Pressure and Weir Flow
SluiceGate Cd: 0 Submerged Cd: 0.8

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

MaxLowChord: 1020.4 MinTopRd: 1021.7 MinElPrs: 1020.4

Opening Type	StagStaL	StagStaR	EncStaL	EncStaR	LIfStaS	RIfStaS	
Bridge					2167.57	2295	U
					2154.61	2277.05	D

	LAbutSt	RAbutSt	LMnTpRd	RMnTpRd	MnTpRd	MxLoCd	
Bridge #1	2167.57	2294.24	1021.70	1021.50	1021.50	1020.40	U
	2154.61	2277.06	1021.70	1021.58	1021.58	1020.40	D

Name	Q Total.	Q Struc	Q Weir	Selected Method	Flow Type
Bridge #1	11053	4951.5	6101.5	Press/Weir	Sluicegate Pressure and Weir Flow

GEOMETRIC CHECK

RS: 8.065

ST GD 03 The end station of 5000.087 from upstream road/weir data
is less than the end station of 5263.74 from upstream internal
section/section 3.
The high chord elevation of 1021.7 for the end road/weir station is
greater than the ground elevation of 1021.5 for the same ground station.
The road/weir profile may need to be extended.

RS: 8.065
ST GD 03 The end station of 5250.087 from downstream road/weir data
is less than the end station of 5339.02 from downstream internal
section.
The high chord elevation of 1021.7 for the end road/weir station is
greater than the ground elevation of 1021.594 for the same ground station.
The road/weir profile may need to be extended.

TYPE OF FLOW CHECK

RS: 8.065 This is Bridge #1
BR PW 01 Type of sluicegate pressure and weir flow because,
1. EGEL 3 of 1022.35 is greater than MinTopRd of 1021.70.
2. EGEL 3 of 1022.35 is equal to or greater than MxLoCdU of 1020.40.
3. WSEL 2 of 1018.81 is less than MxLoCdD of 1020.40.

DISTANCE CHECK

INEFFECTIVE FLOW CHECK

RS: 8.07 This is Section 3
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 0
and 2167.57 is equal to or greater than the WSEL of 1020.48
The LMnTpRdU is 1021.7
The ineffective flow elevation should be equal to or lower than the MnTpRd
It should also be less than the WSEL.

RS: 8.07 This is Section 3
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 2295
and 5263.74 is equal to or greater than the WSEL of 1020.48
The RMnTpRdU is 1021.5
The ineffective flow elevation should be equal to or lower than the MnTpRd
It should also be less than the WSEL.

RS: 8.06 This is Section 2
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 0
and 2154.61 is equal to or greater than the WSEL of 1018.81
The LMnTpRdD is 1021.7 and the MxLoCdD is 1020.4
The ineffective flow elevation should be between the LMnTpRdD and the MxLoCdD
if LMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to LMnTpRdD.
It should also be less than the WSEL.

RS: 8.06 This is Section 2
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 2277.05
and 5339.02 is equal to or greater than the WSEL of 1018.81
The RMnTpRdD is 1021.58 and the MxLoCdD is 1020.4
The ineffective flow elevation should be between the RMnTpRdD and the MxLoCdD
if RMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to RMnTpRdD.
It should also be less than the WSEL.

RS: 8.1 This is Section 4
ST IF 07 Ineffective flow option was considered at this section.
However, it should be a fully expanded cross section.
Ineffective flow stations and elevations should be cleared from
this section, unless the areas beyond the ineffective flow stations
are not within the flow path of the stream.
This message should be ignored if this section is Section 2 of
the upstream structure.

RS: 7.95 This is Section 1
ST IF 07 Ineffective flow option was considered at this section.
However, it should be a fully expanded cross section.
Ineffective flow stations and elevations should be cleared from
this section, unless the ares beyond the ineffective flow stations
are not within the flow path of the stream.

This message should be ignored if this section is Section 3 of the downstream structure.

---END

CHECK-RAS XS WATERMAN WASH

RIGHT LEVEE IN PLACE

Right Levee in PLACE

WatermanWashwith.xs
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.xs
Selected profiles: 100-Year
Date: 1/11/2012
Time: 10:11:35 AM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
Waterman Wash,Reach 1						
16.72	404.08	448.8	517.85	1653.81	5805	D
16.64	676.46	595.37	600.83	1365.13	5805	D
16.53	472.26	403.34	339.73	1372.04	5805	D
16.45	393.63	354.01	317.66	1306.6	5805	D
16.38	319.5	348.14	334.23	1040.4	5805	D
16.32	559.19	482.29	454.61	1125.78	5805	D
16.23	331.21	415.03	490.74	934.26	5805	D
16.15	279.47	314.57	319.83	939.92	5805	D
16.08	328.83	329.57	352.58	861.05	5805	D,C
16.02	386.58	394.67	400.94	1133.99	5805	D
15.95	439.12	452.2	460.53	1465.75	5805	D
15.86	1309.61	1099.69	923.54	1074.86	5805	D
15.65	224.85	221.54	216.04	989.4	8568	D,C
15.61	376.34	370.15	366.44	1310.68	8568	D
15.54	304.19	349.22	387.24	1208.28	8568	D
15.48	348.3	397.53	439.79	1369.78	8568	D
15.4	264.65	279.95	293.08	1474.05	8568	D
15.35	241.16	283.4	364.3	1410.47	8568	D
15.3	495.47	501.45	395.4	1092.21	8568	D
15.2	527.9	427.46	407.54	1055.6	8568	D
15.12	228.21	234.54	240.04	863.65	8568	D
15.08	253.95	281.92	249.71	954.42	8568	
15.02	478.6	381.4	349.61	889.04	8568	D
14.95	237.44	380.92	508.92	954.98	8568	D
14.88	258.28	265.64	271.69	917.53	8568	D
14.83	499.38	493.03	492.7	1000.12	8568	D
14.73	557.66	530.26	501.99	1302.12	8568	D
14.63	361.64	316.62	277.59	1239.26	8568	D
14.57	456.23	450.7	446.27	1993.16	8568	D,C
14.49	474.13	466.06	458.74	1678.25	8568	D
14.4	588.12	545.34	541.17	1926.25	8568	D
14.3	471.53	474.3	478.9	1577.21	9764	D,C
14.21	481.8	450.92	421.78	938.46	9764	D
14.12	318.55	371.2	412.07	1028.08	9764	D
14.05	438.29	470.2	502.75	1119.63	9764	D,C
13.96	483.78	444.56	396.35	968.03	9764	D,C
13.88	365.75	383.87	384.19	816.2	9764	D,C
13.81	236.52	347.55	471.6	848.99	9764	D
13.74	254.58	323.38	380.77	980.57	9764	D
13.68	411.35	376.86	348.16	832.88	9764	D
13.61	381.52	380.5	382.16	877.47	9764	D
13.53	491.67	484.87	476.75	942.96	9764	D
13.44	340.95	353.44	363.92	1100.27	9764	D
13.38	331.9	380.54	420.8	1124.56	9764	D
13.3	391.6	376.16	363.6	545.6	9764	D
13.23	449.62	406.3	355.92	2106.11	9764	D
13.16	550.52	443.99	367.97	1288.77	9764	D
13.08	1072.44	1051.92	1034.1	2254.52	10213	D,C
12.87	419.81	420.01	420.19	1495.79	10213	D
12.79	314.79	308.87	303.76	2327.79	10213	D
12.73	480.77	463.53	448.8	2341.59	10213	D
12.65	466.2	458.39	451.83	2540.11	10213	D

12.56	377.73	380.88	383.31	2384.65	10213	D
12.48	334.63	331.29	328.46	3005.1	10213	D,C
12.42	380.85	381.71	382.4	3167.26	10213	D,C
12.35	459.45	478.95	495.74	2999.51	10213	D,C
12.26	271.68	274.29	276.53	2518.14	10213	D,C
12.21	227.84	244.91	259.67	2241.42	10213	D,C
12.16	598.21	629.82	656.82	2136.63	10213	D
12.04	555.41	613.02	662.42	1983.6	10213	D
11.92	686.05	664.01	632.66	1735.45	10213	
11.8	328.73	348.49	377.25	1233.72	10213	
11.73	271.46	317.2	354.8	2514.61	10213	D
11.67	393.15	286.02	196.77	608.35	10213	C
11.62	314.74	354.23	376.51	2433.62	10213	D
11.55	648.14	532.19	443.74	2782.23	10846	D
11.45	326.01	295.5	262.16	369.18	10846	
11.39	484.95	365.19	266.52	3284.65	10846	C
11.33	378.98	456.96	525.83	3380.93	10846	D
11.24	275.07	421.28	548.23	4214.83	10846	D,C
11.16	215.36	470.43	681.12	3589.99	10846	D,E
11.07	428.15	401.17	379.83	681.37	10846	D,C
10.99	454.27	426.23	403.47	2783.67	10846	D,C
10.92	320.24	240.39	202.41	5060.3	10846	D
10.87	541.96	643	698.17	2344.32	10846	D,C
10.75	958.84	790.92	654.93	2688.13	10846	D,C
10.6	873.18	785.62	738.97	1366.65	10846	D
10.45	1027.14	1029.17	1000.24	1252.36	10971	D
10.26	433.03	419.12	407.17	1194.39	10971	D
10.18	421.31	411.18	402.74	1077.53	10971	D
10.1	330.32	307.85	288.1	976.45	10971	D
10.04	458.34	424.34	394.74	992.25	10971	D
9.96	317.26	280.33	247.78	1224.38	10971	D
9.91	327.15	283.9	245.24	1317.08	10971	D
9.85	466.33	445.58	427.47	1086.28	10971	D,C
9.77	332.56	444.72	543.36	1934.05	10971	D
9.68	409.51	419.96	429.8	2229.08	10971	D
9.61	355.82	383.57	407.41	2220.65	10971	D
9.53	306.75	327.08	344.6	2472.67	10971	D
9.47	359.17	352.51	346.99	2553.38	10971	D
9.4	429.24	422.68	418.19	2641.8	10971	D
9.32	293.76	300.22	304.44	3318.96	10971	D
9.27	535.05	479.39	431.08	1605.51	10971	D
9.18	484.7	473.34	462.27	1360.11	10971	D,C
9.09	435.93	433.69	431.97	2234.41	10971	D
9	340.44	323.41	308.11	1654.58	10971	D
8.94	447.56	465.85	477.06	378.98	10971	
8.86	344.85	372.52	396.7	235.45	10971	
8.78	291.56	334.96	373.15	225.95	10971	D
8.72	391.66	401.51	523.31	253.16	10971	
8.64	429.19	403.91	355.23	2102.17	10971	D,C
8.56	495.97	636.29	668.88	2201.7	10971	D
8.44	439.16	417.38	399.1	2169.57	11053	
8.37	407.38	401.76	397.19	474.76	11053	D
8.29	281.88	325.66	278.33	1619.18	11053	D
8.23	274.55	680.81	1004.7	1634.08	11053	
8.1	108.29	156.54	197.67	4915.37	11053	
8.07	108.34	86.94	79.42	127.43	11053	
8.065	Bridge #1-Up					
8.065	Bridge #1-Dn					
8.06	923.65	556.98	340.59	122.44	11053	
7.95	509.18	462.23	421.3	1304.27	11053	D
7.86	445.14	440.72	441.61	796.31	11053	D,C
7.78	330.76	378.11	404.76	1419.52	11053	
7.71	900.07	839.85	797.83	3280.02	11053	D
7.55	419.63	423.97	428.65	289.1	11053	D
7.47	400.57	353.25	341.19	1594.59	11053	D
7.4	511.71	445.35	390.75	301.27	11053	
7.31	567.96	467.72	384.33	1355.25	11053	D
7.23	397.42	471.92	511.41	1248.46	11053	D
7.14	380.9	375.1	373.95	246.7	11053	D
7.07	340.6	338.15	323.53	1083.53	11053	D
7	328.5	342.01	353.82	2998.22	11053	D,C
6.94	289.05	314.91	336.96	2863.35	11053	D,C
6.88	660.1	683.68	703.78	2430.73	11053	D,C
6.75	376.47	365.47	356.12	2296.06	11053	D,C
6.68	401.98	399.26	395.29	2392.41	11053	D
6.6	603.46	615.29	627.12	1764.98	11053	D,C
6.49	356.38	366.53	375.1	2186.58	11053	D,C
6.42	416.41	418.73	420.71	2353.72	11053	D,C
6.34	386.68	351.55	321.54	1914.2	11053	D

6.27	423.11	390.3	363.05	1694.07	11053	D
6.2	650.83	638.45	626.95	1416.22	11053	D,C
6.08	538.25	630.83	709.9	1506.14	11053	D,C
5.96	405.42	404.97	404.68	1435.16	11053	D
5.88	356.42	359.42	319.8	1490.5	11053	D
5.81	407.2	334.59	316.8	1216	11053	D
5.75	399.87	399.25	396.73	1500.96	11053	D
5.68	380.08	438.19	486.75	1103.57	11053	D
5.59	525.73	687.21	838.29	988.11	11053	
5.46	291.14	246.55	191.12	924.51	11053	D
5.42	316.8	346.08	373.4	1061.47	11053	D
5.35	314.2	305.89	299.05	869.52	11053	D
5.29	457.44	454.08	451.34	842.08	11053	D
5.2	442.74	460.86	475.72	658.42	11053	
5.12	379.55	409.57	433.85	920.7	11053	D
5.04	468.6	472.88	476.47	707.97	11053	D
4.95	338.27	333.46	329.53	1011.77	11053	D,C
4.89	390.75	375.05	362.37	942.01	11053	D,C
4.82	294.59	292.48	269.23	1277.04	11053	D
4.76	450.14	451.63	448.52	1306.65	11053	D
4.67	367.36	285.68	274.43	780.74	11053	D,C
4.62	367.21	371.75	345.45	868.83	11053	D
4.55	406.59	331.41	139.06	779.75	11053	D
4.49	347.19	259.79	314.21	633.2	11053	D
4.44	478.6	459.33	442.68	1122.3	11053	D
4.35	233.78	278.23	169.2	1060.58	11053	D
4.3	488.6	390.25	401.64	661.34	11053	D
4.23	509.97	478.75	429.32	882.37	11053	D
4.14	331.09	259.67	267.77	829.12	11053	
4.09	486.59	450.57	418.6	500.56	11053	D,C
4	468.49	473.03	477.39	950.26	11053	D
3.91	257.12	292.58	324.55	1035.06	11053	D
3.86	410.9	490.26	975.61	909.85	11053	D
3.76	327.23	373.78	414.68	465.47	11053	D,C
3.69	301.55	405.84	495.3	994.97	11381	D
3.62	303.17	315.36	301.98	399.9	11381	D
3.56	410.37	359.42	314.95	774.21	11381	D
3.49	947.8	976.29	991.82	304.71	11381	D
3.31	388.75	417.06	449.94	578.82	11381	
3.23	354.19	367.5	379.26	821.14	11381	
3.16	311.29	325.39	337.21	392.68	11381	D
3.1	401.68	450.36	491.14	501.18	11381	
3.01	695.1	388.82	385.69	642.83	11381	
2.94	217.85	448.46	367	588.9	11381	
2.85	400.22	343.35	283.43	716.28	11381	
2.79	595.69	451.55	327.05	729.42	11381	
2.7	620.42	463.17	311.24	687.24	11421	D
2.61	202.76	221.06	244.98	748.98	11421	D
2.57	121.27	363.17	575.59	678.17	11421	
2.5	130.87	174.7	94.59	584.64	11421	
2.47	262.08	392.56	625.49	628.92	11421	D
2.4	294.95	315.78	337.54	573.07	11421	D
2.34	388.81	378.82	369.25	373.12	11421	D
2.26	470.75	479.33	486.47	364.5	11421	D
2.17	655.61	492.77	353.57	395.08	11421	D,B
2.08	525.12	459.95	402.8	314.7	11421	D
1.99	334.87	282.91	237.02	347.51	11421	
1.94	491.45	454.63	421.07	440.91	11421	D
1.85	469.53	421.13	376.18	374.31	11421	
1.77	392.78	433.41	470.52	455.72	11421	D
1.69	398.27	479.42	552.85	298.23	11421	
1.6	415.9	462.26	503.31	333.98	11421	
1.51	410.66	407.33	404.47	413.39	11421	
1.44	356.33	337.06	320.11	629.65	11421	D
1.37	264.63	260.87	247.75	664.26	11421	
1.32	244.37	206.14	79.67	773.96	11421	
1.28	241.64	133.96	132.44	395.7	11421	D,C
1.26	96.68	101.28	101.84	404.66	11421	C
1.24	301.71	344.22	392.89	304.59	11421	
1.17	340.3	364.37	386.25	470.8	11421	C
1.1	282.53	322.96	358.47	830.59	11421	D
1.04	480.73	470.16	461.47	816.93	11421	C
.95	423.98	413.74	406.05	1004.24	11421	
.88	268.51	264.49	259.04	1033.99	11421	C
.83	340.54	344.84	348.77	1081.52	11421	D
.76	424.36	449.52	472.19	1077.38	11421	D,C
.68	336.32	472.25	591.58	1450.5	11421	D,B
.59	316.14	457.4	577.1	716.21	11421	D,B
.5	297.81	349.43	259.63	489.4	11421	D,B

.43	615.07	483.77	464.95	383.74	11421	D,C
.34	396.87	359.39	344.36	544.5	11421	C
.27	1428.51	1445.97	1448.47	756.18	11421	D

B=blocked obstruction
C=critial depth
D=divided flow
E=cross section extended
K=known water-surface

XS SC 05
XS SC 03
XS SC 01
XS SC 02
XS SC 04

DISTANCE CHECK

RS: 4.49
XS DT 01 Both right and left overbank distances are longer than the channel distance.

NOTE: Distances were verified.

SPACING CHECK

INEFFECTIVE FLOW CHECK

RS: 15.4
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 15.2
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 15.12
XS IF 01 Right Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 14.88
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 14.63
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 14.57
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 14.49
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 13.16
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 11.92
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 9.53
XS IF 01 Left Levee option is used at this river station Please investigate whether the NFIP requirements for levees are met.

RS: 9.53
XS IF 01 Right Levee option is used at this river station

NOTE:
Artificial levees were used at actual Non-levee embankment locations. In addition Artificial levees were also used to eliminate flow areas that are parrallel to the floodplain that do not provide conveyance.

Please investigate whether the NFIP requirements
for levees are met.

RS: 9.47
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.47
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.4
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 9.4
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 8.37
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 7
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.94
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.94
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.88
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 6.88
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.96
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.81
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.75
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.68
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.59
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.46

XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.42
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.35
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 5.29
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.95
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.44
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.14
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 4.09
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.91
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.86
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.76
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.69
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.62
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.56
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.1
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.61
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.57
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.57
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.5
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.47
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.4
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.08
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.99
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.99
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.94
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.85
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.69
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.51
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.24
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.17
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.17
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.43
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.27
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

DISCHARGE CHECK

LOCATION CHECK

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is Waterman Wash,Reach 1
Normal S = 0.0055 is specified as the downstream boundary
for profile 100-Year

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

CHECK-RAS NT WATERMAN WASH

RIGHT LEVEE IN PLACE

Right Lever in PLACE

WatermanWashwith.nt
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.nt
Selected profiles: 100-Year
Date: 1/11/2012
Time: 10:11:34 AM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
Waterman Wash,Reach 1						
16.72		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
16.64		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
		-----	0.055	-----		
16.53		0.045	0.032	0.045	0.1	0.3
		0.055	0.055	-----		
		0.032	-----	-----		
16.45		0.045	0.055	0.055	0.1	0.3
		0.055	0.032	0.045		
		-----	0.055	-----		
16.38		0.045	0.032	0.055	0.1	0.3
		0.055	0.055	0.045		
		0.032	-----	-----		
16.32		0.045	0.045	0.032	0.1	0.3
		-----	0.055	0.055		
		-----	0.032	0.045		
16.23		0.045	0.035	-----	0.1	0.3
		0.035	0.055	-----		
		-----	0.045	-----		
16.15		0.045	0.055	0.055	0.1	0.3
		0.035	0.035	0.045		
		0.055	0.055	-----		
16.08		0.045	0.032	0.055	0.1	0.3
		0.055	-----	0.045		
16.02		0.045	0.035	0.045	0.1	0.3
15.95		0.045	0.035	0.045	0.1	0.3
15.86		0.045	0.035	0.045	0.1	0.3
15.65		0.045	0.032	0.05	0.1	0.3
		-----	0.05	0.045		
15.61		0.045	0.032	0.05	0.1	0.3
		-----	-----	0.045		
15.54		0.045	0.035	0.05	0.1	0.3
		-----	-----	0.045		
15.48		0.045	0.035	0.05	0.1	0.3
		-----	0.05	0.045		
15.4		0.045	0.034	0.055	0.1	0.3
		0.055	0.055	0.045		
15.35		0.045	0.034	0.055	0.1	0.3
		0.055	-----	0.045		
15.3		0.045	0.034	0.055	0.1	0.3
		0.055	-----	0.045		
15.2		0.045	0.032	0.055	0.1	0.3
		-----	-----	0.045		
15.12		0.045	0.032	0.055	0.1	0.3
		-----	0.055	0.045		
15.08		0.045	0.032	0.045	0.1	0.3
		-----	0.055	-----		
15.02		0.045	0.028	0.055	0.1	0.3
		0.028	0.055	0.045		
		-----	0.03	-----		
14.95		0.045	0.028	0.03	0.1	0.3
		-----	0.055	0.055		

	-----	-----	0.045		
14.88	0.045	0.028	0.055	0.1	0.3
	0.018	0.055	0.045		
	0.045	0.03	0.018		
	-----	0.055	0.045		
14.83	0.045	0.04	0.055	0.1	0.3
	0.018	0.055	0.045		
	0.045	-----	0.018		
	0.055	-----	0.045		
14.73	0.045	0.04	0.055	0.1	0.3
	0.055	0.055	0.045		
	-----	-----	0.018		
	-----	-----	0.045		
14.63	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.57	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.49	0.045	0.028	0.05	0.1	0.3
	0.018	-----	0.045		
	0.045	-----	0.018		
	-----	-----	0.045		
14.4	0.045	0.045	0.035	0.1	0.3
	-----	0.035	0.045		
	-----	-----	0.018		
	-----	-----	0.045		
14.3	0.045	0.035	0.045	0.1	0.3
14.21	0.045	0.028	0.055	0.1	0.3
	0.055	0.055	0.04		
14.12	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.045		
14.05	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.045		
13.96	0.045	0.028	0.055	0.1	0.3
	0.05	-----	0.04		
13.88	0.045	0.028	0.055	0.1	0.3
	0.055	0.055	0.04		
13.81	0.045	0.028	0.055	0.1	0.3
	0.055	-----	0.04		
13.74	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.68	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.61	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.53	0.045	0.031	0.055	0.1	0.3
	0.05	-----	0.04		
13.44	0.045	0.05	0.055	0.1	0.3
	0.05	0.031	0.04		
	-----	0.055	-----		
13.38	0.045	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.035	-----	-----		
13.3	0.045	0.035	0.04	0.1	0.3
	0.055	-----	-----		
13.23	0.045	0.035	0.04	0.1	0.3
	0.05	-----	-----		
13.16	0.045	0.028	0.055	0.1	0.3
	0.04	-----	0.04		
	0.055	-----	-----		
13.08	0.045	-----	-----	0.1	0.3
	0.04	-----	-----		
	0.055	-----	-----		
	0.028	-----	-----		
12.87	0.035	0.036	0.04	0.1	0.3
	0.05	-----	-----		
12.79	0.035	0.05	-----	0.1	0.3
	0.05	0.036	-----		
	-----	0.04	-----		
12.73	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
12.65	0.04	0.055	0.055	0.1	0.3
	0.055	0.035	0.04		
12.56	0.04	0.035	0.055	0.1	0.3
	0.055	-----	0.04		

12.48	0.04	-----	-----	0.1	0.3
	0.028	-----	-----		
12.42	0.04	0.028	0.028	0.1	0.3
	-----	-----	0.055		
	-----	-----	0.04		
12.35	0.04	0.04	0.055	0.1	0.3
	-----	0.028	0.04		
12.26	0.04	0.04	0.028	0.1	0.3
	-----	0.028	0.055		
	-----	-----	0.04		
	-----	-----	0.016		
	-----	-----	0.04		
12.21	0.04	0.04	0.028	0.1	0.3
	-----	0.028	0.055		
	-----	-----	0.04		
	-----	-----	0.016		
	-----	-----	0.04		
12.16	0.045	0.045	0.028	0.1	0.3
	0.018	0.028	0.045		
	0.045	-----	0.016		
	-----	-----	0.045		
12.04	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.028	-----	-----		
11.92	0.045	-----	-----	0.1	0.3
	0.016	-----	-----		
	0.045	-----	-----		
	0.03	-----	-----		
	0.05	-----	-----		
11.8	0.04	0.03	0.05	0.1	0.3
	0.018	-----	0.04		
	0.045	-----	-----		
	0.045	-----	-----		
11.73	0.04	0.03	0.05	0.1	0.3
	0.018	-----	0.04		
	0.045	-----	-----		
11.67	0.045	0.03	0.05	0.1	0.3
	0.018	0.05	0.04		
	0.045	-----	-----		
	0.03	-----	-----		
11.62	0.04	0.028	0.028	0.1	0.3
	0.018	-----	0.05		
	0.045	-----	0.04		
11.55	0.04	0.045	0.028	0.1	0.3
	0.018	0.028	0.05		
	0.045	-----	0.05		
11.45	0.04	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.028	-----	-----		
11.39	0.04	0.028	0.045	0.1	0.3
	0.045	0.045	0.04		
11.33	0.04	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.028	-----	-----		
	0.045	-----	-----		
11.24	0.04	0.028	0.045	0.1	0.3
	0.045	-----	0.018		
	-----	-----	0.04		
11.16	0.04	0.045	0.028	0.1	0.3
	0.045	0.028	0.055		
	-----	-----	0.04		
11.07	0.04	0.028	0.055	0.1	0.3
	0.045	-----	0.016		
	-----	-----	0.04		
10.99	0.04	0.028	0.055	0.1	0.3
	0.045	0.055	0.016		
	0.028	-----	0.04		
10.92	0.04	0.028	0.055	0.1	0.3
	0.045	0.055	0.016		
	0.028	-----	0.04		
10.87	0.04	0.028	0.055	0.1	0.3
	0.05	0.055	0.028		
	0.028	-----	0.055		
	-----	-----	0.016		
	-----	-----	0.04		
10.75	0.04	0.016	-----	0.1	0.3
	0.05	0.04	-----		

	0.028	-----	-----		
	0.055	-----	-----		
10.6	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
10.45	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.045		
	-----	0.055	-----		
10.26	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
10.18	0.04	0.035	0.035	0.1	0.3
	0.055	-----	0.05		
	-----	-----	0.04		
10.1	0.04	0.035	0.05	0.1	0.3
	0.055	-----	0.04		
10.04	0.04	0.035	0.035	0.1	0.3
	0.05	-----	0.05		
	-----	-----	0.04		
9.96	0.04	0.035	0.05	0.1	0.3
	0.05	-----	0.04		
9.91	0.04	0.035	0.035	0.1	0.3
	0.05	-----	0.05		
	-----	-----	0.04		
9.85	0.04	0.035	0.05	0.1	0.3
	0.05	-----	0.04		
9.77	0.045	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.035	-----	-----		
9.68	0.045	0.033	0.055	0.1	0.3
	0.04	-----	0.045		
	0.05	-----	-----		
9.61	0.045	-----	-----	0.1	0.3
	0.04	-----	-----		
	0.033	-----	-----		
9.53	0.045	0.033	0.033	0.1	0.3
	0.04	-----	0.055		
	-----	-----	0.045		
9.47	0.04	0.037	0.055	0.1	0.3
	0.05	0.055	0.04		
	0.037	-----	-----		
9.4	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.037	-----	-----		
9.32	0.04	0.037	0.055	0.1	0.3
	0.05	-----	0.04		
9.27	0.035	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.039	-----	-----		
9.18	0.035	0.039	-----	0.1	0.3
	0.045	0.04	-----		
9.09	0.035	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.039	-----	-----		
9	0.035	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.04	-----	-----		
8.94	0.035	0.04	0.04	0.1	0.3
	0.05	-----	-----		
8.86	0.035	0.04	-----	0.1	0.3
	0.05	0.04	-----		
	0.04	-----	-----		
8.78	0.04	-----	-----	0.1	0.3
	0.04	-----	-----		
8.72	0.04	0.04	-----	0.1	0.3
	0.04	0.04	-----		
	0.04	-----	-----		
8.64	0.016	0.04	0.04	0.1	0.3
	0.04	-----	-----		
8.56	0.04	0.035	0.04	0.1	0.3
8.44	0.04	0.035	-----	0.1	0.3
	0.016	0.04	-----		
	0.04	-----	-----		
	0.035	-----	-----		
8.37	0.04	-----	-----	0.1	0.3
	0.035	-----	-----		
8.29	0.04	0.045	0.04	0.1	0.3
	0.016	0.035	0.018		
	0.045	0.04	0.04		

8.23		0.04	0.04	0.035	0.1	0.3
		-----	0.035	0.045		
8.1		0.04	0.035	-----	0.3	0.5
		0.016	0.04	-----		
		0.045	-----	-----		
		0.035	-----	-----		
8.07		0.04	0.035	0.04	0.3	0.5
		0.016	-----	-----		
		0.045	-----	-----		
		0.04	-----	-----		
8.065	Bridge-Up	0.04	0.035	0.04	0.3	0.5
		0.016	-----	-----		
		0.045	-----	-----		
		0.04	-----	-----		
8.065	Bridge-Dn	0.04	0.045	-----	0.3	0.5
		0.035	0.018	-----		
		0.045	0.04	-----		
8.06		0.04	0.045	-----	0.3	0.5
		0.035	0.018	-----		
		0.045	0.04	-----		
7.95		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.86		0.04	0.035	0.04	0.1	0.3
		0.035	0.04	0.016		
		0.045	-----	0.04		
		0.035	-----	-----		
7.78		0.04	0.035	0.035	0.1	0.3
		0.035	-----	0.04		
		0.045	-----	0.016		
		-----	-----	0.04		
7.71		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.55		0.04	-----	-----	0.3	0.5
		0.035	-----	-----		
7.47		0.04	-----	-----	0.1	0.3
		0.035	-----	-----		
7.4		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
7.31		0.04	0.035	0.04	0.1	0.3
7.23		0.04	0.035	0.04	0.1	0.3
7.14		0.04	0.032	-----	0.1	0.3
		0.032	0.04	-----		
7.07		0.04	-----	-----	0.1	0.3
		0.032	-----	-----		
7		0.04	-----	-----	0.1	0.3
		0.032	-----	-----		
6.94		0.04	0.055	0.032	0.1	0.3
		0.055	0.032	0.04		
6.88		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.75		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.68		0.04	0.032	0.032	0.1	0.3
		0.055	-----	0.055		
		-----	-----	0.04		
6.6		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.032	-----	-----		
6.49		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.028	-----	-----		
6.42		0.04	-----	-----	0.1	0.3
		0.055	-----	-----		
		0.028	-----	-----		
6.34		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
6.27		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
6.2		0.04	-----	-----	0.1	0.3
		0.03	-----	-----		
6.08		0.04	0.028	0.028	0.1	0.3
		0.055	-----	0.055		
		-----	-----	0.045		
5.96		0.04	0.055	0.028	0.1	0.3
		0.055	0.028	0.055		
		-----	-----	0.045		
5.88		0.04	-----	-----	0.1	0.3

5.81	0.04	-----	-----	0.1	0.3
5.75	0.04	0.04	0.055	0.1	0.3
	-----	0.055	0.03		
	-----	-----	0.055		
	-----	-----	0.045		
5.68	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
5.59	0.04	0.04	0.055	0.1	0.3
	-----	0.055	0.03		
	-----	-----	0.055		
	-----	-----	0.045		
5.46	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
5.42	0.04	0.03	0.055	0.1	0.3
	0.055	0.055	0.04		
	0.03	-----	-----		
5.35	0.055	-----	-----	0.1	0.3
	0.03	-----	-----		
5.29	0.055	-----	-----	0.1	0.3
	0.03	-----	-----		
5.2	0.055	0.032	0.055	0.1	0.3
5.12	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.032	-----	-----		
5.04	0.04	0.032	0.055	0.1	0.3
	0.055	-----	0.04		
4.95	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
4.89	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
4.82	0.018	0.03	0.055	0.1	0.3
	0.04	-----	0.04		
	0.055	-----	-----		
4.76	0.04	0.055	0.055	0.1	0.3
	0.018	0.035	0.045		
	0.045	0.055	-----		
	0.055	-----	-----		
4.67	0.045	0.035	0.045	0.1	0.3
	0.016	-----	-----		
	0.045	-----	-----		
4.62	0.045	0.035	0.045	0.1	0.3
	0.035	0.016	-----		
	-----	0.035	-----		
4.55	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
4.49	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
4.44	0.018	0.035	0.045	0.1	0.3
	0.045	-----	0.016		
	-----	-----	0.045		
4.35	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
4.3	0.045	-----	-----	0.1	0.3
	0.035	-----	-----		
4.23	0.045	0.035	0.045	0.1	0.3
4.14	0.045	-----	-----	0.1	0.3
	0.034	-----	-----		
4.09	0.045	-----	-----	0.1	0.3
	0.034	-----	-----		
4	0.045	0.055	0.045	0.1	0.3
	0.034	0.034	-----		
	0.055	-----	-----		
3.91	0.025	0.035	0.055	0.1	0.3
	0.045	0.055	0.045		
	0.055	-----	-----		
3.86	0.025	0.035	0.035	0.1	0.3
	0.045	-----	0.055		
	0.055	-----	0.045		
3.76	0.025	0.035	0.055	0.1	0.3
	0.045	-----	0.045		
	0.055	-----	-----		

3.69	0.025	-----	-----	0.1	0.3
	0.045	-----	-----		
	0.055	-----	-----		
	0.03	-----	-----		
3.62	0.025	0.03	0.055	0.3	0.5
	0.045	-----	0.045		
	0.055	-----	-----		
3.56	0.055	0.03	0.055	0.1	0.3
	0.045	-----	0.045		
	0.055	-----	-----		
3.49	0.055	0.03	0.055	0.1	0.3
	-----	0.055	0.045		
3.31	0.055	0.035	0.045	0.1	0.3
	0.035	0.055	-----		
3.23	0.055	0.035	0.045	0.1	0.3
3.16	0.055	-----	-----	0.1	0.3
	0.035	-----	-----		
3.1	0.04	0.03	0.055	0.1	0.3
	0.055	0.055	0.045		
	0.03	-----	-----		
3.01	0.025	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.035	-----	-----		
2.94	0.04	0.055	0.045	0.1	0.3
	0.055	0.032	0.055		
	-----	0.045	0.04		
2.85	0.04	-----	-----	0.1	0.3
	0.035	-----	-----		
2.79	0.018	0.035	0.055	0.1	0.3
	0.04	0.055	0.045		
	0.035	-----	-----		
2.7	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.045	-----	-----		
	0.035	-----	-----		
2.61	0.045	0.035	0.045	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
2.57	0.045	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
	0.035	-----	-----		
2.5	0.04	0.055	-----	0.1	0.3
	0.045	0.035	-----		
	0.018	0.04	-----		
	0.045	-----	-----		
	0.055	-----	-----		
2.47	0.04	-----	-----	0.1	0.3
	0.018	-----	-----		
	0.055	-----	-----		
	0.03	-----	-----		
2.4	0.04	0.055	0.03	0.1	0.3
	0.018	0.03	0.016		
	0.055	-----	0.04		
2.34	0.045	0.055	0.04	0.1	0.3
	0.018	0.03	0.016		
	0.035	0.05	0.045		
2.26	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
2.17	0.04	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
2.08	0.04	-----	-----	0.1	0.3
	0.05	-----	-----		
	0.03	-----	-----		
1.99	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.065		
	-----	0.055	-----		
1.94	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.065		
1.85	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.065		
1.77	0.04	0.055	0.055	0.1	0.3
	0.055	0.03	0.03		
	-----	0.055	0.04		
1.69	0.04	0.03	0.055	0.1	0.3
	0.055	-----	0.04		
1.6	0.055	0.03	0.055	0.1	0.3

1.51	0.045	0.03	0.04	0.1	0.3
	0.055	0.04	0.045		
1.44	0.045	0.055	0.04	0.1	0.3
	0.055	0.03	0.045		
	-----	0.04	-----		
1.37	0.045	0.03	0.04	0.1	0.3
	0.055	0.04	0.045		
	0.03	-----	-----		
1.32	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
1.28	0.045	-----	-----	0.1	0.3
	0.055	-----	-----		
	0.03	-----	-----		
1.26	0.016	0.016	0.016	0.1	0.3
1.24	0.045	-----	-----	0.1	0.3
	0.03	-----	-----		
1.17	0.045	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	-----	0.05		
1.1	0.045	-----	-----	0.1	0.3
	0.03	-----	-----		
1.04	0.045	0.03	0.04	0.1	0.3
.95	0.045	0.03	0.04	0.1	0.3
.88	0.045	0.055	0.055	0.1	0.3
	0.055	0.03	0.04		
	-----	0.055	-----		
.83	0.045	0.03	0.04	0.1	0.3
.76	0.045	0.03	0.04	0.1	0.3
.68	0.055	0.03	0.055	0.1	0.3
.59	0.055	0.03	0.055	0.1	0.3
.5	0.055	0.03	0.055	0.1	0.3
.43	0.055	0.03	0.055	0.1	0.3
.34	0.055	0.03	0.055	0.1	0.3
.27	0.055	0.03	0.055	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.016	0.055
Right Overbank n Value:	0.016	0.065
Channel n Value:	0.016	0.055
Contraction Coefficient:	0.1	0.3
Expansion Coefficient:	0.3	0.5

ROUGHNESS COEFFICIENT CHECK

RS: 1.26
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 1.26
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 1.26
NT RC 03 Channel n value is equal to or less than 0.025
The n value of the channel is usually larger than 0.025.
The n value should be reevaluated it if is not representing a concrete lined channel.

RS: 1.26
NT RC 05 The left overbank n value of 0.016 and the right overbank n value of 0.016 are less than or equal to the channel n value of 0.016
The overbank n values should be reevaluated.

NOTE:
R.S. 1.26 represents Narramore Rd. No changes were made.

TRANSITION LOSS COEFFICIENT CHECK

RS: 7.55
NT TL 02 Contraction and expansion loss coefficients are 0.3 and 0.5 respectively. However, this cross section is not at the structure.
They should be equal to 0.1 and 0.3.

```
RS:       3.62
NT TL 02 Contraction and expansion loss coefficients are 0.3 and 0.5
         respectively. However, this cross section is not at the structure.
         They should be equal to 0.1 and 0.3.

ROUGHNESS COEFFICIENT AT STRUCTURES
-----------------------------------

RS:       8.065
NT RS 02 The channel n value of 0.035 for the upstream internal bridge opening
         section is equal or larger than the channel n value of 0.035 at Section 3.
         Usually, the channel n value of the bridge opening section is
         less than the channel n value of Section 3.
         The selection of the n value(s) should be reevaluated.

RS:       8.065
NT RS 02 The channel n value of 0.018 for the downstream internal bridge opening
         section is equal or larger than the channel n value of 0.018 at Section 2
         Usually, the channel n value of the bridge opening section is
         less than the channel n value of Section 2.
         The selection of the n value(s) should be reevaluated.

---END---
```

NOTE: A channel 'n' value of 0.035 was used to account for debris on the upstream side.

NOTE: A channel 'n' value of 0.018 was used to represent the clean sandy bottom.

CHECK-RAS STRUCTURE WATERMAN WASH

RIGHT LEVEE IN PLACE

Right Levee in place.

WatermanWashwith.br
CHECK-RAS Program: Structure Check

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\Waterman Wash\Farmfield Ineffective\Flow Edits September 2011\WatermanWashwith.br
Selected profiles: 100-Year
Date: 1/11/2012
Time: 10:11:37 AM

RS	MaxLoChord	MnTpRd	EGEL	WSEL	MinChEl	Structure
Waterman Wash,Reach 1						
16.72			1152.18	1152	1144.4	
16.64			1150.89	1150.65	1142.47	
16.53			1149.49	1149.3	1140.96	
16.45			1148.79	1148.56	1140.48	
16.38			1147.87	1147.37	1138.9	
16.32			1146.87	1146.62	1138.5	
16.23			1145.82	1145.51	1136.8	
16.15			1144.96	1144.75	1135.74	
16.08			1144.21	1143.51	1134.97	
16.02			1142.77	1142.58	1134.03	
15.95			1141.92	1141.66	1133.08	
15.86			1141.11	1140.9	1131.78	
15.65			1138.34	1137.44	1130.19	
15.61			1137.27	1136.94	1129.85	
15.54			1136.34	1135.88	1128.52	
15.48			1135.25	1134.96	1127.48	
15.4			1134.18	1133.87	1125.97	
15.35			1133.46	1133.21	1125.39	
15.3			1132.44	1131.98	1124.54	
15.2			1130.66	1130.09	1122.94	
15.12			1129.01	1128.57	1121.3	
15.08			1128.31	1128	1121.4	
15.02			1127.79	1127.4	1120.45	
14.95			1127.17	1126.73	1119.41	
14.88			1126.08	1125.23	1117.9	
14.83			1125.06	1124.62	1116.9	
14.73			1124.14	1123.88	1114.43	
14.63			1123.26	1122.48	1113.3	
14.57			1122.66	1122.01	1112.03	
14.49			1120.72	1120.49	1110.58	
14.4			1120.13	1119.93	1109.34	
14.3			1118.9	1117.96	1107.7	
14.21			1117.14	1116.07	1105.6	
14.12			1116.22	1115.21	1104.91	
14.05			1115.34	1114.56	1103.29	
13.96			1113.73	1112.54	1102.82	
13.88			1112.09	1110.95	1101.92	
13.81			1110.58	1109.77	1100.83	
13.74			1109.67	1108.83	1100.24	
13.68			1108.51	1107.5	1099.59	
13.61			1107.29	1106.71	1099.1	
13.53			1106.55	1106.12	1098.25	
13.44			1105.76	1105.26	1097.1	
13.38			1105.1	1104.52	1095.4	
13.3			1103.83	1102.28	1095.17	
13.23			1102.41	1102	1093.66	
13.16			1101.55	1100.54	1092.7	
13.08			1100.52	1099.79	1090.9	
12.87			1096.78	1095.95	1087.24	
12.79			1095.26	1094.92	1086.6	
12.73			1094.4	1093.95	1085.3	
12.65			1092.93	1092.59	1083.78	
12.56			1091.51	1091.08	1082.94	
12.48			1090.59	1090.05	1081.86	

12.42			1089.61	1089.21	1081.44	
12.35			1088.71	1088.2	1080.81	
12.26			1087.14	1086.54	1079.64	
12.21			1086.06	1085.51	1079.03	
12.16			1085.36	1085.05	1078.4	
12.04			1084.29	1083.7	1076.41	
11.92			1082.5	1082.02	1074.64	
11.8			1080.92	1080.49	1072.73	
11.73			1080.43	1080.04	1071.55	
11.67			1079.68	1078.44	1070.78	
11.62			1077.8	1077.66	1070.03	
11.55			1077.2	1075.76	1069	
11.45			1074.86	1073.94	1067.22	
11.39			1073.99	1073.48	1066.61	
11.33			1072.83	1072.52	1065.4	
11.24			1071.85	1071.37	1063.75	
11.16			1071.14	1070.91	1062.16	
11.07			1070.32	1068.94	1060.9	
10.99			1067.94	1067.66	1059.5	
10.92			1066.86	1066.83	1058.17	
10.87			1066.66	1066.14	1057.7	
10.75			1064.03	1063.4	1055.53	
10.6			1061.27	1060.57	1052.86	
10.45			1059.32	1058.89	1050.55	
10.26			1056.67	1055.88	1047.3	
10.18			1055.2	1054.74	1046.76	
10.1			1054.13	1053.65	1045.1	
10.04			1053.42	1053.02	1044.49	
9.96			1052.32	1051.68	1043.36	
9.91			1051.52	1051.08	1042.45	
9.85			1050.63	1049.77	1041.16	
9.77			1047.95	1047.6	1040.21	
9.68			1046.85	1046.53	1038.6	
9.61			1045.86	1045.44	1037.45	
9.53			1044.83	1044.53	1037.06	
9.47			1043.92	1043.64	1036.35	
9.4			1042.74	1042.28	1035.27	
9.32			1042.07	1042.01	1033.86	
9.27			1041.7	1041.42	1033.3	
9.18			1039.61	1038.92	1030.11	
9.09			1038.33	1038.22	1029	
9			1038.02	1037.95	1027.46	
8.94			1037.81	1037.29	1026.26	
8.86			1036.38	1035.03	1024.39	
8.78			1034.65	1033.48	1023.52	
8.72			1032.92	1031.67	1022.5	
8.64			1030.27	1029.76	1021.98	
8.56			1028.6	1028.23	1018.86	
8.44			1027.26	1026.95	1017.72	
8.37			1025.97	1025.13	1016.1	
8.29			1024.52	1024.03	1015.3	
8.23			1023.75	1023.37	1013.7	
8.1			1023.07	1022.99	1010.5	
8.07			1022.35	1020.48	1011.31	
8.065	1020.4	1021.5	1022.35	1020.48	1011.55	Bridge #1-Up
8.065	1020.4	1021.58	1022.26	1020.48	1011	Bridge #1-Dn
8.06			1021.7	1019.5	1011	
7.95			1019.53	1019.07	1008.3	
7.86			1017.78	1016.75	1007.38	
7.78			1015.85	1015.41	1006.1	
7.71			1015.07	1014.87	1003.45	
7.55			1012.7	1010.71	1000.34	
7.47			1010.81	1010.38	1000.8	
7.4			1009.76	1007.54	997.15	
7.31			1007.81	1007.18	998	
7.23			1006.69	1005.64	996.25	
7.14			1005.06	1003.87	994.92	
7.07			1003.59	1002.31	993.78	
7			1002.51	1001.91	992.45	
6.94			1001.14	1000.6	991.53	
6.88			999.83	999.31	990.45	
6.75			997.16	996.5	988.14	
6.68			995.75	995.35	987.07	
6.6			994.58	993.65	985.56	
6.49			992.51	991.86	983.7	
6.42			991.42	990.69	981.3	
6.34			989.36	988.99	979.9	
6.27			988.47	987.72	979.4	
6.2			987.26	986.32	979.3	

6.08	985.22	984.38	977.3
5.96	982.3	981.88	974.9
5.88	981.19	980.75	973.8
5.81	980.26	979.99	972.8
5.75	979.73	979.49	971.65
5.68	978.68	977.97	969.46
5.59	976.83	976.39	967.03
5.46	974.88	974.01	964.1
5.42	973.97	973.47	963.9
5.35	972.55	972.09	962.8
5.29	971.79	971.48	962.4
5.2	970.7	970.17	960.86
5.12	969.7	969.44	959.6
5.04	968.66	967.19	958.65
4.95	966.68	965.41	955.24
4.89	965.2	964.01	954.9
4.82	963.74	963.07	955.1
4.76	962.95	962.19	954.86
4.67	960.72	959.53	953.3
4.62	959.45	958.6	952.38
4.55	958.6	957.86	949.57
4.49	957.29	955.81	948.7
4.44	955.7	954.98	947.77
4.35	954.02	953.61	945.6
4.3	952.92	952.13	944.35
4.23	951.76	951.4	942.76
4.14	950.59	949.67	941.46
4.09	949.1	947.58	940.5
4	946.81	946.61	938.51
3.91	945.99	945.24	937.22
3.86	945.11	944.4	936.12
3.76	942.84	940.98	934.37
3.69	941.05	940.22	932.35
3.62	939.59	937.75	931.07
3.56	938.1	937.48	929.78
3.49	936.98	934.89	928.34
3.31	932.58	932.07	924.58
3.23	931.38	930.79	922.8
3.16	929.59	928.02	922.2
3.1	927.65	926.77	920.78
3.01	925.87	925.19	919.77
2.94	924.15	923.28	917.6
2.85	922.32	921.81	915.1
2.79	920.81	919.82	913.6
2.7	918.47	917.8	911.28
2.61	916.49	915.8	909.5
2.57	915.72	915.36	908.5
2.5	914.69	914.21	908.2
2.47	914.27	913.91	907
2.4	913.4	912.73	906.1
2.34	911.62	910.09	904.3
2.26	909.67	908.72	901.48
2.17	908.31	907.37	900
2.08	906.78	905.56	898
1.99	905.24	904.52	895.1
1.94	904.14	902.64	895.8
1.85	902.16	901.01	893.9
1.77	901.02	900.49	892.72
1.69	899.89	898.6	891.24
1.6	897.71	896.32	889.68
1.51	895.33	893.86	887.63
1.44	893.13	892	886.02
1.37	891.53	890.42	884.7
1.32	890.48	889.7	883.82
1.28	889.51	887.89	882.69
1.26	888.91	887.38	883.36
1.24	888.15	887.09	880.98
1.17	886.67	885.21	879.35
1.1	885.05	884.5	878.04
1.04	884.01	882.98	877.42
0.95	882.13	881.85	875.46
0.88	881.2	880.26	873.8
0.83	879.63	879.26	872.97
0.76	878.73	877.72	870.77
0.68	877.25	876.9	868.24
0.59	876.37	875.2	865.76
0.5	874.79	873.01	863.8
0.43	873.05	870.9	862.64
0.34	869.89	868.24	860.62

0.27		865.47	864.23	858.4

RIVER/REACH: Waterman Wash, Reach 1
RIVER STATION: 8.065
TYPE OF STRUCTURE: Bridge

Description:

Distance from Upstream XS:	10
Deck/Roadway Width:	31
Weir Coefficient:	2.6
Maximum allowable submergence for weir flow:	0.98
Elevation at which weir flow begins:	1021.7
Weir crest shape:	Broad Crested

Sec	River Station	Length Channel	WSEL	Surch.	EGEL	TopWidth Actual	
4	8.1	156.54	1022.99		1023.07	4915.37	
3	8.07	86.94	1020.48		1022.35	127.43	
	8.065	31.00	1020.48		1022.35	0	Bridge #1-Up
	8.065	45.94	1020.48		1022.26	0	Bridge #1-Dn
2	8.06	556.98	1019.5		1021.7	122.44	
1	7.95	462.23	1019.07		1019.53	1304.27	

	Ineffective Flow, Section 3 Sta L	Sta R	Elev	Ineffective Flow, Section 2 Sta L	Sta R	Elev
1	0	2167.57	1021.5	0	2154.61	1021.5
2	2295	5263.74	1021.5	2277.05	5339.02	1021.5

BRIDGE:
Bridge Name: Bridge #1
LowFlowMethod: Highest Energy Answer
Momentum Cd: 1.22
HighFlowMethod: Pressure and Weir Flow
SluiceGate Cd: 0 Submerged Cd: 0.8

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

MaxLowChord: 1020.4 MinTopRd: 1021.7 MinElPrs: 1020.4

Opening Type	StagStaL	StagStaR	EncStaL	EncStaR	LIfStaS	RIfStaS
Bridge					2167.57	2295 U
					2154.61	2277.05D

	LAbutSt	RAbutSt	LMnTpRd	RMnTpRd	MnTpRd	MxLoCd
Bridge #1	2167.57	2294.24	1021.70	1021.50	1021.50	1020.40 U
	2154.61	2277.06	1021.70	1021.58	1021.58	1020.40 D

Name	Q Total.	Q Struc	Q Weir	Selected Method	Flow Type
Bridge #1	11053	4951.5	6101.5	Press/Weir	Sluicegate Pressure and Weir Flow

GEOMETRIC CHECK

RS: 8.065

ST GD 03 The end station of 5000.087 from upstream road/weir data
is less than the end station of 5263.74 from upstream internal
section/section 3.
The high chord elevation of 1021.7 for the end road/weir station is
greater than the ground elevation of 1021.5 for the same ground station.
The road/weir profile may need to be extended.

RS: 8.065
ST GD 03 The end station of 5250.087 from downstream road/weir data
is less than the end station of 5339.02 from downstream internal
section.
The high chord elevation of 1021.7 for the end road/weir station is
greater than the ground elevation of 1021.594 for the same ground station.
The road/weir profile may need to be extended.

TYPE OF FLOW CHECK

RS: 8.065 This is Bridge #1
BR PW 01 Type of sluicegate pressure and weir flow because,
1. EGEL 3 of 1022.35 is greater than MinTopRd of 1021.70.
2. EGEL 3 of 1022.35 is equal to or greater than MxLoCdU of 1020.40.
3. WSEL 2 of 1019.50 is less than MxLoCdD of 1020.40.

DISTANCE CHECK

INEFFECTIVE FLOW CHECK

RS: 8.07 This is Section 3
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 0
and 2167.57 is equal to or greater than the WSEL of 1020.48
The LMnTpRdU is 1021.7
The ineffective flow elevation should be equal to or lower than the MnTpRd
It should also be less than the WSEL.

RS: 8.07 This is Section 3
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 2295
and 5263.74 is equal to or greater than the WSEL of 1020.48
The RMnTpRdU is 1021.5
The ineffective flow elevation should be equal to or lower than the MnTpRd
It should also be less than the WSEL.

RS: 8.06 This is Section 2
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 0
and 2154.61 is equal to or greater than the WSEL of 1019.5
The LMnTpRdD is 1021.7 and the MxLoCdD is 1020.4
The ineffective flow elevation should be between the LMnTpRdD and the MxLoCdD
if LMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to LMnTpRdD.
It should also be less than the WSEL.

RS: 8.06 This is Section 2
ST IF 02 Weir flow occurs at Bridge
However, the ineffective flow elevation of 1021.5 between stations 2277.05
and 5339.02 is equal to or greater than the WSEL of 1019.5
The RMnTpRdD is 1021.58 and the MxLoCdD is 1020.4
The ineffective flow elevation should be between the RMnTpRdD and the MxLoCdD
if RMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to RMnTpRdD.
It should also be less than the WSEL.

RS: 8.1 This is Section 4
ST IF 07 Ineffective flow option was considered at this section.
However, it should be a fully expanded cross section.
Ineffective flow stations and elevations should be cleared from
this section, unless the areas beyond the ineffective flow stations
are not within the flow path of the stream.
This message should be ignored if this section is Section 2 of
the upstream structure.

RS: 7.95 This is Section 1
ST IF 07 Ineffective flow option was considered at this section.
However, it should be a fully expanded cross section.
Ineffective flow stations and elevations should be cleared from
this section, unless the ares beyond the ineffective flow stations
are not within the flow path of the stream.

WatermanWashwith.br

This message should be ignored if this section is Section 3 of the downstream structure.

---END

HEC-RAS FLOODWAY TABLE

BOTH LEVEE FAIL + FLOODWAY

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1

Reach	River Sta	Top Wdth Act (ft)	Area (sq ft)	Vel Total (ft/s)	W.S. Elev (ft)	Base WS (ft)	Prof Delta WS (ft)
Reach 1	16.72	1653.74	2372.55	2.45	1152.00	1152.00	
Reach 1	16.72	915.00	2445.88	2.37	1152.73	1152.00	0.73
Reach 1	16.64	1366.25	2052.86	2.83	1150.65	1150.65	
Reach 1	16.64	474.03	1418.27	4.09	1151.57	1150.65	0.92
Reach 1	16.53	1371.70	2390.89	2.64	1149.29	1149.29	
Reach 1	16.53	509.32	1603.32	3.62	1150.25	1149.29	0.95
Reach 1	16.45	1290.06	2455.44	2.66	1148.52	1148.52	
Reach 1	16.45	420.00	1376.12	4.22	1149.33	1148.52	0.81
Reach 1	16.38	1040.40	1818.91	3.55	1147.37	1147.37	
Reach 1	16.38	380.00	1214.83	4.78	1148.21	1147.37	0.84
Reach 1	16.32	1125.78	2016.89	2.98	1146.62	1146.62	
Reach 1	16.32	300.00	1166.64	4.98	1147.38	1146.62	0.76
Reach 1	16.23	934.27	2421.40	3.34	1145.51	1145.51	
Reach 1	16.23	314.77	1085.28	5.35	1146.02	1145.51	0.51
Reach 1	16.15	939.95	4202.80	2.84	1144.75	1144.75	
Reach 1	16.15	350.00	1326.48	4.38	1145.14	1144.75	0.39
Reach 1	16.08	861.05	2421.54	3.72	1143.51	1143.51	
Reach 1	16.08	456.15	1321.81	4.39	1143.95	1143.51	0.44
Reach 1	16.02	1133.87	2189.38	2.65	1142.58	1142.58	
Reach 1	16.02	447.82	1570.37	3.70	1143.45	1142.58	0.88
Reach 1	15.95	1465.95	2275.21	2.55	1141.67	1141.67	
Reach 1	15.95	467.83	1623.40	3.58	1142.63	1141.67	0.96
Reach 1	15.86	1075.75	2311.30	2.51	1140.91	1140.91	
Reach 1	15.86	413.76	1613.05	3.60	1141.90	1140.91	0.98
Reach 1	15.65	988.08	1707.94	5.02	1137.43	1137.43	
Reach 1	15.65	418.61	1172.30	7.31	1138.00	1137.43	0.57
Reach 1	15.61	1310.73	2458.59	3.48	1136.94	1136.94	
Reach 1	15.61	420.66	1645.33	5.21	1137.92	1136.94	0.98
Reach 1	15.54	1208.66	2229.61	3.84	1135.88	1135.88	
Reach 1	15.54	546.87	1689.51	5.07	1136.85	1135.88	0.97
Reach 1	15.48	1370.11	2544.48	3.37	1134.96	1134.96	
Reach 1	15.48	456.14	1772.15	4.83	1135.94	1134.96	0.98
Reach 1	15.40	1476.29	2754.58	3.11	1133.87	1133.87	
Reach 1	15.40	400.00	1848.97	4.63	1134.84	1133.87	0.96

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	15.35	1410.47	2736.62	3.13	1133.21	1133.21	
Reach 1	15.35	397.62	1725.78	4.96	1134.13	1133.21	0.93
Reach 1	15.30	1092.21	2121.58	4.04	1131.98	1131.98	
Reach 1	15.30	453.26	1509.26	5.68	1132.94	1131.98	0.97
Reach 1	15.20	1055.60	1871.15	4.58	1130.09	1130.09	
Reach 1	15.20	315.46	1076.08	7.96	1130.38	1130.09	0.28
Reach 1	15.12	863.65	1828.77	4.69	1128.57	1128.57	
Reach 1	15.12	406.29	1489.78	5.75	1128.96	1128.57	0.39
Reach 1	15.08	954.42	2099.63	4.08	1128.00	1128.00	
Reach 1	15.08	494.64	2093.10	4.09	1128.64	1128.00	0.65
Reach 1	15.02	889.04	1933.11	4.43	1127.40	1127.40	
Reach 1	15.02	412.84	1995.93	4.29	1128.29	1127.40	0.89
Reach 1	14.95	954.98	1852.58	4.62	1126.73	1126.73	
Reach 1	14.95	250.00	1361.16	6.29	1127.44	1126.73	0.71
Reach 1	14.88	917.53	1528.54	5.61	1125.23	1125.23	
Reach 1	14.88	178.14	963.07	8.90	1125.72	1125.23	0.49
Reach 1	14.83	1000.12	1967.91	4.35	1124.62	1124.62	
Reach 1	14.83	275.88	1620.42	5.29	1125.49	1124.62	0.87
Reach 1	14.73	1302.12	2671.04	3.21	1123.88	1123.88	
Reach 1	14.73	259.52	1847.87	4.64	1124.85	1123.88	0.98
Reach 1	14.63	1239.26	1968.83	4.35	1122.48	1122.48	
Reach 1	14.63	511.25	1663.73	5.15	1123.36	1122.48	0.87
Reach 1	14.57	1993.16	2618.10	3.27	1122.01	1122.01	
Reach 1	14.57	586.05	1479.51	5.79	1122.32	1122.01	0.31
Reach 1	14.49	1678.25	3206.39	2.67	1120.49	1120.49	
Reach 1	14.49	522.89	2100.03	4.08	1121.39	1120.49	0.90
Reach 1	14.40	1926.25	3774.96	2.33	1119.93	1119.93	
Reach 1	14.40	600.00	2444.69	3.50	1120.88	1119.93	0.95
Reach 1	14.30	1577.21	2111.29	4.62	1117.96	1117.96	
Reach 1	14.30	399.41	1354.24	7.21	1118.47	1117.96	0.51
Reach 1	14.21	938.65	1967.85	4.96	1116.08	1116.08	
Reach 1	14.21	177.74	1127.19	8.66	1117.03	1116.08	0.95
Reach 1	14.12	1028.08	2310.43	4.59	1115.21	1115.21	
Reach 1	14.12	290.03	1178.43	8.29	1115.86	1115.21	0.66

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	14.05	1119.63	2666.26	4.09	1114.56	1114.56	
Reach 1	14.05	417.77	1433.62	6.81	1114.92	1114.56	0.36
Reach 1	13.96	968.03	1794.79	5.44	1112.54	1112.54	
Reach 1	13.96	406.06	1446.05	6.75	1113.48	1112.54	0.93
Reach 1	13.88	816.20	1735.20	5.63	1110.95	1110.95	
Reach 1	13.88	313.69	1076.46	9.07	1111.40	1110.95	0.45
Reach 1	13.81	848.57	2086.42	4.68	1109.77	1109.77	
Reach 1	13.81	211.52	1281.43	7.62	1110.73	1109.77	0.96
Reach 1	13.74	987.25	1998.36	4.89	1108.84	1108.84	
Reach 1	13.74	324.87	1237.94	7.89	1109.52	1108.84	0.68
Reach 1	13.68	827.06	1637.28	5.96	1107.48	1107.48	
Reach 1	13.68	220.42	1010.02	9.67	1108.04	1107.48	0.57
Reach 1	13.61	789.55	1890.49	5.16	1106.42	1106.42	
Reach 1	13.61	242.80	1396.88	6.99	1107.25	1106.42	0.83
Reach 1	13.53	783.80	1948.79	5.01	1105.44	1105.44	
Reach 1	13.53	262.35	1451.08	6.73	1106.32	1105.44	0.88
Reach 1	13.44	978.98	2393.47	4.08	1104.58	1104.58	
Reach 1	13.44	413.96	1860.74	5.25	1105.48	1104.58	0.90
Reach 1	13.38	1211.62	2075.65	4.70	1103.67	1103.67	
Reach 1	13.38	212.80	1378.09	7.09	1104.54	1103.67	0.87
Reach 1	13.30	1575.17	2381.92	4.10	1102.66	1102.66	
Reach 1	13.30	311.66	1369.13	7.13	1103.38	1102.66	0.72
Reach 1	13.23	2106.11	3081.91	3.17	1102.00	1102.00	
Reach 1	13.23	381.69	1623.72	6.01	1102.56	1102.00	0.55
Reach 1	13.16	1288.77	1912.51	5.11	1100.54	1100.54	
Reach 1	13.16	392.09	1458.96	6.69	1101.37	1100.54	0.83
Reach 1	13.08	2254.52	2768.31	3.69	1099.79	1099.79	
Reach 1	13.08	408.84	1390.17	7.35	1100.24	1099.79	0.45
Reach 1	12.87	1492.42	2320.67	5.04	1095.95	1095.95	
Reach 1	12.87	229.14	1249.57	8.17	1096.76	1095.95	0.82
Reach 1	12.79	2327.59	3225.98	3.26	1094.92	1094.92	
Reach 1	12.79	476.05	1928.21	5.30	1095.80	1094.92	0.89
Reach 1	12.73	2341.51	3135.95	3.26	1093.95	1093.95	
Reach 1	12.73	587.90	2038.72	5.01	1094.78	1093.95	0.83

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	12.65	2540.11	3187.47	3.20	1092.59	1092.59	
Reach 1	12.65	630.86	1922.12	5.31	1093.16	1092.59	0.57
Reach 1	12.56	2384.65	2894.47	3.53	1091.08	1091.08	
Reach 1	12.56	691.64	2271.54	4.50	1091.96	1091.08	0.89
Reach 1	12.48	3005.10	3523.77	2.90	1090.05	1090.05	
Reach 1	12.48	957.33	2186.40	4.67	1090.74	1090.05	0.69
Reach 1	12.42	3167.26	3717.61	2.75	1089.21	1089.21	
Reach 1	12.42	711.05	2041.27	5.00	1090.12	1089.21	0.91
Reach 1	12.35	2985.14	3533.85	2.89	1088.17	1088.17	
Reach 1	12.35	598.26	1709.12	5.98	1088.82	1088.17	0.66
Reach 1	12.26	2518.14	3065.94	3.33	1086.54	1086.54	
Reach 1	12.26	438.48	1350.94	7.56	1086.90	1086.54	0.36
Reach 1	12.21	2241.42	2822.11	3.62	1085.51	1085.51	
Reach 1	12.21	526.23	1480.54	6.90	1086.08	1085.51	0.57
Reach 1	12.16	1960.92	3301.75	3.17	1084.85	1084.85	
Reach 1	12.16	610.16	1954.74	5.22	1085.72	1084.85	0.87
Reach 1	12.04	2672.43	3244.14	3.15	1083.24	1083.24	
Reach 1	12.04	623.98	1885.23	5.42	1084.06	1083.24	0.82
Reach 1	11.92	2645.33	3299.35	3.10	1081.75	1081.75	
Reach 1	11.92	759.27	2015.89	5.07	1082.36	1081.75	0.62
Reach 1	11.80	2394.80	3031.15	3.55	1079.47	1079.47	
Reach 1	11.80	735.27	2054.53	4.97	1080.15	1079.47	0.67
Reach 1	11.73	2223.26	5696.24	2.76	1078.71	1078.71	
Reach 1	11.73	851.68	2537.95	4.02	1079.58	1078.71	0.87
Reach 1	11.67	1813.49	4864.31	3.81	1077.59	1077.59	
Reach 1	11.67	737.04	1718.59	5.94	1078.04	1077.59	0.45
Reach 1	11.62	3668.30	7300.61	2.82	1076.96	1076.96	
Reach 1	11.62	560.42	2196.71	4.66	1077.59	1076.96	0.63
Reach 1	11.55	4540.82	9531.68	2.42	1076.26	1076.26	
Reach 1	11.55	548.58	1813.64	6.09	1076.28	1076.26	0.01
Reach 1	11.45	721.71	6745.94	6.77	1073.90	1073.90	
Reach 1	11.45	292.07	1396.70	7.77	1074.68	1073.90	0.78
Reach 1	11.39	3699.95	9542.42	2.84	1073.46	1073.46	
Reach 1	11.39	656.27	2034.13	5.33	1074.16	1073.46	0.70

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	11.33	3994.13	10742.91	2.65	1072.53	1072.53	
Reach 1	11.33	636.71	2110.47	5.17	1073.43	1072.53	0.90
Reach 1	11.24	4214.83	10010.08	2.52	1071.37	1071.37	
Reach 1	11.24	934.81	2115.84	5.43	1071.60	1071.37	0.23
Reach 1	11.16	4879.45	8910.98	2.69	1069.98	1069.98	
Reach 1	11.16	900.87	2076.31	5.22	1070.44	1069.98	0.46
Reach 1	11.07	1980.33	5698.92	3.26	1068.08	1068.08	
Reach 1	11.07	1011.69	2647.52	4.10	1068.99	1068.08	0.91
Reach 1	10.99	2380.37	5440.13	3.37	1067.00	1067.00	
Reach 1	10.99	1055.88	2431.91	4.46	1067.55	1067.00	0.54
Reach 1	10.92	2688.44	7105.42	2.91	1065.94	1065.94	
Reach 1	10.92	1020.00	3016.89	3.60	1066.81	1065.94	0.87
Reach 1	10.87	4497.95	8135.06	2.84	1065.27	1065.27	
Reach 1	10.87	996.47	2267.96	4.78	1065.86	1065.27	0.59
Reach 1	10.75	2688.98	8995.37	3.10	1063.41	1063.41	
Reach 1	10.75	900.89	1774.26	6.11	1063.62	1063.41	0.21
Reach 1	10.60	1889.03	2512.28	4.32	1059.44	1059.44	
Reach 1	10.60	526.23	1422.72	7.62	1060.17	1059.44	0.73
Reach 1	10.45	3178.15	5183.01	2.19	1057.87	1057.87	
Reach 1	10.45	1006.18	3059.91	3.59	1058.61	1057.87	0.74
Reach 1	10.26	2131.16	2824.27	3.88	1055.14	1055.14	
Reach 1	10.26	669.84	2082.46	5.27	1055.98	1055.14	0.84
Reach 1	10.18	2312.12	3472.49	3.16	1053.95	1053.95	
Reach 1	10.18	681.98	2232.28	4.91	1054.74	1053.95	0.79
Reach 1	10.10	2316.54	3331.81	3.29	1052.73	1052.73	
Reach 1	10.10	652.87	2210.46	4.96	1053.57	1052.73	0.84
Reach 1	10.04	2114.62	3291.51	3.33	1051.93	1051.93	
Reach 1	10.04	656.85	2150.89	5.10	1052.68	1051.93	0.75
Reach 1	9.96	2262.67	3085.16	3.56	1050.64	1050.64	
Reach 1	9.96	716.04	2178.76	5.04	1051.46	1050.64	0.82
Reach 1	9.91	2386.23	3359.54	3.27	1049.92	1049.92	
Reach 1	9.91	730.87	2186.60	5.02	1050.62	1049.92	0.71
Reach 1	9.85	2023.06	2821.35	3.89	1048.91	1048.91	
Reach 1	9.85	650.05	2055.69	5.34	1049.71	1048.91	0.80

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	9.77	1934.01	3026.49	3.62	1047.60	1047.60	
Reach 1	9.77	757.79	2361.20	4.65	1048.42	1047.60	0.82
Reach 1	9.68	2229.29	3559.89	3.08	1046.53	1046.53	
Reach 1	9.68	674.19	2535.88	4.33	1047.34	1046.53	0.81
Reach 1	9.61	2220.61	3438.99	3.19	1045.43	1045.43	
Reach 1	9.61	686.83	2347.02	4.67	1046.24	1045.43	0.80
Reach 1	9.53	2481.10	3915.75	2.80	1044.55	1044.55	
Reach 1	9.53	750.29	2493.00	4.40	1045.28	1044.55	0.72
Reach 1	9.47	2530.84	3610.02	3.04	1043.54	1043.54	
Reach 1	9.47	851.54	2691.63	4.08	1044.39	1043.54	0.85
Reach 1	9.40	2739.88	3826.75	2.87	1042.51	1042.51	
Reach 1	9.40	780.35	2561.18	4.28	1043.32	1042.51	0.81
Reach 1	9.32	1684.06	2548.78	4.55	1040.51	1040.51	
Reach 1	9.32	582.60	1773.70	6.19	1041.25	1040.51	0.73
Reach 1	9.27	1683.02	3725.43	3.05	1039.73	1039.73	
Reach 1	9.27	489.74	2189.36	5.01	1040.47	1039.73	0.74
Reach 1	9.18	1483.40	3663.44	3.65	1038.47	1038.47	
Reach 1	9.18	557.92	2096.03	5.23	1039.21	1038.47	0.74
Reach 1	9.09	1394.44	4854.89	3.40	1037.30	1037.30	
Reach 1	9.09	728.25	2528.54	4.34	1038.03	1037.30	0.73
Reach 1	9.00	1358.23	6152.19	3.23	1036.45	1036.45	
Reach 1	9.00	701.74	2722.03	4.03	1037.20	1036.45	0.75
Reach 1	8.94	1366.36	7596.67	3.08	1035.92	1035.92	
Reach 1	8.94	546.15	2510.42	4.37	1036.61	1035.92	0.69
Reach 1	8.86	1220.79	6886.08	4.40	1034.64	1034.64	
Reach 1	8.86	390.17	1684.79	6.51	1035.09	1034.64	0.46
Reach 1	8.78	927.79	5446.21	6.02	1032.83	1032.83	
Reach 1	8.78	298.45	1443.77	7.60	1033.43	1032.83	0.60
Reach 1	8.72	815.66	3951.10	5.83	1031.43	1031.43	
Reach 1	8.72	281.88	1367.21	8.02	1031.95	1031.43	0.52
Reach 1	8.64	2628.45	3837.44	3.82	1029.43	1029.43	
Reach 1	8.64	621.37	1949.60	5.63	1030.25	1029.43	0.83
Reach 1	8.56	2769.95	4073.98	3.06	1027.97	1027.97	
Reach 1	8.56	651.97	1953.73	5.66	1028.51	1027.97	0.54

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	8.44	2550.29	4119.33	3.90	1026.24	1026.24	
Reach 1	8.44	519.22	2009.78	5.50	1026.65	1026.24	0.41
Reach 1	8.37	1343.43	3388.06	4.28	1024.85	1024.85	
Reach 1	8.37	578.51	2029.55	5.45	1025.33	1024.85	0.48
Reach 1	8.29	2467.79	3621.74	3.22	1023.78	1023.78	
Reach 1	8.29	674.35	2589.07	4.27	1024.52	1023.78	0.74
Reach 1	8.23	2662.00	4647.37	2.38	1023.44	1023.44	
Reach 1	8.23	665.20	2707.14	4.08	1024.08	1023.44	0.64
Reach 1	8.10	4915.39	14325.23	1.49	1022.99	1022.99	
Reach 1	8.10	1079.82	4448.54	3.61	1023.22	1022.99	0.22
Reach 1	8.07	127.43	5360.63	10.97	1020.48	1020.48	
Reach 1	8.07	127.43	2658.18	9.92	1021.32	1020.48	0.84
Reach 1	8.065 BR U		943.49	2.84	1020.48	1020.48	
Reach 1	8.065 BR U		943.49	4.84	1021.32	1020.48	0.84
Reach 1	8.065 BR D		986.17	2.68	1020.48	1020.48	
Reach 1	8.065 BR D		986.17	4.67	1021.32	1020.48	0.84
Reach 1	8.06	122.44	2063.44	13.17	1018.76	1018.76	
Reach 1	8.06	122.44	1447.95	12.17	1019.32	1018.76	0.56
Reach 1	7.95	3294.20	5123.89	3.02	1018.64	1018.64	
Reach 1	7.95	1104.64	3190.68	3.81	1019.30	1018.64	0.66
Reach 1	7.86	2459.48	3759.44	4.33	1016.77	1016.77	
Reach 1	7.86	809.85	1681.99	6.81	1016.95	1016.77	0.19
Reach 1	7.78	1419.52	4353.87	4.28	1015.41	1015.41	
Reach 1	7.78	774.00	2481.91	4.45	1016.24	1015.41	0.83
Reach 1	7.71	3280.02	6338.32	2.38	1014.87	1014.87	
Reach 1	7.71	715.00	2166.66	5.10	1015.26	1014.87	0.39
Reach 1	7.55	289.10	2351.79	11.05	1010.71	1010.71	
Reach 1	7.55	200.00	1105.00	10.00	1011.31	1010.71	0.60
Reach 1	7.47	1594.59	5605.79	3.70	1010.38	1010.38	
Reach 1	7.47	250.00	1583.85	6.98	1010.41	1010.38	0.04
Reach 1	7.40	301.27	1193.67	10.56	1007.54	1007.54	
Reach 1	7.40	175.12	926.13	11.93	1007.56	1007.54	0.02
Reach 1	7.31	1355.35	2582.97	4.90	1007.19	1007.19	
Reach 1	7.31	245.00	1649.97	6.70	1007.29	1007.19	0.11

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	7.23	1248.10	2173.81	6.74	1005.63	1005.63	
Reach 1	7.23	200.00	1308.27	8.45	1005.71	1005.63	0.07
Reach 1	7.14	246.43	1744.42	8.56	1003.87	1003.87	
Reach 1	7.14	210.00	1330.73	8.31	1004.21	1003.87	0.35
Reach 1	7.07	1099.53	1573.46	8.01	1002.33	1002.33	
Reach 1	7.07	269.11	1421.03	7.78	1003.19	1002.33	0.85
Reach 1	7.00	2975.46	3021.80	3.66	1001.85	1001.85	
Reach 1	7.00	501.77	1496.13	7.39	1002.04	1001.85	0.18
Reach 1	6.94	2862.31	3442.07	3.21	1000.59	1000.59	
Reach 1	6.94	516.68	1662.06	6.65	1001.12	1000.59	0.53
Reach 1	6.88	2430.73	3126.22	3.54	999.31	999.31	
Reach 1	6.88	486.69	1634.19	6.76	1000.17	999.31	0.86
Reach 1	6.75	2282.71	2496.31	4.43	996.49	996.49	
Reach 1	6.75	400.00	1383.60	7.99	997.17	996.49	0.67
Reach 1	6.68	2402.36	3210.78	3.44	995.35	995.35	
Reach 1	6.68	377.73	1619.42	6.83	996.13	995.35	0.78
Reach 1	6.60	1738.29	2229.02	4.96	993.63	993.63	
Reach 1	6.60	340.00	1405.85	7.86	994.33	993.63	0.69
Reach 1	6.49	2176.91	2695.10	4.10	991.85	991.85	
Reach 1	6.49	400.54	1483.69	7.45	992.70	991.85	0.86
Reach 1	6.42	2268.12	2973.65	3.72	990.66	990.66	
Reach 1	6.42	418.71	1321.29	8.37	990.80	990.66	0.14
Reach 1	6.34	1884.67	2958.34	3.74	988.96	988.96	
Reach 1	6.34	441.04	1724.43	6.41	989.78	988.96	0.82
Reach 1	6.27	1708.00	2522.50	4.38	987.75	987.75	
Reach 1	6.27	365.78	1462.09	7.56	988.41	987.75	0.66
Reach 1	6.20	1350.42	1828.27	6.05	986.28	986.28	
Reach 1	6.20	270.00	1285.30	8.60	987.08	986.28	0.79
Reach 1	6.08	1506.14	2221.68	5.02	984.38	984.38	
Reach 1	6.08	375.68	1270.73	8.70	984.43	984.38	0.05
Reach 1	5.96	1438.36	2519.50	4.39	981.88	981.88	
Reach 1	5.96	411.67	1656.91	6.67	982.74	981.88	0.85
Reach 1	5.88	1491.31	2537.79	4.36	980.75	980.75	
Reach 1	5.88	500.00	1805.59	6.12	981.57	980.75	0.81

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act (ft)	Area (sq ft)	Vel Total (ft/s)	W.S. Elev (ft)	Base WS (ft)	Prof Delta WS (ft)
Reach 1	5.81	1215.83	3056.87	3.62	979.98	979.98	
Reach 1	5.81	380.00	2112.49	5.23	980.80	979.98	0.82
Reach 1	5.75	1495.89	3513.65	3.15	979.49	979.49	
Reach 1	5.75	380.00	2378.38	4.65	980.33	979.49	0.83
Reach 1	5.68	1089.15	2182.07	5.07	977.96	977.96	
Reach 1	5.68	497.32	1638.08	6.75	978.53	977.96	0.57
Reach 1	5.59	985.80	2461.30	4.49	976.37	976.37	
Reach 1	5.59	260.00	1763.82	6.27	977.00	976.37	0.63
Reach 1	5.46	924.54	1983.65	5.57	974.01	974.01	
Reach 1	5.46	410.00	1589.72	6.95	974.81	974.01	0.80
Reach 1	5.42	1061.56	2142.49	5.16	973.47	973.47	
Reach 1	5.42	459.53	1293.89	8.54	973.53	973.47	0.06
Reach 1	5.35	869.56	2061.72	5.36	972.09	972.09	
Reach 1	5.35	649.44	2052.88	5.38	972.56	972.09	0.47
Reach 1	5.29	842.08	2505.93	4.41	971.48	971.48	
Reach 1	5.29	721.28	2913.63	3.79	972.30	971.48	0.81
Reach 1	5.20	658.42	2326.48	5.10	970.17	970.17	
Reach 1	5.20	377.29	1592.20	6.94	970.94	970.17	0.76
Reach 1	5.12	920.70	3728.78	3.49	969.44	969.44	
Reach 1	5.12	421.43	2125.78	5.20	970.22	969.44	0.78
Reach 1	5.04	707.97	1794.44	6.40	967.19	967.19	
Reach 1	5.04	436.14	1383.60	7.99	967.76	967.19	0.56
Reach 1	4.95	1011.77	1947.13	5.68	965.41	965.41	
Reach 1	4.95	360.00	1350.09	8.19	965.94	965.41	0.53
Reach 1	4.89	945.00	1832.73	6.03	964.04	964.04	
Reach 1	4.89	226.16	1030.65	10.72	964.25	964.04	0.21
Reach 1	4.82	1277.01	2451.98	4.51	963.07	963.07	
Reach 1	4.82	225.36	1542.03	7.17	963.87	963.07	0.81
Reach 1	4.76	1306.65	2303.66	4.80	962.19	962.19	
Reach 1	4.76	360.00	1575.65	7.01	962.90	962.19	0.71
Reach 1	4.67	780.74	1463.86	7.55	959.53	959.53	
Reach 1	4.67	270.27	1076.85	10.26	959.65	959.53	0.12
Reach 1	4.62	868.83	1750.82	6.31	958.60	958.60	
Reach 1	4.62	247.30	1196.78	9.24	958.86	958.60	0.26

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act (ft)	Area (sq ft)	Vel Total (ft/s)	W.S. Elev (ft)	Base WS (ft)	Prof Delta WS (ft)
Reach 1	4.55	779.75	1986.16	5.57	957.86	957.86	
Reach 1	4.55	207.03	1371.44	8.06	958.08	957.86	0.21
Reach 1	4.49	633.19	1371.89	8.44	955.81	955.81	
Reach 1	4.49	213.14	1137.25	9.72	956.12	955.81	0.31
Reach 1	4.44	1122.33	1945.36	5.68	954.98	954.98	
Reach 1	4.44	358.65	1678.30	6.59	955.65	954.98	0.68
Reach 1	4.35	1061.32	2506.92	4.41	953.61	953.61	
Reach 1	4.35	340.00	1453.54	7.60	953.65	953.61	0.04
Reach 1	4.30	661.04	1616.97	6.84	952.13	952.13	
Reach 1	4.30	475.82	1749.05	6.32	952.67	952.13	0.54
Reach 1	4.23	882.35	2564.27	4.31	951.40	951.40	
Reach 1	4.23	389.71	2412.82	4.58	952.16	951.40	0.76
Reach 1	4.14	829.14	1742.32	6.34	949.67	949.67	
Reach 1	4.14	315.00	1199.76	9.21	949.95	949.67	0.28
Reach 1	4.09	500.39	1156.92	9.55	947.58	947.58	
Reach 1	4.09	245.00	1113.85	9.92	948.10	947.58	0.53
Reach 1	4.00	950.02	3168.03	3.49	946.60	946.60	
Reach 1	4.00	474.33	2048.43	5.40	947.32	946.60	0.71
Reach 1	3.91	1035.69	2142.93	5.16	945.24	945.24	
Reach 1	3.91	380.00	1710.77	6.46	945.83	945.24	0.59
Reach 1	3.86	909.85	2249.28	4.91	944.40	944.40	
Reach 1	3.86	240.00	1356.26	8.15	944.55	944.40	0.15
Reach 1	3.76	465.47	1123.87	9.83	940.98	940.98	
Reach 1	3.76	199.04	988.67	11.18	941.10	940.98	0.12
Reach 1	3.69	994.51	1985.02	5.73	940.21	940.21	
Reach 1	3.69	250.00	1568.46	7.26	940.67	940.21	0.45
Reach 1	3.62	402.44	1244.86	9.14	937.75	937.75	
Reach 1	3.62	211.33	1041.01	10.93	937.80	937.75	0.05
Reach 1	3.56	773.84	2232.04	5.10	937.48	937.48	
Reach 1	3.56	280.00	1643.31	6.93	937.54	937.48	0.07
Reach 1	3.49	304.72	1056.38	10.77	934.89	934.89	
Reach 1	3.49	178.17	1060.02	10.74	935.47	934.89	0.58
Reach 1	3.31	578.82	2352.53	4.84	932.07	932.07	
Reach 1	3.31	396.16	1958.04	5.81	932.70	932.07	0.63

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act (ft)	Area (sq ft)	Vel Total (ft/s)	W.S. Elev (ft)	Base WS (ft)	Prof Delta WS (ft)
Reach 1	3.23	821.14	2595.09	4.46	930.79	930.79	
Reach 1	3.23	480.14	1818.30	6.26	930.98	930.79	0.19
Reach 1	3.16	392.68	1249.10	9.11	928.02	928.02	
Reach 1	3.16	286.96	1107.22	10.28	928.03	928.02	0.01
Reach 1	3.10	501.17	1576.79	7.22	926.77	926.77	
Reach 1	3.10	349.77	1654.11	6.88	927.28	926.77	0.51
Reach 1	3.01	642.85	1860.79	6.12	925.19	925.19	
Reach 1	3.01	313.07	1560.93	7.29	925.79	925.19	0.60
Reach 1	2.94	588.91	1758.62	6.47	923.28	923.28	
Reach 1	2.94	312.43	1407.34	8.09	923.93	923.28	0.65
Reach 1	2.85	716.28	2295.74	4.96	921.81	921.81	
Reach 1	2.85	421.91	1827.04	6.23	922.44	921.81	0.63
Reach 1	2.79	729.43	1814.85	6.27	919.82	919.82	
Reach 1	2.79	413.95	1513.75	7.52	920.44	919.82	0.62
Reach 1	2.70	687.22	1952.97	5.88	917.80	917.80	
Reach 1	2.70	408.39	1545.36	7.39	918.34	917.80	0.54
Reach 1	2.61	749.02	2176.85	5.25	915.80	915.80	
Reach 1	2.61	460.00	1688.17	6.77	916.04	915.80	0.24
Reach 1	2.57	678.17	2542.09	4.49	915.36	915.36	
Reach 1	2.57	430.00	1832.71	6.23	915.40	915.36	0.04
Reach 1	2.50	584.64	2089.99	5.46	914.21	914.21	
Reach 1	2.50	532.60	2053.42	5.56	914.30	914.21	0.10
Reach 1	2.47	628.92	2410.26	4.74	913.91	913.91	
Reach 1	2.47	535.74	2278.00	5.01	913.98	913.91	0.07
Reach 1	2.40	573.07	1797.12	6.36	912.73	912.73	
Reach 1	2.40	410.95	1692.17	6.75	912.77	912.73	0.04
Reach 1	2.34	373.12	1172.04	9.74	910.09	910.09	
Reach 1	2.34	319.13	1158.40	9.86	910.22	910.09	0.13
Reach 1	2.26	364.50	1630.11	7.53	908.72	908.72	
Reach 1	2.26	269.53	1567.03	7.29	909.23	908.72	0.50
Reach 1	2.17	395.08	1622.51	7.04	907.37	907.37	
Reach 1	2.17	232.42	1259.22	9.07	907.42	907.37	0.05
Reach 1	2.08	314.70	1328.64	8.60	905.56	905.56	
Reach 1	2.08	220.44	1330.57	8.58	905.92	905.56	0.37

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	1.99	347.51	1749.81	6.53	904.52	904.52	
Reach 1	1.99	280.60	1673.97	6.82	905.00	904.52	0.48
Reach 1	1.94	440.91	1811.57	7.53	902.64	902.64	
Reach 1	1.94	279.84	1265.18	9.03	903.00	902.64	0.36
Reach 1	1.85	374.31	1571.75	7.27	901.01	901.01	
Reach 1	1.85	230.00	1334.88	8.56	901.55	901.01	0.54
Reach 1	1.77	455.72	2054.05	5.56	900.49	900.49	
Reach 1	1.77	300.00	1760.19	6.49	900.95	900.49	0.46
Reach 1	1.69	298.23	1389.42	8.22	898.60	898.60	
Reach 1	1.69	218.02	1163.52	9.82	898.83	898.60	0.23
Reach 1	1.60	333.98	1337.94	8.54	896.32	896.32	
Reach 1	1.60	225.20	1141.75	10.00	896.67	896.32	0.34
Reach 1	1.51	413.39	1326.49	8.61	893.86	893.86	
Reach 1	1.51	216.94	1105.95	10.33	894.33	893.86	0.47
Reach 1	1.44	629.65	1780.14	6.83	892.00	892.00	
Reach 1	1.44	295.00	1303.22	8.76	892.35	892.00	0.35
Reach 1	1.37	664.26	1942.82	6.67	890.42	890.42	
Reach 1	1.37	280.00	1378.50	8.29	890.96	890.42	0.54
Reach 1	1.32	773.96	1967.60	5.80	889.70	889.70	
Reach 1	1.32	250.00	1316.46	8.68	890.06	889.70	0.36
Reach 1	1.28	395.70	1198.13	9.53	887.89	887.89	
Reach 1	1.28	240.00	990.09	11.54	888.03	887.89	0.14
Reach 1	1.26	404.66	1193.74	9.57	887.38	887.38	
Reach 1	1.26	404.67	1193.84	9.57	887.38	887.38	0.00
Reach 1	1.24	304.59	1412.64	8.08	887.09	887.09	
Reach 1	1.24	254.94	1437.61	7.94	887.48	887.09	0.39
Reach 1	1.17	470.80	1383.12	8.26	885.21	885.21	
Reach 1	1.17	310.00	1315.51	8.68	885.86	885.21	0.65
Reach 1	1.10	830.59	2398.15	4.76	884.50	884.50	
Reach 1	1.10	409.78	1823.58	6.26	885.15	884.50	0.66
Reach 1	1.04	816.93	1897.03	6.02	882.98	882.98	
Reach 1	1.04	472.79	1454.42	7.85	883.36	882.98	0.38
Reach 1	0.95	1004.24	3274.09	3.49	881.85	881.85	
Reach 1	0.95	540.98	2366.32	4.83	882.51	881.85	0.66

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 (Continued)

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	0.88	1033.99	2065.87	5.53	880.26	880.26	
Reach 1	0.88	513.39	1467.06	7.78	880.40	880.26	0.13
Reach 1	0.83	1081.52	2979.57	3.83	879.26	879.26	
Reach 1	0.83	443.86	1778.24	6.42	879.60	879.26	0.34
Reach 1	0.76	1077.38	1868.86	6.11	877.72	877.72	
Reach 1	0.76	375.27	1263.39	9.04	877.72	877.72	0.00
Reach 1	0.68	1170.27	1957.56	5.83	875.52	875.52	
Reach 1	0.68	246.00	1318.96	8.66	876.15	875.52	0.63
Reach 1	0.59	1158.70	2223.12	5.21	873.47	873.47	
Reach 1	0.59	412.20	1468.46	7.78	873.98	873.47	0.51
Reach 1	0.50	990.44	2493.64	4.59	870.93	870.93	
Reach 1	0.50	435.34	1511.94	7.55	871.24	870.93	0.31
Reach 1	0.43	1031.76	2696.47	4.24	869.84	869.84	
Reach 1	0.43	664.54	2098.44	5.44	870.07	869.84	0.24
Reach 1	0.34	1616.50	2787.49	4.10	867.87	867.87	
Reach 1	0.34	1234.10	2409.56	4.74	868.06	867.87	0.19
Reach 1	0.27	756.18	1361.28	8.39	864.23	864.23	
Reach 1	0.27	741.25	1358.07	8.41	864.23	864.23	0.00

WATERMAN WASH HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 Profile: 100-Year

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	16.72	5805.00	1144.40	1152.00	1151.55	1152.18	0.002552	5.84	2369.48	1680.07	0.44
Reach 1	16.64	5805.00	1142.47	1150.65	1150.24	1150.90	0.003134	6.25	2048.65	1392.68	0.47
Reach 1	16.53	5805.00	1140.96	1149.29	1148.40	1149.49	0.001623	4.83	2194.72	1721.01	0.35
Reach 1	16.45	5805.00	1140.48	1148.52	1147.77	1148.78	0.001907	5.76	2178.48	1699.28	0.44
Reach 1	16.38	5805.00	1138.90	1147.37	1147.19	1147.87	0.003665	7.43	1634.45	1403.49	0.54
Reach 1	16.32	5805.00	1138.50	1146.62	1145.83	1146.87	0.002104	4.90	1946.73	1338.06	0.37
Reach 1	16.23	5805.00	1136.80	1145.51	1144.88	1145.82	0.002281	5.38	1738.48	1228.11	0.45
Reach 1	16.15	5805.00	1135.74	1144.75	1143.51	1144.96	0.001583	4.30	2045.25	1338.48	0.36
Reach 1	16.08	5805.00	1134.97	1143.51	1143.51	1144.21	0.003275	9.11	1558.66	1187.48	0.61
Reach 1	16.02	5805.00	1134.03	1142.58		1142.77	0.002059	5.62	2189.38	1133.87	0.42
Reach 1	15.95	5805.00	1133.08	1141.67		1141.92	0.002173	6.47	2275.21	1465.95	0.44
Reach 1	15.86	5805.00	1131.78	1140.91		1141.12	0.001416	5.53	2311.30	1075.75	0.37
Reach 1	15.65	8568.00	1130.19	1137.43	1137.43	1138.33	0.004414	8.98	1707.94	988.08	0.71
Reach 1	15.61	8568.00	1129.85	1136.94		1137.27	0.002127	5.40	2458.59	1310.73	0.47
Reach 1	15.54	8568.00	1128.52	1135.88		1136.34	0.002931	7.26	2229.61	1208.66	0.53
Reach 1	15.48	8568.00	1127.48	1134.96		1135.25	0.002876	6.42	2544.48	1370.11	0.51
Reach 1	15.40	8568.00	1125.97	1133.87	1132.98	1134.18	0.002323	6.41	2754.58	1476.29	0.49
Reach 1	15.35	8568.00	1125.39	1133.21	1132.02	1133.46	0.002623	5.99	2736.62	1410.47	0.50
Reach 1	15.30	8568.00	1124.54	1131.98		1132.44	0.003771	7.39	2121.58	1092.21	0.60
Reach 1	15.20	8568.00	1122.94	1130.09	1129.50	1130.66	0.003831	6.97	1871.15	1055.60	0.63
Reach 1	15.12	8568.00	1121.30	1128.57	1127.68	1129.01	0.003742	5.64	1828.77	863.65	0.55
Reach 1	15.08	8568.00	1121.40	1128.00		1128.31	0.002196	4.61	2099.63	954.42	0.43
Reach 1	15.02	8568.00	1120.45	1127.40		1127.79	0.001578	5.08	1933.11	889.04	0.45
Reach 1	14.95	8568.00	1119.41	1126.73		1127.17	0.001693	6.01	1852.58	954.98	0.49
Reach 1	14.88	8568.00	1117.90	1125.23	1124.91	1126.08	0.004603	8.05	1528.54	917.53	0.63
Reach 1	14.83	8568.00	1116.90	1124.62		1125.06	0.002575	5.61	1967.91	1000.12	0.44
Reach 1	14.73	8568.00	1114.43	1123.88		1124.14	0.001275	4.51	2671.04	1302.12	0.32
Reach 1	14.63	8568.00	1113.30	1122.48	1122.32	1123.26	0.002027	8.91	1968.83	1239.26	0.56
Reach 1	14.57	8568.00	1112.03	1122.01	1122.01	1122.66	0.001737	8.46	2618.10	1993.16	0.52
Reach 1	14.49	8568.00	1110.58	1120.49	1118.80	1120.72	0.001216	5.53	3206.39	1678.25	0.42
Reach 1	14.40	8568.00	1109.34	1119.93	1118.39	1120.13	0.001293	5.09	3681.54	1994.57	0.31
Reach 1	14.30	9764.00	1107.70	1117.96	1117.96	1118.90	0.003611	9.68	2111.29	1577.21	0.61
Reach 1	14.21	9764.00	1105.60	1116.08	1115.91	1117.13	0.002106	9.37	1967.85	938.65	0.66
Reach 1	14.12	9764.00	1104.91	1115.21	1114.85	1116.22	0.001925	9.12	2129.36	1575.37	0.56
Reach 1	14.05	9764.00	1103.29	1114.56	1114.56	1115.34	0.002490	8.91	2388.71	1634.01	0.61
Reach 1	13.96	9764.00	1102.82	1112.54	1112.54	1113.73	0.002965	10.69	1794.79	968.03	0.68
Reach 1	13.88	9764.00	1101.92	1110.95	1110.95	1112.09	0.003688	10.28	1735.20	816.20	0.73
Reach 1	13.81	9764.00	1100.83	1109.77		1110.58	0.002147	8.30	2086.42	848.57	0.58
Reach 1	13.74	9764.00	1100.24	1108.84	1108.62	1109.67	0.003035	8.70	1998.36	987.25	0.62
Reach 1	13.68	9764.00	1099.59	1107.48	1107.26	1108.51	0.004077	8.98	1637.28	827.06	0.70
Reach 1	13.61	9764.00	1099.10	1106.42		1107.14	0.002874	7.82	1890.49	789.55	0.59
Reach 1	13.53	9764.00	1098.25	1105.44		1106.10	0.002513	7.59	1948.79	783.80	0.56
Reach 1	13.44	9764.00	1097.10	1104.58		1105.00	0.001815	6.12	2393.47	978.98	0.45
Reach 1	13.38	9764.00	1095.40	1103.67		1104.24	0.002447	6.65	2075.65	1211.62	0.49
Reach 1	13.30	9764.00	1095.17	1102.66		1103.25	0.002697	7.12	2381.92	1575.17	0.52
Reach 1	13.23	9764.00	1093.66	1102.00	1100.15	1102.41	0.001677	6.13	3081.91	2106.11	0.42
Reach 1	13.16	9764.00	1092.70	1100.54	1100.48	1101.55	0.002285	9.04	1912.51	1288.77	0.61
Reach 1	13.08	10213.00	1090.90	1099.79	1099.79	1100.52	0.001889	7.91	2768.31	2254.52	0.55
Reach 1	12.87	10213.00	1087.24	1095.95	1095.93	1096.77	0.004089	8.92	2025.80	1616.12	0.62
Reach 1	12.79	10213.00	1086.60	1094.92	1094.45	1095.26	0.002664	6.39	3132.03	2368.15	0.46
Reach 1	12.73	10213.00	1085.30	1093.95		1094.40	0.002807	7.49	3135.95	2341.51	0.53
Reach 1	12.65	10213.00	1083.78	1092.59	1092.31	1092.93	0.003392	6.73	3187.47	2540.11	0.54
Reach 1	12.56	10213.00	1082.94	1091.08		1091.51	0.002797	6.13	2894.47	2384.65	0.51
Reach 1	12.48	10213.00	1081.86	1090.05	1090.05	1090.59	0.002065	7.92	3523.77	3005.10	0.57
Reach 1	12.42	10213.00	1081.44	1089.21	1089.21	1089.61	0.002106	6.94	3717.61	3167.26	0.55
Reach 1	12.35	10213.00	1080.81	1088.17	1088.17	1088.69	0.002003	7.60	3533.85	2985.14	0.53
Reach 1	12.26	10213.00	1079.64	1086.54	1086.54	1087.14	0.002293	7.93	3065.94	2518.14	0.58
Reach 1	12.21	10213.00	1079.03	1085.51	1085.51	1086.06	0.002454	7.60	2822.11	2241.42	0.61
Reach 1	12.16	10213.00	1078.40	1084.85	1084.49	1085.25	0.002041	6.55	3220.80	2033.45	0.51
Reach 1	12.04	10213.00	1076.41	1083.24	1083.24	1083.87	0.002310	8.96	3244.14	2672.43	0.62
Reach 1	11.92	10213.00	1074.64	1081.75	1081.41	1081.98	0.003483	5.55	3299.35	2645.33	0.41
Reach 1	11.80	10213.00	1072.73	1079.47	1079.47	1080.09	0.002315	7.37	2873.24	2880.58	0.56
Reach 1	11.73	10213.00	1071.55	1078.71		1079.01	0.001939	6.49	3703.96	3726.96	0.50
Reach 1	11.67	10213.00	1070.78	1077.59	1077.59	1078.22	0.002893	8.45	2683.41	3289.88	0.62
Reach 1	11.62	10213.00	1070.03	1076.96	1075.72	1077.32	0.001504	5.89	3618.45	3668.30	0.47
Reach 1	11.55	10846.00	1069.00	1076.26	1076.26	1076.72	0.001991	7.19	4489.12	4540.82	0.51
Reach 1	11.45	10846.00	1067.22	1073.90	1073.10	1074.78	0.003034	8.24	1602.27	4336.10	0.67
Reach 1	11.39	10846.00	1066.61	1073.46	1073.46	1073.94	0.001886	6.82	3819.54	4740.42	0.53

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	11.33	10846.00	1065.40	1072.53	1072.31	1072.74	0.002427	5.21	4094.30	4836.81	0.38
Reach 1	11.24	10846.00	1063.75	1071.37	1071.37	1071.85	0.001629	7.22	4303.03	4561.69	0.51
Reach 1	11.16	10846.00	1062.16	1069.98	1069.98	1070.40	0.002218	7.59	4025.21	4911.85	0.57
Reach 1	11.07	10846.00	1060.90	1068.08		1068.69	0.003062	8.76	3324.08	4059.30	0.67
Reach 1	10.99	10846.00	1059.50	1067.00	1067.00	1067.54	0.002692	8.46	3222.48	4098.99	0.58
Reach 1	10.92	10846.00	1058.17	1065.94	1065.60	1066.31	0.001983	6.14	3723.03	4417.58	0.52
Reach 1	10.87	10846.00	1057.70	1065.27	1065.27	1065.71	0.003454	7.85	3818.09	4497.95	0.59
Reach 1	10.75	10846.00	1055.53	1063.41	1063.41	1064.03	0.001325	7.67	3497.71	4527.11	0.73
Reach 1	10.60	10846.00	1052.86	1059.44	1059.44	1060.09	0.004103	8.86	2512.28	1889.03	0.72
Reach 1	10.45	10971.00	1050.55	1057.87	1057.30	1058.05	0.001314	4.61	5007.77	3271.71	0.38
Reach 1	10.26	10971.00	1047.30	1055.14	1055.14	1055.81	0.004148	8.61	2824.27	2131.16	0.64
Reach 1	10.18	10971.00	1046.76	1053.95		1054.28	0.002770	6.65	3472.49	2312.12	0.51
Reach 1	10.10	10971.00	1045.10	1052.73		1053.13	0.002783	6.69	3331.81	2316.54	0.52
Reach 1	10.04	10971.00	1044.49	1051.93		1052.30	0.002633	6.56	3291.51	2114.62	0.50
Reach 1	9.96	10971.00	1043.36	1050.64		1051.09	0.003114	7.11	3085.16	2262.67	0.55
Reach 1	9.91	10971.00	1042.45	1049.92		1050.30	0.002610	6.66	3359.54	2386.23	0.50
Reach 1	9.85	10971.00	1041.16	1048.91	1048.77	1049.46	0.003546	7.88	2821.35	2023.06	0.59
Reach 1	9.77	10971.00	1040.21	1047.60		1047.95	0.003012	6.63	3026.49	1934.01	0.53
Reach 1	9.68	10971.00	1038.60	1046.53		1046.85	0.002046	5.94	3559.89	2229.29	0.47
Reach 1	9.61	10971.00	1037.45	1045.43	1045.20	1045.86	0.002671	7.12	3438.99	2220.61	0.54
Reach 1	9.53	10971.00	1037.06	1044.55	1044.07	1044.84	0.002386	6.30	3915.75	2481.10	0.50
Reach 1	9.47	10971.00	1036.35	1043.54	1043.28	1043.87	0.003654	6.61	3610.02	2530.84	0.55
Reach 1	9.40	10971.00	1035.27	1042.51	1042.21	1042.81	0.002481	6.17	3826.75	2739.88	0.47
Reach 1	9.32	10971.00	1033.86	1040.51	1040.49	1041.13	0.007007	8.44	2413.34	2256.01	0.74
Reach 1	9.27	10971.00	1033.30	1039.73	1037.90	1039.88	0.002249	4.18	3600.89	2119.86	0.39
Reach 1	9.18	10971.00	1030.11	1038.47	1037.02	1038.70	0.003118	4.99	3006.10	2219.31	0.46
Reach 1	9.09	10971.00	1029.00	1037.30	1036.17	1037.52	0.002092	4.65	3222.71	2844.35	0.39
Reach 1	9.00	10971.00	1027.46	1036.45	1035.34	1036.65	0.001870	4.37	3401.30	3202.44	0.36
Reach 1	8.94	10971.00	1026.26	1035.92	1034.48	1036.14	0.001419	4.57	3566.14	3341.24	0.33
Reach 1	8.86	10971.00	1024.39	1034.64	1033.98	1035.17	0.003024	6.89	2492.69	3347.83	0.49
Reach 1	8.78	10971.00	1023.52	1032.83	1032.57	1033.79	0.004193	8.64	1822.89	2932.15	0.58
Reach 1	8.72	10971.00	1022.50	1031.43	1030.92	1032.14	0.005106	7.45	1881.62	2845.54	0.60
Reach 1	8.64	10971.00	1021.98	1029.43	1029.32	1029.85	0.005151	6.85	2874.51	2628.45	0.59
Reach 1	8.56	10971.00	1018.86	1027.97		1028.32	0.002856	6.66	3590.48	2769.95	0.52
Reach 1	8.44	11053.00	1017.72	1026.24		1026.62	0.002830	6.19	2835.73	2550.29	0.48
Reach 1	8.37	11053.00	1016.10	1024.85	1024.46	1025.33	0.003305	6.95	2579.76	2169.13	0.56
Reach 1	8.29	11053.00	1015.30	1023.78	1022.96	1024.17	0.002440	6.48	3435.90	2470.58	0.50
Reach 1	8.23	11053.00	1013.70	1023.44	1022.33	1023.61	0.001169	4.73	4647.37	2662.00	0.34
Reach 1	8.10	11053.00	1010.50	1022.99	1020.55	1023.07	0.000553	3.11	7397.23	4915.39	0.23
Reach 1	8.07	11053.00	1011.31	1020.48	1018.73	1022.35	0.004267	10.97	1007.49	3146.21	0.69
Reach 1	8.065	Bridge									
Reach 1	8.06	11053.00	1011.00	1018.76	1018.21	1021.45	0.002632	13.17	839.32	1836.00	0.89
Reach 1	7.95	11053.00	1008.30	1018.64	1018.34	1018.93	0.002210	5.32	3665.15	3671.95	0.45
Reach 1	7.86	11053.00	1007.38	1016.77	1016.51	1017.50	0.004225	8.35	2551.49	2763.11	0.65
Reach 1	7.78	11053.00	1006.10	1015.41	1014.65	1015.85	0.003000	5.93	2582.61	2886.02	0.52
Reach 1	7.71	11053.00	1003.45	1014.87	1014.37	1015.07	0.001300	4.62	4649.82	3280.02	0.35
Reach 1	7.55	11053.00	1000.34	1010.71	1010.28	1012.70	0.007688	11.39	1000.22	1119.23	0.86
Reach 1	7.47	11053.00	1000.80	1010.38	1007.49	1010.81	0.001307	5.88	2985.22	2831.97	0.38
Reach 1	7.40	11053.00	997.15	1007.54	1007.17	1009.76	0.006135	13.04	1046.56	1331.21	0.92
Reach 1	7.31	11053.00	998.00	1007.19	1004.58	1007.81	0.001849	6.62	2254.14	1656.86	0.44
Reach 1	7.23	11053.00	996.25	1005.63	1003.58	1006.69	0.002966	8.39	1639.42	1967.26	0.56
Reach 1	7.14	11053.00	994.92	1003.87	1002.02	1005.06	0.004046	8.79	1291.23	1070.92	0.60
Reach 1	7.07	11053.00	993.78	1002.33	1000.50	1003.59	0.003738	9.05	1379.07	1245.35	0.66
Reach 1	7.00	11053.00	992.45	1001.85	1001.85	1002.50	0.002025	7.46	3021.80	2975.46	0.50
Reach 1	6.94	11053.00	991.53	1000.59	1000.59	1001.13	0.002107	7.30	3442.07	2862.31	0.51
Reach 1	6.88	11053.00	990.45	999.31	999.31	999.83	0.003177	7.40	3126.22	2430.73	0.59
Reach 1	6.75	11053.00	988.14	996.49	996.49	997.16	0.003951	7.81	2496.31	2282.71	0.65
Reach 1	6.68	11053.00	987.07	995.35	994.09	995.76	0.002512	6.08	3210.78	2402.36	0.52
Reach 1	6.60	11053.00	985.56	993.63	993.63	994.58	0.003162	9.10	2229.02	1738.29	0.63
Reach 1	6.49	11053.00	983.70	991.85	991.85	992.51	0.002258	8.70	2695.10	2176.91	0.60
Reach 1	6.42	11053.00	981.30	990.66	990.66	991.41	0.002304	9.09	2973.65	2268.12	0.60
Reach 1	6.34	11053.00	979.90	988.96		989.35	0.002255	5.97	2958.34	1884.67	0.52
Reach 1	6.27	11053.00	979.40	987.75	987.63	988.47	0.002680	8.27	2522.50	1708.00	0.60
Reach 1	6.20	11053.00	979.30	986.28	986.28	987.25	0.003659	8.78	1828.27	1350.42	0.69
Reach 1	6.08	11053.00	977.30	984.38	984.38	985.22	0.002583	9.08	2201.35	1672.12	0.64
Reach 1	5.96	11053.00	974.90	981.88	980.68	982.30	0.002099	6.17	2519.50	1438.36	0.53
Reach 1	5.88	11053.00	973.80	980.75		981.19	0.003729	6.30	2537.79	1491.31	0.51
Reach 1	5.81	11053.00	972.80	979.98	977.78	980.26	0.001837	4.71	3056.87	1215.83	0.37

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	5.75	11053.00	971.65	979.49	976.60	979.72	0.001376	4.26	3513.65	1495.89	0.32
Reach 1	5.68	11053.00	969.46	977.96	977.16	978.67	0.006025	8.21	2182.07	1089.15	0.55
Reach 1	5.59	11053.00	967.03	976.37	973.54	976.83	0.002889	6.15	2461.30	985.80	0.41
Reach 1	5.46	11053.00	964.10	974.01	973.15	974.88	0.002507	8.92	1983.65	924.54	0.60
Reach 1	5.42	11053.00	963.90	973.47	972.98	973.97	0.004887	6.61	2142.49	1061.56	0.65
Reach 1	5.35	11053.00	962.80	972.09	971.27	972.55	0.003369	5.45	2061.72	869.56	0.59
Reach 1	5.29	11053.00	962.40	971.48	969.98	971.79	0.001699	4.53	2505.93	842.08	0.44
Reach 1	5.20	11053.00	960.86	970.17	969.05	970.70	0.003512	6.54	2166.76	1090.91	0.60
Reach 1	5.12	11053.00	959.60	969.44	967.55	969.70	0.001304	4.60	3166.54	1509.56	0.38
Reach 1	5.04	11053.00	958.65	967.19	966.87	968.66	0.004955	11.01	1728.10	907.00	0.77
Reach 1	4.95	11053.00	955.24	965.41	965.41	966.68	0.003407	10.16	1947.13	1011.77	0.75
Reach 1	4.89	11053.00	954.90	964.04	964.04	965.20	0.004699	9.41	1832.73	945.00	0.80
Reach 1	4.82	11053.00	955.10	963.07		963.74	0.001861	7.05	2451.98	1277.01	0.51
Reach 1	4.76	11053.00	954.86	962.19	961.95	962.95	0.004185	8.06	2303.66	1306.65	0.58
Reach 1	4.67	11053.00	953.30	959.53	959.53	960.72	0.005684	9.42	1463.86	780.74	0.73
Reach 1	4.62	11053.00	952.38	958.60	957.26	959.45	0.001924	8.03	1750.82	868.83	0.66
Reach 1	4.55	11053.00	949.57	957.86		958.60	0.002521	7.31	1986.16	779.75	0.51
Reach 1	4.49	11053.00	948.70	955.81	953.85	957.29	0.005553	11.10	1310.14	842.55	0.76
Reach 1	4.44	11053.00	947.77	954.98	954.19	955.70	0.004427	7.09	1945.36	1122.33	0.62
Reach 1	4.35	11053.00	945.60	953.61		954.02	0.002729	5.91	2506.92	1061.32	0.50
Reach 1	4.30	11053.00	944.35	952.13		952.92	0.006146	7.21	1616.97	661.04	0.71
Reach 1	4.23	11053.00	942.76	951.40		951.76	0.001452	4.94	2564.27	882.35	0.37
Reach 1	4.14	11053.00	941.46	949.67	947.49	950.59	0.004127	8.49	1742.32	829.14	0.65
Reach 1	4.09	11053.00	940.50	947.58	947.58	949.10	0.006416	11.03	1156.92	500.39	0.81
Reach 1	4.00	11053.00	938.51	946.60		946.80	0.000963	4.04	3168.03	950.02	0.32
Reach 1	3.91	11053.00	937.22	945.24	944.40	945.98	0.003342	7.42	2142.93	1035.69	0.57
Reach 1	3.86	11053.00	936.12	944.40	943.22	945.11	0.002720	7.38	2249.28	909.85	0.52
Reach 1	3.76	11053.00	934.37	940.98	940.98	942.84	0.008424	11.10	1123.87	465.47	0.89
Reach 1	3.69	11381.00	932.35	940.21	938.07	941.05	0.001897	7.55	1985.02	994.51	0.52
Reach 1	3.62	11381.00	931.07	937.75	937.27	939.59	0.006849	12.26	1244.86	402.44	0.94
Reach 1	3.56	11381.00	929.78	937.48	935.20	938.10	0.001532	6.60	2232.04	773.84	0.46
Reach 1	3.49	11381.00	928.34	934.89	934.58	936.98	0.005972	11.70	1056.38	304.72	0.88
Reach 1	3.31	11381.00	924.58	932.07		932.58	0.002925	6.91	2352.53	578.82	0.51
Reach 1	3.23	11381.00	922.80	930.79	930.03	931.38	0.002975	7.52	2551.95	867.41	0.54
Reach 1	3.16	11381.00	922.20	928.02	927.85	929.59	0.008235	10.30	1249.10	392.68	0.87
Reach 1	3.10	11381.00	920.78	926.77	925.76	927.65	0.003734	7.58	1576.79	501.17	0.65
Reach 1	3.01	11381.00	919.77	925.19		925.87	0.003834	7.04	1860.79	642.85	0.59
Reach 1	2.94	11381.00	917.60	923.28		924.15	0.005055	8.18	1758.62	588.91	0.69
Reach 1	2.85	11381.00	915.10	921.81		922.32	0.003335	6.74	2295.74	716.28	0.55
Reach 1	2.79	11381.00	913.60	919.82		920.81	0.006566	9.55	1814.85	729.43	0.79
Reach 1	2.70	11421.00	911.28	917.80	917.22	918.47	0.004837	7.89	1943.83	699.24	0.66
Reach 1	2.61	11421.00	909.50	915.80	915.08	916.49	0.004621	8.65	2176.85	749.02	0.67
Reach 1	2.57	11421.00	908.50	915.36	913.76	915.72	0.002077	5.11	2542.09	678.17	0.43
Reach 1	2.50	11421.00	908.20	914.21	912.74	914.69	0.003633	5.60	2089.99	584.64	0.51
Reach 1	2.47	11421.00	907.00	913.91	911.98	914.27	0.001461	4.89	2410.26	628.92	0.42
Reach 1	2.40	11421.00	906.10	912.73	911.34	913.40	0.003407	6.66	1797.12	573.07	0.58
Reach 1	2.34	11421.00	904.30	910.09	909.94	911.62	0.009741	10.02	1172.04	373.12	0.94
Reach 1	2.26	11421.00	901.48	908.72	907.25	909.67	0.002738	7.87	1515.82	444.41	0.60
Reach 1	2.17	11421.00	900.00	907.37		908.31	0.002928	8.17	1622.51	395.08	0.62
Reach 1	2.08	11421.00	898.00	905.56	904.30	906.78	0.003271	8.97	1328.64	314.70	0.66
Reach 1	1.99	11421.00	895.10	904.52	902.53	905.24	0.002785	6.96	1749.81	347.51	0.52
Reach 1	1.94	11421.00	895.80	902.64	902.17	904.14	0.004799	10.87	1516.49	497.86	0.80
Reach 1	1.85	11421.00	893.90	901.01	900.09	902.16	0.003623	9.29	1571.75	374.31	0.70
Reach 1	1.77	11421.00	892.72	900.49	898.14	901.02	0.001606	6.16	2054.05	455.72	0.44
Reach 1	1.69	11421.00	891.24	898.60	897.71	899.89	0.003991	9.56	1389.42	298.23	0.73
Reach 1	1.60	11421.00	889.68	896.32		897.71	0.004994	9.82	1337.94	333.98	0.80
Reach 1	1.51	11421.00	887.63	893.86	893.70	895.33	0.005210	10.18	1326.49	413.39	0.83
Reach 1	1.44	11421.00	886.02	892.00	891.73	893.13	0.005079	9.65	1671.41	775.34	0.73
Reach 1	1.37	11421.00	884.70	890.42	890.07	891.53	0.004502	9.96	1712.04	890.30	0.77
Reach 1	1.32	11421.00	883.82	889.70	888.97	890.48	0.003054	8.00	1967.60	773.96	0.63
Reach 1	1.28	11421.00	882.69	887.89	887.89	889.51	0.007379	10.83	1198.13	395.70	0.95
Reach 1	1.26	11421.00	883.36	887.38	887.38	888.91	0.002190	10.23	1193.74	404.66	0.95
Reach 1	1.24	11421.00	880.98	887.09	885.84	888.15	0.003109	8.33	1412.64	304.59	0.64
Reach 1	1.17	11421.00	879.35	885.21	885.21	886.67	0.005778	10.40	1383.12	470.80	0.84
Reach 1	1.10	11421.00	878.04	884.50	883.68	885.05	0.002144	7.16	2398.15	830.59	0.54
Reach 1	1.04	11421.00	877.42	882.98	882.98	884.01	0.004401	9.70	1897.03	816.93	0.76
Reach 1	0.95	11421.00	875.46	881.85		882.13	0.001313	5.68	3274.09	1004.24	0.42
Reach 1	0.88	11421.00	873.80	880.26	880.26	881.20	0.003947	9.00	2065.87	1033.99	0.68

HEC-RAS Plan: Waterman Was River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	0.83	11421.00	872.97	879.26		879.63	0.001659	5.94	2979.57	1081.52	0.46
Reach 1	0.76	11421.00	870.77	877.72	877.72	878.73	0.003775	8.63	1868.86	1077.38	0.69
Reach 1	0.68	11421.00	868.24	875.52	875.44	876.62	0.003668	8.88	1957.56	1170.27	0.69
Reach 1	0.59	11421.00	865.76	873.47	873.47	874.50	0.004996	9.73	2193.25	1240.78	0.79
Reach 1	0.50	11421.00	863.80	870.93	870.09	871.65	0.004368	9.03	2485.96	1033.76	0.74
Reach 1	0.43	11421.00	862.64	869.84	869.31	870.41	0.003532	8.04	2696.47	1031.76	0.66
Reach 1	0.34	11421.00	860.62	867.87	867.87	868.75	0.003264	8.97	2787.49	1616.50	0.66
Reach 1	0.27	11421.00	858.40	864.23	863.69	865.47	0.005502	8.97	1361.28	756.18	0.81

WATERMAN WASH HEC-RAS STANDARD TABLE 1

BOTH LEVEES IN PLACE

HEC-RAS Plan: levees in place River: Waterman Wash Reach: Reach 1 Profile: 100-Year

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	16.72	5805.00	1144.40	1152.00	1151.55	1152.18	0.002550	5.84	2370.09	1680.17	0.44
Reach 1	16.64	5805.00	1142.47	1150.65	1150.24	1150.89	0.003142	6.26	2046.65	1391.29	0.47
Reach 1	16.53	5805.00	1140.96	1149.30	1148.40	1149.49	0.001609	4.81	2202.92	1721.89	0.35
Reach 1	16.45	5805.00	1140.48	1148.56	1147.73	1148.79	0.001922	5.49	2223.05	1306.60	0.42
Reach 1	16.38	5805.00	1138.90	1147.37	1147.19	1147.87	0.003665	7.43	1634.45	1099.36	0.54
Reach 1	16.32	5805.00	1138.50	1146.62	1145.83	1146.87	0.002104	4.90	1946.73	1212.33	0.37
Reach 1	16.23	5805.00	1136.80	1145.51	1144.88	1145.82	0.002281	5.38	1738.36	1228.09	0.45
Reach 1	16.15	5805.00	1135.74	1144.75	1143.51	1144.96	0.001583	4.30	2045.14	1338.45	0.36
Reach 1	16.08	5805.00	1134.97	1143.51	1143.51	1144.21	0.003275	9.11	1558.66	1187.48	0.61
Reach 1	16.02	5805.00	1134.03	1142.58		1142.77	0.002058	5.61	2190.07	1133.99	0.41
Reach 1	15.95	5805.00	1133.08	1141.66		1141.92	0.002182	6.49	2271.63	1465.75	0.44
Reach 1	15.86	5805.00	1131.78	1140.90		1141.11	0.001435	5.56	2299.75	1074.86	0.37
Reach 1	15.65	8568.00	1130.19	1137.44	1137.44	1138.34	0.004298	8.97	1715.42	989.40	0.70
Reach 1	15.61	8568.00	1129.85	1136.94		1137.27	0.002127	5.40	2458.43	1310.68	0.47
Reach 1	15.54	8568.00	1128.52	1135.88		1136.34	0.002932	7.26	2229.16	1208.28	0.53
Reach 1	15.48	8568.00	1127.48	1134.96		1135.25	0.002878	6.42	2543.64	1369.78	0.51
Reach 1	15.40	8568.00	1125.97	1133.87	1132.99	1134.18	0.002319	6.44	2750.44	1474.05	0.49
Reach 1	15.35	8568.00	1125.39	1133.21	1132.02	1133.46	0.002623	5.99	2736.62	1410.47	0.50
Reach 1	15.30	8568.00	1124.54	1131.98		1132.44	0.003771	7.39	2121.58	1092.21	0.60
Reach 1	15.20	8568.00	1122.94	1130.09	1129.50	1130.66	0.003831	6.97	1871.15	1055.60	0.63
Reach 1	15.12	8568.00	1121.30	1128.57	1127.68	1129.01	0.003742	5.64	1828.77	863.65	0.55
Reach 1	15.08	8568.00	1121.40	1128.00		1128.31	0.002196	4.61	2099.63	954.42	0.43
Reach 1	15.02	8568.00	1120.45	1127.40		1127.79	0.001578	5.08	1933.11	889.04	0.45
Reach 1	14.95	8568.00	1119.41	1126.73		1127.17	0.001693	6.01	1852.58	954.98	0.49
Reach 1	14.88	8568.00	1117.90	1125.23	1124.91	1126.08	0.004603	8.05	1528.54	917.53	0.63
Reach 1	14.83	8568.00	1116.90	1124.62		1125.06	0.002575	5.61	1967.91	1000.12	0.44
Reach 1	14.73	8568.00	1114.43	1123.88		1124.14	0.001275	4.51	2671.04	1302.12	0.32
Reach 1	14.63	8568.00	1113.30	1122.48	1122.32	1123.26	0.002027	8.91	1968.83	1239.26	0.56
Reach 1	14.57	8568.00	1112.03	1122.01	1122.01	1122.66	0.001737	8.46	2618.10	1993.16	0.52
Reach 1	14.49	8568.00	1110.58	1120.49	1118.80	1120.72	0.001216	5.53	3206.39	1678.25	0.42
Reach 1	14.40	8568.00	1109.34	1119.93	1118.39	1120.13	0.001293	5.09	3681.54	1994.57	0.31
Reach 1	14.30	9764.00	1107.70	1117.96	1117.96	1118.90	0.003611	9.68	2111.29	1577.21	0.61
Reach 1	14.21	9764.00	1105.60	1116.07	1115.91	1117.14	0.002109	9.38	1967.28	938.46	0.66
Reach 1	14.12	9764.00	1104.91	1115.21	1114.85	1116.22	0.001925	9.12	2129.36	1575.37	0.56
Reach 1	14.05	9764.00	1103.29	1114.56	1114.56	1115.34	0.002490	8.91	2388.71	1634.01	0.61
Reach 1	13.96	9764.00	1102.82	1112.54	1112.54	1113.73	0.002965	10.69	1794.79	968.03	0.68
Reach 1	13.88	9764.00	1101.92	1110.99	1110.95	1112.09	0.003570	10.14	1769.86	834.35	0.72
Reach 1	13.81	9764.00	1100.83	1110.21	1109.06	1111.04	0.001909	8.18	1896.55	689.17	0.55
Reach 1	13.74	9764.00	1100.24	1108.92	1108.85	1110.04	0.003659	9.61	1641.05	780.74	0.68
Reach 1	13.68	9764.00	1099.59	1107.64	1107.49	1108.75	0.004064	9.11	1515.18	696.35	0.70
Reach 1	13.61	9764.00	1099.10	1107.33	1105.51	1107.71	0.001371	5.89	2728.54	1072.44	0.42
Reach 1	13.53	9764.00	1098.25	1106.74	1104.11	1107.18	0.001312	6.22	2652.24	1008.28	0.42
Reach 1	13.44	9764.00	1097.10	1105.45	1103.22	1106.30	0.002439	7.69	1422.18	246.84	0.53
Reach 1	13.38	9764.00	1095.40	1104.73	1102.01	1105.46	0.002125	6.87	1428.84	222.02	0.47
Reach 1	13.30	9764.00	1095.17	1102.73	1101.40	1104.20	0.004964	9.73	1003.71	178.60	0.70
Reach 1	13.23	9764.00	1093.66	1102.78	1100.52	1103.08	0.001114	5.37	3197.73	1437.40	0.35
Reach 1	13.16	9764.00	1092.70	1100.56	1100.56	1102.25	0.003220	10.75	1233.17	878.16	0.73
Reach 1	13.08	10213.00	1090.90	1099.79	1099.79	1100.52	0.001889	7.91	2768.31	2254.52	0.55
Reach 1	12.87	10213.00	1087.24	1096.91	1096.91	1097.77	0.003288	8.74	2044.05	1069.23	0.57
Reach 1	12.79	10213.00	1086.60	1095.68	1094.49	1096.06	0.002368	6.44	2771.13	1337.78	0.44
Reach 1	12.73	10213.00	1085.30	1094.80	1094.52	1095.32	0.002413	7.54	2734.51	1431.31	0.50
Reach 1	12.65	10213.00	1083.78	1092.98	1092.98	1093.72	0.005273	8.73	2074.77	1156.36	0.67
Reach 1	12.56	10213.00	1082.94	1092.00		1092.11	0.000749	3.59	5372.73	2920.07	0.27
Reach 1	12.48	10213.00	1081.86	1090.66	1090.66	1091.56	0.002445	9.17	2296.23	1225.52	0.63
Reach 1	12.42	10213.00	1081.44	1089.83	1089.64	1090.52	0.002417	7.99	2424.36	1295.76	0.60
Reach 1	12.35	10213.00	1080.81	1088.62	1088.62	1089.57	0.002397	9.12	2196.27	1160.27	0.62
Reach 1	12.26	10213.00	1079.64	1087.16	1087.02	1088.23	0.002794	9.36	1940.83	1038.42	0.65
Reach 1	12.21	10213.00	1079.03	1087.21	1085.86	1087.57	0.001043	5.86	2965.39	1206.57	0.41
Reach 1	12.16	10213.00	1078.40	1087.09	1084.64	1087.33	0.000660	4.85	3654.37	1070.88	0.32
Reach 1	12.04	10213.00	1076.41	1083.71	1083.47	1086.20	0.004859	13.60	841.00	150.43	0.90
Reach 1	11.92	10213.00	1074.64	1082.02	1081.98	1082.50	0.005486	7.19	2199.01	1735.53	0.52
Reach 1	11.80	10213.00	1072.73	1080.48	1078.61	1080.91	0.001292	6.16	2937.38	2249.27	0.43
Reach 1	11.73	10213.00	1071.55	1079.98	1079.06	1080.41	0.001639	6.91	3512.41	2510.16	0.48
Reach 1	11.67	10213.00	1070.78	1078.74	1078.44	1079.73	0.002773	9.34	1812.85	611.41	0.62
Reach 1	11.62	10213.00	1070.03	1079.30	1075.90	1079.33	0.000115	2.07	10232.77	3719.35	0.14
Reach 1	11.55	10846.00	1069.00	1076.00	1076.00	1078.91	0.007579	13.70	792.91	138.00	1.00
Reach 1	11.45	10846.00	1067.22	1074.92	1073.12	1075.50	0.001494	6.58	1816.31	376.38	0.48
Reach 1	11.39	10846.00	1066.61	1075.16	1073.48	1075.21	0.000194	2.64	9552.48	3857.40	0.18

HEC-RAS Plan: levees in place River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	11.33	10846.00	1065.40	1075.13	1072.16	1075.14	0.000094	1.29	13292.14	4184.00	0.08
Reach 1	11.24	10846.00	1063.75	1075.03	1071.28	1075.08	0.000138	2.82	8370.54	2152.68	0.16
Reach 1	11.16	10846.00	1062.16	1072.26	1071.36	1074.66	0.004214	12.47	873.87	126.28	0.82
Reach 1	11.07	10846.00	1060.90	1070.46	1069.40	1072.77	0.003723	12.21	901.51	134.46	0.79
Reach 1	10.99	10846.00	1059.50	1067.40	1067.40	1070.55	0.008187	15.33	999.42	2420.75	1.01
Reach 1	10.92	10846.00	1058.17	1066.83	1065.68	1066.86	0.000222	2.27	10781.59	5060.30	0.17
Reach 1	10.87	10846.00	1057.70	1066.14	1066.14	1066.66	0.003062	7.96	3172.49	2344.32	0.56
Reach 1	10.75	10846.00	1055.53	1064.71	1063.40	1064.85	0.000246	4.07	6909.48	2831.99	0.33
Reach 1	10.60	10846.00	1052.86	1061.96	1061.01	1064.15	0.004567	11.88	915.30	138.52	0.80
Reach 1	10.45	10971.00	1050.55	1057.22	1057.22	1059.19	0.008952	11.24	975.76	246.71	1.00
Reach 1	10.26	10971.00	1047.30	1058.38	1055.81	1059.86	0.003158	9.80	1134.20	148.93	0.59
Reach 1	10.18	10971.00	1046.76	1056.52	1054.89	1058.28	0.004400	10.68	1042.84	156.70	0.69
Reach 1	10.10	10971.00	1045.10	1055.86	1052.64	1056.78	0.002238	7.70	1424.56	186.57	0.49
Reach 1	10.04	10971.00	1044.49	1054.94	1052.02	1056.00	0.002747	8.28	1325.49	182.23	0.54
Reach 1	9.96	10971.00	1043.36	1053.65	1050.91	1054.78	0.002975	8.53	1285.93	179.61	0.56
Reach 1	9.91	10971.00	1042.45	1052.85	1049.96	1053.98	0.002724	8.53	1286.20	167.07	0.54
Reach 1	9.85	10971.00	1041.16	1049.46	1049.46	1052.46	0.010077	13.90	789.42	131.61	1.00
Reach 1	9.77	10971.00	1040.21	1048.13	1047.75	1048.66	0.003752	7.66	2490.92	1375.71	0.60
Reach 1	9.68	10971.00	1038.60	1046.93	1045.81	1047.30	0.002012	6.15	3157.42	1493.21	0.47
Reach 1	9.61	10971.00	1037.45	1045.81	1045.19	1046.31	0.002675	7.36	2824.14	1059.51	0.54
Reach 1	9.53	10971.00	1037.06	1044.82	1044.18	1045.22	0.002695	6.91	3151.47	1211.71	0.54
Reach 1	9.47	10971.00	1036.35	1043.96	1043.20	1044.26	0.002838	6.20	3414.72	1432.46	0.50
Reach 1	9.40	10971.00	1035.27	1042.27	1042.27	1042.95	0.004836	8.36	2496.75	1634.14	0.64
Reach 1	9.32	10971.00	1033.86	1041.98	1040.49	1042.04	0.000683	3.24	6616.36	3304.04	0.24
Reach 1	9.27	10971.00	1033.30	1041.33	1040.81	1041.65	0.002853	6.00	2938.69	1597.93	0.47
Reach 1	9.18	10971.00	1030.11	1040.84	1038.92	1040.93	0.000721	3.24	5154.24	1991.74	0.24
Reach 1	9.09	10971.00	1029.00	1037.53	1037.53	1039.80	0.013493	12.08	908.03	198.96	1.00
Reach 1	9.00	10971.00	1027.46	1037.99	1035.36	1038.01	0.000127	1.39	11447.93	3890.20	0.10
Reach 1	8.94	10971.00	1026.26	1037.34	1033.90	1037.85	0.001791	5.90	2076.04	2889.03	0.38
Reach 1	8.86	10971.00	1024.39	1035.28	1033.45	1036.52	0.004547	9.03	1271.54	238.28	0.61
Reach 1	8.78	10971.00	1023.52	1033.44	1031.58	1034.81	0.004553	9.53	1192.42	187.12	0.62
Reach 1	8.72	10971.00	1022.50	1031.61	1030.60	1032.89	0.007189	9.09	1208.54	252.56	0.72
Reach 1	8.64	10971.00	1021.98	1029.81	1029.81	1030.28	0.004975	7.09	2740.70	2122.62	0.59
Reach 1	8.56	10971.00	1018.86	1028.23	1028.00	1028.60	0.002695	6.69	3335.57	2201.70	0.51
Reach 1	8.44	11053.00	1017.72	1026.95	1025.40	1027.26	0.002049	5.62	3230.23	2169.57	0.41
Reach 1	8.37	11053.00	1016.10	1025.13	1024.41	1025.97	0.004444	8.30	1665.17	1394.52	0.65
Reach 1	8.29	11053.00	1015.30	1024.03	1022.95	1024.52	0.002576	6.84	2856.02	1619.18	0.51
Reach 1	8.23	11053.00	1013.70	1023.37	1022.46	1023.75	0.002246	6.50	3151.75	1634.08	0.47
Reach 1	8.10	11053.00	1010.50	1022.99	1020.57	1023.07	0.000554	3.11	7396.63	4915.37	0.23
Reach 1	8.07	11053.00	1011.31	1020.48	1018.73	1022.35	0.004267	10.97	1007.49	800.98	0.69
Reach 1	8.065	Bridge									
Reach 1	8.06	11053.00	1011.00	1019.68	1018.21	1021.77	0.001730	11.61	952.21	2932.33	0.73
Reach 1	7.95	11053.00	1008.30	1019.09	1017.88	1019.72	0.003132	6.75	1867.07	554.74	0.54
Reach 1	7.86	11053.00	1007.38	1016.75	1016.75	1017.78	0.005337	9.37	1810.96	796.31	0.73
Reach 1	7.78	11053.00	1006.10	1015.41	1014.65	1015.85	0.003000	5.93	2582.61	2789.05	0.52
Reach 1	7.71	11053.00	1003.45	1014.87	1014.37	1015.07	0.001300	4.62	4649.82	3280.02	0.35
Reach 1	7.55	11053.00	1000.34	1010.71	1010.28	1012.70	0.007688	11.39	1000.22	1119.23	0.86
Reach 1	7.47	11053.00	1000.80	1010.38	1007.49	1010.81	0.001307	5.88	2985.22	2831.97	0.38
Reach 1	7.40	11053.00	997.15	1007.54	1007.17	1009.76	0.006135	13.04	1046.56	1331.21	0.92
Reach 1	7.31	11053.00	998.00	1007.18	1004.58	1007.81	0.001849	6.62	2253.89	1656.60	0.44
Reach 1	7.23	11053.00	996.25	1005.64	1003.58	1006.69	0.002964	8.39	1640.87	1967.91	0.56
Reach 1	7.14	11053.00	994.92	1003.87	1002.02	1005.06	0.004032	8.78	1292.84	1094.42	0.60
Reach 1	7.07	11053.00	993.78	1002.31	1000.50	1003.59	0.003780	9.10	1359.02	1207.44	0.67
Reach 1	7.00	11053.00	992.45	1001.91	1001.91	1002.51	0.001894	7.26	3184.87	2998.22	0.49
Reach 1	6.94	11053.00	991.53	1000.60	1000.60	1001.14	0.002088	7.27	3459.20	2863.35	0.50
Reach 1	6.88	11053.00	990.45	999.31	999.31	999.83	0.003177	7.40	3126.22	2430.73	0.59
Reach 1	6.75	11053.00	988.14	996.50	996.50	997.16	0.003921	7.79	2509.59	2296.06	0.65
Reach 1	6.68	11053.00	987.07	995.35		995.75	0.002549	6.12	3187.66	2392.41	0.52
Reach 1	6.60	11053.00	985.56	993.65	993.65	994.58	0.003097	9.03	2266.12	1764.98	0.62
Reach 1	6.49	11053.00	983.70	991.86	991.86	992.51	0.002205	8.61	2725.06	2186.58	0.59
Reach 1	6.42	11053.00	981.30	990.69	990.69	991.42	0.002220	8.95	3056.33	2353.72	0.59
Reach 1	6.34	11053.00	979.90	988.99		989.36	0.002187	5.87	3008.72	1914.20	0.51
Reach 1	6.27	11053.00	979.40	987.72	987.63	988.47	0.002790	8.41	2474.47	1694.07	0.61
Reach 1	6.20	11053.00	979.30	986.32	986.32	987.26	0.003518	8.66	1885.33	1416.22	0.68
Reach 1	6.08	11053.00	977.30	984.38	984.38	985.22	0.002583	9.08	2201.35	1672.12	0.64
Reach 1	5.96	11053.00	974.90	981.88	980.67	982.30	0.002115	6.21	2510.56	1435.16	0.53
Reach 1	5.88	11053.00	973.80	980.75		981.19	0.003712	6.29	2536.15	1490.50	0.51
Reach 1	5.81	11053.00	972.80	979.99	977.78	980.26	0.001831	4.71	3058.57	1216.00	0.37

HEC-RAS Plan: levees in place River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	5.75	11053.00	971.65	979.49	976.60	979.73	0.001378	4.26	3515.84	1500.96	0.32
Reach 1	5.68	11053.00	969.46	977.97	977.16	978.68	0.005972	8.18	2192.57	1103.57	0.55
Reach 1	5.59	11053.00	967.03	976.39	973.55	976.83	0.002899	6.09	2475.88	988.11	0.41
Reach 1	5.46	11053.00	964.10	974.01	973.15	974.88	0.002507	8.92	1983.37	924.51	0.60
Reach 1	5.42	11053.00	963.90	973.47	972.98	973.97	0.004885	6.62	2142.17	1061.47	0.65
Reach 1	5.35	11053.00	962.80	972.09	971.27	972.55	0.003369	5.45	2061.56	869.52	0.59
Reach 1	5.29	11053.00	962.40	971.48	969.98	971.79	0.001699	4.53	2505.93	842.08	0.44
Reach 1	5.20	11053.00	960.86	970.17	969.05	970.70	0.003512	6.54	2166.76	1090.91	0.60
Reach 1	5.12	11053.00	959.60	969.44	967.55	969.70	0.001304	4.60	3166.54	1509.56	0.38
Reach 1	5.04	11053.00	958.65	967.19	966.87	968.66	0.004955	11.01	1728.10	907.00	0.77
Reach 1	4.95	11053.00	955.24	965.41	965.41	966.68	0.003407	10.16	1947.13	1011.77	0.75
Reach 1	4.89	11053.00	954.90	964.01	964.01	965.20	0.004796	9.50	1810.27	942.01	0.81
Reach 1	4.82	11053.00	955.10	963.07		963.74	0.001861	7.05	2452.06	1277.04	0.51
Reach 1	4.76	11053.00	954.86	962.19	961.95	962.95	0.004185	8.06	2303.66	1306.65	0.58
Reach 1	4.67	11053.00	953.30	959.53	959.53	960.72	0.005684	9.42	1463.86	780.74	0.73
Reach 1	4.62	11053.00	952.38	958.60	957.26	959.45	0.001924	8.03	1750.82	868.83	0.66
Reach 1	4.55	11053.00	949.57	957.86		958.60	0.002521	7.31	1986.11	779.75	0.51
Reach 1	4.49	11053.00	948.70	955.81	953.85	957.29	0.005552	11.10	1310.18	842.58	0.76
Reach 1	4.44	11053.00	947.77	954.98	954.19	955.70	0.004428	7.09	1945.23	1122.30	0.62
Reach 1	4.35	11053.00	945.60	953.61		954.02	0.002731	5.91	2505.69	1060.58	0.50
Reach 1	4.30	11053.00	944.35	952.13		952.92	0.006138	7.21	1617.29	661.34	0.71
Reach 1	4.23	11053.00	942.76	951.40		951.76	0.001452	4.94	2564.32	882.37	0.37
Reach 1	4.14	11053.00	941.46	949.67	947.49	950.59	0.004128	8.49	1742.11	829.12	0.65
Reach 1	4.09	11053.00	940.50	947.58	947.58	949.10	0.006414	11.03	1157.07	500.56	0.81
Reach 1	4.00	11053.00	938.51	946.61		946.81	0.000962	4.04	3169.59	950.26	0.32
Reach 1	3.91	11053.00	937.22	945.24	944.41	945.99	0.003338	7.45	2137.62	1035.06	0.57
Reach 1	3.86	11053.00	936.12	944.40	943.22	945.11	0.002720	7.38	2249.28	909.85	0.52
Reach 1	3.76	11053.00	934.37	940.98	940.98	942.84	0.008424	11.10	1123.87	465.47	0.89
Reach 1	3.69	11381.00	932.35	940.22	938.07	941.05	0.001896	7.54	1986.12	994.97	0.52
Reach 1	3.62	11381.00	931.07	937.75	937.27	939.59	0.006869	12.28	1242.90	399.90	0.94
Reach 1	3.56	11381.00	929.78	937.48	935.20	938.10	0.001525	6.59	2232.89	774.21	0.46
Reach 1	3.49	11381.00	928.34	934.89	934.58	936.98	0.005972	11.70	1056.36	304.71	0.88
Reach 1	3.31	11381.00	924.58	932.07		932.58	0.002924	6.91	2352.56	578.82	0.51
Reach 1	3.23	11381.00	922.80	930.79	930.03	931.38	0.002975	7.52	2551.90	867.41	0.54
Reach 1	3.16	11381.00	922.20	928.02	927.85	929.59	0.008234	10.30	1249.15	392.68	0.87
Reach 1	3.10	11381.00	920.78	926.77	925.76	927.65	0.003733	7.58	1576.89	501.18	0.65
Reach 1	3.01	11381.00	919.77	925.19		925.87	0.003843	7.05	1859.22	642.83	0.59
Reach 1	2.94	11381.00	917.60	923.28		924.15	0.005047	8.17	1758.55	588.90	0.69
Reach 1	2.85	11381.00	915.10	921.81		922.32	0.003335	6.74	2295.78	716.28	0.55
Reach 1	2.79	11381.00	913.60	919.82		920.81	0.006566	9.55	1814.81	729.42	0.79
Reach 1	2.70	11421.00	911.28	917.80	917.22	918.47	0.004835	7.89	1944.00	699.27	0.66
Reach 1	2.61	11421.00	909.50	915.80	915.08	916.49	0.004625	8.65	2176.25	748.98	0.67
Reach 1	2.57	11421.00	908.50	915.36	913.76	915.72	0.002076	5.11	2541.96	678.17	0.43
Reach 1	2.50	11421.00	908.20	914.21	912.74	914.69	0.003633	5.60	2089.99	584.64	0.51
Reach 1	2.47	11421.00	907.00	913.91	911.98	914.27	0.001461	4.89	2410.26	628.92	0.42
Reach 1	2.40	11421.00	906.10	912.73	911.34	913.40	0.003407	6.66	1797.12	573.07	0.58
Reach 1	2.34	11421.00	904.30	910.09	909.94	911.62	0.009741	10.02	1172.04	373.12	0.94
Reach 1	2.26	11421.00	901.48	908.72	907.25	909.67	0.002738	7.87	1515.82	444.41	0.60
Reach 1	2.17	11421.00	900.00	907.37		908.31	0.002928	8.17	1622.51	395.08	0.62
Reach 1	2.08	11421.00	898.00	905.56	904.30	906.78	0.003271	8.97	1328.64	314.70	0.66
Reach 1	1.99	11421.00	895.10	904.52	902.53	905.24	0.002785	6.96	1749.81	347.51	0.52
Reach 1	1.94	11421.00	895.80	902.64	902.17	904.14	0.004799	10.87	1516.49	497.86	0.80
Reach 1	1.85	11421.00	893.90	901.01	900.09	902.16	0.003623	9.29	1571.75	374.31	0.70
Reach 1	1.77	11421.00	892.72	900.49	898.14	901.02	0.001606	6.16	2054.05	455.72	0.44
Reach 1	1.69	11421.00	891.24	898.60	897.71	899.89	0.003991	9.56	1389.42	298.23	0.73
Reach 1	1.60	11421.00	889.68	896.32		897.71	0.004994	9.82	1337.94	333.98	0.80
Reach 1	1.51	11421.00	887.63	893.86	893.70	895.33	0.005210	10.18	1326.49	413.39	0.83
Reach 1	1.44	11421.00	886.02	892.00	891.73	893.13	0.005079	9.65	1671.41	775.34	0.73
Reach 1	1.37	11421.00	884.70	890.42	890.07	891.53	0.004502	9.96	1712.04	890.30	0.77
Reach 1	1.32	11421.00	883.82	889.70	888.97	890.48	0.003054	8.00	1967.60	773.96	0.63
Reach 1	1.28	11421.00	882.69	887.89	887.89	889.51	0.007379	10.83	1198.13	395.70	0.95
Reach 1	1.26	11421.00	883.36	887.38	887.38	888.91	0.002190	10.23	1193.74	404.66	0.95
Reach 1	1.24	11421.00	880.98	887.09	885.84	888.15	0.003109	8.33	1412.64	304.59	0.64
Reach 1	1.17	11421.00	879.35	885.21	885.21	886.67	0.005778	10.40	1383.12	470.80	0.84
Reach 1	1.10	11421.00	878.04	884.50	883.68	885.05	0.002144	7.16	2398.15	830.59	0.54
Reach 1	1.04	11421.00	877.42	882.98	882.98	884.01	0.004401	9.70	1897.03	816.93	0.76
Reach 1	0.95	11421.00	875.46	881.85		882.13	0.001313	5.68	3274.09	1004.24	0.42
Reach 1	0.88	11421.00	873.80	880.26	880.26	881.20	0.003947	9.00	2065.87	1033.99	0.68

HEC-RAS Plan: levees in place River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	0.83	11421.00	872.97	879.27		879.63	0.001654	5.93	2982.94	1081.64	0.46
Reach 1	0.76	11421.00	870.77	877.74	877.73	878.74	0.003720	8.59	1864.14	1036.55	0.69
Reach 1	0.68	11421.00	868.24	877.56	874.65	877.85	0.000796	5.09	3751.58	1006.74	0.34
Reach 1	0.59	11421.00	865.76	875.57	874.04	877.05	0.003105	9.83	1219.39	221.18	0.67
Reach 1	0.50	11421.00	863.80	873.15	872.23	875.30	0.004423	11.80	994.07	163.74	0.79
Reach 1	0.43	11421.00	862.64	870.78	870.78	873.33	0.007071	12.90	926.51	198.47	0.97
Reach 1	0.34	11421.00	860.62	868.24	868.24	869.89	0.004420	10.88	1483.51	544.50	0.78
Reach 1	0.27	11421.00	858.40	864.23	863.69	865.47	0.005502	8.97	1361.28	756.18	0.81

WATERMAN WASH HEC-RAS STANDARD TABLE 1

LEFT LEVEE IN PLACE

HEC-RAS Plan: Left Lev_inplace River: Waterman Wash Reach: Reach 1 Profile: 100-Year

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	16.72	5805.00	1144.40	1152.00	1151.55	1152.18	0.002550	5.84	2370.09	1680.17	0.44
Reach 1	16.64	5805.00	1142.47	1150.65	1150.24	1150.89	0.003142	6.26	2046.65	1391.29	0.47
Reach 1	16.53	5805.00	1140.96	1149.30	1148.40	1149.49	0.001609	4.81	2202.92	1721.89	0.35
Reach 1	16.45	5805.00	1140.48	1148.56	1147.73	1148.79	0.001922	5.49	2223.05	1306.60	0.42
Reach 1	16.38	5805.00	1138.90	1147.37	1147.19	1147.87	0.003665	7.43	1634.45	1099.36	0.54
Reach 1	16.32	5805.00	1138.50	1146.62	1145.83	1146.87	0.002104	4.90	1946.73	1212.33	0.37
Reach 1	16.23	5805.00	1136.80	1145.51	1144.88	1145.82	0.002281	5.38	1738.36	1228.09	0.45
Reach 1	16.15	5805.00	1135.74	1144.75	1143.51	1144.96	0.001583	4.30	2045.14	1338.45	0.36
Reach 1	16.08	5805.00	1134.97	1143.51	1143.51	1144.21	0.003275	9.11	1558.66	1187.48	0.61
Reach 1	16.02	5805.00	1134.03	1142.58		1142.77	0.002058	5.61	2190.07	1133.99	0.41
Reach 1	15.95	5805.00	1133.08	1141.66		1141.92	0.002182	6.49	2271.63	1465.75	0.44
Reach 1	15.86	5805.00	1131.78	1140.90		1141.11	0.001435	5.56	2299.75	1074.86	0.37
Reach 1	15.65	8568.00	1130.19	1137.44	1137.44	1138.34	0.004298	8.97	1715.42	989.40	0.70
Reach 1	15.61	8568.00	1129.85	1136.94		1137.27	0.002127	5.40	2458.43	1310.68	0.47
Reach 1	15.54	8568.00	1128.52	1135.88		1136.34	0.002932	7.26	2229.16	1208.28	0.53
Reach 1	15.48	8568.00	1127.48	1134.96		1135.25	0.002878	6.42	2543.64	1369.78	0.51
Reach 1	15.40	8568.00	1125.97	1133.87	1132.99	1134.18	0.002319	6.44	2750.44	1474.05	0.49
Reach 1	15.35	8568.00	1125.39	1133.21	1132.02	1133.46	0.002623	5.99	2736.62	1410.47	0.50
Reach 1	15.30	8568.00	1124.54	1131.98		1132.44	0.003771	7.39	2121.58	1092.21	0.60
Reach 1	15.20	8568.00	1122.94	1130.09	1129.50	1130.66	0.003831	6.97	1871.15	1055.60	0.63
Reach 1	15.12	8568.00	1121.30	1128.57	1127.68	1129.01	0.003742	5.64	1828.77	863.65	0.55
Reach 1	15.08	8568.00	1121.40	1128.00		1128.31	0.002196	4.61	2099.63	954.42	0.43
Reach 1	15.02	8568.00	1120.45	1127.40		1127.79	0.001578	5.08	1933.11	889.04	0.45
Reach 1	14.95	8568.00	1119.41	1126.73		1127.17	0.001693	6.01	1852.58	954.98	0.49
Reach 1	14.88	8568.00	1117.90	1125.23	1124.91	1126.08	0.004603	8.05	1528.54	917.53	0.63
Reach 1	14.83	8568.00	1116.90	1124.62		1125.06	0.002575	5.61	1967.91	1000.12	0.44
Reach 1	14.73	8568.00	1114.43	1123.88		1124.14	0.001275	4.51	2671.04	1302.12	0.32
Reach 1	14.63	8568.00	1113.30	1122.48	1122.32	1123.26	0.002027	8.91	1968.83	1239.26	0.56
Reach 1	14.57	8568.00	1112.03	1122.01	1122.01	1122.66	0.001737	8.46	2618.10	1993.16	0.52
Reach 1	14.49	8568.00	1110.58	1120.49	1118.80	1120.72	0.001216	5.53	3206.39	1678.25	0.42
Reach 1	14.40	8568.00	1109.34	1119.93	1118.39	1120.13	0.001293	5.09	3681.54	1994.57	0.31
Reach 1	14.30	9764.00	1107.70	1117.96	1117.96	1118.90	0.003611	9.68	2111.29	1577.21	0.61
Reach 1	14.21	9764.00	1105.60	1116.07	1115.91	1117.14	0.002109	9.38	1967.28	938.46	0.66
Reach 1	14.12	9764.00	1104.91	1115.21	1114.85	1116.22	0.001925	9.12	2129.36	1575.37	0.56
Reach 1	14.05	9764.00	1103.29	1114.56	1114.56	1115.34	0.002490	8.91	2388.71	1634.01	0.61
Reach 1	13.96	9764.00	1102.82	1112.54	1112.54	1113.73	0.002965	10.69	1794.79	968.03	0.68
Reach 1	13.88	9764.00	1101.92	1110.99	1110.95	1112.09	0.003568	10.14	1770.37	834.44	0.72
Reach 1	13.81	9764.00	1100.83	1110.21	1109.06	1111.04	0.001905	8.17	1898.23	689.35	0.55
Reach 1	13.74	9764.00	1100.24	1108.92	1108.85	1110.04	0.003669	9.62	1638.86	780.43	0.68
Reach 1	13.68	9764.00	1099.59	1107.72	1107.49	1108.77	0.003799	8.89	1574.96	724.21	0.68
Reach 1	13.61	9764.00	1099.10	1106.85	1105.51	1107.55	0.002434	7.51	1863.68	737.95	0.55
Reach 1	13.53	9764.00	1098.25	1106.03	1104.11	1106.68	0.002076	7.33	2019.88	782.42	0.52
Reach 1	13.44	9764.00	1097.10	1104.54	1103.48	1105.42	0.003249	8.16	1684.50	757.56	0.60
Reach 1	13.38	9764.00	1095.40	1103.88	1102.68	1104.39	0.002109	6.30	2095.78	865.92	0.46
Reach 1	13.30	9764.00	1095.17	1103.22	1102.43	1103.61	0.001690	5.96	2599.15	1082.85	0.42
Reach 1	13.23	9764.00	1093.66	1102.78	1100.52	1103.08	0.001114	5.37	3197.73	1437.40	0.35
Reach 1	13.16	9764.00	1092.70	1100.56	1100.56	1102.25	0.003220	10.75	1233.17	878.16	0.73
Reach 1	13.08	10213.00	1090.90	1099.79	1099.79	1100.52	0.001889	7.91	2768.31	2254.52	0.55
Reach 1	12.87	10213.00	1087.24	1096.91	1096.91	1097.77	0.003288	8.74	2044.05	1217.07	0.57
Reach 1	12.79	10213.00	1086.60	1095.68	1094.49	1096.06	0.002368	6.44	2771.13	1384.79	0.44
Reach 1	12.73	10213.00	1085.30	1094.80	1094.52	1095.32	0.002413	7.54	2734.51	1431.31	0.50
Reach 1	12.65	10213.00	1083.78	1092.98	1092.98	1093.72	0.005273	8.73	2074.77	1156.36	0.67
Reach 1	12.56	10213.00	1082.94	1092.00		1092.11	0.000749	3.59	5372.73	2920.07	0.27
Reach 1	12.48	10213.00	1081.86	1090.66	1090.66	1091.56	0.002445	9.17	2296.23	1225.52	0.63
Reach 1	12.42	10213.00	1081.44	1089.83	1089.64	1090.52	0.002416	7.99	2424.84	1295.79	0.60
Reach 1	12.35	10213.00	1080.81	1088.62	1088.62	1089.57	0.002397	9.12	2196.27	1160.27	0.62
Reach 1	12.26	10213.00	1079.64	1087.02	1087.02	1088.22	0.003154	9.80	1805.86	959.58	0.68
Reach 1	12.21	10213.00	1079.03	1086.24	1085.86	1087.02	0.002491	8.17	1952.52	919.40	0.62
Reach 1	12.16	10213.00	1078.40	1085.53	1084.64	1086.38	0.002626	8.25	1903.04	961.78	0.61
Reach 1	12.04	10213.00	1076.41	1083.42	1083.42	1084.52	0.003155	10.66	1910.71	948.78	0.72
Reach 1	11.92	10213.00	1074.64	1081.94	1081.41	1082.10	0.002421	4.73	3819.13	2803.56	0.34
Reach 1	11.80	10213.00	1072.73	1079.44	1079.44	1080.29	0.002894	8.21	2120.22	1415.51	0.62
Reach 1	11.73	10213.00	1071.55	1078.81		1079.08	0.001673	6.11	3941.85	3784.86	0.47
Reach 1	11.67	10213.00	1070.78	1078.43	1077.59	1078.64	0.001019	5.49	4357.21	2147.11	0.38
Reach 1	11.62	10213.00	1070.03	1077.35	1075.94	1078.18	0.002328	7.63	1980.49	1894.86	0.59
Reach 1	11.55	10846.00	1069.00	1076.54	1076.54	1077.28	0.002569	8.36	2898.21	1906.66	0.59
Reach 1	11.45	10846.00	1067.22	1073.90	1073.11	1074.78	0.003020	8.23	1605.89	1594.62	0.66
Reach 1	11.39	10846.00	1066.61	1073.45	1073.45	1073.94	0.001920	6.87	3783.42	4731.74	0.53

HEC-RAS Plan: Left Lev_inplace River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	11.33	10846.00	1065.40	1073.15	1072.57	1073.19	0.000535	2.60	8079.81	5227.60	0.18
Reach 1	11.24	10846.00	1063.75	1071.28	1071.28	1072.58	0.003272	10.15	1794.27	1148.34	0.72
Reach 1	11.16	10846.00	1062.16	1070.07	1069.96	1070.64	0.002653	8.35	2858.57	1647.85	0.63
Reach 1	11.07	10846.00	1060.90	1068.22	1068.22	1068.93	0.003247	9.14	3045.13	2005.34	0.70
Reach 1	10.99	10846.00	1059.50	1067.06	1067.06	1067.54	0.002456	8.13	3361.44	4169.44	0.55
Reach 1	10.92	10846.00	1058.17	1065.94	1065.60	1066.31	0.001983	6.14	3723.36	4417.77	0.52
Reach 1	10.87	10846.00	1057.70	1065.27	1065.27	1065.71	0.003454	7.85	3818.09	4497.95	0.59
Reach 1	10.75	10846.00	1055.53	1063.40	1063.40	1064.04	0.001345	7.72	3413.46	2565.56	0.74
Reach 1	10.60	10846.00	1052.86	1059.73	1059.73	1060.44	0.003908	8.90	2258.37	1462.48	0.71
Reach 1	10.45	10971.00	1050.55	1058.10	1057.30	1058.26	0.001055	4.28	5046.43	2499.40	0.35
Reach 1	10.26	10971.00	1047.30	1055.60	1055.34	1056.34	0.003965	8.70	2561.69	1931.40	0.63
Reach 1	10.18	10971.00	1046.76	1054.22	1054.06	1054.73	0.003501	7.64	2697.71	1693.27	0.58
Reach 1	10.10	10971.00	1045.10	1053.13	1052.70	1053.52	0.002424	6.47	3084.41	1823.66	0.49
Reach 1	10.04	10971.00	1044.49	1052.12	1051.77	1052.66	0.003298	7.47	2671.62	1721.61	0.57
Reach 1	9.96	10971.00	1043.36	1050.82	1050.48	1051.32	0.003187	7.30	2762.90	1673.62	0.55
Reach 1	9.91	10971.00	1042.45	1050.13	1049.46	1050.54	0.002539	6.70	2981.83	1590.91	0.50
Reach 1	9.85	10971.00	1041.16	1049.54	1048.85	1049.90	0.002170	6.49	3159.46	1592.45	0.46
Reach 1	9.77	10971.00	1040.21	1048.13	1047.75	1048.66	0.003751	7.66	2491.08	1375.76	0.60
Reach 1	9.68	10971.00	1038.60	1046.93	1045.81	1047.30	0.002013	6.15	3157.24	1493.18	0.47
Reach 1	9.61	10971.00	1037.45	1045.81	1045.19	1046.31	0.002684	7.37	2820.57	1058.66	0.54
Reach 1	9.53	10971.00	1037.06	1044.80	1044.18	1045.21	0.002769	6.98	3120.86	1211.25	0.54
Reach 1	9.47	10971.00	1036.35	1043.80	1043.20	1044.16	0.003419	6.69	3188.52	1422.20	0.54
Reach 1	9.40	10971.00	1035.27	1042.60	1042.27	1043.02	0.003077	6.94	3030.84	1683.21	0.52
Reach 1	9.32	10971.00	1033.86	1040.51	1040.49	1041.13	0.007010	8.44	2412.93	2255.78	0.74
Reach 1	9.27	10971.00	1033.30	1039.73	1037.90	1039.88	0.002248	4.18	3601.50	2120.29	0.39
Reach 1	9.18	10971.00	1030.11	1038.50	1037.02	1038.73	0.002982	4.90	3055.89	2246.28	0.45
Reach 1	9.09	10971.00	1029.00	1037.35	1036.16	1037.57	0.002108	4.69	3037.66	1110.73	0.39
Reach 1	9.00	10971.00	1027.46	1036.49	1035.36	1036.71	0.001885	4.42	3275.30	1243.88	0.36
Reach 1	8.94	10971.00	1026.26	1035.94	1034.64	1036.17	0.001493	4.69	3398.11	1285.89	0.34
Reach 1	8.86	10971.00	1024.39	1034.77	1033.96	1035.24	0.002619	6.52	2662.97	1265.02	0.46
Reach 1	8.78	10971.00	1023.52	1032.82	1032.80	1033.90	0.004555	9.00	1723.18	889.67	0.61
Reach 1	8.72	10971.00	1022.50	1032.00	1030.96	1032.46	0.002995	6.17	2390.83	974.52	0.47
Reach 1	8.64	10971.00	1021.98	1029.41	1029.41	1030.30	0.008867	8.97	1665.46	788.41	0.78
Reach 1	8.56	10971.00	1018.86	1028.00	1028.00	1028.33	0.002727	6.53	3658.88	2777.77	0.51
Reach 1	8.44	11053.00	1017.72	1026.24		1026.62	0.002830	6.19	2835.73	2550.29	0.48
Reach 1	8.37	11053.00	1016.10	1024.85	1024.46	1025.33	0.003305	6.95	2579.76	2169.13	0.56
Reach 1	8.29	11053.00	1015.30	1023.78	1022.96	1024.17	0.002439	6.48	3436.05	2470.61	0.50
Reach 1	8.23	11053.00	1013.70	1023.44	1022.33	1023.61	0.001169	4.73	4647.37	2662.00	0.34
Reach 1	8.10	11053.00	1010.50	1022.99	1020.55	1023.07	0.000553	3.11	7397.23	4915.39	0.23
Reach 1	8.07	11053.00	1011.31	1020.48	1018.73	1022.35	0.004267	10.97	1007.49	3146.21	0.69
Reach 1	8.065	Bridge									
Reach 1	8.06	11053.00	1011.00	1018.81	1018.21	1021.46	0.002569	13.07	845.44	1927.46	0.88
Reach 1	7.95	11053.00	1008.30	1018.65	1017.75	1018.97	0.002342	5.48	3336.49	3003.83	0.46
Reach 1	7.86	11053.00	1007.38	1016.77	1016.54	1017.50	0.004225	8.35	2551.49	2459.48	0.65
Reach 1	7.78	11053.00	1006.10	1015.41	1014.65	1015.85	0.003000	5.93	2582.61	2789.05	0.52
Reach 1	7.71	11053.00	1003.45	1014.87	1014.37	1015.07	0.001300	4.62	4649.82	3280.02	0.35
Reach 1	7.55	11053.00	1000.34	1010.71	1010.28	1012.70	0.007688	11.39	1000.22	1119.23	0.86
Reach 1	7.47	11053.00	1000.80	1010.38	1007.49	1010.81	0.001307	5.88	2985.22	2831.97	0.38
Reach 1	7.40	11053.00	997.15	1007.54	1007.17	1009.76	0.006135	13.04	1046.56	1331.21	0.92
Reach 1	7.31	11053.00	998.00	1007.18	1004.58	1007.81	0.001849	6.62	2253.89	1656.60	0.44
Reach 1	7.23	11053.00	996.25	1005.64	1003.58	1006.69	0.002964	8.39	1640.87	1967.91	0.56
Reach 1	7.14	11053.00	994.92	1003.87	1002.02	1005.06	0.004032	8.78	1292.84	1094.42	0.60
Reach 1	7.07	11053.00	993.78	1002.31	1000.50	1003.59	0.003780	9.10	1359.02	1207.44	0.67
Reach 1	7.00	11053.00	992.45	1001.91	1001.91	1002.51	0.001894	7.26	3184.87	2998.22	0.49
Reach 1	6.94	11053.00	991.53	1000.60	1000.60	1001.14	0.002088	7.27	3459.20	2863.35	0.50
Reach 1	6.88	11053.00	990.45	999.31	999.31	999.83	0.003177	7.40	3126.22	2430.73	0.59
Reach 1	6.75	11053.00	988.14	996.50	996.50	997.16	0.003921	7.79	2509.59	2296.06	0.65
Reach 1	6.68	11053.00	987.07	995.35		995.75	0.002549	6.12	3187.66	2392.41	0.52
Reach 1	6.60	11053.00	985.56	993.65	993.65	994.58	0.003097	9.03	2266.12	1764.98	0.62
Reach 1	6.49	11053.00	983.70	991.86	991.86	992.51	0.002205	8.61	2725.06	2186.58	0.59
Reach 1	6.42	11053.00	981.30	990.69	990.69	991.42	0.002220	8.95	3056.33	2353.72	0.59
Reach 1	6.34	11053.00	979.90	988.99		989.36	0.002187	5.87	3008.72	1914.20	0.51
Reach 1	6.27	11053.00	979.40	987.72	987.63	988.47	0.002790	8.41	2474.47	1694.07	0.61
Reach 1	6.20	11053.00	979.30	986.32	986.32	987.26	0.003518	8.66	1885.33	1416.22	0.68
Reach 1	6.08	11053.00	977.30	984.38	984.38	985.22	0.002583	9.08	2201.35	1672.12	0.64
Reach 1	5.96	11053.00	974.90	981.88	980.67	982.30	0.002115	6.21	2510.56	1435.16	0.53
Reach 1	5.88	11053.00	973.80	980.75		981.19	0.003712	6.29	2536.15	1490.50	0.51
Reach 1	5.81	11053.00	972.80	979.99	977.78	980.26	0.001831	4.71	3058.57	1216.00	0.37

HEC-RAS Plan: Left Lev_inplace River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	5.75	11053.00	971.65	979.49	976.60	979.73	0.001378	4.26	3515.84	1500.96	0.32
Reach 1	5.68	11053.00	969.46	977.97	977.16	978.68	0.005972	8.18	2192.57	1103.57	0.55
Reach 1	5.59	11053.00	967.03	976.39	973.55	976.83	0.002899	6.09	2475.88	988.11	0.41
Reach 1	5.46	11053.00	964.10	974.01	973.15	974.88	0.002507	8.92	1983.37	924.51	0.60
Reach 1	5.42	11053.00	963.90	973.47	972.98	973.97	0.004885	6.62	2142.17	1061.47	0.65
Reach 1	5.35	11053.00	962.80	972.09	971.27	972.55	0.003369	5.45	2061.56	869.52	0.59
Reach 1	5.29	11053.00	962.40	971.48	969.98	971.79	0.001699	4.53	2505.93	842.08	0.44
Reach 1	5.20	11053.00	960.86	970.17	969.05	970.70	0.003512	6.54	2166.76	1090.91	0.60
Reach 1	5.12	11053.00	959.60	969.44	967.55	969.70	0.001304	4.60	3166.54	1509.56	0.38
Reach 1	5.04	11053.00	958.65	967.19	966.87	968.66	0.004955	11.01	1728.10	907.00	0.77
Reach 1	4.95	11053.00	955.24	965.41	965.41	966.68	0.003407	10.16	1947.13	1011.77	0.75
Reach 1	4.89	11053.00	954.90	964.01	964.01	965.20	0.004796	9.50	1810.27	942.01	0.81
Reach 1	4.82	11053.00	955.10	963.07		963.74	0.001861	7.05	2452.06	1277.04	0.51
Reach 1	4.76	11053.00	954.86	962.19	961.95	962.95	0.004185	8.06	2303.66	1306.65	0.58
Reach 1	4.67	11053.00	953.30	959.53	959.53	960.72	0.005684	9.42	1463.86	780.74	0.73
Reach 1	4.62	11053.00	952.38	958.60	957.26	959.45	0.001924	8.03	1750.82	868.83	0.66
Reach 1	4.55	11053.00	949.57	957.86		958.60	0.002521	7.31	1986.11	779.75	0.51
Reach 1	4.49	11053.00	948.70	955.81	953.85	957.29	0.005552	11.10	1310.18	842.58	0.76
Reach 1	4.44	11053.00	947.77	954.98	954.19	955.70	0.004428	7.09	1945.23	1122.30	0.62
Reach 1	4.35	11053.00	945.60	953.61		954.02	0.002731	5.91	2505.69	1060.58	0.50
Reach 1	4.30	11053.00	944.35	952.13		952.92	0.006138	7.21	1617.29	661.34	0.71
Reach 1	4.23	11053.00	942.76	951.40		951.76	0.001452	4.94	2564.32	882.37	0.37
Reach 1	4.14	11053.00	941.46	949.67	947.49	950.59	0.004128	8.49	1742.11	829.12	0.65
Reach 1	4.09	11053.00	940.50	947.58	947.58	949.10	0.006414	11.03	1157.07	500.56	0.81
Reach 1	4.00	11053.00	938.51	946.61		946.81	0.000962	4.04	3169.59	950.26	0.32
Reach 1	3.91	11053.00	937.22	945.24	944.41	945.99	0.003338	7.45	2137.62	1035.06	0.57
Reach 1	3.86	11053.00	936.12	944.40	943.22	945.11	0.002720	7.38	2249.28	909.85	0.52
Reach 1	3.76	11053.00	934.37	940.98	940.98	942.84	0.008424	11.10	1123.87	465.47	0.89
Reach 1	3.69	11381.00	932.35	940.22	938.07	941.05	0.001896	7.54	1986.12	994.97	0.52
Reach 1	3.62	11381.00	931.07	937.75	937.27	939.59	0.006869	12.28	1242.90	399.90	0.94
Reach 1	3.56	11381.00	929.78	937.48	935.20	938.10	0.001525	6.59	2232.89	774.21	0.46
Reach 1	3.49	11381.00	928.34	934.89	934.58	936.98	0.005972	11.70	1056.36	304.71	0.88
Reach 1	3.31	11381.00	924.58	932.07		932.58	0.002924	6.91	2352.56	578.82	0.51
Reach 1	3.23	11381.00	922.80	930.79	930.03	931.38	0.002975	7.52	2551.90	867.41	0.54
Reach 1	3.16	11381.00	922.20	928.02	927.85	929.59	0.008234	10.30	1249.15	392.68	0.87
Reach 1	3.10	11381.00	920.78	926.77	925.76	927.65	0.003733	7.58	1576.89	501.18	0.65
Reach 1	3.01	11381.00	919.77	925.19		925.87	0.003843	7.05	1859.22	642.83	0.59
Reach 1	2.94	11381.00	917.60	923.28		924.15	0.005047	8.17	1758.55	588.90	0.69
Reach 1	2.85	11381.00	915.10	921.81		922.32	0.003335	6.74	2295.78	716.28	0.55
Reach 1	2.79	11381.00	913.60	919.82		920.81	0.006566	9.55	1814.81	729.42	0.79
Reach 1	2.70	11421.00	911.28	917.80	917.22	918.47	0.004835	7.89	1944.00	699.27	0.66
Reach 1	2.61	11421.00	909.50	915.80	915.08	916.49	0.004625	8.65	2176.25	748.98	0.67
Reach 1	2.57	11421.00	908.50	915.36	913.76	915.72	0.002076	5.11	2541.96	678.17	0.43
Reach 1	2.50	11421.00	908.20	914.21	912.74	914.69	0.003633	5.60	2089.99	584.64	0.51
Reach 1	2.47	11421.00	907.00	913.91	911.98	914.27	0.001461	4.89	2410.26	628.92	0.42
Reach 1	2.40	11421.00	906.10	912.73	911.34	913.40	0.003407	6.66	1797.12	573.07	0.58
Reach 1	2.34	11421.00	904.30	910.09	909.94	911.62	0.009741	10.02	1172.04	373.12	0.94
Reach 1	2.26	11421.00	901.48	908.72	907.25	909.67	0.002738	7.87	1515.82	444.41	0.60
Reach 1	2.17	11421.00	900.00	907.37		908.31	0.002928	8.17	1622.51	395.08	0.62
Reach 1	2.08	11421.00	898.00	905.56	904.30	906.78	0.003271	8.97	1328.64	314.70	0.66
Reach 1	1.99	11421.00	895.10	904.52	902.53	905.24	0.002785	6.96	1749.81	347.51	0.52
Reach 1	1.94	11421.00	895.80	902.64	902.17	904.14	0.004799	10.87	1516.49	497.86	0.80
Reach 1	1.85	11421.00	893.90	901.01	900.09	902.16	0.003623	9.29	1571.75	374.31	0.70
Reach 1	1.77	11421.00	892.72	900.49	898.14	901.02	0.001606	6.16	2054.05	455.72	0.44
Reach 1	1.69	11421.00	891.24	898.60	897.71	899.89	0.003991	9.56	1389.42	298.23	0.73
Reach 1	1.60	11421.00	889.68	896.32		897.71	0.004994	9.82	1337.94	333.98	0.80
Reach 1	1.51	11421.00	887.63	893.86	893.70	895.33	0.005210	10.18	1326.49	413.39	0.83
Reach 1	1.44	11421.00	886.02	892.00	891.73	893.13	0.005079	9.65	1671.41	775.34	0.73
Reach 1	1.37	11421.00	884.70	890.42	890.07	891.53	0.004502	9.96	1712.04	890.30	0.77
Reach 1	1.32	11421.00	883.82	889.70	888.97	890.48	0.003054	8.00	1967.60	773.96	0.63
Reach 1	1.28	11421.00	882.69	887.89	887.89	889.51	0.007379	10.83	1198.13	395.70	0.95
Reach 1	1.26	11421.00	883.36	887.38	887.38	888.91	0.002190	10.23	1193.74	404.66	0.95
Reach 1	1.24	11421.00	880.98	887.09	885.84	888.15	0.003109	8.33	1412.64	304.59	0.64
Reach 1	1.17	11421.00	879.35	885.21	885.21	886.67	0.005778	10.40	1383.12	470.80	0.84
Reach 1	1.10	11421.00	878.04	884.50	883.68	885.05	0.002144	7.16	2398.15	830.59	0.54
Reach 1	1.04	11421.00	877.42	882.98	882.98	884.01	0.004401	9.70	1897.03	816.93	0.76
Reach 1	0.95	11421.00	875.46	881.85		882.13	0.001313	5.68	3274.09	1004.24	0.42
Reach 1	0.88	11421.00	873.80	880.26	880.26	881.20	0.003947	9.00	2065.87	1033.99	0.68

HEC-RAS Plan: Left Lev_inplace River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	0.83	11421.00	872.97	879.27		879.63	0.001649	5.92	2986.24	1081.76	0.46
Reach 1	0.76	11421.00	870.77	877.73	877.73	878.74	0.003752	8.62	1855.91	1036.43	0.69
Reach 1	0.68	11421.00	868.24	875.56	875.39	876.70	0.003732	8.99	1800.17	923.86	0.70
Reach 1	0.59	11421.00	865.76	873.46	873.46	874.52	0.005098	9.83	2128.21	1080.37	0.80
Reach 1	0.50	11421.00	863.80	870.94	870.09	871.66	0.004322	9.00	2495.81	991.05	0.74
Reach 1	0.43	11421.00	862.64	869.83	869.30	870.42	0.003573	8.08	2653.95	977.26	0.67
Reach 1	0.34	11421.00	860.62	867.87	867.87	868.75	0.003264	8.97	2787.49	1616.50	0.66
Reach 1	0.27	11421.00	858.40	864.23	863.69	865.47	0.005502	8.97	1361.28	756.18	0.81

WATERMAN WASH HEC-RAS STANDARD TABLE 1

RIGHT LEVEE IN PLACE

HEC-RAS Plan: rightlev_inplace River: Waterman Wash Reach: Reach 1 Profile: 100-Year

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	16.72	5805.00	1144.40	1152.00	1151.55	1152.18	0.002550	5.84	2370.09	1680.17	0.44
Reach 1	16.64	5805.00	1142.47	1150.65	1150.24	1150.89	0.003142	6.26	2046.65	1391.29	0.47
Reach 1	16.53	5805.00	1140.96	1149.30	1148.40	1149.49	0.001609	4.81	2202.92	1721.89	0.35
Reach 1	16.45	5805.00	1140.48	1148.56	1147.73	1148.79	0.001922	5.49	2223.05	1735.55	0.42
Reach 1	16.38	5805.00	1138.90	1147.37	1147.19	1147.87	0.003665	7.43	1634.45	1403.49	0.54
Reach 1	16.32	5805.00	1138.50	1146.62	1145.83	1146.87	0.002104	4.90	1946.73	1338.06	0.37
Reach 1	16.23	5805.00	1136.80	1145.51	1144.88	1145.82	0.002281	5.38	1738.36	1228.09	0.45
Reach 1	16.15	5805.00	1135.74	1144.75	1143.51	1144.96	0.001583	4.30	2045.14	1338.45	0.36
Reach 1	16.08	5805.00	1134.97	1143.51	1143.51	1144.21	0.003275	9.11	1558.66	1187.48	0.61
Reach 1	16.02	5805.00	1134.03	1142.58		1142.77	0.002058	5.61	2190.07	1133.99	0.41
Reach 1	15.95	5805.00	1133.08	1141.66		1141.92	0.002182	6.49	2271.63	1465.75	0.44
Reach 1	15.86	5805.00	1131.78	1140.90		1141.11	0.001435	5.56	2299.75	1074.86	0.37
Reach 1	15.65	8568.00	1130.19	1137.44	1137.44	1138.34	0.004298	8.97	1715.42	989.40	0.70
Reach 1	15.61	8568.00	1129.85	1136.94		1137.27	0.002127	5.40	2458.43	1310.68	0.47
Reach 1	15.54	8568.00	1128.52	1135.88		1136.34	0.002932	7.26	2229.16	1208.28	0.53
Reach 1	15.48	8568.00	1127.48	1134.96		1135.25	0.002878	6.42	2543.64	1369.78	0.51
Reach 1	15.40	8568.00	1125.97	1133.87	1132.99	1134.18	0.002319	6.44	2750.44	1474.05	0.49
Reach 1	15.35	8568.00	1125.39	1133.21	1132.02	1133.46	0.002623	5.99	2736.62	1410.47	0.50
Reach 1	15.30	8568.00	1124.54	1131.98		1132.44	0.003771	7.39	2121.58	1092.21	0.60
Reach 1	15.20	8568.00	1122.94	1130.09	1129.50	1130.66	0.003831	6.97	1871.15	1055.60	0.63
Reach 1	15.12	8568.00	1121.30	1128.57	1127.68	1129.01	0.003742	5.64	1828.77	863.65	0.55
Reach 1	15.08	8568.00	1121.40	1128.00		1128.31	0.002196	4.61	2099.63	954.42	0.43
Reach 1	15.02	8568.00	1120.45	1127.40		1127.79	0.001578	5.08	1933.11	889.04	0.45
Reach 1	14.95	8568.00	1119.41	1126.73		1127.17	0.001693	6.01	1852.58	954.98	0.49
Reach 1	14.88	8568.00	1117.90	1125.23	1124.91	1126.08	0.004603	8.05	1528.54	917.53	0.63
Reach 1	14.83	8568.00	1116.90	1124.62		1125.06	0.002575	5.61	1967.91	1000.12	0.44
Reach 1	14.73	8568.00	1114.43	1123.88		1124.14	0.001275	4.51	2671.04	1302.12	0.32
Reach 1	14.63	8568.00	1113.30	1122.48	1122.32	1123.26	0.002027	8.91	1968.83	1239.26	0.56
Reach 1	14.57	8568.00	1112.03	1122.01	1122.01	1122.66	0.001737	8.46	2618.10	1993.16	0.52
Reach 1	14.49	8568.00	1110.58	1120.49	1118.80	1120.72	0.001216	5.53	3206.39	1678.25	0.42
Reach 1	14.40	8568.00	1109.34	1119.93	1118.39	1120.13	0.001293	5.09	3681.54	1994.57	0.31
Reach 1	14.30	9764.00	1107.70	1117.96	1117.96	1118.90	0.003611	9.68	2111.29	1577.21	0.61
Reach 1	14.21	9764.00	1105.60	1116.07	1115.91	1117.14	0.002109	9.38	1967.28	938.46	0.66
Reach 1	14.12	9764.00	1104.91	1115.21	1114.85	1116.22	0.001925	9.12	2129.36	1575.37	0.56
Reach 1	14.05	9764.00	1103.29	1114.56	1114.56	1115.34	0.002490	8.91	2388.71	1634.01	0.61
Reach 1	13.96	9764.00	1102.82	1112.54	1112.54	1113.73	0.002965	10.69	1794.79	968.03	0.68
Reach 1	13.88	9764.00	1101.92	1110.95	1110.95	1112.09	0.003688	10.28	1735.20	816.20	0.73
Reach 1	13.81	9764.00	1100.83	1109.77		1110.58	0.002142	8.29	2088.70	848.99	0.58
Reach 1	13.74	9764.00	1100.24	1108.83	1108.62	1109.67	0.003061	8.73	1987.56	980.57	0.62
Reach 1	13.68	9764.00	1099.59	1107.50	1107.26	1108.51	0.003973	8.89	1659.87	832.88	0.69
Reach 1	13.61	9764.00	1099.10	1106.71		1107.29	0.002232	7.10	2138.81	877.47	0.53
Reach 1	13.53	9764.00	1098.25	1106.12		1106.55	0.001513	6.31	2527.10	942.96	0.44
Reach 1	13.44	9764.00	1097.10	1105.26	1102.73	1105.76	0.001764	6.43	2447.25	1100.27	0.45
Reach 1	13.38	9764.00	1095.40	1104.52	1102.01	1105.10	0.001922	6.41	2110.58	1124.56	0.44
Reach 1	13.30	9764.00	1095.17	1102.28	1101.58	1103.83	0.005900	10.15	1129.54	545.60	0.76
Reach 1	13.23	9764.00	1093.66	1102.00	1100.15	1102.41	0.001677	6.13	3081.91	2106.11	0.42
Reach 1	13.16	9764.00	1092.70	1100.54	1100.48	1101.55	0.002285	9.04	1912.51	1288.77	0.61
Reach 1	13.08	10213.00	1090.90	1099.79	1099.79	1100.52	0.001889	7.91	2768.31	2254.52	0.55
Reach 1	12.87	10213.00	1087.24	1095.95	1095.89	1096.78	0.004097	8.93	2028.54	1495.79	0.62
Reach 1	12.79	10213.00	1086.60	1094.92	1094.45	1095.26	0.002669	6.39	3132.60	2327.79	0.46
Reach 1	12.73	10213.00	1085.30	1093.95		1094.40	0.002807	7.49	3136.24	2341.59	0.53
Reach 1	12.65	10213.00	1083.78	1092.59	1092.31	1092.93	0.003392	6.73	3187.47	2540.11	0.54
Reach 1	12.56	10213.00	1082.94	1091.08		1091.51	0.002797	6.13	2894.47	2384.65	0.51
Reach 1	12.48	10213.00	1081.86	1090.05	1090.05	1090.59	0.002065	7.92	3523.77	3005.10	0.57
Reach 1	12.42	10213.00	1081.44	1089.21	1089.21	1089.61	0.002106	6.94	3717.61	3167.26	0.55
Reach 1	12.35	10213.00	1080.81	1088.20	1088.20	1088.71	0.001790	7.55	3640.47	2999.51	0.53
Reach 1	12.26	10213.00	1079.64	1086.54	1086.54	1087.14	0.002293	7.93	3065.94	2518.14	0.58
Reach 1	12.21	10213.00	1079.03	1085.51	1085.51	1086.06	0.002454	7.60	2822.11	2241.42	0.61
Reach 1	12.16	10213.00	1078.40	1085.05	1084.51	1085.36	0.001528	5.94	3634.72	2210.80	0.46
Reach 1	12.04	10213.00	1076.41	1083.70	1083.63	1084.29	0.001868	8.43	3166.87	1983.60	0.56
Reach 1	11.92	10213.00	1074.64	1082.02	1081.98	1082.50	0.005511	7.20	2194.77	1735.45	0.52
Reach 1	11.80	10213.00	1072.73	1080.49	1079.60	1080.92	0.001278	6.14	2951.53	2254.64	0.42
Reach 1	11.73	10213.00	1071.55	1080.04	1079.06	1080.43	0.001505	6.66	3659.62	2514.61	0.46
Reach 1	11.67	10213.00	1070.78	1078.44	1078.44	1079.68	0.003562	10.28	1628.51	2590.52	0.70
Reach 1	11.62	10213.00	1070.03	1077.66	1075.69	1077.80	0.000628	4.08	5134.53	2433.62	0.31
Reach 1	11.55	10846.00	1069.00	1075.76	1075.15	1077.20	0.004995	10.87	1512.85	2782.23	0.81
Reach 1	11.45	10846.00	1067.22	1073.94	1073.12	1074.86	0.003063	8.33	1450.81	3126.89	0.67
Reach 1	11.39	10846.00	1066.61	1073.48	1073.48	1073.99	0.001969	6.99	3551.95	3284.65	0.54

HEC-RAS Plan: rightlev_inplace River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	11.33	10846.00	1065.40	1072.52	1072.41	1072.83	0.003279	6.05	3408.34	3380.93	0.44
Reach 1	11.24	10846.00	1063.75	1071.37	1071.37	1071.85	0.001629	7.22	4303.03	4561.69	0.51
Reach 1	11.16	10846.00	1062.16	1070.91	1070.63	1071.14	0.001201	5.98	5169.65	3589.99	0.43
Reach 1	11.07	10846.00	1060.90	1068.94	1068.94	1070.32	0.004044	10.95	1616.66	3206.29	0.79
Reach 1	10.99	10846.00	1059.50	1067.66	1067.66	1067.94	0.001403	6.50	4277.55	2783.67	0.42
Reach 1	10.92	10846.00	1058.17	1066.83	1065.68	1066.86	0.000222	2.27	10781.59	5060.30	0.17
Reach 1	10.87	10846.00	1057.70	1066.14	1066.14	1066.66	0.003062	7.96	3172.49	2344.32	0.56
Reach 1	10.75	10846.00	1055.53	1063.40	1063.40	1064.03	0.001336	7.69	3484.58	4518.09	0.74
Reach 1	10.60	10846.00	1052.86	1060.57	1060.39	1061.27	0.003083	8.55	2530.43	1366.65	0.64
Reach 1	10.45	10971.00	1050.55	1058.89	1057.86	1059.32	0.001782	5.93	2827.21	1358.19	0.45
Reach 1	10.26	10971.00	1047.30	1055.88	1055.71	1056.67	0.003873	8.80	2462.00	1194.39	0.62
Reach 1	10.18	10971.00	1046.76	1054.74	1053.99	1055.20	0.002734	7.08	2683.67	1077.53	0.52
Reach 1	10.10	10971.00	1045.10	1053.65	1052.83	1054.13	0.002391	6.72	2658.66	976.45	0.49
Reach 1	10.04	10971.00	1044.49	1053.02	1051.96	1053.42	0.001977	6.25	2700.01	992.25	0.45
Reach 1	9.96	10971.00	1043.36	1051.68	1051.28	1052.32	0.003116	7.70	2447.11	1224.38	0.56
Reach 1	9.91	10971.00	1042.45	1051.08	1050.50	1051.52	0.002095	6.60	2917.19	1317.08	0.46
Reach 1	9.85	10971.00	1041.16	1049.77	1049.77	1050.63	0.003949	8.89	2118.61	1086.28	0.63
Reach 1	9.77	10971.00	1040.21	1047.60		1047.95	0.003012	6.63	3026.72	1934.05	0.53
Reach 1	9.68	10971.00	1038.60	1046.53		1046.85	0.002047	5.95	3559.07	2229.08	0.47
Reach 1	9.61	10971.00	1037.45	1045.44	1045.20	1045.86	0.002667	7.11	3441.16	2220.65	0.54
Reach 1	9.53	10971.00	1037.06	1044.53	1044.07	1044.83	0.002459	6.38	3864.96	2472.67	0.51
Reach 1	9.47	10971.00	1036.35	1043.64	1043.37	1043.92	0.003042	6.21	3863.82	2553.38	0.51
Reach 1	9.40	10971.00	1035.27	1042.28	1042.20	1042.74	0.003635	7.26	3221.84	2641.80	0.56
Reach 1	9.32	10971.00	1033.86	1042.01	1040.49	1042.07	0.000659	3.19	6716.25	3318.96	0.24
Reach 1	9.27	10971.00	1033.30	1041.42	1040.81	1041.70	0.002525	5.71	3076.54	1605.51	0.44
Reach 1	9.18	10971.00	1030.11	1038.92	1038.92	1039.61	0.007545	8.07	1911.80	1360.11	0.72
Reach 1	9.09	10971.00	1029.00	1038.22	1037.83	1038.33	0.001047	3.57	4703.46	2234.41	0.28
Reach 1	9.00	10971.00	1027.46	1037.95	1035.34	1038.02	0.000485	2.70	5585.94	3826.74	0.19
Reach 1	8.94	10971.00	1026.26	1037.29	1034.07	1037.81	0.001836	5.95	2058.03	2865.60	0.39
Reach 1	8.86	10971.00	1024.39	1035.03	1033.45	1036.38	0.005181	9.41	1212.92	2535.26	0.65
Reach 1	8.78	10971.00	1023.52	1033.48	1031.62	1034.65	0.003980	8.95	1321.39	2314.84	0.58
Reach 1	8.72	10971.00	1022.50	1031.67	1030.60	1032.92	0.006899	8.98	1223.94	2361.58	0.71
Reach 1	8.64	10971.00	1021.98	1029.76	1029.76	1030.27	0.005377	7.33	2643.07	2102.17	0.61
Reach 1	8.56	10971.00	1018.86	1028.23	1028.04	1028.60	0.002695	6.69	3335.57	2201.70	0.51
Reach 1	8.44	11053.00	1017.72	1026.95	1025.40	1027.26	0.002049	5.62	3230.23	2169.57	0.41
Reach 1	8.37	11053.00	1016.10	1025.13	1024.41	1025.97	0.004444	8.30	1665.17	1394.52	0.65
Reach 1	8.29	11053.00	1015.30	1024.03	1022.95	1024.52	0.002576	6.84	2856.02	1619.18	0.51
Reach 1	8.23	11053.00	1013.70	1023.37	1022.46	1023.75	0.002246	6.50	3151.75	1634.08	0.47
Reach 1	8.10	11053.00	1010.50	1022.99	1020.57	1023.07	0.000554	3.11	7396.63	4915.37	0.23
Reach 1	8.07	11053.00	1011.31	1020.48	1018.73	1022.35	0.004267	10.97	1007.49	800.98	0.69
Reach 1	8.065	Bridge									
Reach 1	8.06	11053.00	1011.00	1019.50	1018.21	1021.70	0.001868	11.88	930.54	2711.91	0.76
Reach 1	7.95	11053.00	1008.30	1019.07	1018.07	1019.53	0.002553	6.08	2518.18	1304.27	0.49
Reach 1	7.86	11053.00	1007.38	1016.75	1016.75	1017.78	0.005337	9.37	1810.96	1093.00	0.73
Reach 1	7.78	11053.00	1006.10	1015.41	1014.65	1015.85	0.003000	5.93	2582.61	2886.02	0.52
Reach 1	7.71	11053.00	1003.45	1014.87	1014.37	1015.07	0.001300	4.62	4649.82	3280.02	0.35
Reach 1	7.55	11053.00	1000.34	1010.71	1010.28	1012.70	0.007688	11.39	1000.22	1119.23	0.86
Reach 1	7.47	11053.00	1000.80	1010.38	1007.49	1010.81	0.001307	5.88	2985.22	2831.97	0.38
Reach 1	7.40	11053.00	997.15	1007.54	1007.17	1009.76	0.006135	13.04	1046.56	1331.21	0.92
Reach 1	7.31	11053.00	998.00	1007.18	1004.58	1007.81	0.001849	6.62	2253.89	1656.60	0.44
Reach 1	7.23	11053.00	996.25	1005.64	1003.58	1006.69	0.002964	8.39	1640.87	1967.91	0.56
Reach 1	7.14	11053.00	994.92	1003.87	1002.02	1005.06	0.004032	8.78	1292.84	1094.42	0.60
Reach 1	7.07	11053.00	993.78	1002.31	1000.50	1003.59	0.003780	9.10	1359.02	1207.44	0.67
Reach 1	7.00	11053.00	992.45	1001.91	1001.91	1002.51	0.001894	7.26	3184.87	2998.22	0.49
Reach 1	6.94	11053.00	991.53	1000.60	1000.60	1001.14	0.002088	7.27	3459.20	2863.35	0.50
Reach 1	6.88	11053.00	990.45	999.31	999.31	999.83	0.003177	7.40	3126.22	2430.73	0.59
Reach 1	6.75	11053.00	988.14	996.50	996.50	997.16	0.003921	7.79	2509.59	2296.06	0.65
Reach 1	6.68	11053.00	987.07	995.35		995.75	0.002549	6.12	3187.66	2392.41	0.52
Reach 1	6.60	11053.00	985.56	993.65	993.65	994.58	0.003097	9.03	2266.12	1764.98	0.62
Reach 1	6.49	11053.00	983.70	991.86	991.86	992.51	0.002205	8.61	2725.06	2186.58	0.59
Reach 1	6.42	11053.00	981.30	990.69	990.69	991.42	0.002220	8.95	3056.33	2353.72	0.59
Reach 1	6.34	11053.00	979.90	988.99		989.36	0.002187	5.87	3008.72	1914.20	0.51
Reach 1	6.27	11053.00	979.40	987.72	987.63	988.47	0.002790	8.41	2474.47	1694.07	0.61
Reach 1	6.20	11053.00	979.30	986.32	986.32	987.26	0.003518	8.66	1885.33	1416.22	0.68
Reach 1	6.08	11053.00	977.30	984.38	984.38	985.22	0.002583	9.08	2201.35	1672.12	0.64
Reach 1	5.96	11053.00	974.90	981.88	980.67	982.30	0.002115	6.21	2510.56	1435.16	0.53
Reach 1	5.88	11053.00	973.80	980.75		981.19	0.003712	6.29	2536.15	1490.50	0.51
Reach 1	5.81	11053.00	972.80	979.99	977.78	980.26	0.001831	4.71	3058.57	1216.00	0.37

HEC-RAS Plan: rightlev_inplace River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	5.75	11053.00	971.65	979.49	976.60	979.73	0.001378	4.26	3515.84	1500.96	0.32
Reach 1	5.68	11053.00	969.46	977.97	977.16	978.68	0.005972	8.18	2192.57	1103.57	0.55
Reach 1	5.59	11053.00	967.03	976.39	973.55	976.83	0.002899	6.09	2475.88	988.11	0.41
Reach 1	5.46	11053.00	964.10	974.01	973.15	974.88	0.002507	8.92	1983.37	924.51	0.60
Reach 1	5.42	11053.00	963.90	973.47	972.98	973.97	0.004885	6.62	2142.17	1061.47	0.65
Reach 1	5.35	11053.00	962.80	972.09	971.27	972.55	0.003369	5.45	2061.56	869.52	0.59
Reach 1	5.29	11053.00	962.40	971.48	969.98	971.79	0.001699	4.53	2505.93	842.08	0.44
Reach 1	5.20	11053.00	960.86	970.17	969.05	970.70	0.003512	6.54	2166.76	1090.91	0.60
Reach 1	5.12	11053.00	959.60	969.44	967.55	969.70	0.001304	4.60	3166.54	1509.56	0.38
Reach 1	5.04	11053.00	958.65	967.19	966.87	968.66	0.004955	11.01	1728.10	907.00	0.77
Reach 1	4.95	11053.00	955.24	965.41	965.41	966.68	0.003407	10.16	1947.13	1011.77	0.75
Reach 1	4.89	11053.00	954.90	964.01	964.01	965.20	0.004796	9.50	1810.27	942.01	0.81
Reach 1	4.82	11053.00	955.10	963.07		963.74	0.001861	7.05	2452.06	1277.04	0.51
Reach 1	4.76	11053.00	954.86	962.19	961.95	962.95	0.004185	8.06	2303.66	1306.65	0.58
Reach 1	4.67	11053.00	953.30	959.53	959.53	960.72	0.005684	9.42	1463.86	780.74	0.73
Reach 1	4.62	11053.00	952.38	958.60	957.26	959.45	0.001924	8.03	1750.82	868.83	0.66
Reach 1	4.55	11053.00	949.57	957.86		958.60	0.002521	7.31	1986.11	779.75	0.51
Reach 1	4.49	11053.00	948.70	955.81	953.85	957.29	0.005552	11.10	1310.18	842.58	0.76
Reach 1	4.44	11053.00	947.77	954.98	954.19	955.70	0.004428	7.09	1945.23	1122.30	0.62
Reach 1	4.35	11053.00	945.60	953.61		954.02	0.002731	5.91	2505.69	1060.58	0.50
Reach 1	4.30	11053.00	944.35	952.13		952.92	0.006138	7.21	1617.29	661.34	0.71
Reach 1	4.23	11053.00	942.76	951.40		951.76	0.001452	4.94	2564.32	882.37	0.37
Reach 1	4.14	11053.00	941.46	949.67	947.49	950.59	0.004128	8.49	1742.11	829.12	0.65
Reach 1	4.09	11053.00	940.50	947.58	947.58	949.10	0.006414	11.03	1157.07	500.56	0.81
Reach 1	4.00	11053.00	938.51	946.61		946.81	0.000962	4.04	3169.59	950.26	0.32
Reach 1	3.91	11053.00	937.22	945.24	944.41	945.99	0.003338	7.45	2137.62	1035.06	0.57
Reach 1	3.86	11053.00	936.12	944.40	943.22	945.11	0.002720	7.38	2249.28	909.85	0.52
Reach 1	3.76	11053.00	934.37	940.98	940.98	942.84	0.008424	11.10	1123.87	465.47	0.89
Reach 1	3.69	11381.00	932.35	940.22	938.07	941.05	0.001896	7.54	1986.12	994.97	0.52
Reach 1	3.62	11381.00	931.07	937.75	937.27	939.59	0.006869	12.28	1242.90	399.90	0.94
Reach 1	3.56	11381.00	929.78	937.48	935.20	938.10	0.001525	6.59	2232.89	774.21	0.46
Reach 1	3.49	11381.00	928.34	934.89	934.58	936.98	0.005972	11.70	1056.36	304.71	0.88
Reach 1	3.31	11381.00	924.58	932.07		932.58	0.002924	6.91	2352.56	578.82	0.51
Reach 1	3.23	11381.00	922.80	930.79	930.03	931.38	0.002975	7.52	2551.90	867.41	0.54
Reach 1	3.16	11381.00	922.20	928.02	927.85	929.59	0.008234	10.30	1249.15	392.68	0.87
Reach 1	3.10	11381.00	920.78	926.77	925.76	927.65	0.003733	7.58	1576.89	501.18	0.65
Reach 1	3.01	11381.00	919.77	925.19		925.87	0.003843	7.05	1859.22	642.83	0.59
Reach 1	2.94	11381.00	917.60	923.28		924.15	0.005047	8.17	1758.55	588.90	0.69
Reach 1	2.85	11381.00	915.10	921.81		922.32	0.003335	6.74	2295.78	716.28	0.55
Reach 1	2.79	11381.00	913.60	919.82		920.81	0.006566	9.55	1814.81	729.42	0.79
Reach 1	2.70	11421.00	911.28	917.80	917.22	918.47	0.004835	7.89	1944.00	699.27	0.66
Reach 1	2.61	11421.00	909.50	915.80	915.08	916.49	0.004625	8.65	2176.25	748.98	0.67
Reach 1	2.57	11421.00	908.50	915.36	913.76	915.72	0.002076	5.11	2541.96	678.17	0.43
Reach 1	2.50	11421.00	908.20	914.21	912.74	914.69	0.003633	5.60	2089.99	584.64	0.51
Reach 1	2.47	11421.00	907.00	913.91	911.98	914.27	0.001461	4.89	2410.26	628.92	0.42
Reach 1	2.40	11421.00	906.10	912.73	911.34	913.40	0.003407	6.66	1797.12	573.07	0.58
Reach 1	2.34	11421.00	904.30	910.09	909.94	911.62	0.009741	10.02	1172.04	373.12	0.94
Reach 1	2.26	11421.00	901.48	908.72	907.25	909.67	0.002738	7.87	1515.82	444.41	0.60
Reach 1	2.17	11421.00	900.00	907.37		908.31	0.002928	8.17	1622.51	395.08	0.62
Reach 1	2.08	11421.00	898.00	905.56	904.30	906.78	0.003271	8.97	1328.64	314.70	0.66
Reach 1	1.99	11421.00	895.10	904.52	902.53	905.24	0.002785	6.96	1749.81	347.51	0.52
Reach 1	1.94	11421.00	895.80	902.64	902.17	904.14	0.004799	10.87	1516.49	497.86	0.80
Reach 1	1.85	11421.00	893.90	901.01	900.09	902.16	0.003623	9.29	1571.75	374.31	0.70
Reach 1	1.77	11421.00	892.72	900.49	898.14	901.02	0.001606	6.16	2054.05	455.72	0.44
Reach 1	1.69	11421.00	891.24	898.60	897.71	899.89	0.003991	9.56	1389.42	298.23	0.73
Reach 1	1.60	11421.00	889.68	896.32		897.71	0.004994	9.82	1337.94	333.98	0.80
Reach 1	1.51	11421.00	887.63	893.86	893.70	895.33	0.005210	10.18	1326.49	413.39	0.83
Reach 1	1.44	11421.00	886.02	892.00	891.73	893.13	0.005079	9.65	1671.41	775.34	0.73
Reach 1	1.37	11421.00	884.70	890.42	890.07	891.53	0.004502	9.96	1712.04	890.30	0.77
Reach 1	1.32	11421.00	883.82	889.70	888.97	890.48	0.003054	8.00	1967.60	773.96	0.63
Reach 1	1.28	11421.00	882.69	887.89	887.89	889.51	0.007379	10.83	1198.13	395.70	0.95
Reach 1	1.26	11421.00	883.36	887.38	887.38	888.91	0.002190	10.23	1193.74	404.66	0.95
Reach 1	1.24	11421.00	880.98	887.09	885.84	888.15	0.003109	8.33	1412.64	304.59	0.64
Reach 1	1.17	11421.00	879.35	885.21	885.21	886.67	0.005778	10.40	1383.12	470.80	0.84
Reach 1	1.10	11421.00	878.04	884.50	883.68	885.05	0.002144	7.16	2398.15	830.59	0.54
Reach 1	1.04	11421.00	877.42	882.98	882.98	884.01	0.004401	9.70	1897.03	816.93	0.76
Reach 1	0.95	11421.00	875.46	881.85		882.13	0.001313	5.68	3274.09	1004.24	0.42
Reach 1	0.88	11421.00	873.80	880.26	880.26	881.20	0.003947	9.00	2065.87	1033.99	0.68

HEC-RAS Plan: rightlev_inplace River: Waterman Wash Reach: Reach 1 Profile: 100-Year (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	0.83	11421.00	872.97	879.26		879.63	0.001659	5.94	2979.57	1081.52	0.46
Reach 1	0.76	11421.00	870.77	877.72	877.72	878.73	0.003775	8.63	1868.86	1077.38	0.69
Reach 1	0.68	11421.00	868.24	876.90	874.82	877.25	0.001084	5.56	3773.52	1450.50	0.39
Reach 1	0.59	11421.00	865.76	875.20	874.15	876.37	0.002956	9.24	1835.82	716.21	0.64
Reach 1	0.50	11421.00	863.80	873.01	872.38	874.79	0.004044	11.13	1393.30	489.40	0.76
Reach 1	0.43	11421.00	862.64	870.90	870.90	873.05	0.006061	12.10	1149.08	383.74	0.90
Reach 1	0.34	11421.00	860.62	868.24	868.24	869.89	0.004420	10.88	1483.51	544.50	0.78
Reach 1	0.27	11421.00	858.40	864.23	863.69	865.47	0.005502	8.97	1361.28	756.18	0.81

WESTPRONG OF WATERMAN WASH

WESTPRONG WATERMAN HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: FP+floodway River: Westprong Reach: Reach 1 Profile: 100-Yr

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	3.27	4915.00	1204.52	1208.30	1207.22	1208.57	0.003913	4.62	1181.84	467.94	0.50
Reach 1	3.21	4915.00	1202.34	1207.14	1205.95	1207.47	0.003212	4.75	1104.44	394.33	0.47
Reach 1	3.15	4915.00	1200.14	1206.45	1204.93	1206.66	0.002105	4.05	1481.91	665.19	0.39
Reach 1	3.1	4915.00	1198.46	1205.40	1204.01	1205.88	0.002897	6.68	1358.63	1034.09	0.51
Reach 1	3.04	4915.00	1197.10	1203.61	1203.61	1204.51	0.008409	8.31	758.56	599.50	0.81
Reach 1	2.95	4915.00	1195.09	1201.93	1200.20	1202.26	0.002314	5.42	1356.93	734.39	0.45
Reach 1	2.9	4915.00	1194.19	1201.03	1200.14	1201.51	0.004062	6.53	1172.92	747.90	0.58
Reach 1	2.85	4915.00	1192.34	1199.59	1199.17	1200.36	0.005242	7.97	894.43	586.68	0.67
Reach 1	2.76	4915.00	1190.80	1197.62	1196.63	1198.20	0.003430	6.54	1030.24	621.33	0.54
Reach 1	2.66	4915.00	1189.40	1195.14	1194.54	1195.99	0.005699	8.08	847.26	585.39	0.69
Reach 1	2.57	4915.00	1187.00	1191.82	1191.26	1192.73	0.007515	7.85	680.43	250.31	0.76
Reach 1	2.51	4915.00	1185.53	1190.86		1191.28	0.002947	5.39	991.54	339.25	0.49
Reach 1	2.45	4915.00	1183.65	1189.69	1188.29	1190.19	0.003391	6.01	953.52	363.16	0.53
Reach 1	2.39	4915.00	1182.17	1188.78	1186.84	1189.23	0.002662	5.91	1085.43	437.47	0.48
Reach 1	2.34	4915.00	1180.42	1187.69	1186.68	1188.36	0.003735	7.20	931.62	394.08	0.57
Reach 1	2.28	4915.00	1179.34	1185.98	1185.70	1186.94	0.007076	8.12	704.30	332.52	0.75
Reach 1	2.24	4915.00	1178.16	1185.19	1183.64	1185.81	0.003319	6.64	929.20	413.13	0.54
Reach 1	2.19	4915.00	1177.07	1183.63	1183.27	1184.49	0.006587	7.77	753.49	424.42	0.73
Reach 1	2.1	4915.00	1175.88	1181.66	1180.21	1182.23	0.003292	6.09	854.75	334.61	0.53
Reach 1	2.05	4915.00	1175.08	1181.18	1179.16	1181.57	0.001971	5.28	1222.94	650.01	0.42
Reach 1	2	4915.00	1173.47	1180.12	1179.22	1180.82	0.003513	7.44	1016.19	616.07	0.56
Reach 1	1.9	4915.00	1171.09	1176.97	1176.97	1178.25	0.007728	9.31	619.67	343.29	0.80
Reach 1	1.81	4915.00	1168.96	1175.25		1175.64	0.002010	5.54	1091.32	434.59	0.43
Reach 1	1.71	4915.00	1167.40	1173.60		1174.27	0.003776	7.21	958.86	457.66	0.58
Reach 1	1.62	4915.00	1165.47	1172.09	1170.53	1172.48	0.003114	5.05	1016.91	346.60	0.49
Reach 1	1.56	4915.00	1164.35	1171.06	1169.42	1171.47	0.003202	5.19	991.74	332.45	0.50
Reach 1	1.53	4915.00	1163.72	1170.53	1168.42	1170.91	0.002847	4.99	1035.51	398.32	0.47
Reach 1	1.47	4915.00	1162.31	1169.10	1167.92	1169.79	0.004828	6.80	791.75	329.71	0.62
Reach 1	1.43	4915.00	1161.80	1167.74	1166.97	1168.68	0.005957	7.93	666.09	226.95	0.70
Reach 1	1.34	4915.00	1160.09	1165.84	1164.10	1166.45	0.003197	6.38	826.39	254.85	0.53
Reach 1	1.24	4915.00	1158.00	1163.44	1162.54	1164.31	0.005864	7.49	657.98	191.73	0.69
Reach 1	1.15	4915.00	1155.41	1160.93	1159.96	1161.71	0.004595	7.20	739.18	240.30	0.62
Reach 1	1.1	4915.00	1154.52	1160.26	1158.94	1160.78	0.003081	6.39	942.13	273.61	0.52
Reach 1	1.06	4915.00	1153.04	1159.53	1158.24	1159.97	0.003460	5.78	961.46	287.35	0.53
Reach 1	0.97	4915.00	1150.88	1158.08	1156.40	1158.62	0.002543	6.44	927.96	237.26	0.48
Reach 1	0.9	4915.00	1150.26	1156.30	1155.36	1157.22	0.005509	7.73	643.87	349.67	0.68
Reach 1	0.84	4915.00	1149.20	1154.88	1153.84	1155.53	0.005038	6.61	801.00	284.09	0.63
Reach 1	0.77	4915.00	1147.56	1152.56	1151.79	1153.37	0.005956	7.49	729.05	311.99	0.69
Reach 1	0.72	4915.00	1146.78	1151.56	1150.59	1152.01	0.003729	6.03	1027.27	388.50	0.55
Reach 1	0.67	4915.00	1145.34	1150.53	1149.66	1151.00	0.004522	6.29	987.60	382.24	0.60
Reach 1	0.6	4915.00	1144.40	1149.24	1148.27	1149.55	0.003055	5.27	1334.17	664.37	0.49
Reach 1	0.54	4915.00	1143.10	1147.56	1147.32	1148.18	0.006854	7.19	945.01	627.42	0.72
Reach 1	0.48	4915.00	1141.90	1146.42	1145.55	1146.70	0.003215	5.10	1325.36	618.54	0.50
Reach 1	0.42	4915.00	1140.24	1145.57	1144.18	1145.82	0.002522	4.82	1407.82	614.98	0.45
Reach 1	0.38	4915.00	1139.85	1145.07	1142.90	1145.28	0.001873	3.95	1345.88	415.72	0.38
Reach 1	0.29	4915.00	1137.99	1142.78	1142.42	1143.70	0.007320	7.91	679.94	264.76	0.76
Reach 1	0.19	4915.00	1135.53	1140.59	1139.71	1140.98	0.003801	5.99	1125.93	527.89	0.55

CHECK-RAS NT WESTPRONG WATERMAN

CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.prj
Plan File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.p01
Geometry File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.g01
Flow File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.f01
Report File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.nt
Selected profiles: 100-Yr;Floodway
Date: 1/16/2012
Time: 12:24:16 PM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
Westprong,Reach 1						
3.27		0.045	0.038	0.045	0.1	0.3
3.21		0.045	0.038	0.045	0.1	0.3
3.15		0.045	0.038	0.045	0.1	0.3
3.1		0.045	0.036	0.045	0.1	0.3
3.04		0.045	0.036	0.045	0.1	0.3
2.95		0.045	0.036	0.045	0.1	0.3
2.9		0.045	0.036	0.045	0.1	0.3
2.85		0.045	0.036	0.045	0.1	0.3
2.76		0.045	0.036	0.045	0.1	0.3
2.66		0.045	0.036	0.045	0.1	0.3
2.57		0.045	0.036	0.045	0.1	0.3
2.51		0.045	0.036	0.045	0.1	0.3
2.45		0.045	0.036	0.045	0.1	0.3
2.39		0.045	0.036	0.045	0.1	0.3
2.34		0.045	0.036	0.045	0.1	0.3
2.28		0.045	0.036	0.045	0.1	0.3
2.24		0.045	0.036	0.045	0.1	0.3
2.19		0.045	0.036	0.045	0.1	0.3
2.1		0.045	0.036	0.045	0.1	0.3
2.05		0.045	0.036	0.045	0.1	0.3
2		0.045	0.036	0.045	0.1	0.3
1.9		0.045	0.036	0.045	0.1	0.3
1.81		0.045	-----	-----	0.1	0.3
		0.036	-----	-----		
1.71		0.045	0.036	0.045	0.1	0.3
1.62		0.045	0.036	0.045	0.1	0.3
1.56		0.045	0.036	0.045	0.1	0.3
1.53		0.045	0.036	0.045	0.1	0.3
1.47		0.045	0.036	0.045	0.1	0.3
1.43		0.045	0.036	0.045	0.1	0.3
1.34		0.045	0.036	0.045	0.1	0.3
1.24		0.045	0.036	0.045	0.1	0.3
1.15		0.045	0.036	0.045	0.1	0.3
1.1		0.045	0.036	0.045	0.1	0.3
1.06		0.045	0.036	0.045	0.1	0.3
.97		0.045	0.036	0.045	0.1	0.3
.9		0.045	0.036	0.045	0.1	0.3
.84		0.045	0.036	0.045	0.1	0.3
.77		0.045	0.036	0.045	0.1	0.3
.72		0.045	0.036	0.045	0.1	0.3
.67		0.045	0.036	0.045	0.1	0.3
.6		0.045	0.036	0.045	0.1	0.3
.54		0.045	0.036	0.045	0.1	0.3
.48		0.045	0.036	0.045	0.1	0.3
.42		0.045	0.036	0.045	0.1	0.3
.38		0.045	0.036	0.045	0.1	0.3
.29		0.045	0.036	0.045	0.1	0.3
.19		0.045	0.036	0.045	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.036	0.045
Right Overbank n Value:	0.045	0.045
Channel n Value:	0.036	0.038
Contraction Coefficient:	0.1	0.1
Expansion Coefficient:	0.3	0.3

ROUGHNESS COEFFICIENT CHECK

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

---END---

CHECK-RAS XS WESTPRONG WATERMAN

Westprong Waterman.xs
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.xs
Selected profiles: 100-Yr;Floodway
Date: 1/16/2012
Time: 12:24:18 PM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
Westprong,Reach 1						
3.27	293.67	310.87	326.216	467.94	4915	D
3.21	288.63	301.95	310.99	394.33	4915	D
3.15	331.86	306.7	289.55	665.19	4915	D
3.1	326.2	286.13	256.97	1034.09	4915	D
3.04	527.76	506.63	487	599.5	4915	D,C
2.95	230.66	247.74	264.82	734.39	4915	D
2.9	215.36	255.24	283.28	742.2	4915	D
2.85	503.3	500	497.7	586.68	4915	D
2.76	529.05	500	479.32	621.33	4915	D
2.66	492.03	500	505.74	585.39	4915	D
2.57	269.86	294.25	311.5	250.31	4915	D
2.51	351.52	341.44	334.47	339.25	4915	D
2.45	339.12	315.24	298.24	363.16	4915	D
2.39	274.97	269.85	265.98	437.47	4915	D
2.34	290.7	275.32	263.99	394.08	4915	D
2.28	226.9	217.83	211.21	332.52	4915	
2.24	300.21	283.68	270.98	413.13	4915	D
2.19	462.6	482.68	497.88	418.52	4915	D
2.1	243.38	241.72	240.48	295.68	4915	D
2.05	273.67	277.99	281.25	650.01	4915	D
2	520.84	500	484.23	616.07	4915	D
1.9	507.53	500	494.21	343.29	4915	D,C
1.81	504.77	500	496.29	434.59	4915	D
1.71	499.64	499.77	499.87	457.66	4915	D
1.62	304.11	317.12	327.22	346.6	4915	D
1.56	193.59	183.11	174.98	332.45	4915	D
1.53	291.27	298.97	304.92	398.32	4915	D
1.47	204.27	201.94	200.14	329.71	4915	D
1.43	478.7	499.09	513.21	226.95	4915	D
1.34	475.88	500	519.18	254.85	4915	D
1.24	516.13	498.07	477.78	191.73	4915	
1.15	244.56	228.01	222.57	240.3	4915	
1.1	232.22	244.02	253.03	273.61	4915	
1.06	468.11	447.78	432.44	287.35	4915	
.97	391.08	375.94	364.25	237.26	4915	
.9	303.35	305.81	307.86	180.73	4915	
.84	397.99	392.44	387.78	284.09	4915	
.77	244.18	271.02	291.65	262.71	4915	D
.72	235.7	245.58	253.04	388.5	4915	D
.67	391.09	380.51	372.55	382.24	4915	D
.6	281.09	306.15	325.42	664.37	4915	D
.54	316.39	299.72	286.76	627.42	4915	D
.48	299.57	314.16	304.56	618.54	4915	D
.42	258.67	234.59	219.3	614.98	4915	D
.38	455.2	456.21	474.7	415.72	4915	D
.29	495.51	500	503.4	264.76	4915	
.19	952.28	1036.1	1035.05	466.25	4915	D

B=blocked obstruction XS SC 05
C=critial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02

K=known water-surface XS SC 04

DISTANCE CHECK

SPACING CHECK

INEFFECTIVE FLOW CHECK

RS: 3.27
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.21
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.21
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.15
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.15
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.1
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 3.1
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.95
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.76
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.66
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.24
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 2.05
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.9
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

NOTE: Artificial levees were used to eliminate flow areas that are parrallel to the floodplain that do not provide conveyance.

NOTE: See previous note.

RS: 1.62
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.56
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.53
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.47
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.43
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.34
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.34
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.24
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.15
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.1
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.06
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 1.06
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.97
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.97
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.9
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.84
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements

for levees are met.

RS: 0.77
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

NOTE: see previous note.

RS: 0.72
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.72
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.67
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.6
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.54
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.48
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.42
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.38
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.29
XS IF 01 Left Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

RS: 0.29
XS IF 01 Right Levee option is used at this river station
Please investigate whether the NFIP requirements
for levees are met.

DISCHARGE CHECK

XS DC 02 Constant dicharge used for the Westprong,Reach 1

LOCATION CHECK

RS: 2
XS LC 01 Lenchl Up/TopwdthAct Dn = 1.46
MaxChlDpth Up/MaxChlDpth Dn = 1.13
TopwdthAct Up/TopwdthAct Dn = 1.79
This cross section is located too far upstream from the
critical depth cross section.

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is Westprong,Reach 1

Normal S = 0.0038 is specified as the downstream boundary
for profile 100-Yr

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

NOTE: The maximum number of iterations is set to 20 in the HEC-RAS tolerances.

LATERAL WEIRS CHECK

---END---

HEC-RAS FLOODWAY TABLE WESTPRONG WATERMAN

HEC-RAS Plan: FP+floodway River: Westprong Reach: Reach 1 Profile: Floodway

Reach	River Sta	Top Wdth Act	Area	Vel Total	W.S. Elev	Base WS	Prof Delta WS
		(ft)	(sq ft)	(ft/s)	(ft)	(ft)	(ft)
Reach 1	3.27	269.32	839.18	5.86	1208.57	1208.30	0.27
Reach 1	3.21	302.18	1094.79	4.49	1207.63	1207.14	0.48
Reach 1	3.15	377.03	1171.95	4.19	1206.95	1206.45	0.49
Reach 1	3.1	264.48	887.89	5.54	1205.71	1205.40	0.31
Reach 1	3.04	224.10	650.10	7.56	1204.02	1203.61	0.42
Reach 1	2.95	273.11	998.25	4.92	1202.35	1201.93	0.42
Reach 1	2.9	355.74	946.78	5.19	1201.50	1201.03	0.47
Reach 1	2.85	349.97	724.32	6.79	1199.93	1199.59	0.33
Reach 1	2.76	210.00	768.02	6.40	1198.04	1197.62	0.41
Reach 1	2.66	216.10	593.62	8.28	1195.15	1195.14	0.01
Reach 1	2.57	198.61	679.55	7.23	1192.10	1191.82	0.28
Reach 1	2.51	253.49	1043.20	4.71	1191.50	1190.86	0.64
Reach 1	2.45	201.98	853.45	5.76	1190.51	1189.69	0.82
Reach 1	2.39	173.58	765.45	6.42	1189.41	1188.78	0.64
Reach 1	2.34	167.78	588.73	8.35	1187.76	1187.69	0.06
Reach 1	2.28	158.00	612.76	8.02	1186.27	1185.98	0.30
Reach 1	2.24	144.65	704.41	6.98	1185.45	1185.19	0.26
Reach 1	2.19	163.43	583.07	8.43	1183.64	1183.63	0.02
Reach 1	2.1	191.76	892.03	5.51	1182.23	1181.66	0.57
Reach 1	2.05	212.30	1060.91	4.63	1181.88	1181.18	0.71
Reach 1	2	124.35	551.98	8.90	1180.17	1180.12	0.04
Reach 1	1.9	122.30	611.46	8.04	1177.91	1176.97	0.94
Reach 1	1.81	165.50	683.79	7.19	1175.97	1175.25	0.72
Reach 1	1.71	210.70	634.66	7.74	1173.70	1173.60	0.10
Reach 1	1.62	296.42	969.86	5.07	1172.22	1172.09	0.12
Reach 1	1.56	276.13	958.64	5.13	1171.24	1171.06	0.17
Reach 1	1.53	303.91	1003.74	4.90	1170.73	1170.53	0.19
Reach 1	1.47	187.90	702.42	7.00	1169.18	1169.10	0.08
Reach 1	1.43	151.15	613.42	8.01	1167.82	1167.74	0.09
Reach 1	1.34	163.74	746.86	6.58	1165.85	1165.84	0.01
Reach 1	1.24	179.13	662.25	7.42	1163.48	1163.44	0.03
Reach 1	1.15	193.15	713.72	6.89	1161.06	1160.93	0.13
Reach 1	1.1	199.33	826.06	5.95	1160.29	1160.26	0.03
Reach 1	1.06	256.78	917.93	5.35	1159.53	1159.53	0.00
Reach 1	0.97	209.19	910.64	5.40	1158.10	1158.08	0.02
Reach 1	0.9	157.57	657.00	7.48	1156.45	1156.30	0.15
Reach 1	0.84	206.28	739.90	6.64	1155.08	1154.88	0.19
Reach 1	0.77	238.49	740.92	6.63	1153.37	1152.56	0.80
Reach 1	0.72	178.47	719.89	6.83	1152.25	1151.56	0.69
Reach 1	0.67	230.96	775.01	6.34	1151.20	1150.53	0.67
Reach 1	0.6	362.89	927.34	5.30	1149.69	1149.24	0.45
Reach 1	0.54	366.77	809.47	6.07	1148.04	1147.56	0.48
Reach 1	0.48	351.76	1054.86	4.66	1146.95	1146.42	0.52
Reach 1	0.42	403.87	1241.06	3.96	1146.18	1145.57	0.62
Reach 1	0.38	293.24	903.23	5.44	1145.33	1145.07	0.26
Reach 1	0.29	247.36	742.87	6.62	1143.07	1142.78	0.29
Reach 1	0.19	297.97	940.59	5.23	1141.00	1140.59	0.41

CHECK-RAS FLOODWAY WESTPRONG WATERMAN

Westprong Waterman.fw
CHECK-RAS Program: Floodway Check
Encroachment Method, Starting WSEL, Floodway Width, and Surcharge Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.7_Detailed_FP\W_Prong_Waterman\HEC-RAS\Westprong Waterman.fw
Selected profiles: 100-Yr;Floodway
Date: 1/16/2012
Time: 12:24:21 PM

SECNO	Method	Surcharge	EncStaL	EncStaR	LStaEff	RStaEff	Structure
Westprong,Reach 1							
3.27					618.31	1139.72	
3.27	1	0.27	670	939.32	670	939.32	
3.21					719.25	1150.34	
3.21	1	0.48	719.1	1021.28	719.1	1021.28	
3.15					541.74	1377.06	
3.15	1	0.49	628	1027.75	628	1026.39	
3.1					524.69	1793.58	
3.1	1	0.31	800	1075	800	1075	
3.04					327.52	1265.39	
3.04	1	0.42	550	863.03	554.21	793.39	
2.95					266.34	1054.92	
2.95	1	0.42	620	893.11	620	893.11	
2.9					271.95	1079.13	
2.9	1	0.47	730	1103	730	1094.47	
2.85					431.98	1306.81	
2.85	1	0.33	820	1175	820	1175	
2.76					397.99	1063.1	
2.76	1	0.41	725	935	725	935	
2.66					586.9	1328.74	
2.66	1	0.01	995	1276	995	1276	
2.57					445.55	949.9	
2.57	1	0.28	580	953.17	580	950.74	
2.51					432.27	985.99	
2.51	1	0.64	620	980.99	620	980.99	
2.45					657.27	1268.43	
2.45	1	0.82	966	1170.59	966	1170.58	
2.39					525.15	1016.05	
2.39	1	0.64	782.17	975.59	783.09	975.59	
2.34					509.02	933.06	
2.34	1	0.06	760	927.78	760	927.78	
2.28					645.01	977.52	
2.28	1	0.3	816	974	816	974	
2.24					578.13	993.83	
2.24	1	0.26	851.09	999.24	851.09	995.74	
2.19					376.78	967.58	
2.19	1	0.02	802.51	965.94	802.51	965.94	
2.1					413.59	922.82	
2.1	1	0.57	714	922.82	731.06	922.82	
2.05					491.14	1210.93	
2.05	1	0.71	763.16	990.4	763.16	975.46	
2					410.53	1173.74	
2	1	0.04	786	927	786	910.35	
1.9					350.93	1036.64	
1.9	1	0.94	615.49	739.8	615.49	737.79	
1.81					567.6	1207.27	
1.81	1	0.72	765	1015	765	1015	
1.71					707.11	1288.43	
1.71	1	0.1	865	1100	865	1100	
1.62					945.28	1425.45	
1.62	1	0.12	929.55	1253.03	942.78	1253.03	
1.56					895.51	1346.84	
1.56	1	0.17	865.97	1169.19	893.06	1169.19	
1.53					963.52	1428.06	

1.53	1	0.19	928.81	1240.17	936.26	1240.17
1.47					1195.92	1612.76
1.47	11	0.08	1179.19	1383.08	1195.18	1383.08
1.43					926.45	1311.89
1.43	1	0.09	884.06	1077.98	925.99	1077.13
1.34					1057.23	1398.07
1.34	11	0.01	1079.76	1245.23	1081.49	1245.23
1.24					1013.93	1205.66
1.24	11	0.03	1023.96	1203.09	1023.96	1203.09
1.15					841.95	1082.25
1.15	1	0.13	841.95	1035.1	841.95	1035.1
1.1					899.31	1172.93
1.1	1	0.03	914	1113.33	914	1113.33
1.06					956.26	1243.61
1.06	1	0	970	1226.78	970	1226.78
0.97					1047.55	1284.82
0.97	1	0.02	1052	1261.19	1052	1261.19
0.9					1072.94	1253.67
0.9	11	0.15	1079.89	1237.46	1079.89	1237.46
0.84					1202.21	1486.3
0.84	11	0.19	1226.63	1432.91	1226.63	1432.91
0.77					1047.43	1459.42
0.77	1	0.8	1223	1462.69	1223	1461.49
0.72					968.83	1679.52
0.72	11	0.69	1320.03	1566.01	1321.64	1566.01
0.67					1045.22	1765.83
0.67	11	0.67	1278.27	1701.76	1367.58	1701.76
0.6					1054.24	1860.32
0.6	11	0.45	1253.81	1686	1253.81	1686
0.54					965.01	1980.86
0.54	11	0.48	1255.13	1710	1255.13	1710
0.48					800.54	1814.45
0.48	11	0.52	1087.54	1561	1087.54	1526.61
0.42					969.72	1690.37
0.42	11	0.62	1161.66	1630	1161.66	1630
0.38					1221.4	1676.79
0.38	11	0.26	1347.01	1676.79	1347.01	1676.79
0.29					1105.64	1370.4
0.29	11	0.29	1105.64	1353	1105.64	1353
0.19					452.51	957.41
0.19	1	0.41	569.58	875.32	577.35	875.32

ENCROACHMENT METHOD CHECK

FLOODWAY WIDTH CHECK

RS: 3.27
FW FW 03 The right channel bank station may not be at the proper location.

RS: 3.1
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2.57
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2.34
FW FW 03 The right channel bank station may not be at the proper location.

RS: 2.28
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2.19
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2.1
FW FW 03 The Left channel bank station may not be at the proper location.

NOTE: The channel bank stations were verified with the aerial image and topographic mapping

RS: 2.05
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 2
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.62
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.34
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.24
FW FW 03 The right channel bank station may not be at the proper location.

RS: 1.15
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 1.1
FW FW 03 The right channel bank station may not be at the proper location.

RS: 0.97
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 0.9
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 0.84
FW FW 03 The right channel bank station may not be at the proper location.

RS: 0.77
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 0.67
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 0.6
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 0.6
FW FW 03 The right channel bank station may not be at the proper location.

RS: 0.42
FW FW 03 The Left channel bank station may not be at the proper location.

RS: 0.29
FW FW 03 The right channel bank station may not be at the proper location.

SURCHARGE CHECK

DISCHARGE CHECK

STARTING WATER-SURFACE ELEVATION CHECK

NOTE: The channel bank stations were verified with the aerial image and topographic mapping.

---END---

COINCIDENT PEAKS WESTPRONG OF WATERMAN

Coincident Peaks Analysis for the West Prong Detailed Study

The assumption of Coincident Peaks may be appropriate if all the following are true:

1 The ratio of the drainage areas lies between 0.6 and 1.4
2 The times of peak flow are similar for the two combining watersheds
3 The likelihood of both watersheds being covered by the storm being modeled

Ratio of Drainage Area

West Prong Drainage Area:
(from downstream CP - CPB09)

Contributing Basins	Area
B01	143841561.23
B09	7325309.83
C01	12535851.89
C02	3609941.47
C03	8217030.98
C04	6531366.06
C05	6357679.63
C06	9725427.20
C07	32973880.14
C08	24333640.57
C09	3844489.95
C10	15278090.65
C11	8051426.06
C12	5601025.50
C13	14497203.40
C14	6246492.20
C15	2658288.69
C16	3548800.99
C17	3377031.63
C18	2179322.09
C19	7171363.16
C20	12938815.00
C21	15697494.69
C22	22409341.83
C23	13833023.17
C24	4526969.01
C25	2107704.65
C26	2817325.63
C27	5961105.26
C28	1400169.90
C29	9452197.58
C30	6554477.92
C31	2816880.79
C33	906061070.41
C34	23997354.55
C35	161824739.16
C36	85986996.72
C37	50214258.39
C38	17838517.97
C40	4740990.59
C41	2178177.62
C42	3030597.91
C43	5823858.29
C44	4748946.84
C45	3493286.82
C46	6842786.91
C47	27887424.21
C48	7098658.94
	1740188394.06
	62.42

Existing Floodplain
(from Downstream CP - CPB12)

Contributing Basins	Area
B01	143841561.23
B02	99908384.93
B03	368055604.60
B04	25245476.67
B05	14827576.91
B06	15771091.62
B10	15396864.65
B11	6676316.66
B12	9267784.08
B13	4314364.91
	703305026.26
	25.23

Drainage Area ratio	
West Prong	62.42
Existing Floodplain	25.23
Ratio	2.47

X02

X02 HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: max flow Profile: PF 1

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
X02A	Reach 1	0.47	PF 1	2101.00	970.00	973.67		973.91	0.002215	3.92	535.37	202.87	0.43
X02A	Reach 1	0.38	PF 1	2101.00	970.00	971.06	971.06	971.55	0.017112	5.66	371.32	377.05	1.00
X02A	Reach 1	0.29	PF 1	2101.00	960.00	961.75	961.75	962.50	0.014977	6.94	302.65	204.49	1.01
X02	Reach 2	1.30	PF 1	1857.00	1010.00	1013.09	1013.09	1014.51	0.012444	9.57	193.95	68.86	1.01
X02	Reach 2	1.20	PF 1	1857.00	1000.27	1005.07		1005.20	0.001178	2.89	643.44	240.65	0.31
X02	Reach 2	1.11	PF 1	1857.00	1000.00	1002.72	1002.72	1003.79	0.013334	8.29	224.08	106.11	1.01
X02	Reach 2	1.03	PF 1	1857.00	990.00	991.45	991.45	992.16	0.015073	6.79	273.61	191.61	1.00
X02	Reach 2	0.91	PF 1	1857.00	980.00	982.97		983.08	0.001018	2.70	688.06	254.65	0.29
X02	Reach 2	0.82	PF 1	1857.00	980.00	981.23	981.23	981.82	0.016173	6.18	300.66	256.52	1.01
X02	Reach 2	0.72	PF 1	1857.00	970.00	971.24	971.19	971.78	0.014029	5.88	315.58	260.12	0.94
X02	Reach 2	0.63	PF 1	1857.00	963.36	965.50	965.26	966.08	0.009445	6.07	305.69	178.57	0.82
X02	Reach 2	0.54	PF 1	1857.00	960.00	961.05	960.93	961.40	0.011654	4.79	387.47	378.29	0.83
X02	Reach 2	0.47	PF 1	1857.00	953.31	955.16	955.16	955.78	0.016364	6.29	295.02	246.88	1.01
X02	Reach 1	0.28	PF 1	3454.00	940.00	942.25	942.25	943.14	0.003096	7.61	454.14	575.61	1.00
X02	Reach 1	0.16	PF 1	3454.00	934.28	936.48	936.48	937.23	0.015208	6.92	499.56	344.71	1.01
X02	Reach 1	0.02	PF 1	3454.00	918.34	920.32	920.32	920.59	0.020571	4.18	825.46	1513.45	1.00

CHECK-RAS X02 NT

CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02\X02.prj
Plan File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02\.p01
Geometry File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02\X02.g01
Flow File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02\X02.f01
Report File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02\X02.nt
Selected profiles: PF 1
Date: 10/27/2010
Time: 3:09:16 PM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
X02,Reach 2						
1.3		0.052	0.034	0.052	0.1	0.3
1.2		0.052	0.034	0.052	0.1	0.3
1.11		0.052	0.034	0.052	0.1	0.3
1.03		0.052	0.034	0.052	0.1	0.3
.91		0.052	0.034	0.052	0.1	0.3
.82		0.052	0.034	0.052	0.1	0.3
.72		0.052	0.034	0.052	0.1	0.3
.63		0.052	0.034	0.052	0.1	0.3
.54		0.052	0.034	0.052	0.1	0.3
X02,Reach 1						
.47		0.052	0.034	0.052	0.1	0.3
.28		0.052	0.016	-----	0.1	0.3
		0.034	0.016	-----		
		-----	0.052	-----		
.16		0.052	0.034	0.052	0.1	0.3
X02A,Reach 1						
.02		0.052	0.034	0.052	0.1	0.3
.47		0.052	0.034	0.052	0.1	0.3
.38		0.052	0.034	0.052	0.1	0.3
.29		0.052	0.034	0.052	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.034	0.052
Right Overbank n Value:	0.052	0.052
Channel n Value:	0.016	0.052
Contraction Coefficient:	0.1	0.1
Expansion Coefficient:	0.3	0.3

ROUGHNESS COEFFICIENT CHECK

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

---END---

CHECK-RAS X02 XS

CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02
\[redacted].prj
[redacted] File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02
\X02.p01
Geometry File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02
\X02.g01
Flow File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02
\X02.f01
Report File: P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X02
\X02.xs
Selected profiles: PF 1
Date: 10/27/2010
Time: 3:09:34 PM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
X02,Reach 2						
1.3	551.15	549.51	559.15	68.86	1857	C
1.2	415.1	469.29	532.02	240.61	1857	
1.11	452.55	440.24	398.09	106.11	1857	C
1.03	579.07	602.71	688.04	191.6	1857	C
.91	561.41	469.57	417.39	254.68	1857	
.82	555.44	530.43	547.26	256.51	1857	C
.72	476.25	500	560.24	260.17	1857	
.63	459.65	439.57	418.81	178.35	1857	
.54	424.73	409.24	345.32	378.34	1857	
.47	0	0	0	246.75	1857	C
X02,Reach 1						
.28	574.43	574.43	574.43	253.98	3454	C
.16	758.74	758.74	758.74	344.69	3454	D,C,B
.02	0	0	0	1513.47	3454	C
X02A,Reach 1						
.47	502.25	487.21	461.92	202.98	2101	
.38	544.87	505.02	433.47	377.03	2101	C
.29	0	0	0	204.46	2101	C

[redacted]cked obstruction XS SC 05
[redacted]tial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02
K=known water-surface XS SC 04

DISTANCE CHECK

XS JT 01 Junction option is used.
For flood insurance study, this option should be used
if the tributary and main stream can have coincident peaks,
or it may be used for the stream without floodway.
It may also be used if the discharges at different time periods
are known from the rainfall-runoff model.
How to remove the junction is explained under Help.

SPACING CHECK

INEFFECTIVE FLOW CHECK

DISCHARGE CHECK

XS DC 02 Constant dicharge used for the X02,Reach 2

XS DC 02 Constant dicharge used for the X02,Reach 1

XS DC 02 Constant dicharge used for the X02A,Reach 1

[redacted]ION CHECK

RS: 1.2
XS LC 01 Lenchl Up/TopwdthAct Dn = 4.42
MaxChlDpth Up/MaxChlDpth Dn = 1.76
TopwdthAct Up/TopwdthAct Dn = 2.27
This cross section is located too far upstream from the
critical depth cross section.

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is X02,Reach 1
Normal S = 0.021 is specified as the downstream boundary
for profile PF 1

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

COINCIDENT PEAKS X02

Coincident Peaks Analysis for the X02 Approximate Study

The assumption of Coincident Peaks may be appropriate if all the following are true:

1 The ratio of the drainage areas lies between 0.6 and 1.4
2 The times of peak flow are similar for the two combining watersheds
3 The likelihood of both watersheds being covered by the storm being modeled

Ratio of Drainage Area

X02 Drainage Area:
(from downstream CPX02)
Contributing Basins From HEC-1 model for X02

Area
1.5000

1.5000

X02A
(from Downstream CPX02)
Contributing Basins From HEC-1 model for RCPX01 along waterman wash

Area
1.5100

1.5100

Drainage Area ratio	
X02	1.5000
X02A	1.5100
Ratio	0.993377483

Time of Peak CPX02	12.33
Time of Peak RCPX01	12.33

X04

X04 HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: max flow River: X04 Reach: Reach 1 Profile: PF 1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	1.14	1893.00	1020.00	1022.98	1022.98	1024.37	0.015660	9.47	199.92	72.52	1.00
Reach 1	1.04	1893.00	1010.00	1015.52		1016.19	0.004017	6.55	288.99	64.30	0.54
Reach 1	0.95	1893.00	1005.80	1011.26	1011.26	1012.57	0.015840	9.19	206.09	79.66	1.01
Reach 1	0.85	1893.00	1000.00	1001.90	1001.90	1002.78	0.017665	7.54	251.14	143.29	1.00
Reach 1	0.76	1893.00	990.00	992.19	992.19	993.21	0.016966	8.12	233.17	115.12	1.01
Reach 1	0.69	1893.00	980.00	982.87	982.87	984.16	0.015783	9.13	207.36	80.79	1.00
Reach 1	0.59	1893.00	970.11	976.55		977.28	0.005812	6.85	276.41	78.08	0.64
Reach 1	0.53	1893.00	970.00	973.52	973.25	974.60	0.011749	8.35	226.82	81.34	0.88
Reach 1	0.47	1893.00	965.56	969.82	969.65	970.77	0.013402	7.85	241.28	105.37	0.91
Reach 1	0.38	1893.00	960.00	962.25	962.25	963.23	0.017475	7.94	238.38	122.88	1.00
Reach 1	0.29	1893.00	950.00	953.31	953.31	954.61	0.016209	9.13	207.34	81.39	1.01
Reach 1	0.19	1893.00	940.00	944.60		945.01	0.005422	5.17	366.11	151.76	0.59
Reach 1	0.14	1893.00	940.11	944.73	943.85	944.74	0.000084	0.99	2830.51	755.10	0.08
Reach 1	0.13	Culvert									
Reach 1	0.12	1893.00	938.42	942.20	942.20	942.21	0.000107	0.90	2749.60	926.00	0.09
Reach 1	0.08	1893.00	930.00	931.51		931.80	0.008632	4.31	439.21	339.80	0.67
Reach 1	0.00	1893.00	926.41	928.06	927.76	928.27	0.008702	3.74	505.51	879.45	0.65

CHECK-RAS STRUCTURE X04

CHECK-RAS Program: Structure Check

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.br
Selected profiles: PF 1
Date: 9/27/2010
Time: 12:54:41 PM

RS	MaxLoChord	MnTpRd	EGEL	WSEL	MinChEl	Structure
X04,Reach 1						
1.14			1024.37	1022.98	1020	
1.04			1016.19	1015.52	1010	
0.95			1012.57	1011.26	1005.8	
0.85			1002.78	1001.9	1000	
0.76			993.21	992.19	990	
0.69			984.16	982.87	980	
0.59			977.28	976.55	970.11	
0.53			974.6	973.52	970	
0.47			970.77	969.82	965.56	
0.38			963.23	962.25	960	
0.29			954.61	953.31	950	
0.19			945.01	944.6	940	
0.14			944.74	944.73	940.11	
0.13	942.65	943.85	0	942.65	937.65	Culvert #1-Up
0.13	941.5	943.6	0	941.5	936.5	Culvert #1-Dn
0.12			942.21	942.2	938.42	
0.08			931.8	931.51	930	
0			928.27	928.06	926.41	

RIVER/REACH: X04, Reach 1
RIVER STATION: 0.13
TYPE OF STRUCTURE: Culvert

Description:	Vineyard Rd culvert, 6 CMP, 5ft diameter
Distance from Upstream XS:	5
Deck/Roadway Width:	103.6
Weir Coefficient:	2.6
Maximum allowable submergence for weir flow:	0.98
Elevation at which weir flow begins:	0
Weir crest shape:	Broad Crested

Sec	River	Length	WSEL	Surch.	EGEL	TopWidth

	Station	Channel		Actual		
4	0.19	269.31	944.6	945.01	151.76	
3	0.14	115.27	944.73	944.74	755.1	
	0.13	103.60	942.65	0	0	Culvert #1-Up
	0.13	6.67	941.5	0	0	Culvert #1-Dn
2	0.12	205.73	942.2	942.21	926	
1	0.08	404.92	931.51	931.8	339.8	

	Ineffective Flow, Section 3 Sta L	Sta R	Elev	Ineffective Flow, Section 2 Sta L	Sta R	Elev
1	0	658	943.85	0	602.17	942.2
2	703	1076.91	943.85	658.34	1263.86	942.2

Opening Type	StagStaL	StagStaR	EncStaL	EncStaR	LIfStaS	RIfStaS	
Culvert Group					658	703	U
					602.17	658.34	D

CULVERT:
Culvert Name: Culvert #1
Shape: Circular Rise: 5 Span: 0 Barrels: 6
FHWA Chart #: # 2 - Corrugated Metal Pipe C
FHWA Scale #: # 1 - Headwall
Solution Crit:Highest U.S. EG

UpstrmDist: 5 Length: 103.6 n-Value: 0.024
EntLossCoef: 0.5 ExtLossCoef: 1 CulvInvElU 937.65 CulvInvElD 936.5
LCntStaU: 661.96 RCntStaU: 699.46 LCntStaD 612.81 RCntStaD 650.31
Culvert Depth Blocked: 0

Culv Area: 117.81 CulvQ: 325.44 MinTopRd: 943.86

	LAbutSt	RAbutSt	LMnTpRd	RMnTpRd	MnTpRd	MxLoCd	
Culvert #1	659.46	701.96	943.85	943.85	943.85	942.65	U
	610.31	652.81	943.6	943.6	943.6	941.5	D

Name	Q Total.	Q Struc	Q Weir	Selected Method	Flow Type
Culvert #1 Flow		325.44	1561.23	Highest U.S. EG	Pressure and Weir

GEOMETRIC CHECK

TYPE OF FLOW CHECK

```
RS:         0.13 This is Culvert #1
CV PW 01    Type of flow is pressure and weir flow because,
            1. EGEL 3 of 944.74 is greater than MinTopRd of 943.86.
            2. CulvWSIn of 942.65 is greater than or equal to MxLoCdU of 942.65.
            3. CulvWSOut of 941.50 is greater than or equal to MxLoCdD of 941.50.

DISTANCE CHECK
---------------

CULVERT COEFFICIENT CHECK
--------------------------

CULVERT CRITERIA CHECK
----------------------

INEFFECTIVE FLOW CHECK
----------------------

RS:         0.12 This is Section 2
ST IF 02    Weir flow occurs at Culvert Group 1
            However, the ineffective flow elevation of 942.2 between stations 0
            and 602.17 is equal to or greater than the WSEL of 942.2
            The LMnTpRdD is 943.6 and the MxLoCdD is 941.5
            The ineffective flow elevation should be between the LMnTpRdD and the
MxLoCdD
            if LMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to
LMnTpRdD.
            It should also be less than the WSEL.

RS:         0.12 This is Section 2
ST IF 02    Weir flow occurs at Culvert Group 1
            However, the ineffective flow elevation of 942.2 between stations 658.34
            and 1263.86 is equal to or greater than the WSEL of 942.2
            The RMnTpRdD is 943.6 and the MxLoCdD is 941.5
            The ineffective flow elevation should be between the RMnTpRdD and the
MxLoCdD
            if RMnTpRdD is greater than MxLoCdD. Otherwise, It should be equal to
RMnTpRdD.
            It should also be less than the WSEL.

---END
```

CHECK-RAS X04 NT

X04
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X04\X04.nt
Selected profiles: PF 1
Date: 9/27/2010
Time: 12:55:25 PM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
X04,Reach 1						
1.14		0.052	0.038	0.052	0.1	0.3
1.04		0.052	0.038	0.052	0.1	0.3
.95		0.052	0.038	0.052	0.1	0.3
.85		0.052	0.038	0.052	0.1	0.3
.76		0.052	0.038	0.052	0.1	0.3
.69		0.052	0.038	0.052	0.1	0.3
.59		0.052	0.038	0.052	0.1	0.3
.53		0.052	0.038	0.052	0.1	0.3
.47		0.052	0.038	0.052	0.1	0.3
.38		0.052	0.038	0.052	0.1	0.3
.29		0.052	0.038	0.052	0.1	0.3
.19		0.052	0.038	0.052	0.3	0.5
.14		0.052	0.038	0.052	0.3	0.5
.13	Culvert-Up	0.052	0.038	0.052	0.3	0.5
.13	Culvert-Dn	0.052	0.038	0.052	0.3	0.5
.12		0.052	0.038	0.052	0.3	0.5
.08		0.052	0.038	0.052	0.1	0.3
0		0.052	0.038	0.052	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.052	0.052
Right Overbank n Value:	0.052	0.052
Channel n Value:	0.038	0.038
Contraction Coefficient:	0.1	0.3
Expansion Coefficient:	0.3	0.5

ROUGHNESS COEFFICIENT CHECK

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

X04

---END---

CHECK-RAS X04 XS

X04
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X04\X04.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X04\X04.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X04\X04.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X04\X04.f02
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approximate_FP\Stream_X04\X04.xs
Selected profiles: PF 1
Date: 9/27/2010
Time: 12:55:41 PM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
X04,Reach 1						
1.14	496.68	500	487.86	72.52	1893	C
1.04	518.47	500	496.44	64.3	1893	
.95	464.57	500	595.69	79.66	1893	C
.85	503.45	500	486.27	143.29	1893	C
.76	398.73	380.86	417.03	115.12	1893	C
.69	489.16	486.42	485.9	80.79	1893	C
.59	313.81	329.32	340.44	78.08	1893	
.53	300.98	303.4	311.67	81.34	1893	
.47	450.61	495.02	577.58	105.37	1893	
.38	500.7	455.92	435.63	122.88	1893	C,B
.29	540.11	543.88	560.69	81.39	1893	C,B
.19	277.27	269.31	226.72	151.76	1893	
.14	115.57	115.27	119.96	755.1	1893	
.13	Culvert #1-Up					
.13	Culvert #1-Dn					
.12	194.7	205.73	220.69	926	1893	C
.08	413.94	404.92	392.16	339.8	1893	
0	0	0	0	487.44	1893	

B=blocked obstruction XS SC 05
C=critial depth XS SC 03
D=divided flow XS SC 01
E=cross section extended XS SC 02
K=known water-surface XS SC 04

DISTANCE CHECK

SPACING CHECK

INEFFECTIVE FLOW CHECK

DISCHARGE CHECK

XS DC 02 Constant dicharge used for the X04,Reach 1

LOCATION CHECK

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is X04,Reach 1
Normal S = 0.0087 is specified as the downstream boundary
for profile PF 1

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

X06

X06 HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: Maxflow River: X06 Reach: REACH 1 Profile: PF 1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
REACH 1	1.58	1498.00	1020.00	1021.62	1021.62	1022.15	0.019733	5.87	255.36	240.76	1.00
REACH 1	1.48	1498.00	1010.00	1011.49	1011.43	1011.87	0.016815	4.90	307.23	344.69	0.90
REACH 1	1.38	1498.00	1000.00	1001.82	1001.82	1002.51	0.018048	6.70	223.57	161.25	1.00
REACH 1	1.29	1498.00	990.00	994.17	993.19	994.52	0.004182	4.76	315.44	129.15	0.53
REACH 1	1.19	1498.00	988.12	989.74	989.74	990.39	0.018306	6.50	235.20	186.45	1.00
REACH 1	1.10	1498.00	980.00	984.67		984.87	0.001644	3.59	440.88	158.41	0.35
REACH 1	1.00	1498.00	980.00	982.26	982.26	982.85	0.019434	6.18	243.24	214.94	1.01
REACH 1	0.91	1498.00	970.00	972.38		972.79	0.008547	5.23	308.78	222.44	0.71
REACH 1	0.82	1498.00	966.84	968.69	968.69	969.32	0.005341	3.95	266.45	221.28	0.57
REACH 1	0.62	1498.00	950.00	952.53	952.53	953.16	0.016831	6.38	235.24	200.11	0.99
REACH 1	0.53	1498.00	945.73	946.46	946.46	946.87	0.006184	2.15	301.38	370.76	0.52
REACH 1	0.44	1498.00	940.00	944.25	943.60	944.25	0.000019	0.61	2925.59	950.80	0.05
REACH 1	0.43	Culvert									
REACH 1	0.42	1498.00	938.74	942.61	942.61	942.61	0.000011	0.32	4293.65	1335.11	0.03
REACH 1	0.28	1498.00	930.00	930.83		930.94	0.008546	2.71	577.51	950.80	0.57
REACH 1	0.12	1498.00	921.70	923.37	923.10	923.57	0.009008	3.66	439.85	521.08	0.63

CHECK-RAS STRUCTURE X06

X06.br
CHECK-RAS Program: Structure Check

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.br
Selected profiles: PF 1
Date: 9/16/2010
Time: 2:06:37 PM

RS	MaxLoChord	MnTpRd	EGEL	WSEL	MinChEl	Structure
X06,REACH 1						
1.58			1022.15	1021.62	1020	
1.48			1011.87	1011.49	1010	
1.38			1002.51	1001.82	1000	
1.29			994.52	994.17	990	
1.19			990.39	989.74	988.12	
1.1			984.87	984.67	980	
1			982.85	982.26	980	
0.91			972.79	972.38	970	
0.82			969.32	968.69	966.84	
0.62			953.16	952.53	950	
0.53			946.87	946.46	945.73	
0.44			944.25	944.25	940	
0.43	942.6	943.6	0	942.6	937.6	Culvert #1-Up
0.43	941.5	943.3	0	941.5	936.5	Culvert #1-Dn
0.42			942.61	942.61	938.74	
0.28			930.94	930.83	930	
0.12			923.57	923.37	921.7	

RIVER/REACH: X06, REACH 1
RIVER STATION: 0.43
TYPE OF STRUCTURE: Culvert

Description:	Vineyard Rd. crossing, 4- 5ft diameter CMP; 50%
Distance from Upstream XS:	5
Deck/Roadway Width:	107.4
Weir Coefficient:	2.6
Maximum allowable submergence for weir flow:	0.98
Elevation at which weir flow begins:	0
Weir crest shape:	Broad Crested

Sec	River Station	Length Channel	WSEL	Surch.	EGEL	TopWidth Actual

4	0.53	467.50	946.46	946.87	370.76	
3	0.44	117.88	944.25	944.25	950.8	
	0.43	107.40	942.6	0	0	Culvert #1-Up
	0.43	5.48	941.5	0	0	Culvert #1-Dn
2	0.42	716.42	942.61	942.61	1335.11	
1	0.28	839.65	930.83	930.94	950.8	

	Ineffective Flow, Section 3			Ineffective Flow, Section 2		
	Sta L	Sta R	Elev	Sta L	Sta R	Elev
1	0	704.53	943.6	0	1014	942.6
2	734.76	1272.31	943.6	1043.1	1823.12	942.6

Opening Type	StagStaL	StagStaR	EncStaL	EncStaR	LIfStaS	RIfStaS
Culvert Group					704.53	734.76 U
					1014	1043.1 D

CULVERT:
Culvert Name: Culvert #1
Shape: Circular Rise: 5 Span: 0 Barrels: 4
FHWA Chart #: # 2 - Corrugated Metal Pipe C
FHWA Scale #: # 1 - Headwall
Solution Crit:Highest U.S. EG

UpstrmDist: 5 Length: 107.4 n-Value: 0.024
EntLossCoef: 0.5 ExtLossCoef: 1 CulvInvElU 937.6 CulvInvElD 936.5
LCntStaU: 709.4 RCntStaU: 728.73 LCntStaD 1019.03 RCntStaD 1038.36
Culvert Depth Blocked: 0

Culv Area:	78.54	CulvQ:	176.06	MinTopRd:	943.61

	LAbutSt	RAbutSt	LMnTpRd	RMnTpRd	MnTpRd	MxLoCd	
Culvert #1	706.9	731.23	943.6	943.6	943.6	942.6	U
	1016.53	1040.86	943.3	943.3	943.3	941.5	D

Name	Q Total.	Q Struc	Q Weir	Selected Method	Flow Type
Culvert #1 Flow		176.06	1321.94	Highest U.S. EG	Pressure and Weir

GEOMETRIC CHECK

TYPE OF FLOW CHECK

RS: 0.43 This is Culvert #1

CV PW 01 Type of flow is pressure and weir flow because,
1. EGEL 3 of 944.25 is greater than MinTopRd of 943.61.
2. CulvWSIn of 942.60 is greater than or equal to MxLoCdU of 942.60.
3. CulvWSOut of 941.50 is greater than or equal to MxLoCdD of 941.50.

DISTANCE CHECK

CULVERT COEFFICIENT CHECK

CULVERT CRITERIA CHECK

INEFFECTIVE FLOW CHECK

RS: 0.42 This is section 2
ST GD 07 Weir flow occurs at the structure. All ineffective flow elevations at Section 2 are less than the WSEL at Section 2. Critical depth occurs at Section 2. However, critical depth does not occur at Section 1. Section 2 should be recoded to represent the natural valley cross section.

---END

NOTE: Section 2 represents the natural valley cross section taken from the 10' Contour interval T.I.N.

CHECK-RAS X06 NT

X06.nt
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.nt
Selected profiles: PF 1
Date: 9/16/2010
Time: 1:41:41 PM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
X06,REACH 1						
1.58		0.052	0.037	0.052	0.1	0.3
1.48		0.052	0.037	0.052	0.1	0.3
1.38		0.052	0.037	0.052	0.1	0.3
1.29		0.052	0.037	0.052	0.1	0.3
1.19		0.052	0.037	0.052	0.1	0.3
1.1		0.052	0.037	0.052	0.1	0.3
1		0.052	0.037	0.052	0.1	0.3
.91		0.052	0.037	0.052	0.1	0.3
.82		0.042	0.036	0.02	0.1	0.3
.62		0.02	0.036	0.02	0.1	0.3
.53		0.042	0.036	0.02	0.3	0.5
		0.02	-----	-----		
		0.042	-----	-----		
.44		0.02	0.042	-----	0.3	0.5
		0.042	0.036	-----		
		-----	0.02	-----		
.43	Culvert-Up	0.02	0.042	-----	0.3	0.5
		0.042	0.036	-----		
		-----	0.02	-----		
.43	Culvert-Dn	0.02	0.036	0.02	0.3	0.5
		0.042	-----	-----		
		0.02	-----	-----		
.42		0.02	0.036	0.02	0.3	0.5
		0.042	-----	-----		
		0.02	-----	-----		
.28		0.045	0.04	0.045	0.1	0.3
.12		0.045	0.04	0.045	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.02	0.052
Right Overbank n Value:	0.02	0.052
Channel n Value:	0.02	0.042
Contraction Coefficient:	0.1	0.3
Expansion Coefficient:	0.3	0.5

ROUGHNESS COEFFICIENT CHECK

RS: 0.82
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.62
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.62
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.62
NT RC 05 The left overbank n value of 0.02 and the right overbank n value
of 0.02 are less than or equal to the channel n value of 0.036
The overbank n values should be reevaluated.

RS: 0.53
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.43
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.42
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

RS: 0.44
NT RS 01 This is Section 3.
Channel n value of 0.02 is less than the channel n value of 0.036
at Section 4.

---END---

NOTE: Right and left overbank 'n' values are less than 0.035 due to the dirt parking lots on the overbanks

NOTE: The channel at this section is bare earth, w/ no vegetation, obstructions or undulations.

CHECK-RAS X06 XS

X06.xs
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X06\X06.xs
Selected profiles: PF 1
Date: 9/16/2010
Time: 1:56:18 PM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
X06,REACH 1						
1.58	469.31	511.83	556.66	240.76	1498	C
1.48	491.06	535.53	495.58	344.69	1498	
1.38	420.96	499.44	680.39	161.25	1498	C
1.29	433.14	534.02	696.21	129.15	1498	
1.19	594.49	466.54	239.43	186.45	1498	C
1.1	475.08	500	508.3	158.41	1498	
1	483.92	484.59	511.42	214.94	1498	C
.91	444.98	490.33	557.37	222.44	1498	
.82	1167.74	1028.6	835.79	221.28	1498	C
.62	404.12	500	631.48	200.11	1498	C
.53	503.02	467.5	418.73	370.76	1498	C
.44	119.16	117.88	116.1	950.77	1498	
.43	Culvert #1-Up					
.43	Culvert #1-Dn					
.42	730.84	716.42	696.83	1338.14	1498	C
.28	729.44	839.65	900.21	950.8	1498	
.12	753.63	650.86	553.22	521.08	1498	

B=blocked obstruction
C=critial depth
D=divided flow
E=cross section extended
K=known water-surface

XS SC 05
XS SC 03
XS SC 01
XS SC 02
XS SC 04

DISTANCE CHECK

SPACING CHECK

INEFFECTIVE FLOW CHECK

DISCHARGE CHECK

RS: 1
XS DC 04 There is no flow on the left overbank at the downstream
cross section. There is no flow on the right overbank at this section.

XS DC 02 Constant dicharge used for the X06,REACH 1

LOCATION CHECK

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is X06,REACH 1
Normal S = 0.009 is specified as the downstream boundary
for profile PF 1

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

X07

X07 HEC-RAS STANDARD TABLE 1

HEC-RAS Plan: Maxflow River: X07 Reach: Reach 1 Profile: PF 1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	1.42	2459.00	1030.00	1034.24	1034.24	1035.53	0.013791	9.16	278.85	118.08	0.98
Reach 1	1.33	2459.00	1020.00	1023.30	1023.30	1024.28	0.013873	8.17	332.73	182.56	0.96
Reach 1	1.23	2459.00	1010.00	1013.59	1013.21	1014.50	0.009877	7.63	322.28	121.50	0.83
Reach 1	1.07	2459.00	1000.00	1002.73	1002.73	1003.44	0.018449	6.72	366.08	267.81	1.01
Reach 1	0.95	2459.00	987.00	988.83	988.80	989.30	0.014367	5.85	507.21	548.16	0.89
Reach 1	0.85	2459.00	981.00	981.61	981.36	981.83	0.015830	3.49	667.22	684.47	0.81
Reach 1	0.76	2459.00	970.15	972.66	972.66	973.34	0.017620	6.59	372.86	282.28	1.01
Reach 1	0.56	2459.00	954.17	956.72	956.72	957.50	0.011902	7.27	348.04	226.04	0.89
Reach 1	0.45	2459.00	943.11	947.42	946.29	947.43	0.000062	0.80	2406.64	822.87	0.07
Reach 1	.44	Culvert									
Reach 1	0.43	2459.00	939.57	943.71	943.71	943.72	0.000035	0.62	3125.60	944.53	0.05
Reach 1	0.31	2459.00	930.00	932.28	931.32	932.38	0.001771	2.62	998.29	707.91	0.34
Reach 1	0.20	2459.00	929.40	930.35	930.19	930.47	0.008105	2.79	954.88	1926.53	0.61

CHECK-RAS STRUCTURE X07

X07.br
CHECK-RAS Program: Structure Check

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.br
Selected profiles: PF 1
Date: 9/16/2010
Time: 10:04:27 AM

RS	MaxLoChord	MnTpRd	EGEL	WSEL	MinChEl	Structure
X07,Reach 1						
1.42			1035.53	1034.24	1030	
1.33			1024.28	1023.3	1020	
1.23			1014.5	1013.59	1010	
1.07			1003.44	1002.73	1000	
0.95			989.3	988.83	987	
0.85			981.83	981.61	981	
0.76			973.34	972.66	970.15	
0.56			957.5	956.72	954.17	
0.45			947.43	947.42	943.11	
0.44	944.78	946.28	0	944.78	941.45	Culvert #1-Up
0.44	941.32	943.6	0	941.31	937.99	Culvert #1-Dn
0.43			943.72	943.71	939.57	
0.31			932.38	932.28	930	
0.2			930.47	930.35	929.4	

RIVER/REACH: X07, Reach 1
RIVER STATION: 0.44
TYPE OF STRUCTURE: Culvert

Description:	Vineyard Rd crossing, 3- 3.33ft x 5.5ft CMP pipe
Distance from Upstream XS:	4
Deck/Roadway Width:	109.6
Weir Coefficient:	2.6
Maximum allowable submergence for weir flow:	0.98
Elevation at which weir flow begins:	0
Weir crest shape:	Broad Crested

Sec	River Station	Length Channel	WSEL	Surch.	EGEL	TopWidth Actual
4	0.56	596.41	956.72		957.5	226.04
3	0.45	123.72	947.42		947.43	822.87

	0.44	109.60	944.78	0	0	Culvert #1-Up
	0.44	10.12	941.31	0	0	Culvert #1-Dn
2	0.43	624.76	943.71	943.72	944.53	
1	0.31	577.49	932.28	932.38	707.91	

	Ineffective Flow, Section 3 Sta L	Sta R	Elev	Ineffective Flow, Section 2 Sta L	Sta R	Elev
1	0	438	946.28	0	426.12	943.7
2	463	1068.89	946.28	462.81	1161.09	943.7

Opening Type	StagStaL	StagStaR	EncStaL	EncStaR	LIfStaS	RIfStaS	
Culvert Group					438	463	U
					426.12	462.81	D

CULVERT:
Culvert Name: Culvert #1
Shape: Pipe Arch Rise: 3.33 Span: 5.47 Barrels: 3
FHWA Chart #: # 34- 18 inch corner radius;
FHWA Scale #: # 1 - 90 Degree headwall
Solution Crit:Highest U.S. EG

UpstrmDist: 4 Length: 109.6 n-Value: 0.024
EntLossCoef: 0.5 ExtLossCoef: 1 CulvInvElU 941.45 CulvInvElD 937.99
LCntStaU: 442.64 RCntStaU: 458.58 LCntStaD 439.53 RCntStaD 455.47
Culvert Depth Blocked: 0

Culv Area: 14.27 CulvQ: 96.52 MinTopRd: 946.29

	LAbutSt	RAbutSt	LMnTpRd	RMnTpRd	MnTpRd	MxLoCd	
Culvert #1	439.91	461.32	946.28	946.28	946.28	944.78	U
	436.8	458.21	943.6	943.68	943.6	941.32	D

Name	Q Total.	Q Struc	Q Weir	Selected Method	Flow Type
Culvert #1		96.52	2360.31	Highest U.S. EG	Low and Weir Flow

GEOMETRIC CHECK

TYPE OF FLOW CHECK

RS: 0.44 This is Culvert #1
CV LW 01 Type of flow is low and weir flow because,
1. EGEL 3 of 947.43 is greater than MinTopRd of 946.29.
2. CulvWSIn of 944.78 is greater than or equal to MxLoCdU of 944.78.
3. CulvWSOut of 941.31 is less than MxLoCdD of 941.32.

4. Q/AD^0.5 of 3.71 is less than 4.0.

DISTANCE CHECK

CULVERT COEFFICIENT CHECK

CULVERT CRITERIA CHECK

INEFFECTIVE FLOW CHECK

---END

CHECK-RAS X07 NT

X07.nt
CHECK-RAS Program: NT Check
Manning's n Value and Transition Loss Coefficient Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.nt
Selected profiles: PF 1
Date: 9/16/2010
Time: 8:59:05 AM

SECNO	STRUCTURE	NLOB	NCHL	NROB	CNTR	EXP
X07,Reach 1						
1.42		0.052	0.037	0.052	0.1	0.3
1.33		0.052	0.037	0.052	0.1	0.3
1.23		0.052	0.037	0.052	0.1	0.3
1.07		0.052	0.037	0.052	0.1	0.3
.95		0.052	0.037	0.052	0.1	0.3
.85		0.052	0.037	0.052	0.1	0.3
.76		0.02	0.036	0.024	0.1	0.3
.56		0.02	0.036	0.024	0.3	0.5
.45		0.02	0.036	0.024	0.3	0.5
.44	Culvert-Up	0.02	0.036	0.024	0.3	0.5
.44	Culvert-Dn	0.02	0.036	0.024	0.3	0.5
.43		0.02	0.036	0.024	0.3	0.5
.31		0.045	0.036	0.045	0.1	0.3
.2		0.045	0.036	0.045	0.1	0.3

---Summary of Statistics---

	Minimum	Maximum
Left Overbank n Value:	0.02	0.052
Right Overbank n Value:	0.024	0.052
Channel n Value:	0.036	0.037
Contraction Coefficient:	0.1	0.3
Expansion Coefficient:	0.3	0.5

ROUGHNESS COEFFICIENT CHECK

RS: 0.76
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.76
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.

NOTE! RIGHT & left overbank 'n' values are less than 0.035 due to the dirt parking lots on the overbank

The n value should be reevaluated.

RS: 0.76
NT RC 05 The left overbank n value of 0.02 and the right overbank n value of 0.024 are less than or equal to the channel n value of 0.036 The overbank n values should be reevaluated.

RS: 0.56
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.56
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.56
NT RC 05 The left overbank n value of 0.02 and the right overbank n value of 0.024 are less than or equal to the channel n value of 0.036 The overbank n values should be reevaluated.

RS: 0.45
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.45
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.45
NT RC 05 The left overbank n value of 0.02 and the right overbank n value of 0.024 are less than or equal to the channel n value of 0.036 The overbank n values should be reevaluated.

RS: 0.44
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.44
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.44
NT RC 05 The left overbank n value of 0.02 and the right overbank n value of 0.024 are less than or equal to the channel n value of 0.036 The overbank n values should be reevaluated.

RS: 0.44
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.44
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.44

NT RC 05 The left overbank n value of 0.02 and the right overbank n value
of 0.024 are less than or equal to the channel n value of 0.036
The overbank n values should be reevaluated.

RS: 0.43
NT RC 01 Left overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.43
NT RC 01 Right overbank n value is less than 0.035
The n value for overbank is usually larger then 0.035.
The n value should be reevaluated.

RS: 0.43
NT RC 05 The left overbank n value of 0.02 and the right overbank n value
of 0.024 are less than or equal to the channel n value of 0.036
The overbank n values should be reevaluated.

TRANSITION LOSS COEFFICIENT CHECK

ROUGHNESS COEFFICIENT AT STRUCTURES

---END---

CHECK-RAS X07 XS

X07.xs
CHECK-RAS Program, XS Check
Cross Section Location and Alignment Review

Project File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.prj
Plan File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.p01
Geometry File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.g01
Flow File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.f01
Report File:
P:\WRES\FCDMC\23445383_FCDMC_RVADMP\11.0_Floodplain_Delineations\Task_11.6_Approxima
te_FP\Stream_X07\X07.xs
Selected profiles: PF 1
Date: 9/10/2010
Time: 12:15:38 PM

SECNO	Len Lob	Len Chl	Len Rob	TopWdthAct	Q Total	Flow Code
X07,Reach 1						
1.42	485.7	500	522.02	118.08	2459	C
1.33	535.87	500	450.29	182.56	2459	C
1.23	805.56	834.95	885.62	121.5	2459	
1.07	669.27	665.05	655.4	267.81	2459	C
.95	481.07	500	488.65	548.16	2459	
.85	517.99	496.48	485.06	684.47	2459	
.76	1025.48	1020.55	1014.84	282.28	2459	C
.56	606.79	596.41	613.76	226.04	2459	C
.45	126.11	123.72	120.1	822.87	2459	
.44	Culvert #1-Up					
.44	Culvert #1-Dn					
.43	572.5	624.76	495.45	944.53	2459	C
.31	583.79	577.49	700.39	707.91	2459	
.2	1143.07	1060.59	970.14	1926.53	2459	

B=blocked obstruction
C=critial depth
D=divided flow
E=cross section extended
K=known water-surface

XS SC 05
XS SC 03
XS SC 01
XS SC 02
XS SC 04

DISTANCE CHECK

SPACING CHECK

INEFFECTIVE FLOW CHECK

DISCHARGE CHECK

XS DC 02 Constant dicharge used for the X07,Reach 1

LOCATION CHECK

BOUNDARY CONDITION CHECK

XS BC 02 The name of the stream is X07,Reach 1
Normal S = 0.0081 is specified as the downstream boundary
for profile PF 1

XS BC 03 Maximum number of iterations is 0
It should not be less than 20.

LATERAL WEIRS CHECK

---END---

URS

Job RVADMP | Project No. 23445384 | Page ___ of ___

Description F-25 FLOW PRORATION | Computed by TBOSE | Sheet ___ of ___

Checked by NATHANE | Date 01/26/11 | Reference

FLOW INTERPOLATION

Linear Interpolation between XS 0.84 to XS 3.47

FLOW DATA :

From Hydrology Model

CPF25 = 1605 cfs

F15 = 671 cfs

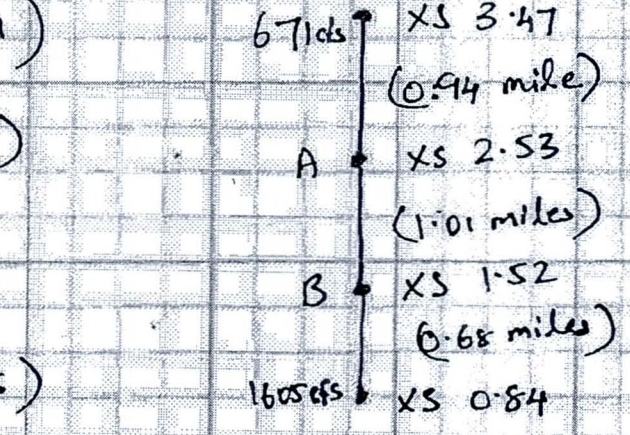
Distance between XS 3.47 to XS 0.84 = 2.63 miles

(XS 3.47, 671)

(XS 2.53, A)

(XS 1.52, B)

(XS 0.84, 1605)



$$A = 1605 - \left[\left(\frac{(0.68+1.01)}{2.63}\right) \times (1605-671)\right]$$

$$= \boxed{1005} \text{ cfs}$$

$$B = 1605 - \left[\left(\frac{0.68}{2.63}\right) \times (1605-671)\right]$$

$$= \boxed{1364} \text{ cfs}$$

E.6 FIGURES

Figure 1 Location Map

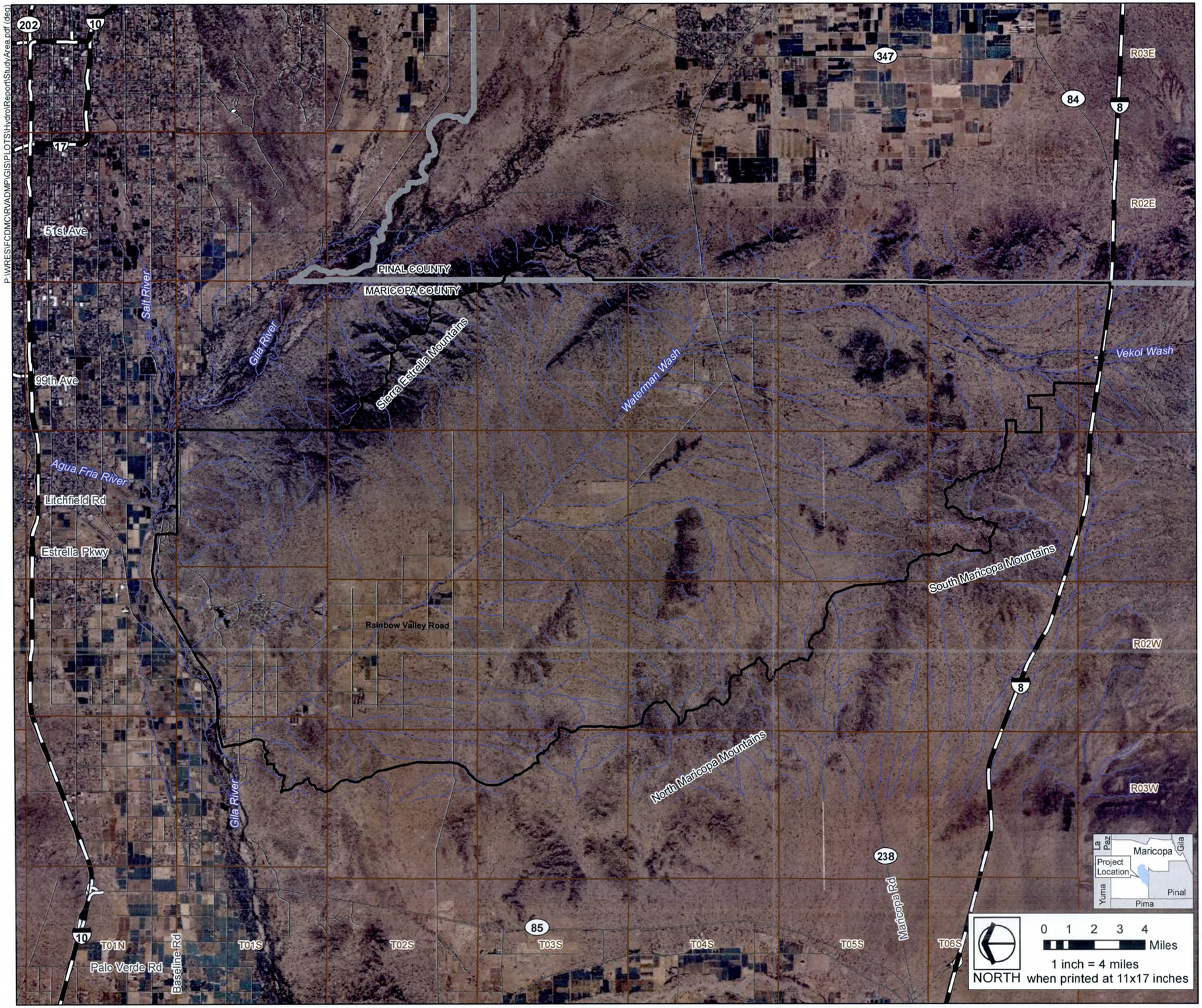
Figure 2 Floodplain Selection Map

Figure 3 Levee Location Map

P:\WRES\FCDMC\RVADMP\GIS\PLOTS\HydrolReport\StudyArea.pdf (deg)

Rainbow Valley Area Drainage Master Plan Study Area

Figure 1



Reference Features

- County Boundary
- Rainbow Valley ADMP Boundary
- Township and Range Boundary
- Interstate Highway/ Freeway
- Major Road
- River/Stream

Data Sources

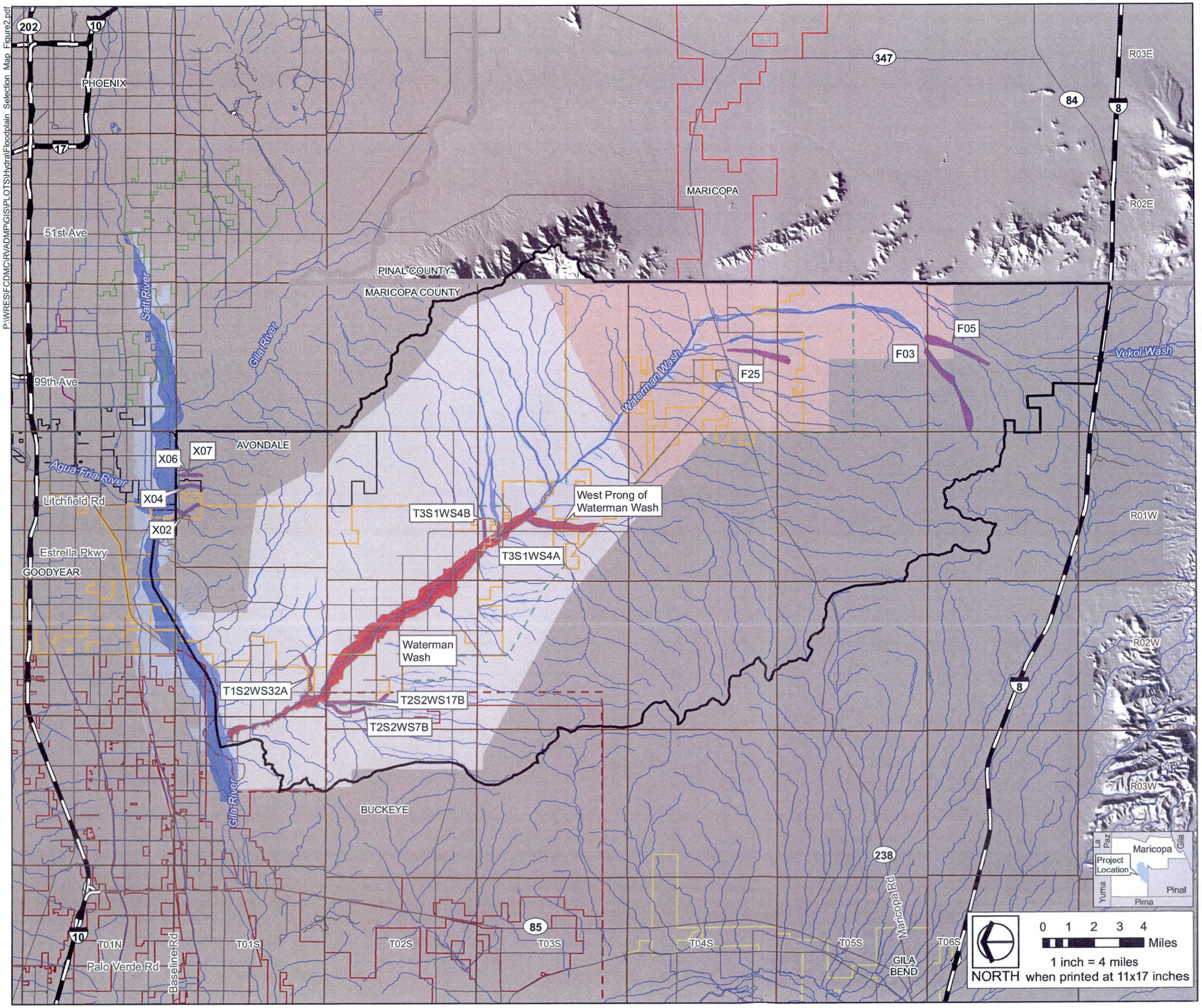
Flood Control District of Maricopa County
Base Vector Data, 2008
Arizona State Cartographer's Office
NAIP Imagery, 2007

DRAFT

P:\WRESIFCDMC\RVADMP\GIS\PLOTS\Hydral\Floodplain_Selection_Map_Figure2.pdf

Rainbow Valley Area Drainage Master Plan Floodplain Selection Map

Figure 2



Project Features

Floodplain Selection
- Zone A
- Zone AE

Municipalities
- Avondale
- Buckeye
- Gila Bend
- Goodyear
- Phoenix
- Tolleson
- Maricopa

Planning Areas
- City of Goodyear Planning Boundary
- Town of Buckeye Planning Boundary

Topographic Limits
- 2-Foot Contour Interval
- 4-Foot Contour Interval

Note on projection

Reference Features
- County Boundary
- Rainbow Valley ADMP Boundary
- Township and Range Boundary
- Interstate Highway/ Freeway
- Major Road
- River/Stream

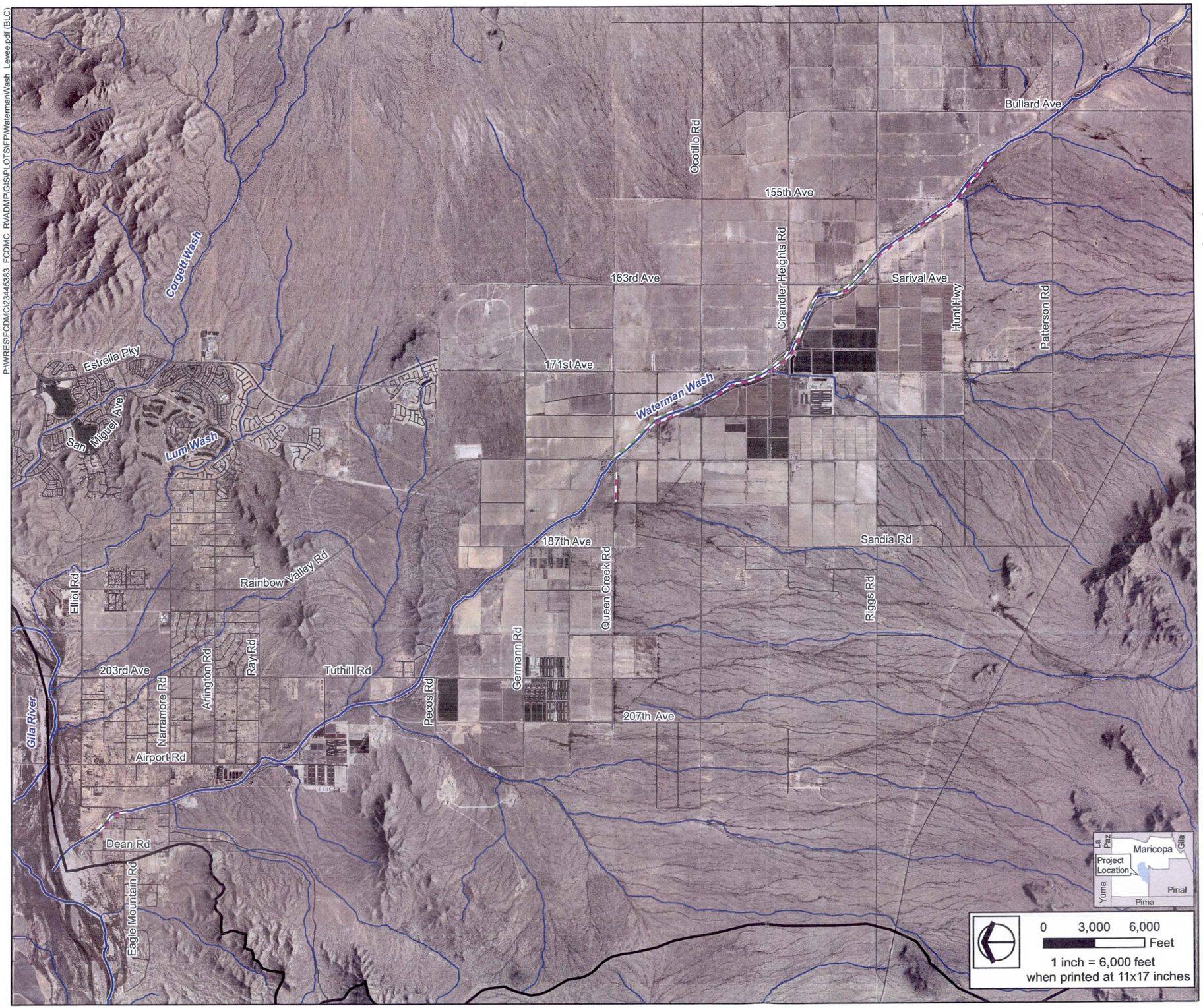
Data Sources

Flood Control District of Maricopa County
Base Vector and Hillshade Data, 2008

DRAFT

P:\WRES\FCDMC\23445383_FCDMC_RVADMP\GIS\PLOTS\FIWatermanWash_Levee.pdf (BLC)

Figure 3
Non-Levee Embankment Map



Project Features

- Left Levee Like Structure
- Right Levee Like Structure

Reference Features

- County Boundary
- Rainbow Valley ADMP Boundary
- Major Road
- Major Wash
- Minor Wash

Data Sources

Flood Control District of Maricopa County
Base Vector and Hillshade Data, 2008

DRAFT

E.7 HYDRAULIC WORK MAPS